Social exchange at the team-level

The examination of a trade-off & the interaction between average LMX quality and LMX differentiation in explaining TMX as well as team effectiveness

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Abstract

This study intended to provide new insights to team research as well as to social exchange literature. This study aimed to investigate the trade-off relationship between team-member exchange quality and leader-member exchange quality at the team-level. Average leader-member exchange quality was also examined in relation to team effectiveness. Besides this, attention was paid to the interaction between average leader-member exchange quality and LMX differentiation. Therefore, this studied tried to answer the following research question:

To what extent is the average quality of leader-member exchange related to the average quality of team-member exchange and team effectiveness, and to what extent are these relationships moderated by the differentiation of leader-member exchange within a team?

A deductive cross-sectional quantitative research design was applied. Questionnaires within teams (n = 80) in various organizations were set out to explore the hypothesized relationships. The level of observation was the individual organizational member, the unit of analysis was the team. Contrary to an expected trade-off, hierarchical regression analyses showed a positive significant relationship between TMX and LMX at the team-level. Also support was found for a positive significant relationship between the average quality of LMX and team effectiveness. Unfortunately, no conformation for the interactions was found.

Key words: average leader-member exchange quality, average team-member quality, LMX differentiation, team effectiveness, team performance, average job satisfaction

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1. Introduction

The first chapter starts by presenting the research problem. Besides this, the research aim and research question are provided. Subsequently, the scientific as well as practical relevance of this research is discussed.

1.1 Problem statement

Leader-member exchange (LMX) is the social interaction between a team leader and its followers; it emphasizes the quality of sharing information, ideas, expectations and feedback. LMX focuses on the dyadic relationship between a leader and its' member. (Illies, Nahrgang & Morgeson, 2007). Team-member exchange (TMX) emphasizes the quality of the relationships between individuals and their team members. Team members who perceive high quality of TMX relationships are highly willing to share information, ideas, expectations and feedback within the team (Sherony & Green, 2002).

Previous research has pointed to the fact that these social exchange relationships may affect each other (Cole, Schaninger & Harris, 2002; Graen & Uhl-Bien, 1995; Settoon, Bennet and Liden, 1996; Sherony & Green, 2002). Choi (2002) theoretically claimed that team-member exchange (exchange within the team) and leader-member exchange (exchange with the direct supervisor) are competing forces. This author used the terms internal and external activities in order to explain this phenomenon.

In an ideal situation team members will strive for a certain balance between realizing high quality exchange relationships within the team (internal activities) and high quality relationships with the team leader (external activities). However, in reality organizational members suffer from an allocation problem. Every organizational member possesses limited resources (e.g. time and effort), which implies that more resources put in one type of activity will result in decreased capability to invest in the other type of activity. At the team-level, intergroup literature (Smith, 1989) strengthens this claim; not all groups have the capacity or even the willingness to exhibit the full range of activities. Therefore, it is to be expected that there is a trade-off relationship between internal and external team exchange activities.

Besides this negative relationship between LMX and TMX quality at the team-level, the LMX quality of the team might be also related to its' effectiveness. This can be explained from the viewpoint of social exchange and the norm of reciprocity (Blau, 1964; Gouldner, 1960). A high exchange relationship with the supervisor creates an obligation on the side of the team member to reciprocate. This reciprocity will be beneficial for task performance, satisfaction, turnover, and organizational commitment (Gerstner & Day, 1997) which in turn will contribute

to the effectiveness of the team as a whole.

Looking at LMX from a team-level perspective, previous studies (Boies & Howell, 2006; Liao, Liu & Loi, 2010) paid attention to the average quality of exchange relationships team members posses with their supervisor as well as the extent to which their exist variation in these relationships within the team (LMX differentiation). High differentiation is reflected in team members forming varied levels of quality relationships with their supervisor, whereas in teams with low differentiation team members share similar quality relationships with their manager. LMX differentiation can moderate the direct relationship between LMX quality and team effectiveness because of perceptions of fairness that exist among team members. A high level of LMX differentiation means that the supervisor allocates resources differently, which indicates violation of the norm of fairness (Roberson & Colquitt, 2005). This violation will be disadvantageous for team effectiveness.

