Creating developmental space for better team results

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VRIJE UNIVERSITEIT

Creating developmental space for better team results

Four exploratory studies

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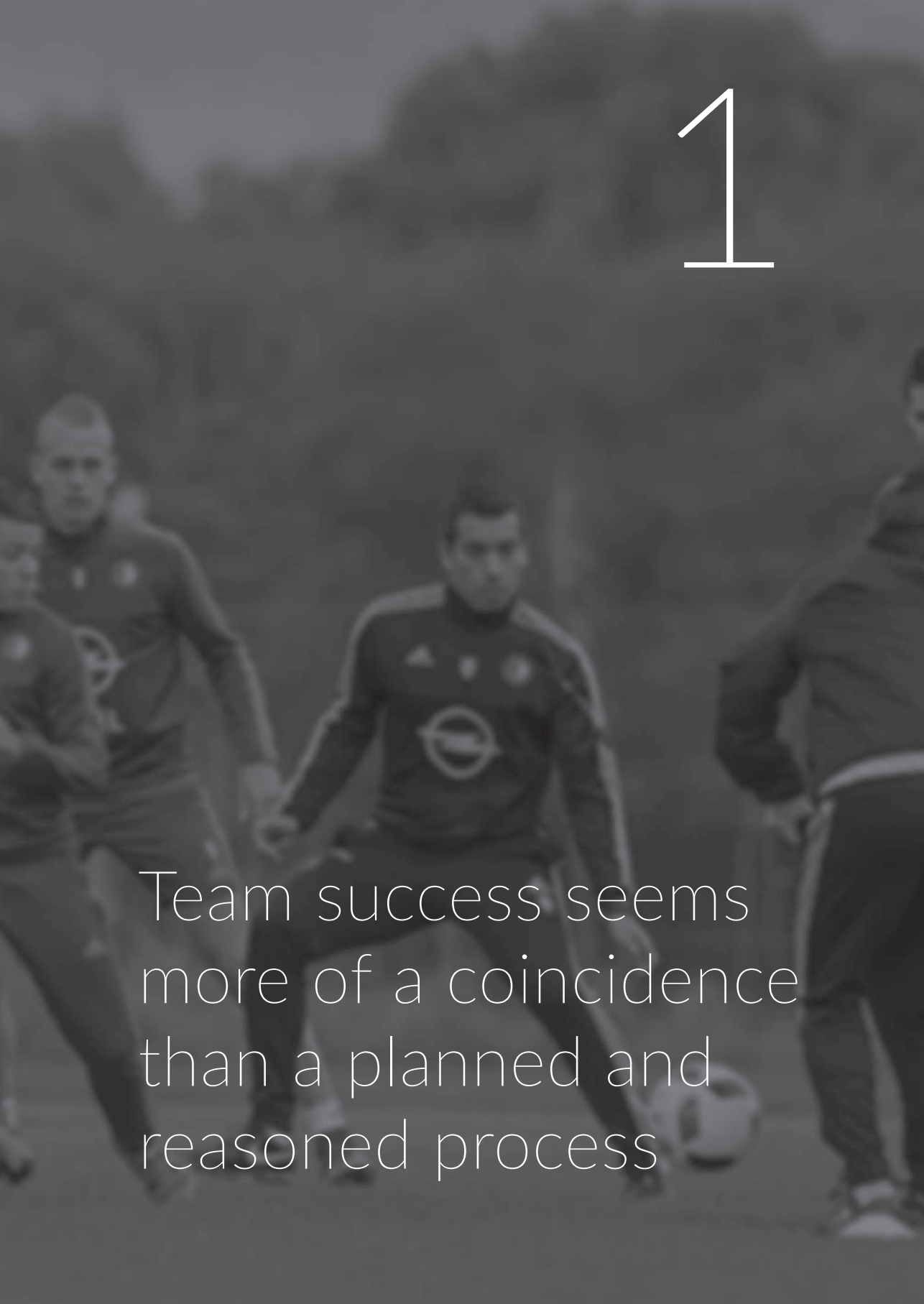
promotoren: prof.dr. L.I.A. de Caluwé
prof.dr. R.J. Blomme

copromotor: dr. J. Rupert

Contents

Talent wins games, but teamwork and intelligence wins championships.

Michael Jordan



1

Team success seems more of a coincidence than a planned and reasoned process

Introduction: The mystery of teamwork

Together
Everyone
Achieves
More

Around the millennium, I worked in a team with three colleagues: my manager and two external consultants. Together we were responsible for designing and elaborating a management development path as a vehicle for change in the organization. Intertwining personal development and organizational development was a new and challenging assignment for us, but as a team we were in unison in this complex task: it felt like we were 'a team with wings'. Everything each of us did and said became more precise and better directed through our interactions as a team. Together we took time to explore different possibilities and look at the questions and solutions from different viewpoints, while being very productive at the same time. We often disagreed, but always in a pleasant and constructive way. If someone did not agree with an idea, we all trusted that in the end this would only improve our work, and we were curious to understand what lay behind the disagreement and what value it ultimately might have. In the end, we delivered an excellent management development path and published a paper on the lessons learned (Derksen, Geerdink, & Rondeel, 2003). Working in a team like this was an addictive and magical experience. Fifteen years later, I still remember it as if it were yesterday. Luckily, I often work in inspiring teams that are also in unison, and until now these experiences have never been quite the same.

Teamwork can be magical, leading to amazing results.
I wish everyone could have this experience at least once in a lifetime!

Introduction

Starting this research at the end of 2008, we could never have imagined the extent to which the notion of teamwork would take off in organizations in the Netherlands over the coming years. This trend is, of course, not so strange, because organizations now need to change and innovate rapidly (Drucker, 2001; Harrison & Kessels, 2004; Kessels, 2004; Senge et al., 1999; Wierdsma, 2007), and work is becoming ever more complex; often too complex for one individual to handle on their own. Teams can outperform individuals in solving complex tasks (Cummings & Worley, 2009; Goleman, Boyatzis, & McKee, 2002) because they can be more creative and better at finding solutions (Chrislip, 2002; Snow, 1999). Moreover, teams have information-processing capabilities that exceed the individual capabilities of team members (Curşeu, Jansen, & Chappin, 2013). For these reasons, the term 'team' is considered an acronym of: 'Together Everyone Achieves More'. Unfortunately, teams often do not attain this Holy Grail.

While teams can be superior to individuals, they may struggle to outperform their best member for several reasons (Curşeu et al., 2013; McGrath, 1984; Rietzschel, Nijstad, & Stroebe, 2006). Firstly, team members 'choose consciously or sub-consciously to ignore ideas, advocate their own ideas, show enthusiasm for others' ideas, and provide interpersonal rewards for good ideas' (Harvey & Kou, 2013, p. 347). In this 'political game' teams often do not recognize their most creative ideas (Rietzschel et al., 2006; 2010). Secondly, teams often initially respond negatively to novel ideas because they are afraid of failure or social rejection and are uncertain about the timing of the completion of their ideas (Mueller et al., 2012). Thirdly, team members speak different 'languages' (Vangen & Huxham, 2003) and have different conceptual frameworks and belief systems, complicating interaction and information-sharing. Fourthly, team members differ in their cognitive abilities and their level of motivation to participate in the team process (Curşeu & Schruijer, 2012). Finally, team members appear less willing to share information with fellow team members when they perceive them to be different from themselves (Mesmer-Magnus & DeChurch, 2009). A cooperative team climate makes it easier to share information and easier to take risks (Chrislip, 2002; Mesmer-Magnus & DeChurch, 2009). This is all about the effectiveness of teams.

While there is much research on teams and team effectiveness, we still seem to know very little about what really works – what really makes teams effective. When so many teams struggle to outperform their best team member (Curşeu et al., 2013; McGrath, 1984; Rietzschel et al., 2006), team success seems more of a coincidence than a planned and reasoned process. According to Dionne et al. (2004, p. 177), there is a growing need to understand how teams can be more effective in their performance. With an awareness of the potential of teams to do better, and still struggling to outperform individuals, researchers, organizations and teams

themselves are all searching diligently for theories and models that will help them to explain teamwork and achieve better results (Marks, Mathieu, & Zaccaro, 2001). This dissertation attempts to contribute to this quest.

The main research question of this dissertation is:
How can teams create developmental space in order to achieve the best possible result?

Four studies, each with its own research sub-questions, were conducted to address this main question. The outline of the dissertation at the end of this chapter presents these sub-questions (Chapters 2-5).

Below, the definition of 'team' used in this dissertation will be presented, before the challenges of researching team effectiveness are introduced. This will be followed by a brief explanation of the theoretical basis of this dissertation: Coenders' (2008) model of developmental space. Two main concepts related to developmental space, namely 'leadership' and the 'developmental space paradox' will then be introduced. This will be followed by a brief explanation of the methodology and the contribution made. Finally, an outline of the chapters will be presented.

What is a team?

The term 'team' has already been used several times, but what exactly is meant by 'team'? Using such a well-known and much used term has its advantages and disadvantages. One big disadvantage is that 'team' is used for very different kinds of groups. In the Netherlands, it is common for teams to be the smallest labour division in an organization. Hence, teams vary from whole departments with 40-60 team members and a manager, to small self-supporting groups of 3-6 team members. This makes the concept fuzzy.

In the literature, the terms 'group' and 'team' are often used interchangeably (Antoni & Hertel, 2009; Hackman, 1987)2009; Hackman, 1987. Knowing that there is a wide range of interpretations of both terms, it is surprising that they are often not defined at all, or are not very well defined. Coenders (2008) used the term 'group'. However, this dissertation has chosen the term 'team', as not all groups are teams (Tannenbaum, Beard, & Salas, 1992). For Tannenbaum et al. (1992), a team is 'a distinguishable set of two or more people who interact dynamically, interdependently and adaptively toward a common and valued goal/objective/mission and who each have some specific roles or functions to perform' (Tannenbaum et al., 1992, p. 118).

Definition of a team
In this dissertation, a team is understood as a group of 3-10 people working together on a complex task. The members fulfil different roles or functions, have a shared goal, are interdependent and need to interact with each other to achieve that goal. A team may be, for example, a project team, a regular team, a work group, a think tank, an occasional team, a network or a community of practice.

The present dissertation focuses on the team task, because this is a key factor in the process and performance of teams (Antoni & Hertel, 2009), and, according to Mathieu et al. (2008), teams function quite differently depending on their task. A 'complex task' requires knowledge-creation or new combinations of existing knowledge, which demands a learning process (Boonstra, 2008; Clegg, Kornberger, & Pitsis, 2005; Corso, Martini, Paolucci, & Pellegrini, 2001; Kessels, 2004).

During the dissertation, the team task shifts from 'innovation' to 'a complex task'. As the founding father of the theory of developmental space, Coenders (2008) states that teams need such space to work on innovation. However, in the search for a definition of 'innovation', a large number and variety were found. In their review study, Adams, Bessant and Phelps (2006) concluded that the term 'innovation' is ambiguous, lacking a clear definition and method of measurement. Definitions differ in their focus, with some concerned with the process and others with the product, and they also differ in the degree of 'newness'. Baregheh, Rowley and Sambrook (2009) undertook an extended literature study on the definition of innovation, leading them to a multidisciplinary formulation: 'Innovation is the multi-stage process whereby organizations transform ideas into new/improved products, service or processes, in order to advance, compete and differentiate themselves successfully in their marketplace' (Baregheh et al., 2009, p. 1334). In this dissertation, this ambiguity is a call to be more specific about the team task being referred to.

As tasks become ever more complex and organizations tend to increasingly rely on teams to execute these complex tasks (at least in the Netherlands), it can be argued that shifting the focus to teams working on a complex task will also do justice to these latter organizational developments.

The challenge of researching team effectiveness

The research question implies an interest in team effectiveness. Luckily, this topic has been researched for a long time and in a sufficient number of studies.
The input-process-output framework is often used to gain insight into team effectiveness (Antoni & Hertel, 2009; Hackman, 1987; Marks et al., 2001). Based on this framework, Antoni and Hertel (2009) presented an overview of the multitude of variables related to team performance. This poses a big challenge for researchers investigating team effectiveness because it is impossible to take all of these variables into account.

Returning to an examination of the reasons why organizations today tend to work so much with teams may shed light on the focus needed to research team effectiveness. Organizations expect teams to be more creative and better at finding solutions (Chrislip, 2002; Snow, 1999) in the complex tasks they pursue. Team interaction, in particular, seems crucial to realize this and thus crucial in explaining the effects of teamwork (Leenders, Contractor, & DeChurch, 2015; LePine, Hanson, Borman, & Motowidlo, 2000; LePine, Piccolo, Jackson, Mathieu, & Saul, 2008; Tjosvold, West, & Smith, 2003).

In terms of the input-process-output framework, interactions within a team are considered a process variable. In practice, we see numerous examples of the impact of this variable. For example, why does a football team with the best players on the field not always become the world champion? Usually, this is because they do not interact with each other as well as their opponents do. Of course, input factors such as team composition, reward and incentive systems, organization structure and information systems also have an impact, but they are not the primary focus of this research. Here, the primary focus is on team interaction, as this seems to have a major impact on teamwork and also appears to be the variable that teams themselves can influence most.

While pursuing this interest in team interaction and its contribution to team effectiveness, the doctoral dissertation by Coenders (2008) was discovered and found to present an interaction model for teams that was intended to assist team members to interact in a way that would lead them to achieve the best results.
His work is of value here for more than one reason. Firstly, it focuses on team interactions. Secondly, his idea that team members create a space through their interactions and need this space to flourish and thereby achieve the best result is appealing. Thirdly, while the model seems simple, consisting of four dimensions, it also seems theoretically complex and not suitable in itself to analyse and influence interactions within teams. We decided that his work would be an interesting point of departure for this dissertation. Therefore, a brief overview of his model of developmental space is presented below.

The foundation of developmental space

As the founding father of the theory of developmental space, Coenders (2008) hypothesized that space and time are a consequence of personal actions. People construct space and time. Space is a dynamic notion and is related to what people do and do not do (Coenders, 2008). Coenders aimed to design an operational model to facilitate strong and continuous learning processes in teams and networks.
He considered that learning processes occur in the practice of work itself when professionals attempt to innovate. According to Coenders (2008), this demands collective learning on the job and professionals need space for this. According to Kessels (2004) and Gratton (2007), innovation requires new knowledge and/or new combinations of experience and knowledge. It also demands cooperation between individuals in a team (Gratton, 2007; Vroemen, 2009). Coenders' research concerns the work environment that teams need for innovation.

Coenders' model of developmental space and the motives for this study

Coenders' (2008) model of developmental space consists of four dimensions: synchronicity, reflexivity, regulativity and finality. These four dimensions combined define Coenders' notion of developmental space (see Figure 1).

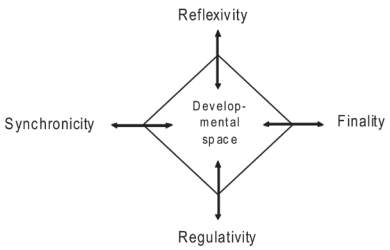


Figure 1. Developmental space according to Coenders (2008, p. 140)

'Synchronicity' refers to the concurrence of people and ideas in the creative process. 'Reflexivity' means developing from different perspectives and taking a bird's-eye view. 'Regulativity' is about communication and alignment, while 'finality' means focusing on the result. According to Coenders (2008), the essence is to find a balance between these four dimensions. The model has two learning orientations: giving meaning and a revenue orientation. These are assumed to be naturally in conflict.

A few aspects of Coenders' (2008) theory triggered the pursuit of research for this dissertation. It is increasingly common for teams in organizations to work on innovation and for managers and team facilitators to facilitate such teams. The idea that these teams need developmental space and that they create this space during their interactions seems logical. The relative simplicity of the model, with its four

dimensions, is appealing and might aid teams in becoming aware of, analysing and influencing their own developmental space. In this sense, Coenders' (2008) model seems promising. However, the background of the concepts is complex and the terminology is unfamiliar. Thus, the model seems attractive but is not easy to use; either to analyse or influence developmental space. These advantages and disadvantages of the model both form the starting point for this dissertation. Chapter 2 will present a developmental study leading to the redesign of the model of developmental space, which will form the basis for the other three studies of this dissertation. Below, I will first shed some light on two main concepts that are related to the creation of developmental space and which are elaborated upon in Chapters 4 and 5.

Leadership

In the literature, leadership is regarded as a crucial factor for team success (Carson, Tesluk, & Marrone, 2007; Edmondson, 1999; Hoch & Morgeson, 2014; Kozlowski, Gully, Salas, & Cannon-Bowers, 1996; Sarin & McDermott, 2003; Yukl, 2013; Zaccaro, Rittman, & Marks, 2001). Within the teams in the research presented here, leadership indeed seemed to play a role, and thus it is essential to take leadership into account. Leadership, however, is an extensive topic and a clear definition of leadership appears to be lacking: 'There are almost as many definitions of leadership as there are persons who have attempted to define the concept' (Stogdill, 1974, p. 259). According to Yukl (2013, p. 18), 'most definitions of leadership reflect the assumption that it involves a process whereby intentional influence is exerted over other people to guide, structure, and facilitate activities and relationships in a group or organization'. The current study uses the following definition: leadership is 'a social influence process that must include at least two individuals acting in interdependent roles. At least one individual must act in a follower role, and at least one individual must act in a distinctively influential (leadership) role' (Seers, Keller, & Wilkerson, 2003, p. 79).

This definition means that leadership may coincide with a formal role, but this is not necessarily the case. The literature tends to focus on leadership executed by a single leader (Hoch & Morgeson, 2014; Tourish, 2014; Von Krogh, Nonaka, & Rechsteiner, 2012). The influence of team members, however, is always present but often neglected in the literature (Goleman et al., 2002). Hoch and Morgeson (2014) argued that leadership processes are becoming particularly relevant today because organizations are increasingly relying on teams. For these reasons, this present dissertation focuses on both single and shared leadership. This topic is further explored in Chapter 4.

The developmental space paradox

Coenders (2008) himself concluded that the model of developmental space has two learning orientations: giving meaning and a revenue orientation. He assumed that these two orientations were naturally in conflict; this idea is further explored here. It is suggested that teams have to deal with a paradox as they create developmental space. What exactly is meant by a paradox? A paradox consists of 'contradictory yet interrelated elements that exist simultaneously and persist over time' (Smith & Lewis, 2011, p. 382). People often experience these two contradictory elements as an uncomfortable tension. The paradox for teams working on a complex task, which resembles the paradox of developmental space, concerns, for example, the need to share and explore all available information and at the same time deliver a useful outcome within a limited time and with a limited budget.

The two sides of a paradox do not need to be thought of in terms of the opposition of good and bad; it is not about one side being good and the other bad; it is about having both. Both sides are crucial to realizing a sustainable result. The two elements of a paradox are like two sides of the same coin (Handy, 1994; Simons, 1999). We often find it difficult to pursue both because it means inconsistency (Kahane, 2010; Smith & Lewis, 2011), so we usually attempt to choose between them based on rational considerations. By doing this we assume there is one best possible solution. This stems from a contingency perspective (Lewis & Smith, 2014). In contrast, a paradox perspective advocates fostering the existence of the tension and fuelling the interplay between the two poles to achieve long-term success (Lewis & Smith, 2014). If and how teams experience the developmental space paradox and how they handle it is elaborated upon in Chapter 5.

Methodology

Although the four studies in this dissertation all have their own research methodology, they also have similarities in terms of methodology. The central concept, developmental space, is still in its infancy; therefore, all four studies are explorative in nature. Developmental space is used as a sensitizing concept (Blumer, 1954) throughout the studies. Sensitizing concepts provide a starting point; a way of looking at and interpreting the research data (Blumer, 1954; Bowen, 2006). By using developmental space as a sensitizing concept it was gradually developed throughout the research. Therefore, this dissertation can be characterized as 'developmental research' insofar as, in accordance with the definition by Gravemeijer (1998), it gradually develops a theory in an iterative and cumulative way that becomes part of a theory-guided bricolage, using as much available material as possible and combining different methods (see also Denzin & Lincoln, 2000).

The contribution

This dissertation builds on and extends the earlier theoretical conceptualization of developmental space presented by Coenders (2008). The model of developmental space contributes to the search for an explanation of the effects of teamwork, with the interactions within teams and with the environment being crucial to explaining those effects (LePine et al., 2000; LePine et al., 2008). On this basis, the dissertation contributes to a growing need, signalled by Dionne et al. (2004, p. 177), to understand how teams can be more effective in their performance. The research links theories on teamwork with theories on leadership, expanding the theory on 'leadership emergence' and on effective 'team leadership'. It also elaborated the theory of paradoxes by presenting an overview of the different ways in which paradoxes can be handled, as well as empirically testing them. Furthermore, the dissertation provides practical suggestions for teams, managers and team facilitators: 1) the model will assist them to analyse and improve their developmental space in order to achieve the best possible result as a team; 2) it will provide insight into what kinds of leadership emerge and are supportive of the creation of developmental space; and 3) it will offer practical suggestions on how to handle the developmental space paradox in particular (see also the practical implications of the dissertation in the final discussion). Finally, the research was carried out with real teams, while research on teams often takes place in a laboratory setting. As such, this dissertation is expected to make a valuable additional contribution.

Overview of the dissertation

This dissertation brings together four articles written for various international journals. They differ in style and language as a result of different conventions among these journals. Despite the articles standing on their own, they are all closely related and form a coherent whole, as shown in the outline of the chapters presented in Figure 2. For this dissertation, every article was edited to avoid repetition between the chapters as much as possible; nevertheless, as every article was written to be read on its own, some repetition across the chapters is inevitable.

Chapter 2. Developmental space for teams working on innovation
This chapter redesigns the model developed by Coenders (2008) using a 'rapid prototyping' process (Visscher-Voerman, 1999) and a developmental research approach (Gravemeijer, 1994, 1998), which are both employed to refine and adjust the model. Coenders (2008) stated that teams need developmental space as a precondition for successful innovation. Teams create this space through interaction between members. According to Coenders, this space can be created and is a dynamic notion related to what people do and do not do. It is a social and mental space arising from interactions in teams. The research question in this chapter is: what

model of developmental space allows teams, managers and team facilitators to analyse their own developmental space (descriptive) and influence it (prescriptive)?

Chapter 3. Assessing developmental space in teams

This follow-up study further defines the concept of developmental space and attempts to test the model quantitatively. For this purpose, the following three research questions were formulated. 1) Is there a quantifiable justification of the idea that developmental space consists of four activities? 2) Is the perceived result better if teams create more developmental space? 3) Which one of three possibilities best predicts the perceived result: (a) the four activities, (b) the two orientations, or (c) the developmental space as a whole?

A questionnaire was developed in several steps to quantitatively explore the concept of developmental space. This study points to two areas requiring further research, which are studied and discussed in the following two chapters. Firstly, what influence does leadership have in relation to creating developmental space? Secondly, when creating developmental space, teams seem to have to deal with a paradox: paying attention to both the performance and the sensemaking orientations. How do teams experience and handle this paradox and how is that related to their results?

Chapter 4. Investigating leadership: Creating developmental space in teams and promoting better team results

In the literature, leadership is regarded as a crucial factor for team success (Carson et al., 2007; Edmondson, 1999; Hoch & Morgeson, 2014; Kozlowski et al., 1996; Sarin & McDermott, 2003; Yukl, 2013; Zaccaro et al., 2001). The previous chapters hypothesized that shared leadership may be most supportive in creating developmental space and thus more effective in promoting team results, and recommended further research on this topic. Therefore, this study attempted to answer the following research question: what kind of leadership emerges in teams and supports the creation of developmental space, thus promoting better team results? To answer this question, an exploratory study employing a qualitative method was undertaken consisting of a multiple case study (N = 10 teams) and a field experiment (N = 6 teams). The field experiment was included because it was unclear whether shared leadership would emerge naturally in teams.

Chapter 5. A paradox perspective as a lens to understand how teams create developmental space

Teams seem to face a paradox when creating developmental space. On the one hand, they have to move forward, focus on obtaining results, and plan and organize themselves efficiently, while on the other hand, they need to slow down, make time for reflection and engage in dialogue. These seem to be 'contradictory yet interrelated elements that exist simultaneously and persist over time' (Smith & Lewis, 2011, p. 382), which is the definition of a paradox. This study attempts to answer the following question: how do teams experience and handle the paradox of developmental space

and what effect does that have?

A multiple case study is conducted to answer this research question, interviewing all of the individual team members (N = 70) from 7 successful and 5 unsuccessful teams. Based on a review of the literature, an overview of the ways to handle a paradox is presented linking various studies on paradoxes.

Chapter 6. The final discussion

The final discussion returns to the main research question, reflecting on the four studies employed to answer this question. Theoretical and practical implications are also elaborated upon, before ending with a discussion of the research limitations and directions for future research.

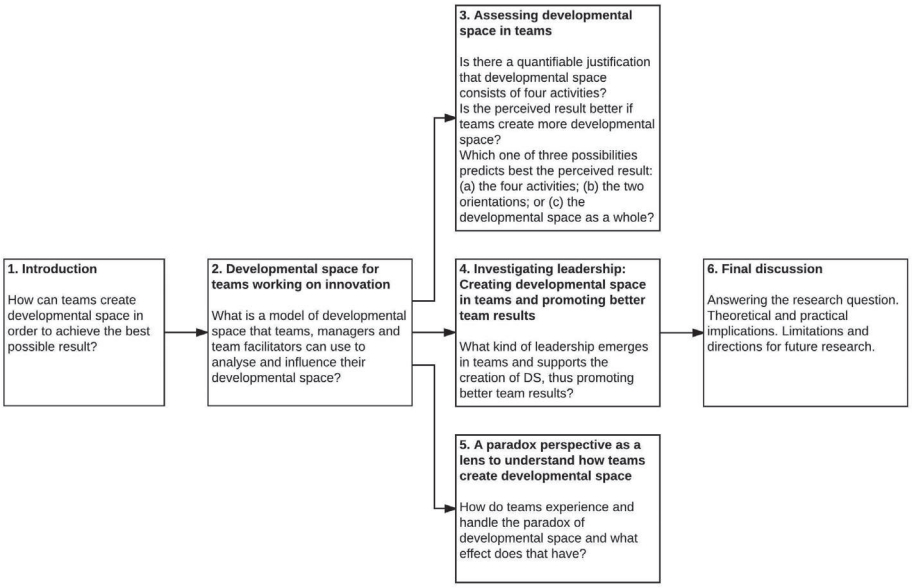


Figure 2. Outline of the dissertation

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2

Teams create developmental space in their interactions

This chapter is based on: Derksen, K., De Caluwé, L. & Simons, R.J. (2011) . Developmental space for groups working on innovation. *Human Resource Development International*, *14*(3), 253-271.

Developmental space for teams working on innovation

In this chapter we redesign the model of (Coenders, 2008) with a developmental research method, because we think that the model is not complete yet and too complex for teams to analyse and influence their developmental space. Our goal is: developing a model of the developmental space as a starting point for teams, managers and team facilitators to analyse and influence that space.

As organizations need to change and innovate rapidly (Drucker, 2001; Harrison & Kessels, 2004; Kessels, 2004; Senge et al., 1999; Wierdsma, 2007), we assume that the work environment should be stimulating and challenging in order to facilitate innovation. This is based on three insights. First the idea of Coenders (2008) and Wenger (1998) that learning cannot be designed. You can design to stimulate, challenge or entice learning, but still the learners learn themselves and they only learn what they want to or can learn. Secondly, it is endorsed by research showing that workers learn mainly in an informal way (Borghans, Golsteyn, & de Grip, 2007; Cross, 2007; Hager & Halliday, 2009; Ruijters, 2007). These authors claim that informal learning itself cannot be designed, but a stimulating and challenging environment to support informal learning can. Last but not least, according to Arets and Heijnen (2008), in most cases environmental factors, and not a lack of competencies, cause performance problems.

As diversity is needed for innovation (Gratton, 2007; Homan, 2005; Kahane, 2010; Wenger, McDermott, & Snyder, 2002) organizations rely more and more on teams. Diversity is needed and at the same time it is difficult to make diversity productive. Edmondson (1999) showed that psychological safety in teams is related to their team learning and their effectiveness. 'Team psychological safety involves but goes beyond interpersonal trust; it describes a team climate characterized by inter-personal trust and mutual respect in which people are comfortable being themselves' (Edmondson, 1999 , p. 354). Gratton (2007) and Kahane (2010) also stress the importance of trust and good relations between team members. In that case people can listen to one another with an open mind and can respect each other's ideas. In contrast to: 'groupthink' of Janis (1972) which is counterproductive and can be harmful as Janis underpins with cases.

