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A Longitudinal Case Study in a Higher Education Context

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Cover photo by Kare Norvapalo "Oulunka Canyon (Oulangan kanjoni)"
in Oulunka National Park, Salla, Finland.

Dedicated to my wife Päivi and our two children Joonas and Samuli.

ABSTRACT

This longitudinal case study focuses on leadership, and particularly on the relationship between leader and follower in an educational organisation. In this research, the interaction between leader and follower is studied using leader-member exchange theory (LMX). This theory conceptualises leadership as a process that is focused on the dynamics between leaders and followers. Furthermore, this research makes a contribution to prior research on LMX by linking the concept of psychological capital (PsyCap) to it.

The overall goal of the study is to increase our understanding of the development of a leader-follower relationship in a higher education context and provide a rich description of the topic from the different levels of analysis. The study focuses on the employee's viewpoint while investigating the topic. The research objective is to examine the quality and development of LMX as a dyadic-level phenomenon and psychological capital (PsyCap) as an individual-level phenomenon, and the connection between LMX and PsyCap. Besides, the influence of an organisational development intervention on the quality of LMX and PsyCap is studied at the group level.

The study findings suggest that the quality of LMX and PsyCap remained constant or decreased over time. Thus, it seems likely that the development of LMX and PsyCap will evolve and change in a non-linear fashion if no special attention is given to the relation between leader and follower. On the contrary, another finding was that OD intervention provided a practical, efficient and effective approach to improving LMX and PsyCap qualities among the employees. Thus, the higher education organisations could potentially benefit from understanding how OD intervention aids in the facilitation of individual, dyadic and team-level capacities and outcomes over time.

Furthermore, a positive relationship between leader-member exchange and psychological capital was identified. This indicates that there is a contribution from the follower's PsyCap to LMX relationship, and vice versa. Lastly, by using a mixed methods approach in this study, it showed more comprehensive and meaningful findings and conclusions of LMX and PsyCap than those of the qualitative or quantitative research alone.

Keywords: Leadership, Leader-member exchange theory (LMX), Psychological capital (PsyCap), Organisation Development (OD), Intervention, Case study

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FIGURE

TABLES

CONTENTS

1 INTRODUCTION

"Leadership is an influence relationship among leaders and followers who intend real changes that reflect their mutual purposes." (Rost, 1993, p.102)

1.1 Importance of the study

Jukka Jalonen, the head coach of the Finnish ice hockey team, once said: "This was captain Mikko Koivu's team". Jalonen made this comment after the team won gold in the ice hockey World Championships in spring 2011. How was this possible after sixteen years? How was it possible to beat Sweden 6-1 in the final? First, the Finnish team's successful leadership was based on clear and even roles between the leaders and the players. In addition, there were twenty-two different leader-follower pairs, the quality of which was most probably good and the relationship appeared to be cooperative. Third, Jalonen, together with the assistant coaches, talked regularly both before and during the tournament with the team and each individual player about their goals, and together they agreed on the joint aims and activities for the team. Furthermore, the team stuck to that overarching plan throughout the whole tournament, even through the difficult patches. In addition, the team was fully supported by its own organisation's top executives, namely the personnel at the Finnish Ice Hockey Association. Also, as Jalonen stated in another interview: "One key element for the achievement of success was that there was a high level of trust and commitment between the players and the team leaders".

This work by the Finnish ice hockey team effectively illustrates the importance and needs for a relationship-based approach to leadership in the 21st century. Currently, there is an interesting set of challenges on the horizon. As one of the key leadership gurus, Gary Hamel, asked in his book: How do you build organisations that are as agile as change itself? How do you mobilise the imagination of every employee, every day? How do you create organisations that are highly engaging places to work in? (Hamel & Breen, 2007). These challenges can be met by redesigning our 100-year-old leadership

model through the strengthening of dyadic and organisational leadership. Furthermore, Bryan and Joyce (2007) talk about the modern challenge, where the key issues are organising the thinking-intensive work of self-directed people. Those people need to make subjective judgements based on their own special knowledge, and actually, they are directed as much by their peers as they are by supervisors (Bryan & Joyce, 2007).

According to Hamel and Breen (2007), the outlines of the 21st century leadership and management model are already clear: decision-making will be more peer based, the tools of creativity will be largely distributed in organisations, ideas will compete on an equal footing, and strategies will be built from the bottom up. This highlights the fact that the direction that most organisations need to go in is one which improves and enables their people to collaborate and develop leader-follower relationships at every level of the organisation. Nowadays in organisations, there are roles that require the hands-on management (that is, one's own initiative and activity) of people with high professional skills, in positions that require the use of subjective judgement and commitment in problem solving. In these circumstances, the role of the leader is not to manage followers but rather to provide direction to professional, thinking-intensive workers, as Bryan and Joyce (2007) called them.

Recently, Bryan and Joyce (2007) stated that in many organisations, there are two traditional ways of organising work: one is through hierarchy, the other through collaboration.They consider, that the process of collaboration is about working together and setting mutual aims. Collaboration usually supports better use of the core competence skills and the knowledge of different individuals, and it enhances problem-solving skills (Bryan & Joyce, 2007). Furthermore, current digital technology and different networks allow for the simultaneous collaboration of all workers across the organisation. On the other hand, members of hierarchical organisational structures mainly talk with their immediate supervisor; and leaders with their immediate subordinates. In addition, the organisational structure is normally led according to the line organisation model. Thus, the art of organisational leadership is to find both the right mix of hierarchy and collaboration as well as the right balance of individual and mutual accountability to best achieve the work that needs to be done (Bryan & Joyce, 2007). Therefore, it is important to study the relationship-based approach of leadership from the employee perspective and also to find out how these kinds of collaboration might influence individuals.

Relationship-based approach of leadership - LMX
This dissertation focuses on organisational leadership, particularly on the dynamics between leader and follower in an organisation. According to Yukl (2002), leadership is a process in which the leader influences his/her followers so that they understand and agree on the goals and the means by which they can effectively be achieved. In the organisational context, effectiveness is defined as the achievement of an organisational goal, smooth social processes and a group's ability to change and evolve successfully (Nahavandi, 2009). Most

leadership theories have studied effective leadership from the leader´s perspective (for example trait and style approach) on one hand and from the point of view of the followers and their context (for example situational leadership, contingency theory) on the other (Northouse, 2001).

It is often presented that the core of leadership is in followers and that without followers there can be no leaders (Collinson, 2006). In addition, there are surely many more followers in the world than leaders, and even many leaders in organisations are also followers themselves (Collinson, 2006). In spite of this, studies on leadership have historically been heavily leader-focused with less attention paid to followers (Collinson, 2006). However, in recent years there has been an increasing interest in studying the follower aspect. Thus, it has been stressed that a crucial element of leadership is the dyadic relationship that followers have with their leaders (Vatanen, 2003; Leponiemi, 2008; Mäkelä, 2009). The leader-follower dyads consist of individuals, and prior research shows that dyadic relationships are not identical for all followers of a given leader (see Yukl, 2002).

In this study, the dynamics between leader and follower is examined through the leader-member exchange theory (LMX) (Dansereau, Graen & Haga, 1975; Graen & Uhl-Bien, 1995). This theory conceptualises leadership as a process that focuses on the interaction between leaders and followers. In particular, LMX theory describes how a leader and a follower develop an interpersonal relationship over time as two parties influence each other and negotiate their roles in the organisation. In the field of leadership theories research, the status of LMX has remained relatively constant over the past four decades. The LMX approach has developed over time, and it is appreciated for its unique focus on the relationship-based approach of leadership (see Uhl-Bien, 2006). From this point of view, leadership is seen as a two-way influence relationship between a leader and a follower targeted primarily at attaining mutual goals (Graen & Uhl-Bien, 1995; Uhl-Bien, 2006). Moreover, the perspective of relationships lies in individual perceptions, behaviours (for instance, social influence, social exchange), and cognition (Uhl-Bien, 2006).

According to Chang and Johnson (2010), LMX theory presents how leaders and followers develop successful relationships, and how these relationships lead to favourable individual and organisational outcomes. In addition, the exchange relationship is affected by the personal characteristics of both parties, such as attitudes and demographics (Vecchio & Brazil, 2007; Chang & Johnson, 2010). After that, the relationship is either strengthened or weakened based on each dyadic partner's evaluation of the exchange (Maslyn & Uhl-Bien, 2001). The earlier studies on LMX theory, focusing on the development aspect, seem to be generally comprehensive and broad; however, more empirical research is needed with regard to the development of the relationship at different stages (Liden, Wayne & Stilwell, 1993; Leponiemi, 2008). An important question raised by researchers is how leaders and members in an organisation context develop and maintain these effective working relationships (Graen & Scandura, 1987; Graen & Uhl-Bien, 1995). Even fewer

studies have examined how the relationship develops from the initial interaction between the leader and the member (Nahrgang et al., 2009). Moreover, there is a need for studying the leader–member relationships at a ''mature partnership-stage'' which is characterised by an extended development of reciprocation (see Graen & Uhl-Bien, 1995; Nahrgang et al., 2009). Thus, the current dissertation study will examine the quality of the relationship through mature partnerships.

Time is critical for the understanding of leadership relationships, because even without the intervention of external factors or events, time itself may affect the nature of the relationship (Shamir, 2011). In addition, the leader–follower relationship may be qualitatively different, depending on the length of time the relationship has been in existence (Bluedorn & Jaussi 2008). Therefore, without consideration of such time-dependent qualitative differences, it may be difficult to understand both the formation of leadership relationships and their consequences (Shamir, 2011). Thus, in order to understand leadership processes over time, LMX is studied longitudinally in this dissertation. According to Riggio and Mumford (2011), the majority of studies of early leadership development are retrospective, cross-sectional comparisons of individuals of different age groups, or very short-term longitudinal designs (across a few weeks, a single semester, or a few months, for example).

While the early studies into LMX tended to be longitudinal (Dansereau et al., 1975; Graen & Cashman, 1975; Liden & Graen, 1980), only a few of the latter studies used longitudinal designs (for example Wakabayashi & Graen, 1984; Liden et al., 1993; Bauer & Green, 1996; Sparrowe & Liden, 2005). Furthermore, with the exception of a few pieces of research (for example Mäkelä, 2009; Leponiemi, 2008), relatively few have explored how leader–member relationships evolve over time in Finnish working life. In order to gain a better understanding of the LMX phenomenon, longitudinal research is needed in order to explore the evolution of the LMX relationship over time (Anand et al., 2011). In addition, most of the longitudinal studies conducted on LMX have lasted a year or less, therefore longer-term (over a year) longitudinal designs are needed (Anand et al., 2011).

Moreover, only a few previous studies have paid attention to how leader-member relationships can be developed purposefully via organisational development intervention, although some researchers have suggested that specific working life events have an effect on the relationship (Mäkelä, 2009; Dienesch & Liden, 1986). According to Day (2001), the relational phenomenon of leadership is needed and it can be thought of as an integration strategy by helping people understand how to relate to others, coordinate their efforts, build commitments, and develop extended social networks by using self-understanding to social and organisational imperatives. In particular, scholarly researchers can help enhance the purposefulness of the relational phenomenon of leadership by investigating how various practices and processes, alone and in combination, contribute to better leadership (Day, 2001). Furthermore, Reichard and Avolio (2005) stated that there is a need to conduct more intervention studies into LMX

in particular, and to pay attention to the temporal issue of development. There-fore, this dissertation seeks to fill the gap in the existing literature on the theory of LMX, by specifically drawing attention to the role of organisation intervention in the development of the leader-member relationship.

In Finland, where the research was conducted, there have been only a few studies of LMX so far. Vatanen (2003) examined the quality of leader-follower relationships between Western expatriate leaders and their Chinese followers as well as between Chinese leaders and their Chinese followers in Western-owned subsidiaries in China, applying a questionnaire survey in the cross-sectional research setting. Leponiemi (2008) explored the development of the relationship between ethnic majority leaders and ethnic minority followers. Recently, Mäkelä (2009) examined women's leader-member relationships during pregnancy and their return to work over a period of one and a half years. Despite the longitudinal research design, neither Leponiemi's nor Mäkelä's studies focused on a purposeful organisation development intervention or the viewpoint of psychological capital as was applied in this research. The most recent research was done by Häkkinen (2012) who performed a qualitative study where she investigated a leader's trustworthy behaviour within the LMX framework in the SME context. This study did not have a longitudinal design.

Psychological capital (PsyCap)
Organisation as a social context is a creation of the individuals that construct that environment and their relations. According to Luthans and Youssef (2007), today's organisations, and their individuals, resources, goals and strategies, constitute positives to be celebrated and accelerated, and negatives to be avoided or managed away from. Borrowing from positive psychology research, the term positive organisational behaviour (POB) is meant to emphasise this newly emerging focus on a positive approach to developing and managing human resources in today's workplace (see Luthans & Youssef, 2007; Luthans, Youssef, & Avolio, 2007b). Luthans (2002a) presented POB as the construct of team-member strengths and psychological capacities that can be measured, developed, and effectively managed for performance improvement. Therefore, POB, with its criteria-meeting capacities of self-efficacy, hope, optimism, and resilience, presents leadership and management researchers and practitioners with a high-potential source of competitive advantage to explore and on which to capitalise (Luthans, Youssef et al., 2007a).

However, previous empirical findings support the argument that these four positive psychological capacities may have more influence in combination and interaction in what is called PsyCap (Luthans et al., 2005). PsyCap is thus developed from positive organisational behaviour (POB). Psychological capital is a construct that stresses the positive effects of an individual's psychological resources such as hope, efficacy, optimism, resilience to her/his behaviour and performance (Luthans, Youssef, Avolio, 2007a; Avey, Luthans & Jensen, 2009). Moreover, Luthans et al. (2007a), stated that the importance of "psychological capital'' was related to the idea that considerable attention in workplace studies

is given to economic, social, human and even intellectual capital, but in their understanding, the positive resources they relate to psychological capital has not yet received considerable interest or inquiry. Despite these findings, only two other studies (Walumbwa et al., 2010; Story et al., 2013), have explicitly investigated the role of PsyCap in LMX perceptions in the past.

Therefore, psychological capital is relevant to the present study, and contrary to other known core positive constructs such as self-evaluation, which is more ''trait-like'' (Judge & Bono, 2001), psychological capital has been empirically shown to be ''state-like'' (Luthans, Avolio et al., 2007) and open to development in an organisational context (Luthans, Avey & Patera, 2008). This dissertation makes a contribution to the existing research on LMX by linking the concept of psychological capital (PsyCap) to it. In this study, an initial assessment of the relationship between PsyCap and LMX is conducted, and this dissertation is one of the first studies to explicitly examine PsyCap and its relationship to LMX. In addition, there is a specific need to understand how PsyCap fluctuates over time (see Luthans et al., 2007a).

The psychological capital perspective is supported by social exchange theory (Blau, 1964), which suggests that leaders and followers define themselves in terms of whom they interact with and how they interact with them (Walumbwa et al., 2011). In addition, LMX is based on social exchange theory, where employees tend to develop high-quality relationships based on whom they interact with, how they interact with them, and their experiences with them (Cropanzano & Mitchell, 2005). As stated by Graen and Uhl-Bien (1995), LMX is both a transactional and a transformational leadership approach: it is a dyadic social exchange process that begins as transactional social exchange and evolves into transformational social exchange. According to Graen et al. (2010), only a few published studies have included measures of LMX and other leadership approaches. Besides, previous research into PsyCap has revealed that findings support the relationship between followers' perceptions of transformational leadership and positive psychological capital (Gooty et al., 2009). Furthermore, this study responds to recent calls for dyadic-level theorising and testing about the positive organisational behaviour on followers' LMX (Yammarino et al., 2008). In sum, this dissertation research contributes to both the LMX leadership literature and the positive organisational behaviour (POB) literature by investigating the possible relationship between LMX and PsyCap over time.

Organisation Development (OD)
According to Burke (2010), in the field of Organisation Development (OD), we must learn to work with loosely coupled and highly decentralised systems regarding innovation and new social technology and guide them to operate more effectively; that is, the work should be more about improvement than revolution. Greiner and Cummings (2004) have stated that the next era for OD must improve an organisation and an individual's capability to embrace both substantial content and social process solutions. That is why trust and the

quality of human relationships are currently more important than ever in predicting both individual and organisational success (Greiner & Cummings, 2004). In addition, research into the processes and impacts of OD needs to take place, because there is only a handful of published studies or inquiries such as the technology of participation, collaborative loops, reflexive consulting and various discursive change processes that are used (Bushe & Marshak, 2009).

Therefore, this study examines how feasible and effective a web-based organisation development intervention is to the leader-member relationship and psychological capital, as perceived by followers (employees in this study). With the use of the Internet, professionals can gather information whenever they wish, and the interventions can be presented in great detail through the use of the written word as well as through visuals such as pictures, videos and animated graphics to enhance the understanding of different issues (Ritterband et al., 2003). In addition, these web-based interventions will allow individuals to track and share information with their colleagues in real time, ease data input, and hopefully improve compliance (Ritterband et al., 2003). Besides, meta-analytic results of intervention studies show that web-based instruction may in some ways be as effective, or for certain types of learning, more effective than traditional face-to-face class-room instruction (Sitzmann, Kraiger, Stewart, & Wisher, 2006). By applying the web-based intervention, the dissertation study also contributes to our knowledge of the increasing use of Internet technology in leadership. Managing their own work and viewing the leader-member relationship from that perspective enables the employee to better understand the kind of leadership behaviour that is important to her/him and the ways in which it can be improved.

Case study strategy
According to Gordon and Yukl (2004), the challenge for studying leadership is to bridge the gap between the academic and practitioner worlds. They propose that academic researchers should include more alternative methodologies such as experiments and comparative case studies to gain from the richness of field data. Therefore, from a methodological point of view, this research makes a contribution to the LMX literature, by being one of the very few studies that uses a mixed methods research design. This dissertation study uses different forms of triangulation (see Denzin, 1978), including data triangulation, theoretical triangulation and methodological triangulation, whilst also applying interviews, survey questionnaires and web-based intervention in the context of a single case educational organisation.

According to Piekkari et al. (2009), the case study is aligned with the view that a major strength of case research strategy is its ability to use a full range of data collection procedures (Creswell, 2003). Eisenhardt (1989) and Yin (1989) have stressed the advantages of mixing qualitative and quantitative evidence, and according to them, the key rationale for multiple data sources is that it allows for triangulation and enhances the construct validity of the study (Piekkari et al., 2009). However, Piekkari et al. stated that, this has been

contested by researchers from more interpretivist traditions, such as Stake (2005). Stake suggests that even though the use of multiple sources is an important means for validating a case study, triangulation also helps to clarify meaning by identifying the different ways the phenomenon is being perceived (Piekkari et al., 2009). Thus, the current research applies a case study strategy by investigating its topic in an actual organisational setting using mixed methods and following Stake's reasoning.

Dyer and Wilkins (1991) stated that, the case study is a research strategy with the aim of providing a rich description of the social scene, to describe the context in which events occur, and to reveal the structure of social behaviour within individual settings. Benbasat et al. (1987) suggest that there are three reasons why case study research is an appropriate research strategy: first, the researcher can carry out the study in a natural setting, learn about the state of the art, and can generate theories from practice. In addition, the case method allows the researcher to answer "how" and "why" questions, that is, to understand the nature and complexity of the processes taking place, and finally, a case approach is an appropriate way of studying an area in which few previous studies have been carried out (Benbasat et al., 1987).

The case study types presented above are related to discourse on reasoning (Peirce, 1992); where the aim is to find out something else which we do not know by going from the general to the particular, by exploiting a general knowledge in order to give the best explanation for a particular situation. In this dissertation, the abduction approach is adopted. In addition, the current study uses pragmatism as its philosophical basis.

According to Voss et al. (2002), case studies are also widely used in other leadership and management disciplines, notably organisational behaviour and strategy. Previous case studies have been applied to various types of research purposes such as exploration (for example Allison, 1971), theory building (for example Wacker, 1998), theory testing (for example Boyer & McDermott, 1999) and theory extension/refinement (for example Meredith and Vineyard, 1993; Hyer and Brown, 1999) (Handfield & Melnyk, 1998; Voss et al., 2002). In addition, Stake (2005) presents three differents types of case study: intrinsic, instrumental and collective. An instrumental case study is interested in a particular case with the aim of gaining an insight into an issue which may not be the case itself (Stake 2005). Instead, the issue or the phenomena of interest is some other external interest.

The current dissertation study uses an instrumental case study strategy, and the instrumental case is a higher education institute in Finland. Thus, the following definition of an instrumental case study is employed in this dissertation:

> A case study is instrumental when a particular case is examined mainly to provide insight into phenomena or relationships within it. The case is of secondary interest, it plays a supporting role, and it facilitates our understanding of something else. (Stake, 1995, p.73; Stake, 2005, p.437).

Summary of the introduction
An overarching orientation of the study is presented in Fig 1 below.
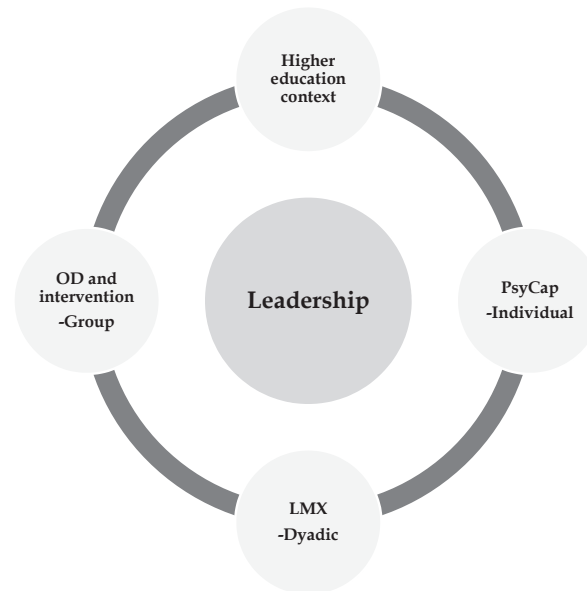
FIGURE 1   An overarching orientation of the study

As presented above in Figure 1, this dissertation study describes leadership as a relationship-based approach situated in the higher education context. The approach suggests that a leader influences and is influenced by followers and the environment in which individuals work. In addition, followers play a major role in the leadership process, and they can affect leader-follower relations in many ways. They can take actions in an organisation both individually and collectively, which have either positive or negative consequences for leaders. This overarching orientation shows leadership as an active process, whereas the individual level, the dyadic level, group level and the organisational level take place within a context.

1.2   Key concepts of the study

Leadership has been a popular area of interest among researchers for a long time. However, leadership as a concept is still not that easy to define. Besides, most of the definitions reflect the assumptions that leadership involves a process where the individual exerts influence over others in an organisational context. This concept of process is well illustrated by Yukl's (2002, p.7) definition of leadership, which is adopted in this research:

> Leadership is the process of influencing others to understand and agree about what needs to be done and how it can be done effectively, and the process of facilitating individual and collective efforts to accomplish the shared objectives.

Leader-member exchange theory (LMX)

In the early 1970s, researchers started to investigate a new approach to the study of leadership within organisations. In contrast to traditional theories of leadership, this new approach assumes that the study of leaders and members should be on a one-on-one or dyadic basis (Dansereau, Graen, & Haga, 1975; Graen & Cashman, 1975; Graen & Uhl-Bien, 1995). As empirical research grew in support of this approach, researchers began referring to this interaction as leader-member exchange (LMX) theory, which was initially dubbed the vertical dyad linkage model. It is based on the different quality types of relationships that form between leaders and group members. As presented by Dansereau, Graen & Haga (1975, p.46) and Graen & Cashman (1975), they describe LMX theory as:

> the role-making process between a leader and each individual subordinate and the exchange relationship that develops over time.

According to Graen & Uhl-Bien (1995), the development of LMX theory can be divided into four stages: 1) differentiated dyads, 2) LMX relationships and its outcomes, 3) partnership building, which moves beyond the "in-group/out-group" thinking of stage 1 to a more practical and more equitable model for building leadership throughout the organisation, and 4) group and network level, which involves investigating patterns of relationship quality within the leadership structure, taking into consideration the criticality of relationships for task performance. This dissertation concentrates particularly on stages 3 and 4.

Graen & Uhl-Bien (1995) have stated that LMX clearly includes the operationalisation of a relationship-based approach to leadership. The key concept of the theory is that effective leadership processes occur when leaders and followers are able to develop mature leadership relationships (partnerships) and thus provide access to the many benefits these relationships bring (Graen & Uhl-Bien, 1991). In addition, Graen and Uhl-Bien (1995, p.239) defined LMX thus:

> [LMX]...is a dyadic social exchange process that begins with more limited social "transactions" (for example transactional leadership), but for those who are able to generate the most effective LMX relationships, the type of leadership that results is transformational.

From the viewpoint of this dissertation, the above definition of LMX by Graen and Uhl-Bien (1995, p.239) is applied, since it effectively describes the relationship-based approach of leadership (that is, LMX leadership) between leader and follower. In this study, the term "leader" is used interchangeably with "supervisor" or "superior" and "member" is used interchangeably with "follower", "employee" or "subordinate".

Psychological Capital (PsyCap)

Luthans (2002a, 2002b) introduced the term "positive organisational behaviour" (POB) in order to bring this positive psychology to the workplace. He defined POB as:

> the study and application of positively-oriented strengths and psychological capacities of people that can be measured, developed, and effectively managed for performance improvement in today's workplace (Luthans, 2002a,p. 59).

This definition of POB is adapted in the current study. The definition brings positive constructs that are state-like and open for development into focus (Avey, Luthans, Smith & Palmer, 2010). In POB, Luthans and others (Luthans, Luthans & Luthans, 2004; Luthans & Youssef, 2004; Luthans, Youssef & Avolio, 2007a) presented the positive constructs of efficacy, hope, optimism, and resilience as the best candidates to meet the inclusion criteria and conceptualised them as "psychological capital." This psychological capital (PsyCap) is defined as:

> an individual's positive psychological state of development that is characterised by: (1) having confidence (self-efficacy) to take on and put in the necessary effort to succeed in challenging tasks; (2) making a positive attribution (optimism) about succeeding now and in the future; (3) persevering toward goals, and when necessary, redirecting paths to goals (hope) in order to succeed; and (4) when beset by problems and adversity, sustaining and bouncing back and even beyond (resilience) to attain success (Luthans, Youssef & Avolio, 2007a,p. 3).

PsyCap is conceptually a higher-order core construct that underlies the four capacities that constitute it (Luthans, Youssef & Avolio, 2007a) and is tested empirically (Luthans, Avolio, Avey & Norman, 2007). Furthermore, Luthans and Youssef (2007) state that PsyCap is presented to build-out and add value to what you already have (for example financial capital), what you know (human capital), who you know (social capital), and challenging and contributing the development of who you are today (the actual self) into what you can become in the future (the possible self). In this dissertation, the above definition of PsyCap (Luthans, Youssef & Avolio, 2007a, p. 3) is used, since it presents and offers the leadership researcher and practitioner a high-potential source of construct to explore and utilise.

Organisation Development (OD)

The theory of organisation development (OD) focuses on the question of how organisations should be developed purposefully (French & Bell, 1999). OD is a way of implementing a targeted change in a workplace, usually for purposes of enhancing the personal development of individuals as well as improving organisational functioning (Burke, 1987). It is likely that Lewin et al. (1939) were the first to study the influence of leadership and groups on individual behaviour. Bennis (1969, p.2), has defined organisation development as:

> a response to change, a complex educational strategy intended to change the beliefs, attitudes, values, and structure of organisations so that they can better adapt to new technologies, markets, and challenges, and the dizzying rate of change itself.

The OD process is built on this kind of influence, which provides a collaborative consult-client culture. Organisation development focuses on processes inside the organisation emphasising such targets as the improvement of team building, interpersonal communication and leadership (Burke, 2002). A core element in OD is an organisation development intervention – a particular strategy for implementing the planned change for improvement of organisational functioning. All major intervention methods of OD attempt to produce some kind of change in individual employees, work groups or in the entire organisation (Greenberg & Baron, 2000). Furthermore, OD aims to improve leader-subordinate relationships. For example, Porras and Silver's (1991, p. 54) definition of organisation development is as follows:

> organisational development is a set of behavioural science-based theories, values, strategies, and techniques aimed at the planned change of an organisational work setting for the purpose on enhancing individual development and improving organisational performance, through the alteration of organisational members' on-the-job behaviours.

Moreover, Worren, Ruddle & Moore (1999) state that OD focuses characteristically on group and interpersonal dynamics and social relations (for example leadership styles, job satisfaction, work climate, communication). Therefore, this definition of OD by Porras and Silvers (1991) is employed in this study, since it includes a number of elements the researcher considers essential in relation to leadership.

Organisation Development Intervention
Interventions are the proper way that organisation development (OD) indicates itself, in the actions that reflect OD's philosophy (Trullen & Bartunek, 2007). Moreover, Trullen and Bartunek (2007) suggest that interventions can include a wide range of activities that may be implemented in large or small sections of an organisation, and occur over short or long time periods. In addition, one main aspect of OD interventions is in effect that they all "interrupt" current ways of functioning and encourage and enable organisations and their members to consider alternative and hopefully more effective approaches. According to Trullen and Bartunek (2007), another important aspect is that they do this in ways that support organisation members to generate valid information, have a clear map of what they want to accomplish, and participate in decisions about executing this aim and be internally committed to it (Argyris, 1970). The following definition of OD intervention is adopted in this research:

> OD interventions are sets of structured activities in which selected organisational units (target groups or individuals) engage in a task or sequence of tasks with the goals of organisational improvement and individual development (French and Bell, 1999, p. 145).

An overview of the key concepts of the study is presented in Fig 2 below.

OD: Organisation Development

- OD is a set of behavioural science-based theories, values, strategies, and techniques aimed at the planned change of organisational work setting for the purpose on enchancing individual development and improving organisational performance, through the alteration of organisational members´on-the-job behaviours (Porras & Silvers ,1991, p. 54).

Organisation Development intervention

- OD intervention are sets of structured activities in which selected organisational units (target groups or individuals) engage in a task or sequence of tasks with the goals of organisational improvement and individual development (French & Bell,1999,p.145).

LMX: Leader-member exchange theory

- LMX is a dyadic social exchange process that begins with more limited social "transactions" (e.g., transactional leadership), but for those who are able to generate the most effective LMX relationships, the type of leadership that results is transformational (Graen and Uhl-Bien,1995,p.239).

PsyCap: Psychological capital

- PsyCap is a construct that stresses the positive effects of an individual's psychological resources such as hope, efficacy, optimism, resilience to her/his behaviour and performance (Luthans,Youssef & Avolio, 2007a,p. 3).

FIGURE 2   An overview of the key concepts of the study

1.3 Higher education context

Higher education institutions worldwide have certain elements in common as a consequence of the universal components of systematic knowledge and of a variety of European ideas of the university as a model for higher learning that have spread around the globe (Teichler, 2005). In addition, according to Keeling (2006), national higher education organisations are increasingly affected by international pressures, and the higher education sector in Europe is at present significantly influenced by two European-level policy developments: both the higher education reforms initiated by the Bologna Process and the research aspects of the European Union's Lisbon Strategy for jobs and growth. The European objectives for higher education developed through the Bologna and Lisbon processes have significantly strengthened the European Commission's basis for involvement. However, higher education is predominantly governed at a national level: legislation, administration, approval of institutions, curricula and credentials, teaching staff careers, research promotion and similar features tend to be set nationally or at the regional level within nations (Teichler, 2005).

Nowadays, higher education institutions face continuous pressure for change. Over the past few decades, the traditional principles of leadership in the educational environment and collegial forms of governance have been rap-

idly substituted by management principles adopted from the private sector (van Ameijde et al., 2009)**.** Together with increased competition for students and funding support between universities, as well as expectations from the private sector around the provision of appropriately trained graduates, these pressures have led to what has been experienced as a market commodity of knowledge work (van Ameijde et al., 2009). As a result, van Ameijde et al. (2009) state that higher education institutions are no longer the shielded entities whose legitimacy is taken for granted, but instead are expected to face the complexity of balancing the need to operate according to market pressures, teach an increasing number of students despite diminishing financial means while struggling to sustain traditional academic and educational principles of quality. In addition, clashes between the principles of management and a traditional culture of collegial leadership have been widely reported (Chandler et al. 2002), emphasising the need to adapt leadership and management principles to a higher education context.

According to Aasen and Stensaker (2007), higher education has a long tradition for emphasising leadership in the educational environment. However, in recent decades, new views on leadership in the educational context have emerged along with new practices of organising the decision-making structure in higher education institutions (Kogan et al., 2000; Clark, 2004). Nowadays, what is often called New Public Management (NPM) or "managerialism" highlights that leadership is vital in order to achieve organisational objectives or to investigate organisational change (Middlehurst, 1999). Furthermore, it is often stated that leaders should be given more authority in the organisational decision-making process (Aasen & Stensaker, 2007). A transition in attitude (how organisations are run) has been the result of New Public Management approaches, with the intention being to make the public sector function more like the private sector (that is, to "modernise" it) (Nicolaidou, 2008).

According to Stukalina (2010), today's educational organisations have become large and sophisticated systems and managers and leaders in these organisations act out a greater role in developing the most constructive educational environment possible. Bush (2003) has reported that leadership and management in an educational organisation deals with the operation of organisation. The external environment in which higher education institutions function has also changed considerably in recent decades (DeShields Jr et al., 2005). Lately, educational systems have experienced major reforms, some universal trends being "a focus on market forces and consumerism, school improvement and school effectiveness, teacher competence, etc." (Humes, 2004).

As presented by Deligonul (2008), modern managers and leaders must enable a new system view of their tangible and intangible assets; these are not only resources to be shaped, but are fixed capital of the society; the author emphasises that this requires interdisciplinary approaches to solve particular problems. Because of the forthcoming challenges, managers and leaders should take every advantage of traditional management practices, as well as new approaches to education and management and leadership, to ensure a continuous quality en-

hancement of the educational environment (Stukalina, 2010). In the Scandinavian countries, which have loose accountability systems, principals do not refer to managerial accountability, but to curriculum, with a strong focus on a democratic education (Kofod, 2006). They legitimise their position by focusing on a mixture of professional and ethical accountability, with a focus on students' comprehensive learning, participation and questioning (Kofod, 2006).

In addition, every educational institution represents a unique educational environment, which provides resources that ensure the effective performance of the organisation and support a sustainable learning process (Stukalina, 2010). Stukalina (2010) suggests that an educational organisation reacts with the external environment which is constantly changing and is becoming more complicated as the pace of technological progress and globalisation accelerates. According to Anyamele (2005), one of the cyclical debates in higher education leadership and management concerns the importance of leadership in improving the quality of management at the university, whereas the focal role of leadership in implementing total quality management is well documented (European Foundation for Quality Management, 1999). Leadership is the key to following through with quality improvement activities (Anyamele, 2005; Zawacki-Richter et al., 2009). In specific terms, such leaders provide clear leadership direction and direction-setting by creating a vision, mission and values statement, exhibiting role model behaviour by sharing, communicating, and encouraging feedback from staff at all levels, taking active responsibility for improvement projects, and involving a cross-section of staff (Anyamele, 2005).

Finnish higher education environment
The context of this study is a Finnish higher education environment, and how state-of-the-art leadership and its development being conducted in the environment of ongoing organisational work. Higher education institutes are run against the backdrop of continuous change driven by the various stakeholders (for example government departments, local authorities, economic life and local communities). Besides, approaches to adapt the Finnish educational system in order to create a "knowledge-based" society have managed to introduce marketisation and managerialisation in higher education institutions, and business features in the education system. Traditionally, higher education institutes have been ruled on a collegiate basis, focusing on developing knowledge both in teaching and through research activities. Rekilä et al. (1999, p. 263), describe this higher education context and its uniqueness well:

> Examining the modern university, we see it really as a very complex organisation with different types of students, full-time and part-time; different types of personnel; researchers with different kinds of funding sources; teachers with different numbers of teaching hours and fields of education; many types of fund-raising and staff.

Today, higher education institutes have to conduct their activities in a more business-like manner and, as such, need a joint effort from all to succeed. Teachers, researches and administrative staff strive to identify what it is they are trying to do and even to identify who the customers are. In addition, leader-

ship has become a very popular and important theme in recent decades in the education field internationally. Finland has invested in leadership in educational institutes over the last twenty years. Individual countries have chosen to put money into the preparation and development of educational leaders, heads of departments and principal lecturers in an effort to increase higher education institute, staff and student performance. Thus, many national educational reforms have led to an increase in the roles and responsibilities of higher education leaders who, in return, must respond positively to the changes brought about in their institutes and their posts. As a result, training and development programmes for leaders and employees have been modified and developed in order to meet new needs or cover existing ones.

Even so, the leadership literature in higher education continues to be dominated by studies of presidents, rectors, vice-chancellors, provosts, pro-vice-rectors and deans, and we know little about the leadership capacity or activities of others on campus (Birnbaum, 1992). Much of the leadership in an educational organisation has focused on "vertical" leadership, in clearly defined hierarchical roles. It should be noted that leadership in an educational organisation often takes place in a collegial environment, where leadership should be "horizontal", relational, distributed and collegial, not directly needing the coordination of either people or resources, and this has so far received little attention. Therefore, in higher education, it would appear to be important to study the lecturers and heads of department and their perceived opinions about the forms of leadership they experience.

The issue of leadership in an educational organisation has been taken up by Knight and Trowler (2000). They note that there is little empirical research on such issues in higher education and that these studies of teachers and academic leaders' perceptions from the perspective of the department are quite rare (Martin et al., 2003). In addition, Bryman (2007a) suggested that surprisingly little systematic research has been conducted on the question of which forms of leadership are associated with the departmental level in a higher education context. Furthermore, Coleman (2011) stated that remarkably little research has been undertaken into the nature of leadership required to maximise the potential of partnership-based working within the educational context.

Management-by-results and evaluation as higher education policy concepts have their origins in Finland's higher education planning reforms (Treuthardt et al., 2006). The first management-by-results tests at universities were conducted at the beginning of the 1990s, and by 1994, all Finnish universities had assimilated the new steering system (Treuthardt et al., 2006). According to Treuthardt et al. (2006), in the higher education sector, the execution of the new results-based steering, leadership and management system was not mechanistic; instead it was a translation process (Latour, 1993) where the universities could build their own versions of the idea of management-by-results. The Finnish system of management-by-results includes – both at the ministry-university and the intra-university level – written and unwritten regulations, norms, and standards of action, whereas a central element of the steering system is the an-

nual rounds of results negotiations between the Ministry of Education and the universities (Treuthardt et al., 2006).

As an output of the meetings, the universities draw up a result agreement, which is an output-based funding agreement with the Ministry. The intra-university result negotiations and the drafting of result agreements is a central procedure of the process, which changes in form and content from one university to other (Treuthardt et al., 2006). What is common to these procedures (Bell, 1997) is that the university leadership sets the faculties and departments in the internal negotiation process into the commensurable management-by-results ideology of the ministry-university negotiations (Treuthardt et al., 2006). The intra-university management-by-results processes generate a view, translated into the language and rules of management-by-results, of what the faculty or department is and how it should develop, therefore the goals set by the Ministry of Education are passed onto departments and faculties (Treuthardt et al., 2006). In order to keep up with development, in recent decades universities have had to adopt new practices of management and leadership by results and evaluation, and turn them into practices fitted to their needs (Treuthardt et al., 2006).

The Finnish higher education system consists of two complementary sectors: polytechnics (that is, universities of applied sciences, our focus in this study) and universities. Furthermore, a dual university system was introduced in 1991. There are sixteen universities in the Ministry of Education and Culture sector; two of them are foundation universities. In addition, under the new Universities Act, which was passed by Parliament in June 2009, Finnish universities are independent corporations under public law or foundations under private law (Opetus- ja kulttuuriministeriö, 2011a). Furthermore, the universities have been operating in their new form since 1 January 2010, and their operations are based on the freedom of education and research and university autonomy (Opetus- ja kulttuuriministeriö, 2011b). The mission of universities is to conduct scientific research and provide graduate education based on it. On the other hand, universities of applied sciences (polytechnics) provide education for professionals in response to labour market needs, and conduct R&D which supports education and promotes regional development in particular.

In Finland, there are twenty-five universities of applied sciences in the Ministry of Education and Culture sector: four are run by local authorities, seven by municipal education consortia and fourteen by private organisations (Opetus- ja kulttuuriministeriö, 2011a). The universities of applied sciences are multidisciplinary and regional institutions of higher education which aim to improve the quality of education and to respond to the changes in society, and working life in particular. The Finnish system of universities of applied sciences takes its lead from the Dutch and German systems (Ammattikorkeakoulujen rehtorineuvosto, 2011).

1.4   Aim of the study and its focus

The overall goal of the study is to increase our understanding of the development of a leader-follower relationship in a higher education context and provide a rich description of the topic from the different levels of analysis. The study focuses on the perspective of employees while investigating the topic. Two research objectives are set to reach the goal. First, the study examines the quality and development of leader-member exchange (LMX) as a dyadic level phenomenon and psychological capital (PsyCap) as an individual-level phenomenon, and the connection between LMX and PsyCap. Second, the influence of an organisation development intervention at the group level, specifically a web-based organisation development intervention on the quality of LMX and PsyCap is studied. To achieve the objectives an empirical case study is conducted within a single organisation in the higher education context. The instrumental case study seeks to establish "what's going on" in practice and provide insight into the topic in the organisation.

The main purpose is to contribute to prior research on the development of LMX (Nahrgang et al., 2009) and PsyCap (Peterson et al., 2011) by showing empirically that neither LMX nor PsyCap are static but dynamic in nature. The naturally occurring and intentionally led dynamics are examined here longitudinally. Thus, it becomes possible to describe whether the development of the phenomena benefits from the intentional organisation-level web-based development intervention that has been rarely investigated in prior research (see exceptions Colella & Varma, 2001; Luthans, Avey & Patera, 2008). Besides the theoretical implication, the purpose of the research is practical. From an organisational perspective, the study sheds light on how mature relationships between leaders and followers can be developed, as the relationships are the key factors for well-being, socialisation and reducing employee stress and turnover, both of which are important organisational outcomes (Luthans et al., 2007a).

In light of the research purposes, the study seeks to answer the following research questions from the employees' perspective:

1. What is the quality of leader-member exchange (LMX) and how does LMX develop over time?
2. What is the quality of psychological capital (PsyCap) and how does PsyCap develop over time?

3. Is there a relationship between LMX and PsyCap? If there is, what kind of relationship is it?
4. How does an organisational development (OD) intervention influence on LMX and PsyCap?

In the first research question, the quality of LMX in this study is described in the following manner. LMX emphasises both the leader and follower perspective in creating the LMX relationship, and the level of agreement between leader and follower defines the quality in the relationship. Therefore, high-quality or low-quality relationships are created in reciprocal interactions (see Graen & Uhl-Bien, 1995). In addition, the quality of LMX is directly linked to the manners present in the reciprocal relationship, such as the amount of loyalty, support, and trust between dyad partners (see Graen, 1976; Schriesheim et al., 1999). In conclusion, based on the response scales (from 1; low to 5; high) of LMX, it measures the expected agreement between the leader and follower, and uses it as an indication of the quality of the LMX (see Graen & Uhl-Bien, 1995).

Relating to the second research question, the quality of PsyCap is defined as follows. PsyCap is a state-like characteristic; therefore, the quality of PsyCap in individuals can vary and develop over time through individual experiences (cf. Luthans, Norman et al., 2008). In addition, the quality of PsyCap is based on the level of individual ratings of PsyCap, which are assessed through individual knowledge and experiences (see for example, Luthans, Avolio et al., 2005; Luthans, Avolio et al., 2007). In other words, the variation in response to the PsyCap rating scales measures the level of individual quality. Therefore, the higher the scores (for example, score 4), the higher the quality of PsyCap among individuals.

The third research question focuses on the relationship between LMX and PsyCap. Thus, the study is interested in not only whether PsyCap relates to the LMX–relationship but also whether LMX is linked to PsyCap. In addition, yet to be answered is whether followers with certain levels of PsyCap may benefit more or less from their exchange relationship with the leader, and on the other hand, if the quality of the LMX relationship can consequently affect the development of individual level of PsyCap.

Lastly, research question four, as it relates to the Organisation Development perspective, is briefly clarified and justified. The current study conducts a group intervention using, for example, a team building technique. In addition, the intervention's aim is not only occupational or promoting individual or team-level competence or well-being, but its goal is even broader. In other words, this study's intervention focuses on individual and group-level development, besides that, it most probably indirectly influences the organisation level and higher education context; therefore, the dissertation study uses OD theory as one of its premises.

1.5   Structure of the research

A summary of the contents and structure is presented in Figure 3.

CHAPTER 1: INTRODUCTION
• Importance of the study
• Key concepts of study
• Higher education context
• Aim of the study and its focus

CHAPTER 2: THEORETICAL FRAMEWORK
• Research on leadership
• Leader-member exchange theory (LMX)
• Psychological Capital (PsyCap)
• Organisation Development (OD) and OD intervention

CHAPTER 3: METHODOLOGY
• Philosophical basis of the study
• Case study strategy
• Data collection and analysis
• Design, sample and procedure

CHAPTER 4: RESULTS
• LMX and its development
• PsyCap and its development
• Relationship between LMX and PsyCap
• Outcomes of the OD intervention on LMX and PsyCap
• Summary of the empirical results

CHAPTER 5: DISCUSSION AND CONCLUSION
• Main findings
• Theoretical and practical implications
• Trustworthiness and limitations
• Future research
• Conclusion

FIGURE 3   Summary of the contents and structure of the study

The introduction chapter presents the aim of the dissertation study and the research problems, its background and the line of reasoning. The key concepts are also described. After this first chapter, an overview of leader-member exchange theory (LMX), psychological capital (PsyCap) and organisation development (OD) is presented, all of which provide the theoretical basis for the current study (Chapter 2). Next, the philosophical basis of the dissertation is presented, and the research methodology is introduced and justified (Chapter 3). Thereafter, in Chapter 4 the results are presented. Finally, in the concluding chapter (Chapter 5) the thesis is summarised. General conclusions based on the major findings are discussed. Theoretical and practical implications will be introduced. Lastly, the trustworthiness and limitations of the study will be addressed and recommendations for future research and overall conclusion are given.

2 THEORETICAL FRAMEWORK

2.1 Research on leadership

Leadership has been defined and conceptualised in many ways in the history of leadership research. Through a comprehensive review of leadership literature, Stogdill (1974) suggests that there are nearly as many definitions of leadership as there are individuals who have attempted to define the concept. Most definitions of leadership reflect the assumption that it focuses on a process whereby intentional action is exerted over the people to guide, structure and facilitate activities and relationships in a group or an organisation and its assists groups of individuals toward goal attainment (Northouse, 2010; Yukl, 2010). Burns' (1978) findings about transformational and transactional leadership serve to support this general theory of leadership.

> Burns (1978,p.18) defines leadership as leaders inducing followers to act towards certain goals that represent the values and motivations -the wants and needs, the aspirations and expectations – of both leaders and followers.

Although thousands of empirical investigations of leadership have been conducted over the last ninety-five years, no clear and unequivocal understanding exists as to what distinguishes leaders from non-leaders, and multiple interpretations of leadership phenomena exist, each providing some insight into the role of a leader but each remaining an incomplete explanation of complex relationships (Jago, 1982). A lot of researchers design leadership in terms of consequences for the follower and other organisation stakeholders, thus a level of analysis is a basis for classifying leadership theory and research, and the levels contain intra-individual, dyadic, group, and organisational phases (Yukl, 2010).

Another basis for differentiating theories is the relative focus on leader or follower, and leadership theories can be classified as prescriptive or descriptive, in compliance with the emphasis on "what should be" rather than on "what occurs now", and that the leadership process can be learned (Northouse 2010; Yukl, 2010). Finally, Yukl (2010) states that the last basis for differentiation is the

extent to which a theory describes the leadership process and relationships. This concept of relationship is well illustrated by Rost's (1993, p.127) definition of leadership:

> the four essential elements of leadership are: 1) a relationship based on influence, 2) leaders and followers develop that relationship, 3) they intend real changes, and 4) they have mutual purposes.

2.1.1 Overview of the major leadership approaches

Next, an overview of the major leadership approaches (Table 1) is presented. Hence, it is important to show how LMX theory as applied in this study is located in the historical foundations of leadership approaches and to review the progress that has been made. In the table below, leadership research has been divided into six major approaches, which have been classified in terms of different theories according to their temporal aspect (that is, the time period in which each approach emerged). The derivation and the research theory of the approaches are mainly based on a review in Leadership Quarterly of the literature that was published in the last decade (Lowe & Gardner, 2000), whilst also relying on historical reviews by Bass (1990), House and Aditya (1997), Van Seters and Field (1990), Fairholm (2002), Gordon (2008) and Yukl (2010). These authors also describe LMX theory (Graen & Uhl-Bien, 1995) as a recently introduced approach. In addition, Yukl (1989, 2010) presented an integrative approach, which involves normally more than one leadership approach (for example transformational and charismatic leadership). For the purpose of this study, the main leadership approaches are presented in Table 1 below.

TABLE 1 Summary of the key leadership approaches and their main focus. Source Yukl, (2010), adapted with modifications

Approach and time	Theory	Main focus
Trait 1900s-	Trait theory	Leadership can be seen as a trait (intrinsic quality or characteristic) distributed in some way among the population (Jago, 1982).
Behaviour 1940s-	Ohio and Michican studies Managerial Grid	Leadership behavioural approach emphasises the behaviour of the leader and it focuses widely on what leaders do and how they act (Fleishman & Harris, 1962). It explains how leaders support organisations to reach their purposes through two issues: concern for production and concern for people (Blake & Mouton, 1964).
Situational 1970s-	Situational theory	Leadership is constituted of both a directive and supportive dimensions applied in a given situation (Hersey & Blanchard, 1977).
Power-Influence 1970s-	Social Exchange Theory	Leadership is a process involving an influence relationship, where the leader is one among other participants in this relationship, and there occur "transactions" (that is, exchanges) between leaders and followers (Hollander & Julian, 1969).
Integrative 1970s-	Transformational Transactional Authentic	It is a process where leaders and followers engage with others that they are raising one another to higher levels of morality and motivation (Burns, 1978). It is an exchange relation in which the leader and follower are engaged in a kind of trade or exchange, often economic, social or psychological (Burns, 1978; Bass, 1985). A process that draws from both positive psychological capacities and a highly developed organisational context, to support and share information needed to make decisions while accepting followers' inputs (Luthans & Avolio, 2003).
Relational 1970s-	Attribution theory Leader-Member Exchange theory	It describes the cognitive processes of leaders to evaluate the reasons for effective or ineffective follower performance and the correct reactions (Green & Mitchell, 1979). Leaders develop different exchange relationships with their followers, whereby the quality of the relationship alters the impact on important leader and member outcomes (Dansereau et al., 1975; Graen & Cashman, 1975; Graen & Uhl-Bien, 1995).

Next, from the leadership approaches described above, theories are reviewed in more detail, since they most appropriately serve the overall goal of this study. Furthermore, they are consistent with most of the leadership literature. Theories to be presented are selected and classified into the following six approaches according to Yukl (2010, pp. 31,33): 1) the trait approach, 2) the behaviour approach, 3) the situational approach, 4) the power-influence approach, 5) the integrative approach, and 6) the relational and multiple level (conceptualisation of dyadic processes) approach. Among the approaches there are three types of variables that are relevant for understanding leadership: 1) characteristics of the leaders, 2) characteristics of the followers, and 3) characteristics of the situation and context. Most leadership theories emphasise one category over others (Yukl, 2010, p. 30).

Trait approach

Leadership can be seen as a trait (intrinsic quality or characteristic) distributed in some way among the population, and in this matter, leadership is viewed as a measurable and quantifiable property possessed in different amounts by different people (Jago, 1982). Early in the leadership scientific study tradition, traits were understood to be innate or heritable qualities of the individual (Zaccaro, 2007). Stogdill (1948) reviewed 124 trait studies conducted from 1904 to 1948 and found that decisiveness in judgement, speech fluency, interpersonal skills and administrative abilities were qualities of a stable leader, and that those individuals who are leaders in one situation may not necessarily be leaders in others. Mann (1959), likewise noticed that personality traits (for example, introversion-extraversion, interpersonal sensitivity, intelligence) could be used to distinguish leaders from non-leaders, while Lord et al. (1986) found that intelligence, masculinity and dominance are related to how individuals perceive leaders.

Kirkpatrick and Locke (1991) showed that leadership traits (drive, the desire to lead, honesty and integrity, self-confidence, cognitive ability and knowledge) make some people different from others, and this difference should be viewed as an important part of the leadership process. Thus, reflecting this shift away from traits as purely heritable qualities, leader traits can be presented as relatively coherent and integrated patterns of personal characteristics, showing a range of individual differences that foster consistent leadership effectiveness across a variety of group and organisational situations (Zaccaro, 2007).

To define leadership as a trait is rather different from defining it as a process (Northouse, 2010, see Figure 4).
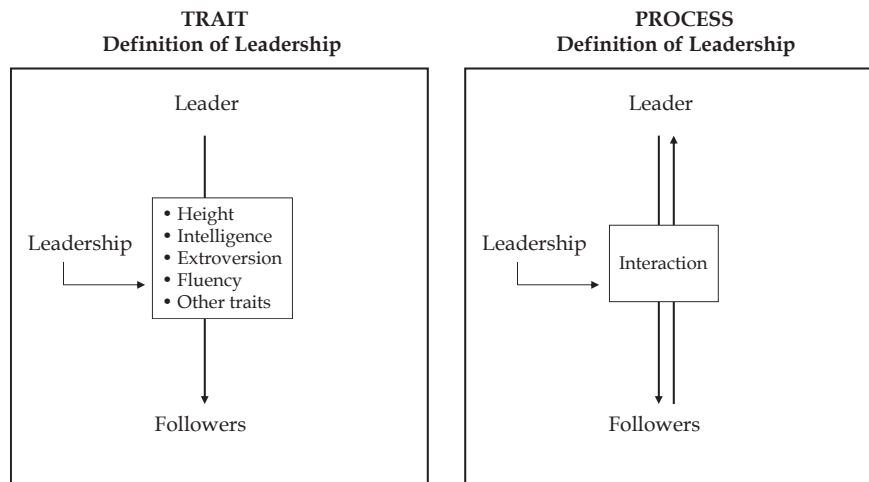
FIGURE 4   The different views of leadership. Source Northouse, (2007, p. 5) adapted with modifications

In summary, this process view of leadership is adopted in this dissertation study. Furthermore, it was already noted by Stogdill in the 1940s (1948) that

leadership involves relationships that occur between individuals in a social context. Thus, leadership as a process is not only based on the leader's trait perspectives, but also on the interaction between the leader and the follower. In this respect, Jago (1982) stated that leadership as a process can be observed as a phenomenon that is relevant in context and makes leadership available to everyone.

Behavioural approach

The leadership behavioural approach emphasises the behaviour of the leader and it focuses exclusively on what leaders do and how they act (Northouse, 2010). In the early phase of the Ohio State University studies, independent leadership patterns were defined and a variety of behavioural and attitudinal instruments were developed to measure them (Fleishman & Harris, 1962). This phase created the usefulness of the constructs of "consideration" and "structure" for describing leader behaviour in working life (Fleishman & Harris, 1962). Consideration includes behaviour indicating mutual trust, respect, and a certain warmth and rapport between the supervisor and his/her group, whilst structure includes behaviour in which the supervisor organises and defines group activities and its relation to the group (Fleishman & Harris, 1962).

A second major research study on leadership behaviour was executed by Katz et al. (1950) as part of the Michigan State University studies. Findings from managerial behaviour studies showed that there are three types of leadership behaviour: task-oriented behaviour, relation-oriented behaviour and participative leadership, which differentiates between effective and ineffective managers (Katz et al., 1950; Yukl, 2010). One of the best-known theoretical formulations of these earlier major studies is the model of managerial behaviour called the Managerial Grid, which first appeared in the early 1960s (Blake and Mouton, 1964). This grid is now known as the Leadership Grid, and it was designed to explain how leaders support organisations to reach their purposes through three issues: concern for production, concern for people and motivation of employee behaviour (Blake & Mouton, 1981; Blake & McCanse, 1991).

In summary, when the leadership process is considered in terms of a relationship involving dyadic influence between the leader and each follower, many reasons for anticipating a correlation between consideration and structure have been suggested (Lowin et al., 1969). It has also been shown that a certain leader behaviour or leadership style may have an influence over the subordinate's behaviour, such as in terms of job satisfaction (Pool, 1997). Furthermore, the grid model has been widely used in organisational development (OD).

Situational approach

Situational leadership theory (SLT) was developed by Hersey & Blanchard (1977). It is based on a relationship between task behaviour and relationship behaviour and maturity, where the level of subordinate maturity in particular reflects an appropriate mix of task-oriented and relations-oriented behaviour for the leader. Changes to situational leadership theory occurred when Blanchard et al. (1985) introduced the Situational Leadership II model, which was later applied to

groups. According to Randolph and Blackburn (1989), the changes included conceptual definitions of key variables in the model, whereas the conceptual definition of the follower-development level, previously labelled the follower maturity level, was argued to be a function of follower competence and commitment instead of follower ability and willingness (Graeff, 1997). In addition, the second core of the follower-development variable in SL II, commitment, was the replacement term for willingness in SLT, which some argued was a combination of confidence and motivation (Graeff, 1997).

In summary, the situational approach addresses leadership as a dyadic relationship between follower and leader. Furthermore, despite its deficiencies, the theory has made positive contributions to understanding dyadic leadership and it is essential to treat different subordinates differently (Yukl, 2010).

Power-influence approach
Social exchange theory explains how power is acquired and lost as a reciprocal influence process that takes place over time between leaders and followers (Yukl, 2010). Hollander & Julian (1969) presented that a) leadership is a process involving an influence relationship, b) the leader is one among other participants in this relationship, and c) there are "transactions" (that is, exchanges) that occur between leaders and followers, fundamental to which is the belief that rewards will be received for benefits given (cf. Jacobs, 1970). In addition, Hollander (1995) stated that leadership is "a shared experience, a voyage through time" and the leader is not a sole voyager. He also presented that "a major component of the leader–follower relationship is the leader's perception of his or her self, relative to his or her followers, and how they in turn perceive the leader".

In summary, Hollander was one of the first researchers to adopt a focus on leadership as a relational process (Hollander, 1958), a two-way influence and social exchange relationship between leaders and followers (Hollander, 1978). In this dissertation study, leadership is also viewed in terms of the follower's perpective as another core party when examining a relationship-based leadership approach.

Integrative approach
Burns (1978) described *transformational leadership* as a process whereby leaders and followers engage with others so that they are raising one another to higher levels of morality and motivation. Burns' opinion was that transformational leadership is more effective than *transactional leadership*, which is based on more selfish concerns (Burns, 1978). Burns (1978) stated that the transactional leadership focus lies in the manner in which leaders see and act on their own and their follower's values and motivations. The theory was formulated later by Bass (1985, 1990), and these studies defined transformational leadership generally in terms of the leader's behaviours and the effect on followers. Transformational leadership involves an underlying influence process that motivates followers by encouraging them to transcend their self-interests for the sake of the

organisation and goal accomplishment, whereas transactional leadership was described as an exchange process to motivate follower compliance with a leader's requests and organisational role requirements (Bass, 1985; 1990). Bass (1990) also included charisma as one of subdimensions of transformational leadership.

According to Judge and Piccolo (2004), the four forms of transformational leadership are charisma or idealised influence, inspirational motivation, intellectual stimulation and individual consideration, and the three issues of transactional leadership are contingent reward, management by exception (active), and management by exception (passive). The view that transformational leadership must be built on the foundation of transactional leadership is supported by many scholars. See Figure 5 below.

TRANSFORMATIONAL LEADERSHIP	TRANSACTIONAL LEADERSHIP	LAISSEZ-FAIRE LEADERSHIP
Dimension 1 Idealized influence Charisma	**Dimension 1** Contingent reward Constructive transactions	**Dimension 1** Laissez-Faire Nontransactional
Dimension 2 Inspirational Motivation	**Dimension 2** Management by Exception Active Corrective transactions	
Dimension 3 Intellectual Stimulation	**Dimension 3** Management by Exception Passive Corrective transactions	
Dimension 4 Individualized Consideration		

FIGURE 5   Leadership dimensions of transformational and transactional leadership. Source Bass, (1985); Northouse, (2007, p. 181) adapted with modifications

Bass (1999) suggested that transformational leadership adds to the effectiveness of transactional leadership; transformational leadership does not substitute for transactional leadership. Howell and Avolio (1993) stated that transformational leadership complements transactional leadership and that effective leaders often supplement transactional leadership with a transformational leadership substitute for transactional leadership. A final form of leadership is laissez-faire leadership, which is the avoidance or absence of leadership (Avolio, 1999; Bass, 1998; Judge and Piccolo, 2004).

The evolution of transformational leadership theory over the past decade has shown a linear distinction between the factors comprising transactional exchange models of leadership and those that make up transformational leadership, with some attention paid to the situational circumstances in which the leader and follower's behaviour are embedded (Yammarino & Bass, 1990; Avolio & Bass, 1995). Thus, Hater and Bass (1988) have shown that more effective leaders are both transactional, in a path-goal sense, and transformational

too (Avolio & Bass, 1995). Since Bass's (1985) pioneering work on transformational leadership, many studies have made an effort to investigate the behavioural characteristics of transformational leaders and their relationships on work outcomes in organisations, and those studies have shown a positive relationship between transformational leadership and effectiveness (Yammarino et al., 2005; Cho & Dansereau, 2010). Research evidence has showed that transformational leadership improves subordinate satisfaction with the leader and subordinate perceptions of leader effectiveness (Judge & Piccolo, 2004; Nemanich & Keller, 2007).

In summary, the transactional and transformational leadership approach emphasises the components and consideration of individualised behaviour. These include the leader's help for the follower and her/his needs, to support and coach on an individual level (leader-follower). It appears that the permanent affect on followers is a core element of this integrative approach. In addition, it seems that the individualised consideration is partly developed from the work of the Ohio State University Studies in 1950s. However, the Ohio studies emphasised consideration as one form of leadership behaviour between the leader and followers on the work group level.