1.2 Research aim and research question

Taking the above into account, the main purpose of this study is to investigate a possible trade-off relationship, namely the interaction between internal and external exchange relationships at the team-level. By looking at both types of relationships (leader-member exchange and team-member exchange), attention will be paid to the average quality of exchange relationships as well as the extent to which variation within the team exists (differentiation). Also LMX quality and differentiation will be related to team outcomes by including team effectiveness. By doing this, new insights will be provided to team research as well as social exchange literature. This leads to the following research question:

To what extent is the average quality of leader-member exchange related to the average quality of team-member exchange and team effectiveness, and to what extent are these relationships moderated by the differentiation of leader-member exchange within a team?

1.3 Relevance

As stated earlier, previous research underscored the need for future research to explore how different types of exchange relationships depend on each other (Cole et al., 2002; Graen & Uhl-Bien, 1995; Settoon et al., 1996; Sherony & Green, 2002). The present study will investigate the relationship between LMX and TMX at the team-level. By doing this, the conceptual argument by Choi (2002) about internal and external activities being opposing forces will be empirically tested. The present study will also contribute to the LMX literature by studying the interaction between team-level quality and within-team differentiation. Previous studies (Boies & Howell, 2006; Liao, Liu & Loi, 2010) emphasized the importance of

examining this interaction. Third, a largely ignored research avenue, the relationship between LMX and group effectiveness, is explored (Schriesheim, Castro, Zhou & Yammarino, 2001; Boies & Howell, 2006).

By gathering insights about the interaction between different exchange relationships, also organizations and its' managers can take advantage. Because teamwork is becoming even more familiar within organizations, it is necessary to know how internal and external group processes affect each other. More insight about LMX in relation to outcomes is also desirable because it provides information about the actual impact that leader-member exchange quality and its' degree of differentiation have on the effectiveness of work teams.

2. Theoretical framework

In this chapter, more information about team research and the theoretical background of social exchange is provided. Also the included concepts are defined. In order to ground the proposed hypotheses, the theoretical mechanisms underlying the relationships between those variables are explained. Finally, a research model is included to show the variables and their hypothesized relationships (see Figure 3).

2.1 Theory and defining variables

2.1.1 Team research and effectiveness

A team can be defined as "two or more individuals who socially interact, process one or more common goals, are brought together to perform organizationally relevant tasks, exhibit interdependencies with respect to workflow, goals and outcomes, have different roles and responsibilities and are together embedded in an encompassing organizational system, with boundaries and linkages to the broader system context and task environment (Koslowski & Ilgen, 2006, p. 79). As mentioned by Levine and Moreland (1990), small-group research is alive. Several major reviews within work-team literature underscore "teams being complex dynamic systems that exist in a context, develop as members interact over time and evolve and adapt as situational demands unfold" (Koslowski & Ilgen, 2006, p. 78).

The effectiveness of teams is a rather complex story and within team literature no consistency about this phenomenon has been reached (Marks, Mathieu & Zaccaro, 2001). Approximately 40 years age, McGrath (1984, in Mathieu, Maynard, Rapp & Gilson, 2008) introduced the heuristic I-P-O model. All being part of the bigger picture, input, processes and output shape the effectiveness of teams. Teams are considered to be effective when those three facets are consistent. The traditional I-P-O model has been frequently used, but also has been modified and extended by several authors. For example, Cohen and Bailey (1997) extended the model by introducing the environmental context. The environment shapes the context in which a particular team is nested. Compared to the traditional model only including performance as an outcome indicator, those authors distinguished three aspects: 1) performance outcomes in terms of quantity or quality of outputs, 2) member attitudes and 3) behavioural outcomes (see Figure 1 for an adapted version of the I-P-O framework).

Based on the critique that the I-P-O framework lacked providing multiple types of processes and outcomes, Marks et al. (2001) adapted this framework by taking an episodic approach to team effectiveness. Besides team processes, defined as members' actions, also other mediating mechanisms are at play. Those mediators involve cognitive, motivational or

affective states, all being referred to as emergent states. Marks et al. (2001, p. 357) defined emergent states as "constructs that characterize properties of a team that are typically dynamic in nature and vary as a function of team context, input, processes and outcomes". Examples of emergent states are cohesion, team climate and trust. This episodic approach was referred to as the I-M-O model (inputs-mediators-outcomes).