According to Coenders (2008) if teams create developmental space they create a climate for innovation. This also seems to be a climate to make team diversity productive. Therefore, we take the model of developmental space of Coenders (2008) (see Figure 1 in chapter 1) as the point of departure. We think, however, that the model of Coenders is not complete yet and too complex for teams, managers and team facilitators to analyse and improve their developmental space.
Our research question therefore is:

> What is a model of developmental space that teams, managers and team facilitators can use to analyse their developmental space (descriptive) and influence that space (prescriptive)?

Our study consists of three phases. In phase 1 our aim is evaluating the Coenders' model. The conclusion is: the model is too complex and not complete yet. In phases 2 and 3 our aim is to design a useful model of the developmental space. Step by step this leads to a redesigned model of developmental space.

The chapter begins with defining the concept of innovation. The other two main concepts, a team and the developmental space of Coenders, are already explained in chapter 1. Next the strengths and weaknesses of Coenders' model are explained. Followed by a description of the research method and findings, including a redesigned model of the developmental space. The chapter ends with conclusions and discussion.

Innovation

In this chapter we define innovation as: developing a new product, process or service for a problem in practice for which existing solutions are insufficient (Kessels, 2004). It refers to new knowledge or new combinations of existing knowledge, with the inclusion of the social process (Clegg, Kornberger, & Pitsis, 2005). It is both the outcome of the process as the process itself. The driving force behind an innovation is not always the same. Two considerations are highlighted: the roles of different stakeholders and the fact that innovation does not happen in a vacuum (Clegg et al., 2005).

An influential 'school of thought' on innovation comes from Mintzberg (2007). He places innovation and innovation strategies on a continuum from planned to emergent and relates this to organization types. Mintzberg describes the adhocracy type as, 'teams of experts working on projects to produce novel outputs, generally in highly dynamic settings' (p. 340). This kind of teams is similar to the teams in this chapter. The suitable innovation strategy according to Mintzberg for the adhocracy is a learning process. For innovations thus complex that the direction and results

cannot completely be foreseen, Boonstra (2008) also recommends a learning process. Gratton (2007) and Kessels (2004) confirm that these innovations can only be realized by creating new knowledge, or by new combinations of knowledge and experience. Kahane (2010) also stresses that these kinds of processes for innovation are an ongoing process of taking steps.

The paradox of innovation is that the new is already known and established, but disguised in new clothes, or if it is really new, it is unrecognizable and beyond the ken of our understanding (Clegg et al., 2005). Pascale (1999) introduced four new principles that can frame the innovation process: (1) equilibrium equals death: innovation pushes away from equilibrium (stability) and increases the necessary variety; (2) self-organization is important: it is a break with the past; (3) you need some foolishness to go in a foolish direction and (4) innovation can be disturbed, but not directed. We build upon these principles.

Research method and findings

Further development of a theoretical model is the main objective of this chapter, and it can best be characterized as developmental research (Gravemeijer, 1998). According to Gravemeijer (1998) in developmental research, theory is developed gradually in an iterative and cumulative way. The theory grows out of the process of designing and testing. It is not research taking the shape of a formative evaluation. 'Instead, developmental research is seen as a form of basic research that lays the foundation for the work of professional developers' (Gravemeijer, 2004, p. 277). According to Gravemeijer (1998) this is part of theory-guided bricolage. A bricoleur uses as much as possible materials that happen to be available and combines different methods in his research (Denzin & Lincoln, 2000). That characterizes our research. Figure 3 shows the steps taken in this chapter. For each phase the research method and findings are described.

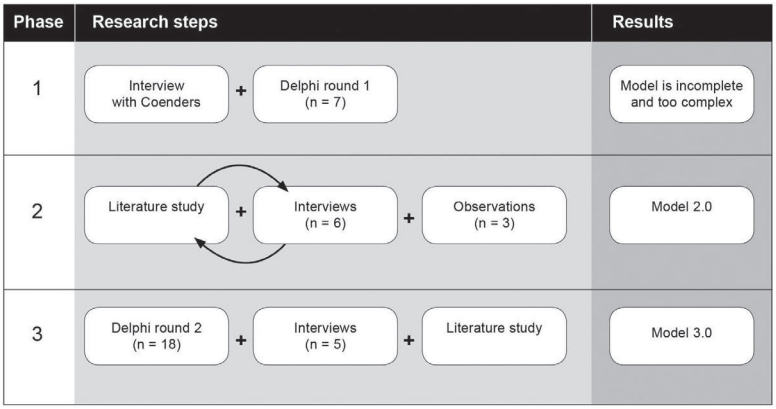

Figure 3. Research steps and results

Phase 1: Evaluating the model of Coenders

Method of Phase 1

The research method in Phase 1 consists of an interview with Coenders and a Delphi study with seven experienced facilitators of innovating teams. We choose a Delphi like method, because we expect that experts, in this case experienced team facilitators, are able to evaluate the model of Coenders. This asks for judgemental information, the primary reason to choose for the Delphi method according to Okoli and Pawlowski (2004). The interview with Coenders is an open interview. The dimensions and the concepts behind the dimensions of his model are explored thoroughly. Questions such as "what do you mean with….", are frequently asked, analysing each of the concepts one by one. Another question is: 'what do you think of the applicability of the model?'

In the Delphi study seven facilitators (n=7) receive an e-mail with the instruction: "While answering the questions keep a team in mind that had, in your opinion, a lot of developmental space". Developmental space is defined for these facilitators as: "a social space existing in the experience of individuals in a team (and the shared experience). This developmental space is needed to realize an innovation with each other in a team". The questions posed are:

1. What kind of a team is it?
2. What is your role in the team (team member, facilitator or other)?
3. What is the innovation the team works on?
4. What does developmental space mean to you?
5. Which factors affect the developmental space?
6. What gives the idea of developmental space?
7. What does the team (and you as facilitator) do to influence this developmental space?

Three respondents answer as team members (self-managing teams) and four as facilitators of a team. Teams vary from a new management team working on becoming a team for organizational change, to an innovating project team working as a think-tank for inventing new hospital care concepts.

Results of Phase 1
Coenders' most important statement: 'The model is not ready to use yet, but I was ready with it.' He chose for a new terminology, because with common terms people easily think they understand what is meant and give their own meaning. Afterwards, Coenders thinks this and the absence of instruments may have inhibited the applicability.

There are no differences between the answers given by respondents as team members and as facilitators. The answers to questions 3 to 6 are compared to the model of Coenders (2008). Words and sentences or parts of sentences are classified into the dimensions of the model and the concepts behind every dimension. The distinction between the dimensions is not very clear to the respondents. Every answer can be classified into one of the four dimensions, but not for every concept behind the dimensions answers are found. Thus, the four dimensions seem to be important, but that seems not the case for all the concepts behind the dimensions. The interaction with the environment seems to be important and is missing in the model. None of the respondents uses the terminology of the dimensions. We conclude that the model is promising but too complex and not yet complete.

Phase 2: First redesign of the model of developmental space

Method of Phase 2
The adjustments to the model of Coenders start with "rapid prototyping" (Visscher-Voerman, 1999), in which literature study and interviews mingle. Five researchers in related research fields such as knowledge productivity, networked learning and learning and power are interviewed, as well as Coenders for a second time. In each of the interviews a new model is presented to the interviewee, taking the previous interviews into account. The main questions are:

- What do you recognize in this model and what not?
- From your research what ideas can you give to improve it?
- Which elements do you recognize, or would you not use, or would you complement?
- What literature can you recommend?

At the end of this phase three observations are conducted to observe the new model in practice. The research questions are:

- Which observations confirm the model?
- Which challenge it?
- What cannot be placed in the model?

Three teams (n=3) in a government agency are observed. Every team consists of six human resource management professionals innovating their own work. Their innovation goal: delivering better work with fewer people. The observations are written down in a scheme with the dimensions: synchronizing, creating future, reflecting, organizing, communicating and interacting with the environment.

Results of phase 2

The first change in the model refers to the addition of a new factor: interaction with the environment and to the extension of the dimension "creating future" by adding value creation to this dimension. In this way the model develops step by step with each interview and by studying the recommended literature. The first interview is conducted with a cloud model (Figure 4), as a result of phase 1. In a cloud model every text cloud is a representation of words that seem important and seem to be linked to each other. The bold words seem most important. The advantage of starting with a cloud model is that it gives room, because it is clear that it is not ready yet.

Figure 4. Cloud model of the developmental space

The results of the observations of the three teams are as follows. Every team produces a solution within five minutes for a problem that has existed for years. After finding the solution they start to plan realization in practice. They hardly ever ask a question and don't look at the problem or solution from different perspectives. Thus, they are focused on creating future and organizing and they neglect reflecting, communicating and the environment. The teams recognize this when it is fed back to them. They confirm that their results will be better if they reflect more, communicate better and focus on the environment. One team member says: "In this way we do not really come up with new ideas that may work".

These three steps together, literature study, the interviews and observations, lead to a new model of the developmental space: model 2.0 (Figure 5).

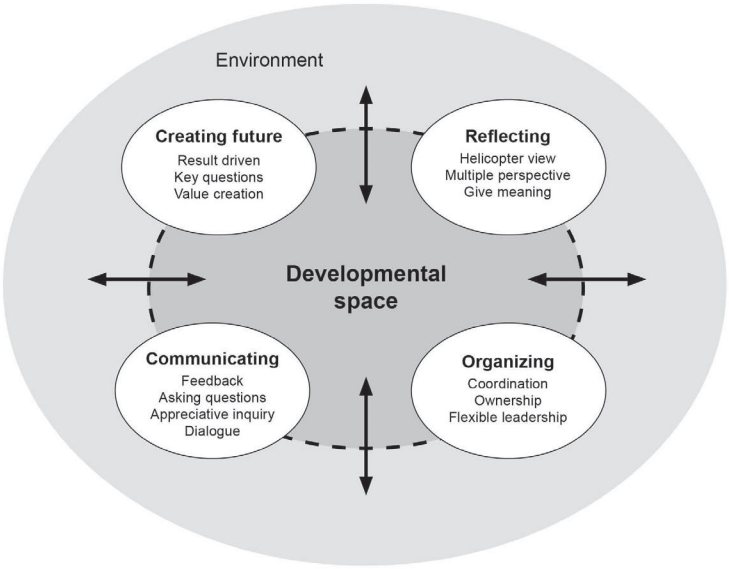

Figure 5. Model 2.0 of the developmental space

Phase 3: Redesign leading to model 3.0 of the developmental space

Method of Phase 3

The purpose of this third phase is to test and refine model 2.0 (Figure 5). Research questions in this phase are:

- Are these the right dimensions of the developmental space for teams working on innovation?
- How clear and meaningful are the dimensions?
- What do colleagues think of the model?
- How does the model relate to similar models in the literature?

We execute a second Delphi like study with 18 participants, five interviews and a further literature study. In the Delphi study the seven experts from the first round and 11 new experts participated. This time we compare extremes (Brinkerhoff, 2002). The instruction for respondents is: 'Answer all the questions twice. Once with a team in mind that was in your opinion successful in its innovation and once with a team in mind that in your opinion was not successful in its innovation.'
This results in 17 successful and 17 unsuccessful teams, because one respondent only answers for a successful team and one other respondent only answers for an unsuccessful team. The questions are:

- Describe the team and its assignment.
- Were you a team member or a facilitator?
- What do you recognize of the dimensions creating future, reflecting, organizing,

communicating and interaction with the environment?
- Which other dimensions do you think determine the developmental space?
- What do you think of this model?
- Are there other reactions you would like to give?

The answers to every dimension of the teams are categorized in: "+" for teams that pay attention to a dimension, with or without help of a facilitator and "–" for teams that hardly pay attention to a dimension. Finally "+" is given whenever a team is in the middle (see Table 1). The following example illustrates the way of scoring the answers for the dimension "reflecting":

- Score +: "It was a continuous process of taking a step back, looking from multiple perspectives and giving meaning together".
- Score -: "This did not work well. The team members did not tell and ask much. The leader was talking most of the time not giving room to others".
- Score ±: "The team reflected well during coaching sessions when they were invited to reflect. But whenever daily tensions and emotions were at hand the team did not reflect at all".

The Delphi study is followed by an interview with five of the 18 respondents. They are interviewed, because of their personal questions or questions arising from their answers. A trigger for an interview was, for instance, a respondent asking: 'How is it possible that my unsuccessful team is far better in two of the five dimensions than my successful team?'

Results of Phase 3

Table 1 *Results of Delphi study 2*

Successful teams																		
Respondent	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Participant/Facilitator	F	T	F	T	F	F	T	F	F		F	T	F	T	F	F	F	T
Creating future	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+
Reflecting	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+
Organizing	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+
Communicating	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+
Interacting with environment	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+
Unsuccessful teams																		
Respondent	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Participant/Facilitator	F	T	F	T	T	T	F		F	T	F	F	F	F	T	T	T	F
Creating future	±	+	±	-	+	-	-		+	+	+	-	±	+	+	+	+	±
Reflecting	-	-	+	-	-	-	±		-	-	±	-	-	-	-	-	-	-
Organizing	+	-	-	-	-	-	-		-	+	-	-	+	-	±	+	+	±
Communicating	+	-	±	-	-	-	-		-	-	+	-	-	-	-	-	±	-
Interacting with environment	+	+	-	-	-	+	-		-	-	-	-	-	±	±	-	-	-

F = facilitator of the team
T= team member of the team

All successful teams pay attention to all the dimensions. At the beginning they often pay less attention to one or two dimensions and with the help of a facilitator they develop this during their assignment. The unsuccessful teams have at least two dimensions that hardly get any attention. So the combination of the five dimensions of the model seems to be important.
We gather the following comments. The dimension 'communicating' can be made more precise, the respondents indicate as crucial: asking questions, dialoguing and appreciative inquiry. The impact of the space given by a principal is mentioned a few times as a missing dimension. Furthermore, the facilitators facilitate most on the reflecting and communicating dimensions.

The reactions on the model by the facilitators are diverse. Some facilitators would like to use the model immediately. Others are looking for an alternative purpose. Others mention: "At last a model that gives support and language to what I do in practice".
The five additional interviews are used to look closer at some dilemmas. For instance, the dimension creating future is paid attention to in all the successful teams, but also in a lot of unsuccessful teams. The difference is that the successful teams seem

to have a shared and realistic view on the future, whereas the unsuccessful teams often have a more fragmented and unrealistic view on the future. One important result from the interviews is that there is a need for better specifications of the dimensions.

After this Delphi study and interviews we refined the model once more (Figure 6). The new model is compared to three relevant similar theories, namely: 'the hot spots' of Gratton (2007), 'Theory U' of Scharmer (2007), and 'power and love' of Kahane (2010). We use three headings for comparison: dimensions, results and principles. The four models all have the same starting point: complex tasks and innovations can best be realized collectively. Comparing the four models makes clear that hot spots and power and love come close to the developmental space. The process and the principles of Theory U are a bit further away. A more precise comparison is given in Table 2.

Table 2 *Model of developmental space compared to three other "models"*

Developmental space	**Hot spots**	**Power & love**	**Theory U**
Activities of the developmental space compared			
Creating future	Catching goal; igniting purpose	Power	Co-creating
Organizing	Productive capacity; boundary spanning	Power	Co-creating and co-evolving
Dialoguing	Cooperation aimed thinking	Love	Co-initiating and co-sensing
Reflecting	Crossing borders; cooperative mindset	Love	Co-presencing
Interacting with environment	Crossing borders	Power and love	Co-sensing and co-evolving
Results compared			
Bigger chance on success in innovation	Flow	One step further; step by step	Emerging future
Principles compared			
Strive for balance	First attention for the relation, later for productivity	Strive for balance by reinforcing the weaker side	Steps that follow one another during time
The team creates	The team creates	The team creates	Facilitator can play an important role
Team arises naturally, or is put together	Team arises naturally, or is put together	Team arises naturally, or is put together	Team arises naturally, or put together.
No separate room to experiment	No separate room to experiment	"Container/Ba" (as room to experiment)	"Ba" (as room to experiment)

The redesigned model of developmental space

The research steps lead to a redesigned model of developmental space as presented in Figure 6. In Delphi study 2 it becomes clear that the concept of developmental space and the activities need a more specific description. The descriptions given hereafter are based on:

- the earlier research by Coenders (2008);
- the outcomes of this research;
- and the literature.

As developmental space is a relatively new concept we sought for support in research on other team concepts. We first define what we mean with developmental space, followed by the four activities and a comparison to other team concepts.

Developmental Space
Is a social and mental space arising from the interactions between team members and the interactions teams have with their environment. It is a dynamic space bound to a certain situation and moment and concerned with movement, interactivity and continuous creation.

Teams create developmental space by undertaking four activities: creating future, reflecting, organizing and dialoguing.

In the optimal developmental space, team members feel free to speak up. They trust each other and dare to put forward different viewpoints. They are able to openly discuss these different, sometimes conflicting, ideas. At the same time, they are focussed on achieving their desired results in time and within their budget.

Teams creating more developmental space will likely perceive better results.

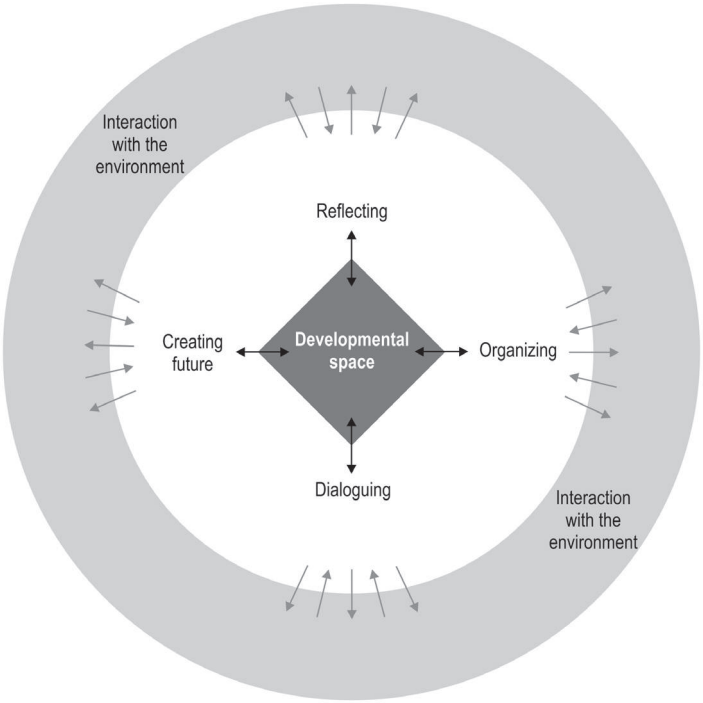

Figure 6. Model of developmental space

The model consists of four activities: creating future, reflecting, organizing and dialoguing. For Coenders (2008) the developmental space consisted of four dimensions expressing the space team members experienced. The developmental space however is not only an experienced space, but also a space team members make themselves in their interactions (Coenders, 2008) and it is a dynamic space (Coenders, 2008). To us the fact that teams make this space in their interactions and thus can influence their developmental space and the dynamics of it seems of such importance that we decided to call the four dimensions activities and choose verbs. Teams that pay attention to all four activities create an environment that increases their chance to be successful in their innovation, as can be concluded from Table 1. This corresponds with the results of Coenders' (2008) study. Besides the four activities there is one other factor influencing the developmental space, interacting with the environment. This factor differs from the other activities, because it is not only undertaken within the team. Think of pressure from stakeholders, limitations from the sponsor, or conflicting political interests. To be successful the team must also interact with their environment. If the team is not, it is for instance almost impossible to create value.

The model consists of two orientations, which Coenders (2008) already mentioned: a performance and sensegiving orientation. The performance orientation, with creating

future and organizing, limits the space. While the sensegiving orientation, with reflecting and dialoguing, stretches the space. These two orientations seem to be diametrically opposites (see Table 3).

Table 3 *The two orientations of developmental space*

Performance orientation	Sensemaking orientation
• Accelerate	• Slow down
• Result-driven	• Postpone the direction
• Focusing	• Broadening
• Giving answers	• Asking questions
• Fixing	• Enquiring
• Looking forward	• Standing still (or looking back)
• Action-oriented	• Thought-oriented

For developmental space as a whole we found the following support: teams perform better if team members actively exchange and discuss information and perspectives (Mesmer-Magnus & DeChurch, 2009; van Knippenberg et al., 2004; Nederveen Pieterse et al., 2013). By doing this they stimulate one another's divergent thinking and they combine individual ideas into collective novel outputs (Harvey & Kou, 2013). To realise this, every team member needs to have an equal voice (Vangen & Huxham, 2003) and to feel free to take risks and explore non-routine alternatives (Edmondson, 1999). A climate of trust and mutual respect is needed (Edmondson, 1999; Gong et al., 2013; Gratton, 2007; Kahane, 2010). However, creating a climate of trust is delicate; when the level of trust is too high, team members are not critical enough any more and tend to reject deviant opinions and resist change in order to maintain harmony within the team (Tsai et al., 2011). There is a risk of 'groupthink' (Janis, 1972). Creating developmental space leads to a climate of trust and provides the space and possibility for discussing conflicting viewpoints.

The four activities of the developmental space

Creating future

The team focus can be given by an inspiring opinion (Gratton, 2007) or an urgent and intriguing question (Verdonschot, 2009) or a described output result, leaving room for interpretation (Vandendriessche & Clement, 2006). Tolerance of uncertainty (Bolhuis, 2009) may influence a team's preference on the exactness of their focus. It also may be crucial for the sponsor and the team members to find just the right challenge (see: Vermunt, 1996; Vygotsky, 1978), not too difficult and not too easy. It is also about creating value for the team members themselves (Gratton, 2007; Wenger et al., 2002), the organization, and the society. Thus "creating future" automatically leads to interaction with the environment as the team needs to know what the environment is waiting for.

Reflecting

A common description for reflection is: coming to a halt and examining why something was started and what was intended (Kessels, Boers, & Mostert, 2002; Leijen, 2008; Schön, 1983). For the developmental space, needed for innovation and thus creating knowledge, reflection is also about what Leyen (2008) calls connecting theory and practice by judging concepts in practice (determinative judgement) and testing one's experience on concepts (reflective judgement). Joint reflection is needed for making implicit knowledge and experience explicit (Van Woerkom, 2004) and to decrease the chance of misconceptions and prejudice (Marsick, Watkins, Callahan, & Volpe, 1990). Finally, it also means searching for alternatives. According to Van Es (2008) this is crucial for innovation. This is not easy, because it asks for a process of deconstruction and construction and not getting attached to results (Bolhuis & Simons, 1999; Coenders, 2008; Kahane, 2010).

Organizing

Teams want, and need, to realize a result within limited time and resources. This requires organizing the cooperation and starts with making agreements about who joins the team, who is doing what, when, and in which way, etc. (Vroemen, 2009). Sometimes this leads to a project plan. According to Mintzberg (2007) in an adhocracy plans should be flexible and leading to strategic learning. Innovating teams tend to look like an adhocracy (Coenders, 2008) 'teams of experts working on projects to produce novel outputs' (Mintzberg, 2007, p. 342). Finally, organizing is also about feeling responsible for and ownership of the intended innovation as a team member.

Dialoguing

As Kessels et al. (2002) state, a dialogue has three characteristics: 1. searching for reasons, views, beliefs and standards; 2. postponing solutions and decisions; and 3. being open to and appreciating the differences of others. Dialoguing is a space-creating way of communicating and needed to make diversity productive (Chrislip, 2002). It creates room for others to tell their stories, their motives, beliefs and room for oneself, by postponing one's own opinions and judgments. In dialogue, teams create shared meaning and this is crucial for innovation (Bolhuis, 2009; Boonstra & De Caluwé, 2007; Homan, 2005). The starting point for the dialogue to innovate is looking for what there already is: in other words, appreciative inquiry (Cooperrider, Whitney, & Stavros, 2008). Dialoguing asks for vulnerability and learning behaviour and is not common. Nowadays discussion is more common. According to Bolhuis (2009) a high tolerance for uncertainty is related to dialogue.

Why would one need another concept, as there are already so many concepts on teams and team work? As already mentioned teams struggle to outperform individuals. Therefore researchers, organizations and teams search diligently for theories and models that will help them to explain teamwork and achieve better results as teams (Marks, Mathieu, & Zaccaro, 2001). With the model of developmental space we try

to contribute to that quest. We compare the model of developmental space once more to other somewhat similar team concepts to give insight in where the model seems similar and where it may add value (Table 4)

Table 4 *An overview of how developmental space relates to other team concepts*

Concept/theory	Description	The overlap with developmental space	How this differs from developmental space
Team spirit	'Immanent to the team, resulting from its dynamics and expressed in this overarching commitment'. (Silva et al., 2013, p. 2)	Teams have to deal with paradoxes. Team spirit is inter-subjective and shared. Synthesis of individual and collective needs, preventing the team from dominating individuals.	Giving insight that teams have to deal with paradoxes and stop themselves from dominating individuals, but no practical implications are given on how to do it.
Team roles	Teams need 9 roles to be effective (co-ordinator, implementer, completer/finisher, monitor/evaluator, plant, resource investigator, shaper, team worker) (Belbin, 2010)	Teams need different roles, resembling different activities, to be effective.	The focus is on individual contributions instead of on the interactions within the team and the environment.
Team effectiveness	To what output does a certain kind of input lead? Based on Input-Process-Output (I-P-O) framework (Hackman & Morris, 1975; Kozlowski & Bell, 2003)	The team process influences the effectiveness.	Focus on input, throughput and output instead of on the team process (Antoni & Hertel, 2009).
Team learning	'A relatively permanent change in the team's collective level of knowledge and skill produced by the shared experience of the team members.' (Ellis et al., 2003, p. 822)	Sharing information and interaction are crucial. The processes are: framing, reframing, experimenting, crossing boundaries, integrating perspectives (Kasl, 1997).	The focus is on learning instead of on the outcomes and the process.
Team interaction model	There are four interaction team processes: exchanging information, learning, motivating and negotiating (Offenbeek & Koopman, 1996)	Four interactions. The interactions positively relate to the effectiveness (Drach-Zahavy & Somech, 2001).	The concept of team interaction is more abstract and relies on the preconditions necessary for effective team operation, rather than on direct actions.

Conclusions and discussion

First we answer the descriptive part of the research question: what is a model of developmental space that teams, managers and team facilitators can use to analyse that space? This is our redesigned model of developmental space. This model still comes close to the model of Coenders (2008). We changed the terminology into more common language, simplified the interpretation of the dimensions by bringing them back to their essence and calling it activities and we added the interaction with the environment. The model is now recognized and understood by many teams, managers and team facilitators. We doubt, however, if this is enough for

analysing the developmental space by teams, managers and team facilitators. A question for further research is: 'What instrument can help teams, managers and team facilitators to analyse the developmental space?' Analysing the developmental space may imply measuring the four activities, but this is problematic. For instance, dialoguing: When do you need to dialogue, at what time in the process, how much and with what quality, etc.? It is also difficult to measure because it concerns an experienced space. An experiment in teams, using statements for every activity and a five-point Likert scale, already shows that individuals in a team value the activities differently. But when they discuss their scores, they come up with the same examples to underpin their scores and subsequently they easily reach a shared idea about the developmental space of the team. Analysing in this way especially appeals to the activities: reflecting and dialoguing. Analysing the developmental space as a team requires developmental space! So maybe an instrument should incorporate all the four activities.

The second part of the research question: what is a model of developmental space that teams and facilitators can use to influence their space? The current findings from the second Delphi study imply that teams at least need to pay attention to all the activities to be successful. This matches the idea of Coenders (2008) that the four activities need to be in balance. This looks like Kahane's (2010) balance between 'power and love', and De Caluwé and Vermaak (2003) stating that innovating teams need to focus on the product and process at the same time. Bringing the activities into balance is difficult. People are used to think in contradictions or in choosing between alternatives, but here we have to avoid thinking in good or bad or in either…. or….. It is having both (Kahane, 2010; Quinn, 2004); too much of one side leads to a problem on the other side (see Ofman, 2001). Balance also seems to indicate that one can measure the activities and the team needs a shared idea about the developmental space; the difficulty with both is already discussed. Finally, it is difficult because looking at the activities separately contradicts the idea of balance, by means of which you look at the activities as a whole.