The idea of *authentic leadership* has received a lot of interest in recent years. Avolio et al., 2004; Luthans & Avolio, 2003; May et al., 2003, for example, considered authentic leadership as a root construct that can include transformational, ethical leadership and positive organisational behaviour. Authentic leaders act in accordance with deep personal values and convictions, to build credibility and win the respect and trust of followers by encouraging diverse viewpoints and building networks of collaborative relationships with followers (Avolio et al., 2004). George (2003) states that the basic wish of authentic leaders is to serve others through their leadership, to be more focused on empowering the people they lead to make a difference, and to lead as much through the qualities of the heart, passion, and compassion as by qualities of the mind. Luthans and Avolio (2003) discovered that authentic leaders notice and value individual differences and have the ability and motivation to identify people's talents.

Thus, authentic leadership of the leader is focused on encompassing authentic relations with followers and associates, and these relationships are characterised by: a) transparency, openness and trust, b) guidance toward worthy objectives, and c) an emphasis on follower development (Gardner et al., 2005). In addition, Gardner et al. (2005) presented a self-based model of authentic leader and follower development where they proposed that authentic leadership influences followers' attitudes and behaviours through the key psychological processes of identification, hope, positive emotions, optimism and trust. Avolio and Gardner's (2005) review suggested the need for future research on the relationship between authentic leadership and the levels of self-awareness of leaders and followers, and that further study is needed to assess the direct

effect of the leader's positive psychological capital on followers and their mediating effects on sustained performance.

In summary, authentic leadership differs from transformational leadership, since the idea in authentic leadership is not to change followers in some fundamental way. In addition, authentic leaders are genuine and real, and they need not be charismatic. Authentic leadership is also related to the ethical dimensions of leadership. Furthermore, authentic leadership is concerned with positive characteristics such as hope, optimism and resilience (see Avolio et al., 2004).

Relational approach

The origins of *attribution theory* are almost universally traced to the work of Fritz Heider (1958) and his notion that attributions are the result of the fundamental cognitive processes by which people ascertain cause and effect so that they can solve problems and become more efficacious in their interactions with their environments (Martinko et al., 2007). The work of Heider was continued by Kelley (1971, 1973) and Weiner (1972, 1986). Green and Mitchell (1979) were the first to make a systematic effort to find out the relationship between attribution processes and leadership processes. In their study, they presented a model showing how member behaviour led to informational cues that influenced leader attributions which, alternately, influenced leader behaviours directed toward members. In building their model, Green and Mitchell relied primarily on Kelley's (1967) analysis but also recognised and discussed a number of factors that moderated the behaviour that leaders direct toward their members (Martinko et al., 2007). The moderators contained leader expectations, personal characteristics of the leader and member, leaders' expectations, the effects of subordinates' behaviour, leaders' perceptions of the followers' responsibility, and organisational conditions (Martinko et al., 2007).

However, from the mid-1980s to the present, a steady amount of research on the role of attributions in leadership processes were conducted. Other studies searched for additional aspects of the relationship between attributions and leadership processes (Martinko et al., 2007). Martinko et al.'s (2007) analysis of these results revealed that they took a more interactive approach by looking at the relationships between the attributions of leaders and members. This leader-member research (Martinko & Gardner, 1987; Campbell & Swift, 2006; Heneman, Greenberger, & Anonyuo, 1989; Wilhelm, Herd, & Steiner, 1993) promoted the notion that attributions accounted for significant portions of variance.

In summary, more recent studies of attribution theory are beginning to recognise and focus on an interactive and dyadic level of analysis, as opposed to much of the earlier work that was leader-centric and focused on an individual level of analysis. Furthermore, attribution styles can be viewed as trait-like characteristics, which can be seen when people are dealing with everyday routine situations (Martinko et al., 2007). So the styles of followers and leaders and their interactions can exert influence on the level of LMX relationship.

Leader-member exchange (LMX) theory takes another approach and conceptualises leadership as a process that is focused on the interactions between leaders and followers (Northouse, 2010), see Figure 6 below.
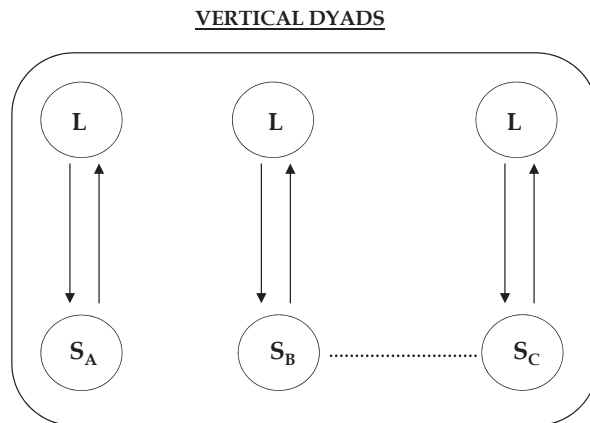
VERTICAL DYADS

FIGURE 6   A leader's relationship within the work unit as a series of vertical dyads. Note: The leader (L) forms a unique and special relationship with all his or her subordinates (S). Source Dansereau et al., (1975); Northouse, (2007, p. 153) adapted with modifications

Most of the leadership theories and research presented so far have highlighted the point of view of the leader or follower and the context. The basic premise of LMX theory formation was that as Graen presented, in that the quality of the vertical dyadic interaction is predicated on an exchange between the leader and subordinate (Dansereau et al., 1975; Graen & Cashman, 1975; Graen et al., 1972a). Subordinates are only willing to invest additional time and effort if they think they will get something of value in exchange. In addition, leaders will only be motivated to evolve higher-quality relationships if subordinates are able to reciprocate with something that is essential for the leaders to carry out their jobs successfully, or if subordinates can offer something that is personally valued by the leaders (Dansereau et al., 1975; Graen & Cashman, 1975; Graen et al., 1972b; Dunegan, Duchon & Uhl-Bien, 1992). Graen's theory of LMX has been shown to be vigorous by a number of studies, at different levels of hierarchy, and functional in predicting a variety of significant organisational outcomes. It should also be noted that as stated by Graen and Uhl-Bien (1995), LMX is both a transactional and transformational leadership approach. LMX theory is presented and reviewed in more detail in section 2.2.

Dansereau et al. (1995b) have distanced themselves from the LMX approach, as they have proposed an alternative conceptualisation of leadership relationships. Dansereau's approach, called "*Individualised Leadership*" (IL), focuses on dyadic relationships outside any collective context, and is different from the VDL/LMX perspectives on leadership. He argues that the LMX model assumes that "different relationships must occur within supervisory work groups" (Dansereau et al., 1995b, p. 482). Dansereau's (1995b) IL model propos-

es that both individuals involved in the dyad are considered distinct from their respective others (that is, each follower is independent of other followers, and each leader is viewed as unique). However, according to Dansereau et al. (1995b), a linkage still exists between each leader and follower (while the dyad remains independent of other dyads).

Methodological issues of leadership studies
Although many different methods of collecting information and analysing it are available, the majority of leadership theory studies over the past fifty years have relied on certain methods such as survey research with questionnaires completed by leaders or subordinates (Yukl, 2010). Most leadership research investigates events that occur during a short time interval, thus longitudinal studies are needed to find out how the leadership process evolves over time, and to evaluate delayed impacts of leaders on followers (Yukl, 2010). Yukl (2010) suggests that it is better to design a study that will widen a theory by investigating alternative explanations, finding possible counfounding evidence, identifying limiting factors and evaluating practical significance. Table 2 below presents an overview of the methodological issues of leadership studies.

TABLE 2   Common and uncommon features in leadership research (Yukl, 2010, p. 502)

Feature	Common	Uncommon
Research method	Survey study	Experiment
Research objective	Replication	Explore new issues
Level of processes	Individual / Dyadic	Group / Organisational
Time frame	Short-term	Longitudinal
Causality	Unidirectional	Reciprocal
Criterion variables	One or Two	Several
Mediating variables	Few or None	Several
Data sources	Single	Multiple
Sample	Convenience	Systematic selection
Level of leader	Supervisor	Executive

Bryman (2006) has examined social research methods in which quantitative and qualitative research are integrated in published journal articles between 1994 and 2003. The study was based on content analysis of 232 social science articles and Bryman (2006) found that the major contributing discipline is sociology with 36%, followed by social psychology (27%); management and organisational behaviour (23%); geography (8%); and media and cultural studies (7%).

Furthermore, a summary of the leadership research designs used in the empirical articles of Leadership Quarterly during the 1990s was published by Lowe and Gardner (2000). Findings indicated that studies executed in the field employed a portion of quantitative (71%) and qualitative (29%) methods; a small subset of studies adopted both approaches (13%), whereas for most articles, the ratio of quantitative to qualitative studies is at least two to one (Lowe and Gardner, 2000). In addition, an analysis of research settings revealed that a

surprisingly high proportion (80%) of leadership studies took place in field settings, while the number of studies conducted as part of a laboratory experiment (20%) was relatively low (Lowe and Gardner, 2000).

By reason of studies conducted in field settings, it is not surprising that the most common participants were practising managers/leaders (68%), and contrary to other disciplines and journals, the proportion of studies using student samples (19%) is relatively low (Lowe & Gardner, 2000). According to Lowe and Gardner (2000), less common approaches include observational methods, experimental measures (for example, performance or problem solving tasks), and projective tests.

Findings regarding the level of analysis showed that the individual level of analysis (leader/manager, follower/subordinate, or individuals in general) was most prevalent; more specifically, the analysis suggested that the leader/manager most often served as the focal point for the analysis, followed by followers/subordinates (Lowe & Gardner, 2000). In addition, analyses showed that the dyad (10%), group (7%), and organisation (7%) levels were less common (Lowe & Gardner, 2000).

In summary, leadership processes like dyadic relationships, creating effective teams and leading change, require months or years of study (Yukl, 2010). These types of longitudinal designs were rarely included in previous leadership research (Lowe & Gardner, 2000; Bryman, 2006). Furthermore, the examination of research methods implies that there is considerable value in examining both the rationales that are given for combining quantitative and qualitative research and the ways in which they are combined in practice (Bryman, 2006). For future research directions, Lowe and Gardner (2000) suggest that more research is needed to determine the proportions of variance that can be attributed to individual, group, and organisation levels. In addition, they suggest that the leadership context, in both its social and temporal form, has been understudied, thus more knowledge about leadership in not-for-profit and community service organisations is required (Lowe & Gardner, 2000).

2.1.2 Leadership in higher education

The study of leadership in an educational setting is a multi and interdisciplinary field. Bassey (1999) constituted and expressed educational research and its setting as follows: it is systematic, critical enquiry aimed at informing educational judgements and decisions in order to prove educational action. In addition, discipline research in education aims critically to inform understanding of phenomena pertinent to the discipline in educational setting (Bassey, 1999). Gunter (2002), likewise stated that officially approved knowledge production requires a particular and preferred type of intellectual work, such as site-based management and leadership needs for scientific-based research that concerns itself with teachers as rational leaders who make a difference to learning outcomes. Researching leaders and leadership in an educational context has been historically located in debates about the value and values of educational re-

search, and as such it needs to be mindful of political positioning that seeks to structure preferred ways of knowing (Gunter, 2002).

Leadership is a quality that grows from a dialogue between people, and an academic leader's principal resource is other academics (Ramsden, 1998). From the perspective of academic staff, leadership is a complicated business, therefore it presents itself as a series of forces ranged in different directions, a balancing act where equilibrium is fugitive and temporary (Ramsden, 1998). According to previous studies and the perspectives of lecturers (for example Middlehurst, 1993), there seems to be no ideal model to be captured and rendered down into a series of competencies and skills that we could set as objectives for aspiring leaders (Ramsden, 1998). However, there can be no doubt that academics can distinguish good leadership from bad, and that the process of leadership influences the outcomes of their work, and at its best, leadership can inspire lecturers to achieve more than they ever thought they could (Ramsden, 1998).

There are some key points in the concept of followership that are relevant to developing leadership in an academic environment, the first is the recognition that leadership does not have to be conceptualised primarily in terms of control and power over others (Ramsden, 1998). Its effectiveness depends on developing and enabling colleagues to contribute to the goals of the department and the university, but academic leaders and their staff are not entirely equal partners (Ramsden, 1998). Sometimes people have to make a choice between being a follower and being a leader; academics often find it hard to choose to play the cooperative follower role (Ramsden, 1998).

Consistent with Ramsden's findings, Rowley (2002) noted that higher education is in the knowledge business whereas the core activities are associated with knowledge creation and dissemination and learning. Universities do have a significant level of knowledge management activities, and it is important to recognise these, and universities and their staff must recognise and respond to their changing role in a knowledge-based society (Rowley, 2000). In addition, universities need to consciously and explicitly manage the processes associated with the creation of their knowledge assets, and to recognise the value of their intellectual capital to their continuing role in society, and in a wider global marketplace for higher education (Rowley, 2000).

In this respect, Heck and Hallinger (2005) have stated that leadership researchers in the educational environment have borrowed freely from scholars who became identified with theories of scientific management, human relations, transformational leadership and organisational learning during the 20th century. In studies of leadership in the educational environment, case studies, ethnography and naturalistic inquiry have gained reasonably widespread acceptance within the academic field (Heck & Hallinger, 2005). Nowadays, scholarly directions seem to be changing, as an increasing number of academics are approaching leadership and management in an educational context as a humanistic and practical endeavour rather than a purely scientific one (Heck & Hallinger, 2005).

Moreover, leadership in an academic context is both identical to leadership in other organisations, and idiosyncratic to university environments.

In line with these arguments, Ramsden (1998) notes that it has some special characteristics, chiefly related to the values and beliefs espoused by academics, and to the nature of "academic business", which is essentially concerned with the transformation of people and ideas. In conclusion, Ramsden (1998) presented the principles of leadership in an academic context as follows: 1) it is a dynamic process, 2) it is properly focused on outcomes (for example Burns, 1978), 3) it is a phenomenon that exists at multiple levels, 4) it is relational both in the leader's qualities and behaviours, and those of his or her followers, 5) the leader is a learner and 6) that leadership in an academic context is essentially transformative (cf. Drucker, 1955).

In summary, the previous literature shows that leadership in higher education seem to depend on know-how and people. Knowlegde is based on individuals and their manner of communication in various real and virtual environments. People will create a joint understanding of the social reality based on their diverse perspectives in higher education. Thus, for leadership, this reality requires an emphasis on the leader's reliability and his/her assisting or coaching style (that is, transformational leadership) to support staff.

2.1.3   Studies of leadership in educational settings

In his article, Bryman (2007a) analysed the literature concerned with leadership effectiveness in higher education at departmental level in the UK, the USA and Australia. Results showed that thirteen aspects of leader behaviour were identified as being associated with effectiveness whereas these thirteen aspects comprise many aspects of leader behaviour that can be found in the leadership literature more generally, such as the emphases on vision, integrity, consideration and sense of direction (Bryman, 2007a).

In line with this, Knight and Holen (1985) emphasised two issues of leader behaviour: consideration and initiating structure, whereas initiating structure denotes an emphasis on goal-directed activity and securing the appropriate structures for getting things done. Instead, consideration applies to behaviour in terms of relationships of trust, warmth and mutual respect between the leader and his or her followers (Knight and Holen,1985; Bryman, 2007a).

In this respect, two studies by Australian academics found consideration in the work environment and life in academe to be motivating when roles are clear, job tasks are challenging, and supervisors exhibit a supportive leadership style (Winter et al., 2000; Winter & Sarros, 2002). Instead, the work environment is demotivating where there is role overload, low job feedback, low participation, and poor recognition and rewards practices (Winter et al., 2000; Winter & Sarros, 2002).

According to Bryman (2007a), creating a positive and collegial work atmosphere in the department is one of the key aspects of the literature on academic work. It is the sense of the collegiality offering of professional and possibly personal support to others, and it implies that an important aspect of lead-

ership effectiveness at departmental level is the degree to which the head of department is able to foster such collegiality (Bryman, 2007a).

Ambrose et al. (2005), likewise found that collegiality or its absence was an especially important contributory factor in satisfaction or dissatisfaction among academic staff in a US university. Their research suggests that effective heads created a sense of community among their staff and leaders communicated effectively about the direction the department is going in (Ambrose et al., 2005; Bryman, 2007a). However, Bland et al. (2005) distinguished between leadership variables and departmental characteristics that might be related to various indicators of effectiveness of departments within the medical school at the university.

In this respect, Kekäle and Pirttilä (2006) studied leadership at the level of university departments in Finland. The research was aimed at developing leadership and management, fluency and division of academic work, well-being, and the health of academic staff. Four departments at the universities of Joensuu and Helsinki participated in the project. The findings showed that participatory action research can be seen as a valuable tool in development work relating to internal quality, internal division of labour and leadership practices (Kekäle and Pirttilä, 2006).

Rasmussen (2002) studied leadership and management of universities in four different European countries. He noted that leaders of departments that have begun to think that they are creating a leadership style that bases its managerial activities on creating a value framework want to inspire its academics both individually and in groups to exploit everyone's competence. At the same time, such departments and faculties with a more open and dynamic culture, such as those in the Swedish and the Dutch university, give a much more effective response to the top-down managerial structure (Rasmussen, 2002).

In line with Rasmussen's (2002) research, Smith (2005) studied departmental leadership and management among staff in two British universities. The findings of Smith (2005) in both types of universities is that there are a range of different approaches to leadership and management in each type of university, regardless of whether departments are research-led or teaching-led. The study's results also raised some questions relating to the notions that heads of department are overloaded with work, that large departments are difficult to manage and that collegiality is the 'preferred' model of decision-making (Smith, 2005). In this respect, Massy et al. (1994) note the potential for the leadership of a dean or departmental head to improve the quality of university teaching and faculty members working together on education.

An overview of the studies of leadership in educational settings at department level is presented in Table 3 below.

TABLE 3   An overview of leadership studies in educational settings at department level

Focus	Key findings	References
Leader behaviour	Study in a higher education contex revelead that thirteen aspects of leader behaviour were identified as associated with leadership effectiveness.	Bryman, 2007a
	Leaders who scored high on both aspects of leadership, conside-ration and initiating structure, were more effective than the rest.	Knight and Holen,1985
Leadership development	Participatory action research can be seen as a valuable tool in development work relating to internal quality, internal division of labour, and leadership practices.	Kekäle & Pirttilä, 2006
	Creating a positive and collegial work atmosphere in the orga-nisation by communicating is one of the key aspects of the leadership on academic work.	Ambrose, 2005
Departmental leadership	There is a range of different approaches to leadership and ma-nagement in each type of university, regardless of whether de-partments are research-led or teaching-led.	Smith, 2005
	The potential for the leadership of a departmental head to imp-rove the quality of university teaching and faculty members' working together on education has been recognised.	Massy et al., 1994

In summary, analysing the previous findings concerning leadership in higher education showed certain main issues. First, leader or leadership behaviour was found to be related to the leader-follower relationship at department level. Specifically, results revealed individualised consideration, which slightly refers to the dimension of tranformational leadership (see Bass, 1985). Second, the importance of dialogue and effective communication was found. In practise, leaders discuss the direction of the department and staff roles with their subordinates. This helps the department to enhance their collegiality by using individual, dyadic and group-level interaction. Third, the different cultures and approaches to leadership at department level were presented. This most probably influences the functionality and effectiveness of each department. In this context, leadership approach or style can adopt the democratic or collegial or formal-bureaucratic model (see Smith, 2005) regardless of whether the departments have a research or teaching culture.

Leadership approaches in educational settings
Leadership in an educational environment is often considered to be a subfield of educational administration, the distinctions between the two are obscured by their broad and shared focus of inquiry; both educational administration and leadership in an educational setting are dedicated, essentially, to developing a better understanding of how educational institutions may be better organised and run (Richmon & Allison, 2003). The issue of the relationship between leadership in an academic context and the teaching has been taken up by Knight and Trowler (2000). They contrast transformational and transactional leadership with collaborative leadership – although the two ideas are not necessarily in opposition. In line with this, Bensimon et al. (1989) asserted that in colleges and universities transactional leadership can more likely to play a greater role than transformational leadership.

In this respect, Martin et al. (2003) adopted perspectives on leadership and perceptions of the leadership environment of teaching in academic departments, where leaders and teachers were asked to describe their experience of leadership. This investigation showed important variations in the way heads of academic departments, subject coordinators and subject teachers experience transactional and transformational conceptions of leadership in universities.

However, the distinction between transactional and transformational leadership, while often quite strongly depicted in the literature, is less clear-cut in actual leadership and management situations. For example, Muijs et al. (2006) report that respondents in further education were typically most likely to describe their own leadership as transformational, and the leadership of their line managers as transactional.

Consistent with this argument, Kezar and Eckel (2008) stated that within the higher education literature several scholars have explored the role and importance of transactional and transformational leadership styles. However, Kezar and Eckel's (2008) study demonstrated that both transformational and transactional forms of leadership are important.

In this respect, Chin (2007) presented that as a whole, transformational leadership has been shown to be effective for obtaining subordinate performance. Masi and Cooke (2000) likewise noted that there is a significant relationship between transformational leadership and motivation, together with the negative relationships between transactional leadership and commitment to quality and organisational productivity.

Coleman (2011) outlines a multidimensional model for leadership, which draws on elements of a range of existing leadership models, including authentic, relational (for example Leader-Member Exchange theory), distributed, political and constitutive leadership (Coleman, 2011). Findings from this study highlight the significance of day-to-day leadership activity, stating that there are clear connections between distributed and relational leadership, with the former premised upon the existence of positive working relationships between leader and follower (Coleman, 2011).

An overview of the studies of leadership in educational settings is presented in Table 4 below.

TABLE 4   Summary of the findings from previous research on leadership in educational settings

Focus	Key findings	References
Transactional and transformational leadership	Within the higher education literature several scholars have explored the role and importance of transactional and transformational leadership styles.	Kezar and Eckel,2008
	There is a relationship between transformational leadership and motivation, together with the negative relationships between transactional leadership and both commitment to quality and organisational productivity.	Masi & Cooke, 2000
	The respondents in further education typically were most likely to describe their own leadership as transformational, and the leadership of their line managers as transactional.	Muijs et al.,2006
Leader-member exchange (LMX)	Findings from the previous study highlight the significance of day-to-day leadership activity, stating that effective collaborative leadership is rooted in a focus on the everyday.	Coleman, 2011
	In addition, study outlines a multi-dimensional model for leadership, which draws on elements of a range of existing leadership models, including authentic, relational (LMX), distributed, political and constitutive leadership.	
New directions	New public management is one those perspectives and it stresses that leaders should be less involved in the more detailed administration of their organisation and more concentrated on strategic and long-term issues.	Askling & Stensaker, 2002
	The distributed leadership is another, and it connotes the sharing of leadership between leaders and followers.	Harris,2007 House & Aditya,1997
	Findings from 12 UK universities identified two principle approaches to the distribution of leadership: 'devolved', associated with top-down influence, and 'emergent', associated with bottom-up and horizontal influence.	Bolden et al., 2009

In recent decades, new perspectives on leadership in educational environment have come into existence along with new ways of organising the decision-making structure in higher education institutions (Askling & Stensaker, 2002). Thus, a new public management is one those perspectives and it rests on some shared principles (Pollitt, 1993; Naschold, 1996; Christensen & Laegreid; 1998). The public sector should learn from the private sector and thus the former should attend to more clear-cut goals, cost-efficiency, competition and output control (Askling & Stensaker, 2002). The perspective is attached to a rational and top-down model of organisational behaviour.

However, Askling and Stensaker (2002) suggest that leaders should be less involved in the more detailed administration of their organisation and should concentrate more on strategic and long-term issues. According to Askling and Stensaker (2002), ideas have been presented in terms of the university becoming a service institution (Tjeldvoll, 1997), as adaptive (Sporn, 2001), entrepreneurial (Clark, 2000) or as a learning organisation (Askling & Kristensen, 2000).

Harris (2007) presented that distributed leadership is, without question, another fashionable idea which has captured the imagination of those concerned with leadership in the educational field (Harris 2004; Spillane et al., 2004). In this respect, Bennett et al. (2003, p.4) stressed that distributed leadership has been used as a synonym for "shared, collaborative, facilitative and par-

ticipative" leadership. Similarities have also been found between distributed leadership and democratic leadership (Woods et al., 2004). Harris (2007) stated that this accumulation of overlapping concepts has served to obscure the precise meaning of the term, rendering it a catch-all phase for any type of devolved, shared or dispersed leadership practice in schools (Harris 2004).

In leadership research, the term "distributive leadership" has been used widely to describe the phenomenon of shared leadership, most often connoting the sharing of leadership between leaders and followers (House & Aditya, 1997). House and Aditya (1997, p. 456), for example, discussed three forms of distributed leadership: a) delegated leadership, b) co-leadership, and c) peer leadership (that is, both leaders and followers).

In line with this, Bolden et al. (2009) identified in higher education two principle approaches to the distribution of leadership: "devolved", associated with top-down influence, and "emergent", associated with bottom-up and horizontal influence. In addition, they argued that while the literature on distributed leadership largely promotes the latter, the former is equally (if not more) significant in terms of how leadership is actually enacted and perceived within universities (Bolden et al., 2009).

In summary, leaders and followers in the higher education sector have adopted various traditional and new leadership approaches during the 20th century. However, it is unclear how all of these different leadership approaches are suitable and useful for various environments and how the approaches really contribute to our broader understanding of higher education practices and processes. Since the applied leadership approach in the higher education sector should serve the main funtions of universities well, it should also take account of the needs of personnel and their job characteristics. Therefore, shared or distributed leadership and relationship-based leadership approaches might be suitable in the higher education context.

2.2   Leader-member exchange theory (LMX)

Research conducted following the construct of leader-member exchange (LMX) was first investigated in the 1970s and reviewed with respect to the theoretical, measurement, and analytic adequacy of LMX studies (Schriesheim et al., 1999). The formulations set forth by George Graen and his colleagues (Dansereau, Graen & Haga, 1975; Graen & Cashman, 1975; Graen & Uhl-Bien, 1995) have focused on the dyad created by a supervisor and one subordinate, initially referred to as a vertical dyad linkage and later as a leader–member exchange (Miner, 2006). The relationship-based approach to leadership (that is, LMX leadership) research developed by Graen and colleagues four decades ago has undergone an interesting metamorphosis since its infancy (Schriesheim et al., 1999). This approach was initially termed the "Vertical Dyad Linkage" (VDL) model of leadership referring to the one-on-one notion of leadership (Graen & Cashman, 1975; Dansereau et al., 1975), and it subsequently evolved along two

very different lines of development (Schriesheim et al., 1999). Schriesheim et al. (1999) stated that the first branch of development from the early VDL approach appears to be most commonly called the Leader-Member Exchange (LMX) model (for example, Graen, Novak & Sommerkamp, 1982), although it has sometimes been given other labels as well, such as the "Leadership Making" model (see Graen & Uhl-Bien, 1991).

The second branch of VDL development has been the recent "Individual-ised Leadership" (IL) model of Dansereau et al. (1995b), which is quite different from the LMX approach (Schriesheim et al., 1999). This individualised leader-ship approach suggests that individuals, regardless of whether they are superi-ors or subordinates, are even more complex and flexible than was assumed by the VDL approach (Dansereau et al., 1995b). Furthermore, individuals are viewed as forming relationships with one individual totally independent of the relationships they form with other individuals (Dansereau et al., 1995b).

A historical development of LMX is shown in Figure 7 below.
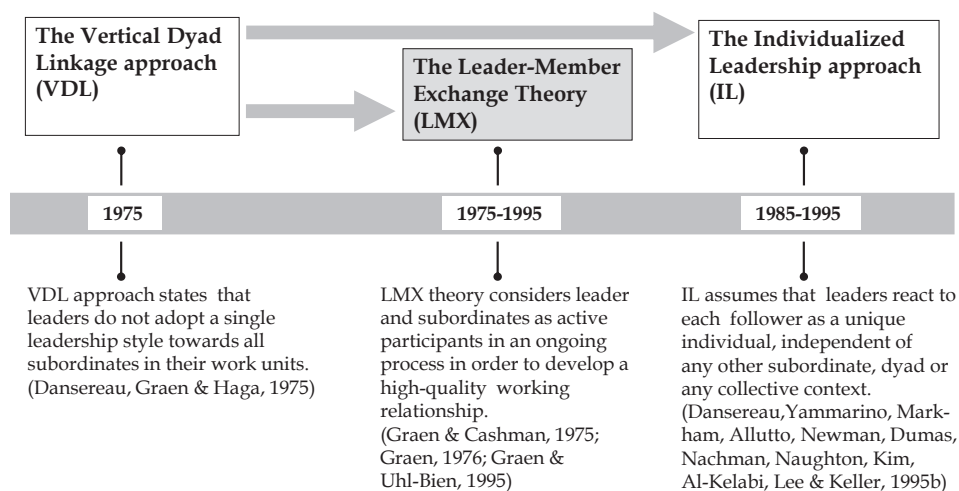
FIGURE 7   A historical development of the phases of LMX theory

LMX as a relationship-based approach to leadership can also be defined as an entity or individual perspective (Uhl-Bien, 2006). This means that individuals are seen as "entities," with evident separation between their internal selves and external environments (Hosking et al., 1995; Uhl-Bien, 2006). In addition, the individual agency perspective thought that "organisational life is viewed as the result of individual action" (Hosking et al., 1995). LMX takes an entity perspec-tive, since the viewpoint of relationships lies in individual cognition (for exam-ple, self-concept), behaviours (such as social influence, social exchange), and perceptions (Uhl-Bien, 2006). In addition, individuals are seeing leadership as an influence relationship in which they position with one another to accomplish mutual and organisational goals (Uhl-Bien, 2006).

In summary, LMX is originally based on the roles of the leader and the follower, and especially the role expectations of the leader. However, it should be noted that the follower role should be equal in order to create high a quality LMX relationship. The nature of the LMX relationship is asymmetrical, where the follower perspective can differ from the leader perspective and vice versa. It can be concluded that LMX has steadily replaced the Vertical Dyad Linkage (VDL) approach in its theory development. Unlike Graen's LMX model, Individualised Leadership (IL) addresses the instrumental exchange of actions between leader and follower and making services in each other.

2.2.1 Background and key areas of LMX theory

In investigating LMX, it is necessary to study the evolution of LMX theory. Drawing upon social exchange theory (Blau, 1964; Gouldner, 1960), LMX theory proposes that leaders form distinguished exchanges with members, based on effort, resources, and support exchanged between the two parties (Dansereau et al., 1975; Graen & Uhl-Bien, 1995; Liden, Sparrowe & Wayne 1997; Bernerth et al., 2007a).

The history of the LMX concept has shown that the definition and measurement dimensionality of LMX has developed and changed quite a lot over the years (Haga, Graen, and Dansereau, 1974; Dansereau et al., 1975; Graen and Cashman, 1975; Graen, 1976; Cashman, Dansereau, Graen and Haga, 1976; Graen and Ginsburgh, 1977; Keller & Dansereau, 2001). The earliest LMX studies (Dansereau et al., 1973; Graen et al., 1972a; Graen et al., 1972b; Graen et al., 1973a, Graen et al., 1973b) were exploratory in nature and did not provide much detail with respect to theoretically defining the LMX construct or delineating its dimensionality (Dienesch & Liden, 1986; Schriesheim et al., 1999).

Schriesheim et al. (1999) suggest that Haga, Graen, and Dansereau (1974) broke with the earlier emphasis on exploratory research and began the movement toward the most commonly employed treatments of LMX, and the study by Dansereau et al. (1975) and Graen and Cashman (1975) then further developed the theoretical definition of LMX and began the evolution towards the current measures of LMX.

Schriesheim et al. (1999) stated that the list of LMX subdimensions had been extended by the end of 1970s by different researchers (Graen, Cashman, Ginsburgh and Schiemann, 1977; Schiemann, 1977; Graen and Schiemann, 1978). Altogether, eighteen additional subdimensions/content subaspects were included in thirteen studies by Graen et al. during this ten-year period (trust, competence, motivation, assistance and support, understanding, latitude, authority, information, influence in decision-making, communications, confidence, consideration, talent, delegation, innovativeness, expertise, control of organisational resources, and mutual control) (Schriesheim et al., 1999).

Graen and Scandura (1987) provided what appears to be the first systematic and thorough discussion of many facets of the construct since Graen's (1976) earlier theoretical piece, presenting a three-phase model of LMX devel-

opment: role-taking, role-making, and role routinisation (Schriesheim et al., 1999).

During the 1990s, Graen and Uhl-Bien (1995) repeated Graen and Waka-bayashi's (1994) three-dimensional conceptualisation of LMX quality as consist-ing of three factors: respect, trust, and obligation (Schriesheim et al., 1999). Ac-cording to Graen & Uhl-Bien, (1995), conceptualisation was such that an offer will not be made and accepted without 1) mutual respect for the capabilities of the other, 2) the anticipation of deepening reciprocal trust with the other, and 3) the expectation that interacting obligation will grow over time as career-oriented social exchanges blossom into a partnership (Schriesheim et al., 1999).

In this respect, Uhl-Bien and Maslyn (2003) interestingly differentiated be-tween three components of reciprocal behaviour: (1) immediacy (time lapse be-tween exchanges), (2) equivalence (equivalent of the exchange value to each party), and (3) interest motive (why an exchange was negotiated), whereas LMX differentiation supports a positive relationship quality with all followers (Schyns & Day, 2010).

In summary, LMX and its development has a long history, over 40 years. Its dimensions, contents and conceptualisation has evolved and sharpened through the work of various scholars. It was Graen and Uhl-Bien (1995) who extended the nature of LMX to a whole new level. Their study was mainly based on Graen's earlier studies in 1970s and 1980s. After their remarkable work in the mid-1990s, LMX has been widely used in leadership literature. Fur-thermore, Graen and Uhl-Bien described their conceptualisation as the relation of mutual trust, respect, obligation and learning in the LMX relationship. These components are key prerequisites for the development of the LMX relationship through three phases: role-taking, role-making and role routinisation.

LMX and levels of analysis
In the field of organisational studies (cf. House, Rousseau & Thomas-Hunt, 1995; Klein, Dansereau & Hall, 1994), the importance of clearly specifying the level(s) of analysis at which phenomena are expected to exist has been recog-nised (Schriesheim et al., 1999). Schriesheim et al. (1999) suggest that organisa-tions are comprised of multiple levels (for example, individuals, dyads, work groups, departments), necessitating that researchers specify where (at what lev-el or levels) their construct of interest is expected to manifest its effects.

A central phenomenon of LMX theory is its focus on the working relation-ship between a leader and the various members of a work unit, team, depart-ment or organisation (van Breukelen et al., 2006). Thus, the quality of the ex-change relationship between a leader and a particular member (dyad) is the basic unit of analysis (van Breukelen et al., 2006). Still the majority of recent LMX research still assumes that LMX is predicated on the existence of a leader differentiating among subordinates within his/her work group.

The work by Graen and Uhl-Bien (1995) makes a remarkable departure from previous LMX research by describing LMX as a strictly relational concept and by asserting that the leader and follower within the context of the work

unit are no longer of principal interest in LMX theory – the relationship is now seen as the main focus (Schriesheim et al., 1999). However, the author of this dissertation sees this statement about focusing on the relationship a bit confusing. As earlier stated in the beginning of Chapter 2.2, LMX concentrates on the individual behaviours of the leader and follower. This instead leads to the conclusion that individuals are seen as entities that jointly form the LMX relationship. In other words, the primary interest of the LMX approach has been the leader or follower roles through which the relationship entity can be developed.

This modification distinguishes the previous work of Graen and Uhl-Bien (1995) from the VDL model, and Dansereau et al. (1995a) have criticised this recent perspective as being unclear with regard to levels of analysis. Because the relationship is the primary focus, and the individual followers and leaders no longer appear to be of interest, additional theoretical development is needed with respect to the appropriate level of analysis for conducting future LMX research (Schriesheim et al., 1999).

However, contrary to this argument, it can be stated that LMX has earlier focused and still focuses on the individual, dyadic, group and organisational level of development and anlysis. For example, much of the research focus has concentrated on antecedents and outcomes of LMX at the individual or dyadic level, but recently it has also advanced to the team level (Naidoo, Scherbaum, & Goldstein, 2008; Schyns & Day, 2010). In addition, the review of the LMX literature by Henderson et al. (2009) suggested that the LMX model might well be viewed as multi-level in nature and researchers were encouraged to discover LMX processes as operating at group and organisational levels (both theoretical and hierarchical) in their models.

2.2.2 Quality of LMX and phases in the development of LMX

According to Graen and Uhl-Bien (1995), a relationship-based approach focuses on the dyadic relationship between the leader and the follower. Based on this viewpoint, studies include measures that focus on identifying characteristics of dyadic relationships (for example trust, respect, mutual obligation), evaluating reciprocal influence between leaders and followers, examining how the dyadic relationships are correlated with outcome variables of interest, and researching how effective leadership relationships can be developed, maintained and combined into collectives of leadership structures (Graen & Uhl-Bien, 1995). As Figure 8 shows, LMX theory presents the dyadic relationship between leaders and followers and the essential point of the leadership process.
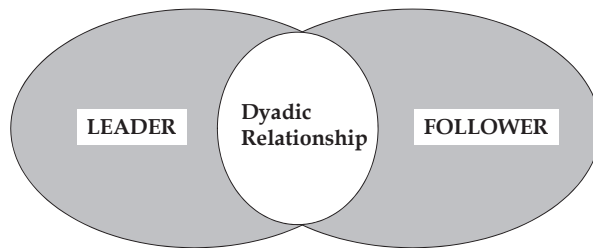
FIGURE 8   LMX theory's dyadic relationship between leader and follower in the leadership process. Source: Graen and Uhl-Bien (1995, p.221), adapted with modifications

The development of LMX is based on the characteristics of the working relationship as opposed to a personal or friendship relationship, and this trust, respect and mutual obligation refer specifically to the individuals' assessments of each other in terms of their professional capabilities and behaviours (Graen & Uhl-Bien, 1995).

Quality of LMX relationship
The key concept of the LMX theory is that effective leadership processes happen when leaders and followers are able to develop mature leadership relationships (partnerships) and thus gain access to the many benefits these relationships bring (Graen & Uhl-Bien, 1991). Graen and Uhl-Bien (1995) stated that the model describes how effective leadership relationships develop between dyadic "partners" in and between organisations (for example, leaders and followers, team members and teammates, employees and their competence networks, joint venture partners, suppliers networks and so on).

The characteristics of vertical dyads have shown two types of relationships: those that were based on expanded and negotiated role responsibilities (extra roles), which are named the in-group, and those that were based on the formal employment contract (defined roles), which were named the out-group (Northouse, 2007; Dansereau et al., 1975, see Figure 9). LMX has progressed beyond the early dichotomous thinking relative to "in-group" and "out-group,", but a good deal of the writing about the theory still occurs on this level.
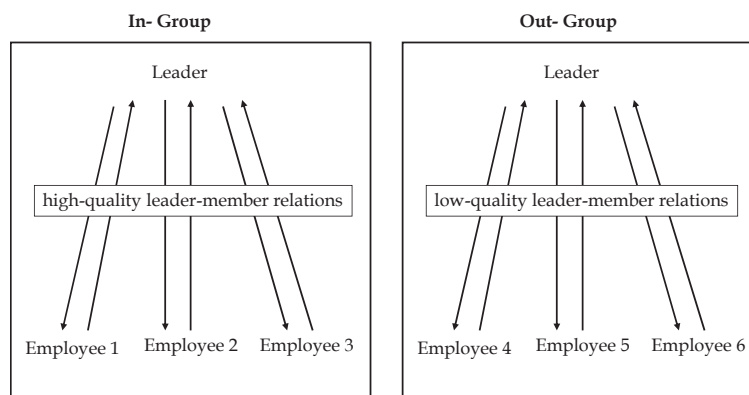
FIGURE 9   "In-group" and "out-group" relationships. Adapted from Northouse (2007, p. 154) and Winkler (2010, p. 48)

Leaders and followers see their relationship as high-quality when trust, respect, obligation and liking all exist (Liden & Graen, 1980; Graen and Uhl-Bien, 1995). Instead, individuals see their relationship as low-quality when there appears to be formality and a low level of affect, trust, and loyalty in the relationship (Graen and Uhl-Bien, 1995; Cogliser et al., 2009). Furthermore, these group partnerships tend to develop fairly quickly and remain stable after they have formed (Graen & Cashman, 1975, Liden & Graen, 1980).

Graen (1976) introduced an explication of LMX dimensionality, outlining two higher-order dimensions: quality and coupling in the exchange relationship. According to Schriesheim et al. (1999), it means, that the quality aspect emphazises the attitudes present in the exchange relationship (the amount of loyalty, support, and trust between dyad members), while the coupling dimension is more behaviorally oriented (addressing influence, delegation, latitude, and innovativeness).

The LMX quality has been shown to play a significant role in individual performance (Gerstner & Day, 1997; Dienesch & Liden 1986). Lower and higher-quality leader-member relationships are similar social exchanges, in that the exchange extends beyond what is specified in the formal job description (Liden & Graen, 1980; Liden et al., 1997; Dienesch & Liden, 1986). Most of the empirical research that has been undertaken to test and develop LMX theory has been one-tier in nature, examining the relationship between the perceptions of LMX quality and outcomes on the level of individuals (Schriesheim, Castro, Zhou, & Yammarino, 2001). Recently, there has been a growing interest among researchers to examine differentiation in LMX processes on the group and the individual–within-group levels (Henderson et al., 2008; 2009).

Finally, an interesting issue is how an individual's current relationship affects the use of future effort toward relationship development (Maslyn and Uhl-Bien, 2001). One factor that can explain this is tenure in the relationship (Maslyn and Uhl-Bien, 2001). In other words, leaders and followers who have been in an LMX relationship longer (high- or low-quality), are most likely affected differ-

ently compared to those individuals who have been in a relationship for a shorter period of time (Maslyn and Uhl-Bien, 2001). In addition, Maslyn and Uhl-Bien (2001) state that when a positive relationship continues to improve, individuals progressively add effort (see also Liden et al., 1997; Nuutinen et al., 2013). On the other hand, individuals (low-quality) whose relationship remains stable even for a longer period of the relationship, most likely exerted little effort in the relationship (Maslyn and Uhl-Bien, 2001).

In summary, LMX is based on differentiated role behaviours of leaders and followers in various social exhanges. The quality of LMX relationships also relies on reciprocal interactions and equity. In other words, the level of agreement between the leader and follower defines the quality in the relationship. Therefore, high-quality or low-quality relationships are created in joint communication and collaboration at work. LMX emphasises the individual perspective in forming the LMX quality types. Therefore, the leader or follower can choose the type or frequency of interaction and what kind of information to expose toward one another, and through this influence the quality of their relationship. However, it should be noted that leaders and followers do not necessarily always see the level of quality in high-level or low-level LMX relationships similarly.

Stages in development of LMX
In concluding the evolution of LMX theory over almost thirty years, Graen and Uhl-Bien (1995) suggested that LMX theory has passed through four stages, with each stage building on the stages preceding it. According to Graen and Uhl-Bien (1995), the development of LMX theory can be thought of in terms of the following stages (see Figure 10).

Stage 4: Team making competence network
Expansion of Dyadic Partnership to Group and Network levels
(Level of analysis: Collectives as Aggregations of Dyads)

Stage 3: Leadership Making
Description of Dyadic Partnership Building
(Level of analysis: Dyad)

Stage 2: The Leader-Member Exchange (LMX)
Focus on the Relationship and its Outcomes
(Level of analysis: Dyad)

Stage 1: The Vertical Dyad Linkage (VDL)
Discovery of Differentiated Dyads
(Level of analysis: Dyads with work unit)

FIGURE 10   Stages in development of LMX theory. Source: Graen and Uhl-Bien (1995, p.226) adapted with modifications

The first stage is the discovery of differentiated dyads, where research found that leaders developed differentiated relationships with their subordinates, a departure from the prevailing approach to leadership, which assumed that leaders displayed consistent behaviour towards all subordinates in their work units (Graen & Uhl-Bien, 1995; Schriesheim et al., 1999). The second stage is the investigation of characteristics of LMX relationships and their organisational implications (for example, outcomes of LMX) focusing on these different relationships the leader had within the work unit, while the third stage is the description of dyadic partnership building (that is, mature); moving the emphasis from the leader's differentiation of subordinates to "how they may work with each person on a one-on-one basis to develop a partnership with each of them" (Graen & Uhl-Bien, 1995; Schriesheim et al., 1999). The final stage is the aggregation of differentiated dyadic relationships to group and network levels, which broadens the scope from the dyad to larger collectives, exploring how dyadic relationships are organised within and beyond the organisational system (Graen & Uhl-Bien, 1995; Schriesheim et al., 1999).

In this first, VDL stage, Graen and Uhl-Bien (1995) stated that expectations were that the managerial units would contain only a few higher-quality exchange relationships, and the remainder of the relationships would be lower-quality exchanges, involving only obligatory compliance by the members with the formal role requirements. Thus, at this stage, the focus initially was on leader behaviour as described by the leader and the follower (leader domain), and with the discovery of significant variation in follower responses to questions

about their leaders. However, leader-member dyads became the unit for analysis (dyads within units), and the theory began to develop within the relationship domain (Graen & Uhl-Bien, 1995).

At the second stage, the focus was on relationships and outcomes at the dyadic level. To help make sense of this vast body of research, Graen and Uhl-Bien (1995) categorise the work conducted in this stage in terms of two tracts of investigation: (1) studies evaluating the characteristics of the LMX relationship such as influence (Deluga & Perry, 1991) and affect (Liden & Mitchell, 1989; Day & Crain, 1992), and (2) studies analysing the relationship between LMX and organisational variables (Graen & Uhl-Bien, 1995). Graen and Uhl-Bien (1995) suggested that investigations in this first tract also confirmed and further described the characteristics (mutual trust, respect and obligation) of the differentiated relationship between leaders and followers (for example Crouch & Yetton, 1988), and generalised these findings to the cross-cultural arena (for example Wakabayashi, Graen & Uhl-Bien, 1990; Eden, 1993).

The second category of investigations at this second stage emphasised that the key concept of LMX research may be introduced as: (1) the development of LMX relationships is influenced by characteristics and behaviours of leaders and members and occurs through a role-making process, and (2) higher-quality LMX relationships have very positive outcomes for leaders, followers, work units, and the organisation in general. In addition, this is different from the VDL approach in that it moves beyond a description of the differentiated relationships in a work unit to an explanation of how these relationships develop and what the consequences of the relationships are for organisational functioning (relationship domain, dyadic level) (Graen & Uhl-Bien, 1995).

The shift in focus in the third stage (see Figure 11) moves the theory beyond traditional thinking about "supervisors" and "subordinates" to an examination of leadership as a partnership among dyadic members (Graen & Uhl-Bien, 1995). According to Graen and Uhl-Bien (1995), the findings of the second stage of research (LMX) has shown that the previous work in this area has involved moving beyond "in-groups" and "out-groups" to a focus on the generation of a more effective leadership process through the development of effective leadership relationships (Leadership Making/Dyadic Partnership Building; stage 3).

CHARACTERISTIC	STRANGER	ACQUAINTANCE	MATURITY
A. Relationship building phase	Role-finding	Role-making	Role implementation
B. Type of reciprocity	Cash & Carry	Mixed	In-kind
C. Time span of reciprocity	Immediate	Some delay	Indefinite
D. Leader-Member Exchange	Low	Medium	High
E. Incremental influence	None	Limited	Almost unlimited
F. Type of leadership: 1) Transactional	Behavioural management (Bass, 1985)		Reciprocal favours (Burns, 1978)
2) Transformational	Self-interest		Team interest

TIME

FIGURE 11   Life span of Leadership Making. Source : Graen and Uhl-Bien (1995, p.231), adapted with modifications

Using this partnership building approach, the emphasis is placed not on how leaders discriminate among their people but rather on how they may work with each person on a one-on-one basis to develop a partnership with each of them (Graen & Uhl-Bien, 1995). In this third stage, leaders make the offer to every follower and it has a twofold effect: (1) the LMX process may be perceived as more equitable and the model more pleasant to practitioners and students who may have been uncomfortable with the inequity issue (Scandura, 1995), and (2) the potential for more high-quality relationship development (partnerships) would increase the potential for more effective leadership and expanded organisational capability (Graen & Uhl-Bien, 1995).

Thereby, rather than the descriptive approach that comprised the second stage of development, this third stage (Leadership Making), according to Graen and Uhl-Bien (1995), provides a prescriptive, and hopefully a more practically useful, model of leadership development. Moreover, based on earliers studies (Graen et al., 1982, Scandura & Graen, 1984; Graen et al., 1986), the Leadership Making model (Graen & Uhl-Bien, 1991; Uhl-Bien & Graen, 1993) was developed to discover the importance of creating more high-quality relationships within organisations and to describe a process for how these may be realised in practice (Graen & Uhl-Bien, 1995).

The process for Leadership Making is described by Graen and Uhl-Bien (1995) in terms of a life cycle of a leadership relationship. The process begins with a "stranger" phase, in which the leaders provide followers only with what they need to perform, and followers behave only as required and do only their prescribed job. From this phase the dyads can move to the second stage of relationship development: the "acquaintance" stage. In this stage, increased social exchanges occur between the members, and not all exchanges are contractual (Graen & Uhl-Bien, 1995). When these relationships grow to the next level, they

become classified as "*mature partnership*" exchanges, and at this point, exchanges between the members are highly developed: they are exchanges "in kind" and may have a long time span of reciprocation (Graen & Uhl-Bien, 1995).

In conclusion, Graen and Uhl-Bien (1995) stated that Stage 3 comprises an intense focus on the dyad by addressing issues of how high-quality relationships develop without reference to any particular organisational unit (relationship domain, dyadic level). This stage moves us out of the "in-group/out-group" thinking of Stage 1 to a more practical and equitable model for building leadership throughout the organisation, whereas the thrust of this stage is that leaders should be encouraged (and trained) to make the offer of high-quality relationship (partnership) building to all of their subordinates (Graen & Uhl-Bien ,1995).

At Stage 4, the focus is on how differentiated dyadic relationships combine together to group and network levels (Uhl-Bien & Graen, 1992), and in recognition of this (Graen & Uhl-Bien, 1995). Graen and Scandura (1987) proposed that, rather than independent dyads, LMX should be viewed as systems of interdependent dyadic relationships, or network assemblies (Scandura, 1995). These network assemblies constitute the leadership structure within the organisation, and therefore these relationships are not limited to formal leader-follower relationships; they also include leadership relationships among peers, teammates, and across organisational levels and organisations (Graen & Uhl-Bien, 1995). Stage 4 attempts to do this by "mapping' the leadership structure onto the task structure of the organisation, and investigations at this level look at task interdependencies and the quality of the relationships that develop among organisational participants as a result of these interdependencies (Graen & Uhl-Bien, 1995).

Moreover, Stage 4 involves investigating patterns of relationship quality within the leadership structure, taking into consideration the criticality of relationships for task performance, as well as the effects of differentiated relationships on each other and on the entire structure (Graen & Uhl-Bien, 1995). In contrast to the earlier stages, Stage 4 is in its infancy. Very few empirical investigations have occurred at this level, so given the import of understanding the processes identified in this stage for practitioners and researchers alike, further investigation and theorising at this stage should be more vigorously pursued (Graen & Uhl-Bien, 1995).

In summary, LMX theorising and research has undergone an evolution, and each stage represents a shift in focus and a progression in thinking about the LMX process within organisations (Graen & Uhl-Bien, 1995). Thus a network approach is truly where LMX research is heading (for example, Graen & Graen, 2007, 2008b; Sparrowe & Liden, 2005), then greater attention will need to be paid to the overall social context and how it influences the development of various dyadic exchanges (Schyns & Day, 2010). Recent studies from an edited series devoted to LMX theory and research (Graen, 2003, 2004, 2006; Graen & Graen, 2005, 2007, 2008a, 2008b) highlight the importance of going beyond a

dyad perspective of LMX to also take into account how LMX dyads are embedded in groups and in the broader organisational context.

Besides, it has been shown that leaders tend to develop various exchange relationships among followers and that the work unit context factors appear to have an influence on how these relationships are developed. (Cogliser and Schriesheim, 2000). The notion that followers are nested within leader dyads and that these dyads are also nested in workgroups has not been fully appreciated until recent work by Graen (Schyns & Day, 2010).

Finally, a late exception to this is research by Offstein, Madhavan, and Gnyawali (2006) who introduced a triad level of analysis. This approach takes into account the fact that leaders negotiate the quality of exchanges with more than one follower and that followers also have a relationship with each other that has potentially important implications (also see Sherony & Green, 2002) for LMX (Schyns & Day, 2010). These recent contributions emphasise the fact that relationship dyads should not be regarded in isolation but have to be put into a broader context, thus Schyns and Day (2010) have introduced the concepts of LMX excellence, consisting of high-level LMX quality, high agreement and high consensus. The present approach takes these prescriptions further in recommending that LMX excellence consists of three parts: (1) a high-quality exchange relationship, (2) leader–follower agreement on this relationship, and (3) consensus among followers in a workgroup regarding their respective relationships with the leader (Schyns & Day, 2010).

2.2.3   Antecedents and outcomes of LMX

According to Henderson et al. (2009) and Schyns et al. (2005), to date, not much empirical attention has been devoted to the antecedents of LMX (Liden et al., 1997; Nahrgang et al., 2009; Schriesheim et al., 1999). The vast majority of research in the LMX literature concerned with the outcomes of LMX relationships has focused on linking individual-level perceptions of LMX quality with subordinate-level outcomes (see Erdogan & Liden, 2002; Gerstner & Day, 1997, Graen & Uhl-Bien, 1995; Liden, Sparrowe, et al., 1997; Ilies, Nahrgang & Morgeson, 2007; Schriesheim, Castro & Cogliser, 1999).

However, the literature on LMX correlates into these two categories: antecedents (that is, those variables hypothesised to affect the development of leader-member relationships) and outcomes or consequences (that is, those variables hypothesised to result from LMX) (Henderson et al., 2009; Dulebohn et al., 2012).

Antecedents of LMX
Yukl et al. (2009) noticed in their study that leader's relations-oriented behaviours (transformational leadership) can influence and improve the leader-member relationship. However, behaviours related to the transaction of tasks in a relationship, which refers to the transactional leadership approach, did not confirm its role as an antecedent of LMX (Yukl et al., 2009).

In this respect, the study by Mahsud et al. (2010) indicated that transformational leadership and emotional intelligence were seen as antecedents of LMX. In addition, when the follower is seen to be qualified and trustworthy, and his/her opinions, values and demographic attributes are somewhat similar to those of the leader, an advantageous, exchange relationship is more likely to occur (Mahsud et al., 2010). Furthermore, the leader's and follower's personality traits, such as agreeableness, extroversion, and positive affectivity can also be related to the antecedents of LMX (Mahsud et al., 2010).

Lee (2005) likewise found that transformational leadership behaviour predicted all dimensions (affect, loyalty, contribution and professional respect) of LMX among research and development personnel. In addition, transformational leadership was more important than transactional leadership in relation to leader-member exchanges and followers' organisational commitment (Lee, 2005).

In line with above studies, Wayne and Ferris (1990) study showed that subordinates' behaviours influence leaders' cognitive processes and impressions of subordinates (for example Tedeschi & Melburg, 1984), which in turn influence the quality of exchange that develops (Wayne and Ferris, 1990).

In this respect, Vatanen's (2003) findings revealed that personality traits (extroversion, conscientiousness, harmony, agreeableness, self-enhancement) were found to influence the quality of LMX relations. In addition, leader characteristics influence both leader and follower perceptions, while follower characteristics mainly affect the followers' own perceptions (Vatanen, 2003).

In line with this argument, Bernerth et al. (2007b) emphasised that personal characteristics of research subjects influence the study of LMX, something that researchers readily acknowledge (Dansereau et al., 1975; Deluga, 1998; Gerstner and Day, 1997; Graen and Uhl-Bien, 1995; Phillips and Bedeian, 1994).

Likewise, Bernerth et al. (2008) found support for the notion that supervisor- subordinate personality and their similarity facilitates higher-quality LMX; specifically, differences in emotional stability, intellectual openness, agreeableness, and conscientiousness negatively affected the employees' perceived relationship quality with their supervisor.

Tekleab and Taylor (2003) examined employee tenure with the leader and the quality of LMX as antecedents and consequences of the organisation at the level of agreement between the two parties on the reciprocal obligations. The study showed that LMX reported by the leader predicted agreement on employees and the organisation's obligations, and specifically, the higher the quality of LMX, the better information shared on reciprocal obligations (Tekleab & Taylor, 2003). Employee tenure with the leader predicted agreement on employee obligations (Tekleab & Taylor, 2003).

In line with research by Tekleab and Taylor (2003), Schyns et al. (2005) provided a comprehensive review of various studies focusing on the antecedents of LMX in Germany. Contrary to results reported by Tekleab and Taylor (2003), the relationship tenure was not found to be an antecedent of an LMX relationship in the study by Schyns and colleagues. However, the span of lead-

ership showed to have a significant impact on the LMX relationship quality from the follower's perspective (Schyns et al., 2005).

In this respect, Schyns et al. (2010) later conducted another study of the effect of the leader's span of control (the number of followers led by a leader) on individual- and group-level LMX. The findings within the context of work groups showed that the different dimensions (contribution, affect, loyalty, professional respect) of exchange between leaders and their followers will have different effects on LMX quality understanding or consensus (Schyns et al., 2010). In addition, they stated that this depends on how necessary personal interaction or psychological closeness might be for the different dimensions involved in the exchange process (Schyns et al., 2010).

Colella and Varma (2001), interestingly, presented that personal characteristics such as disability interact with behaviours to influence LMX relationships. They suggest that subordinate upward-influence behaviours, such as ingratiation (that is, to make himself/herself more attractive to another), are an important factor (Colella & Varma, 2001). Their main finding is that subordinates with disabilities engaged in more ingratiation than did other subordinates.

Finally, Vidyarthi et al. (2010) investigated how perceptions of the relative LMX standing within the work group provide incentive for reciprocal behaviours. According to Vidyarthi et al. (2010), the relationship quality of the individual relative to that of co-workers seems to have motivational properties for employees above and beyond the overall quality of the LMX relationship, and findings also demonstrated that employees seem to be motivated by having a "closer" relationship with the leader than that experienced by co-workers.

An overview of the results from previous studies of the antecedents of LMX and its levels of analysis is presented in Table 5.

TABLE 5   Summary of the findings from previous research into antecedents of LMX

Antecedent	Key findings	Level of analysis (LMX)	References
Leader behaviour	Following relations-oriented leader behaviours (supporting, recognising, consulting, and delegating) are related to LMX. Relations-oriented behaviour mediates the relationship between leader empathy on LMX and between ethical leadership and LMX.	Individual level (leader)	Yukl, 2009 Mahsud et al., 2010
Follower behaviour	Followers' behaviours influence leaders' cognitive processes and impressions of followers. Personal characteristics such as disability interact with behaviours (such as ingratiation) to influence LMX relationships.	Individual level (follower)	Wayne & Ferris, 1990 Colella & Varma, 2001
Tenure	Employee tenure with the leader predicted agreement on employees' obligations. There was no relation between relationship tenure and LMX.	Individual level (follower)	Tekleab & Taylor, 2003 Schyns et al., 2005
Personality	Personality relates to LMX, it appeared that LMX might act as a mediating factor in the personality-performance relationship. Also supervisor–subordinate personality similarity facilitates higher quality LMX.	Individual level (leader and follower)	Bernerth et al., 2007b Bernerth et al., 2008
Agreement	LMX reported by the leader predicts agreement on employees' obligations and organization's obligations.	Individual/dyadic level	Tekleab & Taylor, 2003
Relationship	Results showed that characteristics of leader and follower were found to influence the quality of LMX relations.	Dyadic level	Vatanen, 2003 Lee, 2005
Span of control	Different dimensions of LMX can explain the effects of span of control (number of workers) on individual- and group-level LMX.	Group level	Schyns et al., 2010
Work behaviour	The relationship quality of the individual relative to that of co-workers seems to have motivational properties for employees above and beyond the overall quality of the LMX relationship.	Group level	Vidyarthi et al., 2010

Outcomes of LMX

It is shown that leadership will affect motivation, job satisfaction, self-esteem and well-being as well as individuals' performance (for example Gerstner & Day, 1997; Humphrey, Nahrgang & Morgeson, 2007). A good deal of research into LMX has been conducted, and findings generally support the existence of significant positive relationships between LMX and outcomes such as performance and commitment.

In line with this argument, Schriesheim, Castro and Yammarino (2000) conducted a study where they investigated how the span of supervision and upward controlling behaviours impact on the LMX relationship. The findings showed that both the span of supervision and upward controlling influence tactics moderated the relationships between LMX and outcome variables (Schriesheim et al., 2000). In addition, a relationship between LMX and commitment was found at the group level, and individuals seem to view the LMX and performance relationship as being based on individual differences (Schriesheim et al., 2000).

In this respect, Steiner (1997) presented that high LMX is related to greater performance and organisational commitment (for example, Major, Kozlowski, Chao, & Gardner, 1995). Furthermore, followers and leaders in favourable exchanges appear to enjoy better job characteristics, opportunities and satisfaction with each other (Steiner, 1997).

Hofmann and Morgeson's (1999) study presented that the support that organisations (Perceived Organisational Support, POS) give to their individuals and the quality of the LMX relationship with leaders are related to safety-based communication. In addition, this safety communication is associated with safety commitment and ultimately to accidents (Hofmann & Morgeson, 1999)

In line with this, Erdogan and Enders (2007) extended the previous findings of Hofmann and Morgeson by stating that individuals perceived organisational support (POS) and LMX as influencing their job satisfaction and job performance. In addition, the study showed that for high job satisfaction and performance, it is necessary that leaders should strive to build high-quality LMX relations with their followers (Erdogan & Enders, 2007).

Schyns & Wolfram (2008) likewise examined the relationship between LMX and different outcomes such as job satisfaction, organisational self-efficacy, and performance. The new value of their study is that it combined different outcome assessments and the LMX relationship from both leaders and followers (Schyns & Wolfram, 2008). Furthermore, LMX is indeed related to job satisfaction and performance outcomes, although differently for leaders and followers (Schyns & Wolfram, 2008).

Eisenberger et al. (2010), likewise noted in their study that when employees identify their supervisors with the organisation to only a small degree, LMX makes only a minor contribution to affective organisational commitment. However, when organisational support for supervisor's organisational embodiment (SOE) is at a high level, it has the potential to create a strong relationship between LMX and affective organisational commitment and realising the remarkable consequences for the organisation (Eisenberger et al., 2010).

Kacmar et al. (2003) introduced the area of communication as an outcome or moderator factor related to the LMX and job performance relationship. It was shown that LXM is related to communication frequency among individuals. In addition, their study revealed that when followers in a high-quality LMX relationship regularly communicated, they received higher performance ratings than did followers in a low-quality LMX relationship who actively communicated with their leaders (Kacmar et al., 2003).