Later on, attention was paid to the fact that teams are influenced by various factors and consequently change over time. Ilgen, Hollenbeck, Johnson and Jundt (2005) underscored this developmental approach to team functioning. Therefore, those authors developed the I-M-O-I model (input-mediator-output-input), paying attention to the cyclic nature of team effectiveness (see figure 2 for the episodic I-M-O-I model).
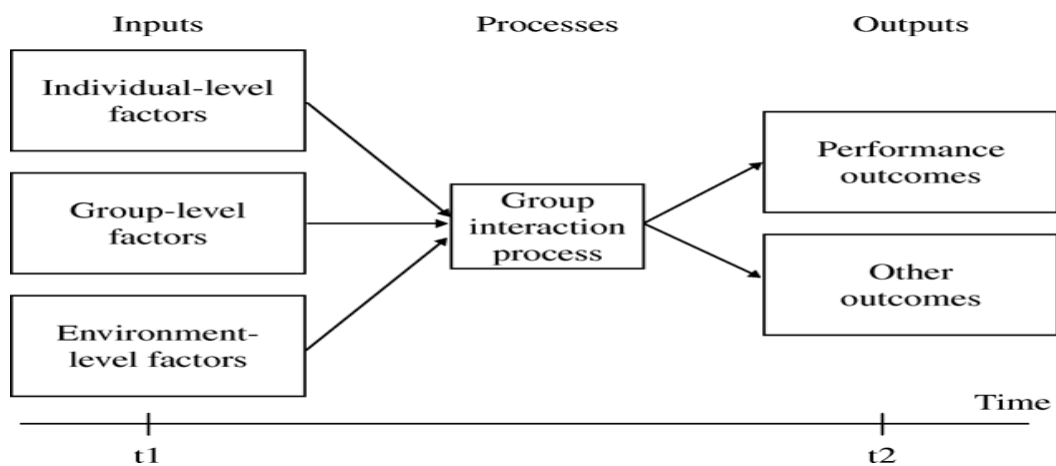

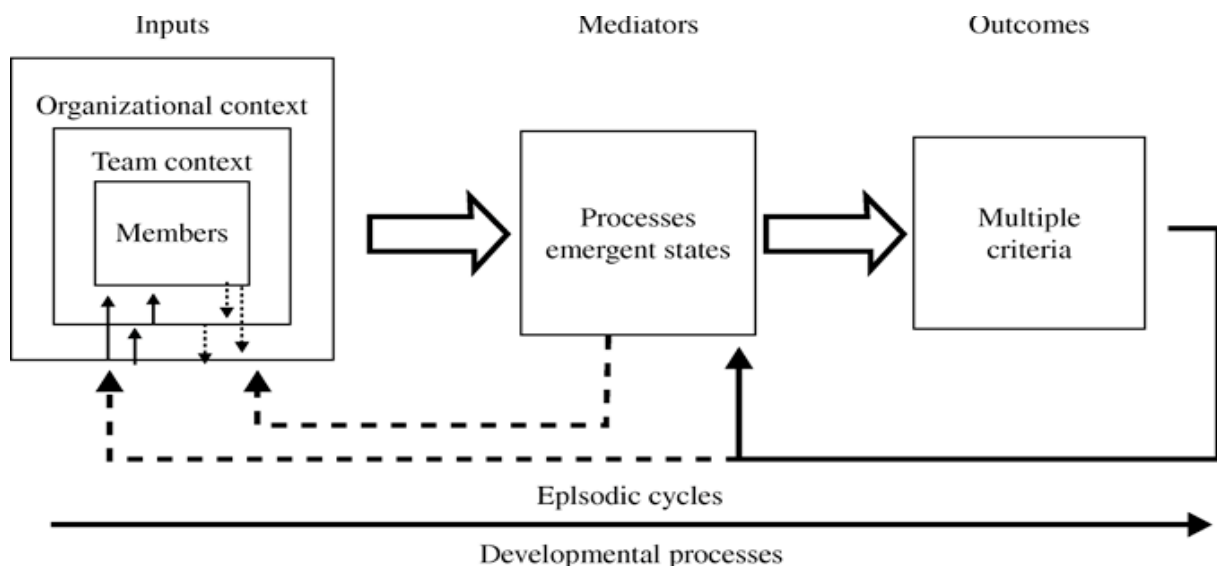**Figure 1. I-P-O model to team effectiveness**

