ASKING QUESTIONS TO PROMOTE EMPLOYEE PARTICIPATION

DISSERTATION

for obtaining the academic doctor degree

DOCTOR RERUM POLITICARUM

submitted to the Faculty of Business and Economics

of TU Dortmund University

by

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Strategic and International Management Series

No. 23

Dissertation submitted in partial fulfillment of the requirements for the degree of doctor rerum politicarum (Dr. rer. pol.) at the Faculty of Business and Economics of TU Dortmund University.

Dortmund, 2018

1st edition

Printed in Germany on acid-free paper

Für Dominik

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PREFACE

The responsibilities and activities with which executives must deal have changed substantially. In particular, leveraging their subordinates' initiative, innovativeness, and entrepreneurial potential has become a key responsibility for executives to ensure their companies' competitiveness. There are many stories about single employees who have pursued innovative endeavors, possibly even in "stealth mode," that have made their firms innovation leaders in the marketplace (e.g., 3M, Toshiba). But how can employees be systematically motivated to act in an innovative and entrepreneurial way, given the many bureaucratic barriers in many corporations? Corporate practice has developed and tested various tools to facilitate their employees' innovativeness and entrepreneurial spirit, but academic research lags behind in linking these tools to theory and validating them empirically.

Laura Austermann's objective is to address this important gap in the academic literature and to inform both corporate practice and academia on how executives can motivate their subordinates to be innovative and develop ownership for their tasks. Laura Austermann's overarching hypothesis is that executives must ask questions to trigger individuals' initiative. In this spirit, her dissertation presents three stand-alone studies. The first study investigates "pulse surveys" as tools with which to trigger the ownership in teams that can lead to change in companies. The second and third studies examine the concept of coaching, which has been widely discussed in practice but lightly treated in the academic literature. Laura Austermann offers a scale-development process with which to measure coaching and uses a regression model to show that coaching has the potential to increase employee's innovative behavior.

Laura Austermann's theoretically derived and empirically validated findings offer insights for executives who are in need of tools to facilitate their employees' ownership and initiative, thereby addressing a critical gap in the literature. I wish the dissertation the large readership it surely deserves.

Prof. Dr. Andreas Engelen

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Symbols

$	US dollar
%	Percent
&	And
*	p-value < 0.05
**	p-value < 0.01
***	p-value < 0.001
+	p-value < 0.1
F	F-statistic
H	Hypothesis
M	Mean
N	Number of observations
R	Correlation coefficient
α	Cronbach's alpha
β	Regression coefficient beta
Δ	Delta (a change of state)
χ^2	Chi-square

Abbreviations

AVE	Average Variance Extracted
BC	Before Christ
CA	Cronbach's alpha
CEO	Chief executive officer
CFA	Confirmatory factor analysis
CFI	Comparative fit index
Df	Degrees of freedom
e.g.	Exempli gratia (for example)
EBSCO	Elton B. Stephens Company
ERIC	Education Resources Information Center
et al.	et alii (and others)
FA	Factor analysis
FTE	Full-time equivalent
i.e.	id est (that is)
IEB	Individual entrepreneurial behavior
IR	Interrater reliability
IT	Information technology
JS	Job satisfaction
JSTOR	Journal storage
No.	Number
PCA	Principal components analysis
RMSEA	Root mean square error of approximation
SD	Standard deviation
SEM	Structural equation modeling

SRMR	Standardized root mean square residual
TLI	Tucker-Lewis index
US	United States
VIF	Variance inflation factor

1. INTRODUCTION

1.1 Motivation for Conducting Research on Employee Participation

When people work or live together in teams, organizations, villages, or states, many individuals have to coordinate their actions. Decisions about who does what, when, and how are often left to organizational or political leaders, but as our world increases in complexity, it becomes increasingly difficult for leaders to understand every follower's work to the degree required to make sound decisions (Kotter, 2012). Therefore, increasing amounts of decision power are given to (or taken by) individuals at the lower ends of the hierarchy. There are many examples of this development, one of the best known being democracy itself, which was introduced by the Greeks in 500 BC and is still spreading (Held, 1995). An example from a business background is crowdfunding: Until two decades ago, venture capitalists and business angels (a few people with a lot of money) decided which business ideas were good enough to be funded, but today it is also an option for a lot of people with only a little money to make this decision. In fact, crowdfunding is catching up with venture capital in the amount of money raised and may even exceed it before long (Da Cruz, 2018). Others of the many examples include companies that experiment with holacracy, an organizational system that refrains from hierarchies altogether (Roelofsen, Yue, van Mierlo, & Noteboom, 2017), the news industry's gradual shift from big media and newspapers to individual blogs and YouTube channels (Nielsen, 2017), and Wikipedia's beating traditional encyclopedias in terms of volume and accuracy (Casebourne, Fernandes, & Norman, 2012).

Following this trend, many organizations undertake an "agile transformation," converting their structures and systems to provide maximum support to their employees' self-management (Dikert, Paasivaara, & Lassenius, 2016). Agile methodologies have been implemented rapidly in IT departments and are used by the five largest organizations on the planet in terms of market capitalization—Amazon, Apple, Facebook, Google, and Microsoft (Denning, 2018). Spotify

applies agile methodologies not only to certain teams and departments but also to the whole organization. At Spotify, there are no official hierarchies, no long-term strategic plans, no top-down-generated targets (Ramge, 2015). Employees work together in small, interdisciplinary, self-responsible teams without a supervisor, choose their goals to improve the company's service offerings, and implement innovations without restriction. Everyone on a team is equal and can influence a decision if she or he can convince his or her colleagues. At Cisco Systems, one manager explained the "new way of working" after the company's agile transformation like this: "My boss used to come and tell me to get my team to do this or do that. Now, I tell him that I cannot tell my team to do this or that; I can suggest to them, but they will discuss and decide if that is the right thing to do" (Chen, Ravichandar, & Proctor, 2016).

So far, agile practices have been most common in the software-development context (Rigby, Sutherland, & Takeuchi, 2016). For example, the ING Group, a multinational banking, and financial service corporation, launched a pilot transformation in their headquarters in Amsterdam to change how they develop and improve mobile apps (Barton, Carey, & Charan, 2018). Cross-disciplinary, self-steering squads of nine or fewer people were established to address specific customer needs (Barton, Carey, & Charan, 2018) and to see their projects through from start to finish, which gave each squad a sense of ownership of the project and connection to the customer (Barton, Carey, & Charan, 2018). More than two years in, ING CEO Hamers considers the pilot transformation a success (Barton, Carey, & Charan, 2018), as customer satisfaction and employee engagement are both up, and ING is quicker to market with new products. As a result, the bank has started to roll out this new way of working to the roughly 40,000 employees outside its home country (Barton, Carey, & Charan, 2018). Even though agile practices are most common in the software development context, they can be applied to other industries or departments, such as human resources (Gothelf, 2017; Rigby, Sutherland, & Takeuchi, 2016). Even top management teams are increasingly adopting agile practices, which at this level requires changing from a command-and-control leadership model to a model that relies on trust

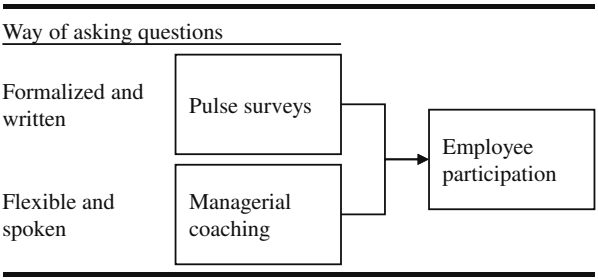
(Garton & Noble, 2017). For leaders, this means learning to let go of control and to rely on their teams to offer the right answers, as modeled by companies like Google and Spotify (Garton & Noble, 2017). Even though some functional areas (e.g., plant maintenance, purchasing, accounting; Garton & Noble, 2017) might not benefit from agile methodologies, the development of agile methodologies in industries and departments outside IT has only begun, and we can only guess how far it will reach.

With this development, the topic of employee participation comes into focus. Employee participation is one of the oldest areas of scientific inquiry in the domain of organizational behavior, but there is no generally accepted definition of employee participation (Glew, O'Leary-Kelly, Griffin, & van Fleet, 1995). One segment of the literature that deals with employee participation focuses exclusively on participation in decision-making (Glew, O'Leary-Kelly, Griffin, & van Fleet, 1995), while other segments are concerned with proactive employee behaviors (e.g., de Jong, Parker, Wennekers, & Wu, 2013), participation in terms of employee ownership like gainsharing and employee stock ownership programs (e.g., Lawler, III, 1988), and participation in terms of employee empowerment, self-managing teams, or shared leadership (Carson, Tesluk, & Marrone, 2007b; Glew, O'Leary-Kelly, Griffin, & van Fleet, 1995). In the endeavor to find an overarching definition of employee participation, Glew, O'Leary-Kelly, Griffin, and van Fleet (1995: 402) defined it as "a conscious and intended effort by individuals at a higher level in an organization to provide visible extra-role or role-expanding opportunities for individuals or groups at a lower level in the organization to have a greater voice in one or more areas of organizational performance." Nevertheless, Glew, O'Leary-Kelly, Griffin, and van Fleet's (1995) efforts have not led to a consolidation of the literature streams relating to employee participation.

With the increasing practical importance of employee participation, finding ways to promote employee participation becomes more pressing. The art of asking questions has been

hypothesized to foster employee motivation (Felps & Van Quaquebeke, 2018), so this thesis focuses on asking questions as an antecedent to employee participation. More specifically, it differentiates between two ways of asking questions and their relationship to employee participation: pulse surveys, which are brief, frequent formalized, written ways of asking employees questions, and managerial coaching, a flexible, spoken way of asking employees questions (Figure 1).

Figure 1: Investigated connections between asking questions and employee participation



1.2 Structure of the Thesis

The increasing practical interest in employee participation in the realm of agile transformations calls for a better understanding of employee participation. Addressing this need is the overarching objective of this thesis, which is structured in the following way:

Chapter 2 provides an overview of topics and keywords in the scientific area of employee participation, including such topics as psychological empowerment, psychological ownership, employee engagement, job autonomy, participative decision-making, individual entrepreneurial behavior, proactivity, and shared leadership. The chapter presents these diverse academic segments in employee participation research and summarizes their most important antecedents and outcomes. Chapter 2 also introduces two potential antecedents of employee participation: inviting participation via managerial coaching (Felps & Van Quaquebeke, 2018), that is, having direct supervisors ask questions in a spoken and flexible way, or via pulse surveys, a more

structural, written way of asking questions through short, frequent employee surveys. Both pulse surveys and managerial coaching are used widely in practice to promote employee participation but remain markedly under-researched. They form the core of this thesis.

Chapter 3 elaborates on the present state of research in the area of pulse surveys and managerial coaching and derives the research questions for the dissertation. The state of research on these two topics makes clear that, despite sharing a common root, the two topics are covered by divergent streams of the literature. Hence, chapter 3 first treats the topic of pulse surveys and then deals with managerial coaching, a split that is maintained throughout the following chapters until the two topics are combined in the concluding chapter 7.

Figure 2: Structure of the thesis

Topics	Chapters	
	Pulse surveys	Managerial coaching
Part A: Introductory Overview of the Thesis		
INTRODUCTION	Chapter 1	
CONCEPTUAL BASICS (including focus topics)	Chapter 2	
DERIVATION OF RESEARCH QUESTIONS	Chapter 3.1	Chapter 3.2
RESEARCH DESIGN	Chapter 4.1	Chapter 4.2
SUMMARY OF RESEARCH STUDIES	Chapter 5.1	Chapter 5.2 & 5.3
IMPLICATIONS FOR RESEARCH AND PRACTICE	Chapter 6.1	Chapter 6.2
CONCLUSIONS	Chapter 7	
REFERENCES	Chapter 8	
Part B: Research Studies	Research study I	Research study II & III

Chapter 4 provides an overview of the research design. A central objective of this thesis is to provide generalizable answers to the research questions derived in chapter 3. Because of the lack of empirical research and theoretical foundations in the extant research on pulse surveys, I use a theoretical approach to address them. However, managerial coaching has a much broader research basis, so an empirical approach is used to answer the research questions related to this topic.

Chapter 5 offers summaries of the three studies that make up the substance of this dissertation. Study I answers all research questions regarding pulse surveys (research questions number 1, 2, and 3), while studies II and III answer the research questions on managerial coaching, with study II focusing on research question 4 and study III focusing on research questions 5 and 6. Taken together, the three studies address the dissertation's overall research framework.

Chapter 6 concludes the dissertation with key insights and implications for theory and practice. By answering the research questions from chapter 3, the thesis advances the current scientific debate and contributes to management practice by helping practitioners understand whether and under what conditions pulse surveys and managerial coaching help to foster or limit employee participation, which is a central variable in companies that pursue agile transformations.

Finally, chapter 7 brings the two focus areas of this dissertation, pulse surveys and managerial coaching together and closes with a brief conclusion about what can be learned from this thesis' results.

The thesis's structure is summarized in Figure 2.

2. CONCEPTUAL BASICS

This chapter describes the most important research streams in the wide field of employee participation and presents the dissertation's areas of focus within this field.

2.1 Conceptualizations of Employee Participation

As mentioned in chapter 1, Glew, O'Leary-Kelly, Griffin, and van Fleet (1995) defined employee participation as providing visible extra-role or role-expanding opportunities for low-level individuals or groups in the organization to support their having a voice in one or more areas of organizational performance. The streams of scientific literature that work with this definition or a variant of it reveal a wide variety of topics. An overview of adjacent concepts and their definitions is given in Table 1.

Table 1: Overview of conceptualizations of employee participation

Concept	**Definition**	**Source**
Employee participation	Providing visible extra-role or role-expanding opportunities for low-level individuals or groups to support their having a voice in one or more areas of organizational performance	Glew, O'Leary-Kelly, Griffin, & van Fleet, 1995
Psychological empowerment	An intrinsic task motivation that reflects a sense of control in relation to one's work and an active orientation to one's work role	Spreitzer, 1995
Team empowerment	Shared perceptions among team members regarding the team's collective level of empowerment	Seibert, Wang, & Courtright, 2011
Psychological ownership	A state of mind or feeling that one has ownership over something, even if not legal ownership	Pierce, Kostova, & Dirks, 2001
Employee engagement	Harnessing organizational members' selves in their work roles, expressed affectively, cognitively, and physically	Kahn, 1990
Job autonomy	The degree to which the job provides substantial freedom, independence, and discretion to the individual in scheduling the work and in determining the procedures to be used in carrying it out	Hackman & Oldham, 1976
Participative decision-making	Joint decision-making or influence-sharing between hierarchical superiors and their subordinates	Locke & Schweiger, 1979

Concept	Definition	Source
Personal initiative	A constellation of behaviors with the following attributes: consistent with the organization's mission, a long-term focus, goal-directed and action-oriented, persistent in the face of barriers and setbacks, and self-starting and proactive	Kring, Soose, and Zempel, 1996
Individual entrepreneurial behavior	Employees' proactive engagement in the creation, introduction, and application of opportunities at work, marked by taking business-related risks	de Jong, Parker, Wennekers, & Wu, 2013
Proactive personality	A relatively stable behavioral tendency to initiate change in the environment	Bateman and Crant, 1993
Proactivity	A goal-driven process involving setting a proactive goal (proactive goal generation) and striving to achieve that goal (proactive goal striving)	Parker, Bindl, & Strauss, 2010
Self-managing teams	Teams that have the freedom, discretion, and ability to organize their internal work and structure it to accomplish goals	Hackman, 1986
Shared leadership	An emergent and dynamic team phenomenon whereby leadership roles and influence are distributed among team members	D'Innocenzo, Mathieu, & Kukenberger, 2016

Definitions of the concepts listed in Table 1 are similar but have nuanced differences. Some are concerned with the view of higher hierarchical levels (e.g., employee participation, participative decision-making), whereas others focus on the employee's perceptions (e.g., employee engagement). Some are concerned with individuals (e.g., employee engagement) while other focus on teams (e.g., shared leadership), whereas some provide views for individuals and teams (e.g., psychological empowerment). Some publications use these terms as different conceptualizations of employee participation, while others establish them as antecedents or outcomes of employee participation (Glew, O'Leary-Kelly, Griffin, & van Fleet, 1995). However, most of the definitions are conceptually close. For example, employee engagement and psychological ownership both assert how something refers to the self, but psychological ownership asks, "To what degree do I feel this organization is mine?" (Van Dyne & Pierce, 2004: 443), while employee engagement asks, "How much of myself can I bring to the

organization?" (Sieger, Zellweger, & Aquino, 2013), although whether this fine distinction can be measured is questionable. Similarly, job autonomy is distinguishable from participative decision-making, as job autonomy is concerned with the employee's decision-making latitude regarding his or her own job, whereas participative decision-making is concerned with the employee's decision-making latitude regarding the organization as a whole. However, measurement scales for participative decision-making often include items that relate to job autonomy (e.g., Lam, Chen, & Schaubroeck, 2002), again challenging whether the concepts are distinguishable.

2.2 Antecedents and Outcomes of Employee Participation

Given the closeness of the concepts around employee participation, it is not surprising that research regarding the antecedents and outcomes of these concepts yields similar results across the streams of research. Important factors that have been shown to enhance most of these concepts are leadership (e.g., transformational leadership, trust in a leader, and support from the leader), work design (e.g., colleague support, feedback, autonomy), and the organizational setting (e.g., training and development programs, information-sharing policies; Pierce, Kostova, & Dirks, 2001; Seibert, Wang, & Courtright, 2011). These three factors generally have more influence on employee participation than individual characteristics like age or education do. Only the factors that concern a positive self-evaluation are similarly strongly related to the concepts in Table 1 (e.g., self-efficacy, resilience, personal resources; Bailey, Madden, Alfes, & Fletcher, 2017; Pierce, Kostova, & Dirks, 2001; Seibert, Wang, & Courtright, 2011).

Outcomes that are clearly associated positively with almost all variants of employee participation are job performance (including variables like career success), satisfaction (e.g., job satisfaction, life satisfaction broadcasting to general health), organizational and affective commitment, and extra-role behaviors (e.g., organizational citizenship behaviors, innovative work behaviors, feelings of responsibility, personal initiative, knowledge sharing, creativity), and negatively to

stress and workplace deviance (Bailey, Madden, Alfes, & Fletcher, 2017; Liu & Batt, 2010; Pierce, Kostova, & Dirks, 2001; Seibert, Wang, & Courtright, 2011; Sieger, Zellweger, & Aquino, 2013). The relationship between the concepts of employee participation and organizational change can have opposing effects depending on the source of the organizational change. Individuals will likely promote a self-initiated change because it reinforces the individual's need for control and efficacy. However, they resist change when it is externally imposed because they see it as threatening their sense of control (Pierce, Kostova, & Dirks, 2001). The link between the concepts of employee participation and higher-level outcomes (e.g., on the team or the organizational level) is significantly less well-researched, and findings on the topic are mixed (Gonzalez-Mulé, Courtright, DeGeest, Seong, & Hong, 2016). Whereas the concepts related to employee participation enhance team performance or organizational outcomes like customer loyalty in some studies (Salanova, Agut, & Peiró, 2005), other studies have found no relationship with team performance (Van Bogaert, Clarke, Willems, & Mondelaers, 2013) or a negative relationship (Stewart, Courtright, & Manz, 2011). Theory and research have suggested that the risk associated with employee participation on the team level is that teams fall into a state of disorder in which they pursue actions that are inconsistent with organizational priorities (Gonzalez-Mulé, Courtright, DeGeest, Seong, & Hong, 2016), suggesting that concepts of employee participation are unlikely to benefit team performance unless mechanisms like alignment with organizational goals and frequent performance feedback are present to help bring direction and order to autonomous teams' efforts (Gonzalez-Mulé, Courtright, DeGeest, Seong, & Hong, 2016). Another approach to resolving inconsistent findings is provided by D'Innocenzo, Mathieu, and Kukenberger's (2016) meta-analysis, which indicates that at least some of the variance found in the relationship between employee participation and team performance might be due to inconsistencies in the measurement of employee participation. Their results suggest that employee participation, which has historically been investigated primarily as an aggregate construct, might also be examined as participation density (the degree

to which team members participate) and decentralization (the degree to which team members' participation patterns differ from each other). Their results indicate that on a team or organizational level, employee participation is more complicated and has to be broken down in subcomponents to get the full picture. This proposed differentiation in how employee participation is measured provides another lane for research that could resolve some of the inconsistencies associated with employee participation and team performance.

2.3 Focus in the Field of Employee Participation

The conceptual basics laid out in sections 2.1 and 2.2 illustrate the variety with which employee participation is conceptualized and scientifically researched. This variety is further underscored by the increasing number of studies conducted in each of the streams of literature mentioned. Summarizing the current state of research in these literatures is beyond the scope of this dissertation, which focuses on analyzing ways of asking employees questions to improve employee participation. In particular, the dissertation focuses on two ways of asking employees questions: pulse surveys and managerial coaching. Pulse surveys are frequent employee surveys, a standardized, written way of asking employees questions. As the same pulse survey is usually administered to a group of people (e.g., to all of the members of a team), my research in this realm is concerned with the effects of pulse surveys on issues related to team participation. Managerial coaching, however, is a flexible, spoken way of asking employees questions. As most managerial coaching takes place in one-on-one settings, I focus on its effects on individual participation. While both ways of asking questions have gained considerable practical importance (see also the following sections), neither has received adequate attention in scientific research (see also chapter 3).

First, I focus on pulse surveys as a way to improve a team's sense of ownership for collectively identified issues. Frequent surveys that are administered every three months or less are replacing or complementing annual employee surveys. For example, the consultancy McKinsey & Co.

administers such surveys every two weeks among its project teams, Pfizer used pulse surveys during a major restructuring (Clayton, 2015), and DuPont implemented them in the context of a complex cross-border acquisition (Kullman, 2012). Employers use such surveys to acquire information about problems in order to solve them before performance is affected. However, instead of prompting necessary changes, pulse surveys are often viewed by employees as another form of control mechanism that has little operational relevance. Therefore, pulse surveys often leave employees dissatisfied, disillusioned, and disengaged, harming employee participation rather than promoting it. It seems that, even though organizations invest considerable time and money in conducting pulse surveys, they do not generate the outcomes expected by higher management (i.e., solving problems before performance is affected; Silverman, 2014; Welbourne, 2016). Therefore, pulse surveys are a fruitful field for research to investigate and resolve the problems associated with employee participation.

Second, I focus on managerial coaching as a way to improve employees' entrepreneurial orientation. Managerial coaching has attracted increasing attention as a concept in practice: Twitter and Google's people-analytics teams independently identified key behaviors demonstrated by their companies' most effective managers, and both found that the most important was that a good manager is a good coach (Garvin, 2013; Whitney, 2015). A survey of more than five hundred human resource managers in 2015 revealed that managerial coaching is one of the most effective development tools and will continue to increase in significance (CIPD, 2015). In addition, increasing numbers of business leaders, among them Jeff Immelt (CEO of General Electric), Jack Welch (former CEO of General Electric), and Bob McDonald (former CEO of Procter & Gamble), see coaching their employees as an integral part of their management duties and spend a significant amount of time on it (Byrne, 2005; Donlon, 2012; Welch, 2014). Jack Welch summarized it like this: "Before you are a leader, success is all about growing yourself. When you become a leader, success is all about growing others" (Kruse, 2012). Managerial coaching has been defined as a one-to-one approach between coach (leader)

and coachee (employee) to facilitate individual learning and behavioral change, focusing on how to face situations rather than indicating what actions the employee should take (Agarwal, Angst, & Magni, 2009); that is, the leader does not provide recommendations for actions but asks questions to promote learning and reflection (Feldman & Lankau, 2005). Therefore, managerial coaching can be viewed as a leadership approach that fosters employee participation. However, there is no commonly acknowledged theory or conceptual model for managerial coaching outcomes (Kim, Egan, Kim, & Kim, 2013), and managers receive little guidance from research on how to use coaching as a management practice (Kim & Kuo, 2015). In short, what managerial coaching really is, what it can achieve, which employees should be coached, and under what circumstances they can be coached effectively remain unclear. Considering the high value and cost of management time, it should be in any company's interest to help its leaders optimize the quality of their coaching (Sluss & Ashforth, 2008). Therefore, managerial coaching is a fruitful field for research in connection with employee participation.

3. DERIVATION OF RESEARCH QUESTIONS

This chapter presents the area of asking questions as the general focus of this dissertation. The relevance to employee participation of asking questions in pulse surveys and managerial coaching was laid out in section 2.3. The following sections summarize the current state of research on the areas of focus and derive the research questions that guide this thesis. The topic of pulse surveys is addressed in section 3.1, followed by section 3.2, which addresses the topic of managerial coaching. The overall research framework is presented in Figure 4.

3.1 Pulse Surveys

3.1.1 Status of the Research on Pulse Surveys

Scientific research on pulse surveys as a managerial tool is all but non-existent. A search for "pulse survey" in the abstracts of academic journals in the EBSCO database yielded twelve abstracts that either present results of pulse surveys conducted by research institutes to monitor a specific industry (e.g., metal powder industries federation's annual powder metallurgy pulse survey; Johnson, 2016) or studies that confirm or question the validity of a set of questions (e.g., the work-life pulse survey; Lavigne, Sounan, Lavoie-Tremblay, Mitchell, & MacDonald, 2012). A search for "survey" yields more than a million results, many of them concerned with how surveys are or should be used in scientific research. However, an in-depth literature review and intense cross-referencing identified a few articles that deal with surveys as a way to improve teams or organizations. These studies are listed in Table 2.

Table 2: Overview of the literature on surveys as a tool for organizational or team development

Author & year	**Independent variables (IV), moderators, and mediators**	**Dependent variables (DV)**	**Sample size and characteristics**	**Key findings (related to managerial coaching**
Klein, Kraut, & Wolfson, 1971	IV: Attitude survey feedback structure and process	Recipients' attitudes toward the survey process Recipients' perceptions of survey use	Experiment 369 employees and 99 managers	Direct communication of survey results and involvement of survey recipients in using feedback improved participants' attitudes and perceptions of survey use.
LaForge, Wood, & Sleeth, 1984	IV: Introduction of a survey-feedback process involving intensive discussions with work teams	Nonproductive time of work teams Workers' attitudes	Field study over a two-year period Traveling work teams involved in repair and maintenance tasks	Nonproductive time was dramatically reduced. Worker's attitudes were not affected.
Nadler, Cammann, & Mirvis, 1980	IV: Introduction of a survey-based feedback system	Collaboration Employee participation Effectiveness	Experiment Ten branches of a bank in which the feedback system was (not) introduced	Introduction of the feedback system increased collaboration, participation, and effectiveness only when it did not result in an increase of directive management.

3.1.2 Research Gaps and Research Questions Related to Pulse Surveys

Even though organizations invest considerable time and money in pulse surveys, research has remained largely silent on the topic while many organizations struggle to make these surveys effective (Welbourne, 2016). The issues identified and suggestions prompted by employees' responses to the surveys are often not acted upon but instead seem to evoke even more surveys, leaving employees dissatisfied and disengaged (Silverman, 2014; Welbourne, 2016). However, establishing teams as the core actors in response to pulse survey results, as opposed to higher management, could increase employee participation. The concept of employee participation that is most relevant to this context is employee ownership. Feelings of ownership increase when people have control over, thoroughly understand, and invest themselves in something, so the link between issues identified in pulse surveys and employee ownership seems intuitive and leads to the first research question.

Research question 1: *Can the results of pulse surveys be used to promote concepts of employee participation like a team's Issue Ownership of the issues they collectively identify?*

The promise of pulse surveys is the opportunity to gain information about problems early so as to solve them before performance is affected. However, when management is unprepared to follow through on any but the most trivial of issues, this promise is not fulfilled (Silverman, 2014; Welbourne, 2016). It might be possible to address this problem if teams are established as the core actors in response to pulse surveys' results, leading to the second research question.

Research question 2: *Can the results of pulse surveys promote the team's successful problem-solving by increasing a team's Issue Ownership?*

As hypothesized in diverse literature streams, the organizational context is central to the outcomes employee participation generates (DeRue, Nahrgang, & Ashford, 2015; e.g., Fulmer &

Gelfand, 2012; Hackman & Wageman, 2005; Wageman, 2001). Therefore, it could be useful to examine the interdependencies and diverging motivations of hierarchical levels as they relate to pulse surveys. If teams are supposed to act in response to the results of pulse surveys, it follows that higher hierarchical levels have to grant teams some discretion in those actions. However, research has argued that trust is necessary before such discretion can be granted (Davis, Schoorman, & Donaldson, 1997; Mayer, Davis, & Schoorman, 1995). Hence, research should examine the effects of trust bestowed by higher hierarchical levels of the organization on lower ranks, which leads to the third research question.