In this respect, the study by Fix & Sias (2006) showed that LMX is related to job satisfaction, mainly due to the means of communication, such as person-centred communication (PCC). In addition it highlights the importance of PCC as an organizationally relevant outcome (Fix & Sias, 2006).

Schyns et al. (2005) found that delegation and the occupational self-efficacy of employees is a consequence of LMX. In the context of leadership, various experiences such as mastery experience and verbal persuasion, can enhance the self-efficacy of employees (Schyns et al., 2005).

Dragoni (2005) was the first to present a mixed theoretical model consisting of LMX. This model explained how LMX leadership can impact on group member's goal orientation and group member outcomes such as learning, task performance and behaviours (Dragoni, 2005). For leadership development, organisations may design leadership programmes to assist leaders in developing

their capabilities, and evaluating and improving the effectiveness of the type of climate they create among their employees and work group (Dragoni, 2005).

Kamdar and van Dyne (2007) investigated how leader–member exchange (LMX) and team-member exchange (TMX) relationships can act as predictors of employee task performance. Their findings demonstrated that the LMX relationship is an important element for enhancing work performance, and high-quality social exchange relationships can also compensate for less desirable personality characteristics (Kamdar & Van Dyne, 2007).

Van Dyne et al. (2008), in their field studies, examined the relationship between LMX and organisational citizenship behaviour (OCB). Their results revealed that positive relationships between organisational citizenship behaviour (voice; change-oriented OCB) and LMX exist (van Dyne et al., 2008).

In line with this, Burris, Detert & Chiaburu (2008) also investigated the voice as an outcome of organisational citizenship behaviours (OCB). The results in terms of LMX showed that the overall perceived quality of the relationship between leader and subordinate was positively related to voice (Burris et al., 2008).

Finally, a slightly different perspective is presented by Lämsä and Pucetaite (2006), who examined the development of organisational trust among employees from a contextual perspective. Their findings revealed that a processual approach to trust development implied that cognition-based as well as emerging affect-based organisational trust can be developed by managerial practices to initiate fellow partnership in a sociocultural context where the general level of work morale is low (Lämsä & Pucetaite, 2006).

An overview of the results from previous studies of outcomes of LMX and its levels of analysis is presented is presented in Table 6.

TABLE 6   Summary of the findings from previous research on outcomes of LMX

Outcome	Key findings	Level of analysis (LMX)	References
Delegation and self-efficacy	The delegation and occupational self-efficacy are related to LMX.	Individual level (follower)	Schyns et al., 2005
Safety communication and commitment	The support organisations (POS) give to their individuals and the quality of LMX relationship with leaders are related with safety-based communication and safety communication.	Individual level (leader)	Hofmann & Morgeson, 1999
Organisational citizenship per-formance (OCB)	Leaders are more effective at anticipating and influencing employee change-oriented behaviour OCB (voice) if they consider the joint effects of LMX.	Dyadic level	Van Dyne et al., 2008
	The quality of the LMX relationship between a leader and follo-wer is related to leaders' change-oriented behaviour OCB (voice).	Individual level (leader)	Burris et al., 2008
Organisational commitment	Organisation's support is creating a strong relationship between LMX and affective organizational commitment and realizing the remarkable consequences for the organisation.	Dyadic level	Eisenberger et al. (2010)
Job satisfaction and job performance	Individuals perceived organisational support (POS) and LMX influenced on their job satisfaction and job performance. LMX is related to job satisfaction and performance outcomes, although differently so for leaders and followers.	Dyadic level	Erdogan and Enders, 2007 Schyns & Wolfram, 2008
Job characteristics	Followers and leaders in favourable exchanges appear to enjoy better job characteristics, opportunities and satisfaction with each other.	Dyadic level	Steiner, 1997
Communication	It was shown that LXM is related to communication frequency among individuals. Study showed LMX is related with job satisfaction, mainly due to communicative means, such as person-centred communication .	Dyadic level	Kacmar et al., 2003 Fix & Sias, 2006
Task performance	Findings demonstrated that LMX relationship is an important element for enhancing work performance and high quality social exchange relationships can also compensate for less desirable personality characteristics.	Dyadic and group level	Kamdar & van Dyne, 2007
Performance and commitment	It was found relationship between LMX and commitment at the group level.	Group level	Schriesheim et al., 2000
Goal orientation	Findings explained how LMX leadership can impact on group member's goal orientation and group member outcomes such as learning, task performance and behaviours.	Group level	Dragoni, 2005

Summary of antecedents and outcomes of LMX
In conclusion, this review of antecedents and outcomes outlined their relation-ship to LMX, since LMX is the main topic of this dissertation. This overview showed that research attending to the antecedents of LMX is focused on issues such as leadership and work behaviours, personality characteristics, relation-ship characteristics, employee tenure and span control among workers. How-ever, it was surprising that still most of this empirical research was conducted at the individual level of analysis, whereas the dyadic and group-level examina-tion played a minor role (cf. Henderson et al., 2009).

However, the examination of the literature showed that studies relating to the outcomes of LMX were encouraging, since there was a balanced distribution of outcomes at the individual, dyadic and group levels. In addition, it was shown that LMX affects outcomes such as communication, goal orientation and commitment, which are also relevant issues in this dissertation. Some research-ers have also extensively investigated the moderator factors (for example, psy-chological climate, motivation, organisational culture, empowerment) of LMX. In line with this, Dulebohn et al. (2012) has presented in their meta-analysis an antecedents and outcomes model of LMX. This area opens a number of new

avenues for the future research of LMX; however, this is excluded from the current study.

2.2.4   Longitudinal studies on LMX theory

Next, the longitudinal studies of LMX are presented. The review is done according to the historical development of LMX and phases in the development of LMX theory. Thus, the overview of the previous longitudinal studies below is divided to different decades starting from the 1970s and ending in the early 2010s.

Dansereau et al.'s (1995a) multi-sample research suggested that the leader–follower relationship evolves over time, with leader and follower having completely independent perceptions of the leadership, which over time turns into a dyadic phenomenon (Bluedorn & Jaussi, 2008; Graen & Uhl-Bien, 1995).

1970s - Discovery of different dyads
During the 1970s, Dansereau, Graen and Haga (1975) were the first researchers who used longitudinal design (nine-month period with four consecutive intervals) to investigate the development of vertical dyad linkages within an university context in U.S.. Data collection was done by self-administrated questionnaires and verbal interview questions, and the participants of the study were 60 managers, however only the 17 managers in this study were interviewed as superiors (Dansereau et al., 1975). In addition, interviews of 60 managers about their position as members were also accomplished by the reseachers (Dansereau et al., 1975). According to Dansereau, Graen and Haga (1975), the longitudinal findings of this research showed that in-group (n=29) members spent more time in communicating and administering activities than the out-group (n=31) members. These findings suggested that the way and extent in which the superior is willing to use for role development (negotiating latitude), had consequences for the member's opportunity to "personalize" his or her job (Dansereau et al., 1975).

Graen and Schiemann's research (1978) was one of the first to test a longitudinal design (three-month intervals for three consecutive periods). It investigated how high-quality dyads actually produce greater agreement on the dimensions predicted by the model. The findings revealed that those members who established high-quality exchanges with their leaders (in-group) can be expected to show higher agreement with their leaders than those who develop low-quality exchanges (out-group) (Graen & Schiemann, 1978). Furthermore, the vertical dyad must be treated as the unit of analysis and the unit of leadership (Graen & Schiemann, 1978). In addition, leader-member agreement, according to this model, was predicted to vary as a function of the exchange quality of the vertical dyad linkage and the strong relationships between leader-member exchange and agreement were compatible with the vertical dyad linkage model (Graen & Schiemann, 1978).

In summary, these studies demonstrated that leader-member agreement can be studied by employing the vertical dyad linkage model and the empirical

procedures appropriate to it. The Vertical Dyad Linkage Model (VDL) of Graen and his associates (Cashman, Dansereau, Graen & Haga, 1976; Graen & Cashman, 1975) proposed that leaders exhibit very different patterns of behaviour toward different members of their work groups (Duchon, Green and Taber, 1986).

1980s - Relationship and its outcomes
During the 1980s, Graen, Liden and Hoel (1982) conducted a microanalysis on the nature of the relationship between leader-member exchange and employee turnover during a one-year period. These results gave further support to the idea that it is the unique exchange that develops between a leader and member, not a leader's overall style, that influences a member's decision to remain in the organisation, and members tended to remain in the organisation when they see themselves actively exchanging support, resources, extra effort, and the like with their leaders (Graen, Liden and Hoel, 1982). Besides, interviews with members (low-quality and high-quality) after the analysis of the questionnaire responses introduced a wide variance in leader exchange behaviour and effectiveness (Graen, Liden and Hoel, 1982).

In line with Graen, Liden and Hoel's (1982) study, Ferris (1985) examined the effectiveness of different leadership components in the prediction of employee turnover. There were some differences in the measurement methods used in this study compared to Graen et al.; the main difference was with respect to the sample employed (Ferris, 1985). Findings of this study tend to support Graen et al.'s (1982) result that leader-member exchange to be superior in the prediction of turnover than employee attitudes, and further support was provided for the validity of Graen et al.'s findings concerning LMX and employee attitude predictors of turnover (Ferris, 1985).

The study of Wakabayashi and Graen (1984) explored Japanese career progress by investigating the managerial potential of the newcomers and the quality of the vertical exchanges between leaders and newcomers. Their study was a 7-year follow-up. The findings revealed that the newcomer's first job assignment, and vertical dyadic relations can be useful for predicting the particular job outcomes during these early stages (first 3 years) and then predicting career progress outcomes after seven years (Wakabayashi & Graen, 1984).

In this respect, the purpose of the Wakabayashi et al. (1988) study was to test the temporal generalisability of early career progress results from seven to thirteen years. The results showed that something remarkable happens to newcomers during the first three years of employment in terms of later career progress and the leadership situation, since vertical exchange, evaluated during the first three years, did predict leadership progress to up to 13 years of tenure (Wakabayashi et al., 1988).

Duchon et al. (1986) studied the stability nature of the typical ingroup/out-group construct of the leader-member exchange in relation to task experiences, and this study focused in particular on the above questions by assessing longitudinal data (six-month period) gathered on forty-nine task

groups. The findings revealed that changes in in/out-group members' perceptions were detected by collecting longitudinal data, and the convergence of the three in/out-group measures held up over time, as did in/out-group status as predicted from the demographic variables of sex and class status (Duchon, Green and Taber, 1986).

In summary, these studies in the 1980s showed the process of relationship development, and how the relationships unfolded between leaders and members (in quality relationships) provided insight into the process of building a dyadic partnership (Graen and Uhl-Bien,1995).

A summary of the main longitudinal findings of LMX from the 1970s and 1980s is presented in Table 7.

TABLE 7   Summary of the longitudinal findings from the 1970s to the 1980s on LMX

Focus	Key findings	References
Quality of dyad	Study of the dyads showed that one class of LMX (in-group) was described as a partnership characterised, and the second class of LMX (out-group) described the leader as an overseer. LMX agreement was predicted to vary as a function of the exchange quality of the vertical dyad linkage.	Dansereau, Graen, and Haga, 1975 Graen & Schiemann, 1978
Agreement	The strong relationships between LMX and agreement were compatible with the vertical dyad linkage model.	Graen & Schiemann, 1978
Turnover	Study of the relationship between LMX and employee turnover supported the idea that it is the exchange that develops between a leader and member, not a leader's overall style. Findings of this study tend to support Graen et al.'s (1982) result that leader-member exchange to be superior in the prediction of turnover than employee attitudes.	Graen, Liden and Hoel, 1982 Ferris, 1985
Career progress	Human potential evaluated by LMX before the start of the career development process explained a portion of variance in career outcomes 7 years later. The findings showed that something critical happens to newcomers during the first 3 years of employment in terms of later career progress and leadership situation up to 13 years.	Wakabayashi and Graen, 1984 Wakabayashi et al., 1988
Nature of LMX	In-/Out-group members' task perceptions showed that the convergence of the In/Out measures held up over time, as did In/Out status as predicted from the demographic variables.	Duchon et al., 1986

1990s - Description of dyadic partnership building/leadership making
Graen and Uhl-Bien (1995) presented that the concept of Leadership Making originated with longitudinal (Graen et al., 1982) and intervention (Scandura & Graen, 1984) field experiments investigating relationship development among leaders and followers.

During the 1990s, Major, Kozlowski, Chao and Gardner (1995) carried out longitudinal research (over a four-week period), the aim of which was to examine how role development relationships are expected to moderate the linkage between expectations and socialisation outcomes. The results of the study implied that the potential detrimental effects of unmet expectations can be overcome via a quality relationship with one's supervisor, and using longitudinal

data, this study has shown that these negative effects (that is, unmet expectations) can be ameliorated by role development processes involving supervisors and co-workers (that is, LMX and TMX) (Major et al., 1995).

Howell and Hall-Merenda (1999) examined how the physical distance separating leader and follower moderates the impact of LMX relationships and transformational and transactional leadership on anticipating follower performance over a one-year period (Howell & Hall-Merenda, 1999). Their study provided support for Graen and Uhl-Bien's (1995) assertion that high-quality leader-follower relationships are positively related to transformational leadership behaviours, and that the notion that transactional leadership was associated with lower-quality exchanges needs to be revised (Howell & Hall-Merenda, 1999).

The focus of the research by Liden et al. (1993) was to investigate the LMX developmental process during the first six months. Findings of the study revealed that leader expectations of members and member expectations of leaders, were already established by the second week and predicted the quality of LMX also in later periods, that is from 2 weeks to 6 months. (Liden et al., 1993).

In this respect, Bauer and Green's (1996) work addressed leader-member exchange development over time (a eight-month period), and focused on how LMX relationships form and change over time, how early episodes in relationship development are related to later episodes, and how performance and delegation are related to each other within and across time periods. The study revealed that a similar personality between leader and member, measured in terms of positive affectivity, was related to later developmental processes, which in turn were related to the quality of leader-member exchange and changes in it over time (Bauer & Green, 1996).

Boyd & Taylor (1998) likewise noted in their theoretical work of LMX that length of time and the frequency with which leaders and followers are together increase the chances for low-quality and high-quality LMX relationships, and friendship to develop (Bluedorn & Jaussi, 2008) and moreover the progression of the leader-follower relationship through the stages of development has implications for several important aspects of leadership theory.

Tierney and Bauer (1996) investigated, in their longitudinal (over a three-month period) study, the link bwetween LMX and role behaviour. By developing a high-quality exchange with subordinates, the leader may create a climate characterised by trust, commitment and a sense of fairness that motivates subordinates to engage in behaviour extending beyond their formal job role (Tierney & Bauer, 1996).

Scandura (1999) investigated organisational justice and LMX development over time. Findings suggested that the differentiation of work groups into in-groups and out-groups has implications for the emergence of organisational justice, and it also showed that perceptions of organisational justice within work groups must be maintained throughout the LMX development process (Scandura, 1999). According to Scandura (1999), without communications about

organisational justice, the member begins to question the leader's actions, and these perceptions may send the relationship back to the role-specification phase.

A summary of the main longitudinal findings of LMX during the 1990s is presented in Table 8.

TABLE 8   Summary of the longitudinal findings of LMX during the 1990s

Focus	Key findings	References
LMX developmental process	Leader expectations of members and member expectations of leaders, assessed from 0 to 5 days in the life of the dyad, were shown to be predictors of LMX at 2 weeks and at 6 weeks.	Liden et al., 1993
	Study revealed that a similar personality shared between leader and member was related to later developmental processes, and to the quality of LMX and changes in it over time.	Bauer and Green, 1996
Role development	Study revealed that the negative effects (i.e. unmet expectations) can be ameliorated by role development processes involving supervisors and coworkers (i.e. LMX and TMX).	Major et al., 1995
LMX on role behavior	With the development of high quality relations with their employees, leaders could motivate their employees to engage in 'helping' behaviours that benefit themselves and members.	Tierney and Bauer, 1996
Transformational and transactional leadership	LMX was related to transformational leadership, and these two constructs were differentially related to follower performance under geographically close and distant conditions.	Howell & Hall-Merenda, 1999
Organisational justice	This study suggested that the differentiation of work groups into in-groups and out-groups has implications for the emergence of organisational justice.	Scandura, 1999

2000s - Expansion of dyadic partnership to group and organisation levels
During the 2000s, Sparrowe and Liden (2005), in a study that took place over a seven to nine-month period, represented an important contribution to both LMX and informal network perspectives, and with respect to LMX. They supported the explanation of how a dyadic relationship with a formal leader is related to perceptions of influence, not only in the work group but also beyond it (Sparrowe & Liden, 2005). In addition, their findings also lend support to the idea that members' outcomes are affected by their leaders' own positions in larger structures (for example, networks), and that this would be so in the case of formal linking-pin relationships was tested in early LMX research, such as Graen et al. (1977) (Sparrowe & Liden, 2005).

Bauer, Erdogan, Liden and Wayne (2006) in their longitudinal study (over a three to six-month period), contributed to the executive development literature by examining how performance and withdrawal were influenced by the interaction between executive personality and the unique relationships that form between new executives and their immediate supervisors. The findings showed that extraversion moderates the relation between LMX quality, executive performance, and withdrawal, and that performance is related to LMX (Bauer et al., 2006).

Dulac et al. (2008) examined the relation between LMX, organisational support and psychological agreement over time (a six-month period) as they occur in organisations within social exchange relationships. This study re-

sponded to questions regarding how attitudes remain positive even when negative situations arise within high-quality exchange relationships. The results indicated that social exchange processes may have implications for employees' affective commitment, trust in their organisation and turnover intentions. In longer-established relationships, Dulac et al. (2008) suggest that the pattern of interactions was well formed, reinforced, and routinised.

In this respect, Restubog et al. (2010) also investigated the role of LMX in the organisation's promised obligations and employee performance. Using a longitudinal research design (over a six-month period), results showed that LMX emerged as a significant moderator between organisation promised obligations and in-role performance. In addition, under conditions of high LMX, employees decreased their OCB (Organisational Citizenship Behaviour) and in-role performance as the level of organisation promised obligations increased (Restubog et al., 2010).

In a longitudinal field study (six months), Sparr and Sonntag (2008) examined the ways to make feedback delivery more interpersonally fair in order to have leaders feedback accepted by the employee and to improve the leader - follower relationship. It proved that fairness perceptions of feedback were linked to higher-quality LMX, which in turn lead to higher well-being (for example, increased job satisfaction) and a higher level of perceived control at work (Sparr & Sonntag ,2008). Therefore, researchers strongly emphasise the importance of adequate communication between supervisors and employees, particularly regarding feedback (Sparr & Sonntag, 2008).

Mäkelä (2009) carried out a longitudinal study (over a period of eighteen months) on women's working lives during and due to pregnancy from the perspective of the leader-follower relationship. Her findings challenged the statement that the quality of an LMX relationship is stable, and therefore the longitudinal settings might be valuable in this regard (Mäkelä, 2009). The results showed that pregnant women (followers) represent their relationship with their leaders as being dynamic and susceptible to change (Mäkelä, 2009).

Leponiemi (2008) in his study, which took place over a period of ten months, made a contribution to current aspects of leader-member exchange and the ethnic minority member follower perspective on the relationship with ethnic majority member leader by studying ethnically diverse leader-member exchanges. Findings regarding the development of a relationship indicated that the early phases in relationship building follow the earlier literature without significant differences (Leponiemi, 2008). According to Leponiemi (2008), after a longer period of working together, the experiences and perceptions differentiated to some extent and formed continuation discourses for the earlier discourses.

Using a longitudinal design (over a period of eight weeks), Nahrgang, Morgeson & Ilies (2009) sought to understand the critical early stages of leader–member relationships by using the team task simulation and evaluating how the relationship develops over time, and examining influences on the quality of leader–member relationships. They suggest that the influences differed based

on the stage of the relationship and on whether it was the leader or member's perspective of the relationship. Therefore, leaders are looking for members who are assertive and willing to seek out interaction opportunities with the leader, whilst members appreciate leaders who are trusting and cooperative, and after they have interacted, actual behaviour becomes more important for relationship quality (Nahrgang et al., 2009).

In line with this, Liao, Liu and Loi (2010) studied both key components (that is, LMX and TMX; team-member exchange) of social exchange in work teams over a period of six months to fully capture the dynamics at play in shaping employee creativity via self-efficacy. Key findings of their study were that both leader and teammate versions of exchange relationship quality have unique, independent effects on employee creativity through self-efficacy, and the results revealed that high-quality LMX and TMX relationships were indeed associated with the members' increased self-efficacy (Liao et al., 2010).

In this respect, Naidoo and colleagues (2011) examined the effects of LMX relationship at several different points in the lifecycle of work teams on team-level performance and development. Longitudinal data (a six-month period) showed that leaders of work teams who differentiate among their employees in terms of their dyadic LMX relationships can elicit higher levels of team performance, provided that such differentiation happens later rather than earlier in the team's lifecycle (Naidoo et al., 2011).

A summary of the main longitudinal findings of LMX during the 2000s is presented in Table 9.

TABLE 9   Summary of the longitudinal findings of LMX during the 2000s

Focus	Key findings	References
Network	Findings supported the explanation of how a dyadic relation-ship with a formal leader is related to perceptions of influence not only in the work group but also beyond it.	Sparrowe and Liden, 2005
Executive performance and personality	The findings showed that extraversion moderates the relation between LMX quality, executive performance, and withdrawal, and that performance is related to LMX.	Bauer et al., 2006
Organisational support	The results indicated that social exchange processes may have implications for employees' affective commitment, trust in their organisation, and turnover intentions.	Dulac et al., 2008
	Results showed that LMX emerged as a significant moderator between organisation promised obligations and in-role performance.	Restubog et al., 2010
Feedback and well-being	Employees' fairness perceptions of feedback were linked to higher quality LMX, which in turn lead to higher well-being and a higher level of perceived control at work.	Sparr and Sonnentag, 2008
Working life and pregnancy	The results showed that pregnant women (followers) regard their relationship with leader to be dynamic and suspectible to change.	Mäkelä, 2009
Ethnic majority	Relating to the development of relationship, it seems that the early phases in relationship building follow the earlier literature without significant differences.	Leponiemi, 2008
Development of LMX and team task	Findings suggest that the influences differed based on the stage of the relationship and on whether it was the leader or member's perspective of the relationship.	Nahrgang et al., 2009
Work teams	Both the leader and teammate versions of exchange relation-ship quality have unique, independent effects on employee creativity through self-efficacy.	Liao et al., 2010
	Results showed that leaders of work teams who differentiate among their employees in terms of their dyadic LMX relationships can elicit higher levels of team performance.	Naidoo et al., 2011

In summary, it should be noted that despite the leader-member exchange (LMX) was presented in the leadership literature nearly 40 years ago, there are still a relatively small number of studies examining LMX over time. In addition, previous longitudinal studies on LMX have relied on fairly short-term designs (less than one year) using mainly two or three repeated measures. Two exception in this are the studies of LMX by Wakabayashi et al. (1988) and Mäkelä (2009), who have used longer periods (one year or longer) of research. Furthermore, these previous longitudinal investigations of LMX have used either quasi-longitudinal designs (that is, experimental designs) or true longitudinal designs which involve the measurement of the same indicators at a minimum of three points in time (cf. Day, 2011). Thus, the integrated use of these both designs in longitudinal LMX studies are lacking at the moment.

2.2.5   Intervention studies on LMX

According to Burns and Otte (1999), only a small amount of the research into LMX has focused on variables that influence LMX development (developmental variables) instead of outcome variables (Dienesch & Liden, 1986;

Wayne & Ferris, 1990). In addition, when scholars look at developmental issues, they tend to study one variable, and there is little or no replication of research other than for demographic variables (Burns & Otte, 1999). The organisation intervention studies based on the LMX model (Graen & Cashman, 1975; Graen, Scandura & Graen, 1986), encouraged and enabled leaders to offer vertical collaboration to each employee (Graen, Scandura & Graen, 1986).

In their before-after field experiment (over a period of thirty-two weeks), Graen et al. (1986) examined the moderating effects of Growth Need Strength (GNS; employee motivation) on hard productivity of an organisation. According to Graen et al. (1986), leaders of the units receiving the LMX treatment accomplished six two-hour sessions (over six weeks) on the theory and practice of using the LMX model, and the real treatment was a one-on-one conversation between the immediate supervisor (leader) and the member, which was to last for twenty to thirty minutes (most were reported to last thirty to forty minutes). These results provided promising directions for the examination of the GNS measure as a moderator.

In this respect, Graen, Novak and Sommerkamp (1982) conducted a classic before-after experiment in four different treatment conditions of LMX and work characteristics. The findings revealed that the job characteristrics did not have an impact; however, LMX conditions resulted in a significant impact after the treatment, whereas the quality of the leader-follower relationship increased among individuals (Graen, Novak & Sommerkamp, 1982).

Scandura and Graen (1984) study investigated the effect of the initial LMX status in dyads on the effectiveness of a dyadic leadership intervention. According to Scandura and Graen (1984), the leaders of the units gaining the LMX treatment received six two-hour sessions (over a six-week period), and training was accomplished in a seminar setting and included a lecture, discussion and role modelling. The organisation intervention showed significant increases in the degree of supervisor support and member availability perceived by the initially low-LMX group compared to the high group (Scandura & Graen, 1984).

Wayne and Ferris (1990) studied the determinants of exchange quality in supervisor-subordinate dyads, whereas a causal model of potential determinants was developed and tested in both a laboratory experiment and a field study. Objective performance levels and impression-management tactics were used to manipulate and influence exchange quality through their impact on supervisors' performance ratings of and liking for their subordinates (Wayne & Ferris, 1990). The study suggested that impression leadership and management was influenced through the subordinates' script and written description of his or her impressions of the working session (Wayne & Ferris, 1990).

Dockery and Steiner, (1990) investigated the initial interaction of a leader and a follower and following influences of these sessions in the development of the LMX relationship. Their simulated task study design showed that from the leader's perspective, liking for members and ability of members were the variables most consistently related to the quality of the leader-member exchange, and from the member's perspective, variables such as liking, rationality, and

upward-influence were related to the quality of the leader-member exchange (Dockery & Steiner, 1990).

In this respect, Steiner (1997) presented that the increased interaction between leaders and followers that occurs through the LMX improvement training is likely to help both parties gain more accurate information on which to base their attributions, which in turn reduces attributional conflict (Martinko & Gardner, 1987).

Colella and Varma (2001) established a temporary organisation to simulate the real work and to investigate the relationship between individual disability and LMX. The findings showed that the LMX relationships were influenced by ingratiation, performance, and the disability-ingratiation interaction both in the work simulation experiment and in the real work context of dyads (Colella & Varma, 2001).

Graen and colleagues (2006) carried out a longitudinal (over a six-month period) intervention study of the team- and dyadic-level leadership. They used many innovative project design teams, where the projects simulated jobs in real-life engineering teams with the potential for implementation (Graen et al., 2006). The findings showed that the leader should be informed to deal with follower's distributive fairness concerns and develop high-quality (trust, respect, and commitment) relationships with followers (Graen et al., 2006). In addition, the results support the concept that LMX dyadic fairness and relational variables can increase our understanding of project team performance and effectiveness (Graen et al., 2006).

In summary, this review of intervention studies on LMX showed that this topic has not received broad attention from earlier scholars. Intervention studies were most popular from the 1970s to early 1990s, and they used a wide variety of intervention techniques investigating issues such as the organisation's productivity and effectiviness mainly based on the individual or dyadic level of analysis. During the 2000s, intervention studies broadened their scope, and research concentrated on combining the simulation and real-work environment findings of LMX at the team and organisational level.

2.2.6 Studies of LMX in educational settings

Vecchio (1987) was one of the first who studied LMX in the high school context using teachers from fourteen different schools. Findings revealed evidence that the quality of leader-member relationships may be significantly lower when situational leadership (Hersey & Blanchard, 1977) styles is reported. In addition, results suggest that highly mature employees can be relatively free from direction and do not need to receive input from their supervisors, and therefore for high-maturity employees, the theory appears to be unsure to predict (Vecchio, 1987).

Liden et al. (1993) examined LMX between recently hired academic subordinates in two universities in the USA. The results suggested that both member and leader expectations may influence the development of LMX, and the

effects for perceived similarity in work provided an important extension to LMX development in the university context (Liden et al., 1993).

Bowler (2001) extended previous LMX research of educational organisation settings by investigating working adults in continuing education within a university setting (Bowler, 2001). According to Bowler (2001), it study focused on the relationship between teacher (instructor) and learners. Findings from the study revealed that the LMX relationship quality that is established between student and instructor has an influence on the students's final course evaluation by the teacher (Bowler, 2001).

Somech (2003) investigated staff members' LMX and its relation to the differences in the characteristics of the manager and subordinate at multiple levels of analysis in various elementary schools in Israel. The findings indicated leaders' behaviour patterns differ within organisations, and leaders form a unique pattern of relationships with their subordinates (Somech, 2003). In addition, the presence of gender differences––that is a male leader with a female subordinate, or a female leader with a male subordinate––could have taken on special significance in this school setting and altered the LMX relationship to differing expectations and work styles (Somech, 2003).

Tekleab and Taylor (2003) investigated employees and employers views of their LMX relationship obligations, and their perceptions of the other party's obligations to them. This study was conducted in a large state university, which was undergoing a major change in its performance management system (Tekleab and Taylor, 2003). Their results showed that leaders and employees have different perceptions of obligations when their tenure together is short. Instead, leaders and employees have similar perceptions of obligations when their relationship tenure has lasted for a relatively longer period of time (Tekleab & Taylor, 2003).

In their study, Liden et al. (2006) examined the way the LMX differentiation on individual performance is influenced by one's own LMX, and how the differentiation on group performance is moderated by task interdependence and LMX within the group in the university context. Findings showed that the performance of task interdependent groups can be increased through LMX differentiation, and hence organisations should consider providing low LMX members with opportunities to observe high-quality relationships that co-workers have with their leader (Liden et al., 2006).

Hsin-Hua and Wei-Chi (2009) investigated the relationships between leader–member exchange (LMX) and leader-follower differences over in-role tasks (job breadth) and extra roles (job content). Participants included workers from universities in Taiwan (Hsin-Hua & Wei-Chi, 2009). Study results revealed that LMX quality support employees to expand their job scopes and reduce the leader-follower difference on job content. In addition, the present study surprisingly showed that neither in-role behaviours nor extra-role behaviours had a relationship with performance, which might be due to the specific job characteristics of the employees involved in the university context (Hsin-Hua & Wei-Chi, 2009).

In summary, it seems that the LMX literature has paid little attention to studying the leader-follower relationship in educational settings. Furthermore, previous research of educational settings has mainly been conducted in American and Asian cultures, thus studies of LMX in the educational setting is in its infancy in European cultures.

2.2.7 Critique of Leader-member exchange theory

Over the years, many researchers have presented concern and criticism regarding LMX theory. One criticism of the LMX research is that most of it is based on correlation designs (Avolio, Walumbwa & Weber, 2009). In particular, Cogliser and Schriesheim (2000) and Dulebohn et al. (2012) emphasised that there is a lack of longitudinal designs in the broad stream of studies associated with LMX research. This is suprising given the fact that LMX is typically interested in the development of LMX relationships. Another criticism of LMX research is relating to the weak relationship between LMX and objective performance (Erdogan & Liden, 2002). Mostly, research in this field has gathered performance outcomes that are produced by the leader. Thus, there is a need to broaden the research by gathering information from the follower perspective. In addition, it is time to collect non-traditional outcome measures taken outside the dyad, such as from co-workers who would logically be influenced by the quality of LMX relationship (Erdogan & Liden 2002; Avolio, Walumbwa & Weber, 2009).

LMX research has also been the subject of criticism for using many different measures, and the scales seem to have been advanced on an ad-hoc, evolutionary basis, without any clear logic have been offered for justifying the changes which were made (Schriesheim et al., 1999). One area of criticism of the LMX literature was related to its failure to conceptualise the social and work context in which leaders and followers are embedded (Avolio, Walumbwa & Weber, 2009; Dulebohn et al., 2012). That is to say, research on LMX has concentrated on the leader-follower relationship without acknowledging the empirical work and that each dyadic relationship occurs within a system of other relationships such as in groups (Cogliser & Schriesheim 2000; Avolio, Walumbwa & Weber, 2009; Yukl, 2010).

2.3 Psychological Capital (PsyCap)

2.3.1 The background to PsyCap and its key areas

Luthans (2002a, 2002b) pioneered the positive approach in organisational behaviour by mapping out positive organisational behaviour (POB), with its focus on building human strengths at work rather than only managing weaknesses (Nelson & Cooper, 2007). Positive organisational behaviour (POB) has been defined by Luthans (2002a, p. 59) as:

> the study and application of positively-oriented human resource strengths and psychological capacities that can be measured, developed, and effectively managed for performance improvement in today's workplace.

Nelson and Cooper (2007) stated that Luthans suggested POB researchers should study psychological states that could be validly measured, and that are adaptable in terms of interventions in organisations to improve work performance. Four state-like capacities are the key areas of POB theory and its research: self-efficacy, hope, optimism and resilience. Luthans and his colleagues have synthesised the four states into a multidimensional, higher-order construct known as psychological capital or PsyCap (Luthans, Youssef & Avolio, 2007a). When combining these four positive psychological capacities, it has been conceptually (Luthans, Youssef et al., 2007a) and empirically (Luthans, Avolio, et al., 2007) shown to represent a higher-order, core construct and can be thought of as one's positive psychological resources or capacities. This core construct has been defined Luthans, Youssef et al. (2007a, p.3) as:

> an individual's positive psychological state of development that is characterised by: (1) having confidence (self-efficacy) to take on and put in the necessary effort to succeed at challenging tasks; (2) making a positive reference (optimism) about succeeding now and in the future; (3) persevering toward goals and, when necessary, redirecting paths to goals (hope) in order to succeed; and (4) when beset by problems and adversity, sustaining and bouncing back and even beyond (resilience) to attain success.

According to Nelson and Cooper (2007), the most basic of these criteria is that the construct should reflect a capacity for positive outcomes (for example greater happiness in life, life satisfaction, well-being, and most importantly better performance). Luthans et al. (2007) have clarified the placement of the PsyCap construct along a state–trait continuum, and the following continuum is presented as a heuristic process to clarify what is meant by "state-like": 1) Positive States—momentary and very changeable; represents our feelings, 2) "State-Like"—relatively malleable and open to development; the constructs might include not only efficacy, hope, resilience and optimism, but also a case has been made for positive constructs such as wisdom, well-being, gratitude, forgiveness and courage as having "state-like" properties as well (Luthans et al., 2007a), 3) "Trait-Like"—relatively stable and difficult to change; represents personality factors and strengths, and 4) Positive Traits (for example intelligence, talents) - very stable, fixed, and very difficult to change.

According to Luthans et al. (2007), the PsyCap constructs fit in the continuum as being "state-like," which means they are not as stable and are more open to change and development compared with "trait-like" constructs, but importantly they are not momentary states.

Of the four PsyCap constructs, self-efficacy is rather well supported within organisational literature in the form of Bandura's self-efficacy, including mastery experiences, vicarious learning/modelling, social persuasion, and physiological and psychological arousal (Bandura, 1997). On the other hand, hope, optimism and resilience are relatively new to the field of research in organisa-

tional behaviour (Nelson & Cooper, 2007). Figure 12 below presents a model of positive organisational behaviour (POB), PsyCap, and their outcomes.

Individual level	Individual level	Individual, team and organisational levels
Positive organisational behaviour (POB) 1. Attitude 2. Personality 3. Motivation 4. State-like 5. Leadership	**Psychological capital (PsyCap)** 1. Efficacy 2. Optimism 3. Hope 4. Resilience 5. State-like	**Outcomes** 1. Performance impact 2. PsyCap training 3. Human resource development 4. Organisational leadership

FIGURE 12   A model of positive organisational behaviour, psychological capital and outcomes. Source: Luthans & Avolio, (2009a); Luthans, Avey et al., (2010) adapted with modifications

Figure 12 outlines the fact that positive organisational behaviour is a core construct for the four constituent components of the individual level of PsyCap, and that PsyCap as an expansion of POB influences on different performance outcomes at the individual, team and organisational levels, whereas POB and PsyCap have been developed in an inductive way from individual (see Luthans, Avolio, Avey & Norman, 2007) to group (see West, Patera and Carsten, 2009), to organisational (see Avey, Wernsing, & Luthans, 2008) levels of analysis (Luthans & Avolio, 2009b).

According to Manka (2011), changes in working life require employees to have the ability to adapt to work performance challenges, and now, even more than before, an employee's own input into the organisation. In addition, nowadays employees are self-controlling and they significantly influence their own work and their immediate work community (Manka, 2011). Therefore, Manka (2011) has stated that psychological capital will help individuals to manage these working life challenges. In addition, this new PsyCap approach to gaining competitive advantage through people is based on the generally accepted fact that most organisations today do not realise the full potential of their human resources (Avolio, 2005).

PsyCap Self-efficacy
Approaches to developing individual self-efficacy contain social persuasion and physiological arousal (Bandura, 1997). Based on Bandura's (1997) extensive theory and research, PsyCap efficacy can be defined as "one's conviction (or confidence) about his or her abilities to mobilise the motivation, cognitive resources, and courses of action needed to successfully execute a specific task within a given context" (Stajkovic & Luthans, 1998b). According to Luthans et al. (2010), efficacy differs from the other positive psychological constructs in important

ways. Efficacy is a belief within the boundaries of a specific task and/or context, and furthermore, it is a perception or belief about the process and results of applying one's personal abilities (Luthans et al., 2010). In addition, organisational participants may be efficacious about a particular perspective or task within their work context and still be pessimistic, expecting to be laid off or fired eventually, regardless of their abilities (Luthans et al., 2010).

PsyCap Hope
Luthans et al. (2007) have suggested that Snyder's research into hope supports the idea that hope is a cognitive or "thinking" state in which an individual is capable of setting realistic but challenging goals and expectations and then reaching out for those aims through self-directed determination, energy, and perception of internalised control (Snyder et al., 1991). This is what Snyder et al. refer to as "willpower." However, another equally necessary and integral component of hope is what is referred to as "pathways" or "waypower" (Snyder, 1995a). In this component of hope, people are capable of generating alternative paths to their desired destinations should the original ones become blocked (Snyder, 1995a; Luthans et al., 2007a) The pathways component mainly separates PsyCap hope from the everyday usage of the term and from the other PsyCap states of resilience, self-efficacy and optimism (Luthans et al. 2007a). Snyder (2000) stated in his extensive theory building and research that hope is defined as "a positive motivational state that is based on an interactively derived sense of successful 1) agency (goal-directed energy) and 2) pathways (planning to meet goals)". Luthans et al. presented (2007a) that although hope can be conceived as trait-like, importantly, hope is also recognised as a developmental state (Snyder, 1995a, 1995b; Snyder, et al., 1996; Veninga, 2000).

PsyCap Optimism
According to Luthans, Avey et al. (2010), optimism is explained in positive psychology using an attribution framework (Seligman, 1998) whereby optimism is an attributional style that explains positive events in terms of personal, permanent, and pervasive causes and negative events as external, temporary, and situation-specific factors (Seligman, 1998). Instead, a pessimistic explanatory style outsources positive events by explaining them in terms of external, temporary, and situation-specific reasons and internalising negative events and explaining them in terms of personal, permanent and pervasive reasons (Seligman, 1998). In PsyCap, realistic (Schneider, 2001) and flexible optimism is emphasised (Luthans et al., 2007a). PsyCap optimism is a responsible and adaptive form of optimism and it carefully considers and learns from both positive and negative events, before taking credit for successes and externalising failures (Luthans et al., 2007b). Luthans et al. (2007) stated that like hope, an optimistic explanatory style can be learned and developed, and its potential contributions to work performance have been empirically demonstrated (Luthans, Avey et al., 2006; Luthans et al., 2005; Seligman, 1998).

PsyCap Resilience

From a clinical and positive psychology perspective, Luthans (2002b) define PsyCap resilience as the positive psychological capacity to rebound, to bounce back from uncertainty, conflict, failure or even positive change and increased responsibility. Resilience is presented in positive psychology by positive coping and adaptation in the face of significant risk or adversity (Masten, 2001; Masten & Reed, 2002). Resilient individuals have a devoted acceptance of reality; a deep belief, supported by strong values, that life is meaningful, and they have an unusual ability to improvise (Coutu, 2002). In addition, clinical psychologists have stated that resilience can increase and even grow when the individual returns to levels above homeostasis after an adverse event (Richardson, 2002). Moreover, PsyCap resilience focuses on the proactive assessment of risks and personal assets that affect employee outcomes (Luthans, Vogelgesang & Lester, 2006).

However, resilience is reactive (as opposed to the other factors of PsyCap that are more proactive) and does have an intense stressor antecedent-something that could derail well-being (Luthans, Vogelgesang & Lester, 2006). Thus, resilience could actually serve to restore confidence, hope and optimism after a challenging experience, which proposes that resilience is an antecedent to other positive outcomes of psychological capital (Luthans, Vogelgesang & Lester, 2006).

Quality of PsyCap

The theoretical framework of PsyCap includes one more important perspective, namely the quality of PsyCap. It has been stated that PsyCap constructs and overall psychological capital are states subject to development and change (Luthans, Norman et al., 2008). This in turn leads to the conclusion that PsyCap is a statelike, not trait-like, qualitatively developable capacity. In addition, the quality is based on the level of individual ratings of PsyCap and its subcomponents, which are interpreted through individual cognitions, motivation and behaviours (see for example, Luthans, Avolio et al., 2005; Luthans, Avolio et al., 2007). In line with this, it has been presented that employees who embody high levels of PsyCap can be stronger performers than those of low levels in working context (Luthans, Avolio et al., 2007).

In summary, in the dissertation study, it is assumed that PsyCap and the four constructs that comprise it represent important performance outcomes of organisational leadership that are highly relevant for leader-follower relationships and might in fact be antecedents of traditional socialisation outcomes. In this study, PsyCap at the individual level is used to offer a new approach to relationship-based approach of leadership (LMX) research and practice. While the growing empirical evidence shows that PsyCap is an important construct, still more work is required for a complete understanding of PsyCap's organisational implications (Luthans et al., 2007).

2.3.2 Outcomes of PsyCap

The positive relationship between psychological capital and employee's performance is explained by suggesting that when the overall PsyCap combines to form an individual's level of psychological capital, they trigger a synergistic mediator capacity considered to be critical to goal accomplishment, motivation, success and resulting performance (Stajkovic, 2006).

Avey et al. (2010) suggested that psychological capital, as representative of positive, work-related psychological resources, enhanced employee well-being over time, and this study provides tentative evidence that positive resources such as employees' psychological capital may lead to the desirable work-related outcomes such as job satisfaction.

In line with this, PsyCap predicts desired employee outcomes such as performance and job satisfaction better than the individual resources independently (Luthans, Avolio, Avey & Norman, 2007). Previous research has found that PsyCap may have an impact on individuals' well-being (Avey et al., 2009), performance (Luthans, Avolio et al., 2007; Avey, Wernsing, Luthans, 2008; Luthans et al., 2005; Luthans, Norman et al., 2008; Youssef & Luthans, 2007), satisfaction and/or commitment (Larson & Luthans, 2006; Luthans, Avolio et al., 2007; Luthans, Norman et al., 2008; Youssef & Luthans, 2007) and lower absenteeism (Avey, Patera & West, 2006).

At the level of an employee, psychological capital may be an important resource because psychological capital may buffer employees from the potential stress associated with ambiguous, complex, challenging, or crisis-oriented assignments (Avey, Luthans & Jensen, 2009). In this respect, previous research has indicated that psychological capital has a role in leveraging what a positive organisational climate can influence in terms of performance (Luthans, Norman et al., 2008), and recent work has explored the role of climate as a moderating variable.

Self-efficacy
Luthans et al. presented (2007a) that in fact, over two decades of empirical research strongly support the impact that contingently applied positive feedback and social recognition has on enhancing employees' performance, sometimes even beyond monetary rewards and other motivational techniques (see Stajkovic & Luthans, 2003). The relationship between PsyCap efficacy and work-related performance, including creativity, learning, entrepreneurship and leadership, has been well established in the research literature (Stajkovic & Luthans, 1998a; Luthans et al., 2007a). In addition, efficacy has often been nurtured as a significant contributor to effective functioning under stress, fear and challenge, primarily due to one's perceptions of personal control (Bandura & Locke, 2003).

According to Luthans et al. (2007a), there is still some empirical evidence that collective efficacy (at the team level) is related to group attainment of performance outcomes (Bandura, 1993), team effectiveness and motivation (Prussia & Kinicki, 1996), high unit performance (Bass, Avolio, Jung & Berson, 2003), and problem-solving vigilance (Tasa & Whyte, 2005). In this respect, an organi-

sation's collective efficacy at the team level has also been found to be positively related to group members' organisational commitment and job satisfaction and negatively related to job and work withdrawal (Walumbwa, Wang, Lawler & Shi, 2004). In order for organisational participants to build efficacy through success, they should be allowed to do what they do best every day (Buckingham & Coffman, 1999).

Hope

Luthans et al. (2007a) have suggested that the hopeful leader required for today's workplace is one who possesses goal-directed willpower and waypower.

Hopeful employees (high-hopers) seem to be independent thinkers, they possess an internal locus of control (that is, they tend to make internal attributions such as their effort in interpreting their success on a task) and they demonstrate to be creative and resourceful, therefore, they need a high degree of autonomy in order to express and utilise their capacity (Luthans et al., 2007a). Instead, Luthans et al. (2007a) presented that employees who lack hope may be regarded as conforming to organisational rules and being obedient to their leaders. These "low-hopers" may be perceived by leaders and co-workers as cooperative, "good soldiers", however, such employees often become disengaged and just spend their hours at work looking busy, or worse still, they may become disengaged and spend their time thinking of pathways to obstruct what the management and leadership are trying to accomplish (Luthans et al., 2007a).

Luthans et al. (2007a) have suggested that the relationship between hope and an individual's performance in several life domains has become well established. These domains include: academic and athletic achievement, physical and mental health, coping beliefs and skills, and other desirable, positive life and well-being outcomes (Curry, Snyder, Cook, Ruby & Rehm, 1997; Onwuegbuzie & Snyder, 2000; Scioli et al., 1997; Snyder, 2000). Luthans stated (2007a) that recent proposals and new research projects also support a positive relationship between hope and workplace performance (Adams et al., 2003; Luthans, 2002a, 2002b; Luthans, Avolio, Walumbwa, & Li, 2005; Luthans & Jensen, 2002; Luthans, Van Wyk & Walumbwa, 2004; Luthans & Youssef, 2004; Peterson & Luthans, 2003; Snyder, 1995b; Youssef & Luthans, 2003).

Optimism

Previous studies have showed that employee optimism is positively related to organisational outcomes including employee retention (Seligman & Shulman, 1986) and sales performance (Corr & Gray, 1996). Furthermore, Seligman (1998) found that sales agents with high levels of optimism sold 37 per cent more insurance their first two years on the job and presented less staff turnover than their less optimistic counterparts. This study is in line with the view that optimism may be related to higher productivity and lower turnover in the workplace (Seligman, 1998).

In this respect, Wanberg and Banas (2000) noticed that personal self-esteem, optimism, and perceived control were related to higher levels of change

acceptance and that lower levels of change acceptance were associated with less job satisfaction, more work irritation, and stronger intentions to quit. It has been noted quite recently that an individual's optimism and well-being at work has been linked to such organisational outcomes as productivity, innovation and mental health (Sparrow & West, 2002).

According to Luthans et al. (2007b), realistic, flexible optimism is a PsyCap capacity that can be of tremendous value for employees to build career commitment on more objective self-assessments while at the same time having optimistic employees welcoming challenges with less fear, resistance and self-doubt. In addition, Luthans et al. (2007b) stated that previous research supports that leaders who are positive are also more authentic and effective (Avolio & Luthans, 2006; Jensen & Luthans, 2006; Luthans, Norman & Hughes, 2006).

Resilience

Initial research as part of PsyCap has found a positive relationship between resilience and an individual's workplace performance outcomes and the concept of resilience has considerable appeal in today's workplace (Luthans, Avolio, et al., 2007; Luthans et al., 2005; Youssef, 2004). Today's leaders and employees have noticed that their organisations are looking for top performers who can thrive on chaos, proactively learn and develop through hardship, and manage considerable well no matter how frequent or how intense the inevitable setbacks (Hamel & Välikangas, 2003). For example, Wolin and Wolin (2005) have found that resilience assessment and training have been effective in various contexts, including education, treatment and even prevention.

Viewing resilience as proactive, rather than just reactive, may lead to sustainable positive gains (Luthans et al., 2007a). In practise, researchers expect resilience to be related to improved performance and bottom-line gains, and their preliminary research supports such a view (Luthans, Avey et al., 2006; Luthans, Avolio et al., 2007; Luthans et al., 2005; Youssef, 2004). In this line, some previous studies (Gest, Reed & Masten, 1999; Masten et al., 1999) have suggested that resilience leads to a return to normal performance and functioning after an adverse event, whereas others indicate that there may be an increase in performance (Luthar, 1991). In addition, research has shown that the severity of the adverse event may help determine the performance boundary (Luthar et al., 2000).

In summary, the previous literature on the outcomes of PsyCap is suprising extensively when we consider that PsyCap was first presented in the early 2000s. In addition, it has shown that PsyCap is positively related to employee attitude (for example, job satisfaction, organisational commitment, well-being, stress), and employee performance (for example, creative tasks, communication, team performance, productivity, sales).

2.3.3 Longitudinal studies into PsyCap

Despite the growing evidence that PsyCap has an impact on people's performance, very few studies to date have applied a longitudinal research design to test the stability of this core construct (Avey, Luthans et al., 2008). Luthans, Avey & Patera (2008) found in their initial exploratory research that positive PsyCap can be significantly developed through a web-based training intervention (Luthans et al., 2008).

Furthermore, Luthans et al. (2007) conducted two longitudinal studies (one of four weeks, one of five months) to analyse how PsyCap is related to work performance and satisfaction in university students. Findings showed that PsyCap constructs such as hope, resilience, efficacy, and optimism are positively related to performance and job satisfaction, and overall PsyCap had a stronger relation to these outcomes than the individual components of PsyCap (Luthans et al., 2007).

Peterson et al. (2011) made the first study to directly test the stability or within-person variability of psychological capital over time (seven months). These results demonstrated that a within-person change in psychological capital predicted the within-person change in performance in that order. An additional theoretical contribution of this study concerns the result that psychological capital changed over the months of this study, and this finding offers additional support for the premise that psychological capital is adaptable (Peterson et al., 2011).

In this respect, Avey, Wernsing and Mhatre (2011) examined the relationship between psychological capital and positive emotions over a four-month time span. Their findings showed that positive emotions significantly relate to an individuals' psychological capital results over time (Avey, Wernsing & Mhatre, 2011). Moreover, psychological capital, through positive emotions and reduced stress, are positively related to well-being (Avey, Wernsing & Mhatre, 2011). According to Avey et al., results revealed that psychological capital varies over time, and the variance in psychological capital is due to within-person variation across occasions (cf. Luthans, Avey & Patera, 2008; Peterson et al., 2011).

In line with this, Avey et al. (2010) examined the relationship between PsyCap and well-being over time (three weeks). The relationship found in this study between PsyCap and well-being over time provides information that PsyCap may be a positive resource used to enhance employee well-being (Avey et al., 2010).

Finally, Walumbwa et al. (2011) investigated the mechanisms through which authentic leadership and collective psychological capital may be related to a group's job performance and organisational citizenship behaviour (OCB). The findings of this longitudinal study (three weeks) indicated that by integrating authentic leadership with group-level psychological capital and authentic leadership can increase group members' psychological capital and trust levels, which in turn affect their citizenship behaviours and performance.

In summary, it should be noted that despite the growth of PsyCap longitudinal research since requests from studies like those by Avey, Luthans et al. (2008), there are still a relatively small number of studies examining PsyCap over time. In addition, previous longitudinal studies on employee PsyCap have relied on fairly short-term designs (under six months) using mainly two repeated measures. Since PsyCap development is a dynamic process and can also be long-term, in future longer periods (one year or longer) of research should be conducted and studies should contain at minimum three repeated observations in order to evaluate the true change in PsyCap.

2.3.4   Intervention studies on PsyCap

A PsyCap Intervention (PCI) training model has been developed (Luthans, Avey et al., 2006) and has been preliminarily tested in an online exercise (Luthans, Avey & Patera, 2008). For example, in a comprehensive analysis of organisation intervention research, Reichard and Avolio (2005) found that most interventions in organisations are short in duration (less than six hours).

In this respect, Avey's (2007) study investigated the role of an individual's (engineers) positive PsyCap (efficacy, hope, resilience, optimism) on performance outcomes by using a quasi-experimental design and situational manipulation intervention. Findings showed that follower PsyCap is influenced by the follower's perceptions of their leader's PsyCap, and employee PsyCap is related to performance outcomes (Avey, 2007). In addition, the extent that the leader was perceived to be higher or lower in PsyCap influenced follower's PsyCap (Avey, 2007).

For organisation development intervention, relatively short (one to three hours) training interventions have been developed for overall psychological capital and has been tested for both online delivery (Luthans, Avey et al., 2008) and in traditional face-to-face workshops (Luthans et al., 2010). Luthans et al. (2008) completed an intervention study where the purpose was to determine whether a short two-hour web-based training intervention, in control group experimental design, could be effective in the human resource development of PsyCap. The results of this experimental study showed that a web-based training intervention was a feasible method to develop psychological capital (Luthans et al., 2008).

A meaningful extension of this work would be a comparison of various types of intervention media (face-to-face vs. web-based) or length (two hours vs. two weeks). (Avey, Luthans & Mhatre, 2008).

In line with research by Luthans et al. (2008), Luthans and colleagues (2010) conducted a twofold study were they first piloted the psychological capital intervention (PCI) model under controlled experimental conditions (pre-test, post-test control-group experimental design) and then in the second phase investigated whether the PsyCap intervention led to performance improvements. The results revealed that short (two-hour) training interventions in the pilot and main study supported the PCI as being able to develop PsyCap and the PsyCap impacted positively on the individuals's performance (Luthans et al., 2010).

A psychological capital intervention model for training is presented in Figure 13 below.

Focus on developmental dimensions	Proximal outcomes (Psychological capacities)	Distal outcomes
Goals and pathways	Hope	
Implementing obstacle planning		
Building Efficacy/ Confidence	Realistic Optimism	
Developing positive expectancy		Sustainable Veritable Performance impact
Experiencing success and modelling others	Efficacy/ Confidency	
Persuasion and Arousal		
Building Assets/ avoiding risks	Resilience	
How to affect the influence process		

FIGURE 13   A model of positive psychological capital intervention. Source: Luthans, Avey et al., (2006); Luthans, Youssef et al. (2007a); Luthans et al., (2010, p.50), adapted with modifications

The short summary of the specific PCI intervention content presented in Fig 13 above is described next in order to understand better the intervention training implementation stages. According to Luthans et al. (2010), the *hope* construct was impacted by influencing goals, pathways and agency. Moreover, participants practiced generating multiple pathways to their work-related goals and recognised obstacles for which to plan (Luthans et al., 2010).

Regarding the *optimism* construct, building efficacy for pathway generation and obstacle planning enabled a foundation for one's generally positive expectations, and team feedback increased positive expectations as individuals saw group members were also expecting and making plans for success (Luthans et al., 2010).

For the *efficacy* development, participants accomplished setting up stepwise techniques to accomplishing goals, and after that, they explained each subgoal to the group, answering questions on how they would be realised (Lu-

thans et al., 2010). In addition, task mastery for designing and pursuing goals was gained through this process (Luthans et al., 2010).

Finally, *resilience* was supported by building awareness of personal assets in the form of talents, skills, and social networks (Luthans et al., 2010). Besides, according to Luthans et al. (2010), the influence process was affected by helping participants to become aware of initial thoughts and feelings when facing adversity (that is, confident or in despair) and to select resilient thoughts based on resources and options available for overcoming adversity.

Demerouti et al. (2010) examined the effects of a training programme on PsyCap by applying the self-other agreement model to training effects assessment. The findings from this "personal effectiveness" training revealed that training has an impact on the positive psychological capacities of the participants, since the participants rated themselves significantly higher on all constructs of PsyCap after the training (Demerouti et al., 2010). In addition, the other ratings resulted in similar outcomes, suggesting that the influence of the training was not just experienced by the participants, but also perceived by their acquaintances (Demerouti et al., 2010).

Using a mixed methods design, Norman et al. (2010) examined how levels of positivity and communication transparency impact on participants' willingness to be vulnerable and place trust in the target leader in addressing the downsizing situation. Participants were shown different manipulations (news, stories, blogs and scripts). The study findings showed that when leaders are attempting to deal with a challenging event such as organisational downsizing, positive psychological capacity and transparency plays an important role in the trust and effectiveness attributed to leaders' efforts (Norman et al., 2010).

Avey, Luthans et al. (2011) investigated the impact of leader positivity and problem complexity on followers' own positive psychological resources and their performance outcomes. This random assignment experiment study showed that positive psychological capital in followers can be influenced by their perceptions of their leaders' positive behaviours as assessed using psychological capital. In addition, when the leader consistently showed higher levels of positivity, the followers' level of positivity was also about to increase, and in turn those increases reflected in enhanced problem solving performance (Avey et al., 2011).

PsyCap confidence and efficacy can be developed and enhanced in today's leaders and employees. However, this efficacy development will likely vary in difficulty, depending on the challenge within the domain (Luthans et al., 2007a). These efficacy-building processes can occur through highly focused workplace microinterventions (Luthans et al., 2006) or vicarious learning or modelling opportunities (Luthans et al., 2007b), as well as through simple, less formal initiatives and throughout spontaneous life events (Avolio & Luthans, 2006; Luthans & Avolio, 2003).

Reivich and Shatte (2002) have conducted resilience development programmes for companies. In addition, Conner (1993, 2003) offered resilience de-

velopment training interventions and programmes specifically designed for leadership development and change management situations.

In this respect, Waite and Richardson (2004) have empirically supported the effectiveness of training interventions in enhancing resilience in the workplace. Furthermore, Masten and Reed (2002) identified three sets of resilience development strategies that can be adapted to the workplace. These can be summarised as follows: 1) asset-focused strategies (that is, promoting positive outcomes), 2) risk-focused strategies (that is, lowering the exposure of negative events and experiences), and 3) process-focused strategies (that is, ensuring that the fundamental structures are working for one's benefit) (Masten & Reed, 2002).

In summary, interventions studies of PsyCap are geared and focused around the constructs of hope, efficacy, optimism and resilience, and their influence on various outcomes. PsyCap traing interventions seem to use study designs, interventions and techniques familiar from traditional HRD techniques such as individual goal setting, bahaviours, processes and exercises. However, PsyCap interventions have focused on individual level of analysis, and team and organisational level of analysis is lacking at the moment. Previous intervention studies have shown that PsyCap can be developed and increased in employees and leaders using PCI techniques in short 1- to 3-hour intervention programmes described earlier. However, it should be noted that the amount of PsyCap intervention studies has just started to extend, since the research stream on PsyCap has grown in the 2000s to the current point of acknowledgement among scholars.

2.3.5   Empirical research of PsyCap on individuals and leadership

Walumbwa et al. (2010) state that in service-oriented organisations, the follower psychological capital-performance relationship was stronger when employees' perceptions of the service climate were high. Recent research has also started to analyse the impact of individual differences. Besides, Walumbwa et al. (2010) found that followers' psychological capital had a stronger influence on their performance when their leaders demonstrated more positive resources such as efficacy, hope, optimism and resilience. In other words, findings from the research by Walumbwa et al. (2010) psychological capital revealed that both leader and followers' psychological capital were positively associated with follower job performance.

Supporting this statement, Carmeli et al. (2009) reported that social capital and positive energy in employees are linked with relational behaviours in leaders and employee job performance. In addition, leaders who create and encourage positive exchanges with their followers would also encourage followers to express themselves openly in interactions with their leader, resulting in more energy and commitment (Avolio & Luthans, 2006).

Self-efficacy

Hannah et al. (2008) connect the reciprocal influence of leader efficacy with the efficacy of each follower, as well as between the leader, each follower, and the collective which in turn creates leadership efficacy. Through examining leadership efficacy as a multivariate and multi-level construct, they found that it is possible to focus development in a more refined manner to advance positive cognitions, affects, goals and values, expectancies and self-regulatory mechanisms in leaders, their followers, and the groups they lead. They also stated that when the field of leadership development uses interventions based on well-tested theory, focusing on leadership self-efficacy (LSE) will enhance the impact of such interventions on leader and follower development.

Hope

Peterson and Luthans (2003) found a positive relationship between organisational leaders' level of hope and the cost-effectiveness of their units and the satisfaction and retention of their employees. With regard to psychological capital, leaders who are more hopeful seem to set more challenging goals, are highly motivated to achieve those goals, and discover ways around hindrances to achieve targets (Peterson et al., 2009). When followers observe the combined positive impact of these PsyCap resources in action, they are more likely to imitate the behaviours associated with their leader's psychological capital, and we would expect followers to mimic their supervisors' behaviour such that the positive supervisor states are transferred to their followers (Yammarino et al., 2008). The link between leader and follower emotion has been supported by Bono and Ilies (2006) who found that positive emotional expressions in leaders were associated with the formation of follower perceptions of leader effectiveness, attraction to leaders, and follower mood.

Optimism

Leaders with high PsyCap optimism emphasise the development of their followers and they take pride in the success of their followers rather than envying them and trying to take credit for their accomplishments as if they were their own (Luthans et al., 2007a). High PsyCap optimistic leaders enable, empower, delegate, and trust their followers to achieve the desired outcomes (Luthans et al., 2007a).

Furthermore, it is stated that employee optimism is associated with leadership style (DeHoogh & Den Hartog, 2008). On the other hand, organisations that capitalise on the genuinely human, social, and psychological capital of their valuable employees and leaders are likely to enjoy long-term competitive advantage (Pfeffer, 1998; Luthans & Youssef, 2004). For example, Southwest Airlines has been emphasising people-centred practices, investing in its employees' selection and training, and not treating its employees as if they were disposable. This has paid off in terms of efficiency, profitability and customer service (O'Reilly & Pfeffer, 2000).

Resilience

Organisational commitment and mutual trust among leaders and their associates have declined, because, organisations can no longer guarantee long-term, secure employment, and managers and employees lose some valuable resilience enhancing assets (Luthans et al, 2007a).