Figure 2. I-M-O-I model to team effectiveness

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2.1.2 Social Exchange Theory (SET)

Social Exchange Theory can be seen as the dominant theoretical basis for leader-member exchange as well as team-member exchange. SET also was of big influence to the origination of LMX theory because of the norm of reciprocity. Therefore, it is considered to be important to first shed some light on this particular theory.

The assumptions of SET (Blau, 1964) has been proved to be of significant value in organizational studies in the last decades (Tekleab & Chiaburu, 2011). It can be seen as one of the most important paradigms in order to understand workplace behaviour. Within the literature, agreement exists about the fact that social exchange consists of interactions which come together with obligations (Cropanzano & Mitchell, 2005). These interactions are seen as interdependent and contingent on the actions of others (Blau, 1964), One of the basic assumptions is that relationships evolve over time and have the potential to result in high-quality relationships. In order to realize, parties have to obey to "the rules of exchange" (Cropanzano & Mitchell, 2005).

The one with many repetitions is the norm of reciprocity by Gouldner (1960). This means that organizational members will enter social exchanges when they have the expectation that the other party has something to contribute. When, over time, this particular relationship seems to be mutually satisfying, contributions from both sides will increase. Those increases will be both in terms of breath (the range of possible contributions) as well as in terms of value (the importance of the contributions) (Homans, 1961, in Tekleab & Chiaburu, 2011). Three particular types of reciprocity can be distinguished (Cropanzano & Mitchell, 2005): 1) reciprocity as a transactional pattern of interdependent exchanges, 2) reciprocity as a folk belief, and 3) reciprocity as a moral norm. Reciprocity as interdependent exchanges contains dependency between actors, which makes the actions of one actor contingent on the actions of the other party. Reciprocity as a folk belief has to do with cultural expectations that different parties possess (Gouldner, 1960). Compared to this subtype, the third subtype goes a step further. Instead of expectations about how other parties should behave, reciprocity as a norm and individual orientation functions as a mandate. Those who do not obligate will be punished. Besides the rules of reciprocity, also other rules of exchange were listed by Cropanzano and Mitchell (2005). Negotiated rules are far more explicit; actors negotiate in order to come to beneficial agreements. Therefore, expectations and duties are understood and clarified before a relationship will be developed. Also rules that go beyond reciprocity and negotiated rules were mentioned, namely rationality, altruism, group gain, status consistency and competition (Meeker, 1971, in Cropanzano & Mitchell, 2005). These types underscore individual freedom in making decisions and function as explanations for specific behaviour.

2.1.3 LMX theory

As mentioned by Tekleab and Chiaburu (2011), within Social Exchange Theory various different exchange forms are under study. A distinction is made between social exchange with the organization (psychological contract fulfilment, perceived organizational support and trust in the organization) and social exchange with the direct supervisor (leader-member exchange and trust in the supervisor). Concerning the second exchange form, the supervisor is seen as an agent of organization being responsible for the actions of its' members. Therefore, the supervisor represents the overall organization.

Approximately thirty years ago, Danserau, Graen and Haga (1975) introduced the LMX concept. This rational approach to leadership was based on the Vertical Dyad Linkage (VDL) approach and refers to the idea that leadership is build on the mutual relationship between leader and follower. The central premise of LMX theory is the fact that effective leadership processes come into existence when leaders and followers are able to create a so-called mature relationship which in turn creates access to several advantages that this relationship provides (Graen & Uhl-Bien, 1995).

Concerning the process of theory development, various phrases have to be distinguished (Graen & Uhl-Bien, 1995; Schriesheim, Castro & Cogliser, 1999). In the first phrase, it became clear that leaders develop different relationships with their followers. Later on, research was more focused on "Leadership Making" emphasizing how leaders work with individual employees on a personal basis in order to develop these relationships. During the last phrase, a particular relationship between leader and follower was no longer considered being separated from the environment; also organizational factors are part of the development process.