Research question 3: *What effects does trust (or a lack thereof) of higher hierarchical levels in lower hierarchical levels have for a) the establishment of pulse surveys, b) the emergence of the team's Issue Ownership, and c) the team's capacity for successful problem-solving?*

3.2 Managerial Coaching

3.2.1 Status of the Research on Managerial Coaching

This literature review is based on search terms that capture the elements of managerial or supervisory coaching. The abstracts of all publications in the EBSCO database were searched for these terms with a focus on the highest-quality publications in journals that have an impact factor equal to or above two and a journal category in the management or psychology domain, as retrieved by Thomson Reuters in 2015. Because the focus here was on scientific literature, book reviews were excluded from search results. Studies whose content fit the topic were selectively added even if they did not meet the basic criteria. This search resulted in twenty-three articles, listed in Table 3.

Table 3: Overview of the literature on managerial coaching

Author & year	Independent variables (IV), moderators, and mediators	Dependent variables (DV)	Sample size and characteristics	Key findings (related to managerial coaching)
Bakker, 2005	IV: Job resources (including managerial coaching) Mediator: balance between teachers' challenges and skills	Teachers and students experience of flow	178 music teachers and 605 students from 16 music schools Survey data	Job resources (including managerial coaching) promote teachers' and students' flow experience via balancing teachers' challenges and skills.
Bakker, Brummelhuis, Prins, & der Heijden, 2011	IV: Job demands and job resources (including managerial coaching)	Work-home interference	230 medical residents and their partners Survey data	High job demands increase work-home interference only when job resources are low.
Bakker, Demerouti, & Schaufeli, 2003	IV: Job demands and job resources (including managerial coaching) Mediator: Involvement	Turnover intentions	477 call center employees Survey data	Job resources decrease turnover intentions via increasing involvement.
Bakker, Schaufeli, Leiter, & Taris, 2008	IV: Job resources (including managerial coaching) Mediator: Work engagement	Job performance Client satisfaction	Theoretical contribution	Job resources promote work engagement, which increases job performance and client satisfaction.
Batson & Yoder, 2012	Central variable: Managerial coaching	Job performance	Review	Managerial coaching promotes job performance.

Author & year	Independent variables (IV), moderators, and mediators	Dependent variables (DV)	Sample size and characteristics	Key findings (related to managerial coaching)
Boyatzis, Smith, & Beveridge, 2013	IV: Coaching with compassion	Desired change Health Well-being	Theoretical contribution	Coaching with compassion induces openness and learning, whereas other forms of coaching invoke the opposite.
Buljac-Samardzic & van Woerkom, 2015	IV: Managerial coaching Moderator: Team reflection	Team performance	Survey data	Only the performance of poorly reflective teams benefits from managerial coaching.
Dahling, Taylor, Chau, & Dwight, 2016	IV: Manager's coaching skill Mediator: Team role clarity	Annual sales goal attainment	1,246 pharma sales representatives and their managers in 136 teams Secondary data	Managers' coaching skills increase the attainment of annual sales goals, which is partially mediated by the clarity of team roles.
Edmondson, 1999	IV: Team psychological safety and team efficacy Mediator: team learning	Team performance	51 work teams Field study	Psychological safety, but not efficacy, promotes learning, which enhances performance.
Ellinger, Ellinger, & Keller, 2005	IV: Managerial coaching	Job satisfaction Job performance	438 warehouse workers and 67 managers Survey data	Managerial coaching promotes job satisfaction and job performance.
Ellinger, Keller, & Elmadağ Baş, 2010	IV: Market orientation Mediators: Managerial coaching, communication, training	Frontline empowerment for service recovery	161 employees of 119 third-party logistic companies Survey data	High market orientation is manifested in high amounts of managerial coaching, communication, and training, which lead to increased empowerment in frontline service recovery.

Author & year	Independent variables (IV), moderators, and mediators	Dependent variables (DV)	Sample size and characteristics	Key findings (related to managerial coaching)
Ellinger, 2013	IV: Managerial coaching	Job performance Satisfaction Collaboration Organizational commitment Turnover intentions	Theoretical contribution	Managerial coaching enhances job performance, satisfaction, collaboration, and organizational commitment and reduces turnover intentions.
Feldman & Lankau, 2005	IV: Coaches' professional training, client characteristics, type of coaching	Effectiveness of executive coaching	Review	There is a lack of theoretical foundation that defines executive coaching or explains why and how coaching achieves positive effects.
Ghislieri, Emanuel, Molino, Cortese, & Colombo, 2017	Off-work hours technology-assisted job demands IV: Workload, emotional dissonance, managerial coaching	Work-family conflict Work-family enrichment	671 workers Survey data	Managerial coaching is strongly and positively related to work-family enrichment and slightly reduces work-family conflict for males.
Hackman & Wageman, 2005	Central variable: Team coaching	Team performance	Theoretical contribution	Coaching interventions must be made when the team is ready for them.
Huang & Hsieh, 2015	IV: Managerial coaching Mediator: Empowerment	In-role behavior Proactive career behavior	324 employee-supervisor pairs	Managerial coaching increases in-role behavior and proactive career behavior, and both are mediated by empowerment.

Author & year	Independent variables (IV), moderators, and mediators	Dependent variables (DV)	Sample size and characteristics	Key findings (related to managerial coaching)
Kim, Egan, Kim, & Kim, 2013	IV: Perceived managerial coaching behavior	Employee satisfaction Employee role clarity	482 employees in a Korean organization Survey data	Managerial coaching enhances employees' satisfaction and role clarity.
Kim & Kuo, 2015	IV: Managerial coaching Mediator: Manager's trustworthiness	In-role performance Organizational citizenship behavior	280 employee-supervisor pairs Survey data	Managerial coaching directly increases in-role performance and organizational citizenship behavior and increases it indirectly via increasing employees' perceptions of managers' trustworthiness.
Kunst, van Woerkom, van Kollenburg, & Poell, 2018	IV: Managerial coaching behavior and managerial guidance	Change in employees' goal orientation	521 teachers Panel data	Managerial coaching supports employees' transition toward a success-oriented goal orientation, while guidance does not.
Liu & Batt, 2010	IV: Managerial coaching Moderators: Group incentives, technology automation, technological changes	Performance improvements	666 employees and 110 supervisors Survey data	Managerial coaching enhances performance improvements, especially when group incentives are used and when technology automation and changes are low.
Luthans & Peterson, 2003	IV: Managerial coaching and 360-degree feedback	Satisfaction Commitment Intentions to leave Firm performance	20 managers and 67 workers Survey data	Managerial coaching can improve the effectiveness of 360-degree feedback and, with it, satisfaction, commitment, and firm performance while reducing intentions to leave.

Author & year	Independent variables (IV), moderators, and mediators	Dependent variables (DV)	Sample size and characteristics	Key findings (related to managerial coaching)
Wageman, 2001	IV: Leaders' design choices and leaders' hands-on coaching	Self-management Quality of team relationships Team member satisfaction Team task performance	Multi-method field study	Design choices and coaching influence self-management, the quality of team relationships, and team members' satisfaction, but only design choices influence task performance.
Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2012	IV: Perceptions of job resources (including managerial coaching) Mediator: Daily positive emotions	Employees' daily personal resources (self-efficacy, self-esteem, and optimism)	42 employees Panel data	Managerial coaching positively influences employees' daily personal resources, mediated via daily positive emotions.

Table 4: Overview of studies that develop a managerial coaching scale

Author(s)	Dimen-sions	Items tested (retained)	Analysis	Sample
Roberts, O'Reilly (1974)	1	3 (3)	FA	429 employees
Ellinger, Ellinger, & Keller (2003)	1	8 (8)	PCA, SEM, CA	438 employees, & 67 supervisors (D)
Hamlin/Hamlin, Ellinger, & Beattie (2004/2006)	1	11 (11)	FA, PCA	222 interviews, & 477 questionnaires
Carson, Tesluk, & Marrone (2007)	1	3 (3)	CA, IR	348 students
Grant, & Cavanagh (2007)	1	12 (12)	PCA, CA, IR	218 respondents, & 38 coaches (D)
Agarwal, Angst, & Magni (2009)	1	2 (2)	CA	328 employees, & 93 managers
Gilley, Gilley, & Kouider (2010)	1	6 (6)	CA	485 respondents
Chandler, Roebuck, Swan, & Stephen (2011)	1	11 (11)	None	35 coaching-program participants
Anderson (2013)	1	12 (5)	PCA, CA	521 managers
David, & Matu (2013)	1	15 (15)	FA, Scree Plot, CA	40 employees, 54 managers, & 22 observers (D)
Wang (2013)	1	8 (8)	FA, CA, AVE, CR	127 employees
Ellinger, & Bostrom (1999)	2	13 (13)	Qualitative	12 managers
Wageman (2001)	2	6 (6)	IR	34 teams and their managers (D)
McLean, Yang, Kuo, Tolbert, & Larkin (2005)	4	37 (20)	FA, Scree plot, SEM, CA	475(272) respondents in sample 1(2)
Morgeson (2005)	2	7 (7)	FA	265 employees, & 29 managers (D)
Heslin, Vandewalle, & Latham (2006)	3	10 (10)	FA, SEM, CA	45 managers
Park, Yang, & McLean (2008)	5	20 (20)	SEM, CA	187 employees
Boyatzis (2008)	2	13 (13)	FA, SEM, CA	375 patients, & 25 physicians (D)
Segers, Vloeberghs, & Henderickx (2011)	3	17 (17)	Qualitative	202 employees
Hagen (2012)	2	15 (15)	Review	Review

FA, Factor Analysis, PCA, Principal Components Analysis, SEM, Structural Equation Modeling, CA, Cronbach's alpha, IR, interrater reliability, AVE, Average Variance Extracted, CR, Composite Reliability, D, Dyadic

However, this research overview revealed a striking non-conformity regarding the definitions and conceptualizations of managerial coaching, so I searched the literature without restrictions on journal category or impact factor for articles concerned with the development of a managerial coaching scale. This search resulted in the twenty studies listed in Table 4.

Figure 3: Differences between managerial coaching and other support models

Components	Support models		
	Managerial coaching	Advising (mentoring, consulting, training)	Therapy
Recommendations	-	+	-
Future-/Goal-oriented	+	+	-
Focus on individual performance	+	+	-
Focus on individual well-being	+	-	+
Focus on behavioral change	+	-	+
Reflection	+	-	+
Explores subjective experience	+	-	+
Diagnoses and treats dysfunction	-	-	+
Role within company	Direct supervisor	Substantially higher rank / contractor / other department	Not employed by company

3.2.2 Research Gaps and Research Questions Related to Managerial Coaching

Research has distinguished managerial coaching from other support models, such as consulting, mentoring, and therapy (e.g., Coutu et al., 2009; Dreher & Cox, Jr., 1996; Feldman & Lankau, 2005; Higgins & Kram, 2001). The differences are summarized in Figure 3.

Managerial coaching differs from advisory roles like mentoring, training, or consulting, as the managerial coach does not tell her or his subordinates what to do (Agarwal, Angst, & Magni, 2009) but focuses on behavioral change by fostering the subordinate's ability to reflect on and explore his or her subjective experience (Coutu et al., 2009). Managerial coaching also differs from therapy in that it is usually future-focused, aims to improve both the subordinate's performance and well-being, and does not diagnose or treat dysfunctions (Coutu et al., 2009). The person who offers the support also differs in the various support models. In managerial coaching it is usually the direct supervisor (Higgins & Kram, 2001), in consulting and training it is typically external contractors or members of other departments (e.g., internal revision, human resources), mentoring roles are generally performed by employees of the organization outside the employee's line of supervision (Dreher & Cox, Jr., 1996) who have substantially longer tenure and higher rank (Higgins & Kram, 2001), and a therapist usually has no connection to the organization and is employed by the individual (Coutu et al., 2009).

However clear the differences between managerial coaching and related constructs might be, the scales used for managerial coaching that are summarized in Table 4 make clear that the set of behaviors, skills, and attitudes that are necessary for effective managerial coaching is far from obvious. For example, few scales have the same or even similar dimensions and items. In addition, lack of discriminatory power (constructs that lump several dimensions into one) is a particular concern in the unidimensional scales, while construct deficiency (constructs that lack important facets) is the most obvious concern associated with multidimensional measures. Finally, both the unidimensional and the multidimensional measures suffer from unknown or limited reliability and validity: Few have applied state-of-the-art analyses like factor analysis and structural equation modeling, and almost none has established scale validity in two non-overlapping samples with adequate sample sizes, which is a requirement for a valid and reliable scale (DeVellis, 2003). Therefore, those measures' ability to reflect the extent to which supervisors apply high-quality managerial coaching is far from certain.

Adding to the complexity, the concept of managerial coaching is unclear. Some scholars claim that managerial coaching happens only in one-on-one interactions between a supervisor (coach) and an employee (coachee) (Hall, Otazo, & Hollenbeck, 1999), while others claim that it can also happen in team contexts (Agarwal, Angst, & Magni, 2009; Hackman & Wageman, 2005; Heslin, Vandewalle, & Latham, 2006). Some say that the supervisor must plan times to discuss development areas with the employee, while others argue that it is also possible to coach "on the job" by slipping coaching interactions into everyday conversations (Hunt & Weintraub, 2016). Some understand coaching as an approach in which the supervisor supports the employee by asking questions and listening (Kim, Egan, Kim, & Kim, 2013), while others understand it as the supervisor's advising and giving information to the employee (Chandler, Roebuck, Swan, & Brock, 2011).

However different the understanding of managerial coaching, there is consensus regarding three behaviors the supervisor must demonstrate when using managerial coaching techniques: 1) The supervisor has to establish a good relationship as the foundation for employee development (Haan, Culpin, & Curd, 2011; Mühlberger & Traut-Mattausch, 2015); 2) managerial coaching is a goal-focused approach, rather than a problem-focused approach (Douglas & Morley, 2000; Grant & Cavanagh, 2007; Hall, Otazo, & Hollenbeck, 1999; Mühlberger & Traut-Mattausch, 2015); and 3) the supervisor must apply techniques that support the employee in achieving her or his goals (Ellinger, Ellinger, Bachrach, Wang, & Elmadağ Baş, Ayş Banu, 2011; Ellinger, Ellinger, & Keller, 2003; Hackman & Wageman, 2005). These commonalities in the managerial coaching literature lead to the fourth research question.

Research question 4: *Can we establish a unifying managerial coaching scale based on the dimensions of a) relationship-building, b) goal-setting, and c) supporting goal achievement?*

As Table 3 shows, most studies on managerial coaching have focused on either performance or satisfaction as outcome variables, while less than ten percent of the studies on the list have investigated the relationship between managerial coaching and the concepts of employee participation described in section 2.1. The small number of studies that address this issue is striking, as coaching has been labeled an approach to promoting learning and reflection, putting the employee and her or his thoughts and behaviors in the center, so it can be seen as a leadership approach that fosters employee participation (Feldman & Lankau, 2005). Furthermore, theory and research have emphasized that managerial coaching is useful in helping employees face novel situations (Druskat & Wheeler, 2003; Wageman, 2001). Individual entrepreneurial behavior (IEB), a central variable of effective corporate entrepreneurship (Hornsby, Kuratko, Shepherd, & Bott, 2009; Ireland, Covin, & Kuratko, 2009; Krauss, Frese, Friedrich, & Unger, 2005; Zhang & Bartol, 2010), requires complex behavior from the employee. Individual employees often initiate informal corporate entrepreneurship activities (Zahra, 1991), but the antecedents of IEB have not been extensively specified (de Jong, Parker, Wennekers, & Wu, 2013; Zhao, Seibert, & Hills, 2005), and studies of entrepreneurship's antecedents at this level have been requested (de Jong, Parker, Wennekers, & Wu, 2013; Zhang & Bartol, 2010). Individual innovativeness and creativity are linked to the leader's behavior (Amabile, Schatzel, Moneta, & Kramer, 2004; Scott & Bruce, 1994; Zhang & Bartol, 2010), and it has been suggested that managerial coaching skills can facilitate brainstorming (Rosenelatt, Rogers, & Nord, 1993), creating a possible link between coaching and entrepreneurship. This leads to the fifth research question:

Research question 5: *Can managerial coaching promote concepts of employee participation like individual entrepreneurial behavior?*

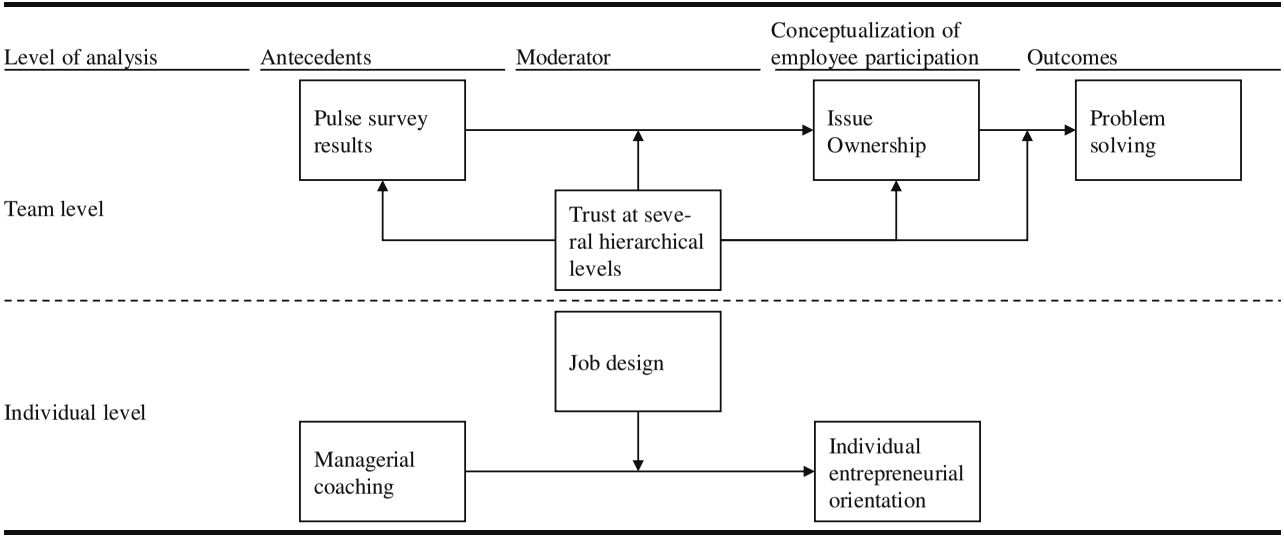
None of the research studies summarized in Table 3 investigates job design variables as potential boundary conditions for the effects of managerial coaching, although job design variables might

severely affect the employee's and the leader's ability to make the most of the new knowledge, attitudes, and behaviors gained from managerial coaching. These variables have also been shown to play a major role in establishing employee participation. Evidence from research that has investigated the relationship between managerial coaching and firm performance have suggested that managerial coaching is not effective in all circumstances (e.g., Buljac-Samardzic & van Woerkom, 2015; Wageman, 2001), leading to the sixth research question:

Research question 6: *Do job design variables moderate the effect of managerial coaching on IEB?*

These six research questions provide the basis for the analyses presented in the three studies included in part B of this thesis. Figure 4 shows the overall research framework of this dissertation. In the summary of the three research studies provided in chapter 5, the framework is broken into three frameworks in order to show in detail which relationships are analyzed in which of the three studies in part B.

Figure 4: Overall research framework



4. RESEARCH DESIGN

Research questions regarding pulse surveys (questions 1, 2, and 3) were addressed with a theoretical approach. Research questions regarding managerial coaching (questions 4, 5, and 6) were answered using primary, partly dyadic data. This chapter explains the motivation for choosing these research designs, followed by a description of the data-collection process and the sample characteristics.

4.1 Pulse Surveys

As is clear from the literature summary in Table 2, research on surveys as a tool for organizational development is scarce, and research on pulse surveys is non-existent. This lack of research is surprising, as organizations invest considerable time and money in conducting pulse surveys, and many organizations struggle to implement them effectively (Silverman, 2014; Welbourne, 2016). Because of the lack of prior work to build on, this dissertation uses a theoretical approach to investigate pulse surveys. A theoretical approach is appropriate because it makes addressing the topic of pulse surveys holistically possible and specifically allows the investigation of the organizational context at various hierarchical levels. (See research question 3.) In addition, a theoretical approach allows several self-enforcing cycles that stem from the interdependencies and diverging motivations of several hierarchical levels to be delineated. Theorizing on the complexities involved provides not only a rich empirical research program but also first answers to why pulse surveys often do not produce the desired benefits and what can be done about it.

4.2 Managerial Coaching

The extent to which supervisors use managerial coaching techniques in their daily interactions with followers can be best assessed by the followers' perceptions of the use of those techniques (Ellinger & Bostrom, 1999; Ellinger, Keller, & Elmadağ Baş, 2010). Therefore, the dissertation

uses primary data to answer research questions regarding managerial coaching. Even though followers' perceptions are most important to the assessment of managerial coaching (Ellinger & Bostrom, 1999; Ellinger, Keller, & Elmadağ Baş, 2010), for part of the sample I also collected supervisors' perceptions about their use of managerial coaching techniques to complement followers' perceptions. To collect dyadic data, the supervisors who answered the survey questions were the direct supervisors of employee respondents.

Specifically, research question 4 was addressed using a state-of-the-art scale-development approach. The scale was developed based on existing literature, in-depth expert interviews, factor analysis, structural equation modeling, and other data-analysis techniques. Data-driven assessments were conducted with two independent, partly dyadic samples. Sample 1 (N= 423) was used to confirm the three-factor structure of the scale and item selection, while sample 2 (N= 301) was used to confirm the scale's psychometric properties. Sample 2, in combination with its dyadic subsample (N = 104), also allowed me to establish a nomological network and to assess the scale's convergent, discriminant, and criterion-related validity. The sample characteristics are shown in Table 5.

Research questions 5 and 6 were addressed using a survey, which was administered in German, yielded a sample of 253 completed surveys from employees from more than forty companies. Table 6 shows the participants' profiles. Measurement items were generated based on existing scales frequently used in research.

Table 5: Sample characteristics of the primary data used in study II

	Sample 1	Sample 2	Subsample 2
Age			
< 20 years	0,8%	0,3%	0,0%
20 - 29 years	55,7%	19,8%	21,2%
30 - 39 years	23,9%	29,0%	35,6%
40 - 49 years	8,7%	19,8%	18,3%
50 - 59 years	7,1%	21,1%	14,4%
60 years and more	3,8%	9,9%	10,6%
Gender			
Male	41,7%	50,5%	44,2%
Female	58,3%	49,5%	55,8%
Education			
School graduation	15,9%	4,0%	0,0%
Apprenticeship	25,6%	52,0%	51,0%
Bachelor degree	32,0%	14,6%	16,4%
Master degree or higher	26,5%	29,5%	32,7%
Industries			
Production	20,8%	24,9%	29,8%
Healthcare, & civil services	12,5%	16,6%	17,3%
Education, & resaerch	10,2%	10,0%	9,6%
Wholesale, retail, & logistics	11,6%	18,6%	13,5%
Professional services	16,3%	17,6%	20,2%
Other	28,6%	12,3%	9,6%
Position			
No leading position	78,7%	43,9%	42,3%
Leading position	21,3%	56,2%	57,69%
Organizational tenure			
< 1 year	13,2%	2,0%	2,9%
1 - 2 years	24,9%	10,6%	10,6%
3 - 5 years	27,5%	24,5%	22,1%
6 - 10 years	17,1%	32,1%	34,6%
> 10 years	17,3%	30,8%	29,8%

Sample 1 (N = 423) / Sample 2 (N = 301) / Subsample 2 (N = 104)

Table 6: Sample characteristics of the primary data used in study III

Age		Organizational tenure	
Age 20 - 39 years	19%	Organizational tenure < 10 years	68%
Age 30 - 39 years	50%	Organizational tenure 10 years or more	32%
Age 40 - 49 years	17%		
Age 50 - 59 years	12%	Position	
Age > 60 years	2%	Top management	3%
		1 level below top management	13%
Gender		Other leading position	23%
Male	59%	Other staff	61%
Female	41%		
		Department	
Education		Sales department	9%
School graduation / apprenticeship	21%	Other departments	91%
Bachelor's / Masters degree	59%		
MBA / PhD	20%	Industries	
		Service	68%
Organization size		Professional services	16%
Organization size < 1000 FTE	46%	Public sector	12%
Organization size 1000 FTE or more	54%	Education & Research	10%
		Other services	30%
		Non-service industries	32%

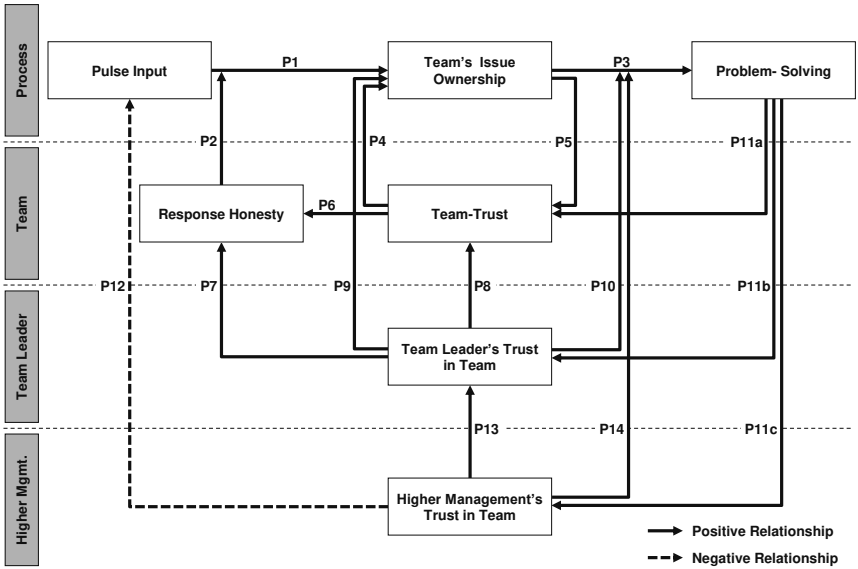
N = 253; FTE, full time equivalent.

5. SUMMARY OF RESEARCH STUDIES

The overall research framework presented in Figure 4 is divided into three research studies that contribute to the theory of employee involvement. Each study answers at least one research question and treats various aspects of the overall research framework. The following sections summarize the research studies, particularly in terms of the research questions addressed and the studies' major findings and contributions.

5.1 Summary of Research Study I (Pulse Surveys)[1]

Figure 5: Research model of study I



Study I provides a conceptual analysis of how, when, and why pulse surveys help work teams develop a sense of ownership of collectively identified issues and respond accordingly, addressing research questions 1, 2, and 3. The model delineates a fundamental paradox in that

[1] This study was developed in collaboration with Prof. Dr. Niels Van Quaquebeke

pulse surveys are often motivated by top-level management's limited trust in the levels below, and it is this same lack of trust that hinders any useful implementation of the surveys' findings.

I define *Issue Ownership* as the team's belief that an issue is theirs (Pierce, Kostova, & Dirks, 2003), reflected in the team's making conscious choices about the topics, objectives, and processes they pursue, so *Issue Ownership* emerges in and is limited to team conversations. However, *Issue Ownership* increases the team's commitment beyond the team's discussions, which invigorates problem-solving. Pulse surveys can operate as a medium with which to start *Issue Ownership*, especially when the team gives honest responses to the survey questions. In addition, a team's ownership of its issues and honest responses to survey questions are more likely when team members trust each other. *Issue Ownership* itself increases team trust, generating a self-reinforcing virtuous cycle between team trust and the team's *Issue Ownership*. However, the team leader's trust has several implications for the occurrence and sustainability of this virtuous cycle, as his or her trust encourages the team to give honest answers to pulse surveys' questions, promotes *Issue Ownership* both directly and indirectly by strengthening team trust, and increases the likelihood that the leader will support the transition from *Issue Ownership* to problem-solving. The role of trust does not end here, as higher management's trust in the lower ranks similarly strengthens the leader's trust in the team and supports the team and its leader in bringing their solutions to life (i.e., problem-solving). When problems are solved, that success strengthens trust at all hierarchical levels, invigorating the virtuous cycle and its support mechanisms.