Fortunately, today's organisational leaders and employees can learn a new type of resilience, according to Waterman, Waterman and Collard (1994). A career resilient workforce is a group of employees who are not only dedicated to the idea of continuous learning and who take responsibility for their own career management; they are also committed to the company's success and change (Waterman et al., 1994).

In this respect, Youssef (2004) presented that the resilience levels of over 1,000 managers and employees is positively related to their performance, work happiness, job satisfaction and organisational commitment.

In addition, Luthans et al. (2007a) stated that leaders can help create the conditions for employees to develop such "career resilience" attitudes towards their future and in the new context, employees become charged with continuously monitoring and anticipating changes in organisational needs and then upgrading their skills and abilities accordingly.

Leadership is an integral contributor to enhanced employee resilience, as evidenced by a cascading, trickle-down effect of resilience from leaders to their associates (Avolio & Luthans, 2006; Youssef & Luthans, 2005). In the study by Harland et al. (2005), it was found that the transformational leadership dimensions of charisma, idealised influence, intellectual stimulation and individualised consideration were positively related to employees' resilience.

It should be noted that bringing together a group of resilient leaders and employees is not sufficient for the creation of a resilient organisation (Coutu, 2002; Horne & Orr, 1998). Synergies happen when the organisational context in which members operate nurtures resilience through catalysing, augmenting, shielding and buffering various ingredients of the resilience development process (Youssef & Luthans, 2005).

A summary of the empirical findings of PsyCap on leaders and followers is presented in Table 10 below.

TABLE 10   Summary of the empirical findings of PsyCap on leaders and followers

Focus	Key findings	References
PsyCap overall	Findings on psychological capital revealed that both leader and followers' psychological capital were positively associated with follower job performance.	Walumbwa et al., 2010
Efficacy	It is possible to develop reciprocal influence of efficacy to advance positive cognitions, affects, goals, values, expectancies and self-regulatory systems in leaders, their followers, and the groups they lead.	Hannah et al., 2008
Hope	When followers observe the combined positive impact of these PsyCap resources in action, they are more likely to imitate the behaviours associated with their leader's psychological capital.	Yammarino et al., 2008
Optimism	Leaders with high PsyCap optimism emphasise the development of their followers and they take pride in the success of their followers.	Luthans et al., 2007a
Resilience	A career resilient workforce is a group of employees who take responsibility for their own career management; and who are committed to the company's success and change.	Waterman et al., 1994
	Through career resiliency, employees can become charged with continuously monitoring, anticipating changes in organisational needs and then upgrading their skills and abilities .	Luthans et al., 2007a

In summary, studies of PsyCap and its subcontracts on leaders and followers have had multifaceted goals and outcomes. First, previous scholars have studied the quality of PsyCap from the individual perspective and then compared the levels of PsyCap among leaders and followers, and evaluated, for example, the impact of efficacy on their work behaviour. Second, many empirical studies have focused on the nature of context, and especially how it contributes to PsyCap and the development of its subcomponents among leaders and followers. Third, it appears that most of the research on PsyCap has focused on the individual level, showing some glimpses at dyadic level analysis, but clearly lacking any examination of the group level. Finally, based on previous studies, it can be proposed that PsyCap subcomponents are able to enchance employee ability to perform independently, and sometimes even reciprocally, under various leadership activities.

Authentic leadership
Walumbwa et al. (2011) examined the impact of authentic leadership on group outcomes, and the influence of collective psychological capital on this process. Their findings from this leadership study showed that authentic leadership can be integrated with group-level psychological capital. In addition, the current study extends the PsyCap literature by stating that authentic leadership is related to psychological capital behaviours, not only at the individual level, but also at the group level (Walumbwa et al., 2011). Thus, this study emphasises a broader role of followers and stresses the potential significance of authentic leadership in organisations (Walumbwa et al., 2011).

In line with this, Woolley et al. (2010) investigated a model of the relationship between authentic leadership and follower PsyCap, with positive work

climate as the mediating factor. Using a nationally representative sample of working adults, this study provided evidence to support the role of authentic leaders in fostering their followers' PsyCap development (Woolley et al., 2010). In addition, authentic leaders affect followers' positive work climate, and as a consequence of this, there exists increased PsyCap among followers (Woolley et al., 2010). Therefore, this emphasises the importance of considering follower characteristics in understanding authentic leadership effects (Woolley et al., 2010).

Transformational and transactional leadership
Avey, Hughes et al. (2008) investigated the relationship of both transformational leadership and positive psychological capital, mediated by empowerment, with negative employee reactions of cynicism and intentions to quit. The results showed that transformational leadership was found to have a positive relationship with employee empowerment, and positive PsyCap emerged as an even stronger predictor of empowerment than transformational leadership (Avey et al., 2008). This in turn leads to the suggestion that, psychological empowerment becomes an apparent factor in terms of employee's intentions to leave an organisation (Avey et al., 2008).

Gooty et al. (2009), in their study, investigated the relationship between followers' perceptions of transformational leadership and PsyCap. Their study revealed that employees' PsyCap can be related to contextual conditions, such as the presence and perception of transformational leadership behaviours. Thus, when followers perceive leaders as being transformational, it enables followers' perceptions of positivity based on psychological capacities such as motivation (Gooty et al., 2009).

In line with the study by Gooty et al., McMurray et al. (2010) examined the role of leadership (combination of transformational and transactional leadership) in the culture of commitment and psychological capital in a non-profit organisation. Their findings showed relationships between leadership and each component of psychological capital, indicating the positive effect of leadership on employee commitment and positive emotions. In addition, those employees who had a higher level of education, showed greater levels of transformational leadership (McMurray et al., 2010).

Leader-Member exchange (LMX)
Previous scientific studies have proposed that psychological capital may play a major role in explaining the leader–follower relationship and how followers subsequently behave (Avolio & Luthans, 2006; Luthans & Avolio, 2003; Walumbwa et al., 2009).

In line with this, Murphy and Ensher (1999) examined the role of leader and subordinate characteristics in the initial stages of LMX by focusing on the extent to which subordinate characteristics (for example, self-efficacy) contribute to high LMX relationships. Results showed that a high-quality LMX relationship was related to increased self-efficacy levels in followers, and this em-

phasises the importance of leader behaviour in positive follower outcomes (Murphy & Ensher ,1999).

In this respect, the study by Yammarino et al. (2008) investigated leadership and its multi-level point of view. The findings revealed that authentic leadership promotes individual POB (for example hope, optimism, efficacy) and its performance outcomes. This, in turn, increases the dyadic level LMX relationship in employees and the positive performance of the organisation (Yammarino et al., 2008).

In line with results from the study by Yammarino et al., Sparr & Sonnentag (2008) showed empirical evidence for LMX to be positively related to psychological empowerment and for psychological empowerment to be a (partial) mediator in the relationship between LMX, performance and job satisfaction (Aryee & Chen, 2006; Chen, Kirkman, Kanfer, Allen & Rosen, 2007).

Finally, Ismail and colleagues' (2011) cross-sectional study investigated the positive organisational behaviour (POB) of bank employees and tested the relationship between POB, LMX and positive organisational support (POS). The findings showed that LMX and POS were positively related to positive organisational behaviour (hope, optimism, efficacy, resilience).

A summary of the empirical findings of PsyCap on leadership is presented in Table 11 below.

TABLE 11　　　Summary of the empirical findings of PsyCap on leadership

Focus	Key findings	References
Authentic leadership (AL)	Findings showed that authentic leadership is related to psychological capital behaviours not only at the individual level but also at the group level.	Walumbwa et al., 2011
	Results showed that the role of authentic leaders is fostering their followers' PsyCap development.	Woolley et al., 2010
Transformational leadership (TL)	Results showed that transformational leadership have a relationship with employee empowerment, and PsyCap emerged as a stronger predictor of empowerment than TL.	Avey,Hughes et al., 2008
	Study revealed that employees' PsyCap can be related contextual conditions, such as the presence and perception of the transformational leadership behaviours.	Gooty et al., 2009
Transformational and transactional leadership	Findings showed relationships among leadership and each component of psychological capital, indicating positive effect of leadership on employee commitment and positive emotions.	McMurray et al., 2010
Leader-member exchange (LMX)	Results showed that high-quality LMX relationship was related to increased self-efficacy levels of followers.	Murphy & Ensher, 1999
	The findings revealed that authentic leadership promotes individual's hope, optimism, efficacy (POB). This, in turn, increases dyadic level LMX relationship of employees.	Yammarino et al., 2008
	It showed empirical evidence for LMX to be positively related to psychological empowerment.	Sparr & Sonnentag, 2008
	Findings showed that LMX and POS were positively related to positive organizational behaviour (POB).	Ismail et al., 2011

In summary, studies of PsyCap on leadership have been conducted under the umbrella of the intergrative (that is, authentic leadership, transactional and transformational leadership) and relational leadership (that is, LMX leadership) domain. However, there is a lack of studies which explicilitly investigate the role of Psycap in the LMX leadership approach. Thus, only in one earlier study (see Murphy & Ensher, 1999) were the contribution and prediction elements of self-efficacy and optimism characteristics to LMX relationship examined in the media context.

2.3.6 Critique of Psychological Capital

Most scholars agree that PsyCap and its four constructs do indeed meet the criteria for a positive psychological capacity (Little, Gooty & Nelson, 2007). Nevertheless, thorough scientific debate has centred on the measurability of positive psychology constructs (Lazarus, 2003) and critics of the POB and/or psychological capital movement have focused on the development and measurement of these constructs, particularly in relation to construct validity (Little, Gooty & Nelson, 2007). In addition, another concern is that most of the PsyCap scales were evolved for a wide variety of populations and settings, not specifically for use in organisational research (Little, Gooty & Nelson, 2007). Previous research has shown reasonably high correlations between some of the PsyCap constructs and this has raised the following questions among scholars: "Are the PsyCap constructs empirically different?" or "Are they multiple indicators of the same underlying construct?" (Little, Gooty & Nelson, 2007).

There is a methodological concern of which positive organisational researchers should be well aware, which is temporary or state-like characteristics of positive organisational behaviour (Wright, 2007). In other words, the need to give a sufficient temporal distinction between state and trait is important in the positive organisational movements when one thinks that 'state' is considered to be, by definition (for example, Luthans, 2002a; Luthans and Avolio, 2003), in the domain of POB (Wright, 2007).

Moreover, Hackman (2009) has presented concerns related to POB as the following issues: a) the focus of POB researchers relies mainly on individual persons, b) the positive organizational behaviour should be more firmly grounded in what already is known about life and work in organizations, c) the emphasis too much on concepts and ideas, and using a single methodological strategy. In addition, there is criticism for d) not focusing on identifying and creating those organizational conditions that promote learning and growth, and finally e) the founders of the POB paradigm should demand for the highest possible standards for positive organizational research (Hackman, 2009).

2.4 Organisation Development (OD)

Organisational Development (OD) has its foundations in certain research roots beginning in the 1950s. Lewin and his colleagues (1939) played a key role in the development of sensitive training (T-group) and action research (French & Bell, 1999). Likert (1961) initiated the survey feedback method that related to the human relations movement and the management for improving organisational effectiveness (Burke, 1987). Beckhard (1969, p.9) defined organisation development as:

> an effort (1) planned, (2) organisation wide, (3) managed from the top, (4) to increase organisation effectiveness and health through (5) planned interventions in the organisation's "processes", using behavioural science knowledge.

Organisation development (OD) is a response to change, a complex education strategy intended to change the beliefs, attitudes, values and structure of organisations so that they can better adapt to new technologies, markets and challenges, and the dizzying rate of change itself (Bennis, 1969).

2.4.1 Background to Organisation Development

To broaden the OD context development since 1969, Burke (1987) stated that the following changes has occurred. OD practitioners have been identified as having a humanistic way of dealing with members of organisations. Burke (1987) also presented that organisation practitioners, being process oriented, have been identified as having more flexible ways of communicating and conducting work, have facilitated networking activities and have been supportive of personal development and growth for organisational members. According to French and Bell (1999), Organisation Development offers a prescription for improving the "fit" between the individuals and the organisation, and among the organisational components such as strategy, structure and process, whereas the prescription is implemented through interventions and activities that address specific problematic conditions. However, in the past three decades OD has expanded its form of techniques to include not only effectiveness and quality of work initiatives but also activities linked to strategic change and organisational transformation (Fagenson & Burke 1990; Fagenson-Eland et al., 2004).

According to Greiner and Gummings (2004), the leadership side was represented in the writings of Douglas McGregor (1960), who proposed that different styles of leadership will result in different reactions from subordinates. During this same period, there was a huge need in OD activity as organisations asked for help to change the styles of leaders and improve their organisation's performance (Burke, 1987). OD began to change dramatically from the 1970s to the present (Burke, 1987), and organisations began to undergo (and still are today) an enormous transformation in how they are structured and managed

(French & Bell, 1999). OD played, to some extent, a role in helping to design and implement these changes (French & Bell, 1999).

During the 1970s, one of the first early attempts to review the field of OD was made by Clark and Krone (1972), where they defined an "open systems" framework, focusing on adaptive change by managers in response to environmental changes and pressures (Sashkin & Burke, 1987). Further, according to Jayaram (1978), managers need new skills for attending to the environment and preceding impact on the organisation through "open systems planning". The insights managers developed might then be used to modify organisational structures and processes via "open systems redesign" (Krone, 1974). This framework, mostly in expanded variation, remains at the heart of most concepts of organisation development (Sashkin & Burke, 1987).

Moreover, Friedlander and Brown (1974) noticed two basic OD approaches: the first is the Human-Processual approach focused on people's behaviour and organisational process, and the second is the Technostructual approach, centred on technology and how it affects organisational structures and tasks. The framework developed by Friedlander and Brown (1974) gives us information on what OD is all about (Sashkin & Burke, 1987). In addition, Alderfer (1977) provided a detailed picture of OD and its interventions. According to Alderfer (1977), the standard OD interventions – team building, survey feedback and structural change – were refined (Sashkin & Burke, 1987). OD interventions involved in team building activities, for example, no longer typically assumed that everyone on the team shared the same aims prior to the intervention (Alderfer, 1977; Sashkin & Burke, 1987).

Organisation development in the 1980s has developed and OD aimed to involve improving both performance and the "quality of work life" experienced by organisations members. Then OD dealt with organisational culture and change (Sashkin & Burke, 1987). In addition, Sashkin and Burke (1987) noticed the following four trends of OD in the 1980s: 1) systematic structure-process integration (task focus and process skills), 2) integrating value perspectives (culture development through leadership), 3) managing conflict (working relationship) and 4) better OD studies. Furthermore, previous studies of OD have shown that in the future there is a need to examine new ways of integrating OD interventions with OD activities centred on the leadership process (Sashkin & Burke, 1987).

Any evaluation of OD needs to be understood in the context of major trends affecting organisations over the past forty years. These changes involved new demands from the workforce, economy and technology. All of these greatly influenced how organisations are managed. Thus, the workforce has become much more diverse, educated and contingent, and this has affected new approaches to the management and development of human resources (French & Bell, 1999). Many of OD's adaptive contributions were directed at the workforce and OD also contributed to human resource management (Greiner & Gummings, 2004). A more recent definition of organisation development has

been presented by Porras and Silvers (1991, p.54) and this definition is used in the current dissertation study:

> Organisation Development is a set of behavioural science-based theories, values, strategies, and techniques aimed at the planned change of organisational work setting for the purpose of enhancing individual development and improving organisational performance, through the alteration of organisational members' on-the-job behaviours.

These newer contributions were understood more as continuous learning in a lengthy transformation process managed by members from throughout the organisation (Fisher & Tolbert, 1995). According to Greiner and Gummings (2004), OD has nowadays also become involved with implementing new strategic plans in organisations, but rarely participating in the strategic formulation process. In addition, OD thinking has inspired a move toward "high-involvement organisations" that push decision-making, information, knowledge and rewards downwards to the lowest levels of the organisation (Lawler, 1986) (Greiner & Gummings 2004). Today, OD has taken on a completely new definition.

Greiner & Cummings (2004) stated that OD needs to create integrative solutions for major strategic issues facing tomorrow's organisations. They proposed the following revised definition for OD:

> "OD is (1) a leading behavioural discipline for teaching, research and practise (2) devoted to applying its core values (3) at senior levels of organisations (4) by advancing the importance and participation of human capital (5) in the design and change process (6) while solving major internal and external strategic issues facing organisations" (Greiner & Gummings, 2004,p. 388).

Kondalkar (2009) suggests that the present era of information technology and knowledge management has added a new dimension to the study of OD. Organisation Transformation (OT) may be seen as the second generation OD as suggested by Porras and Silvers (1991). They suggest that the planned change interventions can be divided into two parts. The first comprises the more traditional approach, OD, which until recently was synonymous with the term planned change, and the second generation as OT (Porras & Silvers, 1991).

Cummings and Worley (1993) described OT as follows: organisation transformation can happen in response to anticipation of important changes in the organisation's environment or technology.

However, Burke and Litwin (1992) stated that, as OD researchers have pointed out, OD theory is typically related either to implementation or the change process. Thus, they presented the model which is striving for an integration of transformational and transactional theories (Burke & Litwin, 1992).

According to Kondalkar (2009), second generation OD efforts revolved around organisational change, transformation, learning organisation, total quality management, visioning and virtual organisations. Organisational development is a continuous process, whereas the programmes are implemented on a short-term as well as a long-term basis (Kondalkar, 2009).

2.4.2   Organisation Development Intervention

First, the author of the dissertation wanted to clarify that such OD intervention methods like coaching or executive coaching, payment for results motivational systems and supervision of work have been excluded from this literature review, since these methods are not relevant or used in the current study.

Many OD textbooks (for example Beer, 1980; Burke, 1982; Cummings & Worley, 1993; French & Bell, 1999) present interventions considered within the realm of OD theory. Those definitions include broad categories of human process, technostructural and human resource management, and strategic interventions (Worley & Feyerherm, 2003). There is a very high level of agreement across texts about these interventions and methodologies, and within each broad category, methodologies such as team building, large group interventions, reengineering, total quality management, goal setting, strategic change, culture change, or self-designing organisations appear (Worley & Feyerherm, 2003).

Worren et al. (1999) stated that typical intervention strategies have focused on the microlevel and include process consultation, team building, survey feedback and work restructuring (French & Bell 1999). In addition, that OD interventions are sets of structured activities in which chosen organisational units (target groups or individuals) undertake a task or sequence of tasks with the aims of organisational improvement and individual development (French and Bell, 1999). Therefore, the following definition of OD intervention is adopted in this study:

> OD intervention are sets of structured activities in which selected organisational units (target groups or individuals) engage in a task or sequence of tasks with the goals of organisational improvement and individual development (French and Bell, 1999, p. 145).

Some OD consultants have concentrated on only one of these intervention strategies, whereas others have used different strategies in different phases of change processes. Previous work treated OD in a "humanistic" manner as a social technology that should be governed by employees (for example, Walton & Warwick, 1973), whilst other authors (for example, Beckhard, 1969) stressed that OD should be managed from the top. Sometimes, the human process focus has been complemented with interventions aimed at changing structure and work process (for example, Pava, 1986) (Worren, Ruddle and Moore, 1999).

Worren et al. (1999) have stated that the focus on individual change as a part of wider strategic and organisation-level change is something that received scant attention in OD theory until recently. The same may be said about the enabling role of IT. Well-known OD theories such as those of Argyris, Schein and Senge still concentrate on individual skills and attitudes with little regard for the role of structure and systems (see Edmondson, 1996). According to Worren et al. (1999), the main contribution of OD intervention strategies is that it has helped focus attention on the social and psychological aspects of change.

They suggest that, in classical OD, the core assumption (which suits the facilitator role) is that one must change one's attitudes (that is, the mental model, theory in-use or tacit assumption) before the structure or technology of the organisation can be changed (Worren et al., 1999). Instead, most of the change management professionals lean more towards the view by Beer & Walton (1990), who emphasised that changes in both structure/systems and human process are necessary to influence attitude and behaviour (Worren et al., 1999). Worren et al. (1999) stated that the sequencing of interventions should produce new behaviours rather than trying to educate people about them.

In addition, Juuti and Lindström (1995) have suggested that in different organisations, trust and open communication among employees formed the basis for building up a new social interaction for personnel and those at the strategic level. Besides, Järvenpää and Ylitalo (2004) have stated that relationships and communication between individuals, groups and departments in an organisation, are valuable issues to consider in order to properly accomplish daily tasks and organisational outcomes.

One example of an OD intervention tool is attitude surveys. Nowadays, employee attitude surveys are often used to diagnose the capacity for adapting to change and the degree to which new strategic initiatives are being implemented. The same is the case for individual-level and interpersonally-oriented interventions (Schneider et al., 1996, Worren et al., 1999).

Another interesting OD intervention technique is a structural intervention known as work redesign. This (Hackman & Oldham, 1980) suggests that motivation and performance can be increased through redesigning jobs to enhancing skill variety, task identity, task significance, autonomy and feedback from the job (French & Bell 1999).

One of the major types of OD intervention is process consultation activities (Schein, 1988), whereas the primary emphasis is on processes such as communication, leader and member roles in groups, problem solving, decision-making, leadership and authority and intergroup cooperation (French & Bell 1999). Moreover, the consultant's role is more nondirective and questioning as he or she gets the groups to solve their own challenges (French & Bell 1999). The typical view of the OD practitioner is a human process facilitator or consultant, a neutral third party who, in terms of classical OD, should not get involved in the content issues or provide specific recommendations (French & Bell, 1999).

Ritterband et al. (2003) have suggested that there is also a need for more intervention research examining components of the Internet, and specifically, its ability to elicit human behavioural changes in organisations. Recent meta-analytic studies of online methods indicate that web-based instruction may in some ways be as effective as, and for certain types of learning more effective than, traditional face-to-face (classroom) instruction (Sitzmann, Kraiger, Stewart & Wisher, 2006). In addition, there is nowadays a need in our global and innovative society to use such OD interventions (for example ICT based interven-

tions) more than before that meet those requirements and support renewable and creative organisations (Juuti, 2011).

The time lag between the time of the intervention and the effects in terms of the organisational development is an important issue. Indeed, it has been common to assess the effects of leadership and its development only after three months have elapsed following the intervention (Barling et al., 1996). Researchers are frequently enjoined to assess variables in a longitudinal design at ''appropriate'' time lags (Edwards, 2008). Although the experience in research has been that a three-month time lag allows the detection of significant effects of leadership and development interventions, there is no theoretical or empirical means to determine what the appropriate time lag is for leadership and OD intervention research (Kelloway & Barling, 2010).

French and Bell (1999) conclude that major OD intervention strategies are quite extensive and some of them are presented as follows: 1) diagnostic activities (which ascertain the state of the system, the status of problem) 2) team building activities (which enhance the effective operation of system teams), 3) intergroup activities (which improve the effectiveness of interdependent teams), 4) survey feedback activities (which rely on questionnaire surveys to generate information), 5) education and training activities (which improve individuals' skills, abilities and knowledge), 6) structural or technostructural activities (which improve the effectiveness of organisational structures and job design), and 7) process consultation activities (which help the client to perceive, understand and act upon process events in the client's environment).

Table 12 shows the overview of the main OD intervention strategies.

TABLE 12   Overview of the main OD intervention strategies. Source: Buchanan & Huczynski (2010, p. 579) adapted with modifications

Intervention	Content	Aim
Action research	Findings from the study are used to design improvements which are the subject of the further study.	To solve known problems which have unclear solutions.
Sensitivity training	Technique for improving self and others' awareness through unstructured group discussions.	To develop interpersonal skills and emotional intelligence.
Structure change	Focusing on job rotation, job enlargement and enrichment, autonomous teams, organisation reconstruction.	Different uses- empowerment, improve information flow, signal priorities, new directions.
Force-field analysis	Method for evaluation the driving and restraining forces with respect to change.	To plan activities to manage the force-field in order to facilitate the change process.
Process consultation	An outside consultant facilitates problem-solving by helping clients to develop own insights.	To solve problems while developing the organisation's own diagnostic capabilities.
Survey feedback	Employee opinion survey results are supplied back to help identify actions to make better performance.	To generate evidence which can help to solve leadership, culture, communications, morale and other problems.
Team building	Different methods to identify team roles, and to rate factors influencing team effectiveness.	To help team members understand their roles and make better collaboration.
Intergroup development	Clarifies the mutual expectations of groups that must work together to be effective.	To improve understanding and resolve conflict between sections or functions.
Role negotiations	Clarifies the mutual expectations of individuals who must work together to be effective.	To reconcile differences between two individuals and to improve collaboration and interaction.

In this study, process consultation activities and team building are used for OD intervention strategies in particular (see Table 12 above and its grey highlighted areas). The key characteristics of these interventions are to increase the collaborative dialogue between employees and supervisors in order to influence the subjective perception of work characteristics, psychological work demands, leadership, social support, and the organisational working climate. Team building interventions in this study in particular aim to improve employee attitudes, perceptions, and behaviours as well as organisational effectiveness. Team building (French & Bell, 1999; Porras & Berg, 1978) is one of the most popular intervention techniques in organisation development (OD). The main objective of team building activities is to increase the effectiveness of work teams, and this is normally achieved through improving problem solving and interpersonal relations in teams (Buller & Bell, 1986). Beer (1976), Dyer (1977), and Buller (1986) have presented four models of team building: goal setting, interpersonal relations, problem solving and role clarification.

Using process consultation activities in this study means working in the present reality of a study organisation, within the ongoing interaction (Schein, 1987), and reflecting on relationships and experiential processes so that the self-guided capacity of the personnel and organisation (system) can be enhanced.

Process consultation emphasises activities such as: the subjective or client factors, client's problems through change and growth, the interaction process between the researcher and the client, the role of the researcher as a process consultant, and exploring a wide variety of factors in the organisation (Schein, 1987; Coget, 2009)

Moreover, in this dissertation study, the process is primarily driven by the organisation's needs, and process consultation also has a strong problem-solving orientation (Schein, 1999). During the study, the process facilitator in team building aims to support the group to solve its own work-related problems or challenges by making it aware of its own team processes and the way those processes influence the quality of the team's work in an organisational setting.

In the current study, a web-based intervention called Duunitalkoot is used. Duunitalkoot was developed in 2007 by Työterveyslaitos, which is the Finnish Institute for Occupational Health (FIOH) and its exploitation is based on the free use of the website. The aim of the Duunitalkoot intervention is to support work-related well-being in an organisation by helping leaders and followers to create an efficient dialogue and culture and a positive work climate. This information on the website can be loaded as written texts, presentations, audio or video files about the real-life stories and case examples of different work situations in various organisations.

An overview of previous and current studies of conceptual focus and methodological issues, especially in team building and process consultation, are presented in Table 13 below. Thus, web-based intervention (Duunitalkoot) is briefly presented in the table below, but is presented and reviewed in more detail in section 3.3.3. The components of conceptual focus showed in Table 13, are based on the team building review by Klein et al. (2009) and the studies of process consultation by Schein (1987) and Coget (2009).

TABLE 13   Summary of focuses of team building and process consultation from previous intervention studies and the dissertation study

Focus	Previous OD intervention studies on LMX and PsyCap	Dissertation study intervention
Individual factors	Emphasis: *LMX training sessions (6x 2 hours/6 months) for working leaders (n=9 x 7 groups) (Graen et al., 1986) and employees (n=35, n= 65) (Scandura & Graen, 1984). *PsyCap: Written situational complexity manipulation session (15-30 min) once for working followers and leaders (n=29 x 4 groups) (Avey, 2007). *PsyCap: workers (n=187, n=177) (Luthans et al., 2008), students (n=153, n=89) and leaders (n=80) (Luthans et al., 2010) in 2-hour multimedia intervention session twice during one week period.	Emphasis: * Intervention session 1 (90 min) of individual resources and leadership among followers (n=10). - using individual and pair exercises, group discussions and reflective exercises, and audio or video files about the real-life stories and case examples of different work situations
Goal setting	Emphasis: *LMX: Project teams (students n=3 x39 teams) were given job simulation (6 months) or enhancing actual client product (Graen et al., 2006). *PsyCap: personal effectiveness training program (vicarious learning, goal setting) of workers (n=36) in one month (Demerouti et al., 2010) .	Emphasis: * Intervention session 2 (90 min)/ month II of work control and psychological resources (cf. PsyCap) among followers (n=10). - using written materials, individual and pair exercises, group discussions and reflective exercises , and audio or video files about the real-life stories and case examples of different work situations
Interpersonal relations	Emphasis: *LMX: one-on-one conversation (20-30 min) between leader and follower (n=35) (Graen et al., 1986; Scandura & Graen, 1984). * LMX: Impression-management tasks (45 min) between leader and follower (students, n=16 x 6 groups) (Wayne & Ferris, 1990). *PsyCap: leaders (n=25 x 4 groups) were given various manipulated stories (one hour) of fictitious organisation in downsizing situation (Norman et al., 2010).	Emphasis: * Intervention session 3 (90 min)/ month III of work planning and work ability among followers (n=8). - using written materials, individual and pair exercises, group discussions and presentations (internet)
Role clarification	Emphasis: * LMX: leader and follower worked (90 min) in two-person teams (students, n=2 x 42 pairs) on the same mailing task (Colella & Varma, 2001). *PsyCap: Efficacy of education training programme (7 hours/5 weeks) for employees (n=20 x 12 groups) (Waite & Richardson, 2004).	Emphasis: * Intervention session 4 (90min)/ month IV of communication and LMX among followers (n=8). - using written texts and presentations (internet), individual and pair exercises, group discussions
Problem solving	Emphasis: * LMX: A written problem-solving task (15 min) in a student group (n=4 x 45 groups) (Dockery & Steiner, 1990). *PsyCap: A problem solving task (2-hour) directly related to followers and leaders (n=25 x 4 groups) jobs, e.g., taking direction from a team (Avey et al., 2011).	Emphasis: * Intervention follow-up session 5 (90 min) after 5 months of how joint goal and things have developed and been implemented (n=4). - using written materials and group discussions

In summary, the aim of this overview, as presented in Table 13, was to evaluate possible similarities and differencies between previous OD intervention studies on LMX and PsyCap and the current study's intervention from the team building and process consultation perspective. Early intervention studies on PsyCap showed that half of the reported studies employed single repetition measurement designs—designs that do not allow for longitudinal inferences. Instead, previous intervention studies on LMX revealed that more than half of the reported studies employed two or more repeated measurement designs – designs that allow for longitudinal conclusions. This latter finding is in line with the study design in the current dissertation. Furthermore, the duration of the interventions exploring PsyCap and LMX has usually been less than one month, while the current study was longer, that is several months.

The average size of whole sample in previous studies has been larger than the current study, although the actual sizes of the treatment and control groups are sometimes even lower in previous intervention studies than in the dissertation's intervention and its treatment group. Early intervention studies on LMX showed that more than half of the reported studies were based on a sample of students. By contrast, previous intervention studies on PsyCap show that most of the reported studies are based on working adults – designs that allow true, empirical findings. This latter situation in PsyCap intervention study samples is also in line with the current dissertation study design.

In addition, it seems that early intervention studies on PsyCap and LMX have concentrated on one focal component of team building, for example goal setting or interpersonal relations. However, the approach of this dissertation intervention tries to be more comprehensive, since it relates during the intervention procedure to various focal components of team building. Previous studies on PsyCap and LMX have mainly relied on traditional intervention techniques or tools by using leadership training, individual or small group exercises. One exception in this are the studies of PsyCap by Luthans and colleagues, who have used web-based intervention and discussions. The study intervention technique in this dissertation can presented as a combination of offline and online methods, and therefore, it can be called a blended intervention programme.

Finally, it can be concluded that in practise, all previous OD intervention studies on PsyCap and LMX and the current dissertation study included process consultaion activities at least at a certain level. In other words, the researchers' in the studies all acted in the role of facilitator, instructor or trainer in various OD intervention sessions.

2.4.3 Empirical research into Organisation Development and OD intervention on outcomes and leadership

Definitions of process in relation to intervention study appears to focus on it being a series of actions, changes or functions bringing about a result, and the process therefore is related to the flow of activities; essentially who did what, when, why, and to what effect (Cox et al., 2007). Instead, outcomes are usually

defined as ''an end result or consequence'' and outcome-based evaluation refers to ''what the result was; the difference that was made'' (Cox et al., 2007).

A meta-analysis of the relevance of OD effects was executed by Guzzo et al. (1985). They evaluated over seventy intervention studies of OD and their findings revealed that job design, participative management, sociotechnical systems interventions, and other OD actions all had a rather positive effect on performance (Guzzo et al., 1985). Regarding organisational context and size, it showed that the impact of intervention programmes was greater in small than in large organisations (Guzzo et al., 1985). In addition, the average influence of inter-vention programmes in private for-profit enterprises was identical to that in non-profit organisations such as those engaged in education or health (Guzzo et al., 1985).

The meta-analysis by Neuman et al. (1989) examined the effects of OD on the attitudes and satisfaction of employees. They analysed the following OD interventions: survey feedback, laboratory training, team building, process consultation and goal setting, realistic job previews and participation in decision-making (Neuman et al., 1989). The findings revealed that using a combination of OD interventions showed OD's effect on overall satisfaction and other attitudes (Neuman et al., 1989). In addition, according to Neuman et al. (1989) human-processes interventions (for example, team building, goal setting) generally had a higher influence than did technostructural techniques (for example, job design, job enrichment).

Nielsen, Taris and Cox (2010), define organisational interventions as science-based actions that target a relatively large number of individuals. According to this definition, the effects of leadership training on employee outcomes are indirect, being mediated by a host of potential intervening variables (Kelloway & Barling, 2010).

In this respect, Nielsen and Randall (2009) investigated the influence of team training and employee appraisal among middle managers on intervention outcomes such as well-being and job satisfaction. The findings showed that the actions that middle managers conducted are related to job satisfaction and well-being among employees in their working conditions (Nielsen & Randall, 2009).

In line with this, the meta-analysis research by Klein et al. (2009) extended the team development literature by providing an empirical assessment of the relationship between team building interventions and outcomes. The findings showed that the role-clarification and goal-setting components improved outcomes (cognitive, affective, process) and performance, thus this might provide increased clarity in ways in which leaders may best interact with their teams (that is, being clear about subordinates' roles and setting goals) (Klein et al., 2009).

Lambrechts et al. (2009) conducted a study where they kept practising the process consultation (Schein, 1995) principles in intensive experiential group training sessions and organisational change work. Two organisational change case studies have accomplished the relational practice perspective throughout the interventions using process consultation in a health care organisation and a

consulting firm, and interventions were reported based on participant observations (Lambrechts et al., 2009). Findings showed that in the health care organisation, the relational practices for organisation development were congruent with existing organisational practices. However, in the consulting organisation, the relational practice interventions had difficulties connecting with the dominant way of working (Lambrechts et al., 2009).

In addition, Boss et al. (2010) examined the impact of a four-year organisation development project, which included various interventions, for example team building sessions, and process consultation. Their quasi-experimental design, supported by qualitative data, revealed that OD interventions improved organisational arrangements by changing the structure of the department more flexible and by sharing decision-making authority with employees (Boss et al., 2010). In addition, the OD interventions enhanced psychosocial factors by building trust between employees and managers, and increasing communication (Boss et al., 2010).

Burns and Otte (1999) have made suggestions that there is a need for HRD researchers and practitioners to find out explanations of how and why different interventions can improve LMX in an organisational setting (Burns & Otte, 1999). Furthermore, as Graen and Cashman (1975) proposed, awareness of the vertical linkage can increase the usefulness of team building exercises. Similarly, LMX is also an ongoing process to accomplish better performance of individuals and organisations through the diagnosis of leader-follower interactions (Green et al., 1996). In this respect, Reichard and Avolio (2005) presented that there is insufficient data in most LMX studies to assess the impact of intervention in dyadic exchange relationships.

In line with this, given the high level of scholarly interest in LMX theory development, researchers have not yet looked at the phenomenon through the lens of HRD interventions such as individual training and development and organisation development (OD) (Kang & Stewart, 2007). In their study, Kang and Stewart (2007) presented that HRD interventions; trust building and empowerment facilitation can enhance and contribute to the improvement of the quality of LMX relationship and the level of collective- and self-efficacy between leaders and members.

Avolio (1999) stated that if an intervention has a direct effect on task performance, it is probably not dealing with leadership – leadership effects manifest themselves through intervening variables such as attitudes and motivations. In this respect, Barling et al. (1996) showed that transformational leadership training affected on follower's attitude and sales performance. In with this, Kelloway and Barling (2010) stated that the direct effect of leadership development is to enhance an individual's leadership behaviours, and in the first moment, these changes must be perceived by employees (Kelloway & Barling, 2010). Furthermore, there is an increasing body of leadership literature focusing on the effects of transformational leadership on individual well-being (Kelloway & Barling, 2010).

In summary, previous research has shown that the influences of OD interventions on outcomes (that is, well-being, job satisfaction, cognitive characteristics) are often distinct and positive. However, focusing on outcomes is one perspective, but another important factor is the process through which the intervention is conducted and led to positive outcomes. Thus, one finding from ealier intervention study designs is the emphasis on quantitative methods and lack of qualitative method analysis about how the intervention process actually effected outcomes. Finally, it seems that OD interventions on leadership have focused on the leaders, in order to observe the secondary change in the perceptions of the behaviour of their followers, and finally this indirectly leads to employee outcomes and performance (cf. Kelloway & Barling, 2010).

2.4.4 Critique of Organisation Development

During the 1970s, various critics began to rise at the widespread use of OD, thus showing that focusing on the individual behaviour and values over the organisation, caused less focus on the formal organisation, its strategy and structure (Greiner & Cummings, 2004). In addition, OD was too occupied with behaviour change, and not on assessing whether the existing behaviour was compatible with the strategic thrust or culture of the organisation (Greiner & Cummings, 2004). Greiner and Cummings (2004) have stated that OD began as an educational method, changing into a design tool, and is now criticised for its neglect of strategic problem solving. They believe that during this next era, OD should improve an organisations' and individuals' capability to include both substantive content and social processes. OD can respond to this concern but only if it gains access to top management and key decision-makers in organisations and by learning more about the substantive issues it has avoided in the past (Greiner & Cummings, 2004).

Burke (2004) has presented that OD needs renewing, since innovation has been absent in recent years. He proposed moving more in the direction of integration where HR professionals and OD merge, so this could stimulate new thinking and creative activity in an organisation. Besides, being involved in strategy gives OD its key role which according to Burke (2004), it lacks. Another concern of OD is that the separation between theory and practice in organisation development has broadened recent years (Bunker, Alban & Lewicki, 2004). During the early days of OD, specifically from the 1950s to the 1970s, research and practice were rather closely connected, but in the 1980s and 1990s, changes began to take place (Bunker, Alban & Lewicki, 2004). According to Bunker and colleagues (2004), during the 2000s there were still only some OD studies which brought practitioners and researchers together. However, the relationship between theory and practice should be a two-way street in which fascinating ideas are being developed in the scientific community that need to engage practitioners and be promoted, and some new methods are being created by practitioners (Bunker, Alban & Lewicki, 2004).

2.5 Summary of the theoretical framework

Next, the summary of literature from previous studies and the main principles of the theories of the current study is presented, which establishes the dissertation research perspective. This chapter is divided into two phases. First, the hierarchical levels of the conceptualisation of the leadership process and its relationship to the design of the dissertation study is briefly shown. At the second, concluding phase, the overall theoretical structure of this study is presented.

2.5.1 Summary of theories and their relation to current study

This research uses individual, dyadic and group-level analysis. The individual-level analysis involves PsyCap variables that are investigated within individuals. The dyadic level analysis includes data obtained from LMX examinations between the leader and the follower (employee). Finally, the group-level analysis includes data from organisation development interventions and individual data that is aggregated to the group level (see Figure 14 below).
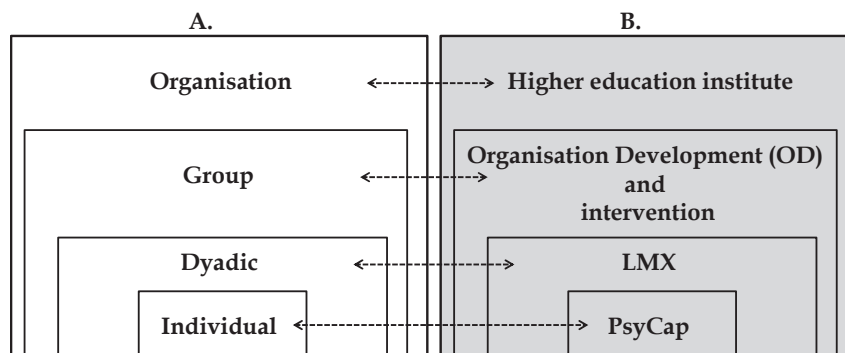
FIGURE 14   Levels of conceptualisation hierarchy for leadership process (A.), and its relation to dissertation research theory design (B.). Source A.: Yukl, (2010,p.33), adapted with modifications

In this regard, the nature of LMX interactions depends on the characteristics each individual brings to the relationship, including their personal, physical and psychological makeup that remains relatively stable and disposes them to approach interpersonal situations in a certain way (Phillips & Bedeian, 1994). During this process in the development of LMX, the manner in which the subordinate performes the first set of tasks plays an important role in determining the next set of tasks the leader will give him or her (Murphy & Ensher, 1999).

Lord, Brown and Freiberg (1999) suggest that the follower perspective remains an underexplored source of variance in understanding leadership processes. Furthermore, Collinson (2006) supports the value of rethinking leadership, in which leader–follower relations and practices are explicitly viewed as mutually constitutive and co-produced.

In addition, it is often stated that leadership only exists in the interaction between leaders and followers (Grint, 2000). LMX explicitly emphasises relationships between leaders and followers. It stresses that both followers and leaders mutually determine the quality of their relationship. Still, there is a need to understand more about what LMX says about followers *per se*, about the ways they may influence the leader–member relationship or about the group and organisational dimensions of these relationships (Howell & Shamir, 2005).

Recently, researchers have proposed that psychological capital can play an important role in explaining leadership, for example the leader–follower relationship and how followers subsequently behave (Walumbwa et al., 2010; Walumbwa et al., 2011; Luthans et al., 2007a). With regard to psychological capital, individuals who are more hopeful seem to set more challenging goals, are highly motivated to achieve those goals, and find ways around obstacles to goal achievement (Peterson et al., 2009). Similarly, individuals who are efficacious, optimistic and resilient put forth the effort and persistence needed to succeed, seem to have positive expectations about their environment, and bounce back from adversity or failure (Luthans et al., 2007a; Walumbwa et al., 2010).

 The above findings have showed that the interaction between leader and follower psychological capital points to the need for more integration of various leadership perspectives (for example transformational) and such research may begin to explore how the followers' positivity influences the leader and the interaction between these leadership perspectives. Positive psychological states such as individual efficacy are central to today's leadership and its challenges (Hannah et al., 2008). As leaders and followers interact in dyads, Hannah et al. (2008) propose that they reciprocally influence each other's sense of efficacy. In addition, Hannah et al. (2008) found that both transformational leadership and PsyCap contributed to employee empowerment, suggesting they are both important predictors of employee perceptions of psychological empowerment.

In this respect, Bass (1985) discusses the importance of the relationship between leader and follower, which represents, at the minimum, a dyadic level of analysis. According to Avolio and Bass (1995), the key issue here is that one must first understand "self-interests" to go beyond them, and clearly this is based not only on the individual's development but also on the constraints and opportunities characterising the organisation's environment.

Bass' (1990) development of the Transactional/Transformational Leadership model (based on Burns, 1978) has brought about some ambiguity in how LMX theory should be classified in terms of these approaches (Graen & Uhl-Bien, 1995). According to Graen and Uhl-Bien (1995), LMX is both transactional and transformational: it begins as transactional social exchange and evolves into transformational social exchange. It is one the few leadership approaches (Dansereau, Graen & Haga, 1975) that describes relation-based processes between leader and follower, and the theory has been widely studied in the previous four decades. Furthermore, Gordon and Yukl (2004) have stated that leaders can affect followers, but the behaviour of leaders is influenced by followers and situations.

The interesting point here is that the use of individualised consideration affects the development potential of followers, which in turn influences what is interpreted by followers as the individualised expectation of their leaders and how they interpret the leader's behaviour (Avolio & Bass, 1995).

Moreover, Avolio and Bass (1995) state that the individual behaviour of one team leader or one employee towards another can be understood as a team construct and, at a higher level of analysis, as an organisational construct. At each level, it involves a self-description of attitudes and behaviour or behaviour observed and attributed by individuals and others (Avolio & Bass, 1995). In addition, both transformational and transactional leadership, as elements of LMX, can be looked at on individual, group and organisational levels of analysis as well as at their point of intersection (Avolio & Bass, 1995).

In line with this, Collins and Holton (2004) state that there has been a lack of research that focuses on leadership from the perspective of organisation development (OD). Pounder (2001) suggested that in universities there is a need to make use of a wide range of leadership characteristics by drawing on dimensions of both transformational and transactional leadership in OD. Furthermore, Pounder (2001) emphasises a kind of transformational leadership that is both distributed throughout the organisation and is self-reflective.

In conclusion, nowadays information technology has a huge fundamental impact on organisations and the field of OD. As computers and the Internet have become key tools for research and practice in the field of higher education, this study will contribute to the growing case for the use of this technology in LMX leadership, PsyCap and organisation development. Therefore, an organisation development intervention may be able to influence employee performance based on LMX and PsyCap and other desired factors. In other words, employees who are hopeful, optimistic, efficacious, resilient, have an interactive and advantageous relationship with their leader, and have a workable team around her-/ himself, are likely to manage and succeed with the kind of dynamic environmental contexts that higher education organisations are faced with at the moment (cf. Luthans et al., 2007a).

2.5.2   Summary of the overall research structure of the study

This study describes leadership as a relationship-based approach situated in the higher education context. This rhomboid research structure, shown in Figure 15 below, consists of four major components that influence *the research task of the study*: 1) philosophical basis, 2) theoretical background, 3) research approach, and 4) methods. In addition, there is an integrating loop that links components to each other. The rhomboid structure synthesises the work of the current dissertation study, and importantly, it emphasises the balance of components in the research task. That is, the need to consider and complete all of the stages before the research task has been properly accomplished. Next the four components will be presented in more detail.
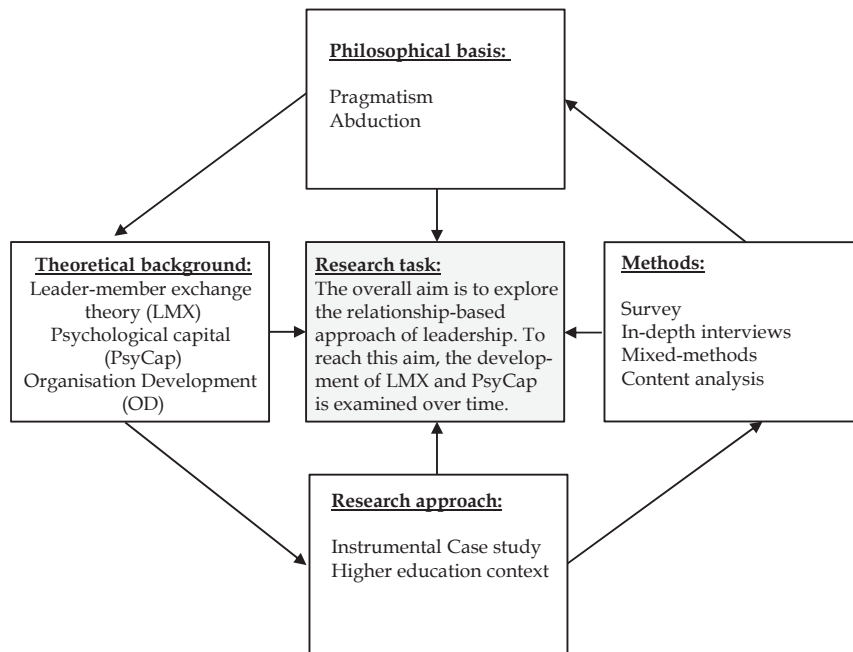
FIGURE 15   Overall research structure of this study. (Note: the figure's five major components have been adopted and developed in part from Lämsä, 2003; Puusa & Juuti, 2011, p.25)

The philosophical basis of the study is an important part of the structure, since it encompasses both the scientific and practice work of the dissertation researcher. Specifically, the current study uses pragmatism as its philosophical basis of research. In current study this means that the inquiry is occuring in the same way in research and working life by using theories and interventions to explore peoples' experience and understanding of their day-to-day life. In this study, the research task is addressed by using abduction logic. It is a process whereby interesting events and research findings are attempted to be best explained whereas the process of abductive reasoning moves back and forth between theories and empirical actions.

   The theoretical background component refers to the key theories of the current study: leader-member exchange theory (LMX), positive psychological capital (PsyCap) and organisation development (OD) activities. LMX theory describes leadership as a process focused in the dyadic relationship which is able to develop between a leader and individual work group members. The main issue is the quality of the relationship between leader and follower. It stresses that leaders direct their leadership activities and attention to any discrepancies that exist between a leader and their followers. On the other hand, what followers do and how they do it, makes a difference in the leader-member relationship.

   The next subsection of the theoretical part, namely PsyCap, focuses on the topic at the individual level which is seen as a crucial element of a leadership

process. In other words, followers play a major role in the leadership process. They can take actions in the organisation both individually and collectively, which have either positive or negative consequences for leaders. Followers can affect leader-follower relations in the following way: through the individual characteristics, through their working and learning styles and through the synergy that comes from leader and follower dynamics. PsyCap describes followers as individuals and members of work teams, and the important role of communication in the leadership process. More specifically, this research seeks to identify how individual followers vary in positive psychological states characterised by hope, self-efficacy, optimism and resilience.

Finally, organisation development (OD) as a theoretical component provides the study with an idea for investigating the collective capacity of organisational members to strengthen their leader and follower roles and organisational processes, which has an important impact on the relationship-based approach of leadership and its development. In this study, OD intervention activities at the individual, dyadic and group level are aiming for more effective leadership and organisational processes; for example communication patterns, goal clarity, ways of working in different situations, problem-solving procedures and a climate of trust in decision-making.

The research approach of the study is a single-case study strategy. The aim of using an instrumental case study in the current study is to describe "what's going on or what has happened" in a higher education institute with a primary source of the perspectives of followers and a focus on discovering the empirical actions and findings. An instrumental case study is based on a constructivist conception of knowledge (compare with pragmatism). The main goal is to provide a rich description of the topic of leader-follower relationship. On the other hand, by using case study and abductive reasoning together, it is possible to discuss some provisional generalisations from this particular case.

The methods component of the current research is based on mixed methods research. The mixed methods approach is often associated with pragmatism as a philosophical orientation. Applying mixed methods research in this study means that both quantitative (that is, survey) and qualitative (that is, intervention, interviews) approaches are used to elaborate research tasks in the types of questions, methods, data collection and analysis, and integrating findings and drawing conclusions. During this study, the qualitative method is embedded or nested within the predominant quantitative method. The use of content analysis in this leadership study aimed to leverage the conceptual and analytical level of the qualitative data.

In conclusion, this rhomboid conceptualisation of the relationship-based leadership approach as a continuous interplay among the philosophical basis, theoretical background, research approach, and methods components is the overall research structure of this dissertation study. The goal of this summary is to describe how every component in this structure simultaneously affects *the research task* in order to increase our understanding of the quality and development of LMX and PsyCap over time in the higher education context.

3 METHODOLOGY: CASE STUDY APPROACH

3.1 Philosophical basis of the study

The field of management and leadership is a contested social science discipline. How people construct their understandings of the nature of leadership and related phenomena depends upon on their understanding of epistemology and ontology (Johnson & Buberley, 2003). Backhouse (1998) suggests that discussions of management and leadership methodology have been dominated by falsificationism. This means that the theory is falsifiable, or more precisely that "statements or systems of statements, in order to be ranked as scientific, must be capable of conflicting with possible, or conceivable observations" (Popper 1962, p.39). From a positivistic perspective, the aim of research is to generate laws which govern the ways in which organisations operate. The positivist approaches towards management and leadership research are generally associated with quantitative methods (Willmott, 1992; Johnson & Buberley, 2003). Quantitative methods emphasise the interest in testing theory, and quantitative methods can be understood to be deductive in nature. Furthermore, qualitative research has emerged within the field, accentuating the words, meanings and the depth of data, and it is often seen as being inductive in nature in accordance with falsificationism.

However, mixed methods research, as in this study, is a synthesis that includes ideas from qualitative and quantitative research (Johnson et al., 2007). According to Johnson et al. (2007), in the social science methodological literature, Campbell and Fiske's (1959) article is viewed as a formalisation of the practice of using multiple research methods. In their article, Campbell and Fiske presented the idea of triangulation, referring to "multiple operationalism," in which more than one method is used as part of a validation process that ensures that the explained variance is the result of the underlying phenomenon or trait and not of the method, for example quantitative or qualitative (Johnson et al., 2007). Later, it was Denzin (1978) who first discussed how to triangulate methods, and he presented triangulation as "the combination of methodologies

in the study of the same phenomenon" (p. 291). In this dissertation study, the triangulation approach is adopted.

According to Teddlie (2005), there are currently three distinct methodological communities working in leadership research: quantitatively-oriented researchers (QUAN), qualitatively-oriented researchers (QUAL), and mixed methodologists (MM). The QUANs and QUALs participated in an extensive paradigm debate during the 1980s and early 1990s and this debate was based on the incompatibility thesis, which is the notion in this case that post-positivism (and its variants) is at one end of a set of philosophical dimensions and constructivism (and its variants) is at the other (Teddlie, 2005). As a result of the positions of the methodological 'right' and 'left' regarding causality and other issues, much of the middle ground in leadership research has been relinquished to the MMs (Teddlie, 2005).

In sum, the 20th century started with mixed methods research (Johnson et al., 2007). According to Johnson et al. (2007), mixed methods research, generally speaking, is a strategy of knowledge (theory and practice) that tries to consider multiple viewpoints, perspectives, positions and standpoints, including the standpoints of qualitative and quantitative research. The following definition of mixed methods research is used in this dissertation:

> as research in which the investigator collects and analyses data, integrates the findings, and draws inferences using both qualitative and quantitative approaches or methods in a single study or a program of inquiry (Tashakkori & Creswell, 2007, p.4).

Pragmatism is the philosophical orientation most often associated with MM (for example Tashakkori and Teddlie, 1998, 2003). In particular, pragmatism is an approach

> that emphasises the relation of theory to praxis and takes the continuity of experience and nature as revealed through the outcome of directed action as the starting point for reflection (Cambridge Dictionary of Philosophy 1999, p. 730).

At the core of pragmatism is the concept of truth and reality (Peirce,1992, 1999). In addition, deduction, induction, and abduction constitutes the three phases of the methodology of science (Peirce, 1992, 1999). The pragmatist point of view regarding the nature of reality and causality consists of two parts: on one hand, there is an external world independent of our minds, and on the other, pragmatists deny that 'Truth' can be determined once and for all (Peirce 1992, 1999). Hence, as Johnson and Onwuegbuzie (2004) state, mixed methods research ought to use a method and philosophy that attempts to fit together the insights provided by qualitative and quantitative research into a workable solution. They propose that the classical pragmatists (for example, Charles Sanders Peirce, William James and John Dewey) as the philosophical partners for mixed methods research improve the shedding of light on how research approaches can be mixed fruitfully (Johnson & Onwuegbuzie, 2004). Pragmatism emphasises the following issues: a) it places high regard on the reality and influence of the inner world of human experience in action, b) knowledge is seen as being

both constructed and based on the reality of the world we experience and live in, c) human inquiry (that is, what we do in our day-to-day lives as we interact with our environments) is viewed as being analogous to experimental and scientific inquiry, and d) theories are viewed instrumentally (Johnson & Onwuegbuzie, 2004).

In addition, according to Johnson and Onwuegbuzie (2004), mixed methods inquiry can include the use of induction (or discovery of patterns), deduction (including testing of theories and hypotheses), and abduction (uncovering and relying on the best of a set of explanations for understanding one's results). Table 14 below provides a summary of the pragmatic framework (Morgan, 2007) and the basis of this dissertation. The highlighted grey area, regarding the pragmatic approach, represents the orientation of the dissertation in relation to the distinctions.

TABLE 14   The key issues of the pragmatic approach and basis of this dissertation study. Source: Morgan, (2007, p.71), adapted with modifications

	Qualitative approach	Quantitative approach	Pragmatic approach
Connection of theory and data	Induction	Deduction	Abduction
Relationship to research process	Subjectivity	Objectivity	Intersubjectivity
Inference from data	Context	Generality	Transferability

According to Morgan (2007), the columns in the table represent the main comparative distinctions, contrasting a pragmatic approach with the two most common methodological stances, qualitative and quantitative research. The distinction between induction and deduction, as per the top row, shows up as one of the key features that distinguishes qualitative and quantitative study. However, any experienced researcher knows that the actual process of moving between theory and data never operates in only one direction (Morgan, 2007). Therefore, the pragmatic approach adopted in this dissertation study focuses on a version of abductive reasoning that moves back and forth between induction and deduction—first converting observations into theories and then evaluating those theories through action (Morgan, 2007). Moreover, through this iterative approach, these tentative explanations can be piloted both theoretically and empirically (Wheeldon, 2010).

In addition, Table 14 also claims that the usual forced dichotomy between the subjective and the objective is an equally artificial summary of the relationship between the researcher and the research process (Morgan, 2007). Hence, as Morgan (2007) states, any practising researcher has to work back and forth between various frames of reference, and the classic pragmatic emphasis on an

intersubjective approach captures this duality. Finally, the third row of Table 14 presents the distinction between knowledge that is either specific and context-dependent or universal and generalised (Morgan, 2007). In this case, according to Morgan (2007), the pragmatic approach rejects the need to choose between a pair of extremes, where research results are either completely specific to a particular context or an instance of a more generalised set of principles.

The idea of transferability means that we cannot simply assume that our methods and our approach to study makes our results either context-bound or generalisable; instead, we need to discover the factors that affect whether the knowledge we gain can be transferred to other settings (Morgan, 2007). In the current study, the idea of transferability is suitable for a case study approach, and therefore the instrumental case study used is based on an interpretive approach (Stake, 1995). Thus, the truth is relative and it is dependent on one's perspective and understanding of human experience (Stake, 1995).

In conclusion, in this study everyday leadership practices are investigated along with how we engage with "leadership and organisation" as social phenomena. This is because how we construct our understandings of the nature of the various leadership disciplines, practice and research depends upon our ideas concerning epistemology. In other words, with the help of epistemic considerations, we can understand or make better choices between what does and does not constitute warranted or scientific knowledge. This dissertation is anchored in the philosophy of science and includes the idea about the nature of the real world (ontology) and the nature of social knowledge (epistemology).

This also includes many stances on related philosophical issues, such as objectivity and subjectivity and the role of values, beliefs and context in social knowing. In addition, philosophical issues constitute what is commonly called ''methodology'' in the social sciences, namely in this research, the case study approach, its purposes and questions, designs, sampling logics, analysis options and defensible forms of writing and reporting. For this researcher, the social world is understood from the viewpoint of the participant-in-action and with the assumption that everyday reality is socially constructed. The researcher seeks the possible experiential processes through which shared realities are created, sustained and developed from the social constructivist paradigm.

Also in this study, relationships between human beings (human nature) are seen from a humanistic viewpoint, and understanding about the way in which one attempts to obtain "knowledge" from a constructivist point of view. In addition, the use of the mixed methods approach in this research requires a dynamic interplay with creative practice in real-life fields and with disciplinary theoretical traditions, such as LMX and PsyCap. This view of the importance of the dynamic interplay between theory and practice or between thinking/knowing and acting/doing - is actually based on Deweyan pragmatism. Thus, the pragmatism paradigm focuses both on practical advice and philosophical and theoretical stances for a particular way of studying a social phenomenon.

In summary, as a researcher, and a pragmatist thinker, I decided what I wanted to study, guided by my own personal mindset, and what I thought was important to study. Then I selected the study topic in a way that is analogous with my way of thinking, including variables and units of analysis that I feel are the most appropriate for finding answers to my research questions. After all, the qualitative method approach in this research is seen subjectivistic, highlighting the different realities of each individual, and most of the research results are relativistic because interpretations are influenced by the researcher and the research environment. My set of beliefs is in line with the pragmatic approach and these are also seen as having an influence on the research. The statistical data (survey) used in the research is rather objective and mixed methods are used to increase the intersubjectivity of the research. As a conclusion, one might say that the field of leadership is not only concerned with certain philosophical phenomena, but is also always concerned with solving the problems and concerns of working life in practice on some level.

3.2 A case study strategy

This dissertation study uses a case study strategy. The dissertation could have also adopted action research (AR) as its research strategy. The action research approach, according to Lewin's work, focuses on the problem-solving orientation in social systems and, for example, Rothwell and colleagues identified it as one of the processes that are useful for Organisation Development (as cited in Egan & Lancaster, 2005). However, as action research, according to Argyris, is based on problem solving in the sense of diagnosing, implementing, assessing and evaluation, and using a cyclical or iterative model (as cited in Egan & Lancaster, 2005), the current study focuses more on a process oriented perspective. More specifically, this dissertation concentrates on the joint creation and completion of positive thinking, behaviours and new principles among participants (cf. Egan & Lancaster, 2005), and not starting from any specific problem or using many problem-solving phases as is typical in AR.

Furthermore, it has been presented that AR focuses widely on negative aspects or problems (Egan & Lancaster, 2005). Instead, the idea of OD intervention applied in this dissertation is to include the challenges and problem areas, but also reveal organisational accomplishments and best practices in equal manner (cf. Egan & Lancaster, 2005). Moreover, it should be noted that OD as it is used in this study is only related to the quasi-experimental design of this research, so it constitutes the overall research design only partly. In conclusion, both the case study strategy and action research are suitable approaches to study real-time individuals in organisations, although the boundary between these two strategies is equivocal.

Thus, the current research applies a case study strategy by investigating its topic (that is, the leader-follower relationship) in an actual organisational setting. In this study, a higher education organisation in Finland is seen as a case.

The reason why the case study approach is selected in this dissertation is because it provides the researcher with an input of real world data from which notions can be built, and suggestions and explanations are explored. According to Stake (1995), instrumental case studies are suitable for examining phenomena that increase understanding of contextual issues in organisations. In this research, the higher education organisation as a case is seen as instrumental, where the case plays a promotional role in increasing our understanding of the topic under investigation.