The way a team handles the tensions between the activities may give a better insight into how they handle the balance. This is similar to coping with paradoxes. A paradox consists of two contradictory statements, each of which is defendable and good. Coping with paradoxes asks for recognizing the paradox, considering the advantages and disadvantages of choosing one position and choosing actions for each context or case based on the considerations. The paradox is always present (see Hoebeke, 2004). Balance means the creation of tensions and the creation of variety in order to move. It is opposite to the term: equilibrium, which implies a stable, non-moving state, in which every part fits into other parts like a puzzle (see Pascale, 1999).
A fundamental paradox of the developmental space is: limiting or amplifying the space at the same time or reciprocally. Homan (2005) states that an unlimited space leads to uncertainty and losing one's way and the disappearance of change energy. On the other hand, too limited a space will frustrate the team and also lead to a low

level of energy. It is a challenge to create the "optimal" space as a team. Interesting questions for future research are: 'how successful and unsuccessful teams cope with the paradox between the performance and sensemaking orientation' and 'what is the optimal space for an innovating team?' This is further elaborated in chapter 5.

Discussing the redesigned model of developmental

Reflecting and dialoguing seem to be similar concepts. Bolhuis (2009) states that dialogue is needed for reflection. Still, for the developmental space, dialogue and reflection are distinguished, because they are both crucial for this space. Reflecting stands for 'what', looking from a distance and from multiple perspectives. Dialoguing gives more the 'how', the method for acting by asking questions in an appreciative, inquiring way. Creating future is also more about the 'what', a key question, opinion or result and organizing is more the 'how', coordination and distributed leadership. The redesigned model, as is Coenders' (2008) model, consists of four activities and two orientations. A question comes up: does the model really consist of four activities or only of two? The model may not suggest the idea of two axes. Finally, a few more questions remain unanswered. 'How can the interaction with the environment be embedded in the model?' We think that the team also needs to balance the four activities in their interaction with the environment. Probably power plays a role in the interaction with the environment. So, a question may be: 'how does power inside and outside the team influence the developmental space?' A final question for managers and team facilitators may be: 'how can they facilitate teams in analysing and influencing the team's developmental space?'

Discussing the methodology

Our methodology, a developmental research, as part of theory guided bricolage suits the goal: creating an applicable model of developmental space for innovating teams, managers and team facilitators. It is consistent with the earlier research of Coenders (2008). With a goal to innovate the model of developmental space, we need developmental space ourselves. Consistent with this we used interviews and Delphi studies as knowledge-creating methods. This may have been stronger if we also had used team interventions.

Team members and facilitators who work on innovation play a key role in the research, because the model is meant to help them. In our research participants are all high-educated and experienced facilitators. In Coenders' (2008) research all participants are also high-educated. In future research less educated team members should be involved, who lack facilitating experience.

In the second Delphi study the questions are suggestive, 'what do you recognize of the dimension…?' This has been chosen because we searched for specific feedback on the redesigned model and it seems justifiable because of all the earlier research: Coenders' thorough research in combination with our research steps. We try to avoid a blind spot by also asking if there are other dimensions determining the

developmental space, what the respondents think of the model and if there are other reactions they would like to give. This minimizes the risk of getting only desired answers.

In the second Delphi study the respondents select a successful and unsuccessful team. They do this without specific criteria. So it is their subjective opinion, certainly taking into account that, by judging the developmental space of a team, they are judging themselves too in a way. Still, the respondents give answers for a successful and an unsuccessful team. In the answers for unsuccessful teams the answers given by facilitators (F) are just a little more positive compared to the answers given by team members (P). Future research will gain strength by defining success.

Implications for practice

The outcome of this study, in line with Coenders (2008), makes it clear that teams, managers and team facilitators of innovating teams should take care that all four activities of the developmental space get attention. This means that teams, managers and team facilitators should be able to recognize the activities during the process. How much and at what moments the activities are needed exactly is still unanswered. In the cases studied all the teams almost automatically pay attention to the activities -creating future and organizing. Maybe this is inherent to our action-oriented organization culture (Quinn, 2004). The facilitators in the second Delphi study answer that they facilitate most of the time on dialoguing and reflecting. Thus it seems that managers and team facilitators should at least be good at that.

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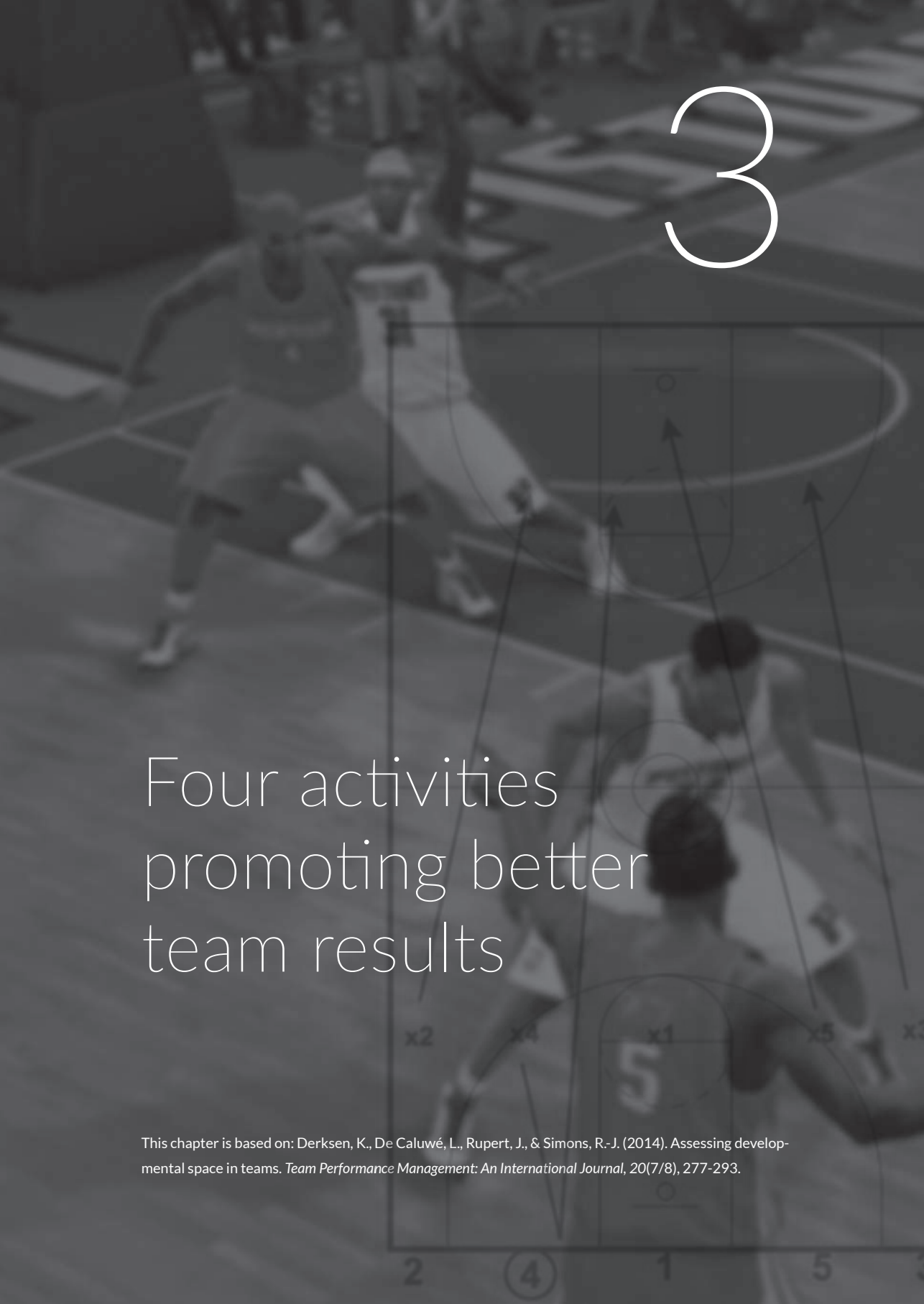

3

Four activities promoting better team results

This chapter is based on: Derksen, K., De Caluwé, L., Rupert, J., & Simons, R.-J. (2014). Assessing developmental space in teams. *Team Performance Management: An International Journal, 20*(7/8), 277-293.

Assessing developmental space in teams

In the previous chapters it seems that teams creating more developmental space will perceive better results (Coenders, 2008; Derksen, De Caluwé, & Simons, 2011). It is however, not quite clear what creating more developmental space means. Furthermore, until now the concept of developmental space has only been studied qualitatively. In this chapter we expand that previous research in three ways. First, we develop an instrument to assess developmental space quantitatively. Secondly, we examine the relationship between developmental space and satisfaction with the team result. Finally, we assess which of the three models -the four activities, the two orientations or the developmental space as a whole- best predicts the perceived results.
The main concepts, teams, the developmental space, and the four activities, are already explained in chapter 1 and chapter 2.

Our research questions in this chapter are:

1. Is there a quantifiable justification that developmental space consists of four activities?
2. Is the perceived result better if teams create more developmental space?
3. Which one of three possibilities best predicts the perceived result: (a) the four activities; (b) the two orientations; or (c) the developmental space as a whole?

Methodology

To answer our research questions we developed an instrument to assess developmental space and tested the relationship between creating developmental space and the satisfaction of team members with the team result.

Method

Sample and procedure

As this was the first quantitative study on developmental space, we developed an instrument for this concept. We focused on finding enough individuals to complete our questionnaire and therefore chose the snowball sampling technique (Goodman, 1961). This meant we sent an online questionnaire to people within our network with the request to redistribute the questionnaire within their network. This led to a random sample of 265 individuals. We decided to remove questionnaires from individuals who filled it out for teams with more than 20 team members. This resulted in a sample of 257 individuals (N=257).

The participants filled in the online questionnaire and were instructed to answer the questions for a work situation involving a team (this could be a regular team, a project team, an occasional team, etc.) wherein they worked together with the team on a complex question, an improvement or a renovation. The specifications of the sample are shown in Table 5. As participants were asked to fill in the questionnaire with a certain team in mind, we also asked some general questions about the team, including size, whether or not there was a leader and the team assignment (see Table 6).

Table 5 *The characteristics of the sample*

Sample characteristics				
Gender	53% Female	47% Male		
Age	22-70 Years		46,89 Mean	9,56 SD
Education	98% High (bachelor and MSc)	2% Lower		
Role	59% Leader	41% Team member		

Table 6 *The characteristics of the teams*

Team characteristics				
Teamsize	2 -20 Team members		7,19 Mean	3,69 SD
Leadership	89% Team leader	11% Shared leadership		
Team task	40% Complex task	24 % Renovation	36% Innovation	

Scale development procedure and validation

As this was the first quantitative study on developmental space, we developed an instrument to assess it. We developed the scale in an iterative way (Figure 7). For testing the prototype scales we used small random populations (N>60). During the test, participants got the same instruction before filling in the questionnaire as with the final instrument. The first time, we reviewed the outcomes with three experienced scientific scale developers. In the first round we formulated five items per activity. For the second round, we extended the scale to 10 items per activity.

After the second testing round, we reviewed the outcomes with five team research experts. We chose these experts because they were able to assess the items critically, based on their research experience with teams. After the last test round, we chose three experts and five non-experts from our own network who reviewed the items to make sure all items were intelligible and clear. This led to some last slight adjustments. After these 10 steps our sample of 257 new respondents, who did not take part in the test rounds, filled out the questionnaire.

The final questionnaire contained 53 items on a 1–5 Likert scale. These were 40 items about the four activities of the developmental space, 10 per activity (see Table 7 for the final instrument following the factor analysis), and 13 control variables such as age, gender, team role, etc. The items were randomly mixed up in the questionnaire.

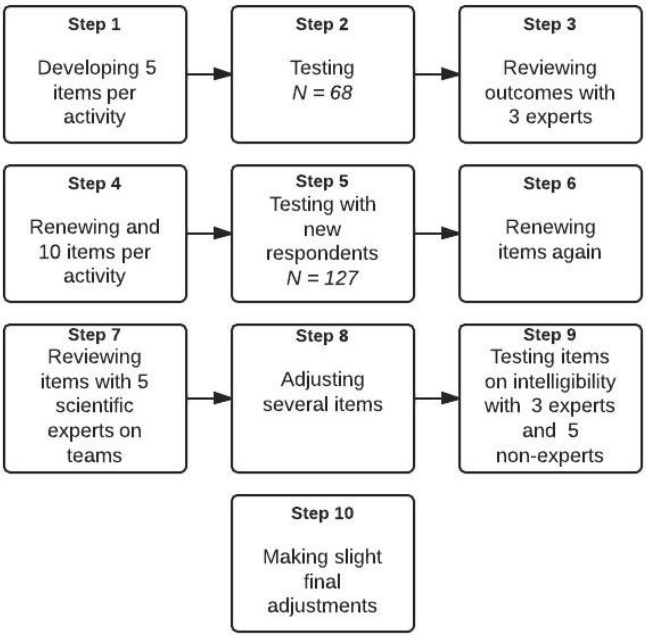

Figure 7. The scale development procedure

Construct validation and measures

To validate the assumed four-factor structure of developmental space, a principal component factor analysis was conducted. As the different activities of developmental space are assumed to be correlated, the oblique direct oblimin rotation technique is used (Gorsuch, 1983). Four criteria were used to assess the reliability and internal consistency of the scales (Hartog, Muijen, & Koopman, 1997; Schippers, Den Hartog, & Koopman, 2007). First, Cronbach's alphas needed to be above 0.70 (Nunnally, 1967); second, the factor loadings needed to be above 0.40 (Lindeman, Merenda, & Gold, 1980); third, the difference between factor loadings needed to be above 0.20; and fourth, the item-rest correlations needed to be above 0.20 (Kline, 1986). Only five items for each activity met all criteria (see Table 7 for the final instrument items). The internal consistency was good with Cronbach's alphas for: dialoguing α=0.85; creating future α=0.83; organising α=0.80; reflecting α=0.70; for all 20 items α=0.89; and for the two orientations, sensemaking α=0.84 and performance α=0.85. These validated scales were used to answer the research questions. The measure for the 'perceived result' consisted of the outcome on one item ('We achieved a good result').

To answer our research questions we created six variables – developmental space as a whole, consisting of the mean score of the four activities, and for the two orientations we used the mean scores of creating future and organising (performance orientation), and the mean of dialoguing and reflecting (sensemaking orientation). Additionally, we calculated means for each of the four separate activities.

Table 7 *Factor analysis of the construct of developmental space*

Pattern Matrix

	Items	Dialoguing	Organising	Reflecting	Creating future
1. Dialoguing	We listened to every team member	**0.70**	0.03	-0.08	-0.04
2. Dialoguing	I felt appreciated for my input	**0.72**	-0.03	-0.04	-0.23
3. Dialoguing	We appreciated differences	**0.68**	-0.02	0.06	-0.22
4. Dialoguing	I felt heard	**0.72**	0.17	0.10	-0.08
5. Dialoguing	I felt invited to give input	**0.72**	0.10	0.21	0.11
1. Reflecting	We left paved paths	0.20	-0.09	**0.68**	-0.07
2. Reflecting	We invented alternatives	0.15	-0.04	**0.61**	-0.09
3. Reflecting	We evaluated our collaboration	-0.17	0.11	**0.71**	-0.08
4. Reflecting	Conflicts were helpful	-0.09	0.08	**0.72**	-0.02
5. Reflecting	We discussed in order to reach solutions	0.33	0.04	**0.40**	-0.07
1. Organising	Our meeting was structured	0.03	**0.72**	-0.06	-0.01
2. Organising	We guarded our resources (money, etc.)	-0.02	**0.81**	-0.01	-0.08
3. Organising	We guarded our time	0.05	**0.88**	0.06	0.17
4. Organising	We kept ourselves to our planning	-0.09	**0.68**	0.01	-0.17
5. Organising	I knew exactly what the team expected from me	0.23	**0.49**	0.03	-0.06
1. Creating future	We had a goal in mind	0.07	0.12	0.05	**-0.58**
2. Creating future	We were focused on the result	-0.18	0.19	0.06	**-0.74**
3. Creating future	All members felt responsible for the result	0.11	-0.07	-0.02	**-0.82**
4. Creating future	All members stood behind the result	0.22	0.07	-0.04	**-0.62**
5. Creating future	All members worked with heart and soul on the job	0.10	-0.11	0.11	**-0.75**

Extraction Method: Principal Component Analysis
Rotation Method: Oblimin with Kaiser Normalisation.
a Rotation converged in 8 iterations
Bold figures are the factor loadings ≥0.4

Results

We would like to specify that our quantitative analyses are exploratory in nature, we did not formulate specific hypotheses. We aim to provide initial empirical evidence on the concept of developmental space in teams.
Table 8 shows the means, standard deviations, and correlations for the key variables used. All variables used correlate significantly ($p<0.01$) with each other. From the four activities, creating future and dialoguing correlate most ($r=0.63$) with each other and reflecting and organising least ($r=0.29$). Creating future (0.63) and dialoguing (0.62) correlated most closely with the perceived result. Both orientations correlate highly with the perceived result (≥0.62), but developmental space as a whole correlates most with the perceived result (0.70). All correlations are high, partly because both orientations include two of the four activities. To be able to answer our third research question, we decided to include all these variables despite the possible distortion of correlations.

Table 8 *Summary of intercorrelations, means and standard deviations for the key variables*

Variable	M	SD	1	2	3	4	5	6	7	8
1. Perceived result	4.01	0.98								
2. Dialoguing	4.14	0.72	0.62**							
3. Reflecting	3.51	0.63	0.46**	0.51**						
4. Organising	3.55	0.75	0.43**	0.35**	0.29**					
5. Creating future	4.00	0.77	0.63**	0.63**	0.45**	0.48**				
6. Developmental space	3.80	0.55	0.70**	0.81**	0.71**	0.71**	0.85**			
7. Sensemaking orientation	3.82	0.59	0.63**	0.89**	0.85**	0.37**	0.63**	0.88**		
8. Performance orientation	3.77	0.65	0.62**	0.57**	0.43**	0.86**	0.87**	0.90**	0.58**	

Note. N=257
**p<0.01 (2-tailed)

Research question 1: Does the developmental space consist of four activities?

To test this, we conducted a factor analysis. The factor analysis validated the four-factor structure and thus supported significantly that developmental space consists of four activities (see Table 7). With the two orientations in mind we also tested a two-factor solution, but were not able to find a solution meeting all the aforementioned criteria.

Research question 2: Is the perceived result better if teams create more developmental space?

To answer this second question a regression analysis was conducted with the perceived result as the dependent variable and the mean of the four activities, in other words the size of developmental space, as the independent variable.
This revealed a positive and significant association (β=0.70, p<0.001, R^2=0.49)
Thus, team members in the teams that created more developmental space were more satisfied with their results.

Research question 3: What predicts the perceived result best?

In order to answer, whether the four activities, the two orientations or the developmental space as a whole best predict the result, we conducted four multiple regession analyses.

First, the four activities as independent variables explained 50% of the variance in the perceived result (R^2=0.50, p<0.001). All four activities made a statistically significant contribution to the prediction of the perceived result: dialoguing (β=0.31, p<0.001); creating future (β=0.32, p<0.001); reflecting (β=0.13, p<0.001); and organising (β=0.13, p<0.001).

Second, the performance orientation and sensemaking orientation as independent variables explained 49% (p<0.001) of the variance. Both orientations contributed significantly to the perceived result (performance orientation β=0.38, p<0.001; sensemaking orientation β=0.41, p<0.001).

Third, to find out if the orientations interact with each other, another multiple regression analysis was conducted with the main effects of the two orientations and the product of the two orientations added, after centering the main variables (Aiken & West, 1991). All three independent variables contributed significantly to the perceived result: the performance orientation (β=0.38, p<0.001), the sensemaking orientation (β=0.37, p<0.001) and the product of the two orientations (β=−0.14, p<0.005). The interaction plot (Figure 8) confirmed both orientations contributed positively and independently to the perceived result. The interaction consists of a relative improvement in the team result associated with a higher performance orientation that is higher when the sensemaking orientation is low than when it is high. However, the perceived team result was still best when both orientations were perceived as high.

Fourth, as already mentioned, a regression analysis with the developmental space as a whole, in other words the size of the developmental space, as independent variable revealed a positive association (β=0.69, p<0.001, R^2=0.50).
Thus all three models - a combination of the four activities, the two orientations and the developmental space as a whole - explained (almost) 50% of the variance in the perceived result. The correlations (table 8) indicate that the developmental

space as a whole correlated most closely with the perceived result (r=0.70, p<0.01).

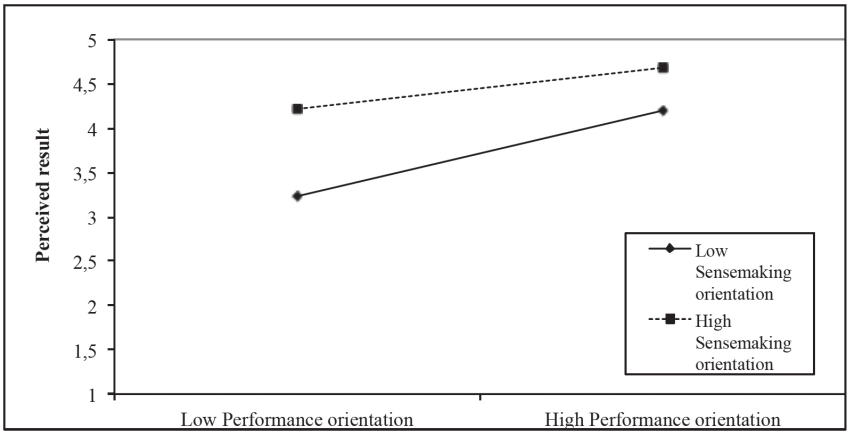

Figure 8. Interaction between the two orientations: performance and sensemaking orientation.

Discussion

This study provides a first quantitative exploration of the developmental space concept. We developed an instrument to empirically assess developmental space. The factor analysis confirmed the existence of the assumed four-factor structure of developmental space. Additionally, we found support for the expectation that there is a positive relation between the extent to which teams practise these four activities and their perceived outcomes. Earlier qualitative research on developmental space by Coenders (2008) and Derksen et al. (2011) was endorsed and extended with this study.

Whether the four activities, the two orientations or developmental space as a whole contribute most to the perceived result cannot be unequivocally answered. Our analyses indicate that almost 50% of the variance in the perceived result was explained by all three models: the four activities, developmental space as a whole, and the two orientations. Developmental space as a whole correlated most closely with the perceived result. We therefore conclude that developmental space as a whole, in other words the size of the developmental space, is the best concept for predicting team results. However, more research is needed to gain better insight into this.

Future research suggestions

The research advantages of an instrument

The instrument we developed and validated enlarges future research possibilities to further assess developmental space quantitatively. Possible questions for future research are: how does developmental space develop over time within teams; is developmental space a relatively stable team feature or is it very dynamic; how does developmental space differ according to the team's purpose; to what extent do changes in the context and environmental changes influence the developmental space; and how does team composition influence developmental space?

The role of leadership

Leadership may play a role in creating developmental space and handling paradoxes. Leaders can make others speechless (Tost, Gino, & Larrick, 2012), meaning that leaders use their power to prevent team members from having an equal voice. Most teams in this research (88%) had a leader. Derksen et al. (2011) hypothesise that shared leadership might stimulate creating developmental space but did not further examine that idea. It would be interesting to find out what the influence is of (shared) leadership on developmental space.

The developmental space paradox

Developmental space might imply a paradox consisting of the sensemaking and performance orientation. As mentioned already, a paradox consists of two contradictory elements, which are nevertheless both necessary for success (M. Lewis, W., 2000; W. K. Smith & Lewis, 2011). Based on the data in this study, we were not able to confirm that teams indeed experience this developmental space paradox. This might be partly due to the quantitative nature of our data. Researching an intangible phenomenon such as paradoxes is difficult, as Lewis (2000) delineated. New research approaches will be needed to research paradoxes in more depth, because our main research approaches oversimplify and over-rationalise complex phenomena (Lewis, 2000). Based on the data in this study, it is questionable whether it is possible to find quantitative support for both characteristics of a paradox at the same time. For the first characteristic, needing both, meaning there should be no interaction effect; both orientations need to be high in relation to the perceived result. We found confirmation for that (see Figure 8). For the second characteristic, if teams experience a tension, because they perceive the two orientations as contradictory and mutually exclusive, it was not possible to extract this from the data.

As a first exploration of our idea on the developmental space paradox we interviewed the team members of two teams. We selected two teams using the success case method (Brinkerhoff, 2002); that is, we selected a team that created almost maximum developmental space (successful team) and a team creating very little developmental space (unsuccessful team). We asked the members, among other questions, what they experienced as difficult moments in their team. From the successful team all

four team members mentioned the tension between the two orientations. From the unsuccessful team only one member mentioned this. When we asked the successful team what helped them most to be successful, all four team members mentioned dialoguing and discussing the tension. For instance, one team member said, 'There were moments that I wanted to explore something more in detail, but two other team members questioned the value of that. We had tough discussions about this, but always agreed on what was best. We alternated speeding up and focusing with slowing down and broadening'. When we asked the unsuccessful team what might have helped them to be successful, three team members mentioned more discussion of the tension between the two orientations. The informal leader said: 'I experienced a lot of time pressure and wanted to move on, if we had questioned the way we were working more often we would probably have reached a more satisfying result in less time'. If there is indeed a developmental space paradox then how teams experience and handle this might be crucial in creating developmental space. This first exploration indicates that a combination of quantitative and qualitative research offers promise. Further research is needed to find out whether the developmental space paradox exists, how team members handle this paradox, and if and how handling this paradox influences the team result.

Limitations

A limitation of this research is that we only had one outcome measure: team members' satisfaction with the team result, consisting of only one item. Future research should include more team outcome measures and use more items to assess them properly. Moreover, the question arises whether the perceived result is a proper predictor of the objective outcome of the team LePine et al. (2008). confirm that objective team performance and member satisfaction are indeed positively and significantly associated. Thus, the perceived result might be a good predictor of the actual result achieved. Additionally, the fact that every respondent answered the questions about the developmental space and the question about perceived result might have led to a common method bias. Therefore, for future research we recommend collecting objective team outcomes as well, or collecting supervisor or client ratings.

The data we used were from individuals in teams and did not include ratings of complete teams. For this first quantitative study we chose this approach because we wanted a big number of participants in order to develop the instrument, and we had no plans at this point to run analyses on teams. By using the snowball sampling technique we were able to collect 257 responses, but the disadvantage is that we did not gain insight into where the responses came from. We gained general information on the teams, but not on their organisation and environment, nor on ratings of other team members. We recommend replicating this study using data from whole teams and gaining more specific information on the organisation, the purpose and assignment of the team and their environment. Data from whole teams could be useful, because team members might experience the developmental space differently

and may have either a preference for or an aversion to one or more of the four activities.

Antoni and Hertel (2009) delineate a valuable overview of and framework for all the variables influencing the effectiveness of teams. Taking all these variables into account within one research study seems impossible. Thus, every research applies part of the framework. We only focus on the team process, more specifically on the interactions – a mediating variable, according to Antoni and Hertel (2009) – and on handling paradoxes. The question rises as to whether we ever gain real insight into teamwork if we keep studying it in bits and pieces, but do we have any other options?

Practical implications

The results of this study indicate that team members are more satisfied with their results, if they create more developmental space. The instrument that we developed can give teams insight into their own developmental space. The concept is practical because it focuses on activities. Teams can use the developed instrument to gain insight into their developmental space in order to be able to retain or improve it. Answering the questions from the instrument does not take much time, because it is only five items per four activities. The instrument thereby provides teams with an easy-to-use evaluation tool. As it is easy to use, teams might even choose to use the instrument frequently and by doing so constantly improve their developmental space. As organisations increasingly rely on teams to fulfil complex tasks and teams often struggle to make their diversity productive to achieve the best team result, this instrument might be helpful. If this is indeed the case, it merits further research.

Conclusion

This study investigated the developmental space. It is a relatively new concept, assuming that teams work more successfully on a complex task, renovation or innovation if they create more developmental space during their collaboration. Teams create this space in their interaction by undertaking four activities: creating future, organising, reflecting and dialoguing. Hitherto there has only been qualitative research available on developmental space. With this first quantitative study an instrument was designed and validated to assess developmental space. Multiple regression analyses supported the earlier qualitative research by Coenders (2008) and Derksen et al (2011). Teams that created more developmental space were indeed more satisfied with their results. The instrument developed aims to contribute to future research on developmental space and provides an evaluation instrument to allow teams to gain insight into their developmental space and improve it if needed.