The problems with this otherwise transmogrifying interplay occur when the reasons for higher management's implementation of pulse surveys are considered. Such implementation is more likely if higher management sees the need to intervene in the team's problem-solving because they believe the team is not capable of solving the problem (McGregor, 1960). In this sense, then, higher management uses pulse surveys to control and monitor the team's actions in place of

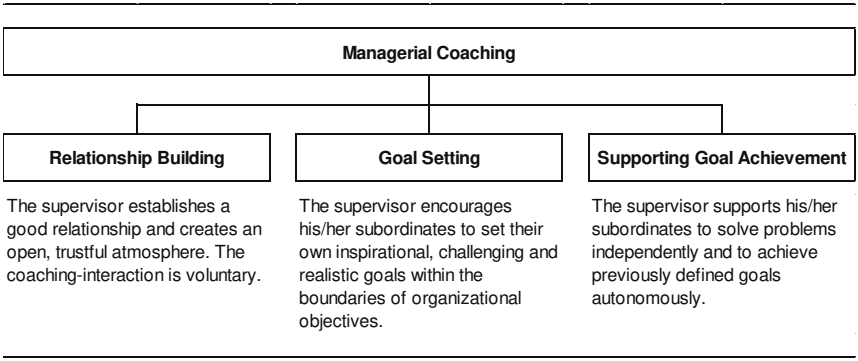
trusting the team (Davis, Allen, & Hayes, 2010; Davis, Schoorman, & Donaldson, 1997). This lack of trust trickles down to the team, negatively influencing response honesty, interfering with the team's *Issue Ownership*, and hampering problem-solving. Thus, the very thing that leads to the implementation of pulse surveys (a lack of trust in the lower ranks) hampers the goal that pulse surveys are meant to achieve (solving problems before performance drops).

My propositions help to derive a research program while giving first answers to questions concerning why pulse surveys often fail to produce the benefits they are intended to bring about. The related research model is depicted in Figure 5.

5.2 Summary of Research Study II (Managerial Coaching)

Study II offers a new conceptualization of the managerial coaching construct that is based on the three dimensions of relationship-building, goal-setting, and supporting goal achievement. Thus, it addresses research question 4. (See Figure 6.)

Figure 6: Conceptualizing managerial coaching



These dimensions have emerged as commonalities from extant qualitative and quantitative research. The subsequent state-of-the-art scale-development process consisted of four phases: First, using Hsee, Yang, Zheng, and Wang's (2015) approach, I conducted semi-structured interviews with thirty-nine participants (fifteen researchers, eleven coaches, three supervisors,

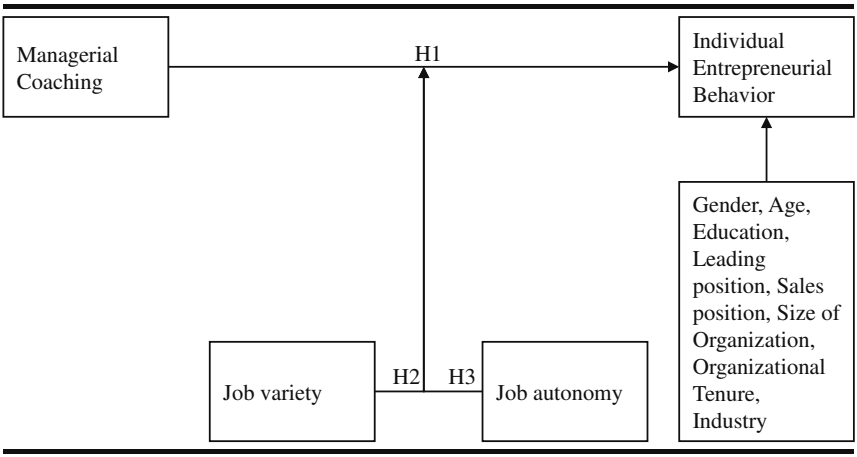
and ten employees) to establish and verify the construct and to define and test the three dimensions of the managerial coaching construct. In the second phase, I built on the expert interviews and the qualitative and quantitative work carried out in the managerial coaching area to generate items and assess content validity for the three dimensions established in the first step. The third phase determined the final managerial coaching scale by confirming the three-factor structure and applying exploratory factor analysis for final item selection (DeVellis, 2003) using the answers of the 423 survey respondents (Table 5, sample 1) to the thirty-six items on managerial coaching developed in the preceding phase. A final factor analysis of the reduced set of twelve items revealed a clear three-factor pattern. In the fourth phase, I used structural equation modeling to confirm the scale with two non-overlapping, partly dyadic samples (Table 5, sample 2 and subsample 2). I also assessed the convergent and criterion-related validity of the managerial coaching construct by demonstrating that the second-order construct is related to and predicts (and is predicted by) the theoretically relevant constructs of job satisfaction, job performance, and managerial coaching, as perceived by the direct supervisor. I establish discriminant validity by showing that, even though managerial coaching, as received by the employee, is related to these constructs, managerial coaching can also be differentiated from them.

5.3 Summary of Research Study III (Managerial Coaching)

Study III examines research questions 5 and 6 with cross-sectional survey data from 253 German employees from more than forty organizations (Table 6). Theoretically embedding my hypothesis in empowerment theory, I find that managerial coaching strongly increases IEB, a process at the employee level that is key to any corporate entrepreneurship strategy. This relationship strengthens when job variety is high but it is not influenced by the level of job autonomy. These results indicate that leaders can coach their employees to be entrepreneurial, especially when the employees perform a broad variety of tasks. Establishing job variety as a

positive moderator of the relationship between managerial coaching and IEB helps to explain past contradictory findings on the effects of managerial coaching. The results also help to reveal an important antecedent of IEB, thereby adding to the leadership and entrepreneurship literatures.

Figure 7: Research model of study III



6. IMPLICATIONS FOR RESEARCH AND PRACTICE

6.1 Pulse Surveys

6.1.1 Theoretical Implications

I develop the concept of teams' *Issue Ownership*, which can in some organizational circumstances be enhanced by pulse surveys. In so doing, I contribute to the literature in three ways. First, to the best of my knowledge, my analysis is the first to devote due attention to the implementation of pulse surveys in organizations. Theorizing on the complexities involved provides first answers to the questions concerning why pulse surveys often do not produce the desired benefits and what can be done about it.

Second, I advance the trust literature by theorizing on the effect of higher hierarchical levels' trust in the lower ranks. The vast literature on trust indicates the importance of this issue for organizational outcomes (e.g., Costa, Fulmer, & Anderson, in press), but most trust research focuses on the effects of lower hierarchical levels' trust in higher hierarchical levels. (For a review, see Fulmer & Gelfand, 2012.) I turn this perspective upside down, an approach Fulmer and Gelfand (2012) called for but that has received little attention. My perspective also allows me to delineate logically a paradox that emerges with the establishment of monitoring systems like pulse surveys, as the implementation of pulse surveys is more likely if higher management sees the need to intervene in the team's problem-solving because it believes the team is not capable of solving the problem themselves (McGregor, 1960). In this sense, higher management uses pulse surveys to control and monitor the team's actions in place of trust in the team (Davis, Allen, & Hayes, 2010; Davis, Schoorman, & Donaldson, 1997). This lack of trust trickles down into the organization, negatively influencing the accuracy of responses to pulse surveys, interfering with the team's ability to establish *Issue Ownership*, and hampering the team's ability to solve problems. Thus, the very thing that leads to the implementation of pulse surveys (a lack of trust in the lower ranks) obstructs the goal that pulse surveys are meant to achieve.

Third, I contribute to the shared leadership literature, as *Issue Ownership* is conceptualized as the decision-making component of shared leadership. This contribution advances the shared leadership literature by focusing on decision-making as an aspect of shared leadership, following calls to investigate components of the shared leadership concept (Carson, Tesluk, & Marrone, 2007a; DeRue, Nahrgang, & Ashford, 2015; D'Innocenzo, Mathieu, & Kukenberger, 2016). At the same time, I embed the concept of *Issue Ownership* in a broad organizational context. In so doing, I delineate several self-enforcing cycles that stem from the interdependencies and diverging motivations of the hierarchical levels. Whereas research has focused on the direct antecedents and outcomes of shared leadership, with my embedded approach I follow calls for research to examine "the emergence of leadership structures within the context of organizational hierarchies" (DeRue, Nahrgang, & Ashford, 2015: 1207; Drescher, Korsgaard, Welpe, Picot, & Wigand, 2014; Wang, Waldman, & Zhang, 2014).

6.1.2 Practical Implications

The present research is useful to members of organizations who seek to understand the effects of pulse surveys in a team context. It helps higher management to question their purpose when they implement pulse surveys since higher management that wants to rebalance a team's processes learn that implementing pulse surveys might hamper, rather than improve, the team's processes. The research also shows team leaders that they play a central role when pulse surveys are used, as team leaders can function as a buffer, preventing higher management's lack of trust from trickling down through the organization by projecting the team's safety in giving honest (and, therefore, potentially unfavorable) answers to pulse survey questions and ensuring that third parties (e.g., higher management) do not interfere with the team's decision-making process or the implementation of its decisions. The team leader can also grant the team discretion in their decision-making by balancing her or his input in the decision-making process and supporting the team in implementing their decisions. The team leader must walk a tightrope here, intervening

neither too much nor too little in the team's decision-making, as intervening too much could result in the leader's taking over the decision-making process and derailing the team's sense of ownership, while intervening too little could leave the team without the structure and guidance it needs for effective decision-making and the establishment of a sense of ownership (Wong & Giessner, 2018). Finally, the employees who are on the teams are the primary source of action in response to pulse survey results. This view is in sharp contrast to how organizations usually use pulse surveys, where employees answer the questions and then wait for management's actions. In this sense, the present research is an appeal to teams to take responsibility and ownership for the issues they identify via surveys.

6.1.3 Directions for Future Research

On the topic of pulse surveys, this thesis can inform future research that seeks to specify pulse input, explore boundary conditions, and broaden the scope beyond pulse surveys.

Specifying pulse input. This study conceptualizes pulse input as a yes/no variable and its effects on *Issue Ownership*. However, there is wide variability in how organizations use pulse surveys, and there is more to be learned about how the design of pulse surveys can maximize their outcomes. Therefore, I invite future researchers to investigate the effects of different pulse survey designs. For example, future research could test the impact of altering a pulse survey's breadth (covering more aspects of team issues), depth (going into greater detail in describing the issues that affect the team), frequency (number of repetitions of survey questions per month or year), or customization (tailoring questions to a team, rather than taking a one-size-fits-all approach). Pulse surveys that have greater breadth, depth, and frequency and that are more customized can give a team valuable insights, fostering *Issue Ownership*, but flooding a team with questions and analyses may generate fatigue and cognitive overload, thereby creating the reverse effect (Felps & Van Quaquebeke, 2018; Silverman, 2014). Therefore, future research that investigates the types of questions and the types of changes (via *Issue Ownership*) that pulse

surveys produce could be fruitful. Equipped with this type of information, the process of steering a major change effort might become less of a directing and controlling activity and more an issue of what questions will spark teams' creative and solution-focused thinking to drive the organization forward.

Specifying boundary conditions. *Issue Ownership* requires employees to make their own conscious choices, engage in extensive discussions, share information, and come to joint conclusions. However, making decisions in this way takes more time and can create more team conflict than does the approach used by a team leader who makes decisions for the team (Amason, 1996). Research has shown that the effort is worthwhile when the decision is complex and can benefit from the exchange of information and divergent views (Olson, Parayitam, & Bao, 2007). Therefore, *Issue Ownership* may not be a reasonable approach to making simple decisions, as the benefits may not outweigh the risk of conflict and time spent. I invite future research to delineate which types of decisions are sufficiently complex to be made efficiently via *Issue Ownership* and which are sufficiently simple to be made by the higher ranks.

Broadening the scope beyond pulse surveys. I have described pulse survey input as a way to enter either a virtuous cycle or the vicious cycle that can arise when higher management's lack of trust in the team leads to the establishment of pulse surveys. However, higher management's desire to monitor the team could also result in establishing other control systems (e.g., quality control, budget control, timekeeping) in addition to or instead of pulse surveys. All monitoring systems deliver information that, when requested by the team (rather than by higher management), can increase the responsibility the team feels for the input these monitoring systems generate. Hence, like input from pulse surveys, input that other monitoring systems generate might serve as an entry point for *Issue Ownership*. However, all monitoring systems are more likely to be established when higher management (and the organization as a whole) lacks

trust. Therefore, I invite scholars to determine whether the benefits and the paradox that arise with pulse survey input also apply to other monitoring systems.

6.2 Managerial Coaching

6.2.1 Theoretical Implications

This dissertation advances the concept of managerial coaching and shows that it fuels employees' IEBs, especially when they perform a broad variety of tasks. With this, the study contributes to the literature in three ways. First, it addresses a debate in the literature about how to measure managerial coaching (e.g., McLean, Yang, Kuo, Tolbert, & Larkin, 2005; Park, McLean, & Yang, 2008). Few existing scales include the same or even similar dimensions and almost none have applied a state-of-the-art scale-development process to validate their scales (e.g., Ellinger, Ellinger, & Keller, 2003; Grant & Cavanagh, 2007; McLean, Yang, Kuo, Tolbert, & Larkin, 2005). The present study offers an alternative and previously undiscussed conceptualization of managerial coaching that is based on the dimensions of relationship-building, goal-setting, and supporting goal achievement. These three dimensions emerge as commonalities in previous qualitative and quantitative research and were refined in the course of the present research through interviews with experienced coaches, leaders, employees, and researchers. To establish the three dimensions and fill them with content that is relevant to managerial coaching, I used a state-of-the-art scale-development process that included item generation based on a literature review and expert interviews, exploratory factor analysis, confirmatory factor analysis, and validation of the scale in two independent samples. The resulting twelve-item scale offers adequate psychometric properties, including content validity, convergent, discriminant, and criterion-related validity, as well as strong and consistent evidence across two samples (N = 423 and N = 301). Thus, the scale is one of the first to provide a solid measurement base for managerial coaching. Most important, because of its simplicity, the new conceptualization of managerial coaching offered in this thesis has the potential to resolve the

ongoing debate about which managerial behaviors should be included in the managerial coaching scale.

Second, the dissertation contributes to the entrepreneurship literature that is concerned with fostering employees' IEB. Especially in these times of rapid change, when it is important to use employees' full capabilities (Zhang & Bartol, 2010), including their innovativeness, proactivity, and risk-taking, it is every leader's responsibility to increase IEB, perhaps with a bottom-up leadership approach like managerial coaching, rather than a top-down approach like transactional leadership (Owens & Hekman, 2012). This thesis provides clear evidence that managerial coaching can increase every employee's individual contribution to organizational entrepreneurship.

Third, the findings presented in this thesis regarding the job design variables related to job variety and job autonomy help to resolve contradictory findings in the literature of managerial coaching. The results indicate that people who work on a variety of tasks benefit more from managerial coaching than do those who work on a narrow range of tasks, which might explain why Wageman (2001), whose sample performed a narrow range of tasks, found no effect of managerial coaching on individual performance and most other studies found either a direct effect (Agarwal, Angst, & Magni, 2009; Liu & Batt, 2010) or an indirect one (Carson, Tesluk, & Marrone, 2007b; Druskat & Wheeler, 2003; Edmondson, 1999; Ellinger, Ellinger, & Keller, 2003; Huang & Hsieh, 2015; Kim & Kuo, 2015; Morgeson, 2005). Despite my hypothesis that employees with a high level of job autonomy can especially learn from every decision made, I also showed that employees with a high level of job autonomy were not more susceptive to managerial coaching than employees with lower levels of autonomy, suggesting that all employees, regardless of their decision latitude, can benefit from coaching. The surprising finding can be explained by Agarwal, Angst, and Magni's (2009) argument that senior leaders' beliefs and attitudes about their work practices, honed through experience, are better-formed and

more difficult to influence than are those of lower-level employees. Similarly, Buljac-Samardzic and van Woerkom (2015) found that managerial coaching is effective only when the employee's capacity for reflection–stepping back to think about one's objectives and the methods to achieve them–is low. The underlying reason, they hypothesize, is that managerial coaching is time-consuming and that coaching's benefits are counterbalanced by a loss of efficiency for employees who are capable of reflecting on their own. Furthermore, Hornsby, Kuratko, Shepherd, and Bott (2009) allocated an especially important role to middle managers in encouraging corporate entrepreneurship, so the limited "coachability" of employees at higher hierarchical levels may counteract the positive effects of a high level of job autonomy. In other words, the positive moderation caused by the freedom of those who have autonomy in their jobs to use benefits gained from managerial coaching might be canceled out by a negative moderation stemming from the higher self-coaching ability of those employees in autonomous jobs.

6.2.2 Practical Implications

The dissertation's findings are relevant to members of organizations who seek to increase the use of managerial coaching techniques, as it indicates that managerial coaching can be performed by every leader, and every employee can benefit, giving managerial coaching the potential for an extensive reach. Organizations that pursue an EO strategy must use their employees' innovativeness, proactiveness, and risk-taking abilities (de Jong, Parker, Wennekers, & Wu, 2013; Zhang & Bartol, 2010), and their leaders must play a major role in nurturing these abilities (Amabile, Schatzel, Moneta, & Kramer, 2004; Scott & Bruce, 1994; Zhang & Bartol, 2010). As the present study shows, managerial coaching can promote these abilities and make the most of employees' ideas. However, it is especially beneficial to use managerial coaching with employees who have a high level of variety in their jobs and deal with a wide range of tasks and information. The managerial coaching scale developed here can help in analyzing the alignment or misalignment between employees' and supervisors' perceptions of managerial coaching and

should help practitioners revise their managerial coaching styles and training programs (Baldwin & Ford, J. Kevin, 1988; Hall, Otazo, & Hollenbeck, 1999; Tracey, Tannenbaum, & Kavanagh, 1995).

6.2.3 Directions for Future Research

Differences in supervisors' and subordinates' perceptions of managerial coaching. This thesis establishes the differences between employees' and supervisors' perceptions of managerial coaching, but investigating these differences in detail was not within the scope of the study. These differences could provide a rich basis for future research, as their clarification can have an important impact on the practice and theory of managerial coaching. For example, such an investigation could help to clarify whether the positive effect of managerial coaching on performance occurs only for employee-supervisor dyads who have similar perceptions of the managerial coaching applied. And what role do perceptions of the sub-dimensions of the managerial coaching scale play in this regard? Is it more important that the employees' and supervisors' perceptions of the relationship dimension be congruent than that they are congruent for other managerial coaching dimensions, as some evidence from the leader-member-exchange research would suggest (Zhou & Schriesheim, 2009)? What can be done to reduce this gap in perception? How can a supervisor adjust her or his coaching style so what she or he intends to bring to the relationship reaches the employee?

Potential boundary conditions of managerial coaching. The employee's "coachability" may set boundaries around the effects of managerial coaching. Whether its effects are limited by other boundaries is unclear, so further research in this direction is needed. For example, perhaps it is necessary for inexperienced employees to learn some basics first before coaching can have an impact, so teaching, more than coaching, is necessary with inexperienced employees. Coaching generally gives employees the opportunity to grow and learn, but it also takes, at least in the short run, more time to coach than to tell people what to do. Hence, in situations in which quick

decision-making is required, managerial coaching may not be the best choice. Where is the turning point? Might there be some types of projects for which, because of short deadlines or time constraints, coaching is inappropriate? As time is almost always a constraining factor, it is also necessary to clarify how coaching compares to other management practices in order to help leaders decide when managerial coaching is the most helpful and when some other management practice will yield better results.

The context-specific importance of the sub-dimensions of managerial coaching. A related issue that requires additional empirical research is the importance of the three managerial coaching dimensions (relationship-building, goal-setting, supporting goal achievement) in terms of whether their importance varies between knowledge-intensive jobs and other kinds of jobs. It will also be useful to determine the importance that the three dimensions play in determining organizational outcomes (e.g., individual performance, team performance, job satisfaction).

7. CONCLUSIONS

This dissertation investigates the antecedents and boundary conditions of various concepts of employee participation. The findings show that the immediate supervisor and the employer can, by asking questions (either in a flexible, spoken way in the form of managerial coaching or in a standardized, written way in the form of pulse surveys), stimulate employees' participation in organizational matters. In addition, the findings show that the relationship between employee participation and its antecedents depends on higher hierarchical levels' trust in the lower ranks and on variables related to job design. The present work also offers a new conceptualization of managerial coaching and develops a measurement scale for this construct. This dissertation extends research in several areas and provides valuable guidance for managing employee participation across multiple contexts, thereby contributing to several streams of literature.

In sum, the thesis proposes that leaders and managers who "jump in at the deep end" and trust their employees (by applying managerial coaching techniques) and teams (by supporting their *Issue Ownership*) can see surprisingly beneficial effects of their trusting behavior. While these effects might not be those the leaders intended, they could be superior to the leaders' initial intentions (Boiral, 2005), as control resides with the employees or teams who know the most about their own challenges (Hayek, 1945).

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Part B: Research Studies

Research Study I: Pulse Surveys and Issue Ownership in Teams: It's a Matter of Trust[2]

ABSTRACT

Short employee surveys that are administered frequently—so-called pulse surveys—are becoming a popular management tool with which to identify and solve critical problems that hinder work productivity. However, even though organizations invest large amounts of time and money in conducting pulse surveys, research has remained rather silent on the question concerning how to implement them successfully. Against this background, we provide a conceptual analysis of how, when, and why pulse surveys help work teams develop a sense of ownership of collectively identified issues and respond accordingly. Through our model, we delineate a fundamental paradox in that pulse surveys are often motivated by top-level management's limited trust for the lower ranks, and it is this same lack of trust that hinders any useful implementation of the surveys' findings. Our propositions help derive a research program while giving first answers to questions concerning why pulse surveys often fail to produce the benefits they are intended to bring about.

[2] This study was developed in collaboration with Prof. Dr. Niels Van Quaquebeke

Pulse surveys, frequent employee surveys that are administered every three months or more often, are becoming popular in organizations and often replace or complement annual employee surveys (Silverman, 2014; Welbourne, 2016). Employers use such surveys to gain information about occurring problems so they can solve them before they affect firm performance (Mann & Harter, 2016; Silverman, 2014). For example, the consultancy McKinsey & Co. administers such surveys every two weeks among its project teams, Pfizer used pulse surveys during a major restructuring (Clayton, 2015), and DuPont implemented them in the context of a complex cross-border acquisition (Kullman, 2012). But instead of prompting necessary changes, pulse surveys often create unused data (Mann & Harter, 2016). Thus, not surprising, employees often view pulse surveys as another form of control with little operational relevance that frequently leave employees dissatisfied, disillusioned, and with derailed engagement (Mann & Harter, 2016; Silverman, 2014). Even though organizations invest considerable time and money in conducting pulse surveys, they do not generate the expected outcome—solving problems before performance is affected (Aon Hewitt, 2011; Silverman, 2014).

Against this background, we develop an ownership perspective of teams, establishing teams, not higher management, as the core actors in responses to pulse survey results. Building on this ownership perspective, we provide a conceptual analysis of how, when, and why pulse surveys may help firms solve problems. In particular, we establish the construct of teams' *Issue Ownership* as a series of conscious choices regarding the topic to be worked on (topic control), the goal to be achieved within the chosen topic (objective control), and the process to be employed to achieve the objective (process control).

We embed our theorizing in a broader trust framework across multiple organizational levels (Fulmer & Gelfand, 2012) in order to unravel when and why pulse surveys may bring about the desired results. Importantly, the same theoretical perspective also allows us to delineate some paradoxical trust settings in which pulse surveys are often initiated because top-level

management does not trust the lower ranks, yet this same lack of trust prevents pulse surveys from achieving what they are meant to achieve (i.e., solving problems before performance is affected).

Our theorizing contributes to the literature in the three ways. First, even though organizations invest considerable time and money in conducting pulse surveys (Welbourne, 2016) and many organizations struggle to implement their results (Mann & Harter, 2016), research has remained silent on the issue. To the best of our knowledge, our analysis is the first to devote due attention to this topic. Our theorizing on the complexities involved not only provides for a rich research program but also gives first answers to the questions concerning why pulse surveys often do not produce the desired benefits and what can be done about it.

Second, we advance the literature on trust across multiple organizational levels by considering in more detail the cascading effects of trust from higher hierarchical levels to lower ranks. There is a vast literature on trust, indicating the importance of this issue for organizational outcomes (e.g., Costa, Fulmer, & Anderson, 2018; Kim, Cooper, Dirks, & Ferrin, 2013), but most trust research focuses on the effects of lower hierarchical levels' trust in higher hierarchical levels (for a review, see de Jong, Dirks, & Gillespie, 2016; Fulmer & Gelfand, 2012). We turn this perspective upside down by investigating if "trust in organizations trickle[s] down" and looking at the effects of higher hierarchical levels' trust in lower ranks—an approach that has been called for (Fulmer & Gelfand, 2012: 1208) but has received little attention so far. This perspective also allows us to logically delineate a trust paradox that emerges with the establishment of monitoring systems such as pulse surveys.

Third, we contribute to the fairly broad shared leadership literature by specifically investigating a team's *Issue Ownership* as the decision-making component of shared leadership. As such, we follow calls to investigate specific components of the shared leadership concept in more detail (Carson, Tesluk, & Marrone, 2007; DeRue, Nahrgang, & Ashford, 2015; D'Innocenzo, Mathieu,

& Kukenberger, 2016). Moreover, whereas past research focuses on the direct antecedents and outcomes of shared leadership, we follow calls for research to examine the emergence of shared leadership aspects within the context of multiple organizational hierarchies (DeRue, Nahrgang, & Ashford, 2015; Drescher, Korsgaard, Welpe, Picot, & Wigand, 2014; Wang, Waldman, & Zhang, 2014).

In what follows, we first define a team's *Issue Ownership* as a multidimensional construct and anchor it in the literature of decision-making and shared leadership. We then explain how input from pulse survey can strengthen the team's sense of issue ownership and lead to solving problems. Then, drawing on the trust literature, we outline how a team's internal trust and its sense of issue ownership interact to form a virtuous (or vicious) cycle in which the team's trust and sense of ownership strengthen (or degrade) each other. Thereafter, we describe the roles of the team leader's and higher management's trust and their influence on whether the team enters a virtuous or vicious cycle. Doing so, we delineate a fundamental trust paradox, that is that pulse surveys are often initiated because top-level management does not trust the lower ranks, while the same lack of trust hinders any useful implementation of the surveys' results. The various elements of our model are depicted in Figure 1. We conclude with a discussion of the model's boundary conditions and implications for research and practice.

WHAT IS ISSUE OWNERSHIP?

We see teams' *Issue Ownership* as being grounded in the broader shared leadership concept, which Carson, Tesluk, and Marrone (2007: 1218) define as "an emergent team property that results from the distribution of leadership influence across multiple team members." In our context, a team is a group of people that has clear boundaries, stability of membership, and at least some sort of interdependence (Wageman, Hackman, & Lehman, 2005). An employee might be a member of several teams (e.g., project, department, and local office), and *Issue Ownership*

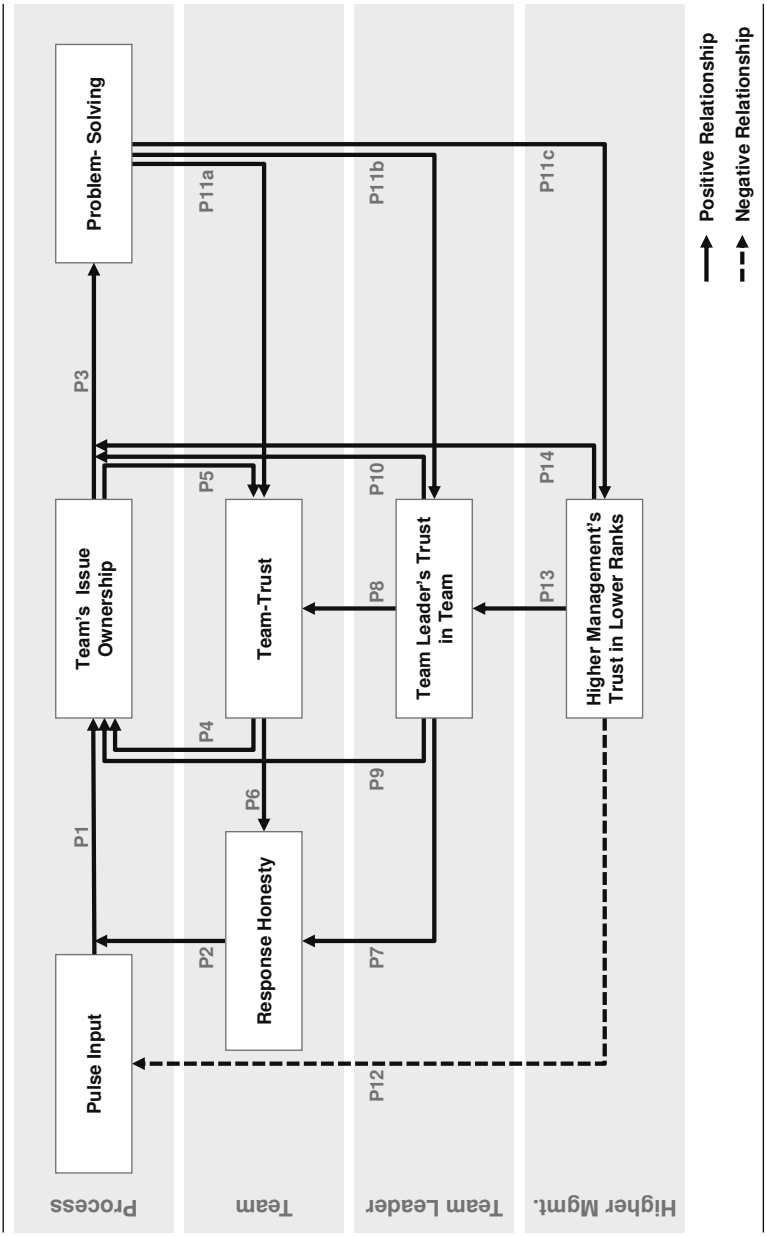

Figure 1: Proposed model of Issue Ownership

can be assessed for each one. Instead of the general notion of shared leadership, we focus more narrowly on decision-making, following requests to dissect general leadership concepts and consider their more concrete and clearly identifiable facets (Felps & Van Quaquebeke, 2018; van Knippenberg & Sitkin, 2013).