Drawing upon Stake (1995, 2005), this study adopts an instrumental case study approach as highlighted in Figure 16 below.
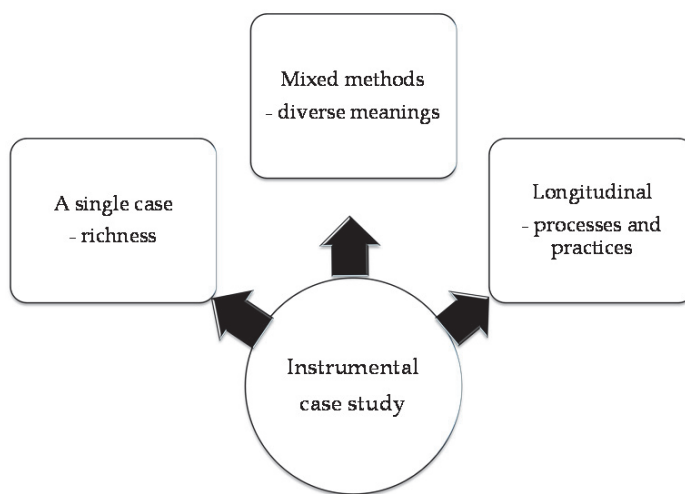
FIGURE 16   Case study approach of the study

As presented above in Figure 16, this dissertation uses the in-depth study of a single case (Dyer & Wilkins, 1991), since the topic is investigated in the selected educational organisation in particular.

According to Dyer and Wilkins (1991), the emphasis of the case study approach is on highlighting a construct by showing its operation in an ongoing social environment, thus the careful study of a single case that leads researchers to see new empirical or theoretical relationships and question old ones. The adopted case study is suitable in this research since people's behaviour in an organisation is of interest (Ghauri & Gronhaug, 2005). The distinguishing characteristic of the case study is that it attempts to find out a contemporary phenomenon in its real-life context, especially when the boundaries between phenomena and context are not clearly evident (Yin, 1981). Case studies can consist of either single or multiple cases (Yin, 1984). Central to case research design is the decision to build one or several cases in the project. Most pieces of research require multiple cases, but single cases are useful in specific instances (Benbasat et al., 1987). Single-case study projects such as that in this research are most worthy for exploration at the outset, and may be followed by a multiple-case study (Yin, 1984; Benbasat et al., 1987).

Case studies in the field of leadership and management generally seek to establish "what's going on" in any organisation, an idea adopted in this study, with primary reference to the views of multiple rather than single informants and a focus on discovering the empirical characteristics (or defining features) of situations and events (Llewellyn & Northcott, 2007). In addition, the case study strategy comes from the idea that understanding social phenomena contains an appreciation of the context within which they occur, and from the need to understand context from the point of view of the case participants (Llewellyn & Northcott, 2007).

So what is the role of theory in this work? The current study uses prior theory (that is, LMX, PsyCap), since it is relevant to link theory to the data from the case by an appropriate inferential process (Evers & Wu, 2006). In addition, the role of background theory is supportive one, in order to adjudicate the matter of the best explanation for drawing conclusions from the case study (Evers & Wu, 2006).

According to Llewellyn (2003), theorisation frames (or extends) mere information from the case and changes it into worthwhile knowledge, so theorisation (or conceptual framing) is the "value-added" in case study work. For example, Llewellyn and Northcott (2007) suggests that if leadership research takes the statements of informants on "what's going on" as a starting point but adds "value" by extending (or even challenging) their views, it is evident that there is an emphasis on the "common view" to demonstrate that the opinions of informants have been adequately asked and that their ideas link substantively to the proposed conceptual framework (theorisation issue) such as LMX and PsyCap in current study.

Consequently, using prior theories in this dissertation, it helps to complete methodological steps such as data analysis and drawing findings from case study results building on interaction of theory and practice (see Morgan, 2007). Stake (2005) has stated that a case study can reshape existing knowledge, be valuable in the clarification of theory, and it also has some implications for generalisation. These issues are adopted in this dissertation study. Although it is challenging to generalise reasonably from a single case, the task is supported by the following factors: cases possess considerably more structure than is commonly supposed, being shaped by external factors such as culture, theory, practices of coordination and communication (Evers & Wu, 2006).

In addition, Stake (2005) has stated that the use of multiple sources is an important means for the outcome of a case study since it may not be a single, convergent explanation but rather the uncovering of diverse meanings held by the people within the case (Stake, 2005). Thus, the current study applies mixed methods in order to provide various interpretations from this particular case.

Dubois and Araujo (2007) have emphasised the difference between qualitative and quantitative methods in case research. In this dissertation study both methods are applied. Moreover, Dubois and Araujo (2007) have stated that it is more productive to consider the nexus between theory and method in a case study than just considering either theory or practice. This relates to the fact that

theory cannot be understood without empirical observation and vice versa, and the theoretical framework directs the search for empirical data (Dubois & Gadde, 2002) which is the situation in this dissertation study.

In addition, during the case research process, the abductive approach emphasises going back and forth between theoretical framework, data sources and analysis (Dubois & Gadde, 2002). They have also stated that in abductive approach, the framework can be loose (for example, Stake, 2005), tight (Yin, 2009) or something in between these two levels (Dubois & Gadde, 2002), which is adopted in this dissertation study. The current case study uses an abductive approach in order to link properly between theory, method and empirical phenomena, where the theoretical framework associates interactively with empirical observation (Dubois & Gibbert, 2010).

According to Blazejewski (2011), longitudinal case studies can provide a rich and revealing description into issues of interest that are not easy to approach except over time. This type of case study is appropriate when the research interest is in the process, for example, of uncovering ongoing processes or events, and in practices which describes the actual behaviour of actors in an organisation (Blazejewski, 2011). For instance, it can mean actual usage of human resource or leadership tools in daily superior-employee relationships (Blazejewski, 2011), which is the situation in the current dissertation study.

To sum up, this study follows the guidelines of instrumental case study design (Stake, 1995). As Patton (2002) stated with regard to case study, it is crucial in selecting the appropriate unit of analysis to decide what unit it is that the researcher is going to be able to say something about at the end of the study. In this dissertation study, *the unit of analysis* is to investigate the leader-follower relationship. Besides, as an empirical unit generally refers to participants in a particular study, then the specific *empirical unit* in this dissertation research can be classified as employees in a specific higher education institute.

Case organisation
The particular case in this study is a specific educational organisation in Finland – a rather typical large educational institute in higher education, namely a university of applied sciences. The research site provides higher education based on the requirements of working life, and it accomplishes research and development supporting its education as well as working life.

The university of applied sciences and its leadership and management structure is presented next. The case organisation is a multidisciplinary higher education institution, which focuses on promoting know-how in nationally, and regionally, particularly the latter. It was founded in the mid-1990s. It has four educational units: a school of technology, a school of health and social studies, a school of business and services management, and a teacher education college. The university of applied sciences has about 8,500 students and 700 staff members. It cooperates with nearly 200 partners in over forty different countries and it serves the development of companies and the community by promoting mul-

tidisciplinary know-how and cooperation networks. The university carries out regional, national and international research, development and innovation (R&D&I) activities in all of its educational fields. The annual turnover of the university is EUR 50-60 million. The most important targets for development at the university are: a) developing the national and international quality of education, b) increasing the effectiveness of R&D&I work in innovation networks, c) strengthening networks and strategic partnerships with universities and institutions of higher education, and d) developing knowledge and strategic management.

With regard to leadership and management, the university of applied sciences has a Board of Directors, which carries out the duties prescribed by the Finnish Companies Act. It is responsible for the administration of the corporation, for proper organisation of its operations, and for organising and managing it in accordance with appropriate rules and regulations. In addition, the primary task of the Academic Board is internal, and is related to developing the activities of the university of applied sciences. The organisation's strategic planning is guided by the agreement that has been made with the Ministry of Education and Culture. The agreement, based on the common objectives given to the institution by the Ministry, defines the functions, profile, focus fields and quantitative objectives. Furthermore, knowledge management has been systematically developed at the university. From the viewpoint of leadership, the overall objective of the organisation is to have a creative, competent and cooperative work community at the university of applied sciences and to ensure the knowledge required to achieve their mission and vision now and in the future. In addition, the organisation's BSC (Balanced Scorecard) was developed and implemented at the beginning of the 2000s.

The organisational structure of the case higher education institute is presented next. The organisation is directed by a rector and the line organisation model is the organising principle (the method of management in the organisation). The institution went through some organisational changes during 2008. As a consequence of this process, a new organisation structure, was launched at the beginning of 2009. One major change was that the number of schools was reduced from eight to four. A number of smaller changes took place in the positions and responsibilities of the school directors and department heads.

The rector also acts as president of University of Applied Sciences Ltd. The rector directs and develops the activities of the organisation and deals with matters concerning internal administration, leadership and management. The rector is responsible for the overall strategy of the university, for the quality and cost-effectiveness of the activities, for reaching the strategic goals, and for assessing the quality and developing the assessment system. The management team assists the rector in the management and development of the institution. This group is composed of the rector, the director of administration, the director of strategic development and the directors of the four schools.

The director of administration is in charge of financial management, human resources management, information management, marketing services, fa-

cility management services and the library. The vice rector is in charge of student services, educational development services, international services, R&D development services and the quality assurance system. He is also responsible for the development of the talent management skills of the personnel. Each school is headed by a unit director. Each school consists of four to six departments headed by a head of department of programme and an R&D&I manager. Each school director is responsible for the implementation of the university's strategic goals, the quality of the educational and R&D&I activities, and the unit's performance. Besides that, the heads are responsible for human resources management. Each school has a main unit that comprises various work subunits or departments. Of 700 staff members, fifty-one per cent are teachers, nineteen per cent research and development personnel and thirty per cent other personnel.

The researcher has made an agreement with the case university of applied sciences that the exact name of organisation and the selected school and work department are not identified in this study due to confidentiality and anonymity issues.

Specific setting
The selected school of the particular university of applied sciences will serve as a specific setting in this study. The school provides higher education designed to meet the needs of working life, and offers nine different bachelor-level degrees. For those students who are already working, the school offers several degree programmes leading to a master's degree as well as continuing education that can be completed while working. In addition, the school staff actively participate in international education cooperation, and carry out both national and international research, development and innovation activities in all their fields of education.

The selected school has an average of 1,200 students annually and the permanent workforce fluctuates between 85 and 105 employees. The number of full-time lecturers is approximately 55 people. Their educational background is divided into doctors of philosophy (12%), licentiates (13%) and holders of master's degrees (75%). The number of R&D personnel working in various projects exceeded 20 at the time of study. Most of them have at least master's level degree. Moreover, there are about ten people working in administration. Annually, the turnover of school is 8 million euros. It has a director and four head of departments who act as superiors. They lead and are responsible for several practical activities. Their leadership and management work is supported by the organisation structure of school, which is divided into five departments; three educational departments, one R&D&I department, and one administrative department. Each department consists roughly of 20 staff members and one superior.

The specific school as a research site became available because of the researcher's prior contact with the director of the school. Permission to conduct the dissertation study was given by the rector of the institution and the director

of the school. The director arranged a meeting and gave support throughout the duration of the study. Moreover, the head of departments at this school supported and recommended the study to all employees in the organisation. Together with the researcher, the director and heads made a joint decision as to which school and work department within the applied university should carry out the research and organisation intervention. The criteria for this selection were the following: the whole study and intervention could practically be undertaken in one school and department, and the staff were willing to participate in the study.

Prior research of LMX and PsyCap has shown that there is a dearth of research in the context of education organisations. Thus, in this dissertation the education organisation setting provides a dynamic case for the study of the leader-member relationship. Quantitative survey questionnaires, qualitative interviews and OD interventions were used to collect research data as explained in the next section.

Trustworthiness of the case study approach
In a scientific inquiry, the criteria of trustworthiness or goodness are related to internal validity, external validity, reliability, and objectivity (Lincoln & Cuba, 1985). More specifically, trustworthiness is a QUAL concept presented by Lincoln and Cuba (1985) as an analogue for the many design and measurement quality issues in QUAN research (Teddlie & Tashakkori, 2009). Thus, the reliability and validity of the current case study data is an important issue to consider. The application of triangulation for focusing different reliability and validity issues should be evaluated in relation to the types of research questions posed, the research design and the subsequent mode of theorising (Tashakkori & Teddlie, 1998; Teddlie & Tashakkori, 2009).

According to Teddlie and Tashakkori (2009), the mixed methods study will have high overall data quality, if the qualitative and quantitative data are valid and credible. Teddlie and Tashakkori (2009) have stated that quantitative scholars estimate their data quality in terms of data/measurement validity (that is, whether the data represents the constructs they were assumed to capture) and data/measurement reliability (that is, whether the data consistently and accurately represents the constructs under investigation). From the viewpoint of this study, the issues presented above are taken into account by using earlier developed measurements (LMX, PsyCap) which are shown to be reliable and valid.

On the other hand, qualitative research is intended to help understand the social reality understood by the participants (Ary et al., 2007). In qualitative research practice, reliability more often refers to the degree to which the results of a study are independent of accidental circumstances of their production (Silverman, 2006; Kirk and Miller, 1986). Thus, it is an issue of replicability as to whether or not future researchers might be able to repeat the research project and come up with the same findings, interpretations and claims (Silverman, 2006). Textual data is more reliable than observations, since you are dealing with data that is available and unfiltered through the researcher's field notes

(Silverman, 2006). According to Silverman (2006), the reliability of interview schedules is a central issue, because it is significant that each respondent understands the questions in the same way and the answers are coded without the possibility of uncertainty. This can be achieved through pre-testing of interview schedules and interviewer practice (Silverman, 2006) as was done in this study.

In addition, when reporting on an interview, the researcher should meet the need for low-inference description by using a tape recording in face-to-face interviews and carefully transcribing these tapes (Silverman, 2006). In this study, the interview and textual procedures recommended above are adopted. It meant that each of the interviews contained semi-structured (open-ended) questions about the five themes and all interviews were typed and transcribed verbatim. In addition, during each OD intervention session, a written memo of the session's discussion was created by the facilitator and participant approval of the summation was essential for an accurate and valid description of their experience.

The situation for assessing the validity of quantitative research in the case study is also important and the definition of validity is concerned with the integrity of the conclusions that are generated from a piece of research (Bryman 2004, p. 73). Thus, it is important to make sure that researchers are measuring, recording and capturing what they intended to, rather than something else (Teddlie & Tashakkori, 2009). Validity also has three different dimensions: external, internal and construct validity (Modell, 2005). The issue of external validity has been conceived of as the extent to which the results of a particular piece of research can be generalised across populations, contexts and time (Birnberg et al., 1990). Such an approach fits quite well with triangulation between case studies and survey methods (see Tashakkori & Teddlie, 1998). According to Modell (2005), the internal validity of a specific study relates to the credibility of the relationships between independent and dependent variables inferred from data, and case studies as well as survey methods have usually been considered inferior to controlled laboratory experiments in this respect (see, for example Birnberg et al., 1990).

In quantitative research, construct validity indicates whether theoretical concepts are adequately brought by the operational definitions and measures of empirical phenomena (Modell, 2005). The greater closeness to the empirical research object that usually characterises a case study approach implies that scholars can be better positioned to gain good fit between their conceptual apparatus and empirical data (Atkinson & Shaffir, 1998). In his review of management research, Modell (2005) suggested that theory testing approaches are primarily attached to external and construct validation and internal validation through corroboration of converging findings in line with some replication logic. On the contrary, a theory development approach is normally based on internal validation efforts stemming from further probing of unexpected or inconclusive findings as a means of theory extension (Modell, 2005). As this dissertation study uses LMX theory for providing a rich description of the relationship-based approach of leadership, external and internal validation is considered.

Relating to external validity, it means the extent to which the quantitative and qualitative results of a particular case can be generalised across the populations. Instead, internal validity in this study relates to the credibility of the relationships between LMX and PsyCap variables taken from survey data, as well as qualitative methods.

Graneheim and Lundham (2004) have presented that in qualitative research design, the concepts of credibility (compare with internal validity in QUAN), dependability (compare with reliability in QUAN), and transferability (compare with external validity in QUAN) have been used to describe various aspects of trustworthiness (see Lincoln & Guba, 1985; Patton, 1987). Credibility of the study results deals with the how well categories and themes cover data (Graneheim & Lundham, 2004). In addition, credibility is a question of how to conclude the similarities within and differences between categories, and one way to approach this is to present representative quotations from the transcribed text (Graneheim & Lundham, 2004). Trustworthiness includes the question of transferability, and to facilitate transferability, it is important to give a clear and distinct description of the context, selection and characteristics of participants, data collection and process of analysis (Graneheim & Lundham, 2004). Current study was conducted according to these guidelines. According to Graneheim and Lundham (2004), a rich and vigorous presentation of the findings, together with appropriate quotations, will also increase transferability, as was done in this dissertation study.

3.3 Data, its collection and analysis

3.3.1 Design and sample

This study uses a longitudinal design as a whole. Moreover, a quasi-experimental design is partly used. It means that two groups are compared, one of which (the treatment group) receives the intervention treatment, while the other (the control group) does not, and both groups are employing pre-test and post-test design (Muijs, 2011). Moreover, in quasi-experimental design, the treatment group will be decided by which settings (for example, schools) have volunteered or have been selected to be part of the intervention, and a control group that is as similar to the treatment group as possible will be selected (Muijs, 2011). This is therefore the opposite of the randomly allocation of subjects into groups (Muijs, 2011). In sum, the quasi-experimental design can be novel, since estimating the influence of an intervention requires a comparison between what happened after the intervention was conducted and what would have happened if the intervention had not been implemented (Reichardt, 2009). This quasi-experimental design has been successfully implemented in previous leadership studies (see Avolio et al., 2009).

This higher education organisation was purposefully selected based on criteria that included theoretical and practical interest for the study and the or-

ganisations' willingness to participate. Given the limited number of cases which can usually be studied in working life, it makes sense to choose cases such an organisational-level situations, in which the process of interest is "transparently observable".

Sampling is a key step in the research process, since it helps to determine the quality of inferences made by the researcher that stem from the underlying findings (Collins et al., 2006). According to Collins et al., in both quantitative and qualitative studies, scholars must decide on the number of participants to select (that is, a sample size) and how to select these sample members (that is, a sampling scheme). Building on the work of Patton (1990) and Miles and Huberman (1994), Onwuegbuzie and Leech (2007) noted twenty-four sampling schemes that they claimed both qualitative and quantitative researchers have available for use (Collins et al., 2006). All of these sampling schemes belong to one of two classes: random sampling (that is, probabilistic sampling) schemes, or non-random sampling (that is, non-probabilistic sampling) schemes (Collins et al., 2006). Collins et al. also presented minimum sample sizes for several of the most common quantitative and qualitative research designs, of which the case study research design is one, where it is suggested a minimum of three to five participants are recruited (Creswell, 2002).

According to Onwuegbuzie and Collins (2007), the mixed-methods sampling process is linear and it includes seven separate steps. These steps are presented in Figure 17. This process is adopted in this study.
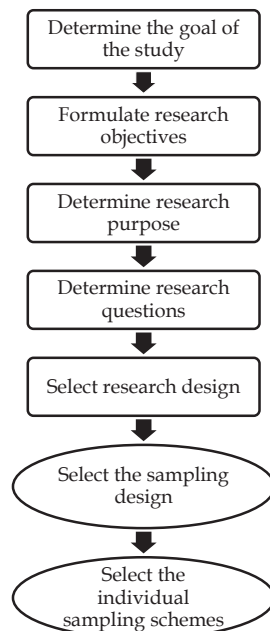
FIGURE 17   Steps in the mixed-methods sampling process. Source: Collins et al. (2006, p.87); Onwuegbuzie and Collins (2007, p.291), adapted with modifications

From the figure presented above, it can be seen that the goal of the study is directed at the research objective(s), which in turn directs a determination of the research purpose, which is followed by the selection of the mixed-methods research design (Onwuegbuzie & Collins, 2007).

When the goal is not to generalise about a population but to gain insights into a phenomenon, individuals or events (as will usually be the case in the qualitative component of a mixed methods study), then the researcher purposefully chooses individuals, groups and settings for this phase that maximise understanding of the underlying phenomenon (Onwuegbuzie & Collins, 2007). Thus, many mixed methods studies utilise some form of these non-random sampling schemes (Onwuegbuzie & Collins, 2007). Moreover, convenience sampling is a type of non-probability sampling technique that is based on the judgement of the researcher. Therefore in this study, sample selection has been carried out using convenience sampling (that is, selecting settings, groups, and/or individuals that are conveniently available and willing to participate in the study; Onwuegbuzie & Leech, 2007) and samples were "prechosen" by the investigator and then chosen themselves (volunteers). In addition, the case is a representative sample of a typical organisation in the higher education branch.

Data was collected from the population of eighty-five employees. The population consists of full-time staff working in one of the organisations' schools; all participants are employees in the sense that they have a person higher in rank above them. Thus, they could and were asked to view the research phenomena from the employee's viewpoint. An introduction to the study for participants was conducted at the beginning of the research. After the first questionnaire had been completed, there was a full sample of fifty-eight matched employee responses to the survey. Thus, the reduced full sample (n=58) was divided into a non-experimental (n=48) group, including control group participants and a treatment (n=10) group (see Figure 18 below).
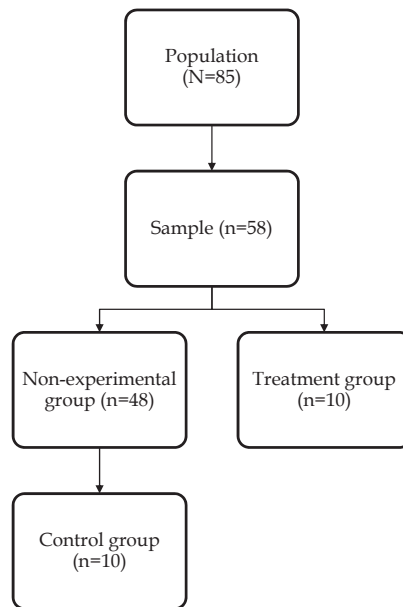
FIGURE 18   Sample selection process of the dissertation study population

Furthermore, from the full sample some of the participants were selected by using purposive sampling (that is, sampling to investigate instances that are typical or representative of a particular case to the extent of interest; Teddlie & Tashakkori, 2009) to assign them to treatment (n=10) or control (n=10) groups. However, the act of dividing the whole population into subgroups was carried out using the study school's unit/department structure. Purposive sampling is an umbrella concept that includes the selection of information-rich cases for an in-depth study from which the researcher can learn a great deal about the purpose of the study and the examined phenomena of the study (Patton, 2002).

After that, the final selection was done using the judgement of the researcher and his informants (that is, selecting a sample that act as closely as possible with a broader group of cases; Teddlie & Tashakkori, 2009) from one subgroup unit to represent the treatment group, and another subgroup unit to represent the control group. The participants in the control group were selected from the other work department in the same school unit in order to avoid contamination, that is, to minimise intervention "contamination" between treatment and control participants (Torgerson, 2001). In other words, contamination occurs if the control group participants are influenced by the treatment group. The criteria for the control group participants included the same sorting of job and age structure as performed for the treatment group participants, but the control group participants did not receive any treatment during the study. These samples reflected the true proportion of individuals with certain characteristics of the whole population.

After the initial survey had been completed, the description of the final sample (n=58) including both the non-experimental group and the treatment group was as follows (see Table 15 below).

TABLE 15   Demographic information of the study participants and comparison between full sample, non-experimental (including control group), and treatment groups

Variable	Full sample (n=58)			Non-experimental (n=48)						Treatment (n=10)		
				others (n=38)			control group (n=10)			group		
	n	%	years(M)	n	%	years(M)	n	%	years(M)	n	%	years(M)
1. Gender												
Female	50	86		31	82		9	90		10	100	
Male	8	14		7	18		1	10				
2. Age			47.8									
20-29	2	3		2	5							
30-39	11	19		10	26							
40-49	16	28		11	29		3	30		3	30	
50-59	25	43		14	37		6	60		5	50	
60 or older	4	7		1	3		1	10		2	20	
Female			48.1									
Male			46.3									
3. Education (degree)												
Master's		90										
Bachelor's		10										
4. Job type												
Teachers	39	67		20	53		10	100		9	90	
Administration staff	11	19		10	26					1	10	
Research and development st	8	14		8	21							
5. Job tenure with current leader			3									
Teachers			4			3			5			3
Administration staff			2			2						4
Research and development staff			2			2						
6. Job experience in organisation			7									
Teachers			10			10			9			10
Administration staff			6			5						7
Research and development staff			5			5						

Baseline descriptive data for the non-experimental group including the control group, and the treatment group are shown in Table 15 above. In terms of the employees' demographic composition, the average age was 47.8, with an average of 7.3 years of tenure in the organisation and 3.0 years with the current leader. Thus, it can be stated that the participants were at the mature partnership stage (that is, the "acquaintance" phase) within their LMX relationship (cf. Graen & Uhl-Bien, 1995). Work positions were reported as sixty-seven per cent teachers, nineteen per cent administration personnel, and fourteen per cent research and development staff. Approximately eighty-six per cent of the respondents were female and fourteen per cent male.

The participants had high levels of education: ninety per cent had at least a master's degree and ten per cent had a bachelor's degree. The job titles held by the employees included lecturer, principal lecturer, project manager, project expert, planner, secretary, technician, head of department and director of the unit. It should be noted that purely by accident, all participants in the treatment group are female.

3.3.2 Data

Quantitative survey questionnaires, qualitative interviews and OD interventions were used to collect the research data. This case study involves census research, whereas data collection and analysis through multiple data sources and analysis methods focuses on the whole population (N=85).
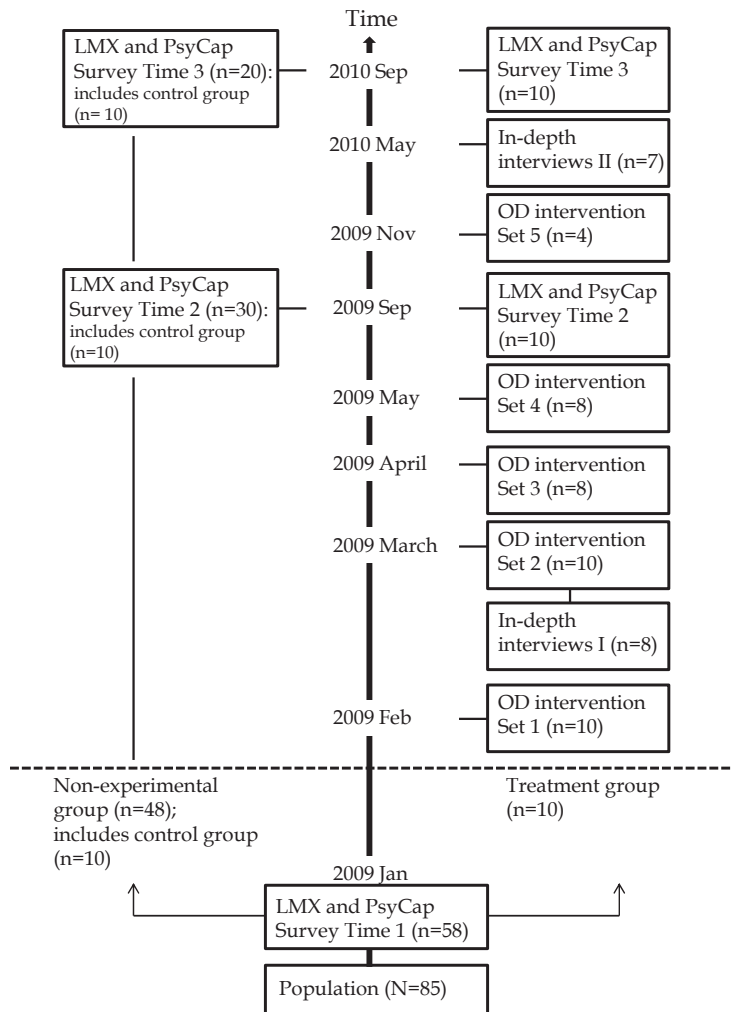
FIGURE 19   Overview of research design of the study and its data collection phases

From Figure 19 presented above, it can be seen that data was collected in the first phase (that is, LMX and PsyCap Survey Time 1) from eighty-five employees. This ultimately resulted in the final sample, which included fifty-eight employees who participated in the study. Then, the sample (n=58) was assigned to non-experimental group including a control group, and treatment group. Only those sample participants from both groups (that is, non-experimental and

treatment), who completed all phases as presented in the above, were included in the study. Next, the main data collection phases for both groups are briefly explained.

Non-experimental group including the control group
In practise, the participants in this group take part only for the survey data collection phases, which was collected across three points in time via email surveys among the non-experimental (n=48) group including the control group. Thus, the control group (n=10) participants were only involved in the three surveys but not the intervention. Participants from all these stages were used in the final analysis.

Treatment group
Participants in treatment group (n=10) also participated in the survey data collection phases across three points in time via email surveys. Furthermore, the study used a web-based OD intervention program to gather data from the group level in the organisation. This program was conducted in 2009 in a series of five meetings in the treatment group.

In addition, participants in the treatment group were involved in two rounds of interviews during study (see above Figure 19; in-depth interview I and II). During 2009-2010, a total of fifteen interviews were conducted in the treatment group. Interviews were carried out after completion of the surveys and the sequencing of data collection was suitable to avoid biased answers to the quantitative tools, which can occur after in-depth discussions. In addition, sequencing the quantitative data collection first also has the benefit of giving bias to the qualitative answers by leading responses to the open-ended questions asked later by the interviewer.

Data management
Participation in the research was voluntary. The researcher assured the participants that the research results would be reported so that their identity will not be revealed. The purpose was to use anonymous data, which was also stated to the participants. The data will only be used for this particular research project and the interview transcripts will be independently reviewed by the researcher and three research assistants. A data management plan and data archiving for this study was carried out according to the rules and regulations of the Finnish Social Science Data Archive (FSD). Data processing, the creation of backups and data protection were systematically taken care of. The quantitative data was collected through an email survey (Digium). A data matrix based on the survey responses was stored in the Finnish Social Science Data Archive after the researcher had finished with the data.

In the introduction letter, the research participants were informed that all information related to their names would be removed from the data and that the digital survey data would be archived for research purposes. The qualitative data was collected by the researcher through themed in-depth interviews and interventions. The audio recordings of interviews were transcribed into text

files, which would be similarly archived in the Finnish Social Science Data Archive for research purposes. The recorded interviews would be destroyed after the original research is completed. Any information that enables the identification of the research participants would also be removed from the archived text files. Concerning the research ethics, this study was conducted according to good scientific practice (see Tutkimuseettinen neuvottelukunta, 2012).

3.3.3 Procedure

The study used a longitudinal design with three data collections in 2009-2010, at approximately nine-month intervals. Data collection started in January 2009. The research procedure was as follows.

Introduction of the study to participants
Time 0 (prior to entry; November-December 2008):
Employees were informed in separate group meetings about the research purposes and procedure and were asked to volunteer for the study. The research was introduced as part of the dissertation study and as seeking to learn more about leader-member relations and PsyCap experiences in a real working life context. The survey questionnaires were also pre-tested by four supervisors who were asked to give feedback on it. The outcome of their feedback was that the survey questionnaires were quite logical and understandable. However, the wording and terminology used in some questions needed clarification. The supervisors' feedback was noted and the necessary changes were made by researcher.

Survey data
Time 1 survey (January – May 2009):
For the volunteer participants, survey data was collected using self-administered questionnaires. An email message was sent to the participants (N=85) containing the web link to a survey questionnaire and information about handling the questionnaire. The participants replied anonymously to the questionnaire on employee demographics, LMX and PsyCap. Each online survey questionnaire lasted approximately twenty to thirty minutes. To increase the response rate, employees were informed that questionnaires would be personally collected by the researchers within the next two weeks. If respondents had not completed their questionnaire at the time of collection, they were requested to return their questionnaire via internal mail. The data collection procedure was the same at Time 2 and Time 3, as explained next.

Time 2 survey (September –October 2009):
About eight months later, all participants were again asked to fill out the questionnaire for the second time and were thanked for their participation in the first survey.

Time 3 survey (May- October 2010):
Twelve months later, all participants were again asked to fill out the third questionnaire and were thanked for their participation in the second survey.

In summary, survey data collection lasted for twenty-two months and included three phases (see Table 16 below).

TABLE 16   Participants response rate (%) in the survey phases of the study

Variable	Time 1		Time 2		Time 3	
Participants	%	n	%	n	%	n
Sample:	68	(=58/85)	69	(=40/58)	75	(=30/40)
* Non-experimental group				(30/48)		(20/30)
-includes control group (n=10)						
* Treatment group				(10/10)		(10/10)

Note: In brackets is a proportion of returned questionnaires to delivered questionnaires.

At Time 1, the questionnaires were delivered to all eighty-five employees of one of the institution's units. Of these, fifty-eight employees returned the questionnaires, resulting in a response rate of sixty-eight per cent at the individual level. Eight months later, at Time 2, fifty-eight employees who had responded were asked to evaluate the same issues again. Forty evaluations were received, constituting a response rate of sixty-nine per cent. In the non-experimental group there was drop of ten participants, but in the treatment group all participants responded during this phase.

Finally, after twelve months, at Time 3, the forty employees who responded were asked to evaluate the same issues once again. Thirty evaluations came back from personnel, constituting response rates of seventy-five per cent at the individual level. However, in the non-experimental group there was again a drop of ten participants. However, in the treatment group all participants responded during this last phase.

Interviews (Interview I March-May 2009, Interview II May-June 2010):
Volunteer participants for the in-depth interviews were recruited during the introduction and survey phase. Respondents who were interested in taking part in an interview were asked to contact the researcher. After that, contact was established with all participants who were interested in the interview, thanking them for their interest. After a review of the list of interested participants, all eight were selected for the final interviews. The final participants were all female, and they included seven teachers and one leader. All were in a follower's position organisationally and a viewpoint in data collection which reflected this was adopted. Interviews were carried out twice during the study.

However, one of the participants dropped out before the second interview. All of the participants who completed both interviews belonged to the treatment intervention group. Therefore, with these eight individuals, focused in-depth interviews were conducted. Each of the interviews (employees) contained semi-structured (open-ended) questions related to the five themes: 1)

management and leadership, 2) subordinate skills, 3) leader-follower relationship, 4) psychological capital, and 5) work community. The interview procedure of the study participants is presented below in Table 17.

TABLE 17   Interview procedure of the study participants in the treatment group

	Participant	Interview I	In-depth interview duration
1	AA1	11.3.2009	59 min 19 sec
2	BB1	12.3.2009	51 min 09 sec
3	CC1	17.3.2009	50 min 21 sec
4	DD1	19.3.2009	56 min 25 sec
5	EE1	24.3.2009	48 min 26 sec
6	FF1	12.5.2009	70 min 39 sec
7	GG1	4.11.2009	51 min 34 sec
8	HH1	31.3.2009	50 min 56 sec
	Participant	Interview II	In-depth interview duration
1	AA2	10.6.2010	51 min 56 sec
2	BB2	4.6.2010	52 min 46 sec
3	CC2	10.6.2010	47 min 24 sec
4	DD2	18.6.2010	76 min 48 sec
5	EE2	27.5.2010	50 min 36 sec
6	FF2	28.5.2010	68 min 05 sec
7	GG2	12.10.2010	59 min 48 sec

At the beginning of each interview the researcher explained the purpose of the interview, and he described the transcription process and told the participants that their identity would not be revealed in the transcribed material. The researcher also asked for the participants' permission to tape record the discussions. The average length of the personnel interviews was about fifty to sixty minutes. All interviews were typed and transcribed verbatim. The length of each transcribed interview varied between nine and fifteen pages (Times New Roman; font size 10, single spacing). The interviews (a) maintained the original wording of the interviewee (that is, the researcher refrained from correcting mistakes, slang or dialect expressions), (b) maintained pauses in the written text, and (c) noted audible paraverbal features in brackets (that is, laughing, etc.). Selected transcripts were translated into English by a professional translator familiar with the field of leadership and management.

Each interview was carried out in one of the school's meeting rooms and the interview was started by the researcher who briefly described the five themes to be discussed. Thus, the interview session was divided into these five parts. During the interviews, a semi-structured interview form was used in order to support the process so that it was flexible enough to allow space for new and interesting topics and themes to emerge. This also gave interviewees the possibility to discuss what was important to them. At the beginning of the first theme, the researcher explained to each participant that he was conducting research from the leader-follower leadership approach. He then asked questions about to the management and leadership theme, specifically from the perspective of the respondents' work. Example questions included: "Please describe

how your day-to-day work arrangements and planning is executed?" "What role does the leader play in that?" "How do you set and accomplish work-related goals at the individual and unit level together with your supervisor?" Further questions about details and other follow-up inquiries that seemed relevant (case-specific for each interview) were also asked. In addition, if the interviewee said for example that goals are set in the development discussion, the researcher asked them to define a concrete example of how the work to achieve these goals is conducted in their daily work.

This first theme gave some general overview about the current situation of leadership in one of the school's units. Then the researcher guided the discussion to the second theme, namely subordinate skills (alaistaidot in Finnish). The basic idea of discussing the subordinate skills theme, was to get deeper insight and understanding from the interviewee perspective on this, since the subordinate skills refer to individual behaviour, which is not an official part of an employee's work description. Example questions included: "How do you define subordinate skills?" "Do you have a positive or negative impression about them?" "What does this topic mean to you?" "Are subordinate skills related to the leader or peers? If so, what kind of relationship is it?"

Throughout this discussion, it was practical to shift the conversation to the third theme of the leader-follower relationship, which is formal relationships in an organisation. In this theme, the researcher concentrated on the relationship-based aspect of leadership by asking, for instance, "What is a useful or functional LMX relationship based on?" "What issues influence the quality of this relationship?" and "How long does it take to form a lasting leader-follower relationship?" "Does LMX have any positive or negative influence on your daily work and outcomes?" During the dialogue, the researcher also asked interviewees to share any events or issues about leader-follower relations, or practices (that is, formal and informal interactions) that they thought might help to understand better the topic of relationship-based leadership at the higher education institute. These featured questions about the LMX conditions were an attempt to illustrate how individuals are influenced by established relationships and peer groups.

After this, the researcher moved on to the fourth theme, and talked about how the interviewees perceive their psychological capital in their job. For example, the researcher asked, "How much do you believe in your abilities to cope with your every day duties?" "How meaningful is your job at the moment?" "Have you noticed any issues which perceive to this level on meaningfulness?" "How objective-oriented are you in your work, and why?" "How do you feel about your experiences of challenging work tasks?" and "Can you describe the events that led up to you resolving those situations?" Throughout this discussion, the researcher supported the interviewees to be precise and enhance their responses to the specific questions under the theme of PsyCap. In addition, these questions addressed factors influencing participant motivation, and issues which may increase or decrease their own motivation at work.

Finally, the questions regarding participant's perspectives of the fifth theme, work community, included for instance, "What kind of work climate and culture do you have in your work community?" "Do you have an even distribution of duties in your work community?" "What influence does team work have on your duties?" and "How do you communicate in your work community and what is your role in the team?" These qualitative questions were accomplished in order to illustrate how the various work community events and fellow workers were experienced by the interviewees, and how they influence the participants' reasoning and activities in their work.

At the end of each interview, the researcher asked participants to provide general feedback and ideas about the previous discussion, while acknowledging that it had been challenging to talk about certain sensitive experiences. The interviewees were generally happy to have had the opportunity to discuss their work and leadership issues with someone other than their superior or a colleague, namely the researcher. During the first round of interviews, the researcher felt that he had already established a certain level of trust between himself and the interviewees. Thus, the researcher believes that this increased the probability of participants speaking their mind.

To understand the longitudinal and process nature of view making, each individual was interviewed at two different points in time over two separate academic years. In addition, the researcher thought that longitudinal design enriched interview findings and described the influence of the OD intervention programme in the treatment group participants. The second round of interviews consisted of the same themes and similar questions as in the first round. However, the researcher asked additional questions focusing on the longitudinal aspect, for example, "How worthwhile has your work been during the past year?" "Have you noticed any changes in your levels of motivation compared to last semester?" "What was the influence of the OD intervention programme on your job, and the collaboration with your superior or your colleagues?" and "Can you give me some examples of events to show how your job and duties have evolved over time?" During this second round, the researcher had the sense that the first round of interviews had had no special influence on the behaviour or attitudes of the participants in the longer term. In addition, it seemed that after the second round, the participants deliberately talked about their perspectives and experiences in each interview.

Intervention (Feb-Nov 2009):
The current study used a web-based intervention called Duunitalkoot. Duunitalkoot was developed by Työterveyslaitos, that is, the Finnish Institute for Occupational Health (FIOH) and Horppu (2007) between 2004 and 2007 (Työterveyslaitos, 2011) and its exploitation is based on the free use of the website of Työterveyslaitos. The aim of the Duunitalkoot intervention is to support work-related well-being in an organisation. According to FIOH, work well-being includes the following issues: competence, motivation, attitudes, values, adequate communication, reasonable work load, efficient work organisation,

good leadership and active human relations. The website contains a lot of information related to working life research, best practices, developmental methods and consultancy services.

The Duunitalkoot website is divided into five themes as follows: 1) I and co-workers, 2) supervisors, 3) human resources department staff, 4) directors, and 5) entrepreneurs (small businesses). In this study, the I and co-workers and supervisors themes are emphasised. Subthemes under the I and co-workers main theme include vision and strategy, resources, knowledge, networking and influencing, health related issues, the work community story and individual work perspective issues. In addition, under the Supervisor theme, the following subthemes were used: 1) know your followers and leaders, and 2) know yourself and self-development. The dissertation researcher acted as an external facilitator throughtout the Duunitalkoot intervention programme for the selected group of followers. Alongside this, team building and process consultation activities guided the work and role of the researcher during the intervention programme.

Volunteer web-based intervention participants were told they would be participating in a job well-being and leadership intervention that was dealing with employees' experiences, practices and routines in the context of their everyday working life. The treatment group (n=10) participated in five intervention sessions once a month on average. Each session was held as a face-to-face group meeting, and they began after the facilitator had logged onto Työterveyslaitos's Internet-based programme. The duration of each intervention session was ninety minutes. The intervention included individual and group exercises, writing, discussion and reflective exercises. The OD intervention procedure of the treatment group and its themes are shown in Figure 20 below.
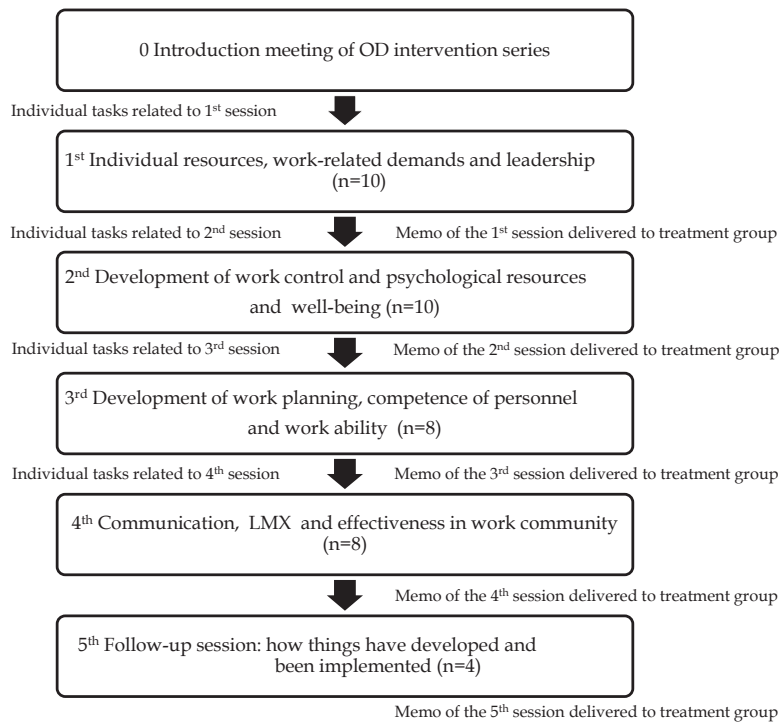
FIGURE 20   Procedure and themes of OD intervention series in the treatment group (n=10)

Before the first OD intervention session, there was one information meeting led by the facilitator for the whole treatment group, held in January. From the thirteen potential employees, all participated in this session, the aim of which was to provide information on the upcoming intervention and its goal. However, the potential treatment group was reduced to ten participants due to the fact that three people stopped participating in the intervention programme. The final participants were all female, and they included nine teachers and one superior.

The idea was that during the OD intervention series, the researcher as a facilitator used process consultation and team building techniques. It meant that at the beginning of each session the facilitator asked questions or played a short presentation or audio clip in order to direct the conversation towards certain topics, as per the Duunitalkoot guide. As the session and discussion went on, the facilitator attempted to elaborate on the topic in order to obtain as much information as possible from the participant who was talking. Meanwhile, the facilitator tried to clarify the statements presented by the others. This emphasised the continuous reflection of the statements that were presented. Moreover, it enabled the facilitator to ask short and precise questions of the participants in order to verify the correct interpretation of the conversation at that point. Such questions led smoothly to the next topic during each session.

The intervention sessions were held in the school's classroom. All meetings were organised in same place and followed the same method, using semi-circular table formation. This gave each participant the opportunity to talk. Sessions were scheduled in the afternoon, taking participants' teaching tasks into account. At the beginning of each session, the facilitator handed out the Duunitalkoot playing cards to each participant in order to "warm up" to the session topic. Using these cards, everyone described how they were, and their perspective on work climate and well-being event presented on the card. All sessions were conducted similarly using the web-based Duunitalkoot programme through the class computer. In addition, between each joint session, participants were advised and asked to use this web-based programme independently via their own computer.

After each session, a memo of the session's discussion was created by the facilitator and this documentation was sent by email to the whole treatment group (n=10), who received it before the next session was held. In addition, all participants were given an opportunity to clarify, confirm, or correct the memo summary of each intervention set in which they participated. Participant approval of the summation was essential for an accurate and valid description of their experience. The length of each memo varied from two to four pages (Times New Roman; font size 10, single spacing). Between the sessions all of these employees had individual tasks (written materials to be read before next session) which were provided by the facilitator. These were related to session themes.

In the first session, in February, the facilitator (that is, the researcher) focused on the introduction of the programme, personnel participation and on the topic of how personnel can influence work community well-being and leadership. In addition, the mutual agreement of group rules, reciprocal confidentiality and anonymity issues were discussed and confirmed. Moreover, during the first session, participants concentrated on work-related demands and individual resources, for example, "Describe the opportunities you have to influence your job?" and "How can we work better together?" The facilitator collected all the participants' statements or comments, which were written on a flip chart so that everyone could see them. In addition, the participants were guided by the facilitator to set achievable goals and asked them to divide those goals into smaller goals. At the end of the session, the facilitator asked the participants to look through and clarify statements and comments. Then the facilitator requested the group to recognise what they perceive to be the key issues, which were then captured and highlighted on a flip chart. The session ended with a short discussion on how the meeting went, and about the second session topic and individual tasks related to it. Finally, the facilitator stated that he would develop a memo from the flip chart notes and deliver it by email before the second session, the date of which was also clarified.

The second session was introduced by the facilitator, who presented the purpose of the sessions. The memo from the first session was briefly discussed. This session for the treatment group emphasised the development of work con-

trol (that is, task organisation, decision-making, job pacing and job scheduling control) and psychological resources and personnel well-being issues which were already presented in preliminary assignment after the first session. The aim of this second session was for each participant to have reached some level of work task management (efficacy-building) by identifying an individually appreciated goal. After that, this personal goal was developed into a practicable group goal. The characteristics of work control and questions like "What is your understanding of the expectations of your work?" and "Do you have the opportunity to get advice or support from your superior or colleagues?" led to a rich exchange of thoughts among participants. In addition, this established a trustful atmosphere throughout which encouraged participants to talk about their personal thoughts and feelings. Since the sessions were partly interrelated to each other, comparisons between the first and second sessions were also discussed in order to find some areas of common ground. Key issues from this session were identified and selected in preparation for the third session.

The aim of third session was the development of work planning and management, the competence of personnel and work ability from the work community perspective. The session began with a briefing and a short discussion about the previous session. In addition, a round of the Duunitalkoot playing card exercise was conducted. Based on feedback from the two earlier sessions, the participants were then allowed to reflect on and discuss their choices at the beginning of the third session. These small group discussions included topics and examples of various goals that were challenging enough and individually appreciated. Then the participants selected one joint goal from the topics listed earlier, and placed it as an outline reminder for this third session. After that, an open conversation, led by the facilitator, guided the group to recognise the key issues and create an action plan for the development of their working methods. The selected variety of issues and plans were as follows: work planning; consistent use of distribution of work (that is, delegation and allocation), introductory briefing; how to support new employees and mentoring; and the development of the work community through work counselling, focusing on well-being at work and further staff training. At this halfway point in the intervention series, the participants were actively taking part in the discussion. This was evidenced by their openly stating of personal experiences and worries, their joint support, and their keenness to promote the group's strengths and abilities.

The fourth session began with a briefing and a short discussion about the last session. Then the facilitator presented the purpose of the fourth session. The goal was solutions and the implications for effectiveness at work, the work community and influencing participants' degree of work-related communication and the leader-follower relationship. During the session, the participants were guided by the facilitator to set goals that were achievable and challenging. They were asked to divide the goals into smaller goals. The aim was for the participant to be able to identify and attain the overall goal by using smaller "subgoals". Thus, this process influenced both individual and group-level choices. Moreover, through the more attainable goals, the participants were able to en-

hance their level of anticipation and achievement in the specific area, that is, the participant's area of responsibility. In addition, this aimed to have an impact on the participant's levels of communication and leader-follower relationship.

During the fourth session, the discussion ran smoothly in relation to group interaction, LMX and effectiveness of the work community. The issues that were identified as playing a major role in interaction and LMX were: the need to listen to each other and give feedback, individual commitment and motivation as the basis for reciprocal interaction, the relationship with the leader and colleagues being dependent on individual effort, and the fact that individual needs should sometimes be noticed better by superiors. The solution-based part of this intervention session rested on understanding and finding various ways (that is, pathways) to reach the same goal. In addition, it requires incident plans for tackling possible hindrances and difficulties. Based on this feedback, the participants were then allowed to reflect and change their choices. After this practice was completed, the facilitator presented the solutions that were proposed during the session to the participants. Furthermore, they talked about the consequences the practice had on effective work and the work community.

Specifically, these issues included work planning, introductory briefing and mentoring, and the development of the work community (that is, supervision of work and well-being). The idea of the Duunitalkoot programme is that at the end of an intervention process, participants should discuss and develop a joint action plan for the next steps. Thus, the issues mentioned above were identified and added to the action plan. Participants agreed to carry out the plan for themself in the near future, and the action plan will be led by the team leader. The session ended with a short discussion on how the programme went, how the team will proceed after this final session, and who are the responsible persons for each theme. Some participants adverted to the sessions as voluntary based participation, some as joint discussion forums, and others as useful sessions. Lastly, the facilitator stated that there will be one final session during the autumn of 2009 termed a "Where are we going?" follow-up session, and the date for that session was scheduled.

During the fifth session in November, the idea was to talk about how things had developed and how changes had been implemented. Unfortunately, only four people were present. The participants and the facilitator identified some reasons that might have influenced this. Firstly, the final meeting represented a follow-up part of the intervention, and therefore not everyone prioritysed it in their work. Secondly, the original plan was to have this meeting in October, but due to events taking place in the unit, the researcher was obligated to postpone the final meeting to November. The third and perhaps the most important reason why the participation rate was low in the final meeting was the fact that there had been too long a break following the fourth session (in May), which broke up the programme´s continuity.

In summary, during these five sessions, the participants received feedback from one another regarding their thinking and behaviour in the group. Participants also had an opportunity to learn more about group behaviour and inter-

group relationships. The facilitator took an active role in coordinating and executing intervention sessions. However, he had an indirect facilitating role during actual group discussions. This facilitating style was selected as the participants took the lead in discussing the topics under the themes they saw as important. The control group (n=10) did not receive any special intervention. The web-based intervention programme was conducted over a four-month period (February-May 2009) and was followed by one follow-up session in November 2009.

3.3.4   Concept of triangulation

Modell (2005) states that surveys may increase our understanding of the incidence of a particular phenomenon and/or the form and strength of conceptual relationships observed in case studies. At the same time, case study methods may add to a more holistic and richer contextual understanding of survey results (Modell, 2005) and this is the case in this study. Moreover, triangulation is used not only to examine the same phenomenon from multiple perspectives, but also to enlarge our understanding. Table 18 below shows how the research questions are connected to methods in this study.

TABLE 18   Connection between research questions and methods

Research questions	Method of data collection
1. What is the quality of leader-member exchange (LMX) and how does LMX develop over time?	Employee LMX survey (Time 1,2 and 3) Employee in-depth interviews (Interview I)
2. What is the quality of psychological capital (PsyCap) and how does PsyCap develop over time?	Employee PsyCap survey (Time 1, 2 and 3) Employee in-depth interviews (Interview I)
3. Is there a relationship between LMX and PsyCap? If there is, what kind of relation is it?	Employee LMX and PsyCap survey Employee in-depth interviews
4. How does an organisational development (OD) intervention influence on employees' leader–member exchange and psychological capital?	OD intervention programme for treatment group Written memos from OD intervention based on employee understanding
	Employee survey for treatment and control group (Time 1, 2 and 3) Employee in-depth interviews (Interview II)

Combining qualitative and quantitative methodologies has been the topic of some debate, but only recently has it been called mixed methods (Creswell, 2003). Creswell (2003) presents mixed designs as a reflection of the iterative process that all researchers conduct, moving between induction and deduction at different stages to answer their research questions, thus, mixed methods studies simply reflect a natural course of action. However, in order to ''genuinely integrate'' methods and produce convincing results (Bryman, 2007b), researchers must have a solid foundation in different methodological traditions and be conscientious about planning, implementing, and evaluating the research design (Creswell, 2003). Tashakkori and Teddlie (2003) presented the

QUAL-MIXED-QUAN continuum, which consists of three zones. The mixed zone in the middle represents a totally integrated mixed method research, which is used in this dissertation study.

Mixed-methods case studies have been conducted for versatile purposes, and among these studies in international business research, the case study approach has been used in two alternative ways (Hurmerinta & Nummela, 2011). First, in the compartmentalised strategy, the researcher decides to collect both qualitative and quantitative data for the research, in which the qualitative data takes the form of a case study (Hurmerinta & Nummela, 2011). In the second strategy, the researcher decided to accomplish a case study in which both qualitative and quantitative data was collected and analysed (Hurmerinta & Nummela, 2011). This strategy is called an aggregated strategy and it is applied within the case context (Hurmerinta & Nummela, 2011). In the current dissertation study, the mixed-methods procedure is in line with the latter strategy. These strategies are similar to the sequential and concurrent nested procedures that Creswell (2003) presents in his mixed-methods book. These procedures are discussed more detailed in the Analysis section (3.3.6).

In general, case studies can be carried out by using both qualitative and quantitative evidence. This may come from fieldwork, archival records, verbal reports, observations or any combination of these (Yin, 1981). The evidence may be qualitative (for example, words), quantitative (for example, numbers), or both (Eisenhardt, 1989). The use of multiple methods as a form of research strategy is usually described as multimethod/multitrait (Campbell & Fiske, 1959), or what has been called triangulation methodology (Webb et al., 1966). Triangulation is broadly defined by Denzin (1978) as the combination of methodologies in the study of the same phenomenon (Jick, 1979). For organisational researchers, for example, the effectiveness of a leader may be studied by interviewing the leader, observing his or her behaviour, and evaluating performance records (Jick, 1979).

Denzin (1978) introduced the idea of triangulation beyond its conventional association with research methods and designs. He presented four forms of triangulation: 1. data triangulation, which entails comparing and checking out the consistency of different data sources within the same method; 2. investigator triangulation, which refers to the use of more than one researcher in the field to gather and interpret data; 3. theoretical triangulation, which refers to the use of more than one theoretical perspective in interpreting the same data; and 4. methodological triangulation, which refers to the use of more than one method for gathering and integrating data (Denzin, 1978).

Triangulation has other meanings as well. Denzin made a distinction between within-method and between-method triangulation, the former involving the use of varieties of the same method to investigate a research issue (Denzin, 1978). For example, a self-completion questionnaire might contain two contrasting scales to measure emotional labour for qualitative methods, such as participant observation. This can be presented in "multiple comparison groups" (Glaser & Strauss, 1965), whereas between-method triangulation involves con-

trasting research methods, such as a questionnaire and observation or interviews (Denzin, 1978) as is done in this dissertation study. Next, the triangulation concept of the current case study is presented in Table 19 below.

TABLE 19　　Triangulation concept of the study

Triangulation	Analysis procedures and phases	Data sources
Data triangulation	Content analysis of interviews (Interview I and II)	Employee interviews (n=8)
	Content analysis of OD intervention (Set 1,2,3,4 and 5)	Employee perceptions and memos: treatment group (n=10)
	Statistical analysis of questionnaires (Time 1,2 and 3)	Employee surveys (n=58)
Theoretical triangulation	LMX and PsyCap content analysis of interviews	Employee interviews
	LMX and PsyCap content analysis of OD intervention	Employee (treatment group) perceptions and memos
Methodological triangulation	Qualitative content analysis of interviews	Employee interviews
	Qualitative content analysis of OD intervention	Employee (treatment group) perceptions and memos
	Quantitative analysis of questionnaires	Employee surveys
	Mixed methods analysis of integrated results	Employee interviews Employee perceptions and memos Employee surveys

As presented above in Table 19, this dissertation study applies multiple forms of triangulation. First there is a) data triangulation, using different sources within the same method and with data coming from results of in-depth and semistructured interviews, OD intervention with data coming from observations by the researcher, perceptions and written materials by respondents, and checking the consistency of information in surveys over time. Secondly, b) theoretical triangulation is used as the same data is investigated from various perspectives such as LMX and PsyCap. Finally, c) methodological triangulation is also applied whereas the data is collected and analysed using a mixed-methods approach (qualitative and quantitative method).

3.3.5　Measures

Since no Finnish versions of the measures were available, a translation method called back-translation was used for LMX and PsyCap in order to acquire reliable Finnish formulations of the original measures. The current study followed the Brislin (1970) guidelines on the back-translation technique in order to minimise cultural differences and interpretations. Permission to use the applied measures - LMX and PsyCap for research purposes - was granted by the re-

searchers who initially developed the measurements (that is, Fred Dansereau, Mary Uhl-Bien, and Fred Luthans).

Leader – member exchange (LMX)
The seven-item LMX 7 measure (Graen & Uhl-Bien, 1995) in its Finnish version was used for measuring leader-member exchange. Instructions were used to inform the participants that the questions refer to their relationship with their supervisor in their current work. A five-point Likert-type scale was used. Participants were instructed to indicate their degree of agreement from 1 = strongly disagree to 5 = strongly agree for each item. An example items were: "How well does your leader recognise your potential?" and "To what extent does your leader understand your work problems and needs?" Cronbach's alpha of this translated LMX-7 was 0.67. Thus, the reliability of the Finnish version was acceptable (Peterson, 1994).

Psychological Capital (PsyCap)
Psychological capital (PsyCap) was measured using the PCQ-24 in its Finnish version (the validity analysis can be found in Luthans, Avolio, Avey & Norman, 2007 and Luthans, Youssef & Avolio, 2007a contains the entire PCQ-24). The twenty-four items that were used in the survey were adapted, and an instrument consisting of six items were adapted from each of the following scales: a) hope, b) resilience, c) optimism and d) efficacy.

Sample items for each scale was as follows: self-efficacy (for instance, "I feel confident helping to set targets/goals in my work area"), hope (for instance, "If I should find myself in a jam at work, I could think of many ways to get out of it"), resiliency (for instance, "When I have a setback at work, I have trouble recovering from it and moving on"), and optimism (for instance, "When things are uncertain for me at work I usually expect the best").

All items were measured using a five-point Likert-type scale (see Walumbwa et al., 2010). The participants were instructed to indicate their degree of agreement from 1 = strongly disagree to 5 = strongly agree for each item. Cronbach's alpha reliability of this translated PCQ-24 overall was 0.91. In addition, all subscales of PCQ demonstrated reliability alphas greater than 0.70. Thus, the reliability of the Finnish version was sufficient (Peterson, 1994).

Interviews
The qualitative data was gathered via open-ended and semi-structured face-to-face in-depth interviews. In these thematic interviews, topic-related and open-ended questions are presented in the form: "what", "when", "who" and "how". The interviews covered a list of five thematic categories outlined in advance: leadership and management, subordinate skills, leader-member relationship, psychological capital and work community (see Appendices).

Web-based intervention – the work community effort intervention program
Duunitalkoot, the work community effort program was developed in 2007 by the Työterveyslaitos/Finnish Institute of Occupational Health (2011) and

Horppu (2007). This web-based work community intervention program was conducted in 2009, through the free use of the website mentioned above.

Control variables
Given the nature of this study, data was gathered on various control variables from participants. Thus, the effects of demographic variables including age and gender, job type, job level, years of work experience, and follower tenure with the leader were controlled for.

3.3.6 Analysis

Quantitative analysis
Statistical Package for Social Science (SPSS, Version 19.0, 2010) was used to analyse the data using various statistical methods, including descriptive analysis, t-tests, hierarchical regression analysis, reliability tests, and correlation analysis. Paired t-tests were conducted by analysing PsyCap and LMX changes over time, and for the mean differences within intervention treatment and control groups due to the fact that the sample size in this study was relatively small. However, analysis of variance for repeated measurements would have been an another option for the t-test if the sample size would have been larger. In addition, the decision to use the t-test method for the comparison of the two groups in the intervention phase in the study was based on information that the one-way ANOVA is typically used to test, but since this is a two-group case, it can be covered by a t-test. The one-way analysis of variance generalises the two-sample t-test when the data belongs to more than two groups.

According to Siegel (as cited in de Winter, 2013), t-test in a small sample (6 or lower) requires that observations are taken from a normally distributed population (de Winter, 2013). In this respect, de Winter (2013) stated that the t-test can be applied in a paired t-test with an extremely small sample (5 or less). Thus, in line with these guidelines, the tests of normality distribution were conducted according to Kolmogorov-Smirnov and Shapiro-Wilk tests in the current dissertation, since the sample size was under 30 participants during the study and its analysis.

In addition, the relationship between PsyCap and the two measures of LMX was analysed by calculating bivariate Pearson's correlations. Descriptive statistics were computed for the variables in this study: age (in years), gender, experience (in years), job tenure (in years), job level and education. The relationships between pairs of variables were examined with the use of hierarchical linear regression.