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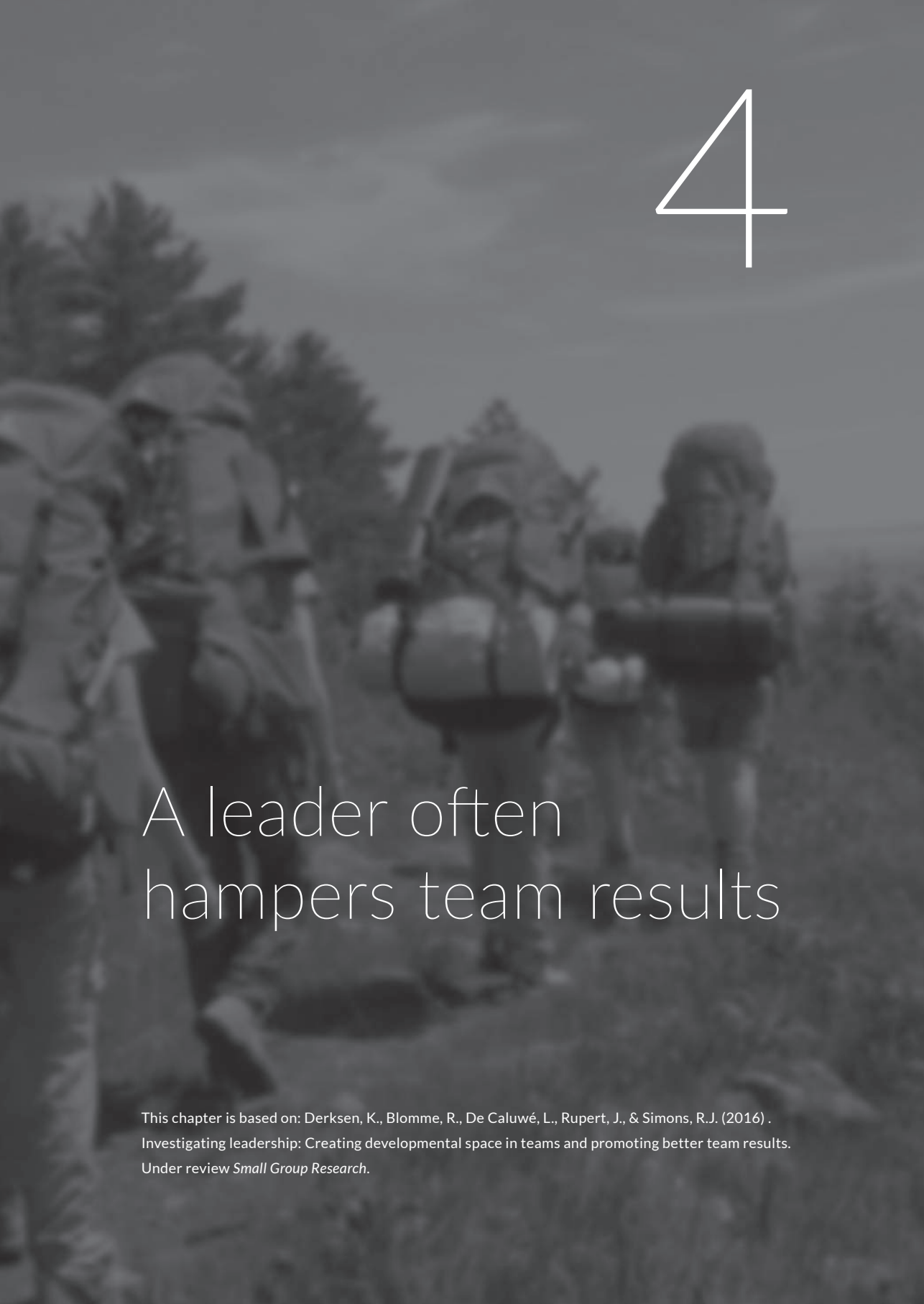


4

A leader often hampers team results

This chapter is based on: Derksen, K., Blomme, R., De Caluwé, L., Rupert, J., & Simons, R.J. (2016) . Investigating leadership: Creating developmental space in teams and promoting better team results. Under review *Small Group Research*.

Investigating leadership: Creating developmental space in teams and promoting better team results

In the studies so far on developmental space (Coenders, 2008; Derksen, De Caluwé, & Simons, 2011), the role of leadership has not yet been taken into account, although in the literature leadership is regarded as a crucial factor to team success (Carson, Tesluk, & Marrone, 2007; Edmondson, 1999; Hoch & Morgeson, 2014; Kozlowski, Gully, Salas, & Cannon-Bowers, 1996; Sarin & McDermott, 2003; Yukl, 2013; Zaccaro, Rittman, & Marks, 2001). Derksen et al. (2011) hypothesise that shared leadership may be the most supportive for creating developmental space, and thus for promoting better team results, but they did not conduct further research on this topic. Our research question in this chapter therefore is the following:

> What kind of leadership emerges in teams and supports the creation of developmental space, thus promoting better team results? This is illustrated in Figure 9.

To answer our research question, a multiple case study (n=10 teams) and a field experiment (n=6 teams) are conducted.

The explorative study in this chapter makes several contributions. First, it contributes to a growing need signalled by Dionne et al. (2004, p. 177) to learn how teams can achieve a more effective performance. Secondly, to improve our understanding of this issue, the study combines leadership theories with theories about teams. Thirdly, it builds upon and extends earlier research on developmental space (Coenders, 2008; Derksen, De Caluwé, Rupert, & Simons, 2014; Derksen et al., 2011). The chapter also gives practical insights for teams, leaders and team facilitators into the way in which they can achieve a more effective performance. Furthermore, it extends the literature on leadership emergence. Finally, our study is expected to make a valuable additional contribution because it was carried out with real teams, while research on teams often takes place in a laboratory setting. We shall now first explain the concept of leadership, as the concepts team and developmental space are already explained in chapter 1 and chapter 2.

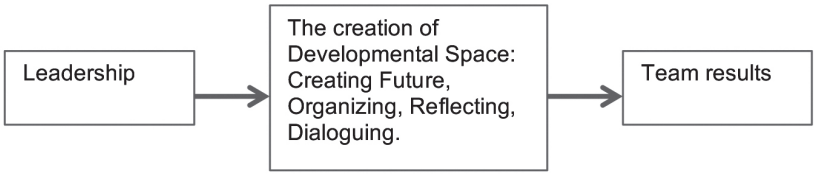


Figure 9. The expected cohesion, between leadership, developmental space and team results.

Leadership

As early as the 1970s, Stogdill wrote: 'There are almost as many definitions of leadership as there are persons who have attempted to define the concept' (Stogdill, 1974, p. 259). However, as Yukl points out: 'most definitions of leadership reflect the assumption that it involves a process whereby intentional influence is exerted over other people to guide, structure, and facilitate activities and relationships in a group or organization' (Yukl, 2013, p. 18). This implies the presence of two parties: a person influencing and a person (or persons) influenced. In other words: it implies the presence of a leader and one or more followers. At face value, this would seem to be a simple concept, but the opposite is in fact true. The concept is messy: different interpretations of leadership have been formulated by many (Clegg, Kornberger, & Pitsis, 2016; Yukl, 2013). Leadership can, for instance, be seen as a personal trait, a personal characteristic, a characteristic of a position, behaviour (Clegg et al., 2016; Katz & Kahn, 1978) or as a social influence process (Seers, Keller, & Wilkerson, 2003; Tourish, 2014; Yukl, 2013).

Over the past century, many leadership theories have evolved (Avolio, Walumbwa, & Weber, 2009). Following Clegg et al., (2016), Northouse (2016) and Yukl (2013), we here mention the main theories in the order in which they developed over time. In these theories, leadership is mostly associated with one individual in a leader role (Avolio et al., 2009): a single leader. Leadership can be seen as a trait: the underlying assumption here is that leaders are born with leader qualities that are stable over time and in different situations. Secondly, studies on leadership as a form of behaviour consider what leaders do: their observable behaviour. Situational theories assume that an effective leader adapts his or her style to the situation concerned (Hersey, Blanchard, & Natemeyer, 1979). From a contingency theory perspective, a person who emerges as a leader in one situation may find himself or herself unable to lead in another situation. Relatively recent approaches include transactional and transformational approaches. Transactional leaders set clear goals and expectations, and they reward achieved goals as defined by mutual expectations. Transformational leaders enhance their followers' feelings of involvement, commitment, cohesiveness, and performance (Bass, Avolio, Jung, & Berson, 2003).

According to Avolio et al. (2009), all theories developed so far focus on a single leader and are designed to accommodate the traditional hierarchical structures of organisations. However, as in many organisations hierarchical levels are deleted and team-based structures are introduced, leadership should rather be depicted as a complex social, dynamic, and shared process (Avolio et al., 2009; Uhl-Bien, Marion, & McKelvey, 2007).

In contrast with single leader theories, another and less widely spread leadership theory has been introduced: shared leadership (Hoch & Morgeson, 2014; Tourish, 2014; Von Krogh, Nonaka, & Rechsteiner, 2012). In this field of interest, many other different terms are used instead of the term "shared leadership": for instance "distributed", "dispersed", "collaborative" and "collective", all of which have a slightly different meaning (Denis, Langley, & Sergi, 2012). The current study uses the term "shared leadership" because it takes a functionalist approach by focusing on the most effective kind of leadership for teams that leads to better performance (Denis et al., 2012). Shared leadership means that team members actively engage and participate in the leadership process (Conger & Pearce, 2009; Fletcher & Käufer, 2003; Hosking, 2002; Uhl-Bien et al., 2007) and that team members collectively exert influence (Cox, Pearce, & Perry, 2003). Functions are divided among team members in order to take advantage of their strengths (Burke, Fiore, & Salas, 2003). Shared leadership concerns shared action that leads to accumulated revenues that are greater than the simple sum of individual leadership contributions (Gronn, 2002; Woods, Bennett, Harvey, & Wise, 2004).

According to Hoch and Morgeson (2014), both 'single leadership' and 'shared leadership' are associated with team effectiveness. Research on single leadership shows that a combination of transactional and transformational leadership is most likely supportive for team collaboration and team performance (Bass et al., 2003; Dorfman, 2004; Vangen & Huxham, 2003; West & Hirst, 2005). Carson et al. (2007) demonstrate a positive relation between team performance and shared leadership within teams. The literature about shared leadership questions whether a single leader can really support team performance. First, it is unlikely that a single leader instead of the team as a whole has all the abilities that are needed for constant successful performance and that fit all contingencies (Bryman, 1996; Carson et al., 2007; Cox et al., 2003; Fletcher & Käufer, 2003; Gill, 2011; Gronn, 2000; Seers et al., 2003; Von Krogh et al., 2012; Yukl & Fu, 1999). Secondly, the diversity that can be seen within teams can only be made productive in an open process in which every team member is given an equal voice (Chrislip, 2002). A process should not be dominated by one party (Snow, 1999), because 'it is unlikely that followers will ever feel completely free to express the full range of their disagreements with leaders' (Tourish, 2014, p. 89). The most important downside mentioned with respect to shared leadership is that when team members are collectively responsible, no one feels responsible in the end, making it impossible to hold individuals accountable for the results (Bickman, 1971; Schwartz & Gottlieb, 1980). It can be concluded that

the literature does not provide unanimous answers to our research question. Hence, we will examine whether single and/or shared leadership emerges in teams and, if yes, how these forms of leadership influence the creation of developmental space.

Method

This exploratory study employed a qualitative method. A qualitative study was preferred because leadership had not previously been researched in the context of creating developmental space; for this reason, a quantitative study would be untimely (Conger, 1998). Furthermore, this study tried to gain a detailed understanding of the kind of leadership that would naturally arise in teams working on a complex task: according to Marshall and Rossman (2011), this insight cannot be generated with a quantitative study.

For the current study, a multiple case study design was selected (n=10 teams). According to Yin (2014), case studies are preferred for studying contemporary events when the relevant behaviours cannot be manipulated. Additionally, because it was uncertain whether both kinds of leadership would occur in a natural setting, a field experiment was conducted (n=6 teams). This field experiment gave us the opportunity to induce randomly two ways of working under almost equal circumstances (Bernard, 2000; Boruch & Foley, 2000).

Method of Study 1: Observation

Teams (n=10) working on a complex task were observed once during a work session. To observe teams as much as possible in their natural habitats, the observer was positioned outside the team in a corner of the room and did not participate (Bryman, 2012); teams were only told that the researcher wished to learn how they worked on a complex task and that they should conduct their work as usual, as if the observer were absent. At the end of the work session, the researcher had 15 minutes to check observations with the team.

Case selection

Teams had to work on a complex task. Complex tasks concerned questions such as 'how can we deliver the same or better quality with fewer people' or 'how can we design a talent management programme for the total organisation'. Some teams had a formal leader (someone with a formal function as 'team leader') and others were leaderless. As both types of teams occur in the Netherlands and one of our research goals was to determine which kind of leadership would emerge within teams, it was considered necessary to include both types (see Table 9).

Data collection

One researcher observed all teams. This observation was based on the theory of developmental space and leadership (Bryman, 2012). In an observation table listing the four developmental space activities, all of the teams' activities were noted as precisely as possible, including the names of the team members associated with these activities - for instance, for reflection: 'Jelle: What does our client think of this?', 'Mary: We looked at it from a positive side, but what if we look at it from a negative side?' If the team answered these questions, and thus decided to follow the intervention, this was also labelled as 'leadership'. In these situations, influence was taken by a team member and given by the team; we call that 'leadership'. To check objectivity, correctness and validity, our first team (a group of railway managers) was also observed by a second researcher.

Table 9 *Teams and their results of the observation study*

Team	Railway managers	Government 1 HRM professionals	Government 2 HRM professionals	Government 3 HRM professionals	Hospital 1 Divers members	Hospital 2 Divers members	Management consultants	HRD 1 consultants	HRD 2 consultants	HRD 3 consultants
Members	5	6	6	6	6	6	5	5	5	6
Leadership	Informal leader Rotating	Formal leader	Formal leader	Informal leader	Formal leader	Informal leader	Informal leader	Informal leader	Informal leader	Informal leader
Leadership focus	Organizing and creating future	Organizing and creating future	Organizing	Organizing	Creating future and organizing	Organizing	Dialoguing	Organizing and creating future	Creating future and organizing	Reflecting
Developmental space	Balanced	Unbalanced	Unbalanced	Unbalanced	Unbalanced	Unbalanced	Balanced	Unbalanced	Unbalanced	Balanced
Team satisfaction on the result	High	Low	Medium	Low	Medium	Medium	High	Low .	Low	High
Team satisfaction on the process	High	Medium	Low	Low	Low	Medium	High	Low	Medium	High
Client satisfaction with the result	Missing	Not satisfied	Not satisfied	Not satisfied	Missing	Missing	Satisfied	Not satisfied	Partly satisfied	Very satisfied

An observer reliability of 89% was found, meaning that 89% of the researchers' observations appeared to be the same and were labelled the same. Apart from the observations, the following questions were asked at the end of each work session: (a) How satisfied were you, as a team, with the results of this work session? and (b) How satisfied were you, as a team, with the process?

Data analysis

The researcher analysed the data and included the findings in a table (Table 9). The first step was labelling all the interactions of each team as "reflecting", "dialoguing", "creating future", and "organizing". Some interactions were given more than one label. For instance, 'What does our client think of this?' was labelled as "reflecting" as well as "dialoguing". Next, the labels were counted and converted into percentages. Finally, the leadership activities were counted. Team members were identified as single leaders if they were responsible for at least 50% of the leadership interactions and differed for at least 20% from the other team members. Otherwise, the event was identified as shared leadership.

Method of Study 2: A Field Experiment

Sample

Highly educated HRD professionals (n=28) from one consulting firm were divided into near-identical teams (n=6) demonstrating a mix of roles as trainers, facilitators and designers, a mix of ages (27–56), a mix of experience and finally a mix of gender.

Procedure

The teams were given ten hours to work on a near-identical complex task during a period of two days. Their task was to develop a work learning intervention based on real-life client questions. Clients' questions were, for instance, 'how can we as a management team learn to collaborate more efficiently and effectively', or 'can you teach our rail engineers to become more sales oriented'. For the latter question, the team designed an action research project as a work learning intervention as part of the daily work of the engineers. Each team had already visited the client once to analyse the client's situation and the related question before the field experiment started.

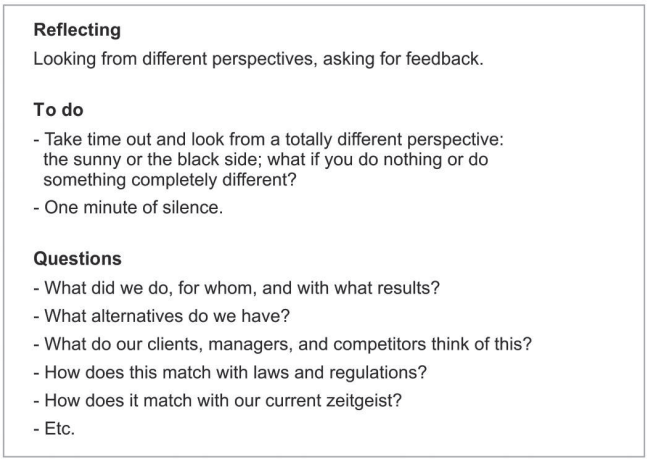
The field experiment started with a 30-minute plenary presentation, for all six teams, about creating developmental space. It addressed a number of reasons for creating developmental space and ways to create it. The teams were aware that they contributed to research on developmental space. They were not informed that leadership was researched.

Treatment

The treatments were randomly assigned. The control group (n=3 teams) was given treatment '1', an observation assignment designed as a minimalistic intervention

meant as 'placebo'. One team member observed his own team for 45 minutes at two time points during the first day. The observers used the observation table used in Study 1 and received an example of a completed observation table. After the observation, the observer shared the observations with the team.

The experimental group (n=3 teams) was given treatment '2', activity cards: one card for each activity of the developmental space (Figure 10). The team divided the activity cards to match the team members' personal qualities. To illustrate, a team member who was good at reflecting received the activity card "reflecting", et cetera. Every team member was assigned to one activity and was responsible for the activity receiving the attention it needed during the work to be done over the two–day period. All four activities were divided; in teams with five members, two members were assigned to the same activity.


Reflecting

Looking from different perspectives, asking for feedback.

To do

- Take time out and look from a totally different perspective: the sunny or the black side; what if you do nothing or do something completely different?
- One minute of silence.

Questions

- What did we do, for whom, and with what results?
- What alternatives do we have?
- What do our clients, managers, and competitors think of this?
- How does this match with laws and regulations?
- How does it match with our current zeitgeist?
- Etc.

Figure 10. Example of an activity card for the activitiy 'reflecting'

Data gathering

Every team member received printed instructions and formats to evaluate: this was to be done three times, during the middle and at the end of day 1, and at the end of day 2. Each evaluation started with an individual questionnaire asking to distribute 100% over the four developmental space activities based on how much attention the team paid to each activity. Next, the team as a whole answered evaluation questions such as 'Did every activity get enough attention and at the right time?' and 'What helped to realise this?', to mention but two examples.

At the end of the two-day period, the six clients together assessed the outcomes of the teamwork on the following criteria: feasibility, effectiveness (costs versus benefits) and newness. They gave a mark for this: 5 = insufficient, 6 = sufficient, 7 = more than sufficient, 8 = good, 9 = outstanding.

After one week and a first analysis of the data, two team members of every team were randomly selected for a semi-structured interview. This interview contained questions such as 'How were the qualities, in terms of the four activities of developmental space, divided in your team?', 'What leadership activities were undertaken and by whom?', and 'Who was in the lead?'. In addition, satisfaction with the results was noted (Table 10).

Data Analysis

The completed evaluation questionnaires were analysed for every individual and every team. Percentages of the activities were generated from the individual questionnaires. All of the recorded interviews were transcribed and checked by the interviewees and subsequently used to check the data.

Developmental space measure in both studies

Percentages for the four activities were calculated and interpreted as follows: for a balanced developmental space, all activities demonstrated scores between 20% and 30%; an unbalanced developmental space meant that one or more activities demonstrated scores below 20% or over 30%.

Table 10 *Teams and their results of the field experiment*

Treatment 1 (observer)				**Treatment 2 (activity cards)**		
Team	A	B	C	D	E	F
Team	5	4	5	5	5	4
Leadership	Informal leader	Informal leader	Informal leader	Shared leadership	Shared leadership	Shared leadership
Leadership focus	Reflecting	Organizing	Creating future	All four activities	All four activities	All four activities
Developmental space	Balanced	Unbalanced	Unbalanced	Balanced	Balanced	Balanced
Team satisfaction with the result	All satisfied	Some team members satisfied, others unsatisfied	Some team members satisfied, others unsatisfied	All very satisfied	All satisfied	All satisfied
Team satisfaction with the process	All satisfied	Some team members satisfied, others unsatisfied	Some team members satisfied, others unsatisfied	All very satisfied	All satisfied	All satisfied
Client satisfaction with the result	8.0	5.0	5,5	9.0	7,5	8.0

Results

Results of Study 1

In all ten teams investigated, a single leader emerged (Table 9). As no differences in effects on creating developmental space were seen between the three formal leaders (those holding an official position as team leader in the organisation) and the seven other single leaders, the term "leader" will be used for all single leaders from now on. All single leaders were heard more often within the teams. In addition, non-verbal influence was seen, for instance when team members looked at the leader to see if they were allowed to say something or if the leader approved their input. In eight teams, the leader role was taken and given, without any discussion or questioning. In two teams, the leader role was discussed. The team of management consultants discussed sharing the leadership. One member said: 'You took the initiative and always take the lead, but you don't have to, we would like to share that and do it together'. The informal leader said she was glad about this, because she did not aspire the role of leader. Still, despite their agreement on sharing the leadership, the team did not succeed in doing that. The single leader continued to be the leader and the other team members continued to be followers. The team of railway managers explicitly chose to rotate the leadership role for each meeting.

Of the ten leaders, eight undertook the majority of tasks (83% or more) related to organising activities and creating future. Comments included, for instance, 'We have to move on, because we have not much time left', or 'We are digressing; let's focus on the result again', or 'Let's make an agenda so that we know how to allocate our time'. These leaders not always responded to input from team members. In the government teams 1,2 and 3, the hospital team and the HRD 1 team, it happened more than once that a team member asked a critical question but did not get a response from the leader; instead, the leader just moved on. This led to unheard members dropping out or becoming frustrated.

Seven of these eight teams were not (completely) satisfied with the process and/or the results, and they failed to create a balanced developmental space. Only the team of railway managers was completely satisfied and created a balanced developmental space. They were the only team to rotate the leader role, and afterwards they reported that they had been receiving coaching instructions concerning their dialoguing and reflecting skills for the past six months. Only two out of all ten teams (management consultants and HRD 3) had a leader who undertook most (>89%) of the dialoguing and reflecting activities. These leaders said, for instance: 'What other possibilities would there be', or 'Why do you think this is so important, please tell us about it', or 'If we do this, how would that work out in practice'. Both teams created a balanced developmental space and were satisfied about their process and results.

Results of Study 2

In the three teams working with activity cards (treatment 2), shared leadership emerged (Table 10). All team members played an active role in the process, and the team as a whole was in the lead. These teams created a balanced developmental space and they were satisfied about the process and the results. Their clients appreciated the results and qualified these as more than sufficiently satisfying. All interviewees mentioned that by dividing the activity cards one's qualities were immediately seen. One member, for instance, said: 'By dividing the cards, one starts with appreciating each other's qualities; it gives every team member a voice and makes input from everyone legitimate'.

Within all three teams working with an observer (treatment 1), a single leader emerged. The two interviewees from each team mentioned - without hesitation - the same team member as their single leader. Within these three teams, the single leader, mostly alone and implicitly, determined which activity of the developmental space was needed. For instance, one interviewee from team B wanted to reflect more, but the leader put his questions aside. This team member tried a few more times, but was not heard. The process moved on and this team member felt frustrated and gagged, as he reported in the ensuing interview. Treatment 1 was meant as a 'placebo', but had an effect for two teams (B and C). One team member in team B reported the following: 'The feedback of the observer, after two hours of working together, saved us from moving in a completely wrong direction, because we had totally lost sight of our client'.

Teams B and C did not create a balanced developmental space and were not satisfied about the process and the results. Their clients were dissatisfied, too. The single leaders were the ones to undertake activities: these were mostly related to organising activities and/or creating future. Team A, on the other hand, did manage to create a balanced developmental space and was satisfied about the process and the results. Their clients were also satisfied. The single leader undertook mostly reflecting activities. For team A, the observer had no effect, but the team members found the model of developmental space helpful whenever they found themselves stuck. The single leader said in the interview: 'A few times, we were moving in circles and no longer moved forward. Every time this happened, we used the model to analyse whether we had used all four activities and quickly discovered what activity we should practise more to help us move forward again'.

Discussion

What kind of leadership emerges in teams? This study showed that it was single leadership that emerged most often. This corresponds with the emphasis on single leadership found in the literature (Hoch & Morgeson, 2014; Tourish, 2014; Von Krogh et al., 2012). This focus, however, often entails the neglect of team members'

influence that is always present (Goleman, Boyatzis, & McKee, 2002). What seems to do better justice to the influence of all team members is shared leadership (Burke et al., 2003; Conger & Pearce, 2009; Cox et al., 2003; Fletcher & Käufer, 2003; Hosking, 2002; Uhl-Bien et al., 2007), but this form of leadership does not seem to emerge by itself. It can, however, be elicited by means of an intervention, as shown in this study and in accordance with findings reported by Wassenaar and Pearce (2011). In the literature, single leadership and shared leadership are often presented as mutually exclusive. Some studies, however, argue that a combination of single and shared leadership is supportive for team results (Denis et al., 2012; Harris, 2004; Hoch & Morgeson, 2014; Tourish, 2014). Our study has shown that the combination does not emerge by itself. Further research on this topic is needed.

What kind of leadership emerges also depends on how leadership emerges within teams. Paunova (2015) describes two mechanisms at work here: achievement and ascription. With the achievement mechanism, a team rewards a team member with a leader status based on achievement. With the ascription mechanism, leadership is given to someone based on perception (Paunova, 2015). Considering the idea that a more competent leader produces greater satisfaction and team success (Bass & Stogdill, 2008), one would expect that the emergence of leadership highly correlates with achievement (Lynn, Podolny, & Tao, 2009). In practice, however, teams often ascribe leadership quickly, based on the initial judgements made by group members: these initial judgements have long-lasting effect (Lynn et al., 2009; Paunova, 2015). In our study, leadership did indeed seem to emerge quickly. The management consultants' team proved to be the only one of 16 teams that discussed and evaluated their leadership. Questions for follow-up studies may include the following: what effect does discussing and evaluating leadership have on leadership emergence and how exactly does leadership emerge within teams?

What kind of leadership supports the creation of developmental space, thus promoting better team results? In our study, six teams created satifsying results for their clients and a balanced developmental space (Management Consultants, HRD 3, A,D,E and F). Three of these teams worked with shared leadership and three with a single leader. The single leaders mostly engaged in reflecting and/or dialoguing activities. Another six teams created unsatisfactory results for their clients and an unbalanced developmental space (Government 1, 2, 3, HRD 1, B and C). All of these worked with a single leader who mostly engaged in organising activities and/or creating future. Thus, it seems that both shared leadership and single leadership can support the creation of developmental space, thus leading to better team results. There is one proviso: a single leader who mostly practises reflecting and/or dialoguing activities seems to be supportive, whereas a single leader who is mostly engaged in organising activities and/or creating future seems to hamper the creation of developmental space (thus hampering rather than promoting team results). As both orientations of developmental space (performance and giving meaning) are needed to achieve the best result, one expects that leaders will only be supportive if they

pay attention to both sides. That teams need this duality in leadership is often mentioned in the literature; leaders should be task and relation oriented (Yukl, 2013), or have concern for production and people (Blake & Mouton, 1978; Likert, 1979), or combine transformative and transactional leadership (Bass et al., 2003), or demonstrate a facilitative and a directive style (Vangen & Huxham, 2003). It is therefore rather surprising that single leaders who focus only on the meaning-giving orientation seem to be supportive for the creation of developmental space leading to satisfactory team results. When we take a closer look at these single leaders, it seems that they involve and utilise the qualities of other team members to a greater extent, and in this way balance the four activities of developmental space. Interventions by the single leader in the management consultants' team seem to be representative of these leaders and include examples such as 'What do you think of this, Anja?'; 'We have not heard your opinion yet, René'; or 'Esther, do you suggest that we need to go on, because there is not much time left? Does everyone agree with that?'. This comes close to the description of transformational leaders: they enhance their followers' feelings of involvement, commitment, cohesiveness and performance (Bass et al., 2003). Eden et al. (2002) link transformational leadership to high performance. It may be that, with their activities, these types of leaders (un) consciously balance the diverse qualities within teams and thus balance the two orientations of developmental space. This is in contrast with what is done by single leaders who mostly engage in organising activities and/or creating future. These single leaders mostly decide what should be done and also decide, without making it explicit, which input from team members is 'heard' and taken into account and which is not, often leading to frustration on the part of team members and people dropping out. By acting the way they do, these single leaders do not seem to balance the two orientations of developmental space but hamper the team's results. Ten of all 13 single leaders mostly practised organising activities and/or creating future. This corresponds with findings reported in the study by Lanaj and Hollenbeck (2014) stating that the 'wrong' person often emerges as a leader within teams and that the 'right' person fails to emerge. Paunova (2015) reveals that teams select leaders who speak the most and who are extraverted. This seems to match best with leaders who are mostly engaged in organising activities and creating future and less to leaders who are mostly involved in dialoguing and reflecting activities. Whether this is the case, how exactly this works within teams, and how teams can influence this process is something that needs further research.