We define a team's *Issue Ownership* as a team's belief that an issue is theirs (Pierce, Kostova, & Dirks, 2003). Such a sense of ownership entails that the team makes conscious choices about the topic they want to address (topic control), the goals they want to pursue within this topic (objective control), and the processes they want to employ to achieve this goal (process control). *Issue Ownership* may emerge during one or more team conversations and can trigger but does not include the team's actions emerging from *Issue Ownership*.

Generally, we regard control as the team's conscious choice *for* one option and *against* other options. Definitions of control in diverse literature streams have in common an actor who can make a certain choice (e.g., for organizational control theory, Courtright, McCormick, Mistry, & Wang, 2017; for self-control, Sela, Berger, & Kim, 2017; for job control, Gonzalez-Mulé & Cockburn, 2017). In our definition, the actor that exhibits control is the team, so the team is aware of the choice it makes because it has considered several options before making a decision and that the decision is made explicitly and transparently (conscious choice). We differentiate our concept of *Issue Ownership* into topic control, objective control, and process control. In line with our general perspective on control, we define topic control as the team's conscious choice of an area on which to focus their attention and effort, which relates to the 'identification of problems or issues' in the decision-making literature (Black & Gregersen, 1997). We define objective control as the team's conscious choice of the goal(s) they want to achieve within a given topic, so objective control is essentially a goal-setting exercise (Locke & Latham, 2002). We define process control as the team's conscious choice of the procedures by which to attain an objective and the circumstances under which these procedures will be enacted (Dalton & Spiller,

2012). The decision-making literature calls this element 'planning implementation' (Black & Gregersen, 1997) and 'planning intentions' (Gollwitzer & Sheeran, 2009). Whereas during objective control the team specifies desired end states, during process control it specifies when, where, and how it will pursue its goal (Gollwitzer & Sheeran, 2009). Importantly though, process control in our conception is concerned only with the team's *decisions* about the process and does not include enacting the process it chooses.

We propose that these three elements of *Issue Ownership* work like a funnel, with each element—first, topic control, then objective control, and finally process control—further narrowing the final choice of action. We argue that decisions about the topic, the objective, and the process are inherent in any decision about what needs to be changed or done, whether the team discusses them explicitly and makes conscious decisions (high *Issue Ownership*) or not (low *Issue Ownership*). Therefore, according to our conceptualization, the three elements of topic control, objective control, and process control combine into the formative multidimensional construct (Law, Wong, & Mobley, 1998) of *Issue Ownership*. Knowledge about each of these three components is necessary before the level of the team's sense of issue ownership can be specified.

ISSUE OWNERSHIP AS A MEDIATOR BETWEEN PULSE INPUT AND SOLVING PROBLEMS

Pulse Input and Response Honesty as Antecedents of Issue Ownership

Pulse surveys are short employee surveys fielded to take employees' 'pulse'—that is, to provide information about how employees feel about particular issues in order to identify problems before they fester (Silverman, 2014; Welbourne, 2016). These surveys are administered frequently, often in an electronic format, and are usually designed centrally by higher management or human resources departments. While many organizations send out pulse surveys every three months, some companies send their employees survey questions even more often. To

limit disruption of work routines, the questions asked in pulse surveys can usually be answered in five minutes or less (Silverman, 2014), and employees usually answer individually and anonymously. Results are then aggregated to some extent (e.g., at the team level) and are shared electronically with employees, sometimes together with benchmarks or time comparisons.

We define a team's pulse input in our model as a team's aggregated answers to pulse survey questions. We propose that pulse input stimulates the team's issue ownership; the team itself generates the pulse input by answering pulse survey questions, so it controls pulse input while simultaneously investing their time and opinions in it. Control and self-investment both generate feelings of responsibility for or, put differently, ownership of the pulse input (Brown, Crossley, & Robinson, 2014; Pierce, Kostova, & Dirks, 2003). Such feelings of ownership provide employees with the belief that they can affect the "owned" object as a result of their personal actions (Schepers, Falk, de Ruyter, de Jong, & Hammerschmidt, 2012). This results in team members' taking responsibility for the issues identified with pulse input, thus stimulating *Issue Ownership*. Therefore:

Proposition 1: The existence of pulse input increases teams' Issue Ownership.

While we propose that the very existence of pulse input promotes a team's *Issue Ownership*, we also expect that the validity of survey responses plays an important qualifying role in this relationship. Therefore, we introduce the honesty of a team's responses (response honesty) and define it as an aggregated team measure that characterizes on average to what extent responses to pulse survey questions represent what team members actually feel and think. For two reasons, we propose that the team's response honesty positively moderates the relationship between pulse input and *Issue Ownership*. First, the higher the level of response honesty, the more likely it is that team members genuinely invested themselves in the team's pulse input, thus increasing the team's ownership of the pulse input itself and, subsequently, their sense of responsibility for the issues the input identifies.

Second, a high level of response honesty increases the likelihood that the team will perceive the pulse input as a valid and valuable source of information. In other words, a high level of response honesty means that the identified issues can be trusted, thereby increasing the likelihood that the team will take ownership of it. However, a low level of response honesty will lead the team to perceive the pulse input as invalid and to dismiss its contents, reducing the likelihood that the team will take ownership of any issues that arise from the input. Therefore:

> *Proposition 2: A high level of response honesty positively moderates the relationship between pulse input and Issue Ownership.*

Successful Problem-Solving as an Outcome of Issue Ownership

Solving problems is the desired outcome when pulse surveys are administered to teams (Silverman, 2014; Welbourne, 2016). Problem-solving has been defined as resolving undesired gaps between an expected and observed state (Brightman, 1988; Jones & McBride, 1990; Kepner & Tregoe, 1976). We propose that a team's *Issue Ownership* positively relates to problem-solving because it increases the quality of and the team's commitment to its problem-solving approach, both of which facilitate the effective realization of a plan of action.

Decisions that emerge from diverse perspectives are usually superior to those that emerge from individual perspectives (Amason, 1996; Mason & Mitroff, 1981; Schweiger & Sandberg, 1989). However, when a team leader imposes a topic, objective, or process on the team (as would be the case in directive leadership; Martin, Liao, & Campbell, 2013), sense of ownership and responsibility are taken from the team members and hence they will contribute less and make fewer suggestions (Kahai, Sosik, & Avolio, 1997). This, in turn, leads to fewer perspectives and less knowledge being integrated into the decision. Similarly, if the team does not make a conscious choice of a topic, objective, or process, the team will not discuss the respective elements in more depth, and potential disagreements among team members will not surface.

Hence, potential disagreements cannot be resolved through discussion, and less team knowledge will be incorporated into the solution (Pelled, Eisenhardt, & Xin, 1999).

Regarding the team's commitment to the solution, we argue that, if the team does not consciously make decisions about the topic, objective, or process, potential disagreements might not surface but might still cause disagreeing team members to 'mentally check out', reducing their commitment to the solution and, hence, the team's overall commitment. Furthermore, having decision power, as in cases of high levels of *Issue Ownership,* leads to feelings of responsibility for the outcomes of the work and, hence, higher commitment (Cadwallader, Jarvis, Bitner, & Ostrom, 2010; Hackman & Oldham, 1976). However, directive change efforts (e.g., the team leader making decisions on topic, goal, or process) create resistance in the team and rarely create the necessary commitment needed for behavioral changes (Burnes, 2004; Rafferty, Jimmieson, & Armenakis, 2013). Therefore:

> *Proposition 3: The higher the level of a team's Issue Ownership, the greater its chances of solving problems.*

THE ROLE OF TRUST BETWEEN MULTIPLE ORGANIZATIONAL LEVELS

The Virtuous Cycle—Team Trust as an Antecedent and Consequence of Issue Ownership

Trust within the team as well as trust from higher hierarchical levels towards the lower ranks has important consequences for the team's *Issue Ownership*. According to Breuer, Hüffmeier, and Hertel (2016: 1152), team trust is "the shared willingness of the team members to be vulnerable to the actions of the other team members based on the shared expectation that the other team members will perform particular actions that are important to the team." We suggest that team trust enhances *Issue Ownership* and that the team's sense of issue ownership itself positively influences team trust. It follows, then, that *Issue Ownership* and team trust form a virtuous cycle that leads to continuous improvements in both team trust and the team's ownership of their

issues. However, if the emergence of either team trust or *Issue Ownership* is disturbed, the virtuous cycle can turn into a vicious cycle.

We argue that the team needs trust to take *Issue Ownership* for two reasons. First, when team trust is high, team members respect and have confidence in other team members (Olson, Parayitam, & Bao, 2007). This respect and confidence increase the team's willingness to take full responsibility for the work they deliver but also for the decisions they make (Carson, Tesluk, & Marrone, 2007), leading to the team's taking full *Issue Ownership*. Similarly, with a high level of team trust, the team is more likely to accept that a high level of *Issue Ownership* prevents them from laying blame on other parties that made decisions for them (e.g., the team leader; Schoorman, Mayer, & Davis, 2007). On the contrary, if the level of team trust is low, the team is likely to refuse to take responsibility and feel *Issue Ownership* and will rather (continue to) rely on the team leader to make decisions.

The second reason that the team needs trust to take *Issue Ownership* is that a team member who gives an opinion about the topic, objective, or process is vulnerable to the other team members, who might ignore or reject the opinion or even use the member's opinion against him or her (Olson, Parayitam, & Bao, 2007). Thus, when team trust is low, team members are likely inclined to respond with professional courtesy rather than stating their own opinions (Lewicki, McAllister, & Bies, 1998). Therefore:

> *Proposition 4: The higher the level of team trust, the more likely the team is to feel Issue Ownership.*

Vice-versa, we also propose that, for two reasons, *Issue Ownership* can strengthen team trust. First, trust is reciprocal, so the actions of one party that are driven by trust (or a lack thereof) influence other parties in their assessment of the first party's trustworthiness (i.e., I trust you because you trust me; McAllister, 1995). This argument is based on social exchange theory and is supported empirically (e.g., Serva, Fuller, & Mayer, 2005). As stated in proposition 4, *Issue*

Ownership is based on trust and comprises accepting vulnerability because team members expose themselves by voicing their opinions. Trust-displaying behavior that occurs when teams experience ownership of their issues increases the team's perceptions of trustworthiness.

Second, trust evolves when two parties come to share a vision, an argument also found in social capital theory (Tsai & Ghoshal, 1998). A shared vision provides the harmony of interests that limits the chance of opportunistic behavior (Ouchi, 1980). The intensive interactions that occur with *Issue Ownership* allow team members to know each other, to disclose divergent opinions, and, through the exchange of arguments and information, to create consensus and a shared point of view regarding the team's direction, fostering trust (Creed & Miles, 1996). Therefore:

> *Proposition 5: The higher the level of Issue Ownership in the team, the more the team members trust each other.*

In sum, we propose that a team that assumes topic, objective, and process control (i.e., showing *Issue Ownership*) following pulse input raises team trust, which in turn again increases the likelihood of the team's taking of ownership of issues, ultimately creating a virtuous circle.

Teams' and Leaders' Trust Strengthening Response Honesty

We argued that *Issue Ownership* is stimulated by pulse input only when the team gives honest answers to pulse survey questions (response honesty; Proposition 2). For two reasons, we also propose that this honesty is dependent on team trust. First, teams that experience trust are characterized by a climate of psychological safety (Schaubroeck, Lam, & Peng, 2011), so team members share the belief that the team is a safe environment for interpersonal risk-taking (Edmondson, 1999). Members of teams with high levels of psychological safety and trust believe they can share their views without fear of adverse personal consequences for them, such as being derogated (Moldoveanu & Baum, 2011; Olson, Parayitam, & Bao, 2007). Thus, trust alleviates concerns regarding how a team member's views will be challenged (Roy & Dugal, 1998), and

team members will be more motivated to give accurate answers to pulse survey questions (Schaubroeck, Lam, & Peng, 2011). Second, trust entails a belief in the team's reliability, competence, and integrity (Costa, Fulmer, & Anderson, 2018; McAllister, 1995), leading to the expectation that the team is capable and willing to act on pulse survey responses. Only when team members believe that their responses will be relevant to improvements (i.e., that the team is willing and capable of acting upon pulse survey results), will they take on the effort and potential risk associated with giving honest answers to pulse survey questions. Therefore:

> *Proposition 6: The more team trust there is on a team, the more likely the team is to display response honesty.*

Further, we propose that not only team trust but also the leader's trust in the team positively influences response honesty. The team leader's trust in the team is defined as his or her willingness to accept vulnerability based on positive expectations of the team's intentions and behavior (e.g., Vanneste, Puranam, & Kretschmer, 2014). We base our proposition on two arguments. First, if the team leader's trust in the team is low, he or she is not likely to believe in the team's reliability, competence, and integrity (Costa, Fulmer, & Anderson, 2018; McAllister, 1995). Thus, the team leader will have low hopes that the team will improve via pulse survey input. Hence, the team leader's effort will not be devoted so much to increasing response honesty as to other outcomes. For example, the team leader might pressure team members to distort their answers (e.g., to give more positive answers) so she or he can use the results for other purposes (e.g., to portray a positive picture of the team to higher management). However, if the team leader's trust in the team is high, he or she genuinely values the team's opinions and will invite accurate answers to pulse survey questions.

Second, social learning theory (Bandura, 1977) suggests that learning occurs when a learner observes role models in work groups (Lam, Kraus, & Ahearne, 2010). Leaders by virtue of their position and norm givers in organizations are important parts of their followers' set of social role

models (Lau & Liden, 2008; O'Reilly III & Caldwell, 1979; Sherony & Green, 2002; Sparrowe & Liden, 1997; White & Mitchell, 1979). When the leader's trust in the team is high, she or he will exhibit behaviors that make her or him vulnerable to the team. It is this display of vulnerability that will encourage team members to perform behaviors that make them vulnerable and thus encourage honest responses to pulse survey questions. Therefore:

> *Proposition 7: The more trust the team leader has in the team, the more likely the team is to display response honesty.*

The Leader's Trust Enables the Virtuous Cycle and Successful Problem-Solving

As we argued, the leader's trust in the team encourages team members' response honesty, which has a positive effect upstream of the virtuous cycle. We will now outline why we further expect the leader's trust to have a positive influence on the virtuous cycle itself (i.e., influencing team trust and *Issue Ownership* directly) as well as downstream of the virtuous cycle (i.e., promoting the transition from *Issue Ownership* to solving problems).

We propose three reasons for the leader's trust having a direct and positive influence on team trust. First, as mentioned before, social learning theory (Bandura, 1977) suggests that team members can observe and learn key behaviors and attitudes from their leaders. Thus, if a team leader trusts team members, the team members will trust each other because they will imitate and learn from the leader's trusting behavior (social learning effect; Bass, Waldman, Avolio, & Bebb, 1987). Second, when team leaders trust their subordinates, they are likely to share confidential information more often, delegate more responsibility, and provide more support and advice (Dirks & Skarlicki, 2009; Lau, Liu, & Fu, 2007). As a result, trusted subordinates' instrumental and social resources increase, improving their capability in their coworkers' eyes, thereby increasing their trustworthiness. Third, trusted employees more often than not feel obligated to behave in a trustworthy manner to continue receiving the leaders' trust (Deutsch,

1958). These trustworthy behaviors are noticed by coworkers, who in turn will be prompted to engage in behaviors that reflect trust in their colleagues (Lau & Liden, 2008). Therefore:

Proposition 8: The team leader's trust in the team is positively related to team trust.

The influence of the team leader's trust does not end there. We propose for three reasons that a team leader's trust in the team is also positively related to *Issue Ownership*. First, for the team to feel a sense of ownership of its issues, the team leader must observe, not dominate, the team's decision-making process. In other words, it requires the team leader to be vulnerable because staying in the background reduces control over the outcomes of the decision-making process (Mayer, Davis, & Schoorman, 1995; Mayer & Gavin, 2005; Raes, Heijltjes, Glunk, & Roe, 2011).

Second, a team leader's trust in the team positively influences the team's psychological safety (Schaubroeck, Lam, & Peng, 2011). It enhances the team members' belief that the leader will not use ideas and opinions stemming from the (discussion of the) pulse survey results against the team (Raes, Heijltjes, Glunk, & Roe, 2011), thus supporting their willingness to contribute. Third, by way of a Pygmalion effect, a leader who shows trust in the team's capabilities strengthens the team's belief in its own capabilities (Eden, 1984), thus fostering team members' sense that they themselves can find solutions to the challenges posed by pulse surveys. Therefore:

Proposition 9: The team leader's trust in the team is positively related to the team taking Issue Ownership.

Finally, we expect that a team leader's trust in the team strengthens the team's ability to transform the decisions made with *Issue Ownership* into actual organizational changes. We suggest this relationship because only when the leader trusts the team will she or he support the implementation of the team's ideas in response to the pulse survey input. Indeed, chances of

solving problems naturally increase when both, the team and the team leader, devote their capabilities, time, and power to implementing the team's solution. However, doing so will increase the team leader's vulnerability with the team and the team's ideas. Leaders are more likely to accept the risks inherent in supporting a team's solution when they trust their teams (Mayer, Davis, & Schoorman, 1995). Therefore:

> *Proposition 10: The team leader's trust in the team positively influences the relationship between Issue Ownership and solving problems.*

Problem-Solving Strengthens Trust at Multiple Hierarchical Levels

Problem-solving is a desired outcome for teams, team leaders, and higher management, and we expect that an outcome like problem-solving strengthens trust at all hierarchical levels. We base this proposition on two arguments: First, if the solution is implemented successfully, it is likely that team members behaved in a trustworthy manner. Just as we expect trustworthy behaviors in a team discussion to strengthen team trust (Proposition 5), we expect team trust to be positively influenced by trustworthy actions of team members following a team discussion (e.g., Costa, Fulmer, & Anderson, 2018). The same mechanism enhances the team leader's trust in the team, as solving problems indicates that the team has not abused the discretion their leader gave them.

Second, trust is dynamic, so it evolves over time through repeated interactions and a history of seeing that trust is honored (Lewicki, Tomlinson, & Gillespie, 2006; Schoorman, Mayer, & Davis, 2007). In other words, trust involves the expectation that the outcomes that are associated with the trusted party and expectations about future outcomes are likely to be created by observing past outcomes (Dirks, 2000; Dirks & Ferrin, 2002; Kim, Cooper, Dirks, & Ferrin, 2013). Hence, a positive outcome like problem-solving is likely to increase the team's, the leader's, and higher management's expectations about future outcomes and, thus, their trust in the team/the lower ranks (i.e. team and team leader). Therefore:

Proposition 11: A team's solving problems is positively related to a) the team trust, b) the team leader's trust in the team, and c) higher management's trust in the lower ranks.

In reverse, this also means that a lack of problem-solving (and thus lower experiences of team-efficacy) can lead the team to exit the virtuous cycle between *Issue Ownership* and team trust and enter a vicious cycle in which reduced team trust leads to decreased feelings of ownership of the team's issues, and vice versa.

Paradoxical Trust Settings Hinder Useful Implementation of Pulse Surveys

As we argued, higher management's trust in the lower ranks is influenced by the team's and the team leader's ability to solve problems. However, as higher management's behaviors and attitudes heavily influence an organization (Hambrick & Mason, 1984), we also expect that higher management's trust in the lower ranks can fundamentally influence the relationships upstream and downstream of the virtuous cycle. In this section, we delineate a paradoxical trust setting that shows that a lack of trust on behalf of higher management often leads to the implementation of pulse surveys in an effort to solve identified problems before they affect performance (Bersin, 2014; Silverman, 2014; Welbourne, 2016). However, higher management's lack of trust actually prevents these outcomes.

We propose that higher management's lack of trust in the lower ranks motivates higher management to implement pulse surveys, creating pulse input for the team. Put differently, higher management developing a sense that things in a team (including their leader) are not going (as smoothly) as expected gives rise to skepticism about the competence of the lower ranks and their ability and willingness to handle these problems by themselves (i.e. low trust). Schoorman, Mayer, and Davis (2007) argue that the level of trust indicates the amount of risk that one is willing to take. It follows, if trust is missing, a monitoring system can bridge the difference by lowering the perceived risk to a manageable level (Alvarez, Barney, & Bosse, 2003; Davis, Schoorman, & Donaldson, 1997; Sitkin & George, 2005). Pulse surveys are such a

control system, as they are used to identify and solve problems before performance drops (Silverman, 2014; Welbourne, 2016). Therefore:

> *Proposition 12: Higher management's level of trust in the lower ranks is negatively related to their establishing pulse input.*

This is, however, not the only impact of higher management on the outlined dynamics. Higher management's lack of trust in the lower ranks has further serious implications because it prevents the team leader from trusting her or his team. We base this proposition on two arguments. First, as mentioned before, social learning theory suggests (Bandura, 1977) that people's attitudes are shaped by their social context, and the team leader is no exception. In this sense, higher management's behaviors and attitudes signal to the team leader what behaviors and attitudes are expected and accepted in the organization (Lam, Kraus, & Ahearne, 2010; Lau & Liden, 2008; O'Reilly III & Caldwell, 1979; Sherony & Green, 2002; Sparrowe & Liden, 1997; White & Mitchell, 1979). Consequently, if higher management lacks trust in the lower ranks, the team leader learns that trusting the lower ranks is not valued or expected and decreases her or his own trust in the team. In other words, the leader will imitate higher management's behaviors and attitudes in displaying lower levels of trust towards her or his subordinates (Lam, Kraus, & Ahearne, 2010). This argument is in line with upper echelons theory (Hambrick & Mason, 1984), which posits that organizations are a reflection of higher management's values.

Second, higher management's lack of trust in the lower ranks is a threat to the team leader, as she or he also has lost higher management's trust, thus reducing her or his willingness to be vulnerable (Sitkin & George, 2005) and decreasing her or his trust in the team. Third, the lack of trust of higher management in the lower ranks may also make the team leader question his or her assessment of the team. In other words, if those at the top question the lower ranks, it may irk the team leader that his or her perspective on the team has been off and needs updating. This is, in

particular, true because organizations are structured in a way that "truth" and "right vs wrong" is to a large extent dictated from above (Staw, 1975). Therefore:

> *Proposition 13: Higher management's lack of trust in the lower ranks relates negatively to the team leader's trust in the team.*

We argued above that the team leader is more likely to support the team with the implementation of their solutions if she or he trusts the team (Proposition 10). Similarly, we expect that higher management is more likely to support the implementation of the lower rank's solutions if it trusts the lower ranks, thus increasing the chances that problems will be solved. However, higher management's support increases its vulnerability with the lower ranks and its support of the ideas the lower ranks generate (Mayer, Davis, & Schoorman, 1995), so we expect higher management to be inclined to accept the risks inherent in supporting the team's problem-solving only with subordinates they trust. Therefore:

> *Proposition 14: Higher management's trust in the lower ranks strengthens the positive relationship between Issue Ownership and problem-solving.*

In sum, considering the interdependencies depicted in our model, higher management's lack of trust leads to the introduction of pulse surveys while derailing the very benefit higher management intend to achieve with the surveys (i.e., solving problems before team performance is affected). When higher management lacks trust, the team is not stimulated to solve problems because higher management's lack of trust leads to the team leader's lacking trust in the team (Proposition 13) and, further, to a lack of team trust (proposition 8). Both effects hinder *Issue Ownership* directly (Propositions 4 and 9) as well as indirectly by reducing response honesty (Propositions 6 and 7). Further, a lack of trust from higher management and from the team leader inhibits the transition of the team's issue ownership to problem-solving, as without trust neither the team leader nor higher management is likely to be willing to support the team's efforts (Propositions 10 and 12). As a result, unless higher management itself acts on the identified

problems, the problems are not likely to be solved. However, higher management is unlikely to be able to solve problems directly because change cannot happen without participation of the lower ranks (e.g., Burnes, 2004), higher management's time constraints limit their ability to act to only the 'big bugs' that have already created performance drops, and a lack of response honesty will leave higher management largely uninformed about many of the actual problems existing in the organization.

DISCUSSION

This article develops theory around the concept of a team developing a sense of *Issue Ownership*. We define *Issue Ownership* as the team's belief that an issue is theirs (Pierce, Kostova, & Dirks, 2003), reflected in the team making conscious choices about the topics, objectives, and processes they pursue. As such, *Issue Ownership* emerges in and is limited to team conversations. At the same time, *Issue Ownership* increases the team's commitment beyond the team's discussions, which invigorates problem-solving. Pulse surveys operate as a medium with which to start *Issue Ownership*, especially when the team gives honest responses to the survey questions. However, a team's ownership of their issues and honest responses to survey questions are predicted to be more likely when team members trust each other. *Issue Ownership* itself is expected to increase team trust, generating a self-reinforcing virtuous cycle between team trust and the team's issue ownership. However, on the next level, the team leader's trust likewise has several implications for the occurrence and sustainability of this virtuous cycle, as the team leader's trust encourages the team to give honest answers to pulse survey questions, promotes *Issue Ownership* both directly and indirectly by strengthening team trust, and increases the likelihood that the leader will support the transition from *Issue Ownership* to problem-solving. Finally, the role of trust does not end here, as higher management's trust similarly strengthens the leader's trust in the team and supports the team and its leader in bringing its

solutions to life (i.e., problem-solving). When problems are solved, that success strengthens trust at all hierarchical levels, invigorating the virtuous cycle and its support mechanisms.

The problems with this otherwise transmogrifying interplay occur when the reasons for the implementation of pulse surveys are considered. The implementation of pulse surveys is more likely if higher management sees the need to intervene in the team's problem-solving because they believe the team is not capable of adequately identifying and solving the problem (McGregor, 1960). In this sense, higher management uses pulse surveys to control and monitor the team's actions in place of trust in the lower ranks (Davis, Allen, & Hayes, 2010; Davis, Schoorman, & Donaldson, 1997). This lack of trust, so we argue, then trickles down into the organization, negatively influencing response honesty, preventing the team's *Issue Ownership*, and hampering problem-solving. Thus, the very thing that leads to the implementation of pulse surveys (a lack of trust in the lower ranks) hampers the goal that pulse surveys are meant to achieve (solving problems before performance drops).

Where to go from here

This article can inform future research that specifies pulse input, explores boundary conditions, and broadens the scope beyond pulse surveys.

Specifying pulse input. This study conceptualizes pulse input as a yes/no variable that delineates the effects that the existence of pulse surveys have on *Issue Ownership*. However, as explained, there is wide variability in how organizations use pulse surveys, and there is more to be learned about the design of pulse surveys to maximize their outcomes. Therefore, we invite researchers to investigate the effects of different pulse survey designs. For example, future research could test the impact of altering a pulse survey's breadth (covering more aspects of team issues), depth (going into greater detail in describing the issues that affect the team), frequency (number of repetitions of survey questions per month or year), or customization (tailoring questions to a team, rather than taking a one-size-fits-all approach). On the one hand,

pulse surveys that have greater breadth, depth, and frequency can give a team valuable insight, fostering *Issue Ownership*, yet on the other hand, flooding a team with questions and analyses generates fatigue and cognitive overload and might create the reverse effect (Felps & Van Quaquebeke, 2018; Silverman, 2014). Therefore, future research that investigates the types of questions and the types of changes via *Issue Ownership* pulse surveys produce could be fruitful. Equipped with this type of information, the process of steering a major change effort might become less of a directing and controlling activity and more an issue of what questions will spark teams' creative and solution-focused thinking to drive the organization forward.

Specifying boundary conditions. *Issue Ownership* requires employees to make their own (conscious) choices and to engage in extensive discussions, share information, and come to joint conclusions. However, making decisions in this way takes more time and can create more team-conflict than the traditional approach of a team leader who makes the decision for the team (Amason, 1996). Research shows that the effort is well worth it when the decision is complex and can benefit from the exchange of information and divergent views (Olson, Parayitam, & Bao, 2007). Therefore, we suspect that *Issue Ownership* may not be a reasonable approach to simple decisions because the benefits may not outweigh the risk of conflict. We invite future research to delineate which types of decisions are sufficiently complex to be made efficiently via *Issue Ownership* and which are sufficiently simple to be made by the higher ranks without motivational collaterals.