Regression analysis is an efficient tool for summarising the nature of the relationship between variables and for making predictions of likely values of the dependent variable (Cohen & Cohen, 1975). Thus, hierarchical linear regression analysis progresses by entering the independent variables in a certain order and finding the significance of the increased variance explained by the variables added to each phase of analysis (Bryman, 1999). The analysis gives basic, useful information such as the coefficient of determination, R^2 (R Square) and

an analysis of variance which provides an F test for the equation. It should be noted that correlation and regression are closely connected. However, correlation is concerned with the degrees of relationship between variables, and regression with making predictions, but they can also be usefully used in conjunction, since, unlike correlation, regression can express the character of relationships (Bryman, 1999).

The Difference in Differences (DD) statistical technique is used, since the before and after design with untreated comparison group design is present in the study (Meyer, 1995). Difference in Differences (DD) estimation is an appropriate way of estimating causal relationships, as DD estimation consists of identifying a specific intervention or treatment (Bertrand, Duflo & Mullainathan, 2004). It then compares the difference in outcomes before and after the intervention for groups affected by it to the difference for unaffected groups (Bertrand et al., 2004).

Qualitative analysis

One of the most important decisions when using content analysis in qualitative research is choosing the unit of analysis (Graneheim & Lundham, 2004). According to Graneheim and Lundham (2004), in the previous literature, the unit of analysis refers to a great variety of objects of study, such as, a person, a programme, an organisation, a classroom or a clinic, or a community, state or nation (Patton, 1987). Graneheim and Lundham (2004) recommend that the most suitable unit of analysis is whole interviews or observational protocols that are large enough to be thought of as a whole and small enough to be possible to keep in mind as a context for the meaning unit in the analysis process. A meaning unit refers to the constellation of words or statements that relate to the same central meaning, and that has been linked to as a content unit or coding unit (Kvale, 2007), an idea unit, a textual unit (Krippendorff, 1980), a keyword and phrase, a unit of analysis, and a theme (Graneheim & Lundham, 2004). The label of a meaning unit has been named a code (Graneheim & Lundham, 2004).

Shortening the text includes the methods of condensation (Coffey & Atkinson, 1996), which refers to a process of shortening while still preserving the core (Graneheim & Lundham, 2004; Kvale, 2007). The process whereby condensed text is abstracted is called abstraction, since it emphasises descriptions and interpretations on a higher logical level (Graneheim & Lundham, 2004). These abstractions contain the creation of codes, categories and themes on varying levels (Graneheim & Lundham, 2004). Creating categories is one of the main features of qualitative content analysis. According to Krippendorff (1980), a category is a group of content that shares a commonality. These categories often contain a number of sub-categories or sub-subcategories at varying levels of abstraction (Graneheim & Lundham, 2004). In addition, the concept of theme has multiple meanings and creating themes is a tool to link the underlying meanings together in categories (Graneheim & Lundham, 2004). Graneheim and Lundham (2004) considered a theme to be a thread of an underlying meaning through condensed meaning units, codes or categories on an interpretative

level. From the perspective of this study, the issues presented above are taken into account.

Next, content analysis is described in more detail and how it was executed in practice. Therefore, examples of meaning units, condensed meaning units, codes, categories and themes for LMX theory and PsyCap in in-depth interviews are shown to illustrate the use of content analysis related to the dissertation research (see Table 20 below).

TABLE 20   Examples of meaning units, condensed meaning units, codes, categories and themes for LMX and PsyCap in in-depth interviews I (n=8)

Meaning unit	Condensed meaning unit	Code	Category	Theme
″ The trust that the superior is competent, that's important, but I think that good interaction skills are most important."	Trust in the superior's competence and interaction skills are crucial.	Trust and communication	LMX quality	LMX theory
″ I can do what is expected of me… maybe I'm not that precise with my work plan and planning it… now we are going to get these different tasks and other stuff like that."	Is able to do current and future tasks flexibly.	Confidence	Self-efficacy	PsyCap

In this study, qualitative analysis involved tape recording, transcribing and coding thematic, in-depth interviews and intervention programme documentation. Interview transcripts were independently reviewed by the researcher and three research assistants. The use of content analysis in this leadership study aimed to leverage the conceptual and analytical flexibility of the method to give the study an abductive approach based on tight quantitative analysis as well as rich qualitative insight. The doctoral candidate in this study uses abductive reasoning, which furnishes the reasoner with a theory explaining the relationship between the facts. The main emphasis in the data analysis was on reflection, the consideration as to how the data can be applied to provide results and to inform future work and research.

According to Hsieh and Shannon (2005), content analysis as a research method has a long history in research; in the United States, content analysis was first used as an analytic technique at the beginning of the 20th century (Barcus, 1959). Initially, researchers used content analysis as either a qualitative or a quantitative method in their studies (Berelson, 1952). The past two decades have seen an increase in scholarly interest in the use of qualitative methodologies for studying complex business phenomena, borrowing and adapting from more established disciplines (Tesch, 1990). Given the benefits of content analysis, its use in organisation studies has been growing over the course of the past twenty-five years (Duriau et al., 2007).

Qualitative content analysis is a research method used to analyse text data, (Hsieh & Shannon, 2005). Studies using qualitative content analysis emphasise the characteristics of language as communication with observation of the content or contextual meaning of the text (for example Tesch, 1990). Text data can be in verbal, printed or electronic form and might have been collected from

open-ended survey questions, interviews, focus groups, observations, or print media such as articles, books or manuals (Tesch, 1990). Qualitative content analysis focuses on examining language with the explicit aim of classifying large amounts of text into a manageable number of categories that represent similar meanings, and the aim of content analysis is to provide knowledge and understanding of the phenomenon under research (Weber, 1990). Regarding management and leadership research, content analysis offers a replicable methodology to access deep individual or collective structures such as values, intentions, attitudes and cognitions (Carley, 1997; Huff, 1990; Kabanoff, 1996). As such, content analysis is applicable to a broad range of organisational phenomena (Duriau et al., 2007).

According to Krippendorff (1980, 2004), content analysis is a research technique for making replicable and valid inferences from texts (or other meaningful matter) to the contexts of their use. The notion of inference is especially important in content analysis. The researcher uses analytical constructs, or rules of inference, to move from the text to the answers, and on to the research questions. The two domains, the texts and the context, are logically independent, and the researcher draws conclusions from one independent domain (the texts) to the other (the context). Krippendorff (1980, 2004) points out that "the proponents of both approaches: 1) sample text, in the sense of selecting what is relevant; 2) unitize text, in the sense of distinguishing words or propositions and using quotes or examples; 3) contextualise what they are reading in light of what they know about the circumstances surrounding the text; and 4) have specific research questions in mind."

In this study, content analysis was applied as a synthesis of the protocols of Krippendorff (1980, 2004), Tesch (1990) and Weber (1990). The Atlas.ti (version 6.1) software program was used to assist in qualitative analysis, especially in its support for coding.

In the current study, the two rounds of interviews (n=15), that is, interviews I and interviews II, were analysed separately during the first phase. In other words, the first interviews (n=8) were read through several times in order to get an overall understanding. The same procedure was carried out for the second round of interviews (n=7). During the second phase, some comparison of interviews from different times (Interviews I and Interviews II) was conducted in order to obtain a sense of the whole.

Table 21 below shows the content analysis approach of the interviews during study.

TABLE 21   Content analysis approach of the interviews I and II. (Note: table and content has been adopted and developed in part from Downe-Wamboldt, 1992; Upenieks, 2002)

Content analysis approach - interview
Selecting unit of analysis: Unit of analysis included each participant´s whole interview
Defining themes and categories: Themes based on theoretical framework and review of literature. Coding rules created so that each interview was classified into these themes and emerged categories.
Abductively coding the data: Stages of analysis composed of the following steps.
• Open coding: Transcripts read several times to obtain a sense of the whole and as many categories as necessary determined. Unusable issues also noted (that is, issues/statements unrelated to topic).
• Matching to list of pre-existing categories: Transcript statements matched to pre-existing categories.
• Establishment of new categories: The text was divided into meaning units that were condensed. The condensed meaning units were abstracted, named with a code and sorted into categories. Categories that did not match pre-existing themes generated new themes.
• Transcript coding: Pre-existing and new categories color-coded according to category number.
• Framework of coded sections: Coded sections detached from transcript and all items for the same category collected together. Finally, the categories of meaning units, were integrated into a theme.
• Sampling of data: Various samples of interview data selected to link comments from the interviewees with established categories.

As shown in Table 21, the unit of analysis is each interview text. The analysis of interview data began with reading all the data repeatedly to achieve understanding and obtain a sense of the whole. Then, the data was read word by word to index codes by first colouring the exact words from the text that appear to capture key thoughts or concepts. After that, the researcher read the text by making notes of his first impressions, thoughts, and initial analysis. As this process continued, labels for codes emerged that were reflective of more than one key thought. The codes were then sorted into categories based on how different codes are related and linked. These emergent categories were used to organise and group codes into meaningful clusters and subcategories.

Depending on the relationships between subcategories, the subcategories were combined or organised into fewer categories. In addition, a tree diagram was developed to help organise these categories into a hierarchical structure. After that, definitions for each category, subcategory and code were developed. Key exemplars for each code and category were identified from the data to construct the reporting of the results. Finally, the meaning units and categories were integrated into the themes. Regarding the purpose of the study, it was decided to identify the relationship between categories and subcategories further based on their antecedents or consequences. By using the analysis approach, relevant theories and other research findings were addressed in the discussion section of the study. In addition, the discussion will include a summary

of how the findings from this study contribute to knowledge in the area of interest and suggestions for practice, leadership and future research.

Next, the content analysis approach of the OD intervention is briefly presented in Table 22 below. The unit of analysis in the OD intervention series is based on six memos from the intervention sets.

TABLE 22 Examples of meaning units, condensed meaning units, codes, categories and theme for OD intervention serie in the treatment group (n=10)

Meaning unit	Condensed meaning unit	Code	Category	Theme
" Things under my responsibility require more effort than before."	The work is challenging and requires diverse skills.	Support	Interaction with leader and colleague	Leadership (set 1)
"I would like to work with different groups, even though I like to work independently."	Is able to handle current tasks independently but is interested in teamwork.	Working method	Work arrangement	Psychological resources (set 2)
" Information availability and communication could be more based on face-to-face meetings and we could try working in pairs."	Communication and working together should be developed.	Collaboration	Distribution of work	Work planning (set 3)
"Some think that if you put less work effort into something, you will have more time."	By using less energy on some tasks, you think that you are saving time for something else.	Work contribution and time	Quality	Leader-member exchange (set 4)

The memos were written down and transcribed verbatim. Analysis of the OD intervention series data began when the transcribed text was read through many times to obtain a sense of the whole. Six memos, one from each occasion, were split into meaning units. After that, the meaning units were condensed into a description of the text, and then into an interpretation of the meaning. The condensed meaning units were abstracted and named with a code. The various codes were compared based on differences and similarities and divided into categories. Finally, the meaning units and categories were integrated into the themes.

Mixed methods procedures
In this research, explanatory data analysis techniques were used for quantitative and qualitative data. Creswell's (2003) concurrent (same time) triangulation strategy procedures served as the main methodological design for the dissertation study.

Figure 21 presents a summary of the design of methods, data collection, and analysis that was used in this study.
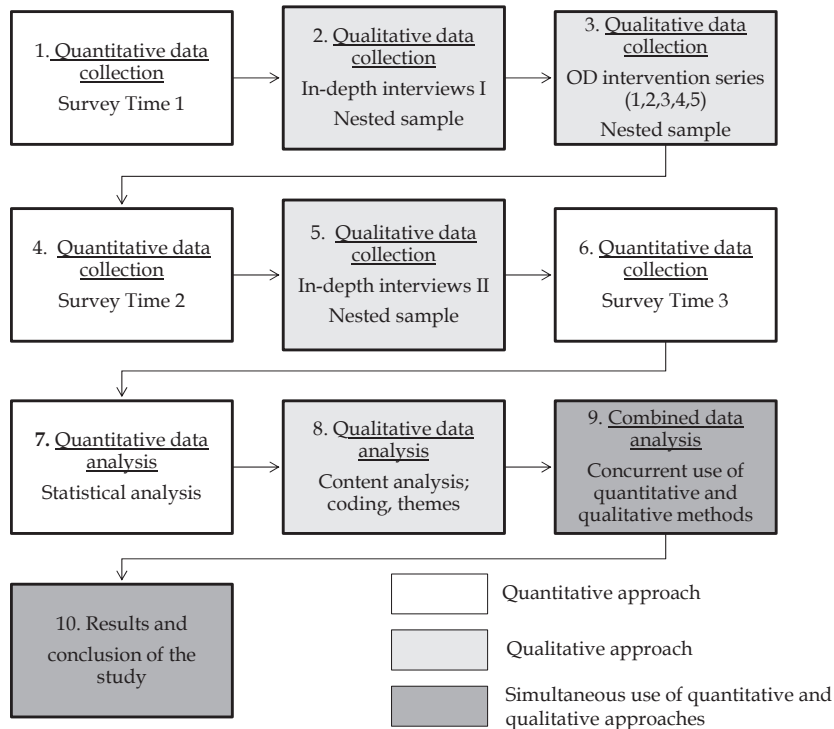
FIGURE 21   Design of methods, data collection and analysis of the research

The triangulation approach is particularly useful for confirming, cross-validating and corroborating findings within a single study (Morgan, 1998; Creswell, 2003). This model uses separate quantitative and qualitative methods, whereas data collection is concurrent, occuring in a certain phase of the research study. In practice, priority can be given to either the quantitative or the qualitative approach (Creswell, 2003). In concurrent mixed design, there are many questions (QUAL and QUAN), and each is solved by collecting and analysing the corresponding data (Tashakkori & Teddlie, 2003). This triangulation strategy integrates the findings of the two methods during the interpretation phase, and interpretation can either note the convergence of the results as a way of strengthening the knowledge claims of the study or explain any lack of convergence that may occur (Creswell, 2003).

In this dissertation study, one of the strategies was also to use a quantitative approach to examine leadership, followed by a qualitative method that involves a detailed exploration with a few individuals. This is called a concurrent nested model (Creswell, 2003). Creswell (2003) contrasts this strategy with the concurrent triangulation procedure. Contrary to concurrent triangulation strategy, a nested approach has a predominant method that guides the research (Creswell, 2003). During this study, the qualitative method was embedded or nested within the predominant quantitative method. This nesting means that

the embedded method seeks information from different levels (see Tashakkori & Teddlie, 1998).

Thus, in this study, surveys were conducted at the education organisation's school level to gather quantitative data about the sample. In addition, qualitative interviews and interventions with employees were carried out to investigate the topic with specific individuals. Data analysis was conducted both within quantitative and qualitative strategies, and in addition between the two strategies. Leader-member exchange theory and psychological capital served as a theoretical framework through which data was collected and analysed.

4   RESULTS

Findings from both qualitative and quantitative analysis are reported in the following chapters.

4.1   LMX and its development

The following research question started the first stage of the study results: what is the quality of leader-member exchange (LMX) and how does LMX develop over time? The data presented below provides an insight into the perceived quality of LMX among the participants.

To make the data transparent and visible, the interview topics are first highlighted through the quotations (Table 23). The quotations are meant to provide a general idea about the typical contents of the interviews. Thus, the different statements during the first interviews (n=8) were chosen to give a general, overall view of the data. They highlight well the whole interview data and describe the common leadership situation in the organisation.

TABLE 23   Examples of the participants' descriptions of interview topics from the first interviews

Topics	Examples of description
Leadership and management	GG: "Well, I think topics are discussed through those strategies… and they are continuously evaluated and this autumn as well, we've had at least five meetings to go through the same topics. But implementation, what the methods for that are, that's what's missing, so you have to define them yourself more or less. I think that's lacking so nobody really knows… we don't know it on the operational level. And then these things like utilizing teamwork even better and so on, to bring the strategies to life somehow. Well, it shows in your own work in the sense that I do read them and I'm interested."
Subordinate skills	AA: " It's… subordinate skills without a doubt, so everyone has the responsibility to develop their skills in the work community and in the relationship between colleagues and the superior, I think that's essential. It's not… it cannot be something that is somebody else's responsibility; it has to come from within yourself."
LMX theory	BB: " Well, the superior-subordinate relationship… it does take some time and what you've heard about the superior, what you think about him or her… what kinds of characteristics the superior has and what he considers especially important and... what kinds of issues the superior is focused on. So it's created in the mutual interaction, so you get to build that relationship with your superior right away and then the development discussions… it's also the superior being there for me and only me, the time reserved for me and I can chat... you can express your own wishes and... talk about your resources and things like that. So I think it comes from being and discussing and doing together, and trust is really important there, I know that if I tell her something, she won't talk about it to anyone else."
PsyCap	EE: "Well, perhaps through this work experience I've gotten this feeling that I can handle task management adequately. Of course there are busy periods but you survive them, perhaps through life experience. You've had to survive much bigger things, so these issues are quite small compared to some others, and at some point you no longer feel that panic."
Work community	DD: " Of course there will always be problematic situations when you're working with people, I think in our team we have exceptionally few of those. I think in our expert team it's easy in the sense that people are ready to discuss things and see other views. So… I think we have readiness and we discuss, we take up issues and discuss them. And with twenty people, there will always be something between them, born from such a big group, people are different and so on, and that's how it should be, but that shouldn't interfere with the work."

Table 23 indicates that LMX quality and its development depends on various key issues. For example, as participant BB stated, there are time frames of the relationship, personal characteristics of the leader, interaction between the follower and the leader, trust and the opportunity for one-to-one conversations which influence building and promoting the LMX relationship.

4.1.1   Quality of LMX

Next the discussion turns particularly to LMX in more detail. The conducted interviews were investigated to provide a detailed and versatile picture of the quality of LMX in the case organisation. Table 24 below shows the example of the quotations of the LMX theme and its categories from the first interviews (n=8).

TABLE 24   Examples of the quotations for LMX theory from the first interviews

Theme	Categories	Examples of category description
LMX theory	Leadership behaviour	DD: "So I do think that the relationship has significance in, for instance, how the employee feels appreciated or sees the significance of their work, and that way it's significant in how they want to commit and how much they want to give of themselves."
		CC: "One on one, we have really good discussions, they're confidential. And then it feels like if you say something in group situations… it's not attacking, but you bring up a point and… the superior immediately protects their own leadership or company decisions. But one on one, you don't see that happening."
	Evaluation of LMX quality	HH: "Of course there is the basis of trust and the superior has knowledge of the subordinate's competence, they both know about each other's work and roles. And… the employees know what is expected of them and what they are responsible for and what their responsibilities are. So if the superior and the subordinate are new to each other and don't know each other, you can't create a trusting relationship immediately, it takes some time to build it. And it certainly depends on the person as to how long it takes."
		GG: "Perhaps it has a lot to do with these external factors, we're approximately the same age and have similar backgrounds and… she has told me that she appreciates some characteristics in me… so that's probably one reason. It's of course trust, that you appreciate such things."

Based on the content analysis conducted from the first interviews, two main categories were distinguished to highlight the quality of LMX. The categories are leadership behaviour in LMX and the evaluation of LMX quality. Leadership behaviour refers to the key characteristics of leadership influence on the LMX relationship. LMX quality, for its part, relates to the evaluation of the LMX relationship. A lower-quality relationship is connected to the limited levels of reciprocal influence and support, while the higher quality includes mutually supportive relationships (cf. Deluga, 1998).

Leadership behaviour
In general, leadership behaviour refers to the influence process between the leaders and the led, so that in the relationship leaders affect, motivate and enable employees to contribute towards the effectiveness and success of the organisation (cf. House et al., 1997; Yukl, 2002) and employees respond to the process in different ways as stated in LMX theory (Graen & Uhl-Bien, 1995). For example, a view of leadership behaviour by one of the participants was as follows:

> GG: ''The information I receive is more formal in nature, it's these strategies and other things. But then there is this so-called informal information, I get very little of that sort of information. If the information is at all uncertain, you will not receive it."

Typically, the relationship was perceived by the interviewees in a way that in public the leader motivates employees through communicating organisational strategies and rules. Such leadership behaviour contributes to making the employees' behaviour anticipated, coherent and being in line with officially desirable behaviour. The inspiration to make changes and renewals, one of the key characteristics of transformational leadership in LMX (Bass, 1995; Yukl, 2002),

was not expressed so often by the interviewees as being publicly used in leadership behaviour. Thus, it seems that the behaviour in the studied organisation relies partly in public on managerially-oriented formal rules and guiding originating from the case organisation's upper management in hierarchy rather than inspirational leadership behaviour (cf. Bass, 1995).

One participant commented on this issue, stating that:

> AA: "Well, I've had discussion with my immediate superior so she has given them, we have mostly looked at these goals, these Balance Scorecard measures and OKM measures and we have been thinking about them and… but I haven't done that for the whole unit, I mean we have gone through them, the hard goals. Our immediate superior, in our department I mean, we discussed, the last time we agreed that when we have this group development discussion, we thought that, or actually I suggested myself that we could have responsible persons for all those measures, for certain indicators, and then we could consider them systematically, how we can achieve them, who will do what and in what schedule."

Similarly to the above comment on leadership behaviour, another participant stated:

> BB:"I think that now everything has become much more hectic… you have to do more and more work all the time yourself... is this not enough any longer… you do feel like that sometimes. It's interesting in the sense that when you go to the superior's room, it's always peaceful. But if you go to a big meeting, you feel like you're not competent at anything. "

Furthermore, some participants even felt that too much guidance through formal organisation level strategies, and even controlling through them, leads to undesirable influence. Thus, it can cause unclear understanding about work responsibilities and tasks.

However, the discussion about leadership behaviour with the interviewees revealed that they experienced that a crucial principle of leadership behaviour is sharing responsibilities and duties among employees equally and explicitly. For example, participant EE said:

> EE: ''I think it's quite equal, superior is easy to approach… and kind of democratic, so that she asks our opinions a lot together whenever it's possible to decide together, unless it's an order from upper management."

In particular, the distribution of work duties was said to be quite in balance. According to many interviewees, employees are given information to an adequate extent, and their competencies are used in an appropriate way. Thus, justice in sharing duties and resources seems to be one key principle in leadership behaviour.

The interviewees found that positive interaction, support, encouragement and positive feedback are essential factors, particularly in mutual discussions between the superior and employees, both individually and in a team. So, at the individual and the team level, relationships of leadership behaviour often appeared to be based on consideration for employees as experienced by the inter-

viewees – and this is an important element of transformational leadership (cf. Bass, 1995). Participant AA mentioned this:

> AA: ''Encouraging, positive, supportive, superior sees people's strengths and... her starting point is that she has this kind of development-based attitude, how we could develop this, and not a commanding attitude… so sometimes it would be good to have assertiveness and courage to show your own skills because she truly has leadership skills.''

However, some interviewees acknowledged that leadership behaviour may vary, depending on the work situation and the individual's duties. In addition, some participants stated that leadership actions are stressful from time to time. For instance, one perspective of leadership behaviour by one of the participants was as follows:

> FF: ''My work has been like, it changes from one second to the next… of course it's like that for everyone during the whole semester, but then there are these big transitions from time to time, like where are we going and what are the needs elsewhere here. So sometimes it feels like it's really stressful. But the past year was like, there was always something new and something to implement, you cannot stop, you have these horrible workload peaks.''

Half of the participants revealed that leadership behaviour includes encouragement, and belief in people. Moreover, employees were said to receive personal attention, support, and opportunities for interaction and discussions with the leader. In addition, they were said to have opportunities for receiving advice from the leader. These characteristics are emphasised specifically in the consideration element of transformational leadership (cf. Bass, 1985).

However, the other half of the interviewees described leadership behaviour to be oriented to following and searching for deviations in the achievement of goals and strategies, taking necessary corrective actions, sometimes avoiding making decisions and abdicating responsibilities, as well as recognising achievements and good performance. These characteristics can be interpreted as being linked to transactional leadership behaviour (cf. Bass, 1990). To illustrate the process of transactional leadership behaviour more profoundly, a discussion about the issue between the researcher and interviewee DD is described in the following (I= Interviewer and R= Interviewee):

> I: ''In your opinion, how is work organisation implemented in this department from the point of view of leadership and management?''
>
> R: ''I think work organisation begins from the personnel, planning the personnel's working hours, the competence of each employee, and here of course it's partly based on personal interests as well. We try to take those into account if it's possible.''
>
> I: ''How do you see management or superiorial work or even work organisation, how do they support the management of the entire personnel and goals at the moment?''
>
> R: ''It starts from management, how the personnel is aware first of all; if they do not know about things, don't know what… what the goals are or the strategies, it's difficult for them to work towards them. So I think that the superior… or not the superior

but also the upper management has to work to get those things through to the personnel."

I: "If we still keep to this theme, your own work and the management work related to it in relation to your superior -- what is daily communication or interaction like with your superior?"

R: "Of course depending on the issue it's... by email, phone or a meeting, depending on the issue, what the priority is or what is practical and so on, that's how the contact is made and that's how we work on those things. It depends on the issue; it's not daily at all."

Consequently, the findings showed that the key characteristics of leadership behaviour in LMX were perceived as a manner that on one hand the leader organises and defines group activities, and follows formal rules and guidance originating from the case organisation's upper management. On the other hand, the leader is described as showing mutual trust and rapport in the LMX relationship. Thus, transactional and transformational leadership behaviour were detected in the LMX relationship in the descriptions of the interviewees.

Evaluation of LMX quality
Next, the participants' evaluation of LMX quality (Bauer & Green, 1996; Deluga, 1998; Graen & Cashman, 1975; Liden & Graen, 1980; Liden et al., 1993) is discussed in more detail.

In general, the LMX quality was experienced as being quite good by the interviewees. This notion is also supported by the quantitative analysis (see Table 27). The following statements describe typical issues which were related to high LMX quality in the case organisation by the interviewees.

AA: "Well, perhaps it's because you take responsibility of your own work as well, so every time there is some change or something, it's not always the superior who is the guilty person. There are many factors and you understand the job and the work process and, perhaps it's personality as well."

BB: "How it's created... well, it does take some time and what you've heard about the superior, what you think about her, what you think he knows... probably as much as possible about my area as well and... what kinds of characteristics she has and what she thinks is especially important and... what kinds of issues she is focused on. So it really is created in that mutual interaction."

CC: "Well, it's probably... of course perhaps the personality factor, if your biorhythms match and you are not very different from each other, values and all these. That's what it's like in life in general, if you have very different values, because they are always manifest themselves in communication."

DD: "Being able to trust one another, both of us. It's about interaction and communication being simple and stuff. I don't know whether it's old-fashioned thinking but myself I feel that when our team, for instance, you feel like you can discuss things and have an influence yourself, they know that the superior will take them into account if possible. That creates a good relationship. One is of course being accessible."

EE: "Communication is free here, you don't have to feel stressed about it, about how to put your words so that you don't get anything negative. I have communicated really freely without any stress or pressure, so in that sense it's easy to work with her."

FF: ”A functional relationship motivates, which means that there is no friction, which can decrease motivation and energy from working. In a functional relationship between a superior and an employee, they ask if you're interested. And you can tell different things, and having known my superior for a long time, I said that this doesn't belong to a superior-subordinate relationship.”

GG: ”It doesn't have a big significance because I am very self-driven. In the sense that... in the traditional sense I don't need a superior, but if there's some new thing or a difficult thing, then the superior is available, I can consult her and go through things with her. In that case it has significance.”

HH: ” Of course it has significance, if the relationship is good, then you want to make an effort in your work and do your job as well as you can and show your superior that I have done this thing like this and this is how well I did it, that can affect your motivation a lot.”

As seen in the statements, the superior's awareness of the employees' tasks, positive personality traits of the superior, trust, and mutual respect among parties are associated with high LMX quality (cf. Vatanen, 2003; Lee, 2005; Mahsud et al., 2010).

In addition, LMX quality was understood as high due to rather open interaction between the superior and employees, even though the perceptions of the respondents varied in this matter to some extent. According to the interviewees, open interaction contributes to high LMX quality since it allows the employees to understand the superior's opinions and way of thinking. The interviewees experienced that through such interaction the employees also become aware of future plans and investments in the organisation and can commit more to their place of work. This finding is in line with a suggestion by Deluga (1998) that higher-quality LMX exchanges include mutually supportive subordinate-supervisor relationships and have positive outcomes to both partners (see also Cogliser et al., 2009; Dansereau et al., 1975; Dienesch & Liden, 1986; Lee, 2005; Liden & Graen, 1980). Participant FF talked about a crucial positive outcome to employees and the leader in the following way:

” The superior in particular is one who, no matter if she's busy, she always has her door open and you can drop by, she has never told me that I can't come in right now. You can go if you have something to discuss so you can go say it. And when we get these figures, we discuss the measures and then, when you have finished something, you get feedback from the superior, saying 'well done'.”

In addition, in terms of the personality features such as extroversion, agreeableness, emotional stability, and the leader's awareness of employees' tasks and open interaction, the interviewees emphasised mutual trust and common values between the parties as significant characteristics of high LMX quality (cf. Vatanen, 2003; Bernerth et al., 2008). In general, the importance of trust is widely acknowledged in literature as a significant feature of high LMX quality (e.g. Bernerth et al., 2008; Häkkinen, 2012; Graen & Uhl-Bien, 1995; Dansereau et al., 1975; Liden & Graen, 1980). As stated above by participant FF, the high LMX quality and particularly mutual trust in the relationship contributes to the employee investing in the relationship both cognitively and emotionally when the

leader needs support and help. This is in line with an argument by Deluga (1998) that leaders gain in many ways from committed and conscientious followers (cf. Cogliser et al., 2009; Dansereau et al., 1975; Liden & Graen, 1980; Yukl, 2002).

One of the interviews highlighted that follower support needs to be confirmed by the superior. In other words, it is not only the leader who is responsible for the quality of LMX; the follower also has an important role to play in building the quality. It was participant AA who acknowledged the significance of an employee's own behaviour and initiative as being important to high LMX quality, thus according to AA, high LMX quality is not given to employees but it is done together. The following statement highlights participant AA's comment about this issue:

> AA: "It's reciprocal with us, I encourage the immediate superior and support her and she also supports me back and never questions my decisions or my suggestions. So she completely trusts me, and that's a good thing."

Similarly, another participant's (CC) expression illustrates the active role of a follower to the high-quality relationship (I= Interviewer and R= Interviewee):

> *I: "From the point of view of the department, how well has leadership and managerial work succeeded in relation to work organisation?"*

> R: "Being a subordinate to a superior... well, I think it's good if it's a normal situation because we can decide ourselves which jobs we will take, and after that the organisation of those jobs is our responsibility, but of course they give us suggestions at times... like, could you take this, but it works fine like that. But then with sickness leaves, you could say that there's no organisation during those."

As illustrated in the above statements, participants AA and CC acknowledged the significance of an employee's own behaviour and initiative relating to LMX quality (cf. Wayne & Ferris, 1990). In general, the idea of the mutual construction of the high-quality relationship between the leader and the led seemed to be common among the interviewees, they did typically perceive themselves as active participants in the leadership processes. Thus, transformational leadership approach was emphasised in the LMX relationship in the descriptions of interviewees.

Finally, the leader's availability was constructed as being important to the high-quality LMX as brought forth by interviewee BB:

> BB: 'Well, we have a superior who is always available. So... whatever the matter, you have to take care of all sorts of things all the time, I can always find her and I can always… This morning I came in earlier and I knew that she will probably come and I'll go there right away to take care of this thing so I can get it done immediately, and there the superior was who's always there and I think it's an extremely good thing, you don't always have to wait with your issues and they're not left hanging and then you can't proceed. She's very accessible."

Similarly to participant BB's comment about leader availability, participant DD stated, with regard to the same issue:

> DD: ''The superior's job is to support the personnel in their work, so that you can give experiences of success to the employees, and that's how many people are at their best. Of course there are a lot of things related to work but if you can in some way give those opportunities or possibilities, the employees can succeed and they can feel like they have been equally treated and that they know what they are doing."

Below, lower LMX quality (Graen & Cashman, 1975; Deluga, 1998) is discussed in more detail, since some of participants discussed it in their interviews. According to the interviewees, inadequate interaction between the parties contributes to lower LMX quality and does not allow employees to understand their superior's opinions and way of thinking. In addition, interviewees stated that through anticipated planning and better organisation of work, employees would have a better chance of becoming aware of the key goals in the organisation in the future. Thus, they can commit more to exchanges with their superior.

The following statements describe typical issues which were related to lower LMX quality in the case organisation by the interviewees.

> DD: ''My own superior is there on the background of course, giving guidelines and frames and showing the direction, she's certainly important in that sense."

> GG: "The planning and organisation happens sort of after the fact, things come so fast. So there's been a lot of confusion and exploring and that's probably largely related to change. You define yourself and you have to define yourself the competence areas and emphasise them, market yourself."

> HH: "If you think about the superior or how big changes or how many things have to be taken care of. I would say that work organisation could be better when considering the department, for instance. So perhaps the strategies come from above and they come so fast and they are far from the everyday tasks, so I think they could focus better on that, what it actually means in teachers' everyday work."

Summary of the LMX quality findings
To offer an overview of LMX quality, the findings from the first interviews (n=8) are illustrated in Table 25 below.

TABLE 25   Antecedents affecting LMX quality according to interviewees from the first interviews

	Antecedents improving LMX quality	Antecedents deteriorating LMX quality
Follower	Iniative (cf. Colella & Varma, 2001) Own liability Understanding of work processes	Passive behaviour (cf. Vatanen, 2003) Inactive role in relationship
	Trust in the leader (cf. Vidyarthi et al., 2010) Communication between leaders (cf. Tekleab & Taylor, 2003)	Too independent (cf. Bernerth et al., 2008) Lack of leader support (Yukl et al., 2009)
	Commitment to the work (cf. Lee, 2005)	
Leader	Aware of follower´s tasks (cf. Yukl et al., 2009) Availability (cf. Bernerth et al., 2007b)	Unclear guidance for organisational and individual work planning and goal setting
	Particular personal features such as extrovert, agreeableness, emotional stability, awareness of employees´ tasks, willingness to open communication, and values in common with a follower (cf. Mahsud et al., 2010)	Distance to a follower (cf. Schyns et al., 2005) Lack of face-to-face discussions (cf. Yukl et al., 2009) Management perspective on managerial activities (cf. Lee, 2005)
	Encouragement (cf. Lee, 2005)	

In summary, as shown in Table 25, the study participants acknowledged individual differences in their LMX quality and specifically in antecedent factors affecting LMX. Thus, varying factors can contribute to low and high LMX relationships (cf. Deluga, 1998; Cogliser et al., 2009). The antecedents which had a positive effect contributing to the respondents' evaluation of the high-quality relationship in the studied educational organisation are presented in the left-hand column in Table 25.

Most of the participants stated that their LMX quality is positive in nature and affected through such antecedents from the employee's side as one's own initiative, liability, open communication, commitment and feeling of trust. When the leader's behaviour was evaluated, such antecedents as availability, being aware of a follower's tasks, encouragement and common values were crucial. In general, these issues refer to high-level reciprocal exchanges, also known as a mature partnership, in which the exchange is not only related to the reciprocation of favours but also emotions (see Graen & Uhl-Bien, 1995).

However, as shown in the right-hand column in Table 25, the participants also revealed negative antecedent factors that deteriorated their LMX quality. They mentioned that the low LMX quality from the followers' point of view was due to the employees' passive behaviour, their inactive role in the relationship, the lack of support from the leader and carrying out their work in an overly independent way.

Furthermore, the interviewees described antecedents from the viewpoint of the leader that deteriorate LMX quality. Such factors as unclear guidance, lack of presence, lack of face-to-face discussions, and emphasis on a managerial perspective were evaluated to be significant to low LMX quality. The deteriorat-

ing factors are probably related to a stable relationship, where the positive influence of LMX quality is still limited (see Graen & Uhl-Bien, 1995; Liden et al., 1997; Deluga, 1998).

Next, an overview of the relationship of LMX quality to organisational outcomes is illustrated in Table 26 below. Organisational outcomes were based on abductive reasoning and the researcher's interpretation about the findings during the analysis phase.

TABLE 26   Relation of LMX quality to organisational outcomes, according to the interviewees among the first interviews

Relations of LMX quality to outcomes	Examples of description
Work well-being and motivation (cf. Schyns & Wolfram, 2008)	BB: "It (the relationship) is definitely very important for job satisfaction." EE: "It (the relationship) does of course have significance for satisfaction. I'm still coming back to motivation; it's also work motivation in a way."
Work stress (cf. Humphrey et al.,2007)	CC: "You have people working together towards a goal, well, we've probably had people being too flexible with work. But the superior should see the limits in that case, having the energy to work, the superior has an important role to keep it in check."
Self-efficacy (cf. Schyns et al., 2005)	BB: "The superior's role is… the superior is an enabler and a supporter when difficult matters emerge in a team, or personally difficult matters. The superior is someone you can trust so… the superior listens and is present."
Organisational commitment (cf. Eisenberger et al., 2010)	DD: "I think a good superior-subordinate relationship inspires subordinates to do their best towards goals. The superior supports efforts and the feeling that we're all in this together and we're all striving towards the same goals. I think that is important." HH: "Commitment in the sense that you do your work well and will continue to do that and work in the unit and develop both yourself and your unit."
Task performance (cf. Kamdar & van Dyne, 2007)	EE: "In a way, it's the quality of teaching. It (the relationship) does of course have significance, as it's nice to come to work. And in a way, you know that your work is appreciated, they don't just give criticism when something goes wrong - it's not the only thing that is brought up."
Work satisfaction (cf. Erdogan & Enders, 2007)	GG: "I think it (the relationship) works so that I'm able to consult her (the superior) and she is available."

As can been seen in Table 26, the participants revealed that the LMX relationship is connected to organisational outcomes among employees (cf. Liden et al., 1997; Graen & Uhl-Bien, 1995). As perceived by some of the participants, such as BB and EE in Table 26, LMX effects *work well-being*, and a *follower's motivation*. In addition, *work stress* as an outcome can be possible when there is a high workload and lack of support (cf. Humprey et al., 2007).

As highlighted by interviewee BB above, the quality of LMX is related to the *self-efficacy* outcome. It was emphasised that the follower's capacity to cope with challenging tasks increases when there is trust in a leader who supports and helps the follower to conduct his or her duties at the individual and group level (cf. Schyns et al., 2005). Furthermore, some of the participants such as DD and HH acknowledged that the quality of LMX relationship is linked to *organisational commitment*. LMX quality is able to promote the follower's involvement

to work, work goals, and this facilitates individual and organisation level of development (cf. Eisenberger et al., 2010; Dragoni, 2005).

A *task performance* outcome was also perceived by the interviewees, for example EE, to be engaged in LMX quality. The quality of the LMX relationship is said to influence the follower's performance and work behaviours through constructive feedback, one-to-one communication and appreciation of the leader (cf. Kamdar & Van Dyne, 2007; Fix & Sias, 2006).

Lastly, participant GG revealed that the level of *work satisfaction* is related to LMX quality. In other words, the level of support the follower received was dependent on his or her own activities, and the availability and willingness of leader. Thus, the employee who feels supported by their leader, will be most probably be able to enhance the relationship with their leader and be satisfied with the relationship (cf. Erdogan & Enders, 2007).

4.1.2   Longitudinal development of LMX

Next, the discussion turns to the longitudinal development of LMX. Differences in mean scores of LMX based on the conducted survey are presented below. Both the Kolmogorov-Smirnov test for normality and Shapiro-Wilk tests of normality showed that the data set was normally distributed, since in both tests the p-value for the study variables was higher than 0.050. For this reason, the two-tailed t-test was used for the statistical analysis.

Table 27 shows paired-sample t-tests for the LMX study variables between Time 1 and Time 2. Only the participants of the non-experimental group who completed the all sets of the survey were included in the paired-sample t-tests; thirty non-experimental group participants completed the survey research from Time 1 to Time 2. The non-experimental group was selected for the longitudinal analysis as a first group since they present participants who did not experience any intervention during study.

TABLE 27   Paired-sample t-tests for LMX study variables in the non-experimental group (n=30) in Time 1 vs Time 2

Variable	Mean Time 1	Mean Time 2	t-Value	p-Value	s.d.
LMX	3.20	3.25	-0.513	0.612	0.549

Note. n=30. LMX = Leader-member exchange

This analysis was deemed appropriate, given the focus on mean differences at two points in time (Time 1 and Time 2). As shown in Table 27, the sample participants in the study reported no statistical significance in their LMX variables from Time 1 to Time 2. Thus the non-experimental sample group participants demonstrated no significant increase or decrease in their reported scores.

Table 28 shows paired-sample t-tests for the LMX study variables between Time 1 and Time 3 in the non-experimental group. The paired-sample t-tests was conducted only for the sample of participants of the non-experimental group (n=20), who completed the survey in all time periods.

TABLE 28   Paired-sample t-tests for LMX study variables in the non-experimental group (n=20) in Time 1 vs Time 3

Variable	Mean Time 1	Mean Time 3	t-Value	p-Value	s.d.
LMX	3.20	3.02	3.395	0.003	0.429

Note. n=20. LMX = Leader-member exchange

This analysis was deemed appropriate given the focus on mean differences at two points in time (Time 1 and Time 3). As shown in Table 28, the sample group significantly reported their LMX (Time 1 M= 3.20 and Time 3 M= 3.02, t= 3.40, p< 0.003) from Time 1 to Time 3 as being lower, that is, a decrease in the quality of LMX.

The further analysis of reasons for the decrease in LMX mean scores showed that a reduction of scores was partly explained due to changes in the different parts of the LMX-7 scales. Specifically, it was noted that the three different LMX scales which focused on affect, loyalty and personal respect, were diminished substantially from Time 1 to Time 3.

4.2   PsyCap and its development

The following research question marked the start of the second phase of the study results: What is the quality of psychological capital (PsyCap) and how does PsyCap develop over time? The data presented here provides an insight into the participants' quality of PsyCap.

4.2.1   Quality of PsyCap

The first interviews (n=8) conducted were analysed to provide a detailed and versatile picture of the quality of PsyCap in the case organisation. Table 29 below shows the typical example of the theme and its categories from the interviews.

TABLE 29   Examples of the quotations for PsyCap from the first intwerviews

Theme	Categories	Examples of category description
PsyCap	Efficacy	EE: "I have been here several years and I have taught about every topic between birth and death. So perhaps my work methods are now well developed and they are the areas that are the most familiar to me, the areas that I get to teach at the moment. So I'm quite satisfied to be doing what I do. "
	Hope	BB: "I think being goal-oriented is extremely important. I feel that it's important because when I teach some subject, there's the research-based knowledge, all the legislative issues and the student will get this kind of map of those. Because… in working life, there are a lot of things that need to be developed and considered and how we are going to cope in the future and how we are going do to those things."
	Optimism	AA: "Well, probably the superior starts to think… that it's not very good for the subordinate either to start to limit these matters too much… and what happens to the subordinate's development… if they limit their work… so it's definitely essential that… of course you have to be realistic about what you can do. So you just have to take those challenges and start training without fear, because that's where your competence develops… by doing and being involved… so if you want to develop yourself, you have to act. "
	Resilience	HH: "Well, I probably think about those challenging issues a lot and I consider myself a calm person and I ponder on different alternatives. Sometimes when a person has "attacked" me in a situation, I have remained calm. Even though it's an asset being a calm person, even though I do think about those things in my head, it may not show on the outside. Then, on the other hand, I wonder if being calm is a negative thing and what if I'm too calm, sometimes they could be stricter about it and say that this is the issue."

Based on the conducted content analysis from the first interviews, four main categories were investigated to describe the quality of PsyCap. These categories are efficacy, hope, optimism and resilience. Efficacy relates to employees' perceived capability of conducting a broader and more proactive set of duties that extend beyond prescribed technical requirements (Parker, 1998). Hope refers to one's thinking about goal-directed activities which play an important role in attaining positive outcomes (Snyder et al., 1996). Optimism is expecting things to go one's way, and usually optimistic people believe that good rather than bad things will happen to them in a variety of settings (Scheier & Carver, 1985). Finally, resilience is the individual ability to keep going despite setbacks (Wagnild & Young, 1993; Wagnild, 2009).

PsyCap efficacy
Next, the discussion turns particularly to PsyCap efficacy, referring to one's confidence in taking on and putting in the necessary effort to succeed at challenging tasks (Luthans et al., 2007a). Moreover, efficacious individuals have the ability to mobilise the motivation, cognitive resources and practices needed to successfully conduct a specific task within a given work context (Stajkovic & Luthans, 1998a; Luthans et al., 2007a). For example, a view of PsyCap efficacy by one of the participants was as follows:

CC: ''I certainly try to solve those problems, I don't leave them unsolved or leave the situation. You could say that it's mind over matter for me, I'll solve the issue and perhaps I'm quite stubborn until the end, I have been really resilient. And I don't really accept no for an answer, you must find a solution.''

The above statement of participant CC's experienced efficacy describes the elements of individual problem-solving, emotions and perseverant behaviour to perform effectively at work (cf. Bandura, 1993; Parker, 1998). In addition, the statement brings forth the importance of individual self-regulation to self-efficacy. Self-efficacy relates here to self-regulation as the capacity and ability to manage and evaluate one's own behaviour to be able to achieve the specific set goals, as well as self-reflection, which is the capacity and willingness of an individual to examine one's own thoughts and experiences concerning past actions or success as a part of the individual's cognitive processes (see Luthans et al., 2007a). In line with participant CC's comment about self-efficacy, participant AA stated that:

AA: ''My personality is such that when I start something, I don't give up. I've always been like that, I'll do what I've decided to do. I am never a quitter and I never leave things halfway. That's probably a personality trait. If they put me in the forest to cut down trees, I'll cut the whole forest down before I stop because I don't leave things halfway.''

However, limitations in certain circumstances also existed in the participants' experiences of self-efficacy, as the following comment from participant BB highlights. The comment underlines the elements of individual capability, which can be limited in certain circumstances. In other words, the important dimension, that is the level of difficulty a person believes to experience in the achievement of work goals, is from time to time too high (see Stajkovic & Luthans, 1998a ; Luthans et al., 2007a). Therefore, the employee should say that he or she needs support from his or her leader or colleagues now and then. Interviewee BB spoke about the issue in the following way:

BB: ''I would like that when you get these problem-solving situations, you could always think about it together with the superior and when are we going to ease up and how are we going to do it and how are we going to be flexible.''

Similar to participant BB's statement of efficacy, another participant (DD) expressed self-doubt in terms of independently solving challenging issues. Thus, encouragement and support from others such as the leader and colleagues were seen as valuable in order to feel confident in a challenging situation, particularly when a person does not have much prior experience of similar challenges (see Stajkovic & Luthans, 1998a; Luthans et al., 2007a). Interviewee DD spoke about the issue as follows:

DD: ''Difficult matters are difficult matters, that's what you think inside your head many times. But they always feel difficult to me, I don't think it's easy to go and solve some difficult issue, it's not something that goes smoothly or with routine, you always have to encourage yourself each time, how you're going to put it in words to make it better.''

The efficacy statement by participant GG illustrates the elements of individual capacity as being the ability to withstand uncertainty and problems, an increase in the ability to adapt to changes and an enhancement in the ability to be reactive:

> GG: "I used to try to solve problems immediately but nowadays I have learned to take a timeout. I'm very active and I have to do things quickly, but then there are problems that have to be put into a pile, they will take time and now I have to sleep on it for a couple of nights. But if you think about the work I'm doing right now, the problems have to be solved then and there. I try to say at least something about it right away, for instance, if a student asks something."

In line with participant GG's statement of efficacy, participant FF talked about work tasks that can be classified as stressful. The participant felt that these kinds of tasks enhance an individual's degree of certainty about the ability to accomplish each level of difficulty in work, that is, the strength dimension of efficacy (see Luthans et al., 2007a). Participant FF also spoke about how stressful situations can increase efficacy as follows:

> FF: "In the beginning, there's the stress, so… you do get stressed, but it doesn't make me burn out, it's positive stress and you need that to keep your drive. So… I yearn for challenges and I have gotten those in this job."

The interviewees acknowledged individual differences in their PsyCap efficacy. In general, it seems that their levels of efficacy are relatively good. The participants can be highly confident in acting in a teacher role in a class. However, when functioning as a skillful and professional developer in duties other than teaching, specifically in the research and development (R&D) area, every now and then they experience levels of efficacy that are too low to be able to collaborate with individuals from different professional areas compared to their own. New tasks, even in familiar teaching areas, proved to be stressful for some participants from the viewpoint of efficacy when the tasks were new to them. The interviewees also highlighted that they feel most confident in tasks that they have been doing for many years.

To summarise, the participants acknowledged the positive influence of others to their self-efficacy. In other words, when they had an opportunity to discuss and share ideas with the leader and their colleagues, their feeling of efficacy increased and it became easier for them to achieve demanding and challenging work duties and goals. Thus, it seems that social support between the leader and the led as well as among colleagues in the studied organisation acted as a positive resource to an individual when her feeling of individual-level efficacy in a specific area was not high (cf. Hannah et al., 2008). Additionally, the length of an individual's work experience in a particular area seemed to increase her feelings of efficacy (cf. Buckingham & Coffman, 1999).

PsyCap hope
In general, hope as a PsyCap element in the work context is defined as an individual's ability to set realistic but challenging work goals and, when necessary,

redirect paths to the goals in order to succeed (Luthans et al., 2007a). Moreover, hope is a set that is based on the perception of an individual's successful agency containing goal-directed energy and "willpower" in planning the pathways to meet the goals (Snyder et al., 1996). For instance, an extract from the interview with AA highlights a typical idea of how hope takes its form among the respondents:

> AA: "I have always been someone who starts to develop things. I got a diploma for being an innovator. So it's probably natural for me in other things as well, during free time I'm more of a developer and I always get enthusiastic about taking things forward. So I have quite many work goals where I hope to advance them and get something done and... I do have these, yes."

The above statement specifically highlights the fact that the factors of individual willingness, ability and effort to achieve one's own goals in work are perceived as essential among the interviewed employees in terms of hope. Furthermore, the above comment brings forth the employees' engagement in work goals and willingness to find innovative pathways to conduct tasks and accomplish desirable outcomes (cf. Luthans, Norman et al., 2008). In addition, respondent CC stated that challenging yet realistic and not so ambitious goals were significant in terms of hope as follows:

> CC: "My goal is, what I have in my work task plan, is to do the tasks well, and of course I want to do them well. I don't set my goals too high; I have learned that the hard way. I have never set them that high in my life, and not in school either, I have never thought that I need to be excellent."

In practice, almost all of the participants acknowledged that they were rather hopeful employees. Thus, it seems that the employees in this study tended to see themselves as high-hopers and thus the level of hope was experienced as being fairly high among them. The interviewees stated that they set both short-term and long-term goals and the aim of finding various ways to achieve them. However, they also stated that the setting of the goals can be seen as different, depending on who sets the goals. On one hand, some goals are set for employees by their leader. On the other hand, some are defined by the employees themselves. Occasionally, when it was a question of goals set for them, employees found it challenging to understand and accomplish them. This seems to cause a risk to some employees that their experiences of the level of hope turns out to be lower and they begin to show the characteristics of "low-hopers", which can lead to unwillingness to take on extra tasks or responsibilities (see Luthans et al., 2007a).

In particular, the participants expressed that explicitly-set priorities and anticipatory allocation of resources are important to maintain motivation and hopefulness to be able to respond to various work expectations. This kind of leadership behaviour can be interpreted to support employees' capacity to be hopeful employees. In general, the interviews show that employees' experience of a high degree of autonomy in work with the aim of releasing their energy to conduct their work duties effectively seemed to contribute to a high level of

hope. The result is also in line with the suggestions by Luthans et al. (2007a) and Luthans, Norman et al. (2008).

To illustrate more clearly the importance of the explicit goal setting to the hopeful employee, an extract from the discussion about said topic between the researcher and interviewee GG is presented below in order to highlight the general view of the respondents (I= Interviewer and R= Interviewee):

> I: "If we think about working and having goals and being oriented towards the goals, are you goal-oriented in your work?"

> R: " I set goals all the time, every day, every week... well, perhaps the yearly goals are more difficult, I do have them because of the development discussion, so them as well, but perhaps… maybe I could say that 5-year goals are quite difficult to set."

The same participant continued by saying:

> R: "But I'm... and I know how to prioritise because these days you have to, there are so many things so you have to prioritise and set goals every day. And then I have this folder where I have very detailed descriptions of all my courses so… you can't cope these days, you have to learn to do that, but I'm very goal-oriented and I have always been determined, so it's related to my personality."

To sum up, the level of PsyCap hope seems to be rather high among interviewees. In particular, the explicit and reasoned goal setting from the leader's side and the feeling of having enough autonomy in achieving them were regarded as being crucial to hope.

PsyCap optimism
In general, as stated by Luthans et al., (2007a) PsyCap optimism is a responsible and adaptive form of optimism referring to the characteristics of an individual who considers and learns from both positive and negative events. Optimism is linked to an individual's attributional style that explains positive events in terms of her/his personal, permanent and pervasive causes and negative events as external, temporary, and situation-specific factors concerning her/his ability to succeed in work now and in the future. Thus, optimism is based on the reasons and explanations or attributions one uses to describe why certain events occur, whether positive or negative, in terms of temporary elements (Seligman, 1998; Luthans et al., 2007a). The following extracts from interviewee DD explain the typical views of optimism among the respondents:

> DD: ''I think I cope quite well. I have been here for a couple of years, so I have become familiar with these things, what's the deal with this job and the issues have repeated themselves so many times that I've gained some kind of certainty when compared to, for instance, how I was two years back."

> DD: ''And then I also think that I'm able to ask for help when I need it, so if I can't cope with something or I don't understand or I'm unable to do something for some reason, there's always help available. So in my opinion, I'm in good terms with all the employees in our team, so in that sense we can solve problem situations together... or sort out what needs to be sorted out."

Typically, the working environment was perceived by the interviewees in a way that the change and uncertainty were constantly present in their work. Such circumstances seemed to contribute to some similar considerations among the respondents, even if there was some variation in the reactions among participants.

Most of the participants constructed themselves as optimistic employees who are highly capable of working independently and are willing to seek challenges and recognise their accomplishments. However, some of the interviewees viewed the level of their optimism as being somewhat lower. They stated that they did not feel assured in new work responsibilities, particularly research and development (R&D) ones. This finding was somewhat surprising and interesting, since the legislation related to universities of applied sciences in the mid-1990s stated that the universities should carry out research and development that serves education and working life.

However, the participants spoke of feeling afraid of poor performance and doubted whether their skills and chances of succeeding are sufficient in the R&D area. Therefore, they continued to seek certainty in more traditional work responsibilities, specifically teaching. Finally, a few respondents seemed to be slightly pessimistic employees. For instance, they preferred to maintain the steadiness of the current work by explaining that being busy at work and the large amount of tasks were reasons for not participating in development.

To illustrate the profound stance to optimism among the respondents, the discussion between interviewee FF and the researcher is presented below (I= Interviewer and R= Interviewee):

> I: "How trusting are you in your work, what kind of trust do you have in your daily work and tasks… and how you're coping with them?"

> R: "When they told me last autumn that I will get that project, it was really scary and I thought that I couldn't do it. And now I've had this correspondence so... things have been cleared up and I have been able to take care of them, and the fear that I couldn't cope with the project, that has become smaller."

> R: " There are these uncertainty factors coming from the outside, they make me think, how am I going to survive and at what point do I dare to suggest to them that we need an employee for this or something else. So everything is sort of foggy right now, I know that we are doing this thing and we have calculated certain work hours, but what is this exactly about as action?"

> R: " Regarding my own work tasks, I have decided to really make an effort in projects and I have looked into it, so every day I become more interested in it and I look forward to doing it. So I no longer mind being allocated to the project."

> I: "But am I interpreting you correctly that you have a kind of positive attitude even though there will be challenging new issues ahead of you?"

> R: "Yes. And for next year there's teaching and then there's project work. So right now I'm feeling quite good about it, being somewhere between a teacher and a researcher. So it's a little bit like, what am I going to be when I'm big, so I'm still not quite sure and what I'm going to do in the future."

To sum up, the level of the PsyCap optimism seems to be rather high among the interviewees. In particular, the employees' opportunity to work independently, take on challenges and new tasks, having positive expectations with regard to future opportunities and in accomplishing them, were constructed by the interviewees as being essential to optimism. However, risks related to a lower level of optimism seemed to be linked to the experiences of insecurity, specifically in the field of research and development tasks.

PsyCap resilience
In general, PsyCap resilience means an individual's capacity to bounce back from uncertainty, conflict, failure and even positive change and increased responsibility to attain success when beset by problems and adversity (Luthans et al., 2007a). Moreover, resilience focuses on the proactive assessment of risks and personal assets that affect employee outcomes (Luthans, Vogelgesang & Lester, 2006). The following comment by interviewee EE illustrates the perceived resilience among the respondents:

> EE: ''Perhaps I have learned to live in different environments for so long that my whole life is about problem solving. So in a way, perhaps the problems are mostly a challenge for me, I get energy from something being a bit difficult, so if it was too easy, then it wouldn't suit me. So in a way a problem... mostly it's about finding a solution to them, I guess.''

The interviewee continued by saying:

> EE: ''And also feeling like I have to solve this thing, even though it's not necessary, I could just forget about it. But it's just the way it is, things have to be figured out or you have to learn, new computer programs and stuff, I feel like I want to be able to manage them to some extent at least.''

The participants acknowledged that resilience includes an individual's working skills and such psychological strengths as cognitions, emotions and solution-based actions, as also reported in the study by Masten (2001). Moreover, the interviewed employees mostly believed that they had the capability to overcome difficulties and overwhelming tasks and events in work. In addition, their descriptions showed that resilience was viewed as both reactive and proactive in nature. The proactive nature of resilience was referred to as being linked to one's learning and growing process throughout various challenging tasks and problems, as well as one's capacity to manage the challenging situations no matter how many unavoidable setbacks there were or probably would be in the near future. The following comment by interviewee HH illustrates the above-mentioned proactive nature of resilience among the respondents:

> HH: ''I suppose you have to think about work skills at times, and there are different kinds of situations where I think about how I'm acting and doing. I thought it was a really good situation when we had some conflict... perhaps you could call it that... in our work community and people reacted to it in very different ways and I was very quiet in that situation, although I did express my own opinions. Then the next day we returned to the matter and I commented more on those issues.''

The interviewee continued by saying:

> HH: ''Afterwards the superior said that I have an interesting way of acting, that she has noticed it in many situations that I think about things and sleep on it and that's quite often the way I do things. And she's been thinking about how it works, and it's pretty much the common pattern."

On the other hand, the reactive nature of resilience was referred to as being connected to one's coping, surviving and recovering from changes, challenges, uncertainties and difficult phases at work. The following comment by interviewee AA illustrates this reactive characteristic of resilience among the respondents:

> AA: ''The person may be very well trained in management skills but there will always be the person behind the training. If the person has authority by nature and wants to control and order people and count hours and things like that, then, well, it's one thing that I think is the worst part of management."

The interviewee continued by saying:

> AA: " So often they interfere in things, which takes the motivation out of people. Then people start to act so that they only want to hold onto their rights. And they will only do the minimum effort required. And their largest... resources and competence are left unutilised."

Lastly, the same participant stated the following with regard to the reactive nature of resilience:

> AA: "So there are many sides to this. The superior can let people act quite freely. Decide your own working hours and do what you want, and then people will actually do more than you would expect of them. So how could we utilise that competence here as well… you should only be a coach."

The following discussion between interviewee DD and the researcher illustrates the key characteristics of resilience among the respondents (I= Interviewer and R= Interviewee):

> *I: "What is your experience of... how this kind of thing is manifested, on the level of persons, how trusting people are in their work, in their goals, what they do or how they cope in problem solving situations and so on. What is your view on that?"*

> R: " Well, of course in a small company such as this, our department is so, there are many opinions and many methods and many kinds of skills, there is no one single way. But mostly I think people are enthusiastic about their work and they like doing it and they take on challenges and they know where they are headed and try to act accordingly, so that's the main trend."

The same participant continued by saying:

> R: "And of course there is always the fact that some people accept the task much quicker and start working and going in that direction, whereas others put the brakes on and get involved maybe a bit later. This is how it always is and with personnel of this size, you can see these difficult ones, or their way of doing things differently."

Lastly, the same participant stated the following in relation to resilience:

> R: " People have different personalities and their own personalities and they act accordingly, and of course there's a quite wide age scale in the department so that has an effect and it's a benefit as well. It affects how you get inspired by things, how you react to new things, how you start to make them your own and how you start acting in that direction."

Finally, some interviewees mentioned the effect of leadership to be of significance to the experienced level of resilience. It was presented that transactional leadership behaviour is negative to employees' thinking and behaviour in relation to resilience. However, transformational leadership behaviour and specifically open communication and active interaction between the leader and the led are positively related to employees' experiences of resilience. The connection of resilience to leadership behaviour has also been mentioned in the study by Harland et al. (2005).

To summarise, the participants seemed to have adequate capacity to recover from setbacks, thus the level of their PsyCap resilience was rather high among them. In particular, the resilience characteristics were not restricted only to managing and tackling, but also to learning and anticipating, which were constructed by the interviewees as being essential capacities of resilience.

4.2.2 Longitudinal development of PsyCap

Next, the discussion turns to the longitudinal development of PsyCap. Differences in the mean scores of PsyCap based on the conducted survey are presented in Table 30. Both the Kolmogorov-Smirnov test of normality and Shapiro-Wilk tests of normality showed that the data set was normally distributed, since in both tests the p-value for the study variables was higher than 0.050. For this reason, the two-tailed t-test was used for statistical analysis.

The table shows paired-sample t-tests for the PsyCap study variables between Time 1 and Time 2. The overall picture of PsyCap was constituted by calculating it as an average from each of four PsyCap dimensions. Only the participants of the non-experimental group who completed the all sets of the survey were included in the paired-sample t-tests; thirty non-experimental group participants completed the survey research from Time 1 to Time 2. The non-experimental group was selected for the longitudinal analysis as a group, since they present the participants who did not experience any intervention during the study.