How can the dominant tendency towards working with a single leader (Uhl-Bien et al., 2007; Von Krogh et al., 2012) be explained? Leadership fulfilled by a single leader has a history of at least one era (Wassenaar & Pearce, 2011), and teams tend to prefer the clearness of hierarchy (Zitek & Tiedens, 2012). On the other hand, sharing leadership is no easy task for teams: it calls for skilled team members who can switch effortlessly between being a leader and being a follower (Von Krogh et al., 2012). Leadership activities are often small, implicitly and unconsciously undertaken and hardly recognised as leadership (Hiller, Day, & Vance, 2006; Shondrick, Dinh, &

Lord, 2010). For instance, leading can simply mean putting forward a proposal – 'Let us continue to look for different possibilities' - or asking a question: 'What does everybody think of….?'. Whenever the team decides to follow an initiative, it becomes a leadership intervention. This makes leadership highly dynamic and partly intangible. Another reason for the dominant tendency to see leadership as a role fulfilled by one person may lie in the terminology "leadership" and "follower". "Follower" refers to a person who obeys, who follows orders and instructions (Tourish, 2014). It refers much less to a person who dissents, who gives positive critical feedback and who now and then also adopts a leading role. The term "leader", on the other hand, implies the existence of a hierarchical position (Tourish, 2014) of someone whose voice is conclusive, who takes the decisions rather than someone who listens and takes a follower role now and then. The terminology and the shared meaning of the concepts of "leader" and "follower" may not be very helpful in s witching these roles and thus in creating and also recognising shared leadership. Further research is needed on how this relationship works and how it influences the creation of developmental space.

How can the "success" of a simple intervention like the use of activity cards be explained? It all starts with the qualities seen within the team (Cooperrider, Whitney, & Stavros, 2008). In their interviews, some team members mentioned that being valued on the activities gave them the courage to stand up and ask critical questions or to put forward a different and sometimes conflicting viewpoint. It helps 'managing the inequality', as Vangen and Huxham (2003, p. S68) put it, and it helps team members to engage as peers, which is a critical factor for teams (Chrislip, 2002). The activity cards seem to help teams to openly discuss their decisions and take them together. This may seem to take a lot of time, but in practice all three teams working with the activity cards said they agreed relatively easily and quickly with each other on how to proceed and move on. Another important factor may be that when every team member gets one activity card, every team member has a responsibility in the collaboration process. Everyone feels valued, and it prevents team members from social loafing (Latané, Williams, & Harkins, 1979; West, 2012).

Two possible downsides of using activity cards may be that not every team may be able to work with these and that the four activities are split. The three teams observed in this study consisted of highly skilled HRD consultants and are thus not representative of teams in general. To determine whether activity cards work in every team, they need to be tested more thoroughly.

Paying attention to all four developmental space activities means that teams should have a performance orientation as well as a meaning-giving orientation. This seems to present teams with a paradox, because teams cannot opt for one side when a paradox is involved: they need both sides to realise a lasting result (Lewis, 2000; Smith & Lewis, 2011). However, the paradox may be compartmentalised with the help of activity cards. Hoebeke (2004) calls this phenomenon "splitting" but at the

same time warns that organising a reduction of tension can be fatal. Even though the activities are divided among team members, the team as a whole is still working on all four activities and keeping them in focus. Tension is not suppressed, but the team seems to be better prepared for constructive conflict. Leadership seems to influence the way in which teams handle this paradox. With shared leadership, teams seem to move naturally and easily between the two sides of the paradox. Single leaders who mostly initiate future and/or organising activities seem to deny or suppress one side of the paradox, leading to unsatisfactory team results. On the other hand, single leaders who mostly initiate dialoguing and/or reflecting activities seem to make room for both sides of the paradox, leading to satisfying team results. Further research is needed to investigate not only whether teams do indeed experience a paradox while creating developmental space, but also, if yes, to determine how they can effectively handle this paradox and to discover the influence of leadership in this process.

Study limitations

The two main concerns of case study research are its rigour and generalisability (Yin, 2014). As for rigour, the procedures we followed were written down as exactly as possible, and the first observation was made by two observers, thus ensuring observer objectivity. For the generalisation of outcomes, a multiple case study as used in this study is stronger than a single case study. Still, this type of study only leads to theoretical propositions (Yin, 2014) and not to outcomes that are generalisable to all teams. According to Ladkin (2010), leadership is situational and case bound almost by definition, making the generalisability of any leadership research relatively limited. Our study's findings, however, are strengthened by the combination with a field experiment.

In our experiment, developmental space and leadership may have interfered, because we informed all teams on developmental space and presented three teams with activity cards. On the other hand, none of the teams in the two studies was aware that leadership was a research topic. In the observation study, the teams knew nothing about developmental space. The teams in the field experiment that were acquainted with developmental space (treatment 1) did not seem to work differently from the teams that were not acquainted with it in the observation study, except for team A. Their single leader, who mostly undertook reflecting activities, used knowledge on developmental space whenever the team found itself stuck.

Using the activity cards to elicit shared leadership does not make it unequivocally clear if shared leadership is supportive for creating developmental space, or if developmental space is supportive for shared leadership. By using the cards, it seems to be only natural that the teams create developmental space. It may be that the four developmental space activities are mere leadership interventions. In future investigations, these two concepts should be separated in order to gain a clearer insight into this matter and to determine how these two concepts, developmental

space and shared leadership, relate to each other.

Finally, our choice to label the data based on the four activities of developmental space was made because developmental space formed the key issue of our research question. An interesting option for follow-up study would be to label the data freely in a grounded theory way and investigate whether this sheds any new light on the outcomes and on developmental space.

Conclusions

This study gives teams, managers and team facilitators a number of insights into the way in which leadership can support the creation of developmental space, thus offering all those involved a stronger grip and promoting better team results. It can be concluded that teams are inclined to work with a single leader and that shared leadership seldom arises by itself, although it can be elicited. The activity cards seem to be a supportive and playful intervention leading to shared leadership.

Both types of leadership, single and shared, can be supportive for realising satisfying team results and creating a balanced developmental space. That being said, it should also be borne in mind that a single leader only seems supportive if the leader mostly initiates dialoguing and/or reflecting activities. Still, these leaders seem scarce: this applied to only three out of 13 leaders. Most leaders seem to undertake mostly organising activities and/or creating future; this was found to hamper team results and the creation of developmental space.

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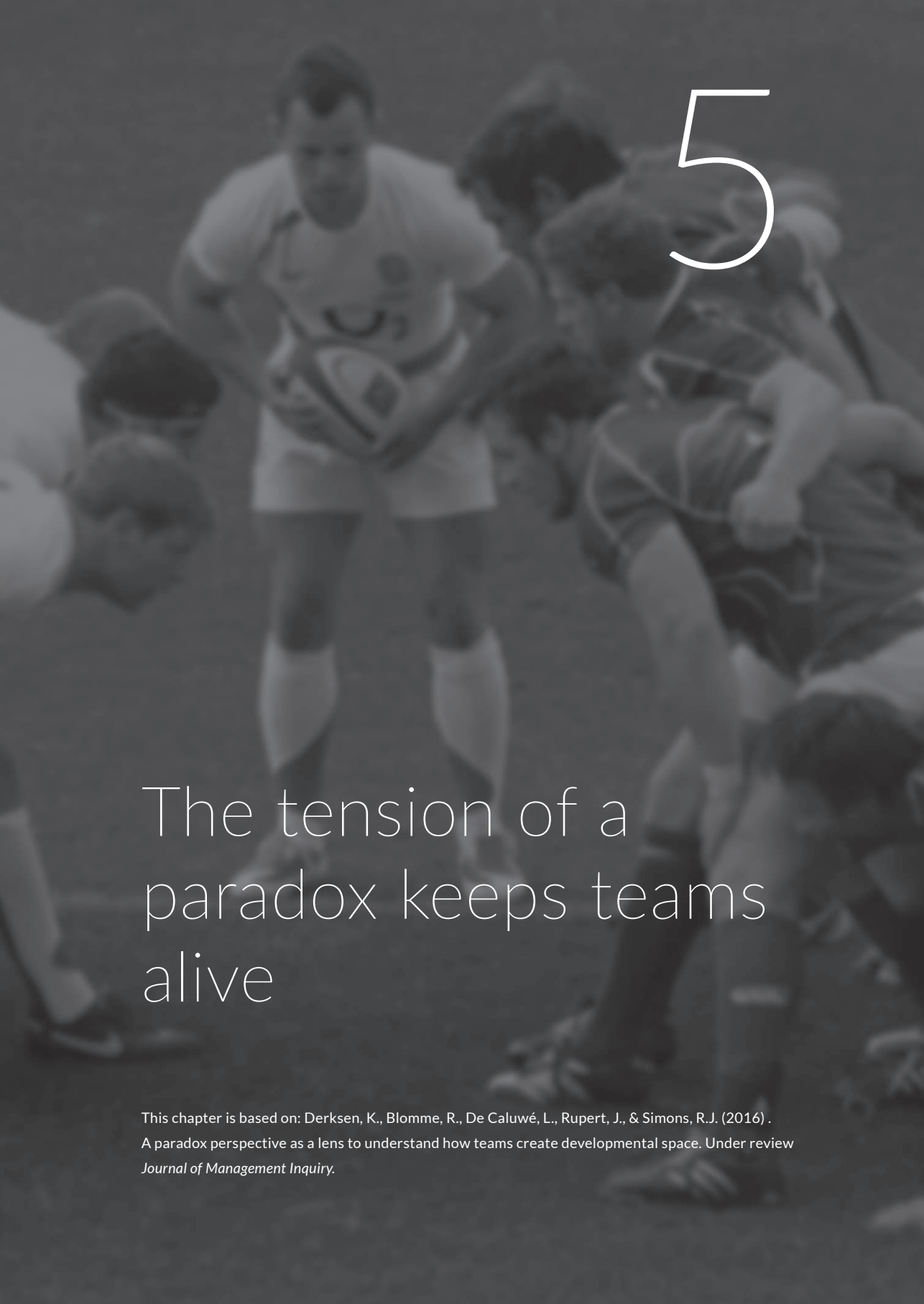

5

The tension of a paradox keeps teams alive

This chapter is based on: Derksen, K., Blomme, R., De Caluwé, L., Rupert, J., & Simons, R.J. (2016) . A paradox perspective as a lens to understand how teams create developmental space. Under review *Journal of Management Inquiry.*

A paradox perspective as a lens to understand how teams create developmental space

In this chapter we focus on the developmental space paradox consisting of the performance orientation, limiting the space and the sensemaking orientation, opening up the space. Teams need them both yet it seems inconsistent and impossible to achieve together, thus forming a paradox. In this exploratory research, we address the way in which teams experience and handle that 'developmental space paradox' and how it affects team success. Individual team members (N=70) from 12 teams were interviewed. Successful (N=7) and unsuccessful (N=5) teams were compared. The results show that successful teams experience this paradox differently than the unsuccessful teams and that both categories choose other coping strategies to handle this paradox.

Teams need to focus on the performance and sensemaking orientation, while creating developmental space. With the performance orientation, teams focus on the end result and try to find solutions as quickly and efficiently as possible, while with sensemaking they diverge by searching for alternatives and asking critical questions. In chapter 3 we already hypothesized and found a positive relation between both the performance and sensemaking orientation and the perceived team result and suggest that both orientations are necessary to find a lasting solution. However, two questions remain unanswered: do teams experience these orientations as a paradox and is handling this paradox a critical success factor for teams when solving complex tasks? In this chapter we aim to find the answers.
Our research question is:

> How do teams experience and handle the paradox of developmental space and what effect does that have?

What exactly is a paradox? A paradox consists of 'contradictory yet interrelated elements that exist simultaneously and persist over time' (Smith & Lewis, 2011, p. 382). A paradox for teams working on a complex task is, for instance, the need to share and explore all available information and at the same time deliver an outcome within a limited time. According to Lewis and Smith (2014), researching teams

through the lens of paradox may help to better understand the complexity and ambiguity of teams and organizations. It allows theory development that is more tuned to the reality of teams (Lewis, 2000; Miron-Spektor & Argote, 2008), because team life in itself is full of paradoxes (Smith & Berg, 1997). Research has not yet been able to unravel how teams exactly experience and handle paradoxes. Researching teams through the lens of paradox may help unravel this.

With this chapter, we make several contributions. As said, we build on and extend previous research on developmental space by exploring whether teams experience a paradox while creating developmental space and if the way they handle this paradox is a critical success factor for teams working on a complex task. We expand the theory on paradoxes by presenting an overview of different ways of handling paradoxes and empirically testing them. Finally, the article gives practical implications for teams and management on how to handle the developmental space paradox.

This chapter is structured as follows: we start by explaining the concept of the developmental space paradox and how teams can handle this. The other main concepts, a team and the developmental space are already explained in chapter 1 and chapter 2. Furthermore, the research method, the results and discussion are described.

Theoretical background

The developmental space paradox

Looking more closely at the developmental space paradox, we see that the model of developmental space with the four activities seems relatively simple. In practice, however, creating developmental space seems complex for teams. This may be because teams face a paradox whilst creating developmental space. It comprises two orientations, a performance and a sensemaking orientation, and these seem to be diametrically opposed (Table 11). 'The performance orientation, with creating future and organizing, limits the space by focusing, while the sensemaking orientation, with reflecting and dialoguing, stretches the space by opening-up' (Derksen, De Caluwé, & Simons, 2011, p. 262) The performance orientation is about speeding up, narrowing down and finding answers as quickly as possible, whereas the sense-making orientation is about slowing down, broadening, searching for alternatives and asking questions. Derksen et al. (2014) find support that teams need both orientations to achieve the best result - one characteristic of a paradox. They suggest a follow up study to find out whether teams do indeed experience a tension in these orientations - the other characteristic of a paradox.

Table 11 *Developmental space, based on Derksen et al. (2011) and Derksen et al. (2014)*

	Developmental Space			
The activities	Creating future	Organizing	Dialoguing	Reflecting
Is about:	The shared point on the horizon	Planning and coordination	Searching for shared reason	Evaluation and multi-perspective
Teams for example:	• Formulate a shared, intriguing and urgent question. • Formulate a shared desired result.	• Make SMART agreements. • Divide tasks. • Keep their budget in mind. • Guard their time.	• Ask critical questions. • Are curious to understand exactly what is meant.	• Evaluate the process and results. • Search for different (conflicting) perspectives.
The expected paradox:	Performance orientation		Sensemaking orientation	
	• Accelerate • Result-driven • Focusing • Giving answers • Fixing • Looking forward • Action-oriented		• Slow down • Postpone the direction • Broadening • Asking questions • Enquiring • Standing still (or looking back) • Thought-oriented	

A paradox consists of two contradictory interrelated elements that seem inconsistent and impossible to achieve together and which persist over time (Lewis, 2000; Smith & Lewis, 2011). It is not about good or bad and not either/or. It is about having both. A paradox consists of two sides of the same coin (Handy, 1994; Simons, 1999). In other words, a paradox has two main characteristics: 1) it consists of two contradictory interrelated elements in which we experience a tension and this tension often makes us feel uncomfortable; 2) it persists over time, meaning that the tension will always be there. Even if we ignore or choose one side, we can only achieve a sustainable result by embracing both sides. Having both means living with inconsistency and that seems difficult for us (Kahane, 2010; Smith & Lewis, 2011).
The tension of the paradox leads to the following benefits: it keeps teams alive (Cameron, 1986; Hoebeke, 2004); it is a trigger for change, creativity and new unconventional routes (Lewis, 2000; Lüscher & Lewis, 2008; Miron-Spektor, Gino, & Argote, 2011); and it is a ubiquitous and persistent force challenging and fuelling long term success (Lewis & Smith, 2014).

Teams can experience many different paradoxes. Without being exhaustive, we mention both poles of some of these: we want to be an individual and we also want to belong to a team (De Rond, 2012; Lewis, 2000; Smith & Lewis, 2011); we want control and also have flexibilty (Smith & Lewis, 2011); we need harmony and also (constructive) conflicts (De Rond, 2012); we need to be selfless and also egoistic/ self-centred (Silva et al., 2013); we need to explore and also to exploit (Levinthal & March, 1993; O'Reilly & Tushman, 2011).

Handling a paradox

The contingency and paradox perspective lead to complete different ways of handling paradoxes (Lewis & Smith, 2014). From a contingency perspective, tensions are seen as 'problems, solvable through rational analysis and formal logic' (Lewis & Smith, 2014, p. 134). Solving the tension is a linear process leading to a resolution. In this perspective handling, the tension means searching for an 'if-then' reasoning. It is about finding out under what conditions A or B should be used (Lewis & Smith, 2014). In contrast, a paradox perspective advocates fostering the existence of the tension and fuelling the interplay between the two poles to achieve long term success (Lewis & Smith, 2014). It means that one accepts that a paradox is a persistent unsolvable puzzle (Smith & Lewis, 2011). It is about having both at the same time. These two perspectives may lead to different coping strategies.

In the process of handling paradoxes, different steps can be distinguished (see fig. 12). How people undertake this process depends on their paradoxical frame, which is the mind-set towards paradoxes (Miron-Spektor et al., 2011). The first step in handling a paradox is recognizing the paradox. Some people do not see a paradox; they only see one pole of it and are not aware of the existence of another pole (Miron-Spektor & Argote, 2008; Miron-Spektor et al., 2011; Pacanowsky, 1995). If one does not see and experience the paradox, there is nothing to handle. People who do recognize the paradox, tend to feel the tension (Lewis, 2000).
The second step in handling a paradox is how people react to that tension. Do they want to avoid it, or do they embrace it? Some people want to avoid and evade the uncomfortable tension (Jay, 2012; Lewis, 2000; Smith & Berg, 1997) as quickly as possible. They employ defensive coping strategies (Lewis, 2000) for handling paradoxes. Other people feel they have to live with the tension and embrace the two poles of the paradox (Lewis, 2000; Lüscher & Lewis, 2008; Miron-Spektor et al., 2011; Smith & Tushman, 2005).
Employing a coping strategy is the third and final step in handling paradoxes. Defensive strategies are ineffective because being unaware of or avoiding a paradox means getting stuck in vicious circles (Jay, 2012; Lewis, 2000; Pacanowsky, 1995; Smith & Berg, 1997). By defending oneself and trying to get rid of the uncomfortable tension, one tends to cling to the pole that supports one's preference (Lewis, 2000) and satisfies the need for consistency and uncertainty reduction (Smith & Tushman, 2005). Examples of defensive coping strategies include: repression, denial or choosing one side at the expense of the other (Lewis, 2000; Miron-Spektor et al., 2011). Choosing seems to be the most common defensive coping strategy. Levinthal and March (1993) show the ineffectiveness of choosing, which leads to two traps for the paradox of organizational ambidexterity (O'Reilly & Tushman, 2011) – a well-known paradox that resembles the developmental space paradox. Firstly, there is the failure trap, where failure leads to excessive exploration and ultimately to commercial non-viability. Secondly, there is the success trap where success seduces into a complete focus on exploitation, leading to getting stuck in a product and a market. Choosing for one side always leads to problems on the other side.

Pacanowsky (1995) explains that choosing leads to unhealthy polarity loops. Both sides of the paradox have their own upsides and downsides. By choosing one side, the team eventually experiences the negative effects of their choice and chooses completely for the other side and so on. As he describes it, supporters from each side do not see '…that both views are accurate, but incomplete' (Pacanowsky, 1995, p. 45).

Other people feel they have to live with the tension and embrace the two poles of the paradox. According to Miron-Spektor et al. (2011) these people have an activated paradoxical frame and 'paradoxical frames encourage paradoxical inquiry', in which a problem is identified, its contradictory elements and their links are revealed and explored, and alternative solutions are found and tested' (Miron-Spektor et al., 2011, p. 230). Tensions are seen as an opportunity and invitation for creativity and unconventional lines of thought (Beech, Burns, Caestecker, MacIntosh, & MacLean, 2004; Lüscher & Lewis, 2008; Miron-Spektor et al., 2011).
The coping strategies employed by the people who embrace the two poles of a paradox are more an 'exploratory cyclical journey', as Lewis (2000) calls it. This includes strategies like: 'reinforcing each other', 'giving shared meaning' and 'sparring as a collaborative process of working through paradox' (Lüscher & Lewis, 2008). These strategies focus on exploring, examining, asking different kinds of questions and thus on sensemaking together. Others suggest combining or synthesizing the two sides (Jarzabowski, Lê, & Ven, 2011; Simons, 1999; Smith & Tushman, 2005). Balancing the tension over time seems another coping strategy (Jarzabowski et al., 2011; March, 1991). Smith and Lewis (2011) speak of a dynamic equilibrium, meaning it is not finding a balance, but a continuous and constant play of balancing. Another possible strategy is differentiating and integrating (Miron-Spektor et al., 2011; Smith & Tushman, 2005). Differentiating involves recognizing and reinforcing the differences. This encourages becoming less committed to existing ideas and believing in and generating new ones. With integrating, on the other hand, the team shifts to other levels of analysis to identify possible linkages and synergies. This strategy seems paradoxical in itself and therefore may be less feasible. Finally 'splitting' (Lewis, 2000; Smith & Lewis, 2011) is a possible coping strategy. This strategy can be effective and ineffective. Splitting may be done in different departments (a product department and a research and development department), or in time by paying attention to creating future (part of the performance orientation) first and evaluating (part of the sensemaking orientation) afterwards. In all the effective strategies mentioned, the differences coexist in a state of tension, except for synthesizing and sometimes splitting. Hoebeke (2004) warns that reducing the tension may be deadly. With reducing or removing the tension, the earlier mentioned advantages of the tension expire.

Whenever a team has an activated paradoxical frame, in other words a paradox mind-set, it can enhance their performance in two ways: 1) it creates a context that demands articulation of distinct goals, and 2) it enables positive conflict because

the team expects both frames to succeed (Smith & Tushman, 2005). Whenever a paradoxical frame is not activated, the team will not recognize the paradox or, as Miron-Spektor et al. (2011) state, focus on only one pole of the paradox. Thus adopting a paradoxical frame seems an important pre-condition for teams to be able to handle paradoxes successfully.
In Figure 11, the steps and ways of handling paradoxes as discussed here are summarized.

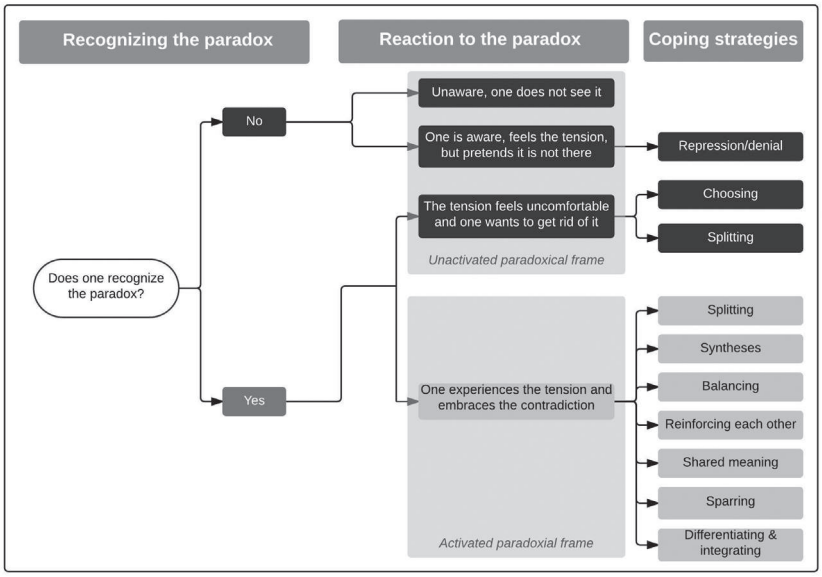

Figure 11. Summary of the process of handling paradoxes.

In this chapter, we are interested in the extent to which we recognize these ways of experiencing and handling the developmental space paradox in practice and what other ways teams experience and choose to handle the developmental space paradox.

Method

For this exploratory research, a qualitative approach was adopted. We conducted a multiple case study research with interviewing as the method of data collection. A multiple case study was chosen, as this is suitable for better understanding complex social phenomena and allows a holistic and meaningful view on team behaviour (Yin, 2014). Every team member was interviewed individually. We chose a semi-structured interview, because we wanted to focus on specific subjects and had specific questions to be answered. On the other hand, we also wanted to explore in more depth the insights of interviewees about certain occurrences (Yin, 2014), how they experience and handle the developmental space paradox within their team. As

we were looking for effects of handling that paradox, we also compared 'successful and unsuccessful' teams (Brinkerhoff, 2002).

Procedure

Higher management of two youth care organizations and two higher education organizations was asked for participation of successful and unsuccessful teams. Successful teams perform the task well and collaborate well, whereas unsuccessful teams do not perform their task well and do not collaborate well (West & Hirst, 2005). Furthermore, we gave the following criteria: 2-10 people (Belbin, 2010; West & Hirst, 2005), working together on a complex task. By a complex task, we mean a task that requires creating new knowledge or new combinations of existing knowledge, taking into account the social process (Clegg et al., 2005; Corso et al., 2001; Kessels, 2004). We used a non-probability purposive sampling technique as we have criteria for the sample selection (Patton, 2002).

The teams did not know that their success was a criterion and being judged by their higher management. The sample (N=12 teams) consisted of 7 successful teams with 36 team members and 5 unsuccessful teams with 34 team members (Table 12). The total sample was N=70 team members, all highly educated. Three teams were teams (H,J,K) formed as part of the organisation structure. They had worked together as a team on a daily basis for years. The other 9 teams were composed for their complex task and started working together between 3-12 months before we interviewed them.

Table 12 *The sample*

Successful teams (N=7)				**Unsuccessful teams (N=5)**			
Team	Members	Men	Women	Team	Members	Men	Women
A	4	0	4	H	7	4	3
B	8	4	4	I	5	4	1
C	4	1	3	J	10	6	4
D	3	1	2	K	7	0	7
E	6	4	2	L	5	1	4
F	5	1	4				
G	6	4	2				

Interviewees were told that all information would be handled anonymously.
The interviews were audio taped, transcribed and checked for accuracy by the interviewee.
Two researchers conducted the interviews. They started by interviewing the team members of the first two teams together. After that they conducted the interviews separately from each other but coordinated after the next teams were interviewed to make sure that they were working similarly.

Measures

As we wanted to find out how team members experienced and handled the developmental space paradox, in the first part of the interview open questions about the team and collaboration were asked. For example: what is your assignment as a team; how would you paraphrase your collaboration; what were difficult moments in your collaboration; what were moments when you did not agree with each other? As we were specifically interested in the developmental space paradox, in the second part of the interview we explained the model of developmental space and the expected tension between the performance and sensemaking orientation (see Table 11). We asked what the interviewees recognized of that in their team.

Data analysis

A template analysis was chosen because it is appropriate for analysing large volumes of rich qualitative data and helpful in an exploratory research (Crabtree & Miller, 1999; King, 2012). Developing a coding template is the central technique. The analysis started with a limited number of predefined codes and the template was revised in response to the concerns arising from the data, as is common in template analysis (King, 2012; Waring & Wainwright, 2008). We thus coded deductively and inductively as is recommended in literature (Braun & Clarke, 2006; Joffe, 2012; King, 2012).