At the same time, a critical boundary condition may be time. Indeed, time pressure has been found to be an impediment in complex information processing and creative problem solving (Mohammed & Nadkarni, 2011). Therefore, researchers like Janz, Colquitt, and Noe (1997) suggest that, under time pressure, teams may be better served to limit time-consuming behaviors such as those required for *Issue Ownership* in favor of more standardized task conduct. However, in contrast, one might argue that even under time pressure it is crucially important to

incorporate a diverging set of opinions into the decision-making process. Hence, instead of relinquishing the benefits of *Issue Ownership* under time pressure, it might be more beneficial to establish standardized routes to preserve *Issue Ownership* even when time is scarce. Trying to reconcile these different notions seems a promising area for future research.

Furthermore, the construct of *Issue Ownership* might be more easily found in Western regions, as high power distance in Asian countries could (normatively) prevent the manifestation of *Issue Ownership* (Hofstede, 2001). However, the beneficial outcomes of control can be assumed to be universal and independent of culture (Ryan & Deci, 2000) leaving it to mere speculation as of now how *Issue Ownership* might play out differently in diverging cultures.

Last, we want to note that such a system may take some time to be effective. Indeed, when the involved team members do not yet have the maturity or in the past have been repeatedly curtailed in taking up responsibility, then an initial reaction to pulse surveys is likely a lot less positive than outlined above. A critical boundary condition is thus how to support or re-nurture the maturing process of team members.

Broadening the scope beyond pulse surveys. We mainly describe the installment of pulse surveys as a way of higher management's intention to gauge and fix potential issues at lower ranks of the organization. However, higher management's desire to monitor a team could also result in establishing other control systems (e.g., quality control, budget control, timekeeping) in addition or in instead of pulse surveys. As such, we think that all monitoring systems deliver information that can to some extent increase the felt responsibility the team has for the input these monitoring systems generate. Hence, like pulse input, input that other monitoring systems generate might similarly serve as an entry point for *Issue Ownership*. However, also other monitoring systems are more likely to be established when higher management (and the organization as a whole) lacks trust. Therefore, we invite scholars to determine whether the benefits and paradox that arise with pulse survey input also apply to other monitoring systems.

Practical implications

Our work is relevant to various members of organizations who initiate or are target of pulse surveys. As such, our work firstly should prompt higher management to question their intentions when they implement pulse surveys. If higher management wants a way to monitor and rebalance the processes of the lower ranks, we argue that they can better achieve this objective with a hands-off approach—that is giving teams discretion in what has to be done in response to pulse survey results and supporting their decisions. More importantly, higher management needs to be very careful in not communicating their lack of trust—neither to the work teams nor to the team leaders. As such we emphasize a paradoxical leadership approach for higher management as the initiation of pulse surveys is likely driven by the desire to check on performance and provide a sense of continuity and stability (monitor role), whereas the successful utilization of pulse surveys is likely driven by encouraging and facilitating change (innovator role; Quinn, 1984; Denison, Hooijberg, & Quinn, 1995).

Second, for team leaders, our work shows that they play a central role when pulse surveys are used, as team leaders can function as a buffer, preventing higher management's lack of trust from trickling down through the organization. This protection can be achieved by the team leader in several ways, as the team leader can protect the team from being punished for giving honest (and, therefore, potentially unfavorable) answers to pulse survey questions and take care that third parties (e.g., higher management) do not interfere with the team's decision-making process or the implementation of its decisions. The team leaders can also grant the team discretion in their decision-making by balancing their input in the decision-making process and supporting the team in implementing its decisions. The team leader must walk a tightrope here, intervening neither too much nor too little in the team's decision-making, as intervening too much could result in the leader taking over the decision-making process from the team, derailing the team's sense of ownership, and intervening too little, however, would correspond to the application of a

laissez-faire leadership style and could leave the team without the structure and guidance it needs for effective decision-making and the establishment of a sense of ownership (Wong & Giessner, 2018).

Finally, the team members are the primary source of action in response to pulse survey results. This view is in sharp contrast to how organizations usually use pulse surveys, where employees answer the questions and then wait for management's actions. In this sense, our work is an appeal to teams not to wait any longer for others to solve their problems for them, but instead to take responsibility and ownership for the topics they identify via survey results and take action themselves. With this, pulse surveys can become a tool of empowerment rather than another form or control with little operational relevance. Further elaborating on this, in an ideal world, pulse surveys may even be proactively initiated by teams themselves, giving teams full control and ownership not only of the issues identified via pulse surveys but also of the pulse surveys themselves.

In sum, our model proposes that management which trusts their lower ranks might see surprisingly beneficial effects of their trusting behavior. While these effects might not be those the leaders intended, as control resides with the lower ranks, they might even be superior to the leaders' initial intentions (Boiral, 2005), as the lower ranks likely know the most about their own challenges.

CONCLUSION

When Austrian economist Hayek (1945) was asked how we can make full use of the existing knowledge, Hayek responded that it "depends on whether we are more likely to succeed in putting at the disposal at a single central authority all the knowledge which ought to be used […], or in conveying to the individuals such additional knowledge as they need in order to enable them to fit their plans in with those of others" (Hayek, 1945: 521). In the end, it's a matter of trust.

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Research Study II: The Supervisor as Coach: Measuring Managerial Coaching

ABSTRACT

Managerial coaching has attracted increasing attention in research and practice. However, even though this management practice is widely used and will continue to be promoted, the construct of managerial coaching lacks conceptual clarity and valid measurement. Most existing measures conceptualize managerial coaching along an exchangeable and extendable list of management behaviors, and there is ongoing debate about which and how many managerial behaviors should and should not be included in the managerial coaching scale. To address this gap, we offer a new conceptualization of the managerial coaching construct that is based on the three dimensions of relationship building, goal setting, and supporting goal achievement. These dimensions have emerged as commonalities from extant qualitative and quantitative research and been refined by extensive expert interviews. On this basis, we conducted a state-of-the-art scale-development process in two independent, partly dyadic, samples to establish a new managerial coaching scale with good psychometric properties and an established nomological network. We demonstrate that the scale exhibits both convergent and discriminant validity while also confirming that managerial coaching positively relates to individual performance and job satisfaction. We also investigate the relationship between an employee's and her supervisor's perceptions in regard to managerial coaching, thus strengthening research following this direction and opening new lanes for future research.

Managerial coaching is a concept that has attracted increasing attention: Both Twitter and Google's people-analytics team independently identified key behaviors demonstrated by their companies' most effective managers, the first of which, in both cases, was that a good manager is a good coach (Garvin, 2013; Whitney, 2015). A survey of more than five hundred human resource managers in 2015 revealed that coaching by managers is one of the most effective development tools and will increase in significance (CIPD, 2015). In addition, increasing numbers of business leaders, among them Jeff Immelt (CEO of General Electric), Jack Welch (former CEO of General Electric), and Bob McDonald (former CEO of Procter & Gamble), see coaching their employees as an integral part of their management duties and spend a significant amount of time on it (Byrne, 2005; Donlon, 2012; Welch, 2014). Jack Welch summarized it like this: "Before you are a leader, success is all about growing yourself. When you become a leader, success is all about growing others" (Kevin Kruse, 2012).

Some early empirical studies have suggested that managerial coaching has a positive effect on individual performance (Agarwal, Angst, & Magni, 2009; Carson, Tesluk, & Marrone, 2007; Druskat & Wheeler, 2003; Ellinger, Ellinger, & Keller, 2003; Kim & Kuo, 2015; Liu & Batt, 2010; Weer, DiRenzo, & Shipper, 2016), team performance (Carson, Tesluk, & Marrone, 2007; Druskat & Wheeler, 2003; Liu & Batt, 2010; Weer, DiRenzo, & Shipper, 2016), and job satisfaction (Ellinger, Ellinger, & Keller, 2005; Wageman, 2001), but the concept of managerial coaching remains vague, it has varying definitions (Batson & Yoder, 2012). The vagueness of the concept is also reflected in how managerial coaching is measured, as twenty different scales are in use, only about half of which consist of more than one dimension. Most of the scales conceptualize managerial coaching as a list of supervisory behaviors, an approach that can never yield an integrally closed scale, as there will always be "one more behavior" that could also be considered managerial coaching. Hence, of the existing scales, few include the same or even similar dimensions, and almost all suffer from unknown or limited reliability and validity (Hagen & Peterson, 2014).

Van Quaquebeke and Felps' (2016) article about a leadership approach based on asking open questions and listening, techniques that are at the heart of any managerial coaching approach, is one of the few of a limited number of scientific studies on managerial coaching. Less than three percent of the coaching research is dedicated to managerial coaching, so little is known about coaching as a management practice (Kim & Kuo, 2015). Further, if the definition and measurement of a concept provide the basis for scientific research (Way et al., 2015), it will be difficult to draw solid conclusions about managerial coaching even from the limited research that exists, because of reliability issues with the measuring scales in use. This problem negatively affects theory-building, as the understanding of the substantive relationships among constructs (e.g., managerial coaching and outcomes) suffers if insufficient attention is paid to their measurement issues, such as construct validity (Way et al., 2015). The problem is also disadvantageous for practice, particularly as employee development by means of ordinary training programs is under heavy criticism because of its high cost and low impact (Beer, Finnström, & Schrader, 2016). In contrast to such training programs, managerial coaching typically focuses on employees' specific workplace challenges (Hall, Otazo, & Hollenbeck, 1999). As coaching is provided on the job and is tailored to the individual employee, it is less prone than generic training programs to the transfer-of-training issues that typically undermine these programs' utility (Baldwin & Ford, J. Kevin, 1988; Tracey, J. Bruce, Tannenbaum, & Kavanagh, 1995).

This study applies a state-of-the-art scale-development approach and offers an alternative conceptualization of managerial coaching that has not, to our knowledge, been discussed before. Our study consists of four phases: First, we build on existing literature and in-depth expert interviews to define and conceptualize the managerial coaching construct into three dimensions. Then we build on the expert interviews and the qualitative and quantitative work carried out in the managerial coaching area to generate items and assess content validity. In a third step we confirm empirically the suggested structure of the managerial coaching scale using the scree plot

test and develop empirically the content of each suggested dimension through exploratory factor analysis. Finally, we use structural equation modeling to confirm our scale with two non-overlapping, partly dyadic samples and confirm the scale's validity by investigating convergent validity, discriminant validity, and criterion-related validity.

With this approach we contribute to the managerial coaching literature in three ways: First, we develop a new managerial coaching scale that is thoroughly validated, a quality not found among existing measures. Second, we investigate the scale with a dyadic sample and compare employees' perceptions about their supervisors' managerial coaching with the perceptions of their supervisors. This step, which is central to establishing the importance of dyadic information on the topic of managerial coaching, provides the basis for future research. Third, we offer a new conceptualization of the managerial coaching concept beyond the list of behaviors that is in use in most other scales; because this list of behaviors is exchangeable and extendable in its nature, it has already been exchanged and extended frequently, but without exhibiting stringent enhancements. Because of its simplicity, our new conceptualization has the potential to solve the ongoing debate about which and how many managerial behaviors should or should not be included in the managerial coaching scale.

THE MEASUREMENT OF MANAGERIAL COACHING: A REVIEW AND ASSESSMENT

The literature contains some controversy regarding the concept of managerial coaching. Some scholars claim that managerial coaching, by definition, happens only in one-on-one interactions between a supervisor (coach) and an employee (Hall, Otazo, & Hollenbeck, 1999), while others claim that it can also happen in team contexts (Agarwal, Angst, & Magni, 2009; Hackman & Wageman, 2005; Heslin, Vandewalle, & Latham, 2006). Some say that, in order for managerial coaching to happen, the supervisor must set aside carefully planned times to focus on and discuss development areas with the employee, while others argue that it is also possible to coach "on the

job" by slipping coaching interactions into everyday conversations (Hunt & Weintraub, 2016). Some understand coaching as an approach in which the supervisor supports the employee by asking questions and listening (Kim, Egan, Kim, & Kim, 2013), while others understand it as the supervisor's advising and giving information to the employee (Chandler, Roebuck, Swan, & Brock, 2011).

However different the understanding of managerial coaching, there is consensus regarding three behaviors the supervisor must demonstrate when using managerial coaching techniques: 1) The supervisor has to establish a good relationship, which is the foundation for any employee development (Haan, Culpin, & Curd, 2011; Mühlberger & Traut-Mattausch, 2015); 2) managerial coaching is a goal-focused approach, rather than a problem-focused approach (Douglas & Morley, 2000; Grant & Cavanagh, 2007; Hall, Otazo, & Hollenbeck, 1999; Mühlberger & Traut-Mattausch, 2015); and 3) the supervisor must apply techniques that help and support the employee in achieving her goals (Ellinger, Ellinger, Bachrach, Yu-Lin Wang, & Elmadağ Baş, Ayş Banu, 2011; Ellinger, Ellinger, & Keller, 2003; Hackman & Wageman, 2005).

Although existing research has these points of agreement, most measurement scales regarding managerial coaching focus on an extendable and exchangeable list of supervisory behaviors. Our literature review revealed twenty measures that have been developed to capture coaching and/or managerial coaching. (For an overview, see Table 1.)

Most unidimensional measures either focus on the relationship between the employee/coachee and the supervisor/coach (Carson, Tesluk, & Marrone, 2007; Gilley, Gilley, & Kouider, 2010; Roberts & O'Reilly, 1974), or they focus on the supervisor's behaviors that promote learning (Agarwal, Angst, & Magni, 2009; Carson, Tesluk, & Marrone, 2007; Ellinger, Ellinger, & Keller, 2003), provide autonomy, support goal-setting and/or goal achievement, or any

Table 1: Overview of scale development studies

Author(s)	Dimen-sions	Items tested (retained)	Analysis	Sample
Roberts, O'Reilly (1974)	1	3 (3)	FA	429 employees
Ellinger, Ellinger, & Keller (2003)	1	8 (8)	PCA, SEM, CA	438 employees, & 67 supervisors (D)
Hamlin/Hamlin, Ellinger, & Beattie (2004/2006)	1	11 (11)	FA, PCA	222 interviews, & 477 questionnaires
Carson, Tesluk, & Marrone (2007)	1	3 (3)	CA, IR	348 students
Grant, & Cavanagh (2007)	1	12 (12)	PCA, CA, IR	218 respondents, & 38 coaches (D)
Agarwal, Angst, & Magni (2009)	1	2 (2)	CA	328 employees, & 93 managers
Gilley, Gilley, & Kouider (2010)	1	6 (6)	CA	485 respondents
Chandler, Roebuck, Swan, & Stephen (2011)	1	11 (11)	None	35 coaching-program participants
Anderson (2013)	1	12 (5)	PCA, CA	521 managers
David, & Matu (2013)	1	15 (15)	FA, Scree Plot, CA	40 employees, 54 managers, & 22 observers (D)
Wang (2013)	1	8 (8)	FA, CA, AVE, CR	127 employees
Ellinger, & Bostrom (1999)	2	13 (13)	Qualitative	12 managers
Wageman (2001)	2	6 (6)	IR	34 teams and their managers (D)
McLean, Yang, Kuo, Tolbert, & Larkin (2005)	4	37 (20)	FA, Scree plot, SEM, CA	475(272) respondents in sample 1(2)
Morgeson (2005)	2	7 (7)	FA	265 employees, & 29 managers (D)
Heslin, Vandewalle, & Latham (2006)	3	10 (10)	FA, SEM, CA	45 managers
Park, Yang, & McLean (2008)	5	20 (20)	SEM, CA	187 employees
Boyatzis (2008)	2	13 (13)	FA, SEM, CA	375 patients, & 25 physicians (D)
Segers, Vloeberghs, & Henderickx (2011)	3	17 (17)	Qualitative	202 employees
Hagen (2012)	2	15 (15)	Review	Review

FA, Factor Analysis, PCA, Principal Components Analysis, SEM, Structural Equation Modeling, CA, Cronbach's alpha, IR, interrater reliability, AVE, Average Variance Extracted, CR, Composite Reliability, D, Dyadic

combination thereof (Anderson, 2013; Chandler, Roebuck, Swan, & Brock, 2011; David & Matu, 2013; Grant & Cavanagh, 2007; Hamlin, 2004; Hamlin, Ellinger, & Beattie, 2006). The dimensions along which multidimensional scales conceptualize the managerial coaching framework differ widely. Some multidimensional scales differentiate between positive forms and negative forms of managerial coaching, such that positive forms are generally associated with supportive behaviors like encouraging self-managing behaviors and facilitating problem-solving discussions, and negative forms are associated with more directive behaviors like intervening in a task (Morgeson, Delaney-Klinger, & Hemingway, 2005; Wageman, 2001). The scale Ellinger and Bostrom (1999) developed based on qualitative data distinguishes between empowering behavior and facilitating behavior, while the scale Heslin, Vandewalle, and Latham (2006) developed picks up on the facilitating-behavior dimension but adds behaviors for guidance and inspiration as two other dimensions. The scale McLean, Yang, Kuo, Tolbert, and Larkin (2005) developed offers four dimensions of managerial coaching skills: openly communicating with others, taking a team approach to tasks, valuing people over tasks, and accepting ambiguity in work. Park, McLean, and Yang (2008) added the dimension of facilitation. Boyatzis (2008) established a scale with the two dimensions of vision and overall positive mood, and Segers, Vloeberghs, Henderickx, and Inceoglu (2011) drew on qualitative data to distinguish between skill coaching, performance coaching, and developmental/life coaching. Finally, Hagen's (2012) review distinguished between coaching behaviors and coaching skills.

The set of behaviors, skills, and attitudes that are necessary for effective managerial coaching is far from obvious, as few scales have the same or even similar dimensions/items. Lack of discriminatory power (i.e., lumping several dimensions into one) is an especially relevant concern in unidimensional scales. Construct deficiency (i.e., lacking important facets) is the most obvious concern associated with unidimensional and multidimensional measures. Finally, both the unidimensional and the multidimensional measures suffer from unknown or limited reliability and validity. Few have applied state-of-the-art analyses like factor analysis and

structural equation modeling, and almost none has established scale validity in two non-overlapping samples with adequate sample sizes, which is a requirement for a valid and reliable scale (DeVellis, 2003). An exception is the scale McLean, Yang, Kuo, Tolbert, and Larkin (2005) developed, what was tested in two samples of 475 and 272 respondents, respectively. However, the scale shows only acceptable psychometric properties, and it structures managerial coaching along a list of behaviors that is variable and extendable, as the variance in the different coaching scales when this approach is applied shows. Therefore, how accurately those measures reflect the extent to which supervisors apply high-quality managerial coaching is uncertain. The new concept that we offer discards the conceptualization that uses managerial coaching behaviors and is instead based on the commonalities that emerge from scientific research. Because of its simplicity, it has the potential to solve the ongoing debate about which and how many managerial behaviors should or should not be included in the managerial coaching scale.

DEVELOPING A MEASURE FOR MANAGERIAL COACHING

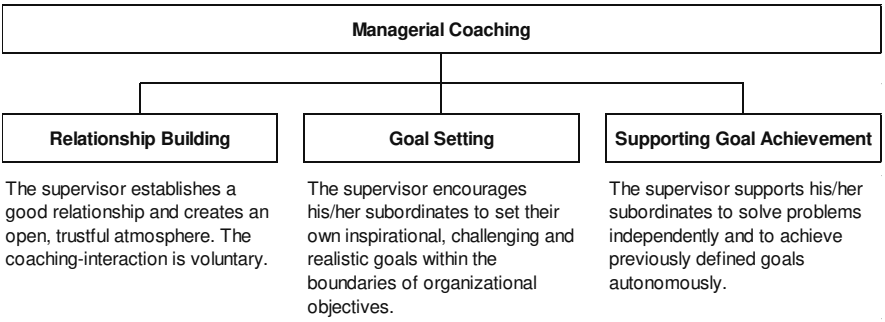
Phase 1: Defining and Conceptualizing the Managerial Coaching Construct

Scale development begins with the specification of the domain, that is, by proposing a definition of the construct and defining what should be included in it (Netemeyer, Bearden, & Sharma, 2003; Nunnally & Bernstein, 1994). Therefore, the purpose of phase 1 is to define managerial coaching and conceptualize it into several dimensions. We perform these tasks by interviewing a large and diverse group of experts, guiding the interviews with information gathered through a review of the extant literature (Hsee, Yang, Zheng, & Wang, 2015).

Using Hsee, Yang, Zheng, and Wang's (2015) approach, we conducted semi-structured interviews with thirty-nine participants. In the first round, we interviewed a group of fifteen researchers to discuss the extant literature and establish the construct on a high level. Then we interviewed eleven individual coaches, all with profound experiences in their fields and solid educations in coaching. In these interviews, we verified the concept and defined the three

dimensions of the managerial coaching construct. Next, we interviewed three leaders and ten employees individually to test the concept and definitions. This final round of interviews revealed no further change requests, indicating finalization of the concept and its definitions. In the interviews, all participants were given the definition and the conceptions of the dimensions, and their change suggestions were discussed until consensus was formed and subsequently incorporated into the definition. The definitions of each dimension that emerged from this exercise are shown in Figure 1.

Figure 1: Conceptualizing managerial coaching



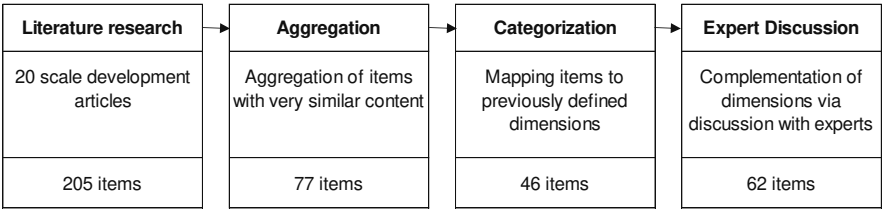
Phase 2: Item Generation and Content Validity Assessment

The purpose of phase 2 was to generate an initial bank of items that fit the conceptual dimensions of the managerial coaching construct and assess their content validity. We retained items with the highest content validity for further analysis (DeVellis, 2003; Hinkin, 1995, 1998).

There are two approaches to item development: (1) the deductive approach, which is used when the extant literature can be used to develop the definition of the construct and derive the items; and (2) the inductive approach, which is used when there is little theory for the construct and researchers will first have to discover what is to be measured by asking a sample of respondents. Our scale development was deductive in nature because we built on related empirical results and

the definitions developed in phase 1 (Churchill, 1979; Hinkin, 1995, 1995, 1998; Molloy, Chadwick, Ployhart, & Golden, 2011).

Figure 2: Approach to item generation



According to Netemeyer, Bearden, and Sharma (2003), item generation can draw on several sources: (1) existing scales that have operationalized the construct or related constructs; (2) the population of interest, based on interviews with members of the population concerned with the measure; (3) experts from the field; (4) the scale developers themselves. We tap into each of these sources by employing a four-step-approach, as illustrated in Figure 2. The experts interviewed were comprised of the fifteen researchers, eleven coaches, three leaders, and ten employees who were interviewed in phase 1.

First, we screened the literature for relevant coaching constructs using the search engine of the University of Victoria, Canada, which searches a multitude of databases (e.g., Web of Science, ERIC, JSTOR, Academic Search Complete). We included all articles that dealt directly or indirectly with managerial coaching in general, resulting in forty-two studies, of which twenty developed some kind of managerial coaching scale and contained a total of 205 items that were considered for this study. (An overview is shown in Table 1.) Next, the items with similar content were merged, resulting in 77 items that two researchers then assigned individually to the a priori defined dimensions. The results of the assignments were compared and divergences discussed until a consensus was reached. This process led to the exclusion of 31 items that could not be assigned to one of the three dimensions, and these items were reviewed to ensure that they

did not form thematically linked clusters that might compose one or more additional dimensions. As such was not the case, the items were discussed with the experts in semi-structured interviews in which the experts were encouraged to develop new items that would complement the a priori defined dimensions, resulting in the generation of 16 new items. In addition, some of the existing items were revised to simplify them or to increase their familiarity to respondents (DeVellis, 2003; Hinkin, 1995, 1998).

Once a large battery of items has been developed that covers a construct's content domain, a limited number of items must be selected in order to arrive at a tractable scale (Hinkin, 1998; Nunnally & Bernstein, 1994). Maloney, Grawitch, and Barber (2011) suggested that experts can accurately model how items relate to the constructs they measure when the experts have a solid knowledge of the underlying concepts and can rely on previous research to identify and select the items that best represent the constructs. Therefore, we selected experts with the most knowledge about managerial coaching, that is, the eleven coaches interviewed in phases 1 and 2. Following an approach that Akbulut, Dursun, Dönmez, and Şahin (2016) and Hsee, Yang, Zheng, and Wang (2015) described, the eleven coaches were asked to rank the items according to their content validity on a scale from one (not at all relevant) to seven (extremely relevant). The means of all ratings were calculated and a minimum average rating of > five was applied, leading to the exclusion of 26 items. The results of this procedure for all 62 items, as well as the items sources, are shown in Table 2. The remaining 36 items were used for further analysis.

Phase 3: Dimensionality, Exploratory Factor Analysis, and Item Selection

The purpose of phase 3 was to determine the final managerial coaching scale by, first, confirming the three-factor structure and applying exploratory factor analysis for final item selection (DeVellis, 2003). The basis for this process was a sample of 423 survey respondents.

Table 2: Items – Relationship building

No.	Item	Source	Relevance
1	I value the time my supervisor spends for my personal development	Grant (2007); Anderson (2013)	5,5
2	* My supervisor sets a good model in work and spirit for subordinates	Wang (2013)	4,5
3	* My supervisor establishes trust with me	Chandler et al. (2011)	5,0
4	I feel free to discuss the problems and difficulties in my job with my supervisor without having it held against me later	Roberts/O'Reilly (1974)	5,1
5	* My supervisor views differences of opinion as constructive	Park et al. (2008)	5,0
6	My supervisor appears to view learning and development as one of his/her major responsibilities	Park et al. (2008); Segers et al. (2011)	5,1
7	My supervisor looks after my interests and development needs	Segers et al. (2011)	5,9
8	* It is important to my supervisor to improve my personal performance	Segers et al. (2011)	4,7
9	* My superior often encourages me and my colleagues	Wang (2013)	4,4
10	My supervisor expresses his/her confidence in my capabilities	Carson et al. (2007)	5,1
11	My supervisor is sensitive to my needs	Carson et al. (2007)	5,1
12	My supervisor creates an environment in which I feel free to present my own ideas	Grant (2007)	6,0
13	* My supervisor shows that he/she understands my feelings	Grant (2007)	4,6
14	My supervisor is consistent in his/her behavior	New item	5,4
15	My supervisor provides me with honest feedback	Ellinger et al. (2003)	5,5
16	* My supervisor accepts feedback from me	Ellinger/Bostrom (1999)	4,9
17	I can rely on my supervisor	New item	6,1
18	My supervisor respectfully accepts it, if I do not want to talk about specific topics, especially private topics	New item	6,1
19	* My supervisor solicits feedback from me to ensure that our conversations are helpful to me	Ellinger et al. (2003)	4,5
20	* I can rely on the fact that my supervisor acts according to prior agreements	New item	5,0

* Excluded due to low rating of relevance as rated by experienced coaches

Table 2 (continued): Items – Goal setting

No.	Item	Source	Relevance
1	* By the end of a conversation concerning my personal development I have greater clarity about the issues I face	Grant (2007); Morgeson (2005); Hamlin et al. (2004)	4,4
2	* My supervisor provides guidance regarding performance expectations	Heslin et al. (2006)	3,3
3	My supervisor encourages me to continuously develop and improve	Heslin et al. (2006)	5,6
4	* My supervisor supports me in taking new challenges	Heslin et al. (2006)	5,0
5	My supervisor higlights my development potentials directly in conversations concerning my personal development	New item	5,4
6	My supervisor sets expectations with me and communicates the importance of those expectations to the broader goals of the organization	Ellinger et al. (2003)	5,1
7	* The goals my supervisor and I set during conversations concerning my personal development are stretching but attainable	Grant (2007)	5,0
8	* The goals my supervisor and I set during conversations concerning my personal development are important to me	Grant (2007)	4,8
9	* My supervisor emphasizes a vision for the future for me	Boyatzis (2013)	3,4
10	* The vision I developed with support of my supervisor inspires me	Boyatzis (2013)	5,0
11	* My work is focused on my vision	Boyatzis (2013)	3,6
12	* My personal goals are reflected in the vision that my supervisor and I developed for me	New item	5,0
13	My supervisor informs me about goals and objectives of the organization	New item	5,1
14	My supervisor inspires me to develop personally	New item	5,5
15	My supervisor enables me to live my own values while doing my job	New item	6,2
16	My supervisor enables me to see meaning in my job	New item	5,6
17	My supervisor is interested in my vision for the future and supports me to embed it into my professional goals	New item	6,0
18	* My supervisor discusses with me if the goals set by me suit me and my professional environment	New item	5,0
19	My supervisor asks questions until the underlying problem is really clear to both of us	New item	6,8
20	The goals my supervisor and I set during duscussions concerning my personal development are tangible and concrete	Grant (2007)	6,0
21	* My supervisor and I often discuss my possibilities for the future	Boyatzis (2013); Park et al. (2008)	3,0
22	* I believe that my performance in the future will be better than in the past	Boyatzis (2013)	4,0

* Excluded due to low rating of relevance as rated by experienced coaches

Table 2 (continued): Items – Supporting goal achievement

No.	Item	Source	Relevance
1	My supervisor uses analogies, scenarios, and examples to help me learn	Ellinger et al. (2003); Ellinger et al. (1999); David et al. (2013)	5,9
2	My supervisor provides me with constructive feedback	Ellinger et al. (2003)	5,1
3	* My supervisor helps me see different perspectives with suitable methods	Ellinger et al. (2003)	5,0
4	In facing new problems, my supervisor listens to my opinion first	Park et al. (2008); Heslin et al. (2006)	6,0
5	* My supervisor encourages me to do things my own way	Chandler et al. (2011)	5,0
6	My supervisor facilitates creative thinking to help solve problems	Heslin et al. (2006)	5,3
7	My supervisor encourages me to broaden my perspective and helps me to see the big picture	Ellinger et al. (2003)	6,6
8	* My supervisor helps me develop clear, simple and achievable action plans	Grant (2007)	3,4
9	* My supervisor asks me to report on progress towards their goals	Grant (2007)	4,6
10	My supervisor motivates and supports me toward accomplishing challenging goals	Carson et al. (2007)	5,4
11	My supervisor encourages me to build on my strengths.	Boyatzis (2013)	5,1
12	Conversations with my supervisor concerning my personal development help me to reach my goa	Grant (2007)	5,1
13	To help me think through issues, my supervisor asks questions, rather than provide solutions	Ellinger et al. (2003)	6,7
14	My supervisor spends more time listening than talking whenever I meet him/her	Anderson (2013); Chandler et al. (2011)	6,3
15	My supervisor is accessible for me when I need support	New item	5,3
16	My supervisor encourages me to discover and develop my potential	New item	6,6
17	My supervisor indicates, if my behavior does not match what I am saying	New item	6,0
18	During conversations concerning my personal development my supervisor spends more time deve	Grant (2007)	5,3
19	My supervisor emphasizes my current strengths	Boyatzis (2013)	5,5
20	* My supervisor provides me with additional resources so I can perform my job more effectively	Ellinger et al. (2003)	4,5

* Excluded due to low rating of relevance as rated by experienced coaches

We conducted an online-survey with the 36 items on managerial coaching developed in phase 2, as well as control variables. The survey, administered in summer 2015, yielded 157 answers. The same questionnaire was again used in November 2015, yielding 266 answers. As both online surveys were the same, the two answer sets were combined to a final sample of 423 answers (sample 1). To reduce the potential effects of common method bias, we followed Podsakoff, MacKenzie, Jeong-Yeon Lee, and Podsakoff's (2003) direction to separate the subscales from each other by introducing unique directions and inserting a block of control questions before each subscale. We also allowed the respondents' answers to be anonymous, as recommended for reducing the risk of common method bias (Podsakoff, MacKenzie, Jeong-Yeon Lee, & Podsakoff, 2003). Table 3 (sample 1) shows the participants' profiles.