TABLE 30   Paired-sample t-tests for PsyCap study variables in the non-experimental group (n=30) in Time 1 and Time 2

Variable	Mean Time 1	Mean Time 2	t-Value	p-Value	s.d.
PsyCap Efficacy	4.29	4.34	-0.708	0.484	-0.429
PsyCap Hope	4.32	4.29	1.126	0.270	-0.448
PsyCap Resilience	3.98	3.88	1.780	0.860	-0.314
PsyCap Optimism	3.20	3.12	1.471	0.152	-0.310
PsyCap Overall	3.95	3.90	1.105	0.278	-0.249

Note. n=30. PsyCap = Psychological capital, LMX = Leader-member exchange

This analysis was deemed appropriate given the focus on the mean differences at two points in time (Time 1 and Time 2). As shown in Table 30, the sample participants in the study reported no statistical significance in their PsyCap variables from Time 1 to Time 2. Thus, the non-experimental sample group participants demonstrated no significant increase or decrease in their reported scores.

Table 31 shows paired-sample t-tests for the PsyCap study variables between Time 1 and Time 3 in the non-experimental group. The paired-sample t-tests was conducted only for the sample of participants of the non-experimental group (n=20), who completed the survey in all time periods.

TABLE 31   Paired-sample t-tests for PsyCap study variables in the non-experimental group (n=20) in Time 1 and Time 3

Variable	Mean Time 1	Mean Time 3	t-Value	p-Value	s.d.
PsyCap Efficacy	4.29	4.24	0.694	0.496	-0.375
PsyCap Hope	4.32	4.19	3.156	0.005	-0.248
PsyCap Resilience	3.98	3.79	2.868	0.010	-0.272
PsyCap Optimism	3.20	3.14	0.954	0.352	-0.312
PsyCap Overall	3.95	3.84	3.100	0.006	0.168

Note. n=20. PsyCap = Psychological capital, LMX = Leader-member exchange

This analysis was deemed appropriate, given the focus on the mean differences at two points in time (Time 1 and Time 3). As shown in Table 31, the sample group significantly reported their PsyCap Hope (Time 1 M= 4.32 and Time 3 M= 4.19, t= 3.16, p< 0.005), and Resilience (Time 1 M= 3.98 and Time 3 M= 3.79, t= 2.87, p< 0.010) from Time 1 to Time 3 as being lower, hence the decrease in these two variables. In addition, the sample group significantly reported their PsyCap Overall (Time 1 M= 3.95 and Time 3 M= 3.84, t= 3.10, p< 0.006) from Time 1 to Time 3 as being lower, hence the decrease in the overall PsyCap quality. Consequently, the decrease in the overall PsyCap quality among the respondents is based on the significant decrease in the categories of hope and resilience.

4.3   The relationship between LMX and PsyCap

The third research question set is now addressed: Is there a relationship between leader–member exchange and psychological capital? If there is, what kind of relationship is it?

4.3.1   Descriptives

To better understand the relationship between LMX and PsyCap, the following results from the survey are presented. Table 32 shows descriptive statistics and zero-order correlations for the full study sample (n=58) and variables at Time 1.

TABLE 32   Means, standard deviations and correlations among the full sample (n=58) of study variables at Time 1

Variable	M	SD	1	2	3	4	5	6	7	8	9
1. Follower age	47.8	9.70									
2. Follower sex	0.86	0.35	-0.06								
3. Follower tenure	3.04	4.19	0.21	-0.09							
4. Organisation tenure	8.14	5.38	0.71*	-0.01	0.34**						
5. PsyCap Efficacy	4.24	0.45	-0.08	0.16	0.03	-0.05					
6. PsyCap Hope	4.18	0.49	0.06	0.14	-0.09	-0.05	0.58**				
7. PsyCap Resilience	3.95	0.35	-0.05	0.08	-0.16	-0.11	0.46**	0.60**			
8. PsyCap Optimism	3.17	0.32	0.00	0.07	-0.07	-0.19	0.29*	0.52**	0.54**		
9. PsyCap Overall	3.88	0.32	-0.02	0.15	-0.09	-0.12	0.78**	0.88**	0.80**	0.70**	
10. LMX	3.29	0.58	0.09	0.01	-0.06	-0.05	0.15	0.27*	0.39**	0.42**	0.36**

Note. n=58. For Sex: 0= male, 1= female.
*p < .05 (two-tailed).
**p < .01 (two-tailed).

As shown in Table 32, LMX quality was positively related to employee PsyCap Hope, Resilience, Optimism and Overall. However, there is no statistically significant connection between LMX and efficacy. Besides, many of the PsyCap dimensions were inter-correlated with each other. In addition, from the background factors the organisation tenure was positively correlated to employee age and follower tenure, meaning that older employees have worked longer both in the case organisation and with the same leader.

4.3.2   The relationship between pairs of variables and predictions

Two separate hierarchical regression analyses was conducted in order to evaluate the independent effects of the study variables on LMX for the full study sample (n=58). LMX was regressed onto the PsyCap variables. Three models were applied, the first one examining the overall PsyCap construct, the second one considering four dimensions of PsyCap components (Efficacy, Hope, Resilience, Optimism) and the last one examining control variables (age, gender, fol-

lower tenure, organisation tenure) into step 2 of a regression model. Table 33 shows the results of each phase of the regression analysis at Time 1 for LMX.

TABLE 33   Results of hierarchical regression analysis for leader-member exchange (LMX) among full sample (n=58) at Time 1

	Step 1		Step 2	
LMX	ß	t	ß	t
Analysis 1				
PsyCap Overall	0.36	2.91**	0.35	2.71
Age			0.20	1.01
Gender			-0.04	-0.27
Follower tenure			-0.03	-0.18
Organisation tenure			-0.14	-0.71
R^2	0.13		0.15	
F	8.46**		1.88	
Analysis 2				
PsyCap Efficacy	-0.06	-0.38	-0.04	-0.22
PsyCap Hope	0.00	0.01	-0.02	-0.12
PsyCap Resilience	0.25	1.49	0.25	1.48
PsyCap Optimism	0.31	2.01*	0.29	1.81[†]
Age			0.15	0.80
Gender			-0.02	-0.13
Follower tenure			-0.01	-0.05
Organisation tenure			-0.07	-0.36
R^2	0.22		0.23	
F	3.65*		1.81[†]	

Note. n=58. PsyCap = Psychological capital, LMX = Leader-member exchange.

*p < .05, **p < .01, [†]significant at the level 0.10.

As can be seen in the upper part of Table 33, the PsyCap overall variable significantly predicted LMX in the first phase of the analysis (F=8.46, p< 0.01) and accounted for 13% of the variability in employee-rated LMX. In the second step, it was entered for all four control variables (age, gender, follower tenure, organisation tenure). The control variables did not explain the increased variance in employee-rated LMX.

    The lower part of Table 33 shows the regression findings for the four individual states of positive psychological capital. The combination of PsyCap efficacy, hope, resilience and optimism significantly predicted LMX in the first phase of the analysis (F=3.65, p< 0.05) and they accounted for 22% of the variability in employee-rated performance. In addition, the one significant individual predictor was PsyCap optimism (β=.31, p< 0.05). During the step two analysis, the combination of PsyCap elements and control variables almost significantly predicted LMX (F=1.80, p< 0.10) and they accounted for 23% of the variability in employee-rated performance. In addition, at this phase of the analysis, the one almost significant individual predictor was PsyCap optimism (β=.29, p< 0.10).

An additional round of hierarchical regression analyses were conducted to further test the relationships, and the PsyCap variables were regressed to LMX. Each PsyCap variable in turn was used as the criterion and LMX was entered in the steps of the analysis. In the second step, it was entered for all four control variables (age, gender, follower tenure, organisation tenure). The LMX (β=.27, p< 0.05) variable significantly predicted PsyCap hope in the first phase of the analysis (F=4.54, p< 0.05) and accounted for 8% of the variability in employee-rated hope. In addition, the LMX (β=.38, p< 0.01) variable significantly predicted PsyCap resilience in the first step of the analysis (F=9.77, p< 0.01) and accounted for 15% of the variability in employee-rated resilience.

Furthermore, the LMX (β=.42, p< 0.001) variable significantly predicted PsyCap optimism in the first step of the analysis (F=12.21, p< 0.001) and accounted for 18% of the variability in employee-rated optimism. The control variables in the second step, did not explain the increased variance in the employee-rated PsyCap variables presented above. In addition, the LMX variable did not explain the increased variance in employee-rated PsyCap efficacy in the first phase of the analysis.

However, during the step two analysis, the combination of LMX and control variables significantly predicted PsyCap optimism (F=3.10, p< 0.05) and they accounted for 23% of the variability in employee-rated PsyCap optimism. In addition, at this phase of the analysis, the one significant individual predictor was LMX (β=.39, p< 0.01). During the step two analysis, the combination of LMX and control variables almost significantly predicted PsyCap resilience (F=2.20, p< 0.10) and they accounted for 18% of the variability in employee-rated PsyCap resilience. In addition, at this second phase of the analysis, the one significant individual predictor was LMX (β=.38, p< 0.01).

In summary, according to the statistical analysis, LMX and PsyCap are linked to each other and specifically LMX is connected to the PsyCap overall and the combination of PsyCap dimensions. In other words, there is a contribution from PsyCap to LMX quality, and vice versa. Finally, these results are supported also by the in-depth interviews in which the participants noticed that the LMX relationship can impact on an individual's positive psychological resources.

4.3.3 Findings on the relationship between LMX and PsyCap

To make the link between LMX and PsyCap more transparent and visible, the findings on this relationship are highlighted through the qualitative data collected as in-depth interviews with the treatment group participants, as well as open-ended questions in the survey research.

In-depth interviews
The first round of in-depth interviews were investigated to provide a detailed and versatile picture of the nature of the relationship between LMX and PsyCap.

All interviewees acknowledged that the workable LMX relationship impacts on an individual's positive psychological resources. The interviews revealed that LMX quality is able to either increase or decrease the follower's psychological capital, as also reported by Murphy & Ensher (1999). As perceived by some participants, the way LMX leads to positive psychological capital is through joint effort between the follower and leader who are willing to apply their work experience constructively. Thus, this interaction enables the enhancement of work-related outcomes such as well-being and commitment. Furthermore, participants' idea of a mutual development and reciprocal exchanges between the leader and the follower is constructed as having an important role on the effects of leadership. Thus, this LMX role is to promote the follower's characteristics of PsyCap, that is, for example, optimism and hope (cf. Yammarino et al., 2008).

The following statements describe typical issues of leadership behaviour and the quality of LMX that impacted on employees' *PsyCap efficacy* according to the interviewees.

> BB: "I think that leadership is good here in the sense that we know what we have to do, and also in the way that matters have to be taken forward according to certain guidelines. And then always… the superior is forgiving in the sense that if I don't have time to do something, she will always wait and let me do it at my own convenience."

> EE: "The motivation comes from the fact that the superior appreciates everybody's expertise and competence and highlights them, and probably also acknowledgement - we get that at times – acknowledgement for the work you've done, that's of course important in motivation. And then she's also encouraging, even though there are difficult issues, she's always involved in those cases."

These quotes expose the fact that LMX relationship is able to influence an individual's confidence and motivation to use necessary input to succeed in their working tasks. These statements highlight the ways through which leaders can have a positive mobilising effect on their followers' cognitive resources. This means that what the leader says to the employee and how the leader behaves in various situations in work influences the follower's self-evaluation and efficacy (cf. Luthans et al., 2007a). However, as presented earlier, this dissertation study did not find any statistical relationship between efficacy and LMX. These differences between quantitative and qualitative findings could be partly due to the reason that some followers perceived themselves as efficacious over the broad range of both transactional and transformational leadership characteristics of the LMX relationship.

On the other hand, the other followers might only partly use their potential capacity for efficacy by limiting their efficacy to either the transactional or transformational leadership component of leader-member exchange (cf. Hannah et al., 2008). Furthermore, followers' self-efficacy relation to LMX may vary as a result of the quality of their relationship with their superiors over time (cf. Murphy & Ensher, 1999).

Next, statements of typical issues of leadership are presented to describe its influence on employees' *PsyCap hope* among the interviewees.

> AA: "Of course it's part of good manners that the superior is aware of how you work and what your goals are, what you are doing, and communicating them. I talked about reciprocity; I think it's a collaborational relationship. And I expect the superior to be, if I go in the wrong direction, the superior will also say that let's do it like this and this, now you've perhaps gone in the wrong direction."

> DD: " But I do think that all in all, matters have been organised quite well and work and tasks have been distributed, responsibility areas have been clarified and who is responsible for what. So nearly everyone here has something they are responsible for, and most people have many areas of responsibility."

> EE: "Perhaps the main thing is that [the superior] can manage the big picture, she knows where we are going, what is happening on the upper levels and how to communicate things to the personnel as well, so that the personnel will also be on top of things. And to clarify the roles to the personnel, what is expected from each employee, but also to listen to their wishes and ask their opinion, we're talking about a community of experts after all."

> GG: "Through discussion and then, in a way, we discuss what we can do together and we'll set goals, for instance, what are we going to do together. And then what you [the employee] need more or what you need to compensate your weaknesses. And she [the superior] does evaluate my skills."

These extracts above show that followers emphasise the importance of the role of the leader to effectively plan, manage and control individual and organisational-level goals. Furthermore, the statements stress the issue that superiors are able to take full advantage of followers' capacity and skills in order to inspire and enhance them to set goals and reach them successfully. These statements highlight the ways through which leaders have a positive impact on followers' independent thinking and autonomy, and it seems that followers are intrinsically hopeful that they will achieve their work goals.

The following statements describe typical issues of leadership behaviour and the quality of LMX that impacted on employees' *PsyCap optimism*, according to the interviewees.

> AA: "The superior can have influence by trusting the employee, listening and giving encouragement and motivation, being able to find the resources from that person. Somehow I've noticed that when you give responsibility to a person, they… take the responsibility. By controlling you can't get anything done."

> DD: "Well, of course my superior gets enthusiastic about things very easily, especially new things and viewpoints, so on one hand the enthusiasm is contagious, and so is lack of enthusiasm. But if I were to suggest something, that I've been thinking that I could do this new thing or do it in a new way or so on. If there is no justified reason not to get excited about it, then she [superior] will say in a positive manner: 'yes, you can try that, go ahead and do it'."

> FF: "And then interaction skills… that the superior can listen and knows how to capture the relevant points from discussions, like 'could we look at this from this point of view'. But then also being able to see the positive sides and knowing how to turn it to another direction, to include another point of view."

These quotes relating to optimism expose the fact that leadership behaviour is able to influence followers' trust, their enthusiasm to engage in their tasks and to have positive expectations to conduct them successfully. These statements highlight the interaction through which the leadership can have a positive impact on individual's understanding to see new opportunities for accomplishing their duties. Furthermore, descriptions show that collaboration with the leader enables and empowers followers to make personal and pervasive actions of their own (cf. Luthans et al., 2007a).

Lastly, the statements of typical issues of leadership are presented to describe its influence on employees' *PsyCap resilience* among the interviewees.

> BB: "But sometimes we get this kind of flogging mentality, somehow you get the feeling that you have to tighten the screws further or increase your pace even more. Sometimes I feel like young people don't feel like that, but myself, as I get older, I sometimes feel like I get tired, thinking that could we just do our work in peace for a change."

> CC: "Well, I guess I could develop my skills, I could listen more. I mean, of course I do listen, but then perhaps I should also see the leadership's point of view. I'm quite eager to give my own opinions and I bring them forth, but if I don't accept what's happening, then… I don't easily change my opinions. So perhaps I could improve there, but the leadership culture should be different; no commands and orders."

> DD: " It's probably a bit of an eternal question, you solve one thing and then another one comes up, and then you think, how I am going to solve this one then. So I think we should have certain responsibility areas according to areas of competence, responsibility areas and responsible persons for them, so in that regard I think it works here… I think quite well."

> FF: "Well, I am responsible for two areas, I have had quite a lot of influence on what I do and who are doing it. So my work has been such that it changes by the minute… of course it's like that for everyone during the whole semester, but we get these transitions at times, so sometimes that feels really stressful. The superior has asked about that, whether I want to leave and whether it's possible, and then the problem is always about the change happening during the semester and then there's the issue of who will get the rest of the tasks. But doing together, that's perhaps the message there, now they try to control it beforehand."

> HH:" Well, probably the superior being present, and I don't mean being always in her office. But when there are matters to discuss, I can always get in touch with her and even if time is short, we can discuss the relevant issues so that I can go on with my work. And the superior listens, gives feedback, gives responsibility and freedom to act."

These extracts of resilience above show that followers emphasise the importance of the role of leader to entrust, encourage and reinforce followers to use their energy and resources to engender challenging work performance. Furthermore, the statements stress the issue that interaction and effective communication with the superior is able to create more meaning and confidence in the follower's work (cf. Luthans et al., 2007a). Thus, by supporting followers to give their opinions and perspectives, leadership is enhancing the self-awareness of followers, which can positively influence on individual resilience. Finally, these descriptions highlight the delegation as a way through which the leaders have a

positive impact on followers' responsibility and being in charge of difficult issues now and in the near future.

Open-ended questions in the survey
Responses to the questions provide a general idea about the typical contents in the non-experimental group. Thus, the different statements provided during the survey in Time 1 highlight the issue. In general, all respondents underlined an affirmative link between LMX and individual psychological characteristics as mentioned in the comments from the interviewees:

> XX:" Trust and feedback for work are important and having the feeling as a subordinate that you are getting heard, even if things do not always happen like the employee would have wanted. In a team, openness and honesty are essential factors, as well as the will as a team to build together, that has been partly realised in my own team. I would highlight trust, respect and honesty in particular as elements that build a work community, but I would hope that the action was more transparent and understandable."

This statement from participant XX refers to the relationship between *self-efficacy* and LMX. Specifically, it describes the elements of individual confidence, motivation and using joint cognitive resources, particularly work group and context.

> ZZ:" I feel that I'm respected in my own area, both by the superior and team members. It is important to me that co-workers who are not in the same area have skills so that I can ask them for help with a computer, for instance. I think I have developed in many areas in my work with the help and motivation of my current superior."

> KK:"The functionality and initiative of the team is largely due to a management style that is involving and that gives enough freedom."

These two descriptions provided by participants ZZ and KK emphasise the influence of trust, appreciation and own initiative, present in the collaboration between leader and follower. Moreover, these individual characteristics indicates *PsyCap optimism*, which highlight the elements of individual responsibility of followers' own duties and welcoming challenges with optimism.

> PP:"It is important for motivation that the superior treats all employees equal and that would help the employees to do their part and be goal-oriented to reach common goals."

This statement from participant PP refers to the relationship between *hope* and LMX. Specifically, it describes the elements of equal leader-follower relationships among team and individual capacity for setting goals and then accomplishing them.

> JJ: "In addition to the superior-subordinate relationship, you should pay attention to using the independent expertise of employees and teams and to internal entrepreneurship."

The last statement by participant JJ indicates *resilience*. Specifically, the statement illustrates the elements of individual capacity to withstand uncertainty, problems, increased responsibility, and enhance the ability of the employee to be reactive and proactive in her/his leader-follower relationship.

4.4 Organisation Development intervention into LMX and PsyCap

The fourth research question leads us to the final stage of the study results: How does an organisational development (OD) intervention influence employees' leader–member exchange and psychological capital? The data presented here provides an insight into the participants' understanding about the OD intervention series and its effects.

4.4.1 LMX and PsyCap differences in mean scores

Now the discussion turns to the longitudinal influence of OD intervention. Survey findings from the OD intervention on LMX and PsyCap are presented below. Both the Kolmogorov-Smirnov test of normality and Shapiro-Wilk tests of normality showed that the data set was normally distributed, since in both tests the p-value of the study variable was higher than 0.050 among the groups. For this reason, the two-tailed t-test was used for the statistical analysis. Only the participants of the treatment and control groups who completed the all sets of the survey were included in the paired-sample t-tests.

Results from interventions from Time 1 to Time 2 for the treatment (n=10) and control (n=10) groups are shown in Table 34.

TABLE 34   Paired-sample t-tests for all study variables in the treatment (n=10) and control groups (n=10); Time 1 vs Time 2

Variable	Mean Time 1	Mean Time 2	t-Value	p-Value	s.d.
PsyCap Efficacy, treatment	4.33	4.58	-2.76	0.022	-0.285
PsyCap Efficacy, control	4.28	4.28	0.00	1.000	-0.593
PsyCap Hope, treatment	4.28	4.47	-2.18	0.057	-0.275
PsyCap Hope, control	4.36	4.23	1.40	0.196	-0.286
PsyCap Resilience, treatment	4.12	4.03	0.96	0.363	-0.274
PsyCap Resilience, control	3.97	3.79	1.81	0.104	-0.302
PsyCap Optimism, treatment	3.30	3.42	-0.98	0.354	-0.377
PsyCap Optimism, control	3.25	3.15	1.24	0.248	-0.264
PsyCap Overall, treatment	4.00	4.19	-2.31	0.046	-0.239
PsyCap Overall, control	3.96	3.87	1.24	0.245	-0.234
LMX, treatment	3.90	4.24	-2.31	0.046	-0.472
LMX, control	3.08	3.01	0.28	0.783	-0.636

Note:n=10. PsyCap = Psychological capital, LMX = Leader-member exchange

The findings showed that the treatment group reported statistical significance in their Psychological Capital Overall (Time 1 M= 4.00 and Time 2 M= 4.19, t= -2.31, p< 0.046), and Efficacy (Time 1 M= 4.33 and Time 2 M= 4.58, t= -2.76, p< 0.022) from Time 1 to Time 2 was higher (that is, an increase). In addition, the treatment group significantly reported that their LMX (Time 1 M= 3.90 and Time 2 M= 4.24, t= -2.31, p< 0.046) from Time 1 to Time 2 was higher (that is, an increase). Besides, participants in the treatment group almost significantly reported their Psychological Capital Hope (Time 1 M= 4.28 and Time 2 M= 4.67, t= -2,18, p< 0.057) from Time 1 to Time 2 as being higher. Instead, the control group participants who did not receive any special intervention demonstrated no statistically significant increase or decrease in their reported scores.

Results of the intervention from Time 1 to Time 3 for the treatment (n=10) and control (n=10) groups are presented in Table 35.

TABLE 35   Paired-sample t-tests for all study variables in the treatment (n=10) and control groups (n=10); Time 1 vs Time 3

Variable	Mean Time 1	Mean Time 3	t-Value	p-Value	s.d.
PsyCap Efficacy, treatment	4.33	4.57	-2.26	0.050	-0.325
PsyCap Efficacy, control	4.28	4.13	1.03	0.331	-0.461
PsyCap Hope, treatment	4.28	4.32	-0.35	0.738	-0.397
PsyCap Hope, control	4.36	4.21	3.48	0.007	-0.136
PsyCap Resilience, treatment	4.12	4.03	0.70	0.504	-0.378
PsyCap Resilience, control	3.97	3.85	1.56	0.153	-0.236
PsyCap Optimism, treatment	3.30	3.28	0.20	0.847	-0.265
PsyCap Optimism, control	3.25	3.13	1.41	0.191	-0.261
PsyCap Overall, treatment	4.00	4.10	-1.18	0.269	-0.227
PsyCap Overall, control	3.96	3.83	2.62	0.028	-0.155
LMX, treatment	3.90	3.93	-0.26	0.804	-0.412
LMX, control	3.08	2.80	1.00	0.346	-0.649

Note:n=10. PsyCap = Psychological capital, LMX = Leader-member exchange

The sample participants in the treatment group statistically significantly reported that their Psychological Capital efficacy from Time 1 to Time 3 was higher (Time 1 M= 4.33 and Time 3 M=4.57, t= -2.26, p< 0.050). The sample participants in the treatment group reported no statistical significance in terms of their other variables from Time 1 to Time 3. However, participants in the control group almost significantly reported their Psychological Capital Hope (Time 1 M= 4.36 and Time 3 M= 4.21, t=3.48, p< 0.007) and Psychological Capital Overall (Time 1 M=3.96 and Time 3 M=3.83, t= 2.62, p< 0.028) from Time 1 to Time 3 as being lower (that is, the decrease).

Effects of OD intervention
In order to investigate how the treatment group (n=10) participants' self-reported levels of LMX and PsyCap changed after the OD intervention series, as opposed to their level prior to the intervention series, a paired-sampled t-test was used for LMX and PsyCap (see Table 36 below).

TABLE 36   Paired-sample t-tests individual ratings for LMX and PsyCap at Time 1 and Time 2 in the treatment group (n=10)

Variable	M difference	t-Value	p-Value
PsyCap Efficacy T2-T1	0.25	2.76	0.022
PsyCap Hope T2-T1	0.19	2.18	0.057
PsyCap Resilience T2-T1	-0.08	-0.96	0.363
PsyCap Optimism T2-T1	0.12	0.98	0.354
PsyCap Overall T2-T1	0.19	2.24	0.056
LMX T2-T1	0.34	2.31	0.046

Note. n=10. PsyCap = Psychological capital, LMX = Leader-member exchange
T1= Time 1, T2= Time 2.

Analysis tested the significance of the difference between the self-reported measures between Time 1 and Time 2. In Table 36, it is shown that a significant mean difference on PsyCap efficacy (Mdifference= 0.25, p<0.022) and LMX (Mdifference =0.34, p< 0.046) was found between T1 and T2. In addition, an almost significant mean difference was found in terms of PsyCap hope (Mdifference =0.19, p< 0.057), and PsyCap overall (Mdifference =0.19, p<0.056).

Difference in Differences analysis of LMX and PsyCap
In order to compare the difference in outcomes before and after the intervention for the treatment group compared to the difference for control group, the Difference in Differences (DD) estimation was used for LMX and PsyCap (see Table 37 below). In addition, the aim of this DD analysis is to examine the impact of common group/time effects.

TABLE 37　　　Difference in Differences analysis of PsyCap and LMX in the treatment (n=10) and control (n=10) groups

Variable	Time 1	Time 2	Time difference in group	DD
PsyCap Efficacy, treatment	4.33 (0.13)	4.58 (0.13)	0.25 (0.09)	
PsyCap Efficacy, control	4.28 (0.16)	4.28 (0.12)	0.00 (0.19)	
Group difference in time	0.05 (0.20)	0.30 (0.20)		
Difference in Differences (DD)				0.25 (0.27)
PsyCap Hope, treatment	4.28 (0.14)	4.47 (0.13)	0.19 (0.09)	
PsyCap Hope, control	4.36 (0.05)	4.23 (0.12)	-0.13 (0.09)	
Group difference in time	-0.08 (0.17)	0.24 (0.21)		
Difference in Differences (DD)				0.32 (0.23)
PsyCap Resilience, treatment	4.12 (0.08)	4.03 (0.06)	-0.09 (0.08)	
PsyCap Resilience, control	3.97 (0.08)	3.79 (0.08)	-0.18 (0.10)	
Group difference in time	0.15 (0.09)	0.24 (0.10)		
Difference in Differences (DD)				0.09 (0.14)
PsyCap Optimism, treatment	3.30 (0.10)	3.42 (0.14)	0.12 (0.12)	
PsyCap Optimism, control	3.25 (0.06)	3.15 (0.09)	-0.10 (0.08)	
Group difference in time	0.05 (0.13)	0.27 (0.20)		
Difference in Differences (DD)				0.22 (0.20)
PsyCap Overall, treatment	4.00 (0.09)	4.19 (0.11)	0.19 (0.08)	
PsyCap Overall, control	3.96 (0.06)	3.87 (0.06)	-0.09 (0.07)	
Group difference in time	0.04 (0.09)	0.31 (0.15)		
Difference in Differences (DD)				0.28 (0.16)
LMX, treatment	3.90 (0.14)	4.24 (0.17)	0.34 (0.15)	
LMX, control	3.08 (0.17)	3.01 (0.20)	-0.07 (0.20)	
Group difference in time	0.82 (0.25)	1.23 (0.33)		
Difference in Differences (DD)				0.40 (0.34)

Note: Standard errors are shown in parentheses.
n=10. PsyCap = Psychological capital, LMX = Leader-member exchange

Table 37 presents the Difference in Differences (DD) analysis of PsyCap and LMX for the treatment (n=10) and control (n=10) groups in their self-reported measures between Time 1 and Time 2. The first area on the upper row of Table 37 shows that PsyCap efficacy for the treatment group rose by 0.25 points between Time 1 and Time 2. At the same time, PsyCap efficacy for the control group remained at approximately the same level. Therefore, the difference in differences rose by 0.25 points. This suggests that the intervention led to a higher level of PsyCap efficacy in the treatment group over this time period.

The second area of the table shows that PsyCap hope for the treatment group rose by 0.19 points between Time 1 and Time 2. At the same time PsyCap hope for the control group fell by 0.13 points. Therefore, the Difference in Differences rose by 0.22 points. This suggests that intervention led to a higher level for PsyCap hope in the treatment group over this time period.

The third section of Table 37 shows that PsyCap resilience for the treatment group fell by 0.09 points between Time 1 and Time 2. At the same time PsyCap resilience for the control group also fell by 0.18 points. So the Difference

in Differences rose only by 0.09 points. The fourth section of the table presents that PsyCap optimism for the treatment group rose by 0.12 points between Time 1 and Time 2. At the same time PsyCap optimism for the control group fell by 0.10 points. Therefore, the Difference in Differences rose by 0.22 points. This suggests that intervention led to a higher level of PsyCap optimism in the treatment group over this time period.

The second-to-last area in the table shows that PsyCap Overall for the treatment group rose by 0.19 points between Time 1 and Time 2. At the same time, PsyCap Overall for the control group fell by 0.09 points. Therefore, the Difference in Differences rose by 0.28 points. This suggests that intervention led to a higher level of PsyCap Overall in the treatment group over this time period.

Finally, in the last section of Table 37, it is shown that LMX for the treatment group rose by 0.34 points between Time 1 and Time 2. At the same time, LMX for the control group fell by 0.07 points. Thus, the Difference in Differences rose substantially by 0.41 points. This suggests that intervention led to a higher level of LMX in the treatment group over this time period.

4.4.2 Descriptives of LMX and PsyCap

To further position and better understand the relationship between LMX and PsyCap as well as the stability of those relationships at different times, the following survey results are presented. Table 38 below shows descriptive statistics and zero-order correlations for the treatment group (n=10) and variables at Time 1 and Time 2. Personal LMX quality was positively related to employee Psychological Capital Optimism and Overall at Time 1 in the treatment group. It should be noted that these significant relationships between LMX and PsyCap also existed and remained after the intervention (Time 2). Besides, many of the PsyCap dimensions were inter-correlated with each other.

TABLE 38   Means, standard deviations and intercorrelations among study variables at Time 1 and Time 2 in the treatment group (n=10)

Variable	M	SD	1	2	3	4	5
Time 1							
1. PsyCap Efficacy	4.33	0.27					
2. PsyCap Hope	4.28	0.45	0.50				
3. PsyCap Resilience	4.12	0.25	0.39	0.30			
4. PsyCap Optimism	3.33	0.33	0.13	0.39	0.84**		
5. PsyCap Overall	4.00	0.42	0.73*	0.79**	0.76*	0.71*	
6. LMX	3.90	0.44	0.30	0.52	0.58	0.68*	0.66*
Time 2							
1. PsyCap Efficacy	4.58	0.42					
2. PsyCap Hope	4.47	0.40	0.86**				
3. PsyCap Resilience	4.03	0.19	0.35	0.67*			
4. PsyCap Optimism	3.42	0.43	0.60	0.63	0.60		
5. PsyCap Overall	4.18	0.34	0.76*	0.79**	0.76*	0.90**	
6. LMX	4.24	0.54	0.14	0.23	0.53	0.69*	0.65*

Note. n=10. *p < .05 (two-tailed). **p < .01 (two-tailed).

Instead, in the control group (n=10), most of the correlations between LMX and PsyCap variable on Time 1 with those on Time 2 are not that high, and not significant. Only one significant correlation was found between LMX and PsyCap Hope (r=.78, p< .01) at Time 1 in the control group. These findings somewhat contrast with the correlations between treatment group ratings at Time 1 with those at Time 2, which did show quite high and significant correlations at both measurement points (see Table 39 below).

TABLE 39   Means, standard deviations and intercorrelations among study variables at Time 1 and Time 2 in the control group (n=10)

Variable	M	SD	1	2	3	4	5
Time 1							
1. PsyCap Efficacy	4.28	0.52					
2. PsyCap Hope	4.36	0.17	0.44				
3. PsyCap Resilience	3.97	0.26	0.50	0.62			
4. PsyCap Optimism	3.25	0.18	-0.25	0.18	0.00		
5. PsyCap Overall	3.96	0.20	0.86**	0.74*	0.78*	0.10	
6. LMX	3.08	0.54	0.01	0.78**	0.21	0.54	0.47
Time 2							
1. PsyCap Efficacy	4.28	0.39					
2. PsyCap Hope	4.23	0.37	0.42				
3. PsyCap Resilience	3.79	0.24	0.08	0.19			
4. PsyCap Optimism	3.15	0.30	-0.09	0.42	-0.41		
5. PsyCap Overall	3.87	0.19	0.71*	0.89**	0.30	0.35	
6. LMX	3.01	0.64	-0.26	0.38	0.28	0.11	0.10

Note. n=10. *p < .05 (two-tailed). **p < .01 (two-tailed).

4.4.3 Findings from OD intervention series

Next, the discussion turns particularly to the OD intervention series and the results from the content analysis of the series in the treatment group (n=10) are presented in order to make the data transparent and visible. The results from the OD intervention series' group sessions provided new insights into the characteristics of leadership, teamwork and individual positive psychological resources. Descriptions of these issues from the LMX and PsyCap survey data were enriched by contextually rich accounts of the themes from the OD intervention series. Themes from the series were associated with leadership, individual resources and work-related demands (Set 1); development of psychological resources and well-being and work control (Set 2); development of work planning, competencies of personnel and work ability (Set 3); LMX, communication, and effectiveness in the work community (Set 4); and finally, a follow-up session (Set 5).

OD intervention Set 1
The themes from the first intervention set which were under development were investigated to identify commonalities between them. The three themes were leadership, individual resources and work-related demands.

Leadership theme
The leadership theme dealt specifically with the intervention participants' collaboration with their leader and colleagues. The following extracts highlight the participants' typical perceptions of the issue.

> "Things under my responsibility require more effort than before."

> "It's not the work that makes you tired, it's everything else related to it; challenging interaction relationships, for instance."

> "Spontaneous meetings with the superior are seen as a good thing."

> "What do we actually value in our work?"

> "Dialogue, trust and equality."

> "The work atmosphere has an impact on many people."

In general, the participants recognised a variety of areas in the collaboration. It was emphasised that multiple pressures in work settings in the educational sector require more from the collaboration than before. It is also commonly argued that working life is changing rapidly, and that requires an individual ability to adapt to these changes through reciprocal exchanges (cf. Graen et al., 2006) and individual psychological resources (cf. Manka, 2011). Furthermore, these statements refer to a perspective that there is a different type of relationship that exists between a leader and each group member. In addition, the quality of an

LMX relationship (low, high) can influence performance both at the individual and group level (cf. Liden et al., 2006).

Individual resources theme
In the individual resources theme, participants presented a variety of areas of resources, ranging from recovery from work to the ability to give responsibility of learning to students. Noticeable among these issues was the possibility for the individual to control their own work. One participant said:

> "I can decide myself how I do my work."

Communication and trust in work-related collaboration were also identified as important sources of individual resources by most participants. However, participants noticed that "serving" students too well and using remote workstations were the most burdensome issues in their work.

Consequently, these perceptions show that followers in this group emphasise the importance of autonomy, collaboration and confidence in work. This, in turn, can positively moderate their relationship to the leader and performance (cf. Avey, 2007).

Work-related demands theme
In the work-related demands theme, participants identified work loading without pacing as the most challenging and straining issue in their work. Furthermore, participants described insufficient time, limited control over the work environment, and restricted supportive resources (leadership, allocation of resources) as burdensome things. In addition, participants expressed the dilemma of the "work-family balance", of being "caught in the middle" between job and family, and having difficulty in determining alliances in certain situations. One participant said:

> "My family notices as well that I'm a workaholic."

In general, these interpretations reveal that followers acknowledge quite a lot of challenging issues which have an impact on their duties. However, some of them are dependent on followers' actions and decisions, and others from leader's activities. This situation among the group highlights the importance of using positive individual resources and implementing reciprocal interaction between the leader and the follower, and other members of the group in order to obtain better outcomes in the team (cf. Walumbwa et al., 2011).

OD intervention Set 2
In the second set of interventions, the two themes of psychological resources and well-being, and work control were examined. The goal of this second intervention was that each participant has reached some level of work task management by identifying and integrating personal and group goals.

Psychological resources and job well-being theme
The following extracts highlight the participants' typical perceptions of the psychological resources and job well-being issues.

> "The superior and the close work community have a big role – coping with work."

> "It's a great benefit to work with different groups."

> "Good and empowering experiences from different groups."

> "Tough to work on your own, teamwork is rewarding."

These interpretations emphasise the impact of situational and problem complexity in working life nowadays. They stress the role of combining both individual, dyadic and team-level collaboration and competence in order to manage effectively in one's own duties and professional networks. Thus, if followers and leaders convey positivity in reciprocal leadership actions, it can have a positive impact on their performance (cf. Avey, Reichard et al., 2011).

Furthermore, through joint discussions, participants identified the topics of workload and its coordination in a team.

> "People should have the possibility to influence their workload."

> "Experience has an influence on how you familiarise yourself with new things."

> "Different workloads with the same wage."

> "It's good that everyone has the same workload."

The statements above show that there were differences in responses, since age, job tenure with the leader and work experience varied among group. This, in turn, highlights the significance of how a high-quality leadership approach (for example, LMX) is most probably able to have an effect on follower's activities and well-being when the workload is high (cf. McMurray et al., 2010).

Work control theme
In the work control theme, discussions among participants dealt specifically with subjects such as work versatility, possibility of participation and influence, and receiving social support in the team. The following extracts highlight the participants' typical perceptions of the issues.

> "The work I do now is challenging enough."

> "It's important to take care of the tasks you're given."

> "All different kinds of development needs are taken into account."

> "On the other hand, you can decide yourself when to review exams, for example."

> "The work community offers good social support if you know to ask for it."

These interpretations of the work control theme presented above indirectly emphasise the significance of the combined role of transformational and transactional leadership (that is, LMX) in guiding followers' daily duties. The followers' descriptions above illustrate the psychological empowerment components such as an individual's belief in his or her capability to perform duties, a certain level of autonomy in starting and carrying out actions, and the value of work purpose recognised by the leader (cf. Hackman & Oldham, 1980; Avey, Hughes et al., 2008). Especially, the transformational leadership can be related to empowerment in followers (cf. Masi & Cooke, 2000) and the Psychological Capital Hope construct (cf. Avey, Hughes et al., 2008).

OD intervention Set 3
In the third set, the three investigated themes were work planning, competence of personnel, and work ability. The aim of this third intervention was the development of work planning and management in the work community. Specifically, the goal was that participants recognise the key issues and create an action plan for the development of their working methods at the team level.

Work planning theme
In the work planning theme, participants stated a variety of areas, ranging from short-term work at the individual level to a chance to try out working in pairs. One participant said:

> "We could try working in pairs."

What was noticeable among these issues were the ideas to work more face-face in the future and coordinate better working arrangements during sick leave. In addition, participants identified the importance of developing communication and coordinating various work affairs.

Competence of personnel theme
All participants identified the need to develop an individual briefing system for new employees in the competence of personnel theme. One participant said:

> "In the familiarisation system, you have to decide who takes care of things and how, and you must implement those efficiently."

Furthermore, participants also described the importance of creating a mentoring system in the work unit to support this introduction briefing of new employees.

Work ability theme
In the work ability theme, participants recognised areas such as conflict training in work. One participant said:

> "Training for conflict situations in the work community."

Furthermore, participants emphasised the need to focus on job well-being, arranging the supervision of work, and conducting continuing education for employees' teaching skills in the near future. These were the key issues that were put into the development basket in order to create an action plan for the advancement of the work community.

In general, these statements of work organisation in the above three themes stress the fact that the roles of LMX exchange and co-worker support are key issues in work distribution. In addition, in the group setting, guidance, support, advice and mentoring should be provided both at the group and the individual level (cf. Williams et al., 2009). Participants also stated that as the organisational environment is changing rapidly, these influence their daily duties and competence requirements. Thus, participants acknowledged the need to conduct training such as mentoring or a senior management programme in order to cope with these alterations. As one participant stated:

> "A mentoring model might also be helpful."

This refers to individual psychological capital dimensions, such as resilience and optimism. These programmes play a critical role in improving workers' adaptability and flexibility to changes (cf. Demerouti et al., 2010), for example during sick leave.

OD intervention Set 4
In the fourth set, the three investigated themes were LMX, communication and effectiveness in the work community. The overall aim of this fourth intervention was to clarify and attain the final action plan, including the selected key issues. Specifically, this set aimed to have an impact on the participants' levels of communication and the leader-follower relationship.

LMX theme
The following extracts highlight the typical participant perceptions of the quality of the leader-follower relationship.

> "They should probably take the needs of all employees better into account when working in a work community."

> "The difference between generations is starting to show in the work culture; older employees are more flexible, younger employees act in a somewhat different way."

> "You should make good use of the best experts, but you shouldn't just have somebody else do it."

> "The ability to coordinate tasks in your own work is important to recognise and utilise."

> "Sometimes it feels like people's own urgent tasks are more important than those of others, and they may even state that directly to another colleague."

> "The starting of meetings should be more punctual, I mean, we wait for one person so we can begin the meeting."

These statements of the LMX theme presented above emphasise the significance of teamwork and, on the other hand, the current quality of exchange relationships which each individual has with their supervisor and team members (cf. Liao et al., 2010). These relationships among the group are important, since they have the potential to influence employee duties and work outcomes at the same time. In addition, how the leader or follower builds and accomplishes this relationship varies in terms of quality (cf. Dansereau et al., 1975). Thus, within this work group, there seem to be both a high and lower level quality of the dyadic LMX relationships between the leader and each follower.

In practice, this means that in a high-quality relationship among this group, the leader gives employees more demanding and rewarding work tasks and provides them with greater personal support (cf. Naidoo et al., 2011). On the other hand, in a lower-quality relationship, it seems that the leader allocates more boring work tasks to followers and gives them a lower level of personal support; this relationship is more dependent on the follower's individual efforts and actions (cf. Naidoo et al., 2011; Maslyn and Uhl-Bien 2001).

Communication theme

In the communication theme, participants highlighted the significance of personality dimensions such as extroversion or talkativeness, which can influence the interaction between leader and follower (cf. Nahrgang et al., 2009). Since the nature of reciprocal exchange between leader and follower is social, the communication style plays a major role in the LMX relationship. One participant stated:

> "Do we actually have time in our work to listen or do we just interrupt each other all the time? Is this only about time? No, there are other issues involved."

In this work group, there seems to be both extrovert individuals, who will seek the opportunity to interact with their leader and colleagues, and introvert employees, who are not so keen on social situations (cf. Nahrgang et al., 2009). In addition, participants' expressions emphasise that an individual's use of communication practices can vary over time and across situations (cf. Fairhurst, 1993). As one participant said:

> "Who you are interacting with; a student, colleague, superior or working life partner, it affects how it goes."

In this group, the relationships can be characterised as established and fairly consistent. One participant stated:

> "Giving feedback to others is not really part of daily work, well, positive feedback is given to some extent, but you don't get any negative feedback. It would probably be useful to give that, but provided with arguments."

Thus, in these types of relationships, both parties probably use the communication practices rather constantly or stylistically over time (cf. Fix & Sias, 2006).

Effectiveness in work community theme
In the last phase of the fourth set, participants revealed areas which emphasised work distribution, specifically focusing on work planning and arranging resources based on the expertise of employees. One participant said:

> "Assigning tasks more flexibly. Could we have available tasks visible to everyone?"

Furthermore, participants expressed the need to coordinate various teaching tasks such as practical training, theory and study courses as whole. One participant stated:

> "Assigning practice training, guidance, theoretical teaching, teaching periods and development more equally and openly in relation to each one's own work."

In discussing aspects of job well-being, participants identified the need to systematically promote their well-being in a goal- and community-oriented manner. As one participant said:

> "Promoting work welfare in the community and with goals, and also evaluating it."

Thus, in this work group, there seem to be a sufficient level of LMX quality and communication between leader and followers, which can lead to higher well-being within a group (cf. Sparr & Sonntag, 2008). In addition, participants' interest in this development emphasises individuals' hopeful capability to set realistic goals, which in turn can increase their work well-being at the group level (cf. Youssef, 2004).

Consequently, participants decided to develop an individual briefing system for new employees into the web environment and participants also described the importance of creating a mentoring system at the work unit level. Furthermore, participants agreed to concentrate on the supervision of work, the joint development of job well-being, and finding solutions in work-related conflict situations. They decided that the head of the department should be responsible for leading this work. The supervisor, together with the department personnel, continued this development work during the department's joint development days during autumn 2009.

OD intervention Set 5
During the fifth session in November 2009, the aim was to talk about how things have developed and how changes had been implemented. Participants stated that the group has learned to discuss things in a more fruitful and useful way, even when talking about difficult matters. In addition, they see the Duunitalkoot programme as a potentially helpful method for use in group settings. One participant stated:

"We have learned to discuss better, even difficult issues."

However, some action plan issues were still unfinished, such as the supervision of work and joint group meetings targeting group development and well-being. Thus, the next steps to accomplish these unfinished issues were discussed and decided.

4.4.4 Findings from in-depth interviews

Next, the discussion turns particularly to interventions at the individual and dyadic level. The second round interviews (n=7) were investigated in order to provide a detailed and versatile picture of the influence of OD interventions in the treatment group.

Longitudinal impact of OD interventions on LMX
Findings from the second in-depth interviews are shown in order to evaluate the longitudinal impact of OD interventions on LMX. Thus, the interviewees' typical descriptions of longitudinal influence of OD on LMX are presented next.

> AA: "Regarding the immediate superior… of course, her encouraging attitude has been good all the time, and her development-minded attitude. But this year has been like… it's probably coming from the upper management, so… this secrecy and a top-down, dictating culture… so I have lost my trust somehow. But otherwise in our department, we would definitely be doing very well if we could get this situation corrected among the superiors."

> CC: "Well, I feel like... we could have a little bit and I think that the superior has pressure, she's between a rock and a hard place, and we've discussed this with others as well so… I get the feeling that she's under such enormous pressure, until now we have had, before these latest changes… we've had resources… we've been able to negotiate and discuss."

> DD: "I do feel very strongly that the superior is not satisfied with my work and then of course I feel like I somehow irritate her and I try to stay in the background for the most part, so at least I won't irritate her with my comments or questions. But… it's probably about her view that we are not innovating or developing, our team."

> EE: "Well, interaction is probably, it has remained mostly the same but perhaps her [the superior's] actions in general, perhaps she's gained more of this kind of.. how should I say this… determination, so in a way, she says things more strongly, or when something should be like this, or, earlier it was easy to lead her on, but now she's become determined."

> FF: "It's the same, I think it's been a good thing that you can go to your superior and talk and chat about whatever."

> GG: "We have actually become closer, it's happened… probably coming closer, I can't quite say on what level, perhaps more on an emotional level, or then like… I think."

In general, the study participants acknowledged individual differences in their LMX quality and its change over time during the second interview. This interpretation showed that under the framework of LMX quality, the varying types

(low, high) of LMX relationships appeared between followers and leader (cf. Deluga, 1998). Some participants stated that LMX quality had developed in a positive way over the past year. These statements refer to high-level reciprocal exchanges, or mature partnerships, in which the exchange is not only a return of favours but is also emotional (see Graen & Uhl-Bien, 1995). In addition, this motivates followers to be related to a transformational leadership style of leader, and to create mutual trust (cf. Tierney & Bauer, 1996). Besides, citations demonstrate that followers' job tenure with the leader had deepened during the past year, which has probably had an influence on the creation of a higher-quality LMX during the past year (cf. Maslyn & Uhl-Bien, 2001).

However, some followers felt that a relationship with senior management was undesirable. The reason for this could be that their contact with them has been indirect. Moreover, some participants perceived little control over their relationships with their leader, and some participants found that the LMX quality had remained stable during the past year. This steady development emphasises the role routinisation or acquaintance phase, which means that understanding and mutual expectations are clear between leader and follower, and parties are sharing information at a work level (cf. Graen & Uhl-Bien, 1995; Liden et al., 1997).

Furthermore, participants acknowledged the effect of organisational structure and its governance on LMX quality and its increase or decrease over the past year. OD intervention probably impacted on the leadership process, which, in these descriptions, were likely to relate to stable relationships. However, the incremental influence of LMX quality was still limited (cf. Graen & Uhl-Bien, 1995; Deluga, 1998). During this phase, the quality of LMX was on the periphery of a high-level relationship. However, how the exchange's quality finally progressed from this stage partially depends on the OD intervention, since there was also a chance that this dyad at the LMX higher quality stage might later regress to a lower-quality exchange if the followers, for example, did not have an opportunity to accomplish responsible activities without their leader's supervision or intervention (see Graen & Uhl-Bien, 1995; Bauer & Green, 1996).

Longitudinal impact of OD intervention on PsyCap
Next, findings from the second in-depth interviews (n=7) are shown, in order to evaluate the longitudinal impact of OD intervention on PsyCap. The following statement by interviewee CC describes a typical issue of PsyCap characteristics, which were influenced partly by OD intervention.

> CC: "It's probably.. at times she's [the superior] quite enthusiastic, but then sometimes you get this like.. oh no… still, I'd say that I think it's because of these changes that have happened in this place… she doesn't accept them herself… changes you can't commit to, so that's reflecting to everything else as well… and of course it's like that, if not… of course we should sell the new ideas to subordinates because… otherwise you can't get anything done. And maybe now we've developed into a direction that to us… teachers and staff… it doesn't feel like a good direction to us."

This citation above from participant CC in the second interview emphasises the leaders' and top executives' manners and the extent to which these were able to influence the PsyCap development of a follower's mood or level of hope (cf. Bono & Ilies, 2006). In addition, the citation shows that the follower's job commitment was influenced and changed (that is, decreased) mostly by changes in the organisation and partly by the leader's activities, which shows that PsyCap is a developmental state (cf. Snyder, 1995a; 1995b).

In addition, some of the study participants acknowledged individual differences in their understanding of PsyCap development over time. These interpretations revealed that under the framework of PsyCap overall, varying types (low, high) of relationships can appear between follower and leader, influencing the followers' perceived state of mind (cf. Norman et al., 2010). Participants stated that their positive psychological resources have reflected on their positive outcomes (for example work well-being, better performance, life satisfaction).

> AA: "As a whole, it's been a quite positive year, we've had a lot of work like always. I've probably picked up many things and been active. And if there's some challenging situation, I'll do it, I don't get anxious about it so… but, well, I do make use of skilled persons as well so I don't have to do everything alone, I can discuss with people and try to find help if there are challenges there and situations."

> BB: "Well, it's been rewarding and it's been challenging as well. I would like it so much if we could do things in a new way… we've had as well... we've created different working methods. They're incredibly inspiring and I learn when someone else is doing… then I can soon learn to do it myself so… it feels really nice. "

> GG: "I think that last year it did work really well, the trust, now it's, in this situation it hasn't been very, very good, but trust is usually gained back quite quickly… but it's probably more about the fact that I trust my own skills to solve issues. And this is related to independent working."

This development presented above emphasised the importance of work-related resourses which influence the follower's psychological capital, whereas leader behaviour can become an indirect antecedent to the follower's job well-being and performance (cf. Carmeli et al., 2009; Walumbwa et al., 2010).

Furthermore, some participants noted that the PsyCap construct was "state-dependent", meaning that their psychological resources changed and developed during the past year.

> DD: "Well, work motivation as such is quite good in my opinion. Of course creation of new things and innovativeness requires some room in your thoughts, so in that sense I feel, at times at least, that there's so much to do, so many things to do and things undone. Or when some thing hasn't gone as planned, then we've discussed it and there are certain reasons for it, and then we've agreed that now we'll make do with it."

EE: "Well, probably you have to make changes all the time, you can't exclude that and you can't assume that you can do things the same way for ten years. But on the other hand, you could wonder whether everyone should have some part in these areas or if someone could be more involved in one thing and less involved in something else. Well, perhaps my own personality is such that I work the best when there's a stressful situation, so I kind of… it suits me… so yeah."

FF: "It's a bit fluctuating, and that's how it should be. It's not always easy… oh right, at the beginning of the semester, with such enthusiasm, the project I mean, it was really good. So it kind of comes and goes in waves… sometimes there's so much work piling up that you feel like you can't do it at full capacity. But it's meaningful as such in the sense that it's clear, you don't have to be jumping somewhere else all the time but you can focus on a couple of things… it's been a nice year like that."

These statements above refer to the variety of within-person changes, thus offering support for the argument that psychological capital is a malleable construct (cf. Luthans et al., 2007a; Peterson et al., 2011).

Consequently, participants identified the importance of collaboration and communication with their leader and teammates in solving challenging work assignments and enhancing individual psychological resources. The OD intervention probably impacted on PsyCap development process which, in these descriptions, were related to the reciprocal relationship between follower and leader, as well as between leader, each follower and the other members in the group which in turn increase the individual's psychological resources (cf. Hannah et al., 2008). In addition, these statements highlighted the importance of the quality of both individual and group-level psychological capital and their joint commitment for work groups' cooperation and outcomes over the past year (cf. Walumbwa et al., 2011).

4.5 Summary of the empirical results

Next, the core empirical results are summarised according to the research questions.

Research question 1: What is the quality of leader-member exchange (LMX) and how does LMX develop over time?
In general, the quality of LMX was said to be rather high by the study participants representing a follower group in the acquaintance and mature stages (see Graen & Uhl-Bien, 1995) in their LMX relationship in this study. The quality of LMX was constructed to be preferably transformational than transactional in nature (for more about transformational and transactional leadership, see for instance Bass, 1990; Burke & Litwin, 1992; Yukl, 2002; Walumbwa et al., 2011). Justice and the emotionally laden aspects of mutual trust and consideration were constructed to form a crucial basis for the high-quality LMX in this study.

Seen from the follower's point of view, the antecedents such as the follower's own initiative, liability, open communication, commitment and trustworthiness, were understood to be critical in maintaining a high-quality relation-

ship with the leader. From the leader's viewpoint, factors such as availability, awareness of the follower's tasks, encouragement and common values with the follower such as honesty, justice, and fairness, were described as critical antecedents to the high-quality LMX.

Even though transformational leadership was seen as the prevailing feature of LMX quality, certain features which decreased the quality were also identified to be part of the LMX relationship. From the followers' perspective, specifically their own passive behaviour, being inactive in a work role and showing too much independence in work were perceived as aspects that deteriorated the LMX quality. From the leaders' viewpoint, unclear guidance, lack of presence and face-to-face discussions, as well as an emphasis on a managerial perspective were seen to decrease the LMX quality. Moreover, the leader's behaviour in strictly following a set of formal rules and guidance of the case organisation's upper management was said to weaken the LMX quality.

Regarding the relationship between LMX quality and the organisational outcomes, the study participants mentioned that LMX was linked to their work well-being, organisational commitment, better task performance, being able to get support from the leader and increased self-efficacy.

Lastly, no positive development was reported in the LMX quality during the two-year time period among the non-experimental group participants. In other words, the longitudinal survey findings showed that in the acquaintance and mature stages, the leader-member relationship seemed to stay largely stable. However, some negative changes were reported to have occurred since the affect, loyalty and personal respect elements of LMX deteriorated to some extent during the study period. Consequently, in this part of the study when no OD intervention took place, the perceived quality of LMX tended to decrease or remain stable.

Research question 2: What is the quality of psychological capital (PsyCap) and how does PsyCap develop over time?
On the whole, participants identified individual differences in their PsyCap. However, in general, findings showed that the overall level of PsyCap was rather high among participants. The participants high in PsyCap felt that they could cope well with their daily work and even in stressful situations.

The participants seemed to be highly confident in acting in a teacher role in a class. New tasks, even in familiar teaching areas, proved to be stressful for some participants from the viewpoint of PsyCap efficacy. However, social support between the leader and the led as well as among colleagues in the studied organisation acted as a positive resource to an individual. In other words, when the respondents felt that they had an opportunity to discuss and share ideas with the leader and their colleagues, their feelings of PsyCap efficacy increased and it became easier for them to achieve demanding and challenging work duties and goals.

Furthermore, the participants acknowledged that they were rather hopeful employees. In particular, the participants expressed that explicitly-set priorities

and the anticipatory allocation of resources are important for maintaining motivation and hopefulness in order to respond to various work expectations. This kind of leadership behaviour can be interpreted to support employees' capacity to become and continue to be hopeful employees. In general, the findings show that the employees' experience of a high degree of autonomy in work with the aim of releasing their energy to conduct their work duties effectively seemed to contribute to the rather high level of PsyCap hope.

Most of the participants constructed themselves as optimistic employees who are highly capable of working independently and are willing to seek challenges and recognise their accomplishments. In particular, the employees' positive expectations with regard to future opportunities and accomplishing them were constructed by the participants as being essential to PsyCap optimism. However, risks related to a lower level of optimism seemed to be linked to experiences of insecurity, specifically in the field of research and development tasks.

The participants also seemed to have adequate capacity to recover from setbacks, thus the level of their PsyCap resilience was rather high among them. In particular, the resilience characteristics were not restricted to managing and tackling, but also to learning and anticipating, which were constructed by the participants as being essential capacities of resilience.

In general, no positive development was reported in PsyCap over the two-year time period among the non-experimental group participants. In other words, the longitudinal survey findings showed that the variability within-person of PsyCap seemed to remain largely stable. However, some negative changes were reported to have occurred, since the hope and resilience categories of PsyCap decreased to some extent during the study period. Consequently, in this part of the study when no OD intervention was employed, the perceived level of PsyCap tended to decrease or remain stable.

Research question 3: Is there a relationship between LMX and PsyCap? If there is, what kind of relationship is it?
The correlation findings of the survey revealed that LMX was positively related to employee PsyCap hope, resilience, optimism and overall. However, there was no statistically significant correlation between LMX and efficacy. Additional regression analyses examining the relationships between LMX and PsyCap scores showed that PsyCap overall and combination of PsyCap efficacy, hope, optimism and resilience predicted LMX. In addition, there was a contribution from LMX relationship to PsyCap.

Findings from the in-depth interviews showed that participants acknowledged that a workable LMX relationship impacts on an individual's positive psychological resources, and this result was also noticed when in this study PsyCap variables were regressed onto LMX, and vice versa. The participants revealed that LMX quality is able to either increase or decrease a follower's overall psychological capital. As perceived by the participants, the way LMX leads to positive psychological capital is through joint effort between followers

and leaders who are willing to apply their work experience constructively. Thus, this interaction enables the enhancement of work-related outcomes such as well-being and commitment.

Regarding of the LMX influence on employee´ PsyCap efficacy, participants expose highlight the fact that the LMX relationship is able to influence an individual's confidence and motivation to use the necessary input to succeed in their working tasks. These statements highlight the ways through in which leader can have a positive mobilising effect on their followers' cognitive resources.

Typical issues revealed from the LMX and PsyCap hope relationship showed that participants identified the importance of the role of the leader to effectively plan and manage individual and organisational-level goals. Furthermore, the participants highlighted the ways through which leaders have a positive impact on followers' independent thinking and autonomy, and it seems that followers are intrinsically hopeful that they will achieve their work goals.

Regarding the LMX influence on employees' PsyCap optimism, the participants referred to the fact that leadership behaviour is able to influence followers' trust, their enthusiasm to engage in their tasks and to have positive expectations to conduct them successfully. Besides, the participants highlighted the interaction through which leadership can have a positive impact on individual's understanding to see new opportunities for accomplishing their duties.

Lastly, typical issues revealed by the LMX and PsyCap resilience relationship showed that followers emphasise the importance of the role of leader to entrust, encourage and support followers to use their energy and resources to engender challenging work performance. Furthermore, participants stressed the issue that interaction and effective communication with the manager are able to create more meaning and confidence in the follower's work.

Research question 4: How does an organisational development (OD) intervention influence on LMX and PsyCap?
The survey findings of the study indicated that the OD intervention empirically demonstrated how the LMX relationship and psychological capital can be developed through a web-based intervention. Through a longitudinal quasi-experimental design, the treatment group reported a significant increase in their LMX and PsyCap, while the control group did not show a significant increase in their LMX and PsyCap. In the treatment group, these attained changes in LMX and PsyCap seem to be maintained for at least six months after the intervention sessions ended.

The findings from the OD intervention series showed that the respondents identified that multiple pressures in work settings in the educational sector require more from collaboration than before. Due to the impact of situational and problem complexity in working life nowadays, the participants stressed the role of combining both individual, dyadic and team-level collaboration and competence in order to manage one's own duties and professional networks effective-

ly. Furthermore, participants revealed that there is a different type of relationship that exists between the leader and each group member, and it can have an influence on performance both at the individual and the group level.

The OD intervention showed that in high-quality relationships among this group, the leader gives employees more challenging and satisfying work tasks and provides them with higher personal support. On the other hand, in lower-quality relationships, it seems that the leader provides followers with more uninteresting work tasks and gives them a lower level of personal support, and that this relationship relies on the follower's individual efforts and actions.

Regarding work organisation, participants identified the fact that the role of LMX and co-worker support plays a key issue in work distribution. Furthermore, in a group setting, guidance, support, advice and mentoring should be provided both at the group and the individual level. The participants also revealed that the rapid change in the organisational environment is influencing their daily duties, competence requirements and psychological capacities. Thus, they acknowledged the need to conduct training and development via briefing and mentoring programmes in order to cope with these alterations. In discussing the aspects of job well-being, the respondents identified the need to systematically promote their well-being in a goal- and community-oriented manner.

In general, the findings from the in-depth interviews showed that the participants acknowledged that their job tenure with their leader had deepened in recent years, which probably had an influence on the creation of a higher-quality LMX. This in turn referred to high-level reciprocal exchanges between the parties, or a mature partnership, in which the exchange was not only a return of favours but was also emotional. Consequently, the respondents identified the importance of collaboration and communication with their leader and their teammates in resolving challenging work assignments and enhancing individual psychological capital.

5 DISCUSSION AND CONCLUSION

This final chapter of the study begins with some general discussion related to the main findings (section 5.1). Next, the key implications of the findings are presented (section 5.2), including theoretical and practical implications, as well as trustworthiness, limitations and suggestions for future research. Lastly, the overall conclusion of the study (section 5.3) is made.

5.1 Main findings and discussion

The following section describes the key findings obtained from the empirical results.

Four major findings which emerged from this study are summarised as follows:

1. The quality of LMX and PsyCap remained constant or decreased over time in the non-experimental group.

2. A positive relationship between LMX and PsyCap in the full sample of study was found.

3. The quality of the LMX relationship and PsyCap improved through OD intervention.

4. Mixed methods research showed more comprehensive and meaningful findings and conclusions of LMX and PsyCap than those from the qualitative or quantitative research alone.