In NVivo, we first coded the data by hand using the predefined codes. The first code was developmental space, because creating that as a team seems to be a precondition for experiencing the developmental space paradox in the first place. With developmental space, we also used four sub codes - creating future, organizing, reflecting and dialoguing. As developmental space assumes there is a way of collaboration within a team, this also became a predefined code. The last predefined code was the developmental space paradox (see Table 13). Each code became a node in NVivo. Looking more closely at the outcomes of the codes, we concluded that in order to gain more insight into how teams experienced and handled the developmental space paradox, we needed another template. This iterative process, based on the research question, is common in template analysis (King, 2012). We used words, and their conjugations, that could be connected to the developmental space paradox (see Figure 12). These were words connected to tempo and time, because the developmental space paradox is about slowing down and speeding up (see Table 14). Others words were connected to tensions within teams or to the direction, because the developmental space paradox is also about narrowing down and opening up. Finally, we searched for balance, balancing and combining or combination, because we saw in the data that these terms were sometimes used to point out the developmental space paradox. Out of all these excerpts, we selected the ones connected to the developmental space paradox, 113 excerpts in total. We then searched for repeated patterns of meaning in the excerpts (Braun & Clarke, 2006; Joffe, 2012) and clustered them. This again was an iterative process as 'analysis involves a constant moving back and forward between ..., the coded extracts of data that you are analysing, and the analysis of the data that you are producing' (Braun & Clarke,

2006, p. 15). As final step, we compared within the clusters the outcomes of the successful and unsuccessful teams.

Table 13 *The predefined codes, their definitions and examples of excerpts.*

Codes	Definition	Excerpts
Developmental space	Creating developmental space by undertaking the four activities.	'We do everything. At the moment, our main focus is on creating future, but the other activities contribute to that'. (high) 'I see that different team members undertake different activities and by doing that as a team we undertake all four activities.' (high)
Creating future	Shared point on the horizon, shared question or desired result.	'It is very clear where we want to go, what we want to achieve and that also binds us together.' (high) 'All team members have a different focus and that does not fit well together.' (low)
Organizing	Planning and coordination, by making SMART agreements, dividing tasks and monitoring the resources.	'We divide practical assignments among team members and deliver on our promises.' (high) 'We could work more efficiently, for example we could monitor our time better.' (low)
Reflecting	Evaluation of the process and results and search for different (conflicting) perspectives.	'We searched for many different options. We visited different organisations to see how they worked and put all these options next to each other.' (high) 'We could reflect more, we never evaluate how we are working together as a team.' (low)
Dialoguing	Searching for shared reason by asking (critical) questions and being curious what is meant.	'There are often moments when someone comes up with a critical question like "maybe it's just me, but…" and this always leads to a more in-depth and good conversation.' (high) 'I think we could ask more questions sometimes. For example, someone says that students are not well prepared for practice. Then we sometimes forget to ask where this comes from, or who said this, etc.' (low)
Collaboration	Working together as a team.	'We have a lot of fun as team and really do operate as a team. We strongly feel we are doing and achieving this together.' (high) 'We are not one team. Everyone is on his own island and we do not reach other, although we need each other so much.' (low)
Developmental space paradox	Friction between moving forward, speeding up, focusing on the results and on the other hand, slowing down, diverging, looking for alternatives and evaluating.	'We looked at each other and said: we can do this for six more rounds, but now we just have to take a decision.' (high) 'We tend to look at things in a very practical way. I would like to look at it from a distance to get an overview of everything and be sure we are going in the right direction.' (low) 'We do things fast. We are action driven at the expense of precision.' (low) 'What I like is our combination of thinking things through theoretically and being productive.' (high)

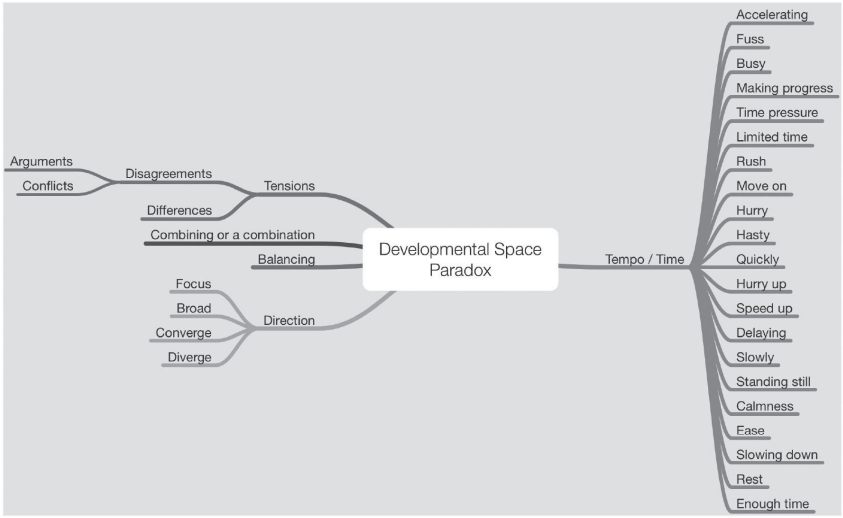

Figure 12. The words used searching for excerpts about the developmental space paradox

Table 14 *Example of the excerpts selected after the word search*

Words	Extracts
Accelerate	'For me it was sometimes difficult, because I often wanted to **accelerate**. However, my personal learning goal is learning to reflect more, so I suppressed my tendency of wanting to speed up.' 'I think our project manager and substitute project manager were a nice duo. One had enormous pulling power, helping us to **accelerate** and stay focused on our goal. The other slowing down by involving all team members and always asking them for their ideas.'
Disagreements	'We approve of team members **disagreeing**. Last week, for example, a colleague suggested that it might be an idea to structure our team meeting more, because it was chaotic. The rest of the team recognized and appreciated this.' 'We often disagree with each other and that is helpful for us. I think we should even organize this more by inviting others, with different ideas and viewpoints, to our meetings.'

Results

We started by examining the first part of our research question: How do teams experience the developmental space paradox? As said before, experiencing the developmental space paradox implies that teams put all four activities of developmental space in practice. Thirty-six team members answered 'no, we do not put them into practice'. For 3 teams (J,K,L), every member answered 'no'. 'Yes' was answered by 34 team members and for 4 teams (A,B,D,F) by every member. Secondly, team members were asked what their assignment and goal as a team was, because if all team members within a team have the same idea about this, they at least created future in combination with dialoguing and/or reflecting. In 7 teams (A,B,C,D,E,F,G), all team members had the same idea about their assignment and goal. In the other 5 teams, the ideas differed and in one team (K), all 7 team members actually gave a different answer.

From every team, at least one member and in total 69% of the team members mentioned something about the developmental space paradox (see the examples in Table 13) and thus experienced the developmental space paradox. Of all the experiences about the developmental space paradox mentioned, we see three common experiences referred to by at least one team member in every team. We describe them in random order.

Firstly, team members experienced high time pressure and a sense of urgency. This pressure seemed to be caused outside the team by a client, principal or manager. For some teams, the experienced pressure made it hard to devote attention to the sensemaking orientation. In every team, members mentioned that they could have paid more attention to reflecting and dialoguing. The time pressure seems to seduce teams to focus on the performance orientation. Only teams B and F evaluated their process regularly; the other teams never did this. All the teams evaluated their results, more or less frequently. A few team members reported that their team did not make time for reflection and dialoguing at all. Two teams (G, H) planned a few 'motivational events' during the year to dialogue and reflect, because they did not have time for that during their regular meetings. In the context of time pressure, one team (L) mentioned the paradoxical situation that time pressure kept them from meeting each other, but not meeting each other slowed them down and thus created even more time pressure. Other team members mentioned the time pressure in their team as being helpful. For example, one member of team B said: 'The time pressure helped us to balance. Taking time to search for alternatives and reflect on our approach, but also putting a point somewhere and achieving results in time.'

Secondly, teams felt uncertain about the completion of their assignment. A few teams (H,K,L), mentioned difficulty in accelerating, because they were uncertain whether they had taken enough alternatives into account. These teams seemed to

be too perfectionist with a risk of becoming paralyzed, getting stuck in a vicious circle or avoiding the sensemaking orientation. Other teams, on the other hand, had confidence that slowing down would pay back (B,F,G). For example, some teams invested time at the start getting to know each other, finding common ground and a shared understanding of their assignment and goal. According to these teams, they then felt they could accelerate. Other teams decided together that they had explored enough and felt that they could always turn back on that decision and explore more if needed (B, E).

Thirdly, the four activities of developmental space seem to be coupled to the personal preferences of the different team members. Teams consisted of members preferring to move on, plan and focus on the results and members preferring to slow down, ask questions and bring in different viewpoints. Some teams saw these differences as a gain (A,B,E,F,G) while for others it was a hindrance (H,I,J,L). In the latter case, it led to frustration and subgroup formation within teams. Sample quotes were: 'We had a few team members who found each other quickly and wanted to move on, whereas the others had difficulty keeping up with the pace.' 'We have two islands in our team.' 'At a certain point I wanted to move on, because we had to deliver a result on time. I felt very frustrated when the other team members went on and on asking questions.' For other teams, these differences actually seemed to be productive. A quote from a member in team B for example was: 'Our project leader is a quick thinker and very result driven. She knows her pitfall of moving too fast and she appreciates me, even though it is in her allergy to slow down and ask critical questions.

So how do teams experience the developmental space paradox? We see different reactions to three shared experiences. Time pressure and a sense of urgency can lead to complete focus on the performance orientation or can be helpful in balancing the two orientations. For some teams, uncertainty about completion leads to endless exploration or no exploration at all and for others to moving forwards and backwards once in a while. Different preferences of the team members in the two orientations of developmental space are fruitful for some teams and a hindrance for others.

The second part of our research question is: how do teams handle the developmental space paradox? Recognizing the paradox is the first step in handling it. 69% of the team members did recognize the developmental space paradox and 63% of members recognizing the paradox were team members from successful teams.

Focusing on the team goal was mentioned as a way of handling the developmental space paradox (B,F). Teams briefly returned to their team goal whenever the developmental space paradox was an issue and then, based on their goal, decided together what they needed to do. Quotes were: 'If we had discussions, we always asked whether this was relevant and urgent at that time for our assignment. If it was, we made time for it. If not, we decided to move on.' 'Whenever we had a conflict or discussion, we asked ourselves, in the light of our team goal, whether it was worth

taking the time for it or not.' Another way of handling the developmental space paradox seemed to be having faith that investing time by slowing down would pay dividends (B,F,G). Quotes included: 'Sometimes we really took the time for discussing and dialoguing, because we trusted that it would help us move on.' 'We took time to dialogue and reflect, because we believed that ultimately this investment would boost our productivity.' A few team members mentioned neglecting the paradox (I,J). One said: 'We did not do anything with the tension. We just moved on as if it did not exist and each team member went his own way.' One team member (J) mentioned balancing: 'we need to find a balance between accelerating and slowing down'. However, it is not clear whether and how the team managed that. Another team member (E) said: 'the team was quick to move forward and good at organizing. It helped us to pinpoint the moments and subjects we needed to slow down on and schedule time for that.'

We see roughly two ways of handling the developmental space paradox: balancing the two orientations by using the shared goal as a base, and denying which is reflected in choosing for the performance orientation.

For the final part of our research question, the effect of handling the paradox, we looked at the differences between successful and unsuccessful teams. Only 8.8% of the team members from unsuccessful teams said 'yes' we put all four activities of developmental space into practice, while 86.1% of the members of the successful teams confirmed this. This corresponds with results from earlier research (Derksen et al., 2014; Derksen et al., 2011). The 3 teams (J,K,L) where every team member said 'no' were all unsuccessful teams, and the 4 teams (A,B,D,F) where every team member said 'yes' were all successful teams. All the successful teams had a shared idea about their team goal and assignment, whereas the team members in all the unsuccessful teams were not united about that.

From the successful teams, 83.3% of the team members recognized the developmental space paradox and from the unsuccessful teams 52.9% recognized it (Table 15). Of the total of 113 responses on the developmental space paradox, 71% was given by team members from the successful teams and 29% by team members from the unsuccessful teams.

Table 15 *Responses to the developmental space paradox*

	Successful teams N=7	Unsuccessful teams (N=5)
Team members	36	34
Yes, we put all 4 activities into practice No, we do not put all 4 activities into practice	31 (86.1%) 5	3 (8.8%) 31
Members recognizing the developmental space paradox	30 (83.3%)	18 (52.9%)
Percentage of responses on the developmental space paradox	71% (of the total of 113 responses)	29% (of the total of 113 responses)

For the three ways teams experience the developmental space paradox (see question 1), we saw differences between the successful and unsuccessful teams (Table 16). With regard to the time pressure, the unsuccessful teams seemly felt unable to influence that and felt paralyzed by it, or avoided it by not focusing on the sense-making orientation at all. Thus these teams selected 'choosing or denying' as their strategy for handling the developmental space paradox and only focused on the performance orientation or acted as if the other side was not there. The successful teams, on the other hand, seemed able to influence the time pressure and even saw it as helpful in achieving results. Some successful teams regularly evaluated their process (B, F), while the unsuccessful teams never did this. Some successful teams slowed down and trusted it would pay dividends later.

Uncertainty about completion of the assignment worked out differently. The unsuccessful teams seemed afraid to make mistakes. They reported being trapped in endlessly exploring alternatives, or they did not explore them at all because they did not feel they had enough time. On the other hand, the successful teams seemed to explore alternatives and took a decision at some point, trusting that they could always adjust or make changes again later on.

The unsuccessful teams experienced the differences in team members' individual preferences for developmental space orientations as a hindrance. It frustrated them and sometimes led to subgroups or team members remaining as separate individuals. For the successful teams, however, it seemed productive, leading to better results. Quotes from unsuccessful teams were: 'During a meeting with a very clear goal, a few team members who were good at dialoguing kept asking critical questions. This meant we ultimately did not achieve our goal. Some of the others and I were very frustrated about this.' 'We need someone to bring those two sides together so that both sides are happy with the way the team moves on.' Someone from a successful team said: 'Because we all have such different backgrounds, we took some time to hear and examine everyone's perspective and this really helped us find a good solution.'

Table 16 *Differences in experiencing the developmental space paradox between successful and unsuccessful teams*

Ways teams experience the developmental space paradox	Unsuccessful teams	Successful teams
1. Time pressure and sense of urgency.	It comes from outside the team and the team is unable to influence this. It shackles and paralyzes the team or provokes a focus on the performance orientation. The team does not evaluate the process.	It comes from outside the team and the team is able to influence this. It is fruitful and helps balance the performance and sensemaking orientation. The team sometimes evaluates the process.
2. Uncertainty about completion of the assignment.	Afraid of overlooking things and making mistakes, leading to excessive exploration or avoiding it at all.	Dare to make choices and adjust later on if needed. Have the confidence that slowing down will pay dividends later.
3. Different team members materializing the developmental space paradox.	It is frustrating that others are different. This divides the team into subgroups or team members remain individuals.	It enriches that others are different and using the differences produces better results.

The unsuccessful teams handled the developmental space paradox by neglecting or choosing - explicitly or implicitly - for one side. The successful teams openly discussed whether they should move on or explore more. These teams found support in their clearly shared idea about their assignment and goal.

It is evident that the successful and unsuccessful teams experience and handle the developmental space paradox differently. The successful teams more often recognize the paradox. They accept that they have to deal with the tension, whereas the unsuccessful teams deny it and generally choose to focus on the performance orientation.

Discussion

We started this research with the question: How do teams experience and handle the developmental space paradox and what effect does that have? We see that the successful and unsuccessful teams experience and handle the developmental space paradox differently and wonder what triggers these differences. In our discussion, amongst others, we give suggestions for future research to gain insight into those triggers.

To answer the research question, we return to our summary of the literature about handling paradoxes, outlined in Figure 11. We see a difference in handling the

developmental space paradox between successful and unsuccessful teams. The successful teams more often recognize the developmental space paradox. Their reaction to the paradox also differs. The unsuccessful teams try to pretend that the paradox is not there or try to get rid of it as soon as possible. These teams, consciously or unconsciously, deny the tension and choose for the performance side. This often leads to frictions within these teams. For example, if a team member tries to devote attention to the paradox, he is gagged by one or more members leading to frustration and sometimes subgroups. All teams selecting these coping strategies, denying and choosing, were unsuccessful. The successful teams seem to accept that they have to deal with the tension and seem to embrace the two sides of the paradox. These teams seem to balance the two sides by alternately paying attention to the performance and sensemaking orientation. They seem to succeed in balancing the developmental space paradox by openly discussing whether they need to focus on their result and speed up (performance orientation), or need to slow down and diverge (sensemaking orientation). This looks like the 'exploratory cyclical journey' Lewis (2000) writes about. A new insight seems to be that these teams decide together what they need to do and that they make this decision based on their shared idea about their assignment and goal. This seems to correlate with the outcome that in all successful teams every team member had almost exactly the same idea about the desired result and their assignment. In the unsuccessful teams, however, ideas about the desired result and assignment differed between team members. For balancing, these successful teams also seem to apply other coping strategies mentioned in Figure 11: sparring, giving shared meaning and differentiating and integrating. Splitting seems to be the only coping strategy that can be effective and ineffective. In this study, that also seems to be the case. Teams G and H split the performance and sensemaking orientation by planning a few days for sensemaking a year. For team G this works, but for team H it does not.

From these differences in handling the paradox of developmental space, we wonder what leads to these different ways of handling this paradox? According to Miron-Spektor et al. (2011), that depends on our paradoxical frame and its activation. To us, however, the concept of 'a paradoxical frame' is not yet very clear. What is it exactly? What does activation of a paradoxical frame actually mean and how is it activated? Why do paradoxical frames differ for each person? Do they only differ for each person or also for each situation and context? Another problem is that the research into paradoxical frames mainly focuses on individuals. Is there a paradoxical frame for teams too? If so, how can teams influence their paradoxical frame?

If we look at a paradox as a tension persisting over time and we study ways to effectively handle this tension, this seems to resemble studies about coping with stress. Coping with stress is the process involved when someone tries to change what is stressful (Lazarus & Folkman, 1987). We also conclude that handling a paradox is a process of taking different steps. It may be interesting to tie these theories together in a future study and explore whether the theory developed about coping

with stress can shed more light on what a paradoxical frame exactly is, how it works and how and when it is activated. It seems that the way we handle paradoxes can be explained from different stances. Further research is needed to find more univocal explanations.

The interviews revealed that questions linked to paradoxes were negatively connoted by the interviewees. These included questions like: 'What were difficult or exciting moments you encountered as a team?' and 'What kind of positive conflicts did you encounter as a team?' We asked the latter because, according to Smith and Tushman (2005), if teams adopt a paradoxical frame they can handle positive conflict. Almost all interviewees reacted quickly that they did not have conflicts or difficult moments as a team. This seems to be a kind of defence, as if we asked about malfunctioning. Thus 'confronting' a team with a paradox appears to create an uncomfortable feeling and elicits defensiveness. The prevention thereof may require a safe environment and team climate in which team members can experiment and learn. Further research on how this works is needed.

Three ways of experiencing the developmental space paradox

This research shows that teams experience the developmental space paradox in three different ways. Firstly, the experienced time pressure and sense of urgency appear to make it hard for teams to pay equal attention to the performance and the sensemaking orientation. Time pressure reflects the tendency that nowadays organizations and teams need to achieve results as quickly as possible. Managers may be playing a key role in this as, according to Levinthal and March (1993), they often prioritise short term over long term, close over far, and certainty of success over risk of failure. The time pressure experienced easily provokes teams to focus on only the performance orientation. The time pressure paralyzes some teams, while others find it fruitful and helps them achieve results. Time pressure seems paradoxical in itself. Too much pressure seems paralyzing, 'the right amount' seems stimulating and too little may lead to laziness. However, what is 'the right amount of time pressure'? This probably differs for each team and situation. Further research is needed to explore what produces these differences in experiences and how time pressure can be helpful. Is this about team characteristics, environmental factors or other factors? What is the role of management in this?

Secondly, teams feel uncertain about completion of the assignment. It is unclear when one has reflected and dialogued enough. When has one taken enough alternatives into account? From every team, at least a few members mention that they could have paid more attention to reflecting and dialoguing. Especially for these diverging activities, it seems unclear when it is enough and can be finished. This seduces some teams into excessive exploration, coming close to the failure trap described by Levinthal and March (1993). Teams can be afraid of failure and be uncertain about the timing of the completion of their ideas (Mueller, Melwani, & Goncalo, 2011). This makes them unable to put an end to reflecting and dialoguing or not even have

the courage to start with it. In our study, we see both reactions with the unsuccessful teams. Successful teams in this study feel the space and have the confidence that a decision is temporary and that they can always change direction or go back and make different choices, or just trust that slowing down will pay dividends later on in the process. These reactions to uncertainty may depend on the team's regulatory focus (Higgins, 1998). Teams with a promotion focus will choose to move on and dare to take risks, whereas teams with a prevention focus will choose to avoid risks (Brockner & Higgins, 2001). In future research, it may be interesting to take the regulatory focus into account. Furthermore, it is interesting that at least one member from all teams mentions that the team did not reflect and dialogue enough. This may correspond with the personal preference of these members. Team members preferring reflecting and dialoguing may also have more need for these activities. In a follow up study, it would be interesting to take personal preferences into account.

Thirdly, every team mentioned that some members mainly focus on and represent the sensemaking orientation while others focus on and represent the performance orientation. In some teams, this diversity helps them handle the developmental space paradox and in others it is an insurmountable obstacle. Why does one team succeed in making the differences productive while others do not? This may depend on different diversity beliefs (Homan, Greer, Jehn, & Koning, 2010; Van Dick, Van Knippenberg, Hagele, Guillaume, & Brodbeck, 2008). Teams perform better if they have pro-diversity beliefs instead of pro-similarity beliefs (Homan, Van Knippenberg, Van Kleef, & De Dreu, 2007). Within some teams in our research, the diversity leads to subgroups and this looks like a faultline (Lau & Murnighan, 1998; Meyer, Glenz, Antino, Rico, & Gonzalez-Roma, 2014). A faultline 'depends on the compositional dynamics of the multiple demographic attributes that can potentially subdivide a group' (Lau & Murnighan, 1998, p. 325). Lau and Murnighan (2005) show that the stronger the faultline, the less effective the communication will be between subgroups. Carton and Cummings (2012) delineate that integration of the research on faultlines, diversity, and intergroup processes is needed to better understand subgroups. Other factors that may influence subgroup formation are: team identification (Bezrukova, Jehn, Zanutto, & Thatcher, 2009) and team climate (Chrislip, 2002; Mesmer-Magnus & DeChurch, 2009). These insights about subgroup research should be taken into account in follow up research. In order to create developmental space, teams seem to need members who are able to focus on the performance orientation and members who are able to focus on the sensemaking orientation. Future research questions might be: what kind of diversity do teams need to effectively and efficiently work on a complex task? How can teams make that diversity productive to achieve together the best possible result? And: faultline research is based on demographic faultlines, but does it also apply for other factors, like preferences in the developmental space?

Limitations

This is a small study focusing on only one paradox, the developmental space paradox.

More research on how teams experience and handle paradoxes is therefore required, taking into account the abovementioned influencing factors.

The qualitative approach employed in this study gives insight into how teams experience the developmental space paradox, how they handle it and into the impact of their selected strategies. We looked for themes in the data. The literature is ambiguous about the sample size needed. According to Guest, Bunce, and Johnson (2006), in a qualitative study, 6 interviews are enough to find the main themes and 12 interviews are enough to refine the themes and reach saturation. According to Joffe (2012), depending on the number of sub-groups within the sample, the sample size should be between 32-80 respondents. Our total number of interviews (N=70) therefore seems to be sufficient. On the other hand, the sample of 12 teams divided into two groups, successful (N=7) and unsuccessful (N=5), is relatively small.

A non-probability purposive sampling technique was chosen because we wanted to interview team members from teams working on a complex task and from successful and unsuccessful teams and thus had criteria for the sample selection (Patton, 2002). We used the success case method of Brinkerhoff (2002) to gain insight into the impact of selected strategies to handle the developmental space paradox. This helped us gain insight into effective and ineffective strategies. However, the criteria for successful and unsuccessful teams, based on West (2012), are not very strict and we relied on the estimation of managers. In a follow up study, we recommend using more objective criteria for the success of teams.

Only 3 (H,J,K) of the 12 teams are 'regular' teams, so part of the organizational structure and working together as a team on a regular and daily basis. Of the 9 special composed teams, 78% are successful and of the 3 'regular' teams 100% are unsuccessful. As we only have 3 regular teams, it is difficult to draw firm conclusions. At the same time, this difference between regular and specially composed teams may have influenced our results. For future research, we recommend choosing regular or specially composed teams or, if these two are combined in one study, we recommend a larger and more balanced sample.

The size of the teams varies from 3-10 team members. This might influence the outcomes. If we look at the mean team size of the successful teams, it is M=5.1 and for the unsuccessful teams M=6.8. In future research, we recommend taking team size as a measure into account.

Researching a complex and intangible phenomenon like paradoxes is problematic (Lewis, 2000) because some people do not recognize them and (un)consciously deny them. So can we find the developmental space paradox by interviewing? On the other hand, team members had often already given responses that we interpreted and linked to the developmental space paradox before we even asked

specific questions about it. With a method depending on explication, we have probably have not got to the bottom. In future research, it will be a challenge to find other research methods to help us further unravel how team members experience paradoxes and how they handle them.

We chose a semi-structured interview in which we started with open questions, followed by a brief explanation about the developmental space and its paradox. By explaining these two concepts, we control the responses of the interviewees. We recommend a follow up study without explicitly explaining and mentioning the developmental space paradox, yet still finding out how team members experience and handle this paradox.

Conclusions and practical implications

We were curious as to how teams experience and handle the developmental space paradox and what effect that has. We interviewed individual team members (N-70) from 12 teams, 7 successful and 5 unsuccessful teams.
All teams mentioned that they could have reflected and dialogued more. It seems that time pressure elicits the teams to focus on the performance orientation. However, all successful teams succeed in devoting attention to both the performance and sensemaking orientation, whereas most unsuccessful teams do not find the time to reflect and dialogue.

The successful teams recognized and experienced the developmental space paradox more often than unsuccessful teams. Team members seem to take different roles: some team members slow down and ask critical questions and bring in a multi-perspective (sensemaking orientation), while others want to move forward, plan and focus on the result (performance orientation). For successful teams, these differences seem to be productive. In the unsuccessful teams, these differences tend to create frustration and a schism or subgroup formation within the teams.

All unsuccessful teams employ ineffective coping strategies - repression, denial and choosing - to handle the developmental space paradox. The successful teams seem to employ a kind of an 'explorative cyclical journey' (Lewis, 2000) in which 'paradoxical inquiry' (Miron-Spektor et al., 2011) takes place. As for the coping strategies, most successful teams seem to constantly balance. One moment they choose together to move on and focus on the result, while at another moment they decide that they need to slow down and search for alternatives, etc. They make these choices explicit, consciously and together as a team. Moving back to their team goal or assignment helps them decide whether they need to move on or explore more. Organizing their work well also seems helpful. Some teams pinpoint critical moments up front and already plan extra time for reflection and dialoguing at these moments. This study shows that handling the developmental space paradox seems to be a critical success

factor for teams.

We close this chapter with two recommendations for teams and managers: invest time in creating a shared idea about the assignment and desired outcome as a team, because that is your guideline; and make space to decide together as a team on what to do when – focusing on the performance or on the sensemaking orientation.