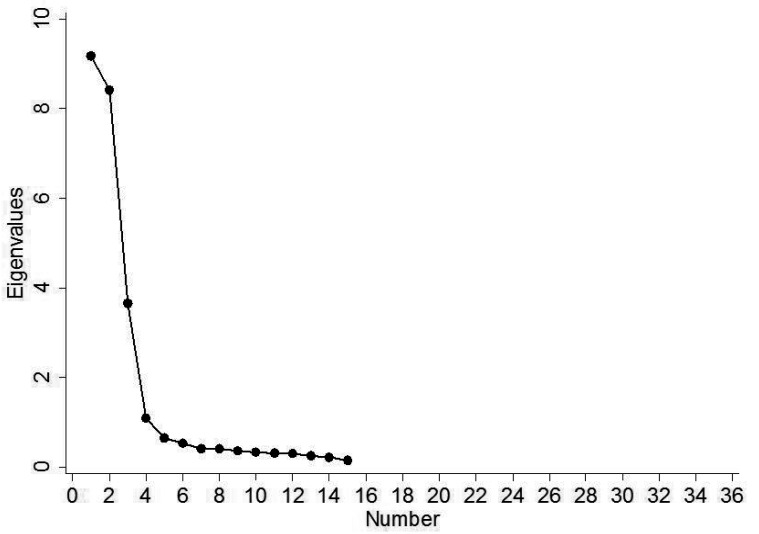
As all survey respondents in this phase answered the questionnaire about how much managerial coaching they received from their supervisors, we measured managerial coaching as perceived by the employee. This approach was in line with prior research's view that the employee's perception of the amount and quality of managerial coaching received is decisive in achieving positive outcomes (Ellinger, Ellinger, & Keller, 2003). We used factor analysis instead of principal component analysis (PCA), as PCA is a data-reduction method that is computed without regard to any underlying structure caused by latent variables, while the aim of factor analysis is to reveal latent variables and the underlying factor structure (Osborne & Costello, 2009). We followed Fabrigar, Wegener, MacCallum, and Strahan (1999) in using maximum likelihood factor analysis as the preferred fitting method and we ensured that nonnormality was not a problem. We used oblique promax rotation, as an oblique rotation method is preferable when factors are expected to correlate (Osborne & Costello, 2009). To confirm the number of factors, we relied on the scree plot test (DeVellis, 2003) shown in Figure 3. We also examined the amount of variance explained. Both tests suggested a three-factor structure, accounting for 81 percent of the variance, which is above the suggested threshold of 60 percent (Hinkin, 2005).

Table 3: Descriptive statistics

	Sample 1	Sample 2	Subsample 2		Sample 1	Sample 2	Subsample 2
Age				Industries			
< 20 years	0,8%	0,3%	0,0%	Production	20,8%	24,9%	29,8%
20 - 29 years	55,7%	19,8%	21,2%	Healthcare, & civil services	12,5%	16,6%	17,3%
30 - 39 years	23,9%	29,0%	35,6%	Education, & resaerch	10,2%	10,0%	9,6%
40 - 49 years	8,7%	19,8%	18,3%	Wholesale, retail, & logistics	11,6%	18,6%	13,5%
50 - 59 years	7,1%	21,1%	14,4%	Professional services	16,3%	17,6%	20,2%
60 years and more	3,8%	9,9%	10,6%	Other	28,6%	12,3%	9,6%
Gender				Position			
Male	41,7%	50,5%	44,2%	No leading position	78,7%	43,9%	42,3%
Female	58,3%	49,5%	55,8%	Leading position	21,3%	56,2%	57,69%
Education				Organizational tenure			
School graduation	15,9%	4,0%	0,0%	< 1 year	13,2%	2,0%	2,9%
Apprenticeship	25,6%	52,0%	51,0%	1 - 2 years	24,9%	10,6%	10,6%
Bachelor degree	32,0%	14,6%	16,4%	3 - 5 years	27,5%	24,5%	22,1%
Master degree or higher	26,5%	29,5%	32,7%	6 - 10 years	17,1%	32,1%	34,6%
				> 10 years	17,3%	30,8%	29,8%

Sample 1 (N = 423) / Sample 2 (N = 301) / Subsample 2 (N = 104)

Figure 3: Scree plot



Maximum likelyhood factor analysis and promax rotation in sample 1 (N = 423)

Subsequent analysis was confined to three factors. Factor loadings of all 36 items after maximum likelihood factor analysis and promax rotation are displayed in Table 4.

An issue to consider in constructing a scale is the number of items. We selected four items per dimension, guided by the fact that the number of items had to be limited so to avoid exhausting the respondents, thereby affecting the validity of responses (Roznowski, 1989), while addressing enough facets of the construct to ensure that respondents assessed their level of identification with the construct correctly (Maloney, Grawitch, & Barber, 2011; Nunnally & Bernstein, 1994). Based on our experience with survey data, we concluded that four was an acceptable number of facets for each dimension, resulting in a twelve-item scale. Therefore, we selected the four highest-loading items on each factor (Liden, Wayne, Zhao, & Henderson, 2008) to create a twelve-item scale. A final maximum likelihood factor analysis with promax rotation of the reduced set of twelve items revealed a clear three-factor pattern (Table 5), with all items loading

Table 4: Exploratory factor analysis

	Factor 1	Factor 2	Factor 3
Relationship Building			
1	0,26	0,40	-0,13
4	**0,67**	0,06	0,15
6	0,25	0,65	-0,17
7	0,36	0,62	-0,13
10	**0,59**	0,25	0,02
11	**0,56**	0,38	-0,04
12	**0,61**	0,31	0,00
14	0,33	0,23	0,17
15	0,47	0,28	0,13
17	0,52	0,24	0,15
18	0,55	-0,06	0,15
Goal Setting			
3	0,22	0,68	0,00
5	0,14	**0,76**	-0,04
6	0,25	0,58	0,01
13	0,34	0,38	0,02
14	0,17	**0,70**	0,01
15	0,47	0,12	0,30
16	0,38	0,35	0,17
17	0,16	**0,70**	0,05
19	0,00	0,62	0,15
20	0,04	**0,74**	0,05
Supporting Goal Achievement			
1	-0,13	0,68	0,19
2	0,30	0,45	0,18
4	0,33	-0,10	**0,56**
6	0,33	0,09	**0,51**
7	0,20	0,45	0,29
10	0,08	0,71	0,15
11	0,11	0,68	0,16
12	0,01	0,78	0,12
13	-0,02	0,39	**0,51**
14	0,08	0,20	**0,48**
15	0,55	0,06	0,28
16	0,06	0,61	0,28
17	0,00	0,42	0,24
18	0,09	0,34	0,16
19	0,12	0,58	0,16

Maximum likelyhood factor analysis and promax rotation in sample 1 (N = 417)

Table 5: Factor structure of selected items

	Factor 1	Factor 2	Factor 3	Item text
Relationship Building				
4	0,64	0,03	0,17	I feel free to discuss the problems and difficulties in my job with my supervisor without having it held against me later
10	0,73	0,11	0,01	My supervisor expresses his/her confidence in my capabilities
11	0,67	0,20	0,03	My supervisor is sensitive to my needs
12	0,71	0,17	0,05	My supervisor creates an environment in which I feel free to present my own ideas
Goal Setting				
5	0,19	0,70	0,00	My supervisor highlights my development potentials directly in conversations concerning my personal development
14	0,26	0,63	0,01	My supervisor inspires me to develop personally
17	0,10	0,72	0,12	My supervisor is interested in my vision for the future and supports me to embed it into my professional goals
20	-0,01	0,77	0,09	The goals my supervisor and I set during discussions concerning my personal development are tangible and concrete
Supporting Goal Achievement				
4	0,14	-0,05	0,65	In facing new problems, my supervisor listens to my opinion first
6	0,29	0,02	0,55	My supervisor facilitates creative thinking to help solve problems
13	-0,08	0,27	0,67	To help me think through issues, my supervisor asks questions, rather than provide solutions
14	0,05	0,06	0,63	My supervisor spends more time listening than talking whenever I meet him/her

Maximum likelyhood factor analysis and promax rotation in sample 1 (N = 423)

to their corresponding latent factor at or above .55, well above the threshold of .40 (Hair, Black, Babin, Anderson, & Tatham, 2006; Hinkin, 1998). All cross-loadings were below .30, which is below the commonly used threshold of 0.4 (Hair, Black, Babin, Anderson, & Tatham, 2006; Henson & Roberts, J. Kyle, 2006). In addition, all items load at least twice as strong on the appropriate construct than they do on any other construct, which meets the threshold Hinkin (2005) suggested.

Phase 4: Confirmatory Factor Analysis and Confirmation of Validity for the Managerial Coaching Construct

The purpose of phase 4 was to validate the managerial coaching scale via confirmatory factor analysis (CFA) in two independent samples and to confirm that the proposed subdimensions are distinct from one another. We also assessed the convergent validity of the managerial coaching constructs by demonstrating that the second-order construct is related to the theoretically relevant constructs of job satisfaction, job performance, and managerial coaching, as perceived by the direct supervisor. We established discriminant validity by showing that, even though managerial coaching as received by the employee is related to these constructs, managerial coaching can also be discriminated from the very same constructs. We established criterion-related validity by testing whether managerial coaching as perceived by the employee is predicted by managerial coaching as perceived by the supervisor and whether it predicts the well-established outcomes of job satisfaction and job performance in linear regression analysis over and above the influence of control variables.

Job satisfaction is the employee's emotional response to his or her work (Kim, Egan, Kim, & Kim, 2013). The relationship of managerial coaching as perceived by the employee to job satisfaction has been shown empirically in multiple studies (Ellinger, Ellinger, & Keller, 2005; Kim, Egan, Kim, & Kim, 2013; Kim, Egan, & Moon, 2014; Wageman, 2001), and job satisfaction is one of the most thoroughly researched dependent variables of managerial

coaching. (Kim, Egan, & Moon, 2014) contended that leaders make employee's paths to designated goals more visible and painless through managerial coaching and, thus, increase job satisfaction. However, employees' reports on their supervisors managerial coaching are unlikely to be identical to their level of job satisfaction, so we hypothesize:

> *Hypothesis 1: Managerial coaching as perceived by the employee a) is positively related to job satisfaction, b) positively influences job satisfaction over and above the effect of control variables, and c) is distinct from job satisfaction.*

Job performance reflects the degree to which an employee meets the expectations and requirements of his or her role (Griffin, Neal, & Parker, 2007). Job performance is another well-established variable that is influenced by managerial coaching as perceived by the employee, and many empirical studies confirm this link (Agarwal, Angst, & Magni, 2009; Ellinger, Ellinger, & Keller, 2003; Ellinger, Ellinger, & Keller, 2005; Kim & Kuo, 2015; Latham, Ford, & Tzabbar, 2012). Agarwal, Angst, and Magni (2009) based their theoretical arguments on the theory of team coaching, as established by Hackman and Wageman (2005): In order to improve performance, an employee has to improve in one of three categories, and experimental evidence shows that managerial coaching can improve all three: An employee has to a) increase effort (Liu & Batt, 2010), b) perform tasks that are more suitable for and clearer to the employee (Kacmar, K. Michelle, Witt, Zivnuska, & Gully, 2003; Kim, Egan, & Moon, 2014), and c) gain knowledge and skills (Druskat & Wheeler, 2003; Ellinger, Ellinger, & Keller, 2003; Heslin, Vandewalle, & Latham, 2006). However, managerial coaching as perceived by the employee should still differ from her perceptions about her job performance. Therefore, we hypothesize:

> *Hypothesis 2: Managerial coaching as perceived by the employee a) is positively related to job performance, b) positively influences job performance over and above control variables, and c) is distinct from job performance.*

The few studies that have investigated managerial coaching using dyadic data have found that managerial coaching as perceived by the supervisor is related to managerial coaching as perceived by the employee (Ellinger, Ellinger, & Keller, 2003), which correlates with similar findings in the mentoring and leader-member-exchange research (Raabe & Beehr, 2003; Zhou & Schriesheim, 2009). Therefore, it is fair to assume that what the supervisor perceives he or she brings to the relationship positively influences the employee's perceptions (Ellinger, Ellinger, & Keller, 2003). The managerial coaching literature and the mentoring and leader-member-exchange research have found that perceptions of the behaviors of employees and supervisors are not the same and concluded that both employees' and supervisors' perceptions reflect two independent constructs rather than different views of one construct (Ellinger, Ellinger, & Keller, 2003; Raabe & Beehr, 2003; Zhou & Schriesheim, 2009). Therefore, we hypothesize:

> *Hypothesis 3: Managerial coaching as perceived by the leader a) is positively related to managerial coaching as perceived by the employee, b) positively influences managerial coaching as perceived by the employee over and above control variables, and c) is distinct from managerial coaching as perceived by the employee.*

In addition to sample 1, we collected survey data from 301 respondents (sample 2). The online survey was administered in autumn 2015 to the panel of a market research institute. We sent out 5,563 invitations to complete the survey and received a response rate of 5.4 percent. We reduced the potential effects of common method bias by following Podsakoff, MacKenzie, Jeong-Yeon Lee, and Podsakoff's (2003) directions and applied the same measures as we did for data collection of sample 1. See Table 3 (sample 2) for participants' profiles. We also collected data from the supervisors of sample 2's respondents, whom we asked to provide data on only the twelve-item coaching scale. We collected 104 complete answers, resulting in a response rate of 34.5 percent. Descriptive statistics for the employees for whom dyadic information on managerial coaching was collected are shown in Table 2 (subsample 2).

In addition to the twelve items on managerial coaching selected in phase 3 that were administered to both supervisors and employees, we also used one item ("In general, I am very satisfied with my job") to measure employees' job satisfaction. Wanous, Reichers, and Hudy (1997) suggested that single-item measures for job satisfaction are sufficient and that they yield results that are comparable to those of multi-item measures. Job performance was measured using a three-item measure developed by Griffin, Neal, and Parker (2007): "I carried out the core parts of my job well," "I completed my core tasks well using the standard procedures," and "I ensured my tasks were completed properly." The measure reveals good psychometric properties (Cronbach's alpha = .83; composite reliability = .90; average variance extracted = .77; factor loadings ranging from .84 to .88). We also included a wide range of controls for employee characteristics (age in years, gender dummy, organizational tenure in years, dummy for leading position, and level of education) and controls for the organization (dummy for stock-exchange-listed organizations, dummy for organizations in the public sector, size of the organization as measured by number of employees, age of the organization in years, and industry dummies).

Our analysis revealed scale reliabilities for each dimension of the managerial coaching construct at or above .83—above the suggested threshold of .70 (Nunnally & Bernstein, 1994)—and composite reliabilities for all dimensions are at or above .89. Factor loadings for all dimension are at or above .78, and average variance extracted is at or above .71, well above the threshold of .50 (Bagozzi & Yi, 1988; Fornell & Larcker, 1981). Data are shown in Table 6.

To assess the model fit of our three-factor structure, we use the root mean square error of approximation (RMSEA), the comparative fit index (CFI), the Tucker-Lewis Index (TLI), and the standardized root mean square residual (SRMR) as corresponding indicators (Hu & Bentler, 1999). Results, displayed in Table 7, revealed good model fit indices. The model is significant in both samples ($\chi 2$ (51) = 133.65, $p < .001$ in sample 1 and $\chi 2$ (51) = 112.65, $p < .001$ in sample

Table 6: Scale reliability

	Cronbach's Alpha	Composite Reliability	Factor Loadings	Average Variance Extracted
Relationship Building	0.89 / 0.91	0.93 / 0.94	> 0.84 / > 0.87	0.78 / 0.81
Goal Setting	0.90 / 0.92	0.93 / 0.94	> 0.86 / > 0.89	0.79 / 0.82
Supporting Goal Achievement	0.83 / 0.89	0.89 / 0.93	> 0.78 / > 0.84	0.71 / 0.79
Coaching (2nd order)	0.88 / 0.91	0.93 / 0.96	> 0.88 / > 0.95	0.83 / 0.89

Sample 1 (N = 423) / Sample 2 (N = 301)

Table 7: Confirmatory factor analysis of three dimensional model

	Sample 1	Sample 2
χ^2 / df	2,62	2,21
RMSEA	0,06	0,06
CFI	0,98	0,98
TLI	0,97	0,98
SRMR	0,03	0,02

Sample 1 (N = 423) / Sample 2 (N = 301)

Table 8: Pearson correlations and fornell-larcker coefficients

	M	SD	Pearson correlation coefficients (1)	(2)	(3)
(1) Relationship Building	4.63 / 4.92	1.59 / 1.45	**(0.88)** / **(0.90)**		
(2) Goal Setting	4.21 / 4.87	1.63 / 1.46	0.76*** / 0.78***	**(0.89)** / **(0.91)**	
(3) Supporting Goal Achievement	4.37 / 4.89	1.48 / 1.39	0.71*** / 0.79***	0.69*** / 0.87***	**(0.84)** / **(0.89)**

Sample 1 (N = 423) / Sample 2 (N = 301)
Two-tailed significance: * p<0.05 ** p<0.01 *** p<0.001.
M, mean, SD, standard deviation
Fornell-Larcker Coefficients in brackets

2), and all coefficients are significant ($p < 0.001$). RMSEA is .062 in sample 1 and .063 in sample 2, which meet Hu and Bentler's (1999) criterion of close to .06. CFI and TLI values are above .96, which is above the threshold of .95 (Hu & Bentler, 1999), and SRMR values are below .30, which is well below the cutoff value of .08 (Hu & Bentler, 1999). As an alternative model specification, we defined a factor structure in which all twelve items load on only one factor (Jöreskog & Sörbom, 1993). This single common factor model shows a lower fit in sample 1 / sample 2 ($\chi 2$ (54) = 415.808 / 255.326, $p < 0.001$; RMSEA = .126 / .110, CFI = .895 / .936, TLI = .872 / .922, SRMR = .052 / .038). These results support the distinction among our three constructs and indicate discriminant validity.

We also tested for discriminant validity by determining whether the square root of the AVE for each dimension was greater than the correlation between it and any other dimension of the construct (Fornell & Larcker, 1981). Such was the case for all constructs in both sample 1 and sample 2. The highest correlation between the dimensions was .76 for sample 1 (.79 for sample 2), whereas the lowest square root of the AVE was .84 for sample 1 (.89 for sample 2), so the AVE exceeded the correlation. Results are shown in Table 8.

To establish convergent validity we tested the positive correlation between managerial coaching as perceived by the employee and job satisfaction, job performance, and managerial coaching as perceived by the supervisor (Table 9). Managerial coaching as perceived by the employee correlates significantly with job satisfaction ($r = .50$, $p < .001$), job performance ($r = .18$, $p < .01$), and managerial coaching as perceived by the supervisor ($r = .53$, $p < .001$), thus lending support to hypotheses 1a, 1b, and 1c.

Criterion-related validity is often established by a serious of linear regression models, which connect the new construct to established constructs in the literature (Kapoutsis, Papalexandris, Treadway, & Bentley, 2015). Hence, we tested criterion-related validity using linear regression analysis. (Results are displayed in Table 10.)

Table 9:Pearson correlations

	M	SD	Pearson Correlation Coefficients															
			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
Main Variables																			
(1) Managerial Coaching (employee)	4,94	1,31	**(0,94)**																
(2) Managerial Coaching (supervisor)	5,72	0,82	0,53 ***	**(0,89)**															
(3) Job Satisfaction	5,38	1,35	0,50 ***	0,21 *															
(4) Job Performance	5,74	1,03	0,18 **	0,43 ***	0,22 ***	**(0,88)**													
Employee Related Controls																			
(5) Age	41	12	-0,06	0,18	0,11 *	0,27 ***													
(6) Gender	0,50	0,50	-0,05	-0,04	0,00	-0,07	0,03												
(7) Organizational Tenure	10,12	9,06	-0,06	0,19 *	0,16 **	0,16 **	0,54 ***	0,07											
(8) Leading Position	0,56	0,50	0,19 ***	0,14	0,14 *	-0,07	0,01	0,12 *	0,12 *										
(9) Education	2,70	0,94	0,02	0,08	-0,01	-0,02	0,09	0,09	0,14 *	0,26 ***									
Organization Related Controls																			
(10) Publicly Traded	0,12	0,33	0,00	0,01	-0,04	-0,02	-0,07	0,01	0,05	0,00	0,06								
(11) Public Sector	0,21	0,41	0,00	-0,09	0,05	-0,03	0,01	-0,04	0,20 ***	-0,17 **	0,02	-0,19 ***							
(12) Size (no. of Employees)	3451	16560	-0,07	-0,21 *	-0,01	-0,01	-0,03	0,08	0,14 *	0,02	-0,01	0,11 *	0,13 *						
(13) Age of Organization	45	47	-0,05	-0,26 **	0,04	0,04	0,03	0,09	0,12 *	-0,06	-0,01	0,00	0,15 **	0,17 **					
Industries																			
(14) Production	0,23	0,42	0,02	0,19	0,00	0,00	0,01	0,07	-0,02	0,09	0,07	0,07	-0,14 **	-0,08	0,08				
(15) Healthcare & Civil Services	0,15	0,36	0,02	-0,01	0,08	0,00	-0,01	0,08	0,17 **	-0,02	0,10	-0,10	0,36 ***	0,16 **	-0,03	-0,23 ***			
(16) Education & Resaerch	0,09	0,29	-0,07	0,02	-0,01	-0,08	-0,01	-0,11 *	-0,02	-0,06	0,10	-0,05	0,30 ***	-0,03	0,02	-0,17 **	-0,14 *		
(17) Wholesale, Retail, & Logistics	0,17	0,38	0,02	-0,13	-0,03	-0,04	-0,11	0,03	-0,05	0,04	-0,12 *	0,06	-0,10	-0,04	-0,06	-0,25 ***	-0,19 ***	-0,15 **	
(18) Professional Services	0,16	0,37	-0,02	-0,06	-0,05	0,08	0,07	-0,01	0,00	-0,07	-0,01	0,02	-0,15 ***	-0,01	-0,12 *	-0,24 ***	-0,19 ***	-0,14 *	-0,20 ***

Sample 2 (N = 301)
Two-tailed significance: * p<0.05 ** p<0.01 *** p<0.001

Table 10: Regression analysis

	Job satisfaction		Job Performance		Managerial Coaching (employee)	
	Control	Model	Control	Model	Control	Model
Control Variables						
Age	0,01	0,01	0,02 ***	0,02 ***	0,00	0,00
Gender	-0,08	0,03	-0,18	-0,14	-0,18	-0,11
Organizational Tenure	0,02	0,02 *	0,01	0,01	0,00	-0,02
Leading Position	0,44 *	0,11	-0,12	-0,22	0,75 **	0,69 **
Education	-0,12	-0,11	-0,02	-0,02	-0,02	-0,06
Publicly Traded	-0,13	-0,18	-0,05	-0,07	0,05	-0,01
Public Sector	0,07	-0,07	-0,09	-0,14	-0,09	-0,08
Size (no. of Employees)	0,00	0,00	0,00	0,00	0,00	0,00
Age of Organization	0,00	0,00	0,00	0,00	0,00	0,00
Industries						
Production	-0,04	-0,04	-0,03	-0,03	-0,12	-0,33
Healthcare & Civil Services	0,21	0,17	0,01	-0,01	-0,24	-0,03
Education & Resaerch	-0,02	0,17	-0,27	-0,21	-0,28	-0,23
Wholesale, Retail, & Logistics	-0,08	-0,08	-0,05	-0,05	-0,39	-0,20
Professional Services	-0,13	-0,13	0,07	0,08	-0,68	-0,53
Main Effects						
Managerial Coaching (employee)		0,52 ***		0,17 ***		
Managerial Coaching (supervisor)						0,79 ***
Model Fit						
Constant	5,37 ***	5,38 ***	5,74 ***	5,74 ***	5,20 ***	5,20 ***
F Value	1,32	8,26 ***	2,21 **	3,12 ***	1,02	4,02 ***
R^2	0,06	0,30	0,10	0,14	0,14	0,41
Adjusted R^2	0,02	0,27	0,05	0,10	0,00	0,31
Change in R^2		0,24 ***		0,04 ***		0,27 ***
Mean VIF	1,57	1,54	1,57	1,54	2,21	2,16

Sample 2 (N = 301)
Two-tailed significance: * p<0.05 ** p<0.01 *** p<0.001.

Managerial coaching as perceived by the employee positively influences job satisfaction over and above the control variables ($\beta = .52$, $p < .001$) and explains a significant additional portion of the variance ($\Delta R2 = 24$ %, $p < .001$). Job performance is likewise positively influenced by managerial coaching as perceived by the employee ($\beta = .17$, $p < .001$), even though overall model fit improves to a lesser extent ($\Delta R2 = 4$ %, $p < .001$). Finally, managerial coaching as perceived by the supervisor positively influences managerial coaching as perceived by the employee ($\beta = .79$, $p < .001$), and the overall model fit improves significantly over and above controls by the addition of managerial coaching as perceived by the supervisor as a predictor variable ($\Delta R2 = 27$ %, $p < .001$). These results lend support to hypotheses 1b, 2b, and 3b.

Discriminant validity can be tested by running a series of CFAs that compare the fit statistics of the new construct with those of an established construct when both are treated as two factors, rather than treating both as one factor. If a one-factor model fits the data better than a two-factor model does, the new construct and the established construct measure essentially the same (Kapoutsis, Papalexandris, Treadway, & Bentley, 2015). Therefore, we compared the one-factor and two-factor models of managerial coaching as perceived by the employee and job performance, revealing the distinctiveness of both constructs and lending support to hypothesis 2c. We obtained similar results for the comparison of the one-factor and two-factor models of managerial coaching as perceived by the employee and managerial coaching as perceived by the supervisor, lending support to hypothesis 3c. In the case of job satisfaction, as this is a single-item measure, we compared the CFA of the second-order managerial coaching construct with and without the inclusion of job satisfaction. For this variable, the fit statistics for the exclusion of job satisfaction is better than it is for its inclusion, lending support to hypothesis 1c. Results are displayed in Table 11.