Within most theories (for example transactional and transformational leadership theories), leadership is seen as a function of personal characteristics, situational characteristics and their interaction (Gerstner & Day, 1997). The assumption here is that a leader develops similar relationships with its' follower. What makes LMX theory different from other leadership theories is the fact that it focuses on the dyadic relationship between leader and follower. LMX theory assumes every relationship between follower and supervisor being different (Allison, Armstrong & Hayes, 2001). According to Graen and Uhl-Bien (1995), leader-member exchange theory is both transactional as well as transformational in nature. In the beginning, the relationship between supervisor and follower is rather transactional. Later on, the relationship can evolve in a transformational one (Howell & Hall-Meranda, 1999). Relationships with members of the out-group (low-quality relationships) are characterized by delegation, economic exchange and formal social intercourse which fits with the assumptions

of transactional leadership. On the contrary, relationships with in-group members (high-quality relationships) are characterized by mutual trust, respect, social exchange and efforts that go a step further which fits the assumptions of transformational leadership (Bass, 1985; in Keulen, 2006).

Average leader-member exchange quality

As stated earlier, leader-member exchange can be defined as "the reciprocal exchanges between an employee and his or her supervisor based on trust, respect, and obligations" (Liao et al., 2010, p. 1090). The leader-member exchange concept pays attention to the dyadic relationship with a leader and its' subordinate.

High quality of leader-member exchange indicates a high level of trust, interaction, support and formal and informal rewards (Illies et al., 2007). Subordinates receive encouragement, more challenging tasks and are given more responsibility. On the contrary, low LMX indicates a relationship purely based on the employment contract; the relationship between follower and leader is characterized by distance (Boies & Howell, 2006). Therefore, a high quality LMX can be seen as a social exchange relationship, whereas a low-quality LMX can be described as an economic exchange relationship (Wayne, Shore, & Liden, 1997). At the team-level, the average quality of leader-member exchange refers to the mean quality of LMX that exist between the supervisor and its' subordinates.

2.1.4 TMX

By making their distinction (Tekleab & Chiaburu, 2011), the exchange relationships between colleagues, team-member exchange, were ignored. Seers (1989) argued that team-member exchange is a theoretical extension of LMX. Social exchange not only occurs between an individual and the organization and/or supervisor, but also between colleagues. Therefore, social exchange can be seen as a multilayered concept, for every organizational member it continuously takes place at multiple levels.

This claim is agreed upon by Cropanzano and Mitchell (2005). Those authors made the general statement that employees form distinguishable relationships with various actors; the direct supervisor (Liden et al., 1997), the organization (Moorman, Blakely & Niehoff, 1998), customers and suppliers (Sheth, 1996; Perrone, Zaheer & McEvily, 2003). Within this multilayered stage of social exchange, also coworkers are presumed taking a seat (Flynn, 2003).

Average quality of team-member exchange

Team-member exchange can be defined as "an employee's social exchanges with team members in terms of the reciprocal contribution of ideas, feedback, and assistance" (Liao et

al., 2010, p. 1090). TMX pays attention to the exchange relationship between an individual and the rest of the team as a whole. A high-quality TMX relationship indicates a relationship between colleagues within a team having the same supervisor that is characterized by mutual respect, trust, and obligation (Sherony & Green, 2002). Low TMX quality implies that there is distance between colleagues and exchange is purely work-related. It is also possible that little or even no communication exists among team members. From a team-level perspective, the average quality of team-member exchange refers to the mean quality of TMX that exist within a team.

LMX differentiation

The basic principle of leader-member exchange theory is the assumption that leaders develop different types of exchange relationship with their followers (Sparrowe & Liden, 1997). This basic assumption is reflected in the concept of LMX differentiation, which refers to "the degree of variability in the quality of the exchange relationships between a team supervisor and various team members" (Liao et al., 2010, p. 1091). Low differentiation indicates that within the team the range in LMX quality is small, whereas high differentiation indicates a wide variety in LMX quality relationships.