Next, a more detailed discussion about the findings is presented. In addition, conclusions derived from the findings are discussed.

Finding 1: The quality of LMX and PsyCap remained constant or decreased over time in the non-experimental group.

This study confirms prior research results of the quality of LMX by suggesting that the LMX relationship will have a general stable and to some extent even decreasing trend over time when the relationship occurs in the mature and acquaintance stages (see Graen and Uhl-Bien, 1995). This trend towards stability does not seem to be dependent on whether it is a question of a high-quality or a low-quality relationship. In other words, according to this study, the perceived quality of LMX tended to remain stable or deteriorate to some extent over time among the employees (cf. Maslyn and Uhl-Bien, 2001). Thus, a longer time period did not change the employees' previous understanding of the LMX quality in the acquaintance and mature phases of the relationship.

Even though Gerstner and Day (1997) have stated that LMX quality can change and improve over the course of a six-month period, the majority of studies concerning the development of LMX quality are in line with the results of this study: quality remains the same. For example, Duarte et al. (1994) presented a consistent result with this study concerning the longitudinal LMX scores of employees for both low-quality and high-quality LMX relationships in long-term dyads. In addition, many other studies have reported on the stability of LMX quality over time (for example, Dansereau et al., 1975; Graen & Schiemann, 1978; Wakabayashi, et al., 1988; Liden et al., 1993). Dansereau, Graen and Haga's (1975) longitudinal study of vertical dyads and their development, based on interviews showed that an employee's estimate of his/her LMX quality slightly decreased at 4, 7 and 9-month periods after a pre-investigation in both an out-group and an in-group.

Duchon et al. (1986) also noticed in their longitudinal study (six-month period) that the quality of a vertical dyad linkage in an out-group held up over time. Bauer and Green's (1996) work addressed the development over time in an eight-month period with three time measurements. Their result revealed that there can be a small increase in LMX quality from Time 1 to Time 2. However, the average level of LMX quality between Time 2 and Time 3 remained stable in their study. In line with the results presented above, Naidoo and colleagues' (2011) study over a six-month period with three time intervals showed that the change of the perceived LMX quality at various time periods was relatively small. From the viewpoint of ethnic minority employees, Leponiemi (2008) found that the employees perceived the quality of LMX with their ethnic majority leaders rather negatively in terms of effort and fairness after a relative short period. After a longer period of working together, the relationship was viewed as more varying but not necessarily better. Leponiemi carried out his research over a ten-month period.

In addition, this study highlights that the participants experienced the LMX quality being established at a rather early stage of the relationship, as was also suggested in prior research such as Nahrgang et al. (2009). Nahrgang and colleagues reported that the differentiation in LMX quality occurred at the early stage (0-4 weeks) of the relationship, and remained constant after it. Higher and

lower-quality leader–member relationships tend to develop fairly quickly at the beginning of a relationship and remain stable after they are formed (Dienesch & Liden, 1986). Thus, with the exception of the study by Gerstner and Day (1997) who reported a change in LMX quality over a longer period, the above presented longitudinal findings are in line with the findings of this research about the early development of LMX quality.

To sum up, in line with the majority of prior studies of LMX quality, this dissertation argues that the LMX relationship develops quickly in the early phase of the relationship and then remains quite stable over time. In this study, the argument is supported from the employees' viewpoint in the mature and acquaintance phases of the LMX relationship in the higher education context. Thus, it seems that early exchange processes between a leader and a follower provide a crucial basis and level for the later LMX quality which then does not change much.

Even though some previous studies (for instance, Luthans et al., 2007; Peterson et al., 2011) suggest that PsyCap can change over time, in this study the employees in the non-experimental group did not report any change in their PsyCap quality over time, but rather the PsyCap level remained stable or even deteriorated slightly in the non-experimental group. This result is in line with Avey, Wehrsing and colleagues' (2011) longitudinal study, which revealed that PsyCap shows just a small variance over time. In addition, the high quality of PsyCap has been argued to be positively related to employees' well-being over time (Avey et al., 2010). This study confirms this result. Furthermore, in this dissertation the high quality of PsyCap in an educational institution is related to the work performance of the employees, such as self-direction, initiative and innovation (cf. Walumbwa et al., 2011).

Consequently, a conclusion to be drawn from the first major finding is that for employees whose working relationships with their superior have lasted several years, LMX and PsyCap qualities will evolve and change very little over time – or when some slight change occurs it happens in a non-linear manner. In particular, in the educational institution that was the focus of this study, the nature of employees' work tasks – teaching and R&D – seemed to be linked to the experienced quality of LMX and PsyCap. Therefore, a reason for some variation in LMX and PsyCap qualities detected in this study can be partly explained due to the nature of work tasks among the employees.

In the studied educational institution, R&D seems to be a particular task area which is not as familiar to the employees as their teaching tasks. R&D tasks were perceived to involve extra effort and expertise by the employees. Specifically, the participants acknowledged their LMX and PsyCap qualities to be slightly lower in the R&D area compared to teaching. This suggests that, due to the autonomic and independent nature of R&D but also to some extent teaching work in general, employees require constant support and consideration from their superiors to maintain the existing level of LMX and PsyCap qualities in the changing and moderately turbulent higher education environment.

Furthermore, another explanation for the stable nature of LMX and PsyCap qualities can be that when employees have worked together with their superior for a longer period, there is a chance that they will recognise reduced obligations from their superior, or on the contrary, superiors can assign more obligations to their employees when they have worked with them for longer (see Tekleab & Taylor, 2003). In general, this interpretation highlights the importance of active communication and action to regular reciprocal interaction between an employee and a superior to maintain higher LMX and PsyCap qualities.

Finding 2: A positive relationship between LMX and PsyCap in the full sample of the study was found.
A positive relationship was found between LMX and PsyCap in this study. The finding lends empirical support to an argument that a dyadic leader-follower relationship plays a role in enhancing a follower's individual capacity of PsyCap. In addition, this finding suggests that the quality gains in the LMX relationship may be due to the reason that PsyCap and most of its characteristics contribute to LMX (cf. Murphy & Ensher, 1999; Schyns et al., 2005).

One of the first field experiments concerning a leadership treatment intervention based on the LMX model revealed interaction effects between employee motivation for growth on the job, that is an employee's desire for the challenge of new learning, and LMX collaboration (Graen et al., 1986), indicating that dyadic-level LMX is related to the individual-level psychological features of an employee. Twenty years later, Schyns and colleagues (2005) suggested that a leader is thought to be able to influence followers' occupational self-efficacy and do so in positive LMX relationships. Schyns and colleagues reported that the leader-member exchange and occupational self-efficacy, as part of PsyCap, correlated significantly and positively in a German work life context (Schyns et al., 2005). A similar finding was also reported by Murphy and Ensher (1999) in the US. Besides, Graen (2003) presented that self-efficacy may be considered a dimension of LMX.

However, current study did not find a statistical relation between efficacy as part of the PsyCap construct and LMX. A reason for this can be partly explained due to the employees' job-specific characteristics in the studied higher education context. Specifically, it can be stated that the employees were highly confident in acting in a familiar work role, such as teaching. However, when functioning in less familiar duties other than teaching, such as R&D activities, the employees experienced lower levels of efficacy that were not sufficient to contribute to the LMX relationship. Furthermore, another explanation for this lacking relation between efficacy and LMX in the studied full sample could be that the employees' efficacy is more related to work performance than the LMX relationship itself (cf. Stajkovic and Luthans, 1998a; Murphy and Ensher, 1999; Schyns et al., 2005).

Instead, PsyCap hope, resilience and optimism were positively related to LMX in this study. Recently, the study of Ismail et al. (2011) revealed that the

LMX relationship is positively related to employees' positive organisational behaviour (POB). This result is in line with the findings of this dissertation study showing support to the positive relationship between LMX and PsyCap overall.

Furthermore, Story and colleagues (2013) state that a follower PsyCap can be predicted by LMX, showing that followers with higher levels of LMX also tend to have higher PsyCap. They empirically presented a positive contagion effect between global leaders' PsyCap and their followers' PsyCap, and noticed that this relationship was mediated by the quality of the LMX relationship (Story et al., 2013). Furthermore, Story and colleagues suggest that high PsyCap in both leaders and followers may advance higher-quality relationships due to cognitive and affective similarity. In general, the findings of this dissertation are consistent with the results of Story and colleagues (2013) so that, for instance, the awareness of tasks and the importance of common values with leaders as factors of cognitive and affective similarity were emphasised in the in-depth interviews of this study. However, it should be noted that the current study was conducted from the employees' perspective, and LMX in particular was predicted by PsyCap and its components, while Story and colleagues investigated leader–follower dyads and the contribution of the leader–follower relationship quality to follower PsyCap from the viewpoint of both leaders and followers.

In addition, an extension of psychological capital studies into other leadership approaches shows interesting findings that are relevant from the viewpoint of this study. The investigation by Gooty et al. (2009) indicates that followers' perceptions of transformational leadership are positively related to their PsyCap, and this integrates the motivational aspect of transformational leadership with the motivational propensity for PsyCap. Their finding is also consistent with the results which show that transformational (Middlebrooks & Haberkorn, 2009) and a combination of transformational and transactional leadership are linked to PsyCap (see McMurray et al., 2010).

In educational settings, Masi and Cooke (2000) noticed a link between motivation, transformational and transactional leadership, and Tekleab and Taylor (2003) found LMX to be related to psychological contract. Besides, a positive relationship has been found between authentic leadership and follower PsyCap (Woolley et al., 2010). Even if these studies did not apply to similar theoretical constructs as this study, their results give some support to the finding from this study that there is a relationship between LMX and PsyCap.

Consequently, the second finding of the dissertation provides a fresh and interesting perspective on the topic since it integrates the specific relationship-based aspect of leadership, LMX, with the individual resources of PsyCap. It can be concluded that the second finding indicates the potential of PsyCap, and its components of hope, optimism and resilience, to be able to contribute to the understanding of the existence and the complex processes of LMX. A related conclusion is that when an employee's positive psychological resources are engaged in work-related conditions, the employee is most likely to expend more

time and effort on work and support to her/his leader, teammates or organisation (cf. Hannah et al., 2009). Furthermore, it was shown that followers' perceptions of the LMX relationship are related to their PsyCap. Thus, it can be concluded that this finding highlights the potential role played by LMX in developing the follower's PsyCap.

Finding 3: The quality of the LMX relationship and PsyCap improved through OD intervention.
The third major finding is that the applied OD intervention increased the employees' perceptions of LMX and PsyCap qualities. In this study the combination of process consultation, team building and specifically the Duunitalkoot web-based program were adopted as the OD approach. As shown, this combination provided a practical, efficient and effective approach to improving LMX and PsyCap qualities among the employees in the studied educational institution.

From the quantitative method point of view, the applied quasi-experimental design with two samples (treatment and control) demonstrates the evidence for reliable and valid measurement, and multiple sources of data at three points in time contribute to the strength of the finding (cf. Luthans et al., 2010). Additionally, seen from the qualitative method viewpoint, the conducted OD intervention series seemed to have a positive influence on individual resources, the leader-follower relationship and the functionality of the work community in general. Thus, both methods confirmed a similar result about the positive effect of OD intervention on LMX and PsyCap qualities. Even though a couple of the participants in the treatment group stated in the interviews that there was no significant influence from the OD intervention on the LMX relationship and PsyCap, in general, the majority perceived OD as valuable in improving their LMX relationship and PsyCap.

In general, this finding lends support to other studies that argue for the development of LMX through a planned development process. For example, Graen and colleagues (2006) found that LMX can be developed through an experiential learning intervention. Additionally, similar results have been reported by Graen et al. (1982), Scandura & Graen (1984) and Colella & Varma (2001), even if the intervention methods varied in the investigations. On the whole, this finding integrates the adopted relationship-based aspect of leadership, LMX, with OD tradition. Only a few studies have looked at attempts to develop the quality of the LMX relationship systematically via an intervention (Maslyn & Uhl-Bien, 2001; Uhl-Bien & Maslyn, 2003; Cogliser, 2009). Specifically, the quasi-experimental intervention design used in the current study is rare in LMX literature, since only few earlier studies (Scandura & Graen, 1982; Graen et al., 2006) have used this design. The previous studies only examined the influence of intervention over a period of a few weeks to a maximum of six months. Instead, this study investigated the effect of an OD intervention over a one-year period.

This study showed that the quality of LMX can be developed even in the mature partnership stage if a convenient OD intervention is available and is conducted successfully. Such a process refers to an active and positive effort to maintain and develop high-quality exchanges between leaders and followers. Furthermore, seen from the PsyCap perspective this study is consistent with previous research findings which suggest that PsyCap can be developed intentionally through an intervention (Avey, Luthans et al., 2011; Demerouti et al., 2010; Luthans et al., 2008; Luthans et al., 2010; Norman et al., 2010; Snyder, 2000; Masten & Reed 2002; Stajkovic & Luthans, 1998a; Seligman, 1998). However, it should be noted that the overall number of intervention studies on LMX and PsyCap is very low. Most of the intervention studies have been empirical, but a couple of them have been laboratory design studies (see Graen et al., 1975; Dockery & Steiner, 1990).

The current study also shows that LMX and PsyCap developed in tandem as a result of the applied OD intervention in the treatment group but not significantly in the control group. OD intervention was thus able to influence both an individual's positive behaviour – specifically PsyCap at work – and her experience of the improvement of the dyadic LMX quality with her superior. The intervention was perceived to influence a leader-follower relationship and work performance either via leadership activities or indirect intervening variables, such as common conversation among a team (cf. Avolio, 1999).

To sum up, it was shown here that OD intervention was seen as valuable to the improvement of LMX and PsyCap qualities by the participating employees. Several reasons can be given for this positive outcome. First, the participants' motivation to develop themselves at work can have an impact on the result. The participants were willing to volunteer for the intervention, which required considerable input from their side. Second, the OD intervention series offered an open and interactive forum for the participating employees to communicate, monitor and reflect on their work-related issues (cf. Sitzmann et al., 2006). This probably broadened their orientation to work and organisational issues in general, such as leadership, and may have contributed to value leadership more than before. The web-based forum appeared to be efficient, since the participants who work in R&D and teaching tasks in higher education are competent users of computers in their work (cf. Kekäle & Pirttilä, 2006). Moreover, they are used to discussing and reflecting on a variety of issues and topics that can be seen as helpful in the OD intervention approach conducted (cf. Neuman et al., 1989; Klein et al., 2009).

Third, the senior management of the studied unit was committed to the OD intervention process and one of the superiors participated in the intervention. This can also have an impact on the perceived development of LMX and particularly its transformational aspect (cf. Muijs et al., 2006; Coleman, 2011) across the unit. Fourth, the facilitator who led the OD intervention was regarded by the participants as a good supporter for promoting continuous learning and openness for new challenges in the group discussions (cf. Lambrechts et al., 2009). Fifth, the participants produced and selected the core content of the

OD intervention programme themselves, which obviously made the intervention motivating and meaningful for them. Thus, the influence of the OD intervention is probably lasting among the participants (cf. Boss et al., 2010), since they had ownership of the intervention. The intervention was carried out largely by the participants themselves, not for example the designers of the Duunitalkoot programme.

Sixth, the OD intervention showed that the applied team building technique was a beneficial and efficient tool for developing LMX and PsyCap. Concerning the current finding, it can be said that a rather small team seemed to work well since it supported the planning and conducting of concrete improvements in team functioning. Furthermore, the participants were used to working in teams. The team building technique in the OD intervention strengthened and improved key components in their teamwork, such as role clarification, problem solving and interpersonal relations (cf. Klein et al., 2009).

Lastly, it needs to be noted that simply making an OD intervention can have a positive influence on dialogue between a superior and employees. As has been found already in classical organisation behaviour investigation (Hawthorne studies, human relations school of thought), positive changes in leadership, social support and team functioning can be a result of a phenomenon whereby participants in an experiment group receive special attention over time (see Roethlisberger & Dickson, 1939; Lämsä & Hautala, 2008) as also happened in this study.

A practical conclusion that can be drawn from the third finding is that higher education organisations could potentially benefit from understanding how an OD intervention can help to facilitate individual, dyadic and team processes and outcomes. Specifically, it can be concluded that OD may be able to facilitate both superiors and employees in their work when they become more familiar with and compliant in utilising the synergies of positive psychological capital and leader-follower relationship for performance improvement in today's changing and complex educational environment.

Finding 4: Mixed methods research showed more comprehensive and meaningful findings and conclusions of LMX and PsyCap than those from the qualitative or quantitative research alone.

During this case study, the qualitative method was embedded or nested within the predominant quantitative method. This nesting meant that the embedded method was designed to identify information from different levels of analysis (see Tashakkori & Teddlie, 1998). Thus, there was a broader possibility to explore LMX and PsyCap from varying perspectives by using both qualitative and quantitative data.

When the statistical results were compared and contrasted with the qualitative content analysis findings (cf. Teddlie & Tashakkori, 2009), several overlaps between the results were identified. For example, the quantitative findings showed that both the LMX and PsyCap mean scores did increase over time in the intervention group. Supporting this finding, the qualitative findings from

the in-depth interviews revealed the level of LMX and PsyCap developed positively among the majority of the study participants during the study period.

Extending this discussion, Hurmerinta and Nummela (2011) present that most of researchers employing a case study approach appear to follow a pattern where a case study researcher will only use qualitative sources of data (see Yin, 1989). According to Hurmerinta and Nummela (2011) and Yin (2012), the potential for using mixed methods in a case study design has not often been used in a full range. The current dissertation study findings show that using a mixed methods approach provides a broader view to the understanding the development of LMX compared to a situation where for example only interviews would have been carried out. The mixed methods approach could highlight both the commonality and variation in the results compared to a single method. For example, the quantitative findings revealed that both LMX and PsyCap can be developed in a relatively short OD intervention series. On the other hand, some participants identified the importance of OD intervention series from the in-depth interviews, but there were few who recognised that there was not so much influence from the OD intervention on their LMX and PsyCap.

In this regard, it can be concluded that the fourth finding of this study indicates that it is reasonable to triangulate findings by integrating and interpreting results from both the quantitative and qualitative analysis. This triangulation served here as a tool that presents a comprehensive and meaningful understanding of the combination of in-depth interviews, the OD intervention programme, LMX and the PsyCap questionnaire. Consequently, by using the mixed methods approach in this study, it was possible to respond more profoundly and effectively to the research task and questions than applying a single method alone.

5.2   Implications

In the Introduction (Chapter 1), some empirical and theoretical gaps relating to LMX and PsyCap research were presented. Based on the main findings of the dissertation study, an attempt has been made to fill these gaps. Consequently, the theoretical and practical implications of the study are described below, followed by a discussion on study trustworthiness, limitations and suggestions for future research and activities. The overall contribution of this study is to the relationship-based approach of leadership research by using three theoretical domains simultaneously, such as leader-member exchange (LMX), psychological capital (PsyCap), and organisation development (OD) in a higher education context.

5.2.1   Theoretical implications

The findings make some value-added contributions to the research on the quality of LMX and PsyCap. First, the current study suggests that LMX is mostly in

line with the transformational leadership approach, although some aspects of LMX were understood as transactional among the employees in this study (cf. Graen & Uhl-Bien, 1995). This is an interesting finding, since some scholars state that LMX is a separate construct from transformational leadership, and that LMX is focusing mainly on personal and relational identities, personal growth and career development (cf. Lord et al., 1999; Anand et al., 2011), while transformational leadership focuses on creating understanding and trust (McMurray et al., 2010). In the current study, the followers with a high evaluation of LMX were willing to describe the relationship in terms of transformational leadership. For example, the followers mentioned that they collaborated regularly with their superior and had the superior's support, trust, respect and mutual obligation (cf. Graen & Uhl-Bien, 1995; Liden et al., 1997; Nuutinen et al., 2013). Consequently, a theoretical implication can be drawn from the current study that LMX and transformational leadership as theoretical constructs are most probably closely related to each other and in practise, transformational leadership behaviour may improve the development of high-quality leader-follower relationships (cf. Graen & Uhl-Bien, 1995; Howell & Hall-Merenda, 1999).

The current study indicates that PsyCap is supported by LMX. In other words, it seems that LMX as a leadership approach could be an antecedent to the follower's PsyCap (cf. Avey, Reichard et al., 2011). Specifically, the qualitative findings indicate that the followers' psychological capital was influenced by acknowledging their leaders' positive behaviours and actions. However, at the moment, there is no systematic method of investigating antecedents of PsyCap (Avey, Reichard et al., 2011). It is suggested that using both qualitative and quantitative methods can be fruitful when investigating antecedents.

This dissertation offers an important contribution to the longitudinal research of LMX and PsyCap. This research lasted for almost two years, which is very rare in the field of LMX and PsyCap studies. Most of the previous studies into LMX have lasted no more than a year (see Anand et al., 2011). Additionally, the current study is one of the few studies which has examined the development of partnership building in the mature and acquaintance stages of LMX over time. Prior studies have usually focused on the development of the relationship in the earlier stage (cf. Nahrgang et al., 2009). The findings of this study thus extend LMX research by showing that time in itself does not change the level of LMX quality in a mature partnership (cf. Maslyn and Uhl-Bien, 2001). However, this study implies that LMX quality can improve in the later stages of the relationship under specific conditions that exist as a result of an intentional and planned OD intervention over time which is successfully conducted among employees.

In general, this study suggests that the nature of LMX relationship in the later stages of the relationship seems to become established in the early stage of the relationship (cf. Graen & Uhl-Bien, 1995). Moreover, the study enhances and sheds light on LMX theory by adopting a follower perspective, since most of LMX literature so far has mainly focused on leaders or followers through leaders' perceptions (see Gordon & Yukl, 2004; Collinson, 2006). This is rather sur-

prising, since LMX is a relational leadership theory which emphasises the role of both parties – leader and led – in the leadership-making process. A focus on leaders may be a sign of a general tendency in organisational leadership theories to be leader-centred (Anand et al., 2011).

Regardless of growing evidence that PsyCap has an impact on leadership and performance or vice versa, there are only a handful of studies to date which test the stability of this core construct over time (cf. Luthans et al., 2007; Avey et al., 2008; Avey et al., 2010). The current dissertation study is the second longitudinal study in the literature of PsyCap that directly tested within-person stability (cf. Peterson et al., 2011) and provides support for the prerequisite that the PsyCap can be a fluctuating and malleable construct.

This research contributes to both the LMX leadership literature and the positive organisational behaviour (POB) literature by showing a link between PsyCap and LMX. To the researcher's knowledge, there are no other studies that have investigated this link in an educational setting. However, Story et al. (2013) have recently completed a PsyCap study of leaders and followers using LMX as a mediator. Furthermore, Ismail's (2011) results showed a positive relationship between LMX and positive organisational behaviour (POB) in general, not specifically PsyCap. Besides, Stajkovic and Luthans (1998a) noticed in their meta-analysis that enhancing self-efficacy through LMX might be a way to indirectly improve followers' performance (Schyns et al., 2005). In addition, Graen (2003) presented that self-efficacy may be considered a dimension of LMX.

Consequently, this dissertation advances LMX theory in a way that PsyCap and its components can have an impact on the leader-follower relationship (cf. Hannah et al., 2008; Walumbwa et al., 2010; Walumbwa et al., 2011). On the other hand, the study also shows that a functional LMX relationship can promote PsyCap among followers. So, from a theoretical point of view it is important to clarify the direction of the link between LMX and PsyCap more in future studies.

The dissertation provides clarification of the existing OD literature from the viewpoints of LMX and PsyCap. Specifically, the study draws attention to the role of OD interventions in the improvement of LMX and PsyCap. According to the literature review of intervention studies on LMX in this dissertation, there are surprisingly few pieces of research on organisation development and intervention in the field of LMX, and specifically how OD works in relation to the LMX relationship (see however Graen et al., 1986; Wayne & Ferris, 1990; Colella & Varma, 2001). The findings of this study reveal that a web-based intervention can be a feasible and efficient way (cf. Sitzmann et al., 2006) to develop the LMX quality. By applying the web-based intervention in particular, this dissertation also contributes to our understanding of the increasing use of Internet technology in the development of leadership. Specifically, this study combined the web-based intervention with two additional OD intervention strategies: process consultation and team building (cf. Kang & Stewart, 2007). The combination seemed to be an effective and applicable method here.

Furthermore, the findings contribute to positive organisational behaviour (POB) theory, showing that a long-term web-based intervention is useful in developing PsyCap. Compared to more recent short-term psychological capital interventions (PCI) (Luthans et al., 2010), this study reveals similar impacts on PsyCap quality. Moreover, the study enhances the POB theory in general by adopting an OD approach to it in an educational setting. The study implies that PsyCap quality and it dimensions can be developed, however it seems that the increased level of PsyCap cannot be maintained over a one-year follow-up period without an intervention. This is a new contribution to PsyCap and intervention research.

Consequently, the dissertation implies that when an OD intervention is applied in the fields of LMX and PsyCap, it is worth integrating face-to-face meetings and online methods to address intervention goals. This combination of offline and online methods can be called a blended intervention programme, which is comparable to the blended learning approach in education (cf. Sitzmann et al., 2006). It can said that the suggested blending of face-to-face and online methods under the OD intervention framework in higher education context is innovative (cf. Ritterband et al., 2003), and it takes individual differences among participants into account and supports social interaction among them.

This research contributes to the LMX theory and PsyCap through the mixed methods approach. By using mixed methods in the current study, complementary views were achieved (Greene et al., 1989; Bryman, 2004) into the topic. Additionally, it can be said that the application of qualitative and quantitative methods can provide a richer and more varied view on LMX and PsyCap compared to when using a single method. However, most of previous studies on the phenomena have been mainly based on quantitative survey methods.

This study is in line with a suggestion by Zhou and Schriesheim (2010), who noticed in their cross-sectional study that open-ended interviews can identify some important LMX elements that have been ignored in the LMX literature. Moreover, Williams and colleagues (2009) were some of the first researchers who, in their cross-sectional research, conducted interviews after the execution of an LMX survey to provide a better understanding of the teamwork setting. Finally, this dissertation study on PsyCap is most likely one of the first to use mixed methods research (cf. Avey, Reichard et al., 2011; Norman et al., 2010).

5.2.2 Practical implications

In addition to theoretical contributions, this study also has practical implications. The overall findings suggest that the theoretical framework of PsyCap, LMX and OD constitute relevant areas in which leaders and employees can focus their energy and effort to promote efficient and constructive relationships with one another in higher education institutions. Even though the findings of this study can benefit many target groups, such as directors, human resource managers, leadership consultants, policy-makers and trade union professionals, it is suggested that leaders and followers as dyads can make the most of the

study results, since the core of leadership and its lasting development seems to be co-constructed in social interaction.

With regard to the quality and development of LMX and PsyCap, this study also suggests the following practical implications. First, in general, the quality of LMX and PsyCap was described as being rather high among the study participants. It was shown that the high quality was supported by preferably transformational than transactional leadership behaviour. Therefore, the study implies that when superiors in an educational organisation want to emphasise and support high-quality relationships with their employees, superiors need to pay special attention to practising their motivational, inspirational and consultative behaviours to reinforce employees' individual resources and effective relationships between parties.

It seems that in a higher education context, there can be a constant or slightly decreasing trend in the development of LMX and PsyCap over time. Therefore, in practice it is important for a superior to focus on the early phase (that is, the first six-month period) of the leader-member exchange relationship to establish a high-quality relationship with a newcomer. The early phase is thus critical for high-quality LMX and PsyCap in the later stages.

The findings indicate that the change patterns in LMX and PsyCap may differ according to job type – here, teaching or R&D. The change trend of the phenomena in teaching seems to be much more stable than in R&D activities. Thus, in practice, the superior should take the employees' different work elements into account (here, teaching or R&D) when he or she wants to strengthen the quality of LMX and PsyCap with employees. This differentiation (Liden et al., 2006) in leadership also seems to require superiors to pay attention to an employee's competence and performance. The quality of LMX and PsyCap were thus not so exclusively based on factors such as personality or demographic similarity as suggested in prior research (Mahsud et al., 2010; Luthans & Avolio, 2009a), but also on work-related tasks.

The finding that there is a relation between PsyCap and LMX suggests that by enhancing employees' PsyCap and its dimensions (hope, optimism, self-efficacy, resilience), a higher level of LMX is also a result. This can have an impact on followers' well-being and performance at work. On the other hand, the finding implies that by supporting the LMX relationship, employees can experience increasing positivity in their PsyCap quality, which may lead to an improvement in their work performance. In general, the detected link between LMX and PsyCap refers to an agile organisation (Hamel & Breen, 2007), and a need to improve and enable personnel to collaborate and enhance their individual resources and relationships at every level of the organisation. For example, strengthening collaboration in a higher education organisation means working together in groups and teams, setting mutual goals, using the competencies and knowledge of all employees, and enhancing their problem-solving skills. In other words, the findings of this study imply that in a modern educational setting, the organisation of work should be done through collaboration (cf. Bryan & Joyce, 2007), not through traditional hierarchy.

In terms of the findings on the OD intervention influence aspect, it appears that the OD intervention that applies a central, web-based approach can be accomplished in a cost-effective, convenient and vigorous way in a higher educational context, since personnel in this kind of context are used to working in an environment with computers and the Internet. This type of approach could obviously be used in broader organisation development and training across the organisation, either simultaneously or sequentially (cf. Luthans et al., 2008). Moreover, since this study showed that the high level of LMX and PsyCap quality (for example, Cogliser & Schriesheim, 2000) has positive results on employees' work performance and the qualities of both can be developed through OD intervention, a broader intervention could have many advantageous performance outcomes and be beneficial for leadership in the organisation. Besides, when conducting this type of OD intervention, it is meaningful to ensure sufficient time and financial resources, and the commitment and support of senior executives to development.

The study suggests that the Duunitalkoot intervention applied provides an interesting approach to human resource development (HRD), which could be used in other organisations as well. In addition, the applied web-based approach could be suitably utilised in other fields such as business, technology and psychology. However, depending on organisation type and structure, the way the intervention is conducted may have some impact, since employees' capability to discuss different, possibly sensitive issues and their familiarity with the use of the Internet as a developmental tool can vary substantially from one organisation to another.

It is also suggested that it is important to be aware of time-related considerations in the development of leadership. The effects of this type of intervention may depend on their timing and duration. Besides, it should be noted that this type of intervention can lead to desirable LMX and PsyCap outcomes at a certain phase of the LMX relationship but not necessarily in another phase (cf. Shamir, 2011). Finally, an OD intervention can be particularly effective when organisations spent time on the assessment of the actual, long-term influence of an intervention on organisational culture and employee performance.

5.2.3 Trustworthiness of the study

Next, the trustworthiness, reliability, and validity issues of the study are addressed, although these issues have been discussed earlier, in the methodology chapter (Chapter 3).

The general case study strategy's validity and reliability issues were emphasised in the current study. Internal validity and assurance of internal coherence were increased by cross-checking the results in the data analysis phase (Yin, 1989). In order to increase the external validity of the dissertation study, the comparison of study findings with the previous literature was accomplished in the data analysis phase (Yin, 1989). Furthermore, reliability was increased by developing and refining the study protocol in the research design phase by conducting one

pilot study to test questionnaires, the way of questioning and their structure (Eisenhardt, 1989; Yin, 1989). Thus, since no Finnish versions of the measures were available, a translation method – back-translation – was applied to LMX and PsyCap in order to acquire reliable Finnish formulations of the original measures.

Reliability of the qualitative part of the research was ensured by using face-to-face in-depth interviews with semi-structured (open-ended) questions about the five themes with all participants. All interviews were recorded, typed and transcribed verbatim. In addition, during each OD intervention session, a written memo of the session's discussion was created by the facilitator and then each participant's approval of the summation was asked for in order to give an accurate and valid description of his or her experience. Besides, during the OD intervention, a structured study protocol was used (Yin, 1989). Thus, these confirmed the replicability issue whether or not future researchers might be able to repeat the research project and come up with the related findings, interpretations and claims (Silverman, 2006).

In order to increase trustworthiness (Lincoln & Cuba, 1985) in the study's qualitative part, a rich and vigorous presentation of the findings was illustrated together with appropriate quotations and descriptions from the transcribed text, such as the similarities within and differences between themes (Graneheim & Lundham, 2004). Trustworthiness was accomplished through the use of a systematic content analysis method (Krippendorff, 1980, 2004; Tesch, 1990).

Reliability and validity of the study's quantitative research are discussed next. Kirk and Miller (1986) have reported three types of reliability referred to in quantitative research: 1) the stability of a measurement over time, 2) the similarity of measurements within a given time period, and 3) the degree to which a measurement, given repeatedly, remains the same. Related to the first type of reliability, it can be stated that by using previous development LMX and PsyCap questionnaires in this study, it was possible to be repeat the same level of stability of results obtained by different researchers and/or at different periods. Linking to the second type of reliability, this dissertation study conducted a three repeated measurement study, and individuals' scores remained largely the same determined through the test-retest method on two different occasions.

The third type of reliability (Kirk & Miller, 1986) is strongly linked to the reliability of the measuring instruments (that is, LMX and PsyCap), and to confirm this, previous researchers (Graen & Uhl-Bien, 1995; Bernerth et al., 2007b; Luthans, Youssef & Avolio, 2007a) as well as this dissertation researcher have demonstrated that the instruments used in this study enable reliable and valid measurements to be obtained.

In addition, the validity of the quantitative research is expressed by how the study really measures what it is supposed to measure and how valid it is in relation to the objective for which it has been used (Teddlie & Tashakkori, 2009). Finally, it is about the degree to which the inferences made on the basis of the results are consistent across variations in individuals, settings, treatment

and measurement variables (Shadish et al., 2002). In this dissertation study, the intention was to achieve these criteria by using tests of statistical significance.

The current study acknowledged the data quality issues of mixed methods. By using concurrent triangulation in this study, the aim was to ensure the reliability and validity of data during the research process. However, the application of triangulation for focusing on different reliability and validity issues should be evaluated in relation to the types of research design and analysis (Teddlie & Tashakkori, 2009). Specifically, mixed methods research design should be based on the following four quality criteria: 1) the implementation of data collection and analysis, 2) prioritisation to be given to quantitative and qualitative data, 3) the stages at which the quantitative and qualitative data are integrated, and 4) the theoretical perspective informing the analysis from the beginning or during the research process (Creswell, 2003). With regard to the reliability and validity issues presented above, in this dissertation study, quantitative and qualitative data was collected independently then analysed separately, and an integration and explanation of the findings occurred during the final interpretation phase. Additionally, in connection with the prioritising and theoretical perspectives mentioned above, the qualitative method was embedded or nested within the predominant quantitative method in this study.

The current study also emphasised the between-method triangulation, which targets a more comprehensive synthesis between quantitative and qualitative methods. The idea of between-method triangulation is to offer advantages in dealing with validity threats arising from the biases inherent in any single method (Modell, 2005). For example, in this study, interview findings added a richer and more complete understanding of the survey results. Thus, it helped to validate some curious findings that emerged from the survey results. In these circumstances, triangulation was applied by using internal (that is, extending survey results) and external (that is, prior theory of LMX and PsyCap) validation through the current case study (see Modell, 2005).

Through triangulation, it is also possible to evaluate the representativeness of data in a case study. Moreover, representativeness is related to the idea of generalisation, which means the level of confidence we can have in "generalising" the results of this particular case to other cases with the same circumstances (Yin, 1989; Llewellyn & Northcott, 2007). Since the current dissertation study's research design and results are innovative and have not yet been replicated in other cases with the same circumstances, making generalisations about the results of this particular dissertation study is not possible at the moment. Furthermore, the current research used a purposeful sampling in a single-case study design, which served best the purpose to generate deep contextualised insights of the investigated phenomena (cf. Dyer & Wilkins, 1991). Even though this dissertation study used a combination of qualitative and quantitative methods, empirical generalisation from this case study is still limited due to the participation of more homogeneous than heterogeneous groups of employees in an educational setting.

Subjectivity as a trustworthiness criteria was acknowledged. Thus, the qualitative part of the research in this study, especially data collection and analysis, were exposed and grounded to subjectivity (see Patton, 2002). This means that subjectivity as a trustworthiness criterion was revealed in order to diminish the dissertation researcher bias. First, in order to manage subjectivity in this study, the researcher made assumptions and presuppositions over the self (see Morrow, 2005). In other words, constructivist inquiry was adopted here to give deeper understanding of the particular case under examination. In addition, using a pragmatic approach (that is, stressing the relationship between theory and practice as a concept of truth) was used as a basis for this study.

Second, attention was paid to reflexivity (self-reflection) and practice (Patton, 2002; Morrow, 2005). In other words, acknowledging the researcher's own background, experience and perspective of the world. Self-reflection strategy meant consulting with the researcher's supervisor and peer doctoral students, who acted as co-researchers in a sense that they reflected the researcher's interpretations during the dissertation study process (cf. Morrow, 2005). In addition, self-reflecting notes were used as another reflexivity technique, used in order to describe the researcher's brainwork, perspectives and decisions taken during the dissertation study in order to diminish bias of subjectivity. Specifically, the researcher's reflexivity perspectives were reported in various phases of the current study.

Third, the subjectivity of the topic was approached by considering whose reality was represented in this study (see Morrow, 2005). In other words, this refers to whether the qualitative findings of the study adequately represent the descriptions of the participants, and not the reality of the researcher. In order to emphasise the participants' experiences and views, the researcher used clarification questions and confirming discussion techniques to get more profound meanings from the participants. In addition, all participants were given the opportunity to clarify, confirm or correct the memo summary of each intervention set in which they participated.

In sum, the strategies presented above for managing subjectivity supported the researcher in accomplishing the aim of fairness (see Morrow, 2005). In other words, by using various subjectivity strategies in this study, it ensured the even-handed descriptions of the participants' viewpoints and helped to diminish the researcher's bias expressions or only some of that of the study participants.

Finally, this study drew attention to research ethics. When conducting scientific research, the researcher is most often required to keep some distance from the participants. However, particularly in qualitative research, this distance is often diminished (Eriksson & Kovalainen, 2008). Eriksson and Kovalainen state that the relationship between the researcher and the participant can vary in three different ways in case study research. This variation provides different aspects to the ways the information is given and thus the confidentiality issue is next discussed: 1) the researcher can remain neutral and distant to the research ob-

ject, and the researched participants are subjects, 2) the researcher can have a slightly participatory role (participant-observer) in the research, and the researched are informants, and 3) the researcher may actively participate in activities and enable changes to take place, as facilitator or enabler, thus the researched are collaborators in the study (Eriksson & Kovalainen, 2008).

In this dissertation study, all the three above-mentioned relation types were present in the study process. The first type of relationship was accomplished by using the email-based survey questionnaires. The researcher was linked to the second type of relationship by conducting in-depth interviews twice during the study. Finally, the researcher was related to the third type of relationship by facilitating the OD intervention activities of the study. In sum, through these different relationships between the researcher and the participants, the researcher attempted to pay attention to the following ethical aspects used in this study: to ensure voluntariness and anonymity of the participants; to develop a confidential discussion relationship during in-depth interviews; to maintain a facilitator's objectivity in the OD intervention; and finally to present study findings of employees within these ethical standards.

5.2.4 Limitations of the study

This study has several limitations that need to be discussed since they influence the interpretation of the findings and their implications. This section summarises the main limitations.

One obvious limitation of this study is the sample size and composition of the participants who were investigated in the analyses. The small sample partially limited the options of using the statistical procedures and extensive analyses. However, it is important to note that the sample size used during various study phases provided a sufficiently comprehensive sample for reliable panel study over time. In addition, the findings revealed interesting perspectives and offered new insights into the field of LMX, PsyCap and OD research.

Furthermore, it should be noted that the most probably longitudinal results of the study were influenced by the time frame itself. This means that during the dissertation research period, some organisational activities and processes may have had an influence on the development of interpersonal relationships and leadership. In the higher education context, there are internal and external elements such as structural development, internationalisation, RDI activities, availability of competent workforce and cooperation between education and working life, and these all have an impact on employees. Furthermore, it should be noted that in this study the focus was on a particular OD intervention and its effect on LMX and PsyCap.

Since there are also other elements which can have an effect on LMX and PsyCap, such as relationships with colleagues from other departments or with the unit director, one limitation of this study is that employees are not only influenced by their immediate superiors or fellow workers in their own team. However, taken from the perspective of qualitative content analysis, no remarkable changes in the organisation's management and activities during two

years research period were found. Furthermore, no atypical contextual factors (that is, for instance team climate or followers' perceptions) impacting the leader-follower relationship were identified.

In addition, due to practical reasons this dissertation study was not able to conduct a true experimental research design for examining causal relationships between pre-test intervention – post-test design and investigating the effect of random allocation of the participants to groups. The advantage of an experimental design is that it can minimise the challenge of extraneous variables (that is, a third factor) causing a significant relationship. In addition, OD intervention itself can facilitate the opportunities to socialise among the treatment group members, which could support relationship and performance development (cf. Roethlisberger & Dickson, 1939 Hawthorne studies, human relations school of thought). However, this dissertation used a quasi-experimental design and its only notable difference compared to a true experimental design is in allocating participants into study groups. The quasi-experimental design was, however, a more reliable way to conduct and examine the OD intervention influence on LMX and PsyCap in a higher education context, compared to a cross-sectional design.

Furthermore, one constraint of the study is that all the data was based on the employee perspective from one higher education organisation. Thus, it is unclear if the current results are replicable within the leader sample or leader-follower dyads. Thus, simultaneously viewing the relationship from both perspectives could support the leader and follower to understand the ways in which they can influence the development of their relationship (cf. Schyns & Day, 2010). However, most probably there are no empirical or theoretical reasons to expect that current results cannot replicated in the leader or dyads group. Moreover, in this study it was beneficial to focus first on the employee perspective only, as it provided profound information on how employees can affect leadership and reciprocal relations.

Even though the current study was focused on a higher education organisation, it was concentrated on one school since the longitudinal development process was only approved by the director of this school. Therefore, the data and findings can only be applied to this school and specifically to the studied unit, and they cannot be generalised across the whole organisation. However, during the research design phase the researcher had discussions with the director and associates of another school, but due to practical reasons (that is, timetable, benefits, willingness), the school was not able to join the study. In order to moderate the single unit effect, the measurements of the current study were conducted at different time periods.

Lastly, some limitations to using the content analysis of the qualitative data were found, which used as a guideline LMX theory and PsyCap. A challenge was that existing theory might have guided too much initial coding scheme, and thus the analysis revealed probably illustrated slightly limited descriptions of LMX and PsyCap. Moreover, using thematic semi-structured (open-ended) questions in the interviews might have influenced the participants' answers and

perspectives on how subjectively they replayed to each theme. However, by using the content analysis procedure in this study, it was possible to provide findings which were either consistent or inconsistent with the existing theory (cf. Hsieh & Shannon, 2005). Besides, the content analysis offered a tool to analyse whether the study findings yielded something new to the literature of LMX and PsyCap.

5.2.5 Suggestions for future research

The findings, theoretical and practical implications, trustworthiness, and limitations presented in the previous sections above, provide some suggestions for future research and activities, which are presented next.

To be able to generalise more from the research findings of this study, it would be important to investigate the topic in organisational settings other than a higher education institution. For example, investigating the topic in businesses as well as other public sector organisations would be interesting and would provide a broader basis for generalisation.

The current study investigated the longitudinal development of LMX and PsyCap. Even though the qualitative part of the study revealed positive outcomes of LMX and PsyCap, forthcoming research could provide a more thorough examination of the influence of LMX and PsyCap on organisational outcomes and performance over time. In addition, it would be useful to investigate through longitudinal design how newly formed dyads differ in their LMX and PsyCap quality compared to the investigated acquaintance and mature partnerships in this study.

It is also felt that in the future, a leader's perspective on the topic would be fruitful. In addition, examining both a leader's and a follower's perspectives during an OD intervention might shed more light on the topic. This kind of setting would provide an opportunity to analyse both parties' interpretations of the role of the intervention to show how different or similar the parties' perceptions are.

Future research should also explore the possible moderating or mediating effect of LMX in the relationship between followers' psychological capital and their job performance (cf. Walumbwa et al., 2010) such as occupational well-being, commitment, and trust (cf. Häkkinen, 2012). In addition, how a leader's PsyCap is related to followers' PsyCap and how this in turn is linked to followers' LMX merits research in higher education in the long term (cf. Story et al., 2013).

The current study utilised a mixed methods approach, and it is among the first studies to use this approach in the field of LMX and PsyCap. Even though the approach is rare, it seemed to provide an interesting and rich description of the topic, thus it is recommended here that more research applying mixed methods would also be fruitful in the future.

Finally, leadership was studied here using the LMX framework, which is only one perspective on relational leadership (see Uhl-Bien, 2006). Other leadership approaches would offer fresh knowledge, not only for future empirical

studies but also as an alternative to theory development in relational leadership when several theories are combined in the same research.

5.3 Conclusion

This longitudinal case study in a higher education context offered new empirical insight into the development of a leader-follower relationship from the perspective of employees. LMX theory was used as the dominant theoretical origin to integrate leadership research with PsyCap and OD research. The study provided a rich description of the topic from the different levels of analysis and expanded relationship-based leadership research by showing that there is a link between LMX and PsyCap. Furthermore, the study increased knowledge about the development of LMX and PsyCap and their association with OD intervention. By incorporating the mixed methods approach and using a combination of quantitative and qualitative methods, it was possible to produce knowledge and insights that have complementary strengths, and thus obtain the rich understanding of LMX and PsyCap and their development.

The findings provide support for a final conclusion that among employees who are in the mature stage of their leader-follower relationship, LMX and PsyCap qualities will hardly fluctuate over time by themselves. Instead, their development needs to be supported with the help of an intentionally-led OD process. The qualities of both LMX and PsyCap gained from the applied OD intervention in this study. Consequently, the intervention proved to be a feasible and effective approach.

It is hoped that this study will encourage the future scholars who are yet to broaden the understanding of LMX and PsyCap qualities and their development in organisational contexts other than higher education. Lastly, the current study hopefully leads us to better realise what Mary Uhl-Bien and Sonia Ospina (2012, p.577) had in mind when they said:

> "It is time we take seriously the issues of relationality in leadership by acknowledging the social processes and contextual nature of leadership."

SUMMARY IN FINNISH (YHTEENVETO)

Esimies-alaissuhteen ja psykologisen pääoman laatu ja kehittyminen: pitkittäinen tapaustutkimus korkeakouluympäristössä

Esimiehen ja alaisen välisen vaihtosuhteen teoria (leader-member exchange theory, LMX) korostaa esimiehen ja alaisen välisen vuorovaikutuksen merkitystä johtajuuden muotoutumisessa. Esimies ja alainen rakentavat johtamissuhdetta tuomalla erilaisia näkemyksiä, arvoja, vaatimuksia ja ideoita kohtaamiseen. Jokainen esimiehen ja alaisen välinen suhde on tämän takia yksilöllinen. Toimiva vuorovaikutussuhde syntyy, kun sekä esimies että alainen ovat valmiita tukemaan toisiaan. Pelkästään muodolliseen asemaan nojautuva esimies ja alainen eivät kykene muodostamaan toimivaa ja laadukasta vaihtosuhdetta. LMX-teorian erityisenä antina on johtajuuden tarkastelu vuorovaikutussuhteena ja kehittymisprosessina. LMX-teoriaan pohjautuvalla johtajuudella on todettu olevan organisaatiossa myönteisiä vaikutuksia mm. henkilöstön sitoutumiseen, luottamuksen kasvuun ja työhyvinvointiin. Tämä väitöskirjatutkimus pyrkii yhdistämään uudella tavalla henkilöstön johtamisen ja organisaatiopsykologian tutkimuksen.

Tämä väitöskirjatutkimus on pitkittäinen tapaustutkimus, jonka tavoitteena on ollut tutkia esimies-alaissuhteen ja psykologisen pääoman laatua ja näiden kehittymistä erityisesti alaisen näkökulmasta. Lisäksi tutkimuksen tarkoituksena on selvittää esimies-alaissuhteen ja psykologisen pääoman välistä suhdetta ja toisaalta arvioida, kuinka internetpohjainen kehittämisinterventio mahdollisesti vaikuttaa työntekijöiden kokemaan esimies-alaissuhteen (LMX) ja psykologisen pääoman (PsyCap) laatuun ja kehittymiseen. Tutkimuksen teoreettinen tausta muodostuu esimies-alaissuhdetta koskevasta johtajuuden LMX-teoriasta, psykologisen pääoman käsitteestä (PsyCap) ja organisaation kehittämisen (OD) teoriasta. Tutkimuksessa käytetty OD-interventio pohjautui Työterveyslaitoksen kehittämään internetpohjaiseen Duunitalkoot-kehittämisohjelmaan, prosessikonsultaatioon ja tiimin rakentamiseen. Interventioohjelman tavoitteena oli auttaa työntekijöitä luomaan työpaikoille hyvä keskusteluilmapiiri ja osallistumiskulttuuri. Lisäksi intervention tarkoituksena oli tukea työhyvinvointia.

Psykologisen pääoman (PsyCap) avulla kuvataan ja arvioidaan henkilöstön työhön liittyvää asennoitumista mittaamalla ja erittelemällä a) henkilöstön itseluottamuksen (efficacy) kasvua työtehtävien suorittamisessa, b) henkilöstön positiivista suhtautumistapaa (optimism) tulevaisuuden haasteisiin ja kehityshalukkuutta, c) henkilöstön työhön liittyvää tavoitteellisuutta (hope) ja tavoitteiden mukaista orientoitumista ja d) henkilöstön työtehtävien hoitamiseen liittyvää ongelmanratkaisukykyä sekä sinnikkyyttä (resilience) pyrkiä kohti organisaatiolle asetettuja tavoitteita.

Tutkimuksen kohderyhmänä toimi erään suomalaisen korkeakoulutusorganisaation yksi koulutusyksikkö ja sen koko henkilöstö. Tapaustutkimuksen tyyppinä oli välineellinen, tulkitseva tapaustutkimus (instrumental case study). Tutkimusasetelmassa käytettiin sekä pitkittäistä (longitudinal) että ennen-

jälkeen asetelmaa (quasi-experimental design). Tutkimuksen aineisto kerättiin sähköisinä kyselyinä, henkilökohtaisilla teemahaastatteluilla ja organisaation kehittämisinterventiolla vuosina 2009–2010. Tutkimuksen analyysi- ja tulkinta-vaiheessa monimenetelmällisyyttä (mixed-methods) hyödynnettiin laadullisen ja määrällisen menetelmän yhdistämisessä. Lisäksi laadullisen aineiston tarkoi-tuksena oli tukea määrällisen aineiston tuloksia, jolloin ns. toinen aineisto sisäl-tyi toiseen – määrällinen aineisto oli siis tässä tutkimuksessa etusijalla.

Tutkimuksen tulokset osoittivat, että ei-kokeellisessa ryhmässä (n=48) esi-mies-alaissuhteen ja psykologisen pääoman laatu ja kehittyminen pysyivät sa-malla tasolla tai jopa hieman laskivat kahden vuoden aikana riippumatta siitä oliko suhde korkea- (high) vai matalatasoinen (low). Tämä viittaa siihen, että pitempään saman esimiehen alaisuudessa työskennelleet henkilöt eivät välttä-mättä pysty lisäämään suhteen laatua tai psykologista pääomaa, jos esimies tai työntekijä ei kiinnitä siihen aktiivisesti huomiota. Toisaalta kehittämisinterven-tio-ohjelman vaikutukset olivat tilastollisesti yhteydessä esimies-alaissuhteen ja psykologisen pääoman tasoon siten, että koeryhmässä (n=10) olleet henkilöt hyötyivät interventiosta merkittävästi verrattuna kontrolliryhmään (n=10), joka ei osallistunut ohjelmaan. Kontrolliryhmä oli osa ei-kokeellista ryhmää.

Tämä tutkimustulos tarkoittaa sitä, että ryhmien välisessä vertailussa koe-ryhmän esimies-alaissuhde ja psykologinen pääoma olivat korkeammalla tasol-la kuin kontrolliryhmällä ja että ajan kuluessa suhteen ja pääoman taso kohosi merkittävästi koeryhmässä. Samoin laadullinen sisällönanalyysi osoitti, että työntekijät kokivat intervention pääsääntöisesti hyvänä. Näin ollen organisaati-on kehittämisellä korkeakouluorganisaatiossa näyttäisi olevan positiivinen ja vahvistava vaikutus yksilön, esimies-alaissuhteen ja ryhmän tasolla. Lisäksi tutkimustulokset osoittivat, että tässä aineistossa esimies-alaissuhteella ja psy-kologisella pääomalla oli tilastollisesti merkittävä yhteys. Monimenetelmälli-syyden yhdistämisen avulla voitiin tässä tutkimuksessa paremmin vahvistaa, täydentää, havainnollistaa ja rikastaa tutkimusaineiston tuloksia kuin pelkäs-tään yhtä menetelmää käyttämällä.

Tämän väitöskirjan tulosten perusteella voidaan olettaa, että esimies-alais-suhde ja psykologinen pääoma voivat kehittyä ajan kuluessa myös kokeneilla työntekijöillä (high-quality), jos ja kun näihin asioihin kiinnitetään erityistä huomiota organisaatioissa. Tulos osoittaa myös, että työntekijällä on tärkeä roo-li esimies-alaissuhteen toteutuksessa ja ylläpitämisessä sekä koko työyhteisön hyvinvoinnin varmistamisessa. Yhtenä tulevaisuuden tutkimushaasteena on henkilöstön keskinäisen vuorovaikutuksen, osallistumisen ja kehittämisen tut-kiminen sekä työntekijän että esimiehen näkökulmasta, koska ne ovat tärkeitä strategisia menestystekijöitä organisaatioissa. Lisäksi jatkossa olisi mielenkiin-toista selvittää tarkemmin, kuinka esimies-alaissuhde ja psykologinen pääoma vaikuttavat työstä suoriutumiseen ja työn tuloksellisuuteen.

Tulosten perusteella voidaan olettaa, että henkilöstön korkea psy-kologinen pääoma ja laadukas esimies-alaissuhde tukevat myönteisellä tavalla vuorovaikutuksellista johtajuutta, avointa keskustelukulttuuria, työyhteisön toimivuutta sekä organisaation tavoitteellisuutta ja sen jatkuvaa kehittymistä.

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236

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246

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APPENDICES

APPENDIX 1: In-depth interview themes of the first round

Interview themes and supporting questions:

Theme 1 – Leadership and managerial work
- Organisation of work and knowledge management
- Support for understanding the big picture
- Support for interaction and creating possibilities to have influence
- Setting goals and evaluation

- Giving feedback and rewarding
- Daily communication
- Creating enthusiasm and motivation

Theme 2- Subordinate skills
- What are subordinate skills?
- What are interactional subordinate skills?
- Are subordinate skills connected to work well-being?
- How does managerial work affect subordinate skills?

- How can managerial work support the development of subordinate skills?
- What is the superior's most important task?
- How can I develop my subordinate skills?

Theme 3- Leader-follower relationship
- How can a functional superior-subordinate relationship be created?
- What is the most important factor affecting the creation of a good or less good superior-subordinate relationship?
- What is the significance of a good superior-subordinate relationship on your own work and getting results?

- So can the superior-subordinate relationship have the role of a mediator to a larger extent regarding commitment, work satisfaction and performance?
- What kind of influence do organisational factors (superiors, groups, processes, systems) have on the superior-subordinate relationship?
- How does the superior-subordinate relationship work in different situations in the work community? That means other situations than one-on-one discussions.

Theme 4- Psychological capital
- Building employees' self-confidence in performing work tasks
- The personnel's positive approach to future challenges and their willingness to develop

- The personnel having goals related to work and orientation according to goals
- The personnel's problem solving skills and persistence in pursuing the goals set for the organisation

Theme 5 - The work community
- The atmosphere and culture of the work community
- Leadership in the service of working
- Clear work organisation

- Common ground rules
- Open interaction
- The significance of team work and work groups

APPENDIX 2: In-depth interview themes of the second round

Interview themes and supporting questions:

Theme 1- Leadership and managerial work / Key tasks / Work organisation
- How have you understood the tasks and goals of the unit/organisation during the past semester?
- Have these tasks and goals been clearly defined?
- How motivated to work are you at the moment / this semester?
- Have the employees internalised the unit's priorities/strategies?

- Is the unit's management board efficient and its leadership inspiring?
- What is the work organisation like in the unit?
- Have the tasks and job responsibilities been carried out in a flexible way?

- Has each work task been distributed reasonably and accurately?
- Does the unit constantly aim to find new ways to improve working?
- My own work tasks are clearly defined, and so are my colleagues' work tasks

Theme 2- Subordinate skills/Results/Performance
- Do you have a possibility to advance in your career and get more responsibility in this organisation?
- Is the personnel encouraged and rewarded for their work?
- Does your payment match your work achievements?
- Is the work of all employees evaluated in the same way?

- I/we achieve goals
- The results are achieved because people are committed to them?
- People are cost-effective and they look for the best results based on this

- The work we do is important and necessary
- People are always worried about the quality of their work

Theme 3- Leader-follower relationship / Support
- My superior has ideas that help me in my work and my team?
- I get all the relevant information and resources in order to do my work well
- My superior supports me and helps me with my work

- My superior's management style is efficient?
- My superior evaluates my work performance on a regular basis
- The manner in which work organisation is carried out creates general satisfaction among the personnel?

- My superior's management style supports my own work and coping with it
- Regarding the relationship, what has the past year been like?

Theme 4- Psychological capital / Motivation
- I am interested in developing my competence?
- The organisation constantly develops its operations practices, what about you?
- The unit is constantly seeking improvements, what about you?

- Do you have the energy to make changes in your work or the unit?
- Me and my unit have capacity for change
- Creativity and initiative are supported in the unit
- Regarding psychological capital, what has the past year been like?

Theme 5 - Work community / Relationships
- The superior usually listens to ideas from the personnel?
- I can also talk to someone if I have problems in my work?
- My relationship with co-workers is good?

- We work efficiently as a team to achieve goals?
- Conflict situations are solved and reconciled together?
- What did you think about the 'Duunitalkoot' intervention program?

APPENDIX 3: LMX questionnaire in finnish (Esimies-alaissuhde kyselylomake)

Seuraavaksi sinulle esitetään väittämiä ja kysymyksiä, jotka koskevat sinun ja nykyisen esimiehesi välistä vuorovaikutussuhdetta. Valitse kunkin kysymyksen/väittämän kohdalla yksi vaihtoehto, joka kuvaa parhaiten omaa näkemystäsi. 1= täysin eri mieltä, 2= jokseenkin eri mieltä, 3= ei samaa eikä eri mieltä, 4= jokseenkin samaa mieltä ja 5= täysin samaa mieltä.

1 Tiedän yleensä, kuinka tyytyväinen esimieheni on siihen, mitä teen työssäni.

2 Esimieheni ymmärtää työhöni kuuluvia ongelmia ja tarpeita.

3 Esimieheni tietää hyvin, mihin pystyn työssäni.

4 Esimieheni käyttäisi todennäköisesti valta-asemaansa auttaakseen minua ratkaisemaan työtehtävissäni olevia ongelmia.

5 Voin luottaa siihen, että esimieheni auttaa minut hankalasta työtilanteesta tarvittaessa omalla kustannuksellaan.

6 Luotan esimieheeni niin, että puolustaisin hänen tekemiään päätöksiään, vaikka hän ei itse olisi paikalla.

7 Työsuhteeni esimieheeni on toimiva ja tuloksekas.

APPENDIX 4: Psychological capital (PsyCap) questionnaire in finnish (Psykologinen pääoma kyselylomake)

Seuraavien kysymysten väittämät kuvaavat sitä, mitä ajattelet itsestäsi juuri nyt. Valitse kunkin väittämän kohdalla yksi parhaiten näkemystäsi vastaava vaihtoehto. Vastausasteikko on 1= täysin eri mieltä, 2= jokseenkin eri mieltä, 3= ei samaa eikä eri mieltä, 4= jokseenkin samaa mieltä ja 5= täysin samaa mieltä.

1 Luotan itseeni, kun analysoin pitkäkestosta työhön liittyvää ongelmaa ja etsin siihen ratkaisua.
2 Luotan itseeni kun esittelen kokouksissa omaa työaluettani johdolle.
3 Luotan itseeni, kun osallistun organisaation strategiaa koskeviin keskusteluihin.
4 Luotan itseeni, kun asetan työlleni tarkemmat tavoitteet ja päämäärät.
5 Luotan itseeni , kun otan yhteyttä organisaation ulkopuolisiin tahoihin (asiakkaat, kunnat jne.) keskustellakseni ongelmista.
6 Luotan itseeni esitellessäni tietoja työkavereilleni.

7 Jos huomaan olevani työssäni lukkiutuneessa tilanteessa, uskon löytäväni useita ratkaisuja selvitäkseni siitä.
8 Tällä hetkellä pyrin työtavoitteisiini aktiivisesti.
9 Mihin tahansa ongelmaan liittyy monia suuntia ja puolia.
10 Juuri nyt koen onnistuvani työssäni melko hyvin.
11 Tiedän monia erilaisia tapoja, joilla voin saavuttaa tämänhetkiset työtavoitteeni.
12 Olen tällä hetkellä saavuttamassa ne työtavoitteet, jotka olen itselleni asettanut.

13 Kun kohtaan työssäni vastoinkäymisiä, minun on vaikea päästä niistä yli ja jatkaa eteenpäin.
14 Selviän tavallisesti vaikeuksista työssäni tavalla tai toisella.
15 Osaan tehdä tarvittaessa työni itsenäisesti.
16 Suhtaudun tavallisesti töissä stressaaviin asioihin tyynesti.
17 Voin selvitä työssäni vaikeista ajoista, koska olen kokenut vaikeuksia myös aiemmin.
18 Pystyn selviämään nykyisessä työssäni monista asioista yhtä aikaa.

19 Odotan yleensä parasta, vaikka asiat työssäni olisivat epävarmoja.
20 Jos jokin voi osaltani mennä työn suhteen pieleen, se myös menee. (K)
21 Näen aina työtäni koskevissa asioissa valoisan puolen.
22 Olen optimistinen sen suhteen, mitä minulle tulee tapahtumaan työssäni tulevaisuudessa.
23 Työssäni asiat eivät koskaan mene niin kuin haluaisin niiden menevän. (K)
24 Uskon, että työssäni myös ikävillä asioilla on hyvät puolensa.
Huom. K tarkoittaa käänteistä tulosta.