Table 11: Discriminant validity of managerial coaching (employee) with other constructs

	Job Satisfaction (JS)		Job Performance		Managerial coaching (supervisor)	
	JS excluded	JS included	2 Factors	1 Factor	2 Factors	1 Factor
χ^2 / df	0,00	3,72	1,82	38,25	1,66	11,90
RMSEA	0,00	0,10	0,05	0,35	0,08	0,32
CFI	1,00	0,99	0,99	0,70	0,99	0,76
TLI	1,00	0,98	0,99	0,51	0,98	0,60
SRMR	0,00	0,02	0,03	0,20	0,04	0,12
Factor loadings	0.84 - 0.94	0.51 - 0.94	0.73 - 0.94	0.15 - 1.15	0.73 - 0.92	0.46 - 1.19

Sample 1 (N = 423) / Sample 2 (N = 301)

DISCUSSION

Theoretical Contributions and Implications

The importance of managerial coaching's role in organizations underscores the need to understand its dimensions (Kim & Kuo, 2015). Researchers have conceptualized and measured managerial coaching in various ways, making it difficult to compare prior findings and establish their theoretical and managerial relevance. In developing a scale for managerial coaching that is conceptualized along dimensions that emerge as commonalities in existing qualitative and quantitative research (e.g., Ellinger, Ellinger, & Keller, 2003; Grant & Cavanagh, 2007; Hackman & Wageman, 2005; Mühlberger & Traut-Mattausch, 2015), we make three contributions to the managerial coaching literature.

First, we offer a new, robust, and valid tool with which to measure managerial coaching. The proposed twelve-item scale offers adequate psychometric properties, as indicated by strong, consistent evidence across two samples (N = 423 and N = 301). By using two independent samples of respondents from a variety of industries and educational backgrounds, we ensure the generalizability of our findings. We find support for the psychometric properties of the managerial coaching scale in terms of content validity, as well as convergent, discriminant, and criterion-related validity. The emerging stream of studies on the antecedents and outcomes of managerial coaching can benefit from this new, thoroughly validated scale with good to very good fit statistics (Hu & Bentler, 1999), as it offers a solid base on which future research can build and test its theoretical predictions, thus diminishing any tentativeness from the use of insufficiently validated scales in future investigations of managerial coaching (Way et al., 2015). We encourage future research to confirm the links between managerial coaching and its outcomes, such as individual performance (Agarwal, Angst, & Magni, 2009), team performance (Weer, DiRenzo, & Shipper, 2016), and job satisfaction (Ellinger, Ellinger, & Keller, 2005), and to investigate the boundaries (moderators) of its efficient application.

Second, although the scale development focused on assessing employees' perceptions of managerial coaching, it was adapted in this study to measure how supervisors perceive their own managerial coaching in relation to specific employees. When comparing perceptions of supervisors with those of their employees in a subsample of 104 dyads, we confirmed Ellinger, Ellinger, and Keller's (2003) finding that the two perceptions are not the same and so cannot simply be aggregated. This phenomenon resembles findings in the leader-member-exchange research and the mentoring research (Raabe & Beehr, 2003; Zhou & Schriesheim, 2009) regarding the diversity in the perceptions. The newly developed scale can be applied to investigate this diversity.

Third, this study addresses a debate in the literature about the appropriate measurement of managerial coaching (e.g., McLean, Yang, Kuo, Tolbert, & Larkin, 2005; Park, McLean, & Yang, 2008). So far, managerial coaching has mostly been conceptualized along managerial behaviors (e.g., Ellinger, Ellinger, & Keller, 2003), but this approach is not likely ever to yield an integrally closed scale, as there will always be "one more behavior" that could also be considered managerial coaching. This fact is reflected in the existing scales for managerial coaching, as few existing scales consist of the same or even similar dimensions (e.g., Ellinger, Ellinger, & Keller, 2003; Grant & Cavanagh, 2007; McLean, Yang, Kuo, Tolbert, & Larkin, 2005). This study offers an alternative conceptualization of managerial coaching that has not been discussed before to our knowledge. We based our conceptualization on the dimensions of relationship-building, goal-setting, and supporting goal achievement, which emerge as commonalities in previous qualitative and quantitative research. Refined in interviews with experienced coaches, leaders, employees, and researchers, these dimensions are not specific to managerial coaching. For example, goal-setting can be done by the supervisor who articulates a vision, a behavior that is often associated with transformational leadership (Engelen, Gupta, Strenger, & Brettel, 2015). However, when using a coaching approach, the supervisor would rather support the employee in defining her own goals than "dictate" a goal. To establish the

three dimensions and fill them with content that is relevant to managerial coaching, we used a state-of-the-art scale-development process that included item generation based on a literature review and expert interviews, exploratory factor analysis, confirmatory factor analysis, and validation of the scale in two independent samples. This new concept has the potential to resolve the ongoing debate about which managerial behaviors should be included in the managerial coaching scale.

Implications for Practitioners

For practitioners, the managerial coaching scale fills an important need. Developing tools that help to clarify how employees perceive managerial coaching is important (Way et al., 2015) given the growing importance of corporate investment in managerial coaching programs (CIPD, 2015). This study provides a useful tool organizations can use to assess their strengths and weaknesses in regard to managerial coaching. The analysis of the alignment or misalignment between employees' and supervisors perceptions of managerial coaching should help practitioners revise their managerial coaching styles and training programs (Baldwin & Ford, J. Kevin, 1988; Hall, Otazo, & Hollenbeck, 1999; Tracey, J. Bruce, Tannenbaum, & Kavanagh, 1995).

Limitations and Directions for Research

A key limitation of this study is its focus on employees and supervisors in Germany. Studies across cultures are needed to explore the nature and prevalence of managerial coaching in these contexts and to validate the scale developed in the current study. Without further evidence, we cannot conclude that our scale applies in the same manner to other countries as it does to Germany, so future research should develop scales for the managerial construct in other countries whose cultures differ from that of Germany (Hofstede, 2001).

While the present study explored the nature of managerial coaching, its antecedents and effects were not within the study's scope, which focused on scale development. Antecedents and outcomes may be investigated through exploratory studies; of specific interest in this regard is the exploration of the boundaries (moderators) of managerial coaching. For example, future research could investigate to what extent job design reduces or enhances the effect of managerial coaching. Is managerial coaching still efficient when it is applied in jobs with low problem-solving responsibilities? Is the effect of managerial coaching stronger in jobs that include many interdependencies with other colleagues, other departments, or other organizations? A related issue that requires additional empirical research is the importance of the three managerial coaching dimensions in different settings in terms of whether their importance varies between knowledge-intensive jobs and other kinds of jobs. It will also be useful to determine the importance that the three dimensions play in determining organizational outcomes (e.g., individual performance, team performance, job satisfaction).

This study established the differences between managerial coaching as perceived by the employee and managerial coaching as perceived by the supervisor, but investigating these differences was not within the scope of the study. These differences could provide a rich basis for future research, as their clarification can have an important impact on the practice and theory of managerial coaching. For example, investigating the differences in perceptions of managerial coaching could help to understand whether the positive effect of managerial coaching on performance is true only for employee-supervisor dyads who have similar perceptions about the managerial coaching applied. And what role do perceptions of the sub-dimensions of the managerial coaching scale play in this regard? Is it more important that congruency applies for the relationship dimension than for the other managerial coaching dimensions, as some evidence from the leader-member-exchange research would suggest (Zhou & Schriesheim, 2010)? What can be done to reduce this gap in perception? How can a supervisor adjust her coaching style so that what she intends to bring to the relationship actually reaches the employee?

To conclude, the development of a methodologically valid scale that measures managerial coaching is a necessary step in facilitating theory testing in relation to managerial coaching. In building such a tool and showing how it can be applied to test and extend current theory, we intended to stimulate the development of this promising field of research. Many opportunities for further research remain that will benefit from a reliable, valid, and efficient scale of managerial coaching.

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Research Study III: When Managers Can Coach their Employees to be Entrepreneurial—the Moderating Role of Job Design

ABSTRACT

Coaching, especially managerial coaching, is receiving increasing attention in practice. However, the effects of managerial coaching are widely under-researched, and emerging studies are often contradictory. We examine cross-sectional survey data from 253 German employees from more than forty organizations. Drawing on empowerment theory, we find that managerial coaching strongly increases individual entrepreneurial behavior (IEB), a process at the employee level that is key to any corporate entrepreneurship strategy. This relationship strengthens when job variety is high, but it is not influenced by the level of job autonomy. These results indicate that leaders can coach their employees to be entrepreneurial, especially when the employees perform a broad variety of tasks. Establishing job variety as a positive moderator of the relationship between managerial coaching and IEB helps to explain past contradictory findings of the effects of managerial coaching. The results also help to reveal an important antecedent of IEB, thereby adding to the leadership and entrepreneurship literatures.

Google's people-analytics team identified eight key behaviors demonstrated by the company's most effective managers, the first of which was that a good manager is a good coach (Garvin, 2013). Increasing numbers of business leaders, among them the CEO of General Electric, Jeff Immelt, see coaching their employees as an integral part of their management duties and spend a major amount of time on it (Byrne, 2005). Managers receive little guidance from science on using coaching as a management practice (Kim & Kuo, 2015), so what managerial coaching can achieve, which employees can be coached effectively, and under what circumstances managerial coaching is most effective remain unclear. Considering the high value and cost of management time, it should be in any company's interest to help its leaders to optimize the quality of their coaching (Sluss & Ashforth, 2008).

There is consensus among researchers that positive forms of coaching–promoting reflection, providing cues and informal rewards, and emphasizing compassion—and negative forms of coaching–identifying problems and task intervention—are distinct and that coaching's beneficial effects occur primarily as a result of positive forms of coaching (Boyatzis, Smith, & Beveridge, 2013; Carson, Tesluk, & Marrone, 2007; Morgeson, 2005; Wageman, 2001). There is also little dispute about managerial coaching's positive effects on factors like employee satisfaction, organizational commitment and reduced turnover intentions (Ellinger, Ellinger, & Keller, 2003; Luthans & Peterson, 2003; Wageman, 2001; Zhang, Ahammad, Tarba, Cooper, Glaister, & Wang, 2015). However, there is less agreement about the effect of coaching on performance measures like individual in-role performance, team performance, sales performance and call-center-operator performance. Growing evidence suggests that managerial coaching has a positive effect on individual performance, either directly (Agarwal, Angst, & Magni, 2009; Liu & Batt, 2010) or indirectly (Carson, Tesluk, & Marrone, 2007; Druskat & Wheeler, 2003; Edmondson, 1999; Ellinger, Ellinger, & Keller, 2003; Huang & Hsieh, 2015; Kim & Kuo, 2015; Morgeson, 2005), but some studies find no effect of coaching on individual performance at all (Wageman, 2001). Buljac-Samardzic and van Woerkom (2015) took a first step toward resolving these

contradictions by finding that managerial coaching is more effective with employees who don't reflect on their objectives and the methods to achieve them. It is likely that other parameters related to employees' and leaders' characteristics, as well as those related to job design, culture and work environment influence the effectiveness of managerial coaching.

Individual entrepreneurial behavior (IEB), a central variable in effective corporate entrepreneurship (Hornsby, Kuratko, Shepherd, & Bott, 2009; Ireland, Covin, & Kuratko, 2009; Krauss, Frese, Friedrich, & Unger, 2005; Zhang & Bartol, 2010), requires complex behavior from the employee. Informal corporate entrepreneurship activities in particular are often initiated by individuals (Zahra, 1991), but the antecedents of IEB have not been extensively specified (de Jong, Parker, Wennekers, & Wu, 2013; Zhao, Seibert, & Hills, 2005), and studies of the antecedents of entrepreneurship at this level are requested (de Jong, Parker, Wennekers, & Wu, 2013; Zhang & Bartol, 2010). Individual innovativeness and creativity are linked to the leader's behavior (Amabile, Schatzel, Moneta, & Kramer, 2004; Scott & Bruce, 1994; Zhang & Bartol, 2010), and it has been suggested that managerial coaching skills can facilitate brainstorming (Rosenelatt, Rogers, & Nord, 1993), creating a possible link between coaching and entrepreneurship.

Therefore, we propose that managerial coaching is a way to empower employees to exhibit IEB and suggest that the meaning, self-determination, competencies and impact employees gain from receiving managerial coaching can be most effectively used when the employees' jobs are characterized by a high level of variety and autonomy. To test our hypotheses we investigated the direct effect of managerial coaching on IEB and the moderating roles of job variety and job autonomy using cross-sectional data on 253 employees from more than forty companies.

In doing so, we contribute to the leadership and entrepreneurship literature in two ways: First, we advance prior research on the effects of managerial coaching, as our results provide evidence for the beneficial application of managerial coaching techniques, thus strengthening the position of

research that has reported positive effects of managerial coaching (Agarwal, Angst, & Magni, 2009; Edmondson, 1999; Kim & Kuo, 2015; Liu & Batt, 2010). Specifically, we present IEB as an effect of managerial coaching that has not been researched before, thereby laying out a mechanism by which overall firm performance might be increased. Furthermore, with IEB we contribute to the entrepreneurship literature, as our results shed light on the often-asked question concerning what management techniques can be applied to foster employees' innovation, proactive behavior and risk-taking (de Jong, Parker, Wennekers, & Wu, 2013; Zhang & Bartol, 2010). Second, we help to resolve the disagreement in the extant research about the effectiveness of managerial coaching by presenting job-design moderators that determine its effectiveness. In so doing, we equip leaders with clear recommendations concerning the kinds of job design to which managerial coaching can be applied most effectively.

The next sections develop our research model and delineate hypotheses. Then we describe our sample and the measures we employ and present our empirical results. Finally, we discuss our findings and address avenues for future research. The paper closes with a brief overview of its practical implications.

THEORETICAL BACKGROUND AND RESEARCH MODEL

De Jong, Parker, Wennekers, & Wu (2013) defined IEB as the extent to which employees 'proactively engage in the creation, introduction, and application of opportunities at work, marked by taking business-related risks' (p. 982). IEB is conceptualized in three dimensions (Covin & Slevin, 1991; de Jong, Parker, Wennekers, & Wu, 2013): innovativeness, which refers to engaging in creativity and experimentation through the introduction of new products/services/processes; risk taking, which refers to venturing into the unknown and committing significant resources to ventures in uncertain environments; and proactiveness, an opportunity-seeking, forward-looking perspective characterized by acting in anticipation of future demand (Rauch, Wiklund, Lumpkin, & Frese, 2009).

Empowerment theory gives insights into how employees can be groomed for IEB, as empowerment has been directly associated with creativity and innovativeness (Zhang & Bartol, 2010). Empowerment theory says that the leader has to share his power with the employee to increase the employee's effectiveness, well-being and innovativeness (Conger & Kanungo, 1988; Seibert, Wang, & Courtright, 2011; Spreitzer, 1995). The process of empowerment includes delegating decision-making power and increasing access to information to lower levels of the organization (Spreitzer, 1995). However, (Thomas & Velthouse, 1990) argued that there is also a psychological component to empowerment, which they defined more broadly as increased intrinsic task motivation manifested in a set of four cognitions that reflect an individual's orientation to his work role: meaning, self-determination, competence and impact. We propose that managerial coaching can influence these cognitions in employees.

Theory and research have emphasized managerial coaching as a primary part of the leader's role and as useful in helping employees to face both novel situations and routine ones (Druskat & Wheeler, 2003; Wageman, 2001). Managerial coaching is defined here as a one-to-one approach between coach (leader) and coachee (employee) to facilitate individual learning and behavioral change, focusing on how to face a particular situation rather than indicating what actions the employee should take (Agarwal, Angst, & Magni, 2009); that is, the leader does not provide recommendations for actions but asks questions to promote learning and reflection (Feldman & Lankau, 2005). Constructs similar to coaching, such as advising/teaching or mentoring, have been researched These constructs can be clearly distinguished from coaching, as advising or teaching is characterized by sharing the leader's business acumen or functional expertise (Feldman & Lankau, 2005), and mentors serve as experts on how 'things are done' in the organization, advise on career steps, and provide support in difficult situations (Lankau & Scandura, 2002). Even though some studies suggest that an employee's direct supervisor can also serve as a mentor (Scandura, 1992), mentors usually have substantially longer tenure and

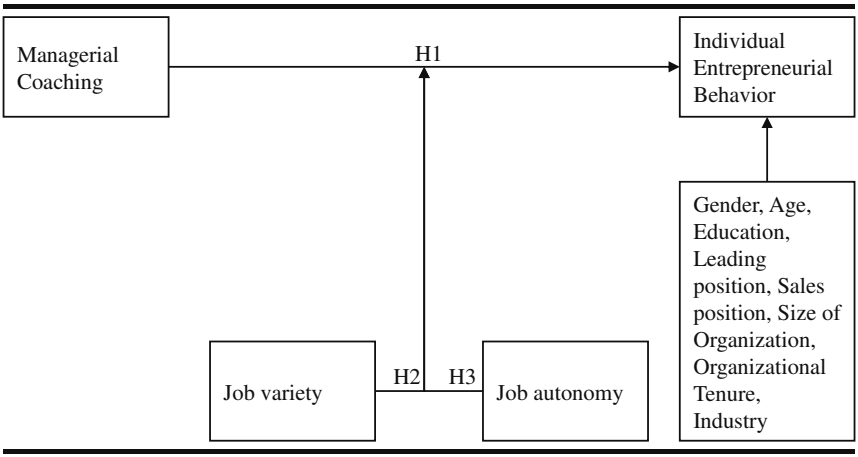
higher rank than the employee (Higgins & Kram, 2001) and are not or are only remotely connected to the mentee in the line of power (Dreher & Cox, Jr., 1996).

We concentrate on the positive forms of coaching—promoting reflection, providing cues and informal rewards—which are those that have the most beneficial effects (Hackman & Wageman, 2005; Jack, Boyatzis, Khawaja, Passarelli, & Leckie, 2013; Morgeson, 2005; Sue-Chan, Wood, & Latham, 2012; Wageman, 2001). In specific, we focus on three coaching approaches that differ in terms of their timeframe and focus: coaching in crisis, which focuses on ongoing or past disruptive events and how they are or were handled (Morgeson, 2005); coaching for goals, which focuses on specific and tangible goals that are set during coaching regarding ongoing topics (Grant, 2010); and coaching for vision, which focuses on invoking the employee's ideal self by helping to integrate what really matters in life into the employee's day-to-day business, thus developing a long-term, future-based focus (Boyatzis, 2008). We argue that the application of these managerial coaching constructs is based on the leader's attitude and that all three coaching approaches are likely to be present at the same time. Looking at all three approaches combined gives a full picture of the leader's coaching actions and ensures that we address all relevant behaviors.

We propose that managerial coaching increases IEB by means of empowerment, specifically by the four cognitions of empowerment: meaning, self-determination, competence and impact (Thomas & Velthouse, 1990). Management techniques that enhance empowerment tend to be participative techniques like goal-setting by subordinates (Conger & Kanungo, 1988), and a direct link between managerial coaching and empowerment has been established (Huang & Hsieh, 2015). Empowerment has also been associated with creativity and innovativeness (Spreitzer, 1995). We argue that managerial coaching increases meaning—the alignment between the demands of one's work role and one's own beliefs, values and standards (Seibert, Wang, & Courtright, 2011)—by incorporating personal goals into work life. Meaning is

increased as managerial coaching puts the employee's personal beliefs, values and standards into focus and enables the employee to act upon them, supported by the leader's increased knowledge about the employee and the resulting adjustments to work assignments. Managerial coaching increases the employee's sense of self-determination—that is, the sense of choice concerning the initiation or regulation of one's actions (Deci, Connell, & Ryan, 1989)—by showing trust and respect for the employee (Ladegard & Gjerde, 2014) and by opening the door to new behaviors in the process of initiating behavioral change, the ultimate goal of coaching (Bono, Purvanova, Towler, & Peterson, 2009). Coaching increases the employee's competence—his ability to perform work activities successfully (Seibert, Wang, & Courtright, 2011)—by building a helping relationship (Bono, Purvanova, Towler, & Peterson, 2009) that shifts the employee away from a defensive position (Jack, Boyatzis, Khawaja, Passarelli, & Leckie, 2013).

Figure 1: Research model



Finally, coaching increases the employee's impact—his influence on strategic, administrative, or operational activities and outcomes in his work unit (Seibert, Wang, & Courtright, 2011)—by clarifying the employee's role in his job, department and organization via personal learning in a way similar to mentoring (Lankau & Scandura, 2002). By means of these mechanisms,

managerial coaching empowers and motivates employees to bring in fresh ideas, to free their capacities to work beyond doing 'business as usual,' and to use new competencies and impact to be innovative and proactive and to dare to take on more risk.

We also suggest that job design, which is defined as the structure, content and configuration of employees' tasks and roles (de Jong, Parker, Wennekers, & Wu, 2013; Parker & Ohly, 2008), determines whether the employee can act upon the enhanced empowerment developed by managerial coaching. We focus on the job design parameters of job variety, 'the degree to which a job requires a variety of different activities in carrying out the work, which involve the use of a number of different skills and talents of the person' (Hackman & Oldham, 1976) and job autonomy, 'the degree to which the job provides substantial freedom, independence, and discretion to the individual in scheduling the work and in determining the procedures to be used in carrying it out' (Hackman & Oldham, 1976). We propose that these two job-design parameters, which are major constructs in the job-design literature (de Jong, Parker, Wennekers, & Wu, 2013), affect the employee's and the leader's ability to make the most of the new knowledge, attitudes and behaviors gained through managerial coaching. We hypothesize that employees who are empowered by managerial coaching use their empowerment more efficiently in jobs characterized by high levels of variety and autonomy, as such jobs give them freedom to make appropriate changes to their work–lives and the chance to learn and apply their new knowledge, attitudes and behaviors to a large set of situations. Figure 1 illustrates our research model.

HYPOTHESES

Drawing on empowerment theory, we argue that managerial coaching encourages employees to innovate, be proactive and take risks by increasing their intrinsic task motivation, which reflects a sense of control in relation to their work and an active orientation to their work role, through

the mechanisms of empowerment: Meaning, self-determination, competence and impact (Spreitzer, 1995; Thomas & Velthouse, 1990).

First, we argue that managerial coaching increases meaning by putting the employee's personal goals and vision into focus (Boyatzis, Smith, & Beveridge, 2013) while discussing work-related topics (Coutu et al., 2009). Meaning is increased when the employee is guided to be creative (Amabile, Schatzel, Moneta, & Kramer, 2004) in bringing personal goals and organizational goals together (Coutu et al., 2009), thus building new, innovative ideas. In doing so, managerial coaching aligns the demands of the employee's work role with the employee's beliefs, values and standards. In addition, the leader can gain insight into the employee's goals and vision and can incorporate these goals and vision into decisions about the employee's work assignments. Adding meaning to the employee's work-life is highly motivating (Mühlberger & Traut-Mattausch, 2015). In line with the finding that managerial coaching increases personal initiative (Carson, Tesluk, & Marrone, 2007), we argue that a motivated employee is willing to be proactive in helping the organization meet its goals and to take risks in order to do so.

Second, we argue that managerial coaching increases self-determination. The basis of every coaching interaction is a trusting and respectful relationship between the coach (or leader) and the coachee (or employee), in which the leader expresses his trust in the employee's competence and encourages the employee to build on his strengths, rather than focusing on eliminating weaknesses (Jack, Boyatzis, Khawaja, Passarelli, & Leckie, 2013). Managerial coaching also focuses on learning new ways to address specific situations, as when the employee has one way in which he typically reacts (unsuccessfully) to a specific situation, the leader can help the employee to create a new set of possible reactions. The trusting relationship, the encouragement and new possible behaviors show the employee that he can initiate and regulate his actions and can be successful when doing so. In line with this, researchers have shown that coaching increases confidence (Druskat & Wheeler, 2003) and self-efficacy (Grant, 2014), and supervisor

support increases subjective career success (Ng & Feldman, 2014). With increased self-determination, it is more likely that the employee will support new ideas brought into the firm, will proactively initiate new products, services or processes (Carson, Tesluk, & Marrone, 2007; Feldman & Lankau, 2005) and will put these ideas into action, even though they might be associated with risk, as managerial coaching can establish a shared belief that risk-taking will not be punished (Carson, Tesluk, & Marrone, 2007; Edmondson, 1999).

Third, we argue that managerial coaching increases competence. When confronted with high expectations and increasing workloads, employees can easily feel 'under attack' and fall into a defensive 'fight or flight' mode. In this mode, creative thinking and effective problem-solving are all but impossible (Boyatzis, Smith, & Beveridge, 2013). Therefore, it is important that the employee does not see the leader as a threat but as someone who will help him to learn and grow. A leader who applies managerial coaching techniques focuses on finding solutions rather than discussing problems, builds on employees' strengths rather than pointing out weaknesses and uses open questions that facilitate creativity rather than imposing pressure by suggesting solutions. With these techniques a leader can shift the employee away from a defensive position to a level of openness that helps the employee build skills and competence (Druskat & Wheeler, 2003).

With increased competence an employee can engage in creative thinking as he expands his capacities beyond doing 'business as usual.' The leader will also be more open to new ideas from the employee when the employee's competence is well established and will be more likely to give the employee the chance to pursue those ideas (Feldman & Lankau, 2005), as competence reduces any associated risk.

Finally, we argue that managerial coaching increases the employee's impact. To have impact in an organization, one must understand the forces at work and the interests of those who hold key positions. A leader applying managerial coaching techniques asks questions that increase the

employees' understanding about their jobs or departments and how their jobs affect others, thereby clarifying the employees' role and place in the organization—as well as what is expected of them (Lankau & Scandura, 2002). A leader can help her employee understand how the employee's role can be used in the context of the organization to pursue an idea by shedding light on new perspectives and increasing the employee's understanding of 'the big picture' (Ellinger, Ellinger, & Keller, 2003). Doing so helps the employee to understand whom to approach for problem-solving and creative thinking to come up with innovative ideas, whom to approach to proactively sell the idea and increase the likelihood of prosecution, and whom to include in the process of developing an idea to reduce the associated risks. With such knowledge the employee has a better chance to influence strategic, administrative and/or operational activities and outcomes in her organization. Therefore, we hypothesize:

> *Hypothesis 1: Managerial coaching by the immediate leader positively influences the respective employee's IEB.*

Job Variety

Job variety refers to horizontal job expansions that increase the breadth of an employee's activities (de Jong, Parker, Wennekers, & Wu, 2013; Parker, 1998). For three reasons we suggest that a high level of job variety positively influences the relationship between managerial coaching and IEB: First, the leader is more likely to be able to assign tasks that fit the employee's goals and vision; second, the employee profits more from switching off the 'fight or flight' reaction by being able to learn from multiple situations; and third, the employee has more situations to which she can apply newly learned attitudes, behaviors and knowledge.

Managerial coaching gives the leader insight into the employees' goals and vision so the leader can assign tasks in a way that maximizes meaning for the employee, but in doing so the leader must consider the employee's prior tasks. If the employee has never performed a task, the leader runs the risk of the employee's failing. The more prior exposure to tasks an employee has had,

the wider the leader's options when she assigns new tasks (Corominas, Olivella, & Pastor, 2010) and the more the leader can consider the employee's personal goals and values to maximize meaning when assigning tasks.

As soon as the 'fight or flight' reaction is reduced via managerial coaching, every situation provides a possibility for learning, rather than a threat. When the level of job variety is high, the number of situations from which the employee can learn and between which learning transfer can occur increases. By this mechanism, competencies can be built quickly. With a low level of job variety, however, the employee has only a limited set of tasks she performs, and learning opportunities are rare (Staats & Gino, 2012).

Lastly, with a high level of job variety, the employee has more exposure to a variety of situations, people, and departments, so she has more opportunity to try out newly learned attitudes, behaviors and knowledge. Hence, with a high level of job variety, an employee's increased self-determination, impact and meaning can be put into action. Therefore, we hypothesize:

> *Hypothesis 2: A high level of job variety positively moderates the effect of managerial coaching executed by the immediate leader on the respective employee's IEB.*

Job Autonomy

Job autonomy refers to the vertical expansion of jobs that occurs by increasing responsibility for decision-making (de Jong, Parker, Wennekers, & Wu, 2013; Parker, 1998). For two reasons, we propose that a higher level of job autonomy positively influences the relationship between managerial coaching and IEB: First, the employee profits more from switching the 'fight or flight' reaction by being able to learn from each decision made, and second, the employee has more opportunity to act on his newly learned attitudes, behaviors and knowledge.