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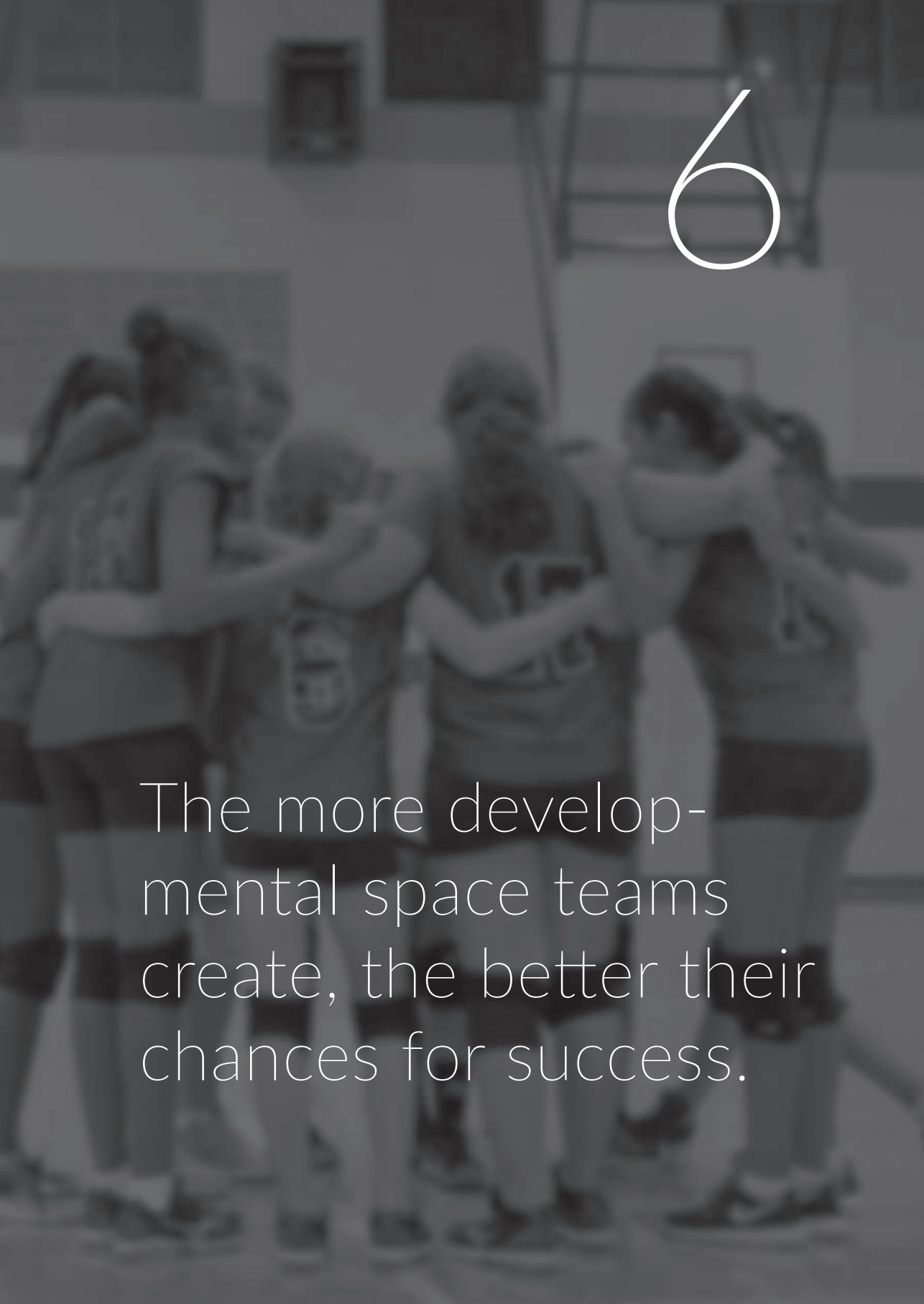

6

The more develop-
mental space teams
create, the better their
chances for success.

Final discussion

This research began with the main question: how can teams create developmental space in order to achieve the best possible result? Four studies were undertaken to answer this question.
Chapter 2 concluded that teams that pay attention to all four activities that constitute developmental space (see Figure 13) will create an environment that increases their chances of success as a team. Successful teams make use of all four activities, while unsuccessful teams not only overlook one, but usually two, of the four activities. Nevertheless, the question of whether developmental space does indeed consist of four activities or whether it is more about two dimensions remained unanswered by this study. In this regard, Chapter 3 reported on a quantitative study that showed that developmental space indeed consists of four activities and that the team's perception of the results correlates significantly with the 'size' of the developmental space. In other words, the more developmental space teams create, the more satisfied they are with their results. This chapter also revealed that the team's perception of the results is best when teams score high on both the performance and the sense-making orientations. Thus, this study showed that teams indeed need to pursue both orientations.

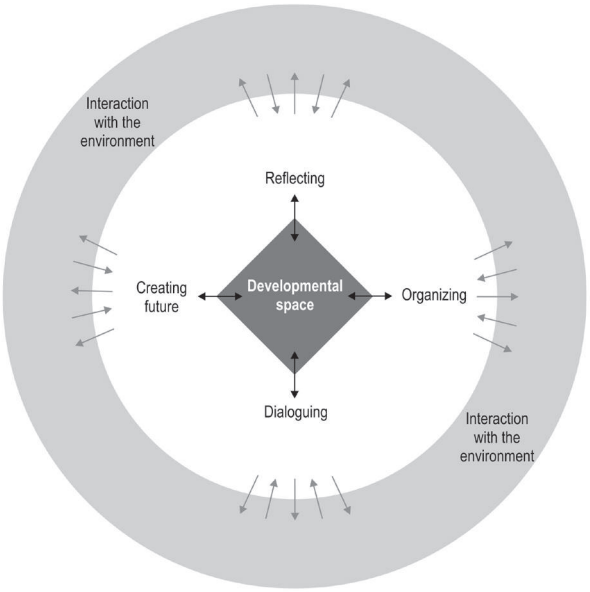

Figure 13. Model of developmental space

As leadership seems to play a role in creating developmental space, the next question, discussed in Chapter 4 was: what kind of leadership emerges in teams and supports the creation of developmental space, thus promoting better team results? The study reported on in this chapter confirmed that teams are most used to working with a single leader. A single leader emerged in all the teams in this study, with shared leadership only emerging when it was elicited intentionally. Both single and shared leadership can support the creation of developmental space and thus promote better team results. When single leaders primarily undertake reflecting and dialoguing activities, this seems to support the creation of developmental space. However, when single leaders primarily undertake creating future and organizing activities, they seem to hinder the creation of developmental space. Unfortunately, in this regard, single leaders who generally undertake reflecting and dialoguing activities seem to be scarce. Most leaders generally undertake creating future and organizing activities. Thus, it can be concluded that most single leaders seem to impede the creation of developmental space and thus impede the achievement of the best team results. Shared leadership seems to be supportive in creating developmental space, but does not seem to arise spontaneously. This chapter, however, did show that it can be elicited.

The final question addressed in this dissertation was: how do teams experience the developmental space paradox (Table 16); how do they deal with it, and what differences can be seen between successful and unsuccessful teams in handling the developmental space paradox? It was found that teams indeed seem to experience

the developmental space paradox: they feel the tension between the performance and sensemaking orientations. Successful teams more often recognize the developmental space paradox than unsuccessful teams do. All successful teams pay attention to both the performance and sensemaking orientations, while most unsuccessful teams do not find time to address the sensemaking orientation.

This dissertation revealed three different ways in which teams experienced the developmental space paradox. Firstly, all teams experience time pressure and a sense of urgency. Successful teams experience this as fruitful, helping them to balance the performance and sensemaking orientations, while unsuccessful teams seem shackled and paralysed by it, leading them to completely focus on the performance orientation. Secondly, all teams seem to be uncertain about the completion of their task. This makes unsuccessful teams afraid of making mistakes and overlooking things, which in turn leads to excessive exploration, or the avoidance of the exploration of options at all because it seems endless. Successful teams dare to make choices and trust that they can always readjust when needed during the process. Thirdly, the differences between team members can also play a role here. For example, one member might prefer dialoguing and another organizing. These differences lead to frustration and subgroup formation within the unsuccessful teams, while they seem to enrich and lead to better results in the successful teams.

Table 17 *The developmental space paradox*

Performance orientation	**Sensemaking orientation**
• Accelerate	• Slow down
• Result-driven	• Postpone the direction
• Focusing	• Broadening
• Giving answers	• Asking questions
• Fixing	• Enquiring
• Looking forward	• Standing still (or looking back)
• Action-oriented	• Thought-oriented

Each of these four studies attempted to contribute to answering the main research question: how can teams create developmental space in order to achieve the best possible result? In summary, it can be concluded that the more developmental space teams create, the better their chances are to achieve the best possible result. Teams create developmental space by undertaking four activities: creating future, reflecting, organizing and dialoguing. Teams need to undertake all four activities simultaneously or alternately. The more teams put all four activities into practice, the more successful they appear to be. They seem to succeed best in this by sharing the leadership within the team or by working with a single leader who focuses on dialoguing and reflecting activities. Furthermore, teams need to deal with the developmental space paradox because success requires a focus on both the performance and sensemaking

orientations. This demands an open communication process within the team. The results of this dissertation are summarized in Figure 14.

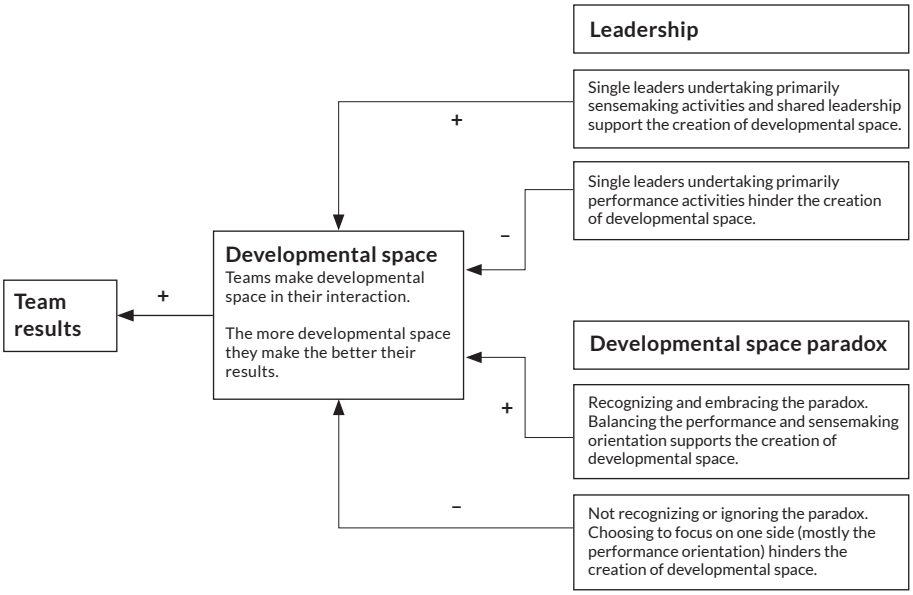

Figure 14. Summary of the results of this dissertation

Theoretical implications

This dissertation contributes to existing research on teamwork. Firstly, it extended Coenders' (2008) model of developmental space. In accordance with Coenders' research, more support for the existence of the four-factor structure of developmental space was found and it became clear that teams achieve better results if they create more developmental space. A language for developmental space was created that teams, managers and team facilitators seem to understand.

By developing a scale to assess the developmental space (see Chapter 3) and clearer language on developmental space, it will be easier to conduct further research on the concept in the future and to extend the theory developed so far. Future questions might include: what patterns can be distinguished in relation to the practice of the four activities that create developmental space? How do the four activities relate to the personal qualities of team members? Or: why do teams succeed or fail to create developmental space?

Secondly, the concept of developmental space integrates different theories and allows teams to grasp 'how' they can interact. Previous research on teams usually

focuses on the 'what' and/or on a specific topic. For example, that teams can out-perform individuals in solving complex tasks (Cummings & Worley, 2009; Goleman, Boyatzis, & McKee, 2002); that teams can be more creative and better at finding solutions (Chrislip, 2002; Snow, 1999); that teams have information-processing capabilities that exceed the individual capabilities of team members (Curşeu, Jansen, & Chappin, 2013); and that teams need a psychologically safe climate (Edmondson, 1999). In these studies, it often remains unclear how teams will achieve such a status, and when suggestions are given they only concern that particular issue. The same applies to theories describing why it is that teams do not succeed in realizing their full potential. For example, it has been found that teams do not recognize their most creative ideas (Rietzschel et al., 2006; 2010); or are afraid of failure and are uncertain about the completion of their work (Mueller et al., 2012); or team members speak different 'languages' (Vangen & Huxham, 2003).

The concept of developmental space extends this existing research by focusing on the 'how'. It gives teams an insight into 'how' they can work together to conceive the best possible results. With this focus on the 'how', this dissertation also integrates the different theories on the 'what', precisely by giving insight into how teams can achieve the 'what'. It seems, for example, that by creating developmental space teams are able to outperform individuals, are better at finding solutions, create a psychologically safe climate and do recognize their most creative ideas. Interesting future research questions might include: does developmental space lead to a psychologically safe climate, or does a psychologically safe climate lead to developmental space? Does developmental space help to make diversity within teams productive? And what is the influence of diversity on creating developmental space?

Thirdly, the dissertation linked theories on leadership to the developmental space (see Chapter 4). It extends the literature, arguing that both single and shared l eadership are associated with team effectiveness (Hoch & Morgeson, 2014), although with some qualifications. With respect to single leadership, the literature suggests that a combination of transactional and transformational leadership is most likely to support team effectiveness (Bass, Avolio, Jung, & Berson, 2003; Dorfman, 2004; Vangen & Huxham, 2003; West & Hirst, 2005). The findings of this dissertation show that single leaders should primarily undertake dialoguing and reflecting activities if they are indeed to be supportive of team results. Leaders who primarily undertake creating future and organizing activities hinder team results.

With respect to leadership emergence, this dissertation showed that single leadership emerges most within teams, and it confirms studies that have found that it is not always the best team member who becomes the leader (Lynn, Podolny, & Tao, 2009; Paunova, 2015). Moreover, it became apparent in Chapter 4 that most emerging leaders focus on creating future and organizing activities and by doing so hinder the creation of developmental space and thus, in turn, the achievement of the best results. Furthermore, in relation to shared leadership, Carson et al. (2007) demonstrated a

positive relationship with team performance. The studies in this dissertation also found this positive relationship, but demonstrated that such leadership does not arise by itself. Instead, it described an intervention to elicit shared leadership within teams. Future research questions in this regard might include: why are leaders who focus on reflecting and/or dialoguing activities supportive in the creation of developmental space? And what other ways are there to stimulate shared leadership?

Finally, the dissertation linked theories on paradoxes to the creation of developmental space (see Chapter 5), and elaborated the theory of paradoxes by presenting an overview of the literature of the process of handling paradoxes (see Figure 12). This is a three step process: 1) recognizing the paradox; 2) responding to the paradox; and 3) coping with the paradox. The findings indicate that the way teams handle the developmental space paradox – the tension between the performance and sense-making orientations – is associated with their level of success. The studies here support other research that argues that a focus on one side of the paradox alone is ineffective and that it is necessary to embrace both sides (Jay, 2012; Lewis, 2000; Lüscher & Lewis, 2008; Miron-Spektor, Gino, & Argote, 2011; Pacanowsky, 1995; Smith & Tushman, 2005).

The dissertation further extends the research on ways of handling paradoxes. Firstly, with our overview of the literature, and, secondly, with our finding that teams who openly discuss both sides of the paradox seem to be more successful than teams where one person, the leader (informal or formal), implicitly decides what to do. This seems to be linked to the research findings on leadership. However, precisely how and whether this is the case needs further research. Additional future research questions might include: how do paradoxical frames relate to the way teams handle paradoxes? And how exactly do teams handle paradoxes and what are the effects of different ways of handling paradoxes?

Practical implications

Organizations are increasingly relying on teams because tasks are becoming too complex for one individual to handle; however, teams often struggle to outperform their best team member (McGrath, 1984; Rietzschel, Nijstad, & Stroebe, 2006). In an attempt to address this reality, this dissertation offers practical suggestion for teams, managers and everyone working in teams.

Creating developmental space, promoting better team results

The results presented in this dissertation show that teams are likely to achieve better results if they create more, and a more balanced, developmental space. This space is a social space that teams create in their interactions with each other (Coenders, 2008) and their environment. This space is highly dynamic: at one moment a team might create an optimal developmental space, while at another moment it might

disappear. Teams, managers and team facilitators can use the model of developmental space presented in this dissertation to maintain or enhance their own developmental space. The questionnaire developed in Chapter 3 can be used to evaluate a team's developmental space and gain insight into it. This questionnaire has been translated into a free web application for teams in the Netherlands. Evaluating the product and process as a team seems to be a factor promoting success for teams. However, most teams are not used to evaluating their processes (see Chapter 5). The questionnaire and the web application on developmental space can assist teams to evaluate their product and process as a team. In practice, however, teams often need some initial coaching. Firstly, with respect to helping them interpret the outcomes of the evaluation, and, secondly, to help them engage in a productive conversation about the outcomes of the evaluation. In fact, this conversation in itself requires developmental space.

When teams are aware of the four activities needed to create developmental space, it helps them appreciate the diversity within their team. This was seen in our own team work on the studies reported on in this dissertation and in the field experiment in Chapter 4, in which a team member, good at dialoguing, said: 'I felt appreciated for the critical questions I always ask and it felt legitimate to do so'. Teams might, for example, examine the strengths of each team member in relation to the four activities. They might also use the activity cards that were used in the field experiment to ensure every team member realizes that they have a responsibility to contribute to the creation of developmental space. Working in this way, teams will pay attention to the qualities and the strengths of each team member and attempt to make the most of this (Buckingham & Clifton, 2001; Cooperrider, Whitney, & Stavros, 2008).

At the same time, being aware that all four activities are required does not automatically mean that teams are able to put all four into practice. Sometimes teams need coaching to learn this; sometimes teams need one or more new team members to better balance the qualities within the team; and sometimes a leader (formal or informal) may hinder the practice of the four activities (see Chapter 4) and should be coached or replaced.

In the second chapter, team facilitators reported that the model helped them to make clear to their team why they, as a facilitator, focus on reflecting and dialoguing. In this study, most teams appeared to focus on the performance orientation. Sometimes their focus on this was so strong that they had an allergic reaction to the sensemaking orientation. In these teams, it was almost impossible for the facilitator to motivate them to reflect and dialogue more, because they were convinced that it was a waste of time. In the Delphi rounds (Chapter 2), facilitators reported that the model helped them to make clear to the team why they, as a facilitator, focused on the sensemaking side, and teams with a better understanding accepted their interventions in this respect.

The influence of leadership on team results

This dissertation also shed light on the influence of leadership with respect to developmental space and promoting better team results. Teams and leaders can benefit from these insights. Firstly, most teams seem to prefer working with a single leader. Once teams are aware that the single leaders that emerge are not always the best leaders to achieve the best team results (Lynn et al., 2009; Paunova, 2015), they might more consciously choose a team member to take on the leadership role. The most helpful role a single leader can take on concerns reflecting and dialoguing activities. Such leaders, however, rarely emerge, with most leaders who do so are primarily interested in creating future and/or organizing activities. By focusing on these activities, they actually hinder the creation of developmental space and thus, in turn, achieving the best result. If teams are aware of this, they can choose a leader who is good at reflecting and/or dialoguing activities, or they might choose to share the leadership within the team.

Shared leadership also appears helpful with respect to creating developmental space and promoting better team results, but it does not emerge by itself. However, it can be elicited, for example, by using 'activity cards', as demonstrated in Chapter 4. As described above, this is an easy way of dividing responsibility for creating developmental space between the team members in accordance with their personal qualities. It also prevents teams from social loafing (Latané, Williams, & Harkins, 1979; West, 2012), because every team member is made responsible for the creation of developmental space and for the team result. These teams have an open discussion with each other about whether they need to focus on the result and move on, or whether they need to slow down and explore more. This seems helpful in achieving better team results. Although this may seem easy, in practice it is apparent that team members often find it difficult to combine a process role with their substantive role. Teams often need help to learn this; a facilitator might help them to achieve this during their work.

Handling the paradox of developmental space

The way teams handle the paradox of developmental space seems to influence their success. The three steps outlined in Chapter 5 can help teams to recognize and deal with the paradox of developmental space. Again, it seems to start with an awareness of the model of developmental space. If teams understand that they need to engage in all four activities that generate developmental space and intend to put all four into practice, this automatically means that they recognize the paradox and intend to embrace the two sides of it. This seems easiest for teams which immediately, from day one, start working as a team with the concept of developmental space, as existing teams already have their own patterns and habits, which are sometimes difficult to break. As the research undertaken here demonstrated, most teams have a tendency to focus on the performance orientation, and most are not aware of their one-sided approach until they become acquainted with the model of developmental space. Changing set patterns and habits is difficult and demands a learning

process, which often requires a facilitator.

Handling the paradox of developmental space requires an open communication process. Teams that openly discuss what they need to do, whether they need to move on and focus on the results (performance orientation), or whether they need to explore more (sensemaking orientation), appear more successful in handling the developmental space paradox and are thus more successful as a team (see Chapter 5). There are different effective coping strategies for handling a paradox, but they all have in common a focus on exploring, examining and asking different kinds of questions. In other words, the coping strategies appeal to dialoguing and reflecting activities in particular. If they are not already present within the team, this is one more reason to develop them. As mentioned above, teams can often benefit from the help of a team facilitator in developing their dialoguing and reflecting skills.

The lessons learned

By combining the above, a few recommendations for teams, managers and team facilitators can be given. Firstly, the team should be made familiar with the model of developmental space and allowed to practise all four activities that constitute developmental space. Secondly, make sure that every team member contributes to the creation of developmental space based on their own strengths and thus, in turn, to the team result. The activity cards can be used to achieve this. Thirdly, regularly evaluate the developmental space and make clear agreements on how to maintain or improve it. The questionnaire or the web application can be used for this purpose. Fourthly, choose a leader who is good at reflecting and/or dialoguing, or choose to share the leadership within the team. Regularly evaluate how the leadership within the team supports the creation of developmental space, and adjust it if necessary. Finally, balancing the two orientations sometimes requires more weight to be temporarily placed on one side. For many teams, this means they temporarily need to focus more on the sensemaking orientation. The challenge is to bring into and maintain the balance of these two sides of the paradox – the performance and sensemaking orientation.

Limitations and directions for future research

The study of teams inevitably entails dealing with a multitude of variables (Antoni & Hertel, 2009), making it impossible to study their functioning in its entirety. Therefore, teams are often studied in laboratory settings for just a short period of time, or they are studied in practice, focusing on only a part of their functioning. In addition, teams are studied through different lenses, from different perspectives and theoretical backgrounds. For example, team psychology, team dynamics, sociology, organizational studies, knowledge productivity. Although it is necessary to look at teams from different perspectives in order to gain a more complete insight into how teams function, it is not easy to tie such studies together, precisely

because of their different disciplinary backgrounds, and the variety of concepts and terminology used. As long as we struggle with these research problems and continue to study teams in terms of this or that aspect we will probably never gain a completely satisfactory insight into team effectiveness. This dissertation, unfortunately, also has its limitations. While the limitations to each of the four studies have already been discussed in the respective chapters, this final discussion will describe the overall limitations, accompanied by recommendations for future research.

Team processes and team effectiveness: measurement issues

As team processes play a pivotal role in team performance (Marks, Mathieu, & Zaccaro, 2001), we might decide to focus on them. Unfortunately, however, this focus is still not specific enough to ensure researchers address the same issues, as Marks et al. (2001, p. 357) point out: 'One particular problem that has slowed the progression of the team process literature is the diversity of variables that have been selected as "processes" in tests of I-P-O relationships'. The authors argued that team processes involve team members interacting with each other and their environment to yield meaningful outcomes and this does not entail looking at all other kinds of variables such as collective efficacy, potency, cohesion.

Although the dissertation focused on interactions, terms such as 'meaningful outcomes', 'team performance' and 'team effectiveness' are still problematic. They are neither very well nor unambiguously defined. This dissertation also used different terms and definitions. In chapter 2 we chose to evaluate whether or not teams were successful in their innovation. In chapter 3 we chose to look at the satisfaction levels of the respondents: the team members themselves. While this does not seem to be a very objective measure, LePine et al. (2008) confirm that objective team performance and team member satisfaction are positively and significantly related. Chapter 5 followed West and Hirst (2005), who stated that successful teams have a high task reflexivity and a high social reflexivity. Future research on team effectiveness would benefit from a more commonly agreed upon definition of team effectiveness, which would also make it easier to build on previous research and extend it. Perhaps a literature review can unravel the bundle of definitions on team effectiveness, leading to a common definition as a basis for future research.

Power and political games

In this dissertation, power and political games within teams and between teams and their environment were not especially taken into account. However, they probably do play a role in interactions. For example, one unsuccessful team described in Chapter 5 needed to innovate their educational programme. This team was anxious that top management would decide to dismantle their department. Some team members were frustrated by this, others paralyzed. Power and politics completely influenced this team's functioning. Another example might be a team in which the manager has an idea and a few team members have a completely different idea. Do they dare to put forward such a different idea when their manager is the one assessing

them and rewarding them? While leadership was taken into account in this dissertation, its relationship to power was not explicitly addressed.

Creating developmental space almost assumes a free play between team members, in which every team member has an equal voice, beyond the game of power and politics. However, is it ever possible to eliminate power and political games from teams and between teams and their environment? What influence do power and political games have on team interactions? What influence do they have on the creation of developmental space? How can teams handle power and political games within their team and between them and their environment?

Team composition

In some teams there seems to be a natural chemistry between team members, while in other teams this is not the case. What factors influence this chemistry? Is it related to personal qualities connected to the four activities making up developmental space, or are other factors involved?

The four activities constituting developmental space can perhaps be translated into individual capabilities or personal qualities of team members. One person may be better at creating future while another may be better at dialoguing, etc. This dissertation, however, does not give a conclusive answer to this question of whether the four activities indeed relate to personal capabilities or qualities. It may be interesting to investigate this, as it may help in the future composing of teams. If this turns out to be the case, the next question would be: do teams achieve better results if their composition is balanced with respect to the four activities making up developmental space? In other words, when all four activities are represented evenly within the team? If teams do not achieve better results when their composition is balanced, what other factors are influencing these results? One factor might be that teams perceive a fault line (Lau & Murnighan, 1998; Meyer, Glenz, Antino, Rico, & Gonzalez-Roma, 2014), meaning that the diversity divides the team into subgroups (see Chapter 5).

Team size is another factor associated with team composition. What effect does team size have on the creation of developmental space and thus on achieving team results? Some authors argue for teams between 3-10 members (Belbin, 2010; West & Hirst, 2005). In this dissertation, most teams were made up of between 3-10 people, but the effect of team size was not investigated. It is most likely that it will have some effect. In purely practical terms, if the team size increases, each team member has less time to speak and it also becomes more difficult to ensure that all team members are contributing to the team results. In other words, the likelihood of social loafing increases, and it is more difficult for the team as a whole to have a clear, shared idea about the desired team result (see Chapter 5).

Studying the whole

In this dissertation, both leadership and the handling of paradoxes were studied in relation to developmental space, but independently of each other. It would be interesting to combine the two in a follow-up study. Leadership may influence the way teams handle the developmental space paradox. In Chapter 4, it became apparent that leaders who primarily engage in creating future and/or organizing activities seem to hinder the creation of developmental space. Perhaps this is because they do not recognize, or even deny, the paradox and choose to focus on the performance orientation. Further research is needed to determine whether this is the case.

Furthermore, shared leadership elicited by the activity cards seemed helpful in creating developmental space and thus team results. This may be due to the fact that working in this way automatically leads to embracing both sides of the paradox and also elicits open communication about what the team needs to do and what the team needs to focus on. A future research question in this respect might be: does shared leadership automatically lead to embracing and openly discussing the paradox of developmental space?

Finally, we might wonder whether it could also be the other way round. Does the way a team handles the developmental space paradox influence the way it gives meaning to leadership? For example, if the team communicates openly about what it needs to do and what the focus should be on, does this lead, even temporarily, to shared leadership?

Confirmation Bias

Developmental space was already studied by Coenders (2008). Building our research on previous research has the advantage that research outcomes progress. On the other hand, there is the risk of confirmation bias. We looked in every study through the lens of developmental space. We also sometimes informed our respondents about the model of developmental space. Looking through a specific lens and priming respondents may lead to finding what you were looking for. In our case 'prove' that the developmental space exists. But in every research researchers have to deal with the paradox that looking for evidence to confirm or to disconfirm a hypothesis both inhibits the risk of confirmation bias (Evans, 1989; Nickerson, 1998).
Thus it seems that confirmation bias hardly ever can be ruled out. What did we do to reduce this risk? We are clear that our lens during the studies was 'the developmental space'. We made use of many different references to substantiate our findings. However, it would be useful to find out if researchers and respondents, completely unaware of the developmental space, studying interactions within teams would come up with the same sort of outcomes. This seems a useful and challenging follow up study.