As soon as the 'fight or flight' reaction is turned off via managerial coaching, every decision made provides an opportunity for learning, rather than a threat (Boyatzis, Smith, & Beveridge, 2013). When the level of job autonomy is high, the employee can make many decisions, monitor their outcomes and then refine the decision-making process, even going back into managerial coaching with lessons learned from the last set of decisions to think about how to approach the next set of decisions in terms of what information should be taken into account, which people should be involved, how much time should be devoted to making the decision, and so on. This intense learning process can build competencies quickly (Druskat & Wheeler, 2003), and this type of experimental learning promotes entrepreneurial activities (Zahra, Nielsen, & Bogner, 1999). With a low level of job autonomy however, the employee makes fewer decisions, so the opportunity to learn and build competence declines. This view is in line with the finding that managerial coaching induces learning and influences beliefs about failure (Cannon & Edmondson, 2001; Edmondson, 2003) and with the contention that job autonomy positively impacts learning effort (Wang & Netemeyer, 2002).

With a low level of job autonomy, the employee has limited freedom to make changes in his work life, so it is difficult for the employee to act on fresh ideas to increase meaning. The enhanced self-determination that derives from managerial coaching is difficult to put into action, as while the employee knows now that he can do a particular task and has worked out a set of possible new reactions to situations, he is seldom allowed to try out these new skills in reality. The knowledge about how to 'play' the organization in order to have impact is there, but without job autonomy it can seldom be used. With a high level of job autonomy, the employee has the power to act more freely upon his newly gained attitudes, behaviors and knowledge, putting increased meaning, self-determination, competencies and impact into action. Accordingly, (Pham, Segers, & Gijselaers, 2013) showed that the practical application of newly gained knowledge and skills is dependent on work-environment factors like job autonomy. Therefore, we hypothesize:

Hypothesis 3: A high level of job autonomy positively moderates the effect of managerial coaching executed by the immediate leader on the respective employee's IEB.

METHODOLOGY

Data Collection and Sample

Table 1: Composition of sample (N = 253)

Age		Organizational tenure	
Age 20 - 39 years	19%	Organizational tenure < 10	68%
Age 30 - 39 years	50%	Organizational tenure 10 years or more	32%
Age 40 - 49 years	17%		
Age 50 - 59 years	12%	Position	
Age > 60 years	2%	Top management	3%
		1 level below top	13%
Gender		Other leading position	23%
Male	59%	Other staff	61%
Female	41%		
		Department	
Education		Sales department	9%
School graduation /	21%	Other departments	91%
Bachelor's / Masters degree	59%		
MBA / PhD	20%	Industries	
		Service	68%
Organization size		Professional services	16%
Organization size < 1000	46%	Public sector	12%
Organization size 1000 FTE or more	54%	Education & Research	10%
		Other services	30%
		Non-service industries	32%

N = 253; FTE, full time equivalent.

We conducted a survey in autumn 2014 to validate our theoretical model empirically. The survey was administered in German using a paper-based version and an online version. We used both methods to broaden our sample and to include respondents who lack computer skills and/or access (Thompson, Surface, Martin, & Sanders, 2003). We combined the data gathered from both versions, as studies have shown that paper-based and online survey versions are largely comparable (Cole, Bedeian, & Feild, 2006). Two hundred and thirty-six answers were collected

online, of which 35 answers (85 percent) were excluded because they were missing more than 25 percent of the required data points. The remaining 201 complete online surveys were combined with 52 fully completed paper-based surveys, making a sample of 253 completed surveys filled by employees from more than forty companies. Table 1 shows the participants' profiles.

Measurement items were generated based on an intense literature review of psychology and management journals. The items were formulated as Likert-type statements anchored by a 7-point answer scale ranging from one ('strongly disagree') to seven ('strongly agree'). Items were translated into German and, if necessary, were transformed into first person or altered to evaluate the behavior of a supervisor. As the meaning of the term 'coaching' differs in general linguistic usage, we avoided confusion by substituting it with the term 'personal development.' All measures are shown in full in the appendix.

Coaching measures. To accommodate the fact that coaching can be applied in various ways, three coaching measures were used and combined as a second-order construct. We selected three coaching constructs—coaching in crisis (Morgeson, 2005), coaching for goals (Grant, 2010) and coaching for vision (Boyatzis, 2008)—all of which are easily distinguishable and that together cover a broad spectrum of coaching approaches (Table 2). A full item list is shown in the Appendix.

Table 2: Managerial coaching constructs – qualitative overview

	Coaching in crisis	Coaching for goals	Coaching for vision
Summarizing question	Does my supervisor enable me to handle crisis?	Can my supervisor help me to do a better job?	Does my supervisor help me to design my future?
Main focus	Solution of occuring difficulties	Individual performance	Individual chances
Time frame	Event based	Ongoing, immediate future	Long-term future
Reference	Morgeson (2005)	Grant (2010)	Boyatzis (2008)

Coaching in crisis was measured using Morgeson's (2005) three-item supportive coaching scale, which assesses the extent to which supervisors reinforce their employees during and after disruptive events. This kind of reward and reinforcement for successful self-management—providing reinforcement to the employees but not becoming involved in the task performance itself (Morgeson, 2005)—is central to supportive forms of coaching (Wageman, 2001). This coaching approach is especially suited to dealing with crisis and conflict in the moment they are happening.

Data on coaching for goals was collected from Grant's (2010) goal-focused coaching skills questionnaire. This twelve-item measure has been found to be reliable and valid, to distinguish between novice and professional coaches, and to correlate with observed coaching skills (Grant, 2010). It also captures a coaching approach that focuses on specific and tangible goals that are set during coaching sessions and kept in focus throughout the coaching process and that creates concrete action plans with determined timeframes that can be measured and monitored.

The eight-item measure for coaching for vision was developed by (Boyatzis, 2008). Research on visioning has shown that it helps to guide future behavior, arouse hope, and improve performance (Boyatzis, Smith, & Beveridge, 2013). This coaching approach focuses on invoking the employee's ideal self (Boyatzis, Smith, & Beveridge, 2013), helping her to integrate what really matters to her in life into her day-to-day business.

Job design. We included in our study two moderators, job autonomy and job variety, in order to determine whether certain types of jobs change the effect of managerial coaching. Job autonomy and job variety were measured using (Morgeson & Humphrey, 2006) decision-making autonomy (three items) and task variety (four items) measures.

Controls. In line with (de Jong, Parker, Wennekers, & Wu, 2013), we included control variables for gender (dummy variable for males), age (dummy variable for employees less than forty years old; 2008; Ng and Feldman), education (coding one for high school graduation/apprenticeship,

two for bachelor's/master's degree, or three for MBA/PhD; Turban & Dougherty, 1994), leading position (dummy variable), sales position (dummy variable), size of organization (in FTEs), organizational tenure (in years) and industry (dummy variable for service industry).

RESULTS

Table 3 offers descriptive statistics showing that IEB is significantly and positively related to coaching, job autonomy and job variety.

We checked the constructs' discriminant validity and found that the square root of each multi-item-construct (Table 3) is far greater than all correlations with other constructs, showing the discriminant validity of the multi-item constructs (Fornell & Larcker, 1981).

The IEB model is shown in Table 4. The overall model fit is R2 = 17.6 percent in the model that includes only the control variables (model 1). The model fit is significantly increased when the main effects of job design are added (model 2: R2 = 23.4 percent, ΔR2 = 5.8 percent) and then again when adding managerial coaching main effects (model 3: R2 = 31.4 percent; ΔR2 = 8.0 percent). Changes in the R2 have a significance level of <0.001. The effect of managerial coaching on IEB (model 3: $\beta = .39$, $p < .001$) is positive and highly significant, lending support to H1.

The overall fit of the interaction effects model (model 4) is significantly better than that of the main effects model (model 4: R2 = 36.4 percent, ΔR2 = 5.0 percent, $p < .001$). Job variety positively and significantly moderates managerial coaching ($\beta = .21$, $p < .05$), confirming H2. However, managerial coaching is not moderated by job autonomy ($\beta = .14$, $p < .1$), so H3 is rejected.

We also tested the models for robustness by running twenty iterations of each regression model with randomly selected 95 percent-sub-samples (Echambadi, Arroniz, Reinartz, & Lee, 2006). All main effects and interaction effects were stable in this analysis. The marker variable test

Table 3: Descriptive statistics (N = 253)

			Pearson correlation coefficients										
	M	***SD***	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**	**(10)**	**(11)**
Dependent variable													
(1) Individual entrepreneurial behavior	4,67	1,25	**(0.88)**										
Job design													
(2) Job Autonomy	5,75	1,37	0.28***	**(0.94)**									
(3) Job Variety	6,01	1,20	0.32***	0.38***	**(0.96)**								
Coaching													
(4) Managerial coaching	3,95	1,50	0.35***	0,10	0.20**	**(0.91)**							
Controls													
(5) Male	0,59	0,49	0.14*	-0,02	-0,03	0.12							
(6) Age below 40 years	0,69	0,46	-0,01	-0,10	0,08	0.35***	-0,07						
(7) Education	1,99	0,64	0.31***	0,03	0.15*	0.24***	0,10	0.27***					
(8) Organizational tenure	9,12	10,40	-0,02	0.13*	-0,04	-0.29***	0.18**	-0.73***	-0.35***				
(9) Leading Position	0,39	0,49	0.37***	0.23***	0.14*	0,06	0.18**	-0,09	0.29***	0,07			
(10) Sales position	0,09	0,29	0,04	0,05	0.13*	0,06	0.13*	0,01	0,05	-0,07	0,07		
(11) Size of Organisation	27.306	77.606	0,10	0,00	-0,05	-0,09	0,02	-0,07	0,06	0,07	0,03	-0,03	
(12) Service industry	0,68	0,47	-0,08	-0,02	-0,01	-0,06	0,00	0,09	0,03	-0,04	-0,03	-0.12*	-0.17*

Two-tailed significance: * $p<0.05$ ** $p<0.01$ *** $p<0.001$.
M, mean, *SD*, standard deviation.
Square root of average variance extracted in brackets.

Table 4: Regression models of individual entrepreneurial behavior (N = 207)

	Model 1	Model 2	Model 3	Model 4
Control variables				
Gender	0.137	0.165*	0.0748	0.101
Age	-0.0907	-0.140	-0.245*	-0.253*
Leading Position	0.303***	0.258**	0.277***	0.279***
Size of Organization	0.0624	0.0767	0.113	0.117
Sales	-0.0547	-0.0997	-0.0974	-0.129
Organizational tenure	-0.0871	-0.143	-0.122	-0.137
Service industry	-0.161	-0.146	-0.112	-0.103
Education	0.221*	0.195*	0.136	0.175*
Main effects job design				
Job autonomy		0.142	0.0943	0.165*
Job variety		0.230**	0.195*	0.289***
Main effect coaching				
Managerial coaching			0.392***	0.339***
Interaction effects				
Coaching x Job autonomy				0.138
Coaching x Job variety				0.214*
Model fit				
constant	4.667***	4.665***	4.667***	4.612***
F value	5.2781***	6.0012***	8.1083***	8.5100***
R^2	0.1758	0.2344	0.3138	0.3644
Adjusted R^2	0.1425	0.1954	0.2751	0.3215
Change in R^2		0.0586***	0.0794***	0.0505***
Mean VIF	1,45	1,42	1,43	1,46

Two-tailed significance: * $p<0.05$ ** $p<0.01$ *** $p<0.001$.

Table 5: Common method variance (N = 253)

	Pearson correlation coefficients											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Dependent variable												
(1) IEB												
Job design												
(2) Job Autonomy	0.28***											
	0.28***											
(3) Job Variety	0.32***	0.38***										
	0.31***	0.39***										
Coaching												
(4) Managerial coaching	0.35***	0,10	0.20**									
	0.34***	0,10	0.19**									
Controls												
(5) Male	0.14*	-0,02	-0,03	0,12								
	0.14*	-0,01	-0,04	0.14*								
(6) Age below 40 years	-0,01	-0,10	0,08	0.35***	-0,07							
	-0,01	-0,10	0,08	0.35***	-0,06							
(7) Education	0.31***	0,03	0.15*	0.24***	0,10	0.27***						
	0.32***	0,03	0.14*	0.22***	0,11	0.27***						
(8) Organizational tenure	-0,02	0.13*	-0,04	-0.29***	0.18**	-0.73***	-0.35***					
	-0,01	0.13*	-0,03	-0.27***	0.18**	-0.73***	-0.35***					
(9) Leading Position	0.37***	0.23***	0.14*	0,06	0.18**	-0,09	0.29***	0,07				
	0.36***	0.22***	0.13*	0,05	0.18**	-0,09	0.30***	0,08				
(10) Sales position	0,04	0,05	0.13*	0,06	0.13*	0,01	0,05	-0,07	0,07			
	0,03	0,06	0.13*	0,07	0,12	0,03	0,07	-0,07	0,07			
(11) Size of Organisation	0,10	0,00	-0,05	-0,09	0,02	-0,07	0,06	0,07	0,03	-0,03		
	0,11	0,00	-0,05	-0,09	0,03	-0,07	0,06	0,07	0,03	-0,01		
(12) Service industry	-0,08	-0,02	-0,01	-0,06	0,00	0,09	0,03	-0,04	-0,03	-0.12*	-0.17*	
	-0,08	-0,03	0,00	-0,05	0,01	0,10	0,02	-0,05	-0,02	-0,11	-0.18**	
Marker Variable												
(13) Centrality of Workplace	-0,10	0,04	-0,01	0,01	-0,06	0,05	0,10	0,03	-0,04	-0.17**	0.05	0.18**

Two-tailed significance: * $p<0.05$ ** $p<0.01$ *** $p<0.001$.

The value at the top of each cell indicates the correlation between the constructs, whereas the bottom of the cell is the correlation corrected for co

(Lindell & Whitney, 2001) that we used to test for common method bias revealed stable directions of effects, and significance levels were largely the same (Table 5).

DISCUSSION

Theoretical Implications

The aim of our study is to shed light on the questions concerning what can be achieved with managerial coaching and under what circumstances managerial coaching is most effective. We found that managerial coaching increases IEB and is most effective for employees who have a variety of tasks. However, employees' decision-making latitude does not influence the effect of managerial coaching, as employees with either low or high levels of job autonomy benefit equally from managerial coaching.

In this study we investigate and confirm IEB as a new, tangible effect of managerial coaching. As coaching is closely related to transformational leadership (Mühlberger & Traut-Mattausch, 2015), this result resembles the finding of (Engelen, Schmidt, Strenger, & Brettel, 2014) that transformational leadership has a positive effect on entrepreneurial orientation on the firm level.

Using IEB as the dependent variable establishes the role of managerial coaching in building IEB to achieve firm-wide EO (de Jong, Parker, Wennekers, & Wu, 2013; Zhang & Bartol, 2010) and subsequently increase firm performance (Hornsby, Kuratko, Shepherd, & Bott, 2009; Ireland, Covin, & Kuratko, 2009; Krauss, Frese, Friedrich, & Unger, 2005; Zhang & Bartol, 2010). Especially in these times of rapid change, when it is important to use employees' full capabilities (Zhang & Bartol, 2010), including their innovativeness, proactivity and risk-taking, it is the responsibility of every leader to increase IEB, which can be achieved with a bottom-up leadership approach like managerial coaching better than it can with a top-down approach like transactional leadership (Owens & Hekman, 2012). This paper provides clear evidence that managerial coaching can increase the individual contribution of every employee to

entrepreneurial behaviors through behaviors that include proactiveness, innovativeness and risk-taking.

We also measure the direct effects of job variety and job autonomy on IEB and find that only job variety has a significant effect (Table 4, Model 2). This finding indicates that increasing IEB requires increasing the breadth of employees' activities, rather than their decision-making latitude. This finding contrasts the findings of (de Jong, Parker, Wennekers, & Wu, 2013), who showed that job autonomy but not job variety has a significant effect on IEB. The most likely explanation for these conflicting results is the sample used for data generation: (de Jong, Parker, Wennekers, & Wu, 2013) used data generated in only one company, a Dutch research and consultancy company, and stated that research in other contexts would be necessary to generalize their findings. The present study, on the other hand, collected data from more than forty companies in a variety of industries. One possible explanation for this difference is that the impact of job autonomy and job variety on IEB differ from industry to industry. To mirror the results of (de Jong, Parker, Wennekers, & Wu, 2013), we did a subsample-regression analysis of our data for professional services only and found no significant relationship between IEB and either job autonomy or job variety. However, this subsample was small (34 observations), so the analysis's explanatory power is limited. Further studies might solve this controversy by directly comparing the relationship in multiple industries with larger subsamples.

We also show that managerial coaching is most effective in settings in which employees deal with a high level of job variety, indicating that people who work on a variety of tasks benefit from coaching on how to integrate their knowledge and use it effectively. This positive moderating effect of job variety confirms the hypothesized impact of job design on the effect of managerial coaching and can help resolve the dispute about the differing effects of managerial coaching on performance that have been found. Of course, the referenced studies used divergent constructs to measure the intensity of managerial coaching and performance, which probably

goes a long way to explaining the differing results. The studies were also conducted in divergent settings. For example, (Wageman, 2001), who found no effect of managerial coaching on task performance, studied thirty-three teams of technicians from the Xerox Corporation whose task it was to respond to customer calls about machine breakdowns and initiate visits to customer sites for preventive maintenance. The narrow spectrum of tasks these employees performed might have contributed to the missing link between managerial coaching and performance, although the lack of job variety cannot fully explain the link's absence. A clearer definition and measurement of managerial coaching, more knowledge about moderators and mediators, and more insights on outcome variables would shed more light on the divergent findings.

A high level of job autonomy was not a setting in which managerial coaching was especially effective in our study, suggesting that all employees, regardless of their position, can benefit from coaching. This finding might be due to the link between the employee's hierarchy level and a high level of job autonomy but not job variety (Phillips & Gully, 2014). (Agarwal, Angst, & Magni, 2009) found that managerial coaching is even more effective when offered to employees at low hierarchy levels, arguing that senior leaders' beliefs and attitudes about their work practices, honed through experience, are better-formed and more difficult to influence than are those of lower-level employees. (Buljac-Samardzic & van Woerkom, 2015) also found that managerial coaching is effective only when the employee's level of reflection–stepping back to think about ones objectives and the methods to achieve them–is low, hypothesizing that this finding is due to managerial coaching's being time-consuming and the potential counterbalancing of coaching's benefits by a loss of efficiency for employees that are capable of reflecting on their own. Furthermore, (Hornsby, Kuratko, & Zahra, 2002) allocated an especially important role to middle managers in encouraging corporate entrepreneurship, so the less 'coachability' of employees at higher hierarchical levels may counteract the positive effects of a high level of job autonomy that are induced by increasing employees' freedom to make changes

to their work lives and opportunities to learn and apply newly learned knowledge, attitudes and behaviors.

Limitations and Future Research

The 'coachability' of the employee may set boundaries around the effects of managerial coaching. What other boundaries limit it is unclear so far, and further research in this direction is needed. For example, as the 'coachability' of the employee matters, what influences do cultural differences have on the effect of coaching? Perhaps it is necessary for inexperienced employees to learn some basics first before coaching can have an impact, so teaching, more than coaching, is necessary with inexperienced employees. Coaching generally gives the employee the opportunity to grow and learn, but it also usually takes–at least in the short run–more time to coach than simply to tell the employee what to do. Hence, in situations in which quick decision-making is required, a coaching style of management may not be the best choice. Where is the turning point? Might there be some types of projects for which, because of short deadlines or time constraints, coaching just cannot happen? As time is almost always a constraining factor since leaders have to decide how best to allocate their limited time, it is also necessary to clarify how coaching compares to other management practices based on the situation in order to help leaders decide for which problems managerial coaching is the most helpful tool and for which problems some other management practice yields better results.

The antecedents that drive managerial coaching are also under-researched. (Ragins & Scandura, 1999) showed that the anticipated cost associated with being a mentor are lower if the mentor was mentored herself (Ragins & Scandura, 1999), so it is likely that coaching has a similar pattern. Therefore, establishing a 'coaching culture' may be beneficial for organizations, as is often claimed in the practitioner literature (Mann & Smith, 2015; Parrey, 2014). However, this connection remains to be confirmed by scientific research.

We hypothesized that managerial coaching improves IEB, but as we use cross-sectional data, our results do not necessarily suggest causality. (Sheldon, Dunning, & Ames, 2014) found that it is often high performers who seek feedback and development, so employees who already display innovativeness, proactiveness and risk-taking may receive more managerial coaching. Future research should investigate this possibility by, for example, using panel data to determine the impact of managerial coaching over time. Furthermore, coaching is a dyadic phenomenon involving the coach and the coachee (Krasikova & LeBreton, 2012). As we measure only the employee's perception of managerial coaching, investigating the leader's perception of managerial coaching and its relationship to entrepreneurial behaviors would be a useful methodological addition to the literature, giving a fuller picture about the employees true entrepreneurial behavior as well as the amount of managerial coaching he receives.

Even the construct of managerial coaching itself is far from clear. Researchers use a variety of definitions of managerial coaching, ranging from broad definitions like 'working with employees to help them discover the answers' (Daudelin, 1996) to detailed definitions like the definition used in this study. Similarly, the constructs used to determine whether managerial coaching occurs and to what extent vary widely and have not been confirmed by quantitative research with adequate sample sizes and two non-overlapping samples (DeVellis, 2003; Flatten, Brettel, Engelen, & Greve, 2009). We addressed this issue in our study by combining three valid and complementary constructs that, taken together, give a comparatively full picture of supervisors' coaching behaviors, but forthcoming research should investigate which managerial coaching techniques are effective in order to help form a consensus about what good managerial coaching is.

In this study and in others, managerial coaching has been shown to be a promising management tool, so we hope that researchers will investigate these and other open questions related to the topic.

Implications for practice

Is coaching helpful, or is it a temporary fashion with a limited life span and no tangible results? This question is asked loudly in both practice and research, as outcomes are difficult to verify. However, with coaching increasingly requested by subordinates and supervisors (Ely, Boyce, Nelson, Zaccaro, Hernez-Broome, & Whyman, 2010), this question is gaining attention and pressure. It is well documented that coaching can improve job satisfaction, but this alone is often not a convincing argument for investing limited resources. Organizations want to know that their efforts will make the company grow and result in tangible outcomes that positively affect the bottom line.

Top management often receives coaching from external coaches (Bono, Purvanova, Towler, & Peterson, 2009), so such coaching has a limited impact on the average employee. It is also costly, as average hourly costs in 2009 were approximately $500 (Coutu et al., 2009). There is growing evidence of the beneficial effects of external coaching (for example Bono, Purvanova, Towler, & Peterson, 2009; Feldman & Lankau, 2005; Gessnitzer & Kauffeld, 2015; Ladegard & Gjerde, 2014; Smither, 2011; Smither, London, Flautt, Vargas, & Kucine, 2003) that suggests, for example, that companies see a return on their investment in external coaching of roughly 600 percent. But these investigations are in their infancy, and they depend heavily on the individual evaluations of executives that have received external training (Smither, 2011).

Managerial coaching, applied by an employee's direct supervisor, can be performed in every leading position, and every employee can benefit, giving managerial coaching a potentially extensive reach. Furthermore, practitioners claim that at least some of the techniques applied in managerial coaching can be applied 'on the go' with no significant additional management time required (Hamlin, Ellinger, & Beattie, 2008). If this claim holds true, managerial coaching can be applied with limited extra cost in money and time to a large number of employees. (Rock & Donde, 2008) estimated the return on the investment in managerial coaching to be one thousand

seven hundred percent and estimated the costs associated with managerial coaching as roughly 10 percent of the cost of external coaching.

Organizations that pursue an EO strategy need to use their employee's innovativeness, proactiveness and risk-taking abilities (de Jong, Parker, Wennekers, & Wu, 2013; Zhang & Bartol, 2010), and the leaders of these organizations play a major role in nurturing these abilities (Amabile, Schatzel, Moneta, & Kramer, 2004; Scott & Bruce, 1994; Zhang & Bartol, 2010). As this study shows, managerial coaching can promote these abilities and make the most of employees' ideas. However, in order to coach effectively, leaders need to care about those around them, rather than seeing them as a burden and a responsibility (Boyatzis, Smith, & Blaize, 2006). This positive attitude toward employees should be incorporated in management trainings, after which managerial coaching can be applied with similar effects in all levels of job autonomy. However, it is especially beneficial to use managerial coaching with employees who have a high level of variety in their jobs and deal with a wide range of tasks and information.

CONCLUSION

This study sheds light on the effects of managerial coaching by establishing a positive relationship between managerial coaching and IEB. The study also reflects on the boundary conditions of this relationship by delineating the moderating impact of job variety and job autonomy, two key parameters of job design. Testing hypotheses with cross sectional data from employees in more than forty companies reveals support for the proposed relationship between managerial coaching and IEB and for a moderating effect of job variety. We base these arguments on empowerment theory. The leadership and entrepreneurship literature is advanced by clarifying the effects of managerial coaching and IEB's antecedents. Finally, we help to resolve the disagreement in the literature about the effectiveness of managerial coaching and to equip leaders with clear recommendations concerning in which kinds of jobs managerial coaching can be applied most effectively.

Table 6: Appendix

Construct (Source)	**Items**	**Number of items**	**Cron-bach's alpha**	**Factor laodings**	***CR***	***AVE***	**Scale**
Individual entrepreneurial behavior (De Jong et al., 2013)	Second order construct with innovativeness, proactiveness and risk taking	3	0,83	0.82 - 0.90	0,90	0,77	
Innovativeness	I generate creative ideas I search out new techniques, technologies and/or product ideas I promote and champion ideas to others	3	0,90	0.90 - 0.92	0,94	0,84	Likert 1 (strongly disagree) - 7 (strongly agree)
Proactiveness	I identify long-term opportunities and threats for the company I am known as a successful issue seller I put effort in pursuing new business opportunities	3	0,82	0.84 - 0.88	0,90	0,77	Likert 1 (strongly disagree) - 7 (strongly agree)
Risk taking	I take risks in my job When large interests are at stake, I go for the big win even when things could go seriously wrong I first act and then ask for approval, even if I know that would annoy other people	3	0,77	0.74 - 0.89	0,87	0,73	Likert 1 (strongly disagree) - 7 (strongly agree)
Job autonomy (Morgeson & Humphrey, 2006)	The job allows me to make my own decisions about how to schedule my The job allows me to decide on the order in which things are done on the job The job allows me to plan how I do my work.	3	0,92	0.91 - 0.95	0,95	0,88	Likert 1 (strongly disagree) - 7 (strongly agree)
Job variety (Morgeson & Humphrey, 2006)	The job involves a great deal of task variety. The job involves doing a number of different things. The job requires the performance of a wide range of tasks. The job involves performing a variety of tasks.	4	0,97	0.93 - 0.97	0,98	0,92	Likert 1 (strongly disagree) - 7 (strongly agree)
Coaching	Second order construct with coaching in crisis, coaching for goals and coaching for vision	3	0,89	0.88 - 0.92	0,93	0,83	
Coaching in crisis (Morgeson, 2005; originally named supportive coaching)	With all the actions your supervisor undertook with respect to a crisis or a conflict, he could… … reinforce my successful responses to the event … reinforce strategies that have worked for me in the past … emphasize which lessons I have learned by the crisis/conflict	3	0,87	0.86 - 0.91	0,92	0,81	Likert 1 (strongly disagree) - 7 (strongly agree)

CR, composite reliability; *AVE*, average variance extracted.

Table 6 (continued): Appendix

Construct (Source)	**Items**	**Number of items**	**Cron-bach's alpha**	**Factor laoding s**	***CR***	***AVE***	**Scale**
Coaching for goals (Grant, 2007; originally named goal focused coaching skills)	Conversations with my supervisor about my personal development are always effective in helping me reach my goals I value the time I spend with my supervisor on my personal development The goals my supervisor and me set during conversations about my personal development are very important to me The goals me and my supervisor set during conversations about my personal development are always stretching but attainable My supervisor creates an environment in which I feel free to present my own ideas My supervisor understands my feelings By the end of a development-conversation with my supervisor, I have greater clarity about the issues I face During a conversation about my personal development, my supervisor spends more time developing solutions than analysing the problem The goals my supervisor and me set during conversations about my personal development are tangible and concrete My supervisor is very good at helping me develop clear, simple and achievable action plans My supervisor always asks me to report my progress towards my goals My supervisor addresses any performance shortfalls directly and promptly	12	0,95	0.72 - 0.89	0,96	0,71	Likert 1 (strongly disagree) - 7 (strongly
Coaching for vision (Boyatzis et al., 2013)	My supervisor emphasizes a vision for my future I feel inspired by the vision my supervisor developed for me My supervisor and me often discuss possibilities for my future My work is focused on my vision I believe that my future performance will be better than my past performance I am encouraged by my supervisor to build on my strengths My personal goals are clear in the vision developed together with my My supervisor emphasizes my current strengths	8	0,93	0.63 - 0.90	0,95	0,73	Likert 1 (strongly disagree) - 7 (strongly agree)

CR, composite reliability; *AVE*, average variance extracted.

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