Generalizability of the findings

This dissertation focused on teams working on a complex task, meaning that the task

requires the teams to acquire new knowledge or new combinations of knowledge, taking the social process into account (Clegg, Kornberger, & Pitsis, 2005; Corso, Martini, Paolucci, & Pellegrini, 2001; Kessels, 2004). Focusing on these kinds of teams still leads to a great deal of diversity across teams. For example, they might be project teams, regular teams, 'think tanks' or even a task force. In addition, such teams might also work in very different organizations. For example, in higher education, health care (hospitals, youth care and elderly care), the recruitment industry, consulting firms or the financial sector. Future research should determine whether the model of developmental space, including the ideas about leadership and the developmental space paradox, can be generalized to other kinds of teams. For example, teams working on routine tasks or on 'business as usual'.

Finally

This dissertation attempted to contribute to the quest for theories and models that could help explain teamwork and achieve better team results. Although there are still many unanswered questions and new questions arose during this research, this dissertation offers answers and helpful clues for teams, managers and everyone working with teams. With four studies we try to answer the question how teams can create developmental space in order to achieve the best possible result. In these studies, it seems that the more developmental space teams create the more satisfied they are with their result. Teams create developmental space in their interactions by undertaking four activities: creating future, reflecting, organizing and dialoguing. To create developmental space teams need to practice all four activities simultaneously or alternately. Teams seem to succeed best in this if they share the leadership within the team or if they have a leader practicing mostly dialoguing and reflecting activities. The latter however seems scarce. Furthermore, it seems that teams have to deal with a paradox while creating developmental space because they need to focus on both the performance and sensemaking orientation. Recognizing, embracing and balancing these two sides of the developmental space paradox seems a success factor for teams.

We hope everyone can experience, at least once in their lifetime, the magic of teamwork and the amazing results that can be achieved!

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Summary

As today's organizations face the challenge of fast-paced change and innovation (Drucker, 2001; Harrison & Kessels, 2004; Kessels, 2004; Senge et al., 1999; Wierdsma, 2007) the emphasis on teamwork has been growing rapidly, since the nature of work has become increasingly complex, often too complex for a single individual. Teams can outperform individuals when it comes to solving complex tasks (Cummings & Worley, 2009; Goleman, Boyatzis, & McKee, 2002), because they have greater information processing capacities (Curşeu, Jansen, & Chapin, 2013), can achieve greater creativity by working together and can therefore achieve more effective solutions (Chrislip, 2002; Snow, 1999). Despite their potential, many teams struggle to outperform their best member (Curşeu et al., 2013; McGrath, 1984; Rietzschel, Nijstad, & Stroebe, 2006). Researchers, organizations and teams are therefore urgently seeking theories and models which can explain teamwork and help teams to achieve better results (Dionne, Yammarino, Atwater, & Spangler, 2004; Marks, Mathieu, & Zaccaro, 2001). Our aim in this study is to contribute to this objective.

> The main research question of this dissertation is: How can teams create developmental space in order to achieve the best possible result?

The research question implies that we are interested in the effectiveness of teams. A great deal of research on this topic has been carried out for quite some time. However, Antoni and Hertel (2009) have highlighted the complexity of such research, given the vast number of variables which influence team effectiveness. Of these many variables, research suggests that team interactions have the most profound influence on effectiveness (Leenders, Contractor, & DeChurch, 2015; LePine, Piccolo, Jackson, Mathieu, & Saul, 2008; LePine, Hanson, Borman, & Motowidlo, 2000; Tjosvold, West, & Smith, 2003), which is why these interactions are the focus of the present study. Marc Coenders conducted doctoral research on team interactions in 2008. His model of developmental space (Coenders, 2008) forms the starting point for this dissertation. The appeal of this model lies partly in its apparently simple structure, based on four dimensions. It also speaks to the logical notion that teams need to create a social space, a setting in which to flourish and achieve the best results. Nevertheless, the underlying theory and the terms used within the model are highly complex and not directly applicable by teams in their daily practice. We have taken up the challenge of further developing this concept and making it practical for teams, managers, and anyone who works with teams.

Any research into teams calls for a clear definition of what is meant by the term

'team'. For the purposes of this study, team is defined as a group of 2-10 people working together on a complex task. The team members fulfil different roles or functions within the team, have a shared goal and need each other to achieve that goal. A team may therefore take many forms, including a project team, a core team, a working group, an occasional team and a think tank. The focus is on the shared complex task since the task is a key factor in the process and performance of teams (Antoni & Hertel , 2009). By complex task we mean any task that requires knowledge creation or new combinations of existing knowledge and that necessitates a learning process in order to achieve completion (Boonstra, 2008; Clegg, Kornberger, & Pitsis, 2005; Corso, Martini, Paolucci, & Pellegrini, 2001; Kessels, 2004).

Model for developmental space

In Chapter 2, we redesign the model of developmental space proposed by Coenders (2008). We are in search of a model which will help teams, managers and everyone who works with teams to analyse and influence the developmental space. This gives rise to the following description:
Developmental space is a social and conceptual space that arises from the mutual interaction between team members and the interaction between the team and the environment. It is a dynamic space. Teams create this space by engaging in four activities: creating future, reflecting, organizing and dialoguing (see Figure 15).

In an optimal developmental space, team members feel free to express themselves. They trust each other and feel confident enough to introduce novel ideas and opinions. They are able to openly discuss ideas which are disparate and sometimes conflicting. At the same time they are focused on the result they want to achieve within the time and budget at their disposal.

In Chapter 3, we continue this research by testing the model quantitatively.
The questionnaire which we have developed for this purpose would appear to be an instrument teams can use to analyse their developmental space. Both studies show that the more developmental space teams create, the greater their satisfaction with their results.

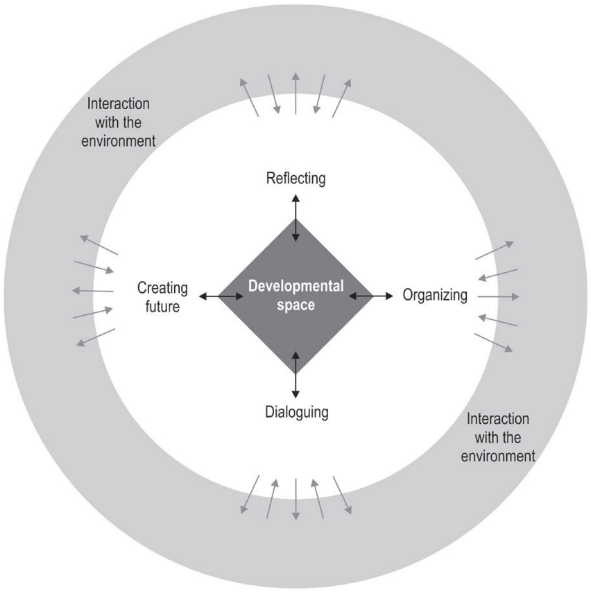

Figure 15. Model of developmental space

Developmental space and leadership

In the literature, leadership is seen as a crucial factor in team success (Carson, Tesluk, & Marrone, 2007; Edmondson, 1999; Hoch & Morgeson, 2014; Kozlowski, Gully, Salas, & Cannon-Bowers, 1996; Sarin & McDermott, 2003; Yukl, 2013; Zaccaro, Rittman, & Marks, 2001). Chapter 4 examines the types of leadership that emerge in teams and which type of leadership encourages the creation of developmental space. We conduct a qualitative study, consisting of a multiple case study (N=10 teams) and a field experiment (N=6 teams), since we are not sure whether shared leadership occurs naturally in teams.

This study shows that teams usually operate with a single leader and that only the leaders who primarily reflect and engage in dialogue are conducive to the creation of developmental space. Such leaders appear to be scarce. Most of the leaders in this study engage primarily in creating future and organizing, and in doing so they impede the creation of developmental space and form an obstacle to achieving the best results. Other studies show that the team member who acts as the leader is often not the member who is best suited to this role (Lynn, Podolny, & Tao, 2009; Paunova, 2015).
The present study also shows shared leadership to be conducive to the creation of developmental space, while shared leadership not occurs naturally in teams. However, the field experiment provides evidence that shared leadership can be prompted by a relatively simple intervention: activity cards which divide the four

developmental space activities among the team members. Each team member is assigned responsibility for one of the four activities, based on their personal qualities.

The developmental space paradox

In addition to leadership, dealing with paradoxes would also appear to influence the creation of developmental space. In Chapter 5, we therefore examine how teams experience the developmental paradox, how they handle it and how it affects them. The creation of developmental space seems to require a simultaneous focus on the performance orientation (creating future and organizing) and on the shared sense-making orientation (reflecting and dialoguing). Although these two orientations appear to be at odds with each other (see Table 18), teams seem to need both in order to function effectively. This is why it appears to be a paradox: two contradictory yet interrelated elements which occur simultaneously and persist over time (Smith & Lewis, 2011).

Dealing with a paradox seems to consist of three successive stages: 1) recognizing the paradox; 2) relating to the paradox; and 3) dealing with the paradox. In this study, successful and unsuccessful teams are shown to take differing approaches to the developmental space paradox. Successful teams are more likely to recognize the developmental space paradox. They embrace the two sides of the paradox and attempt to strike a balance, while the unsuccessful teams do not see the paradox or attempt to deny it, and often choose to focus on the performance orientation.

Table 18 *The paradox of developmental space*

Creating future & organizing (performance orientation)		**Dialoguing & reflecting (sensemaking orientation)**
Accelerate	<-->	Slow down
Results-driven	<-->	Postpone the direction
Focusing	<-->	Broadening
Giving answers	<-->	Asking questions
Fixing	<-->	Inquiring
Looking forward	<-->	Standing still (or looking back)
Action-oriented	<-->	Thinking

Conclusions and recommendations based on this study

The main research question of this dissertation is how teams can create developmental space in order to achieve the best possible result as a team. Teams create this space by engaging in four activities: creating future, reflecting, organizing and dialoguing. The more they put these four activities into practice, the more developmental space they create and the greater the satisfaction with their results, both within the team and among third parties. Figure 16 summarizes the main results of this dissertation.

The questionnaire developed in the course of this study can help teams to analyse their developmental space and influence it accordingly. In the Netherlands, this questionnaire has been developed for a free web application for teams. The questionnaire can also be used for follow-up research. The model of developmental space, with its four activities, can help teams to achieve the diversity they need to better understand and utilize their potential as a team.

Shared leadership and leaders who primarily engage in dialogue and reflection seem to be conducive to the creation of developmental space. Most leaders, however, seem to be primarily engaged in creating future and organizing. This appears to stand in the way of creating developmental space and therefore of achieving the best results.

Finally, the way in which teams deal with the developmental space paradox appears to influence their success. This starts with the ability and willingness to recognize the paradox and to embrace both sides of the paradox. The essence of all effective strategies for dealing with a paradox resides in the open examination of the two sides by asking questions of different types and in continuing to address both sides of the paradox throughout the process.

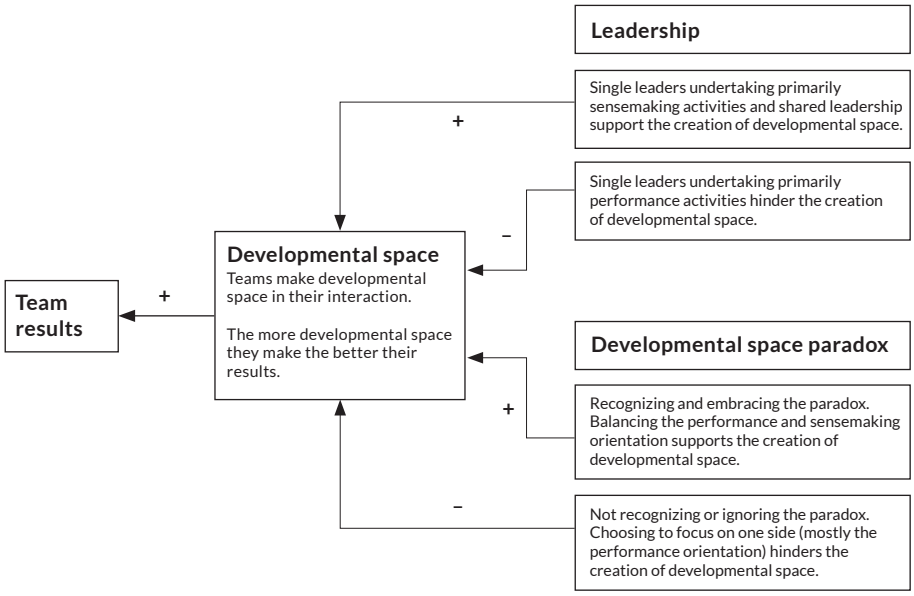

Figure 16. Summary of the results of this dissertation

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Samenvatting

Dutch Summary

Nu organisaties in hoog tempo moeten veranderen en innoveren (Drucker, 2001; Harrison & Kessels, 2004; Kessels, 2004; Senge et al., 1999; Wierdsma, 2007) heeft teamwerk een vlucht genomen, want het werk wordt steeds complexer en vaak te complex voor één individu. Teams kunnen individuen overtreffen in het oplossen van complexe taken (Cummings & Worley, 2009; Goleman, Boyatzis, & McKee, 2002), omdat ze over betere informatieverwerkingscapaciteiten beschikken (Curşeu, Jansen, & Chappin, 2013), samen creatiever kunnen zijn en daardoor betere oplossingen kunnen vinden (Chrislip, 2002; Snow, 1999). Ondanks hun potentie, lukt het veel teams niet om beter te presteren dan het beste teamlid uit een team alleen zou kunnen (Curşeu et al., 2013; McGrath, 1984; Rietzschel, Nijstad, & Stroebe, 2006). Onderzoekers, organisaties en teams zoeken daarom naarstig naar theorieën en modellen die teamwerk verklaren en die helpen om betere teamresultaten te behalen (Dionne, Yammarino, Atwater, & Spangler, 2004; Marks, Mathieu, & Zaccaro, 2001). Aan die queeste proberen we met dit onderzoek bij te dragen.

De centrale vraag van dit proefschrift is: Hoe kunnen teams ontwikkelruimte creëren met als doel het best mogelijke resultaat te behalen?

De onderzoeksvraag impliceert dat we geïnteresseerd zijn in de effectiviteit van teams. Naar dat onderwerp wordt al lang en heel veel onderzoek gedaan. Antoni and Hertel (2009) maken echter duidelijk hoe complex dit onderzoek is, omdat er zo enorm veel variabelen op de effectiviteit van teams van invloed zijn. Echter de team-interacties lijken het meest van invloed op de effectiviteit (Leenders, Contractor, & DeChurch, 2015; LePine, Piccolo, Jackson, Mathieu, & Saul, 2008; LePine, Hanson, Borman, & Motowidlo, 2000; Tjosvold, West, & Smith, 2003), daarom richten we ons in dit onderzoek op die interacties. In 2008 promoveerde Marc Coenders op teaminteracties, hij ontwikkelde een model voor teamontwikkelruimte en dat is het vertrekpunt voor dit proefschrift. Het model van teamontwikkelruimte (Coenders, 2008) spreekt ons aan. Enerzijds omdat het eenvoudig lijkt met vier dimensies. Anderzijds lijkt het idee logisch dat teams in hun samenwerking met elkaar een sociale ruimte maken die zij nodig hebben om te floreren en het beste resultaat te behalen. Tegelijkertijd lijkt het model door het taalgebruik en de achterliggende theorie erg complex en niet zomaar toepasbaar voor teams in hun dagelijkse praktijk. We pakken de uitdaging op om dit concept verder te ontwikkelen en praktisch te maken voor teams, managers en iedereen die met teams werkt.

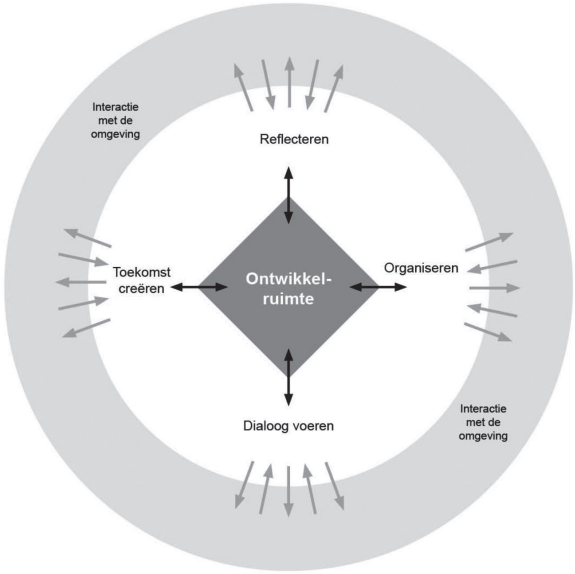
Onderzoek doen naar teams vraagt om een duiding wat we onder 'een team' verstaan. In dit onderzoek is een team een groep van 2-10 personen die samen werken aan een complexe taak. De teamleden vervullen verschillende rollen of functies binnen het team, ze hebben een gezamenlijk doel en hebben elkaar nodig om dat doel te behalen. Een team kan dus een projectteam zijn, een regulier team, een werkgroep, een gelegenheidsteam, een denktank, etc. De focus ligt op de gezamenlijke complexe taak, omdat de taak een sleutelfactor is in het proces en de performance van teams (Antoni & Hertel, 2009). Onder een complexe taak verstaan we elke taak die kennis-creatie of nieuwe combinaties van bestaande kennis vraagt en waar dus een leer-proces voor nodig is om die taak te vervullen (Boonstra, 2008; Clegg, Kornberger, & Pitsis, 2005; Corso, Martini, Paolucci, & Pellegrini, 2001; Kessels, 2004).

Model van teamontwikkelruimte

In hoofdstuk 2 herontwerpen we het model van teamontwikkelruimte van Coenders (2008). We zoeken naar een model dat teams, managers en iedereen die werkt met teams helpt om de teamontwikkelruimte te analyseren en te beïnvloeden. Dat levert de volgende beschrijving op: Teamontwikkelruimte is een sociale en mentale ruimte die voortkomt uit de interactie tussen teamleden onderling en de interactie tussen het team en de omgeving. Het is een dynamische ruimte. Teams maken die ruimte door vier activiteiten te ondernemen: toekomst creëren, reflecteren, organiseren en dialoog voeren (zie Figuur 17).

In de optimale teamontwikkelruimte voelen teamleden zich vrij om zich uit te spreken. Ze vertrouwen elkaar en durven afwijkende ideeën en meningen in te brengen. Ze zijn in staat om die verschillende, soms conflicterende, ideeën openlijk te bespreken. Tegelijkertijd zijn ze gefocust op het resultaat dat ze willen behalen binnen de tijd en het budget dat ze beschikbaar hebben.

In hoofdstuk 3 vervolgen we dit onderzoek door het model kwantitatief te toetsen. De vragenlijst die we daarvoor ontwikkelen lijkt een instrument voor teams om hun teamontwikkelruimte te analyseren. In deze beide studies blijkt dat hoe meer ontwikkelruimte teams maken, hoe tevredener ze zijn over hun resultaten.



Figuur 17. Model van teamontwikkelruimte

Teamontwikkelruimte en leiderschap

Leiderschap wordt in de literatuur gezien als een cruciale factor voor teamsucces (Carson, Tesluk, & Marrone, 2007; Edmondson, 1999; Hoch & Morgeson, 2014; Kozlowski, Gully, Salas, & Cannon-Bowers, 1996; Sarin & McDermott, 2003; Yukl, 2013; Zaccaro, Rittman, & Marks, 2001). In hoofdstuk 4 onderzoeken we welke vormen van leiderschap zich voordoen in teams en welk leiderschap het creëren van teamontwikkelruimte stimuleert. We voeren een kwalitatief onderzoek uit, bestaande uit: een multiple casestudie (n=10 teams) en een veldexperiment (n=6 teams), omdat we niet zeker zijn of gedeeld leiderschap vanzelf voorkomt in teams.

In deze studie blijkt dat teams meestal met één leider werken en dat alleen de leiders die vooral reflecteren en dialoog voeren bevorderlijk zijn voor het creëren van teamontwikkelruimte. Dat type leiders lijkt echter schaars. De meeste leiders in deze studie ondernemen vooral de activiteiten toekomst creëren en organiseren en staan daarmee het creëren van teamontwikkelruimte en het behalen van het beste resultaat in de weg. Ook uit andere onderzoeken blijkt dat vaak niet het meest geschikte teamlid 'de leider' wordt van het team (Lynn, Podolny, & Tao, 2009; Paunova, 2015).
Gedeeld leiderschap blijkt in deze studie ook bevorderlijk voor het creëren van teamontwikkelruimte, maar ontstaat niet vanzelf in teams. In het veldexperiment blijkt echter dat gedeeld leiderschap wel uitgelokt kan worden met een relatief eenvoudige interventie; activiteiten kaarten. Teams verdelen de vier activiteiten

van teamontwikkelruimte over de teamleden. Elk teamlid krijgt, op basis van zijn persoonlijke kwaliteiten, de verantwoordelijkheid voor één van de vier activiteiten.

De teamontwikkelruimte paradox

Naast leiderschap lijkt ook het omgaan met paradoxen van invloed op het creëren van teamontwikkelruimte. In hoofdstuk 5 onderzoeken we daarom hoe teams de teamontwikkelruimteparadox ervaren, hoe ze ermee omgaan en wat het effect daarvan is. Het maken van teamontwikkelruimte lijkt een tegelijktijdige focus op de performance oriëntatie (toekomst creëren en organiseren) en de gedeelde betekenisgeving oriëntatie (reflecteren en dialoog voeren) te vragen. Die twee oriëntaties lijken op gespannen voet met elkaar te staan (zie Tabel 19), en tegelijkertijd lijken teams ze wel beiden nodig te hebben. Vandaar dat het lijkt op een paradox, want een paradox bestaat uit twee tegenstrijdige aan elkaar gerelateerde elementen die gelijktijdig voorkomen en altijd blijven bestaan (Smith & Lewis, 2011).

Het omgaan met een paradox lijkt te bestaan uit drie opeenvolgende stappen: 1) het herkennen van de paradox; 2) je verhouden tot de paradox; 3) en omgaan met de paradox. In deze studie blijken succesvolle en niet succesvolle teams anders met de teamontwikkelruimteparadox om te gaan. Succesvolle teams herkennen vaker de teamontwikkelruimteparadox. Zij omarmen de twee zijden van de paradox en proberen daartussen te balanceren. Terwijl de niet succesvolle teams de paradox niet zien, of deze proberen te ontkennen en ze kiezen veelal om te focussen op de performance oriëntatie.

Tabel 19 *De paradox van teamontwikkelruimte*

Toekomst creëren en organiseren (oriëntatie op uitkomst)		**Dialoog voeren en reflecteren (oriëntatie op betekenisgeving)**
Versnellen	<-->	Vertragen
Resultaatgericht	<-->	Richting uitstellen
Focussen	<-->	Verbreden
Antwoorden	<-->	Vragen
Oplossen	<-->	Onderzoeken
Vooruit	<-->	Stilstaan (of terugkijken)
Actiegericht	<-->	Denkgericht

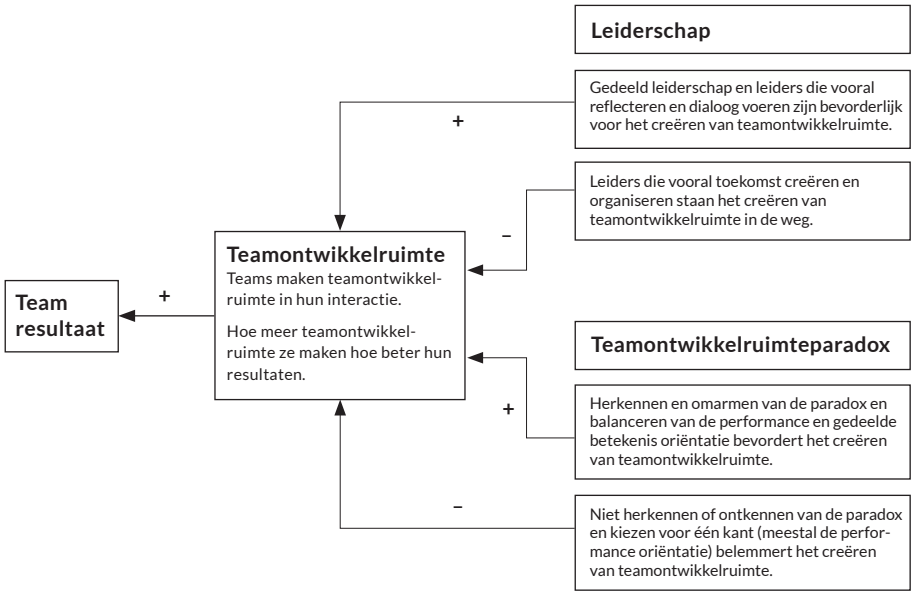
Conclusies en aanbevelingen op basis van deze studie

De centrale vraag van dit proefschrift was hoe teams teamontwikkelruimte kunnen creëren om als team het best mogelijke resultaat te behalen. Teams maken teamontwikkelruimte door vier activiteiten te ondernemen: toekomst creëren, reflecteren, organiseren en dialoog voeren. Hoe meer ze deze vier activiteiten in praktijk brengen, dus hoe meer teamontwikkelruimte ze maken, hoe tevredener teams en derden zijn over hun resultaten. Figuur 19 vat de belangrijkste resultaten van dit proefschrift samen.

De ontwikkelde vragenlijst kan teams helpen om hun teamontwikkelruimte te analyseren en beïnvloeden. In Nederland is de vragenlijst uitgewerkt naar een gratis webapplicatie voor teams. Verder kan de vragenlijst worden gebruikt voor vervolgonderzoek. Het model van teamontwikkelruimte, met zijn vier activiteiten, kan teams helpen om de diversiteit die ze nodig hebben als team beter te begrijpen en te benutten.

Gedeeld leiderschap en leiders die vooral dialoog voeren en reflecteren lijken bevorderlijk te zijn voor het creëren van teamontwikkelruimte. De meeste leiders blijken echter vooral veel toekomst te creëren en te organiseren. Zij lijken het maken van teamontwikkelruimte te belemmeren en dus het behalen van het beste resultaat in de weg te staan.

Tot slot lijkt de manier waarop teams omgaan met de teamontwikkelruimteparadox hun succes te beïnvloeden. Dit begint bij het vermogen en de bereidheid om de paradox te herkennen en de twee zijden van de paradox te omarmen. De essentie van alle effectieve strategieën om met een paradox om te gaan is het open onderzoeken van de twee kanten door verschillende soorten vragen te stellen en te (blijven) werken aan beide kanten.



Figuur 19. Samenvatting van de belangrijkste resultaten van dit proefschrift

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Curriculum Vitae

Karin Derksen was born on December 9, 1964 in Duiven in the Netherlands.
She studied nursing and nurse teaching She became a learning consultant in 1995 in the hospital in Apeldoorn and switched in 1997 to a hospital in Deventer.
In 1999 she started studying Educational Sciences at the University of Twente.
She specialized in Human Resources Development and combined her study with her work as a consultant in the Deventer Hospital. For her master thesis she researched the effectiveness of a management development program in the Deventer hospital. She received her master's degree with honours in 2004.

Following this graduation, in 2004 she started working as a consultant at EMC performance, a consultancy. She contributed to all kinds of advisory projects concerning human resources development in organizations. She specialised in management development as a vehicle for organizational development and team development. She was a team manager at EMC for two years and then decided she wanted to combine working as a consultant with research. In November 2008 she therefore started with her PhD about how team members can interact as to achieve the best possible results together. In 2011 she started as an independent consultant with her colleague Arjen Kaarsemaker under the name KADE. Together they further specialised in management development and team development and work for clients in the cure and care, vocational education and government.
At the end of 2008 she began her PhD under the supervision of Léon de Caluwé and Robert-Jan Simons and later Joyce Rupert and still later Rob Blomme joined as supervisors.

Colofon

Ontwerp en lay-out
Eric van Arendonk

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This dissertation contributes to theories and models that help explaining teamwork in order to achieve better team results. In four studies we investigate how teams can create developmental space in order to achieve the best possible result. These studies indicate that the more developmental space teams create, the more satisfied they are with their result. Teams create developmental space in their interactions by undertaking four activities: creating future, reflecting, organizing and dialoguing. In order to create developmental space, teams need to practice all four activities simultaneously or alternately. Teams seem to succeed best in this if they share the leadership within the team or if they have a leader practicing mostly dialoguing and reflecting activities. However, the latter seems scarce. Furthermore, the results indicate that teams have to deal with a paradox while creating developmental space because they need to focus on both a performance and sensemaking orientation. Recognizing, embracing and balancing these two sides of the developmental space paradox also seems a success factor for teams.

The more developmental space teams create, the better their chances for success.