For example, within a team of four members two rate the exchange relationship with their supervisor relatively high (grade 8) whereas two describe the relationship with their supervisor as low (grade 2). The average LMX quality is still moderate (grade 5), but LMX differentiation is high. It has been suggested that LMX differentiation at the team-level is critical in understanding how team members respond to the social exchange dynamics in their team (Erdogan & Liden, 2002 in Liao et al., 2010).

2.2 Hypotheses

2.2.1 The relationship between average LMX quality and average TMX quality

As stated earlier, previous research has pointed to the fact that social exchange relationships may affect each other (Cole et al., 2002; Graen & Uhl-Bien, 1995; Settoon et al., 1996; Sherony & Green, 2002).

Choi (2002) theoretically claimed that TMX and LMX are competing forces. Choi (2002) used the terms internal and external activities in order to explain this phenomenon. In an ideal situation team members will strive for a certain balance between realizing high quality exchange relationships within the team (internal activities) and high quality relationships with the team leader (external activities). However, in reality organizational members suffer from an allocation problem. Because of limited resources (e.g. time and effort), it seems plausible that there is a trade-off relationship between internal and external activities.

Ancona and Caldwell (1992) investigated this boundary-spanning behavior at the team-level. Those authors found support for the fact that not every team exhibits all activities. Teams seemed to develop distinct strategies in order to cope with this "imperfection". Intergroup literature (Smith, 1989) also suggests a negative relationship between internal and external activities. Not all groups have the willingness or the capacity to exhibit the full range of activities. Groups can be overbounded; they have a high internal activity but an inability to pay attention to the external context (Alderfer, 1976 in Ancona & Caldwell, 1992).

Applying this logic to the current study, when the average quality relationship with the team leader is high, team members on average frequently interact with their supervisor, they are supported and coordination takes place. Given the fact that shared perceptions within the team exist, high team-member exchange relationships are less crucial in order to function. On the contrary, when the average quality relationship with the supervisor is low, it could be a logical consequence that high quality exchange relationships within the team are strived for in order to compensate internally.

As a result, it can be expected that there is a negative relationship between the average quality of LMX and the average quality of TMX. In order to test this, the following hypothesis is formulated:

Hypothesis 1: The average quality of leader-member exchange is negatively related to the average quality of team-member exchange.

2.2.2 The relationship between average LMX quality and team effectiveness

Taking a team-level perspective, previous research (Gerstner & Day, 1997; Schriesheim, et al., 2001; Boies & Howell, 2006) emphasized the need for research exploring a largely ignored avenue, the relationship between LMX and group outcomes. Meanwhile, some attempts have been made. For example, Boies and Howell (2006) found support for LMX being positively related to team potency and negatively to team conflict. Although the link between LMX and team effectiveness being largely ignored, there is empirical evidence indicating that LMX is related to outcomes at the individual, or dyad, level. A meta-analysis in the LMX literature (Gerstner & Day, 1997) has demonstrated the positive relation between LMX and performance ratings, affective outcomes (such as commitment and satisfaction) as well as behavioral outcomes (such as turnover intention). Some theoretical mechanisms go behind this relationship.

An explanation for the positive relationship between LMX quality and effectiveness has to do with the availability of resources (Liden, Erdogan, Wayne & Sparrowe, 2006). This is due to the fact that subordinates reporting high quality LMX relationships are more likely to receive

training opportunities, resources, information and support compared to subordinates reporting low quality LMX relationships (Liden, Wayne, & Sparrowe, 2000).

Another explanation can be found in the social exchange theory (Blau, 1964) in which LMX theory is rooted. Social exchange theory suggests that there is a perceived obligation to reciprocate high-quality relationships (Blau, 1964; Gouldner, 1960). As leader-member exchange quality increases, a supervisor will support and help its' subordinates. Such contributions create obligations to reciprocate on the side of the subordinate (Settoon et al., 1996). In turn, this reciprocity will be beneficial for task performance, satisfaction, turnover, and organizational commitment (Gerstner & Day, 1997).

The extent to which employees behave beyond their prescribed roles is another explanation (Illies et al., 2007; Settoon et al., 1996). Team members reporting high quality LMX relationships will have the feeling that they have to "pay back" their leader. Team members express this by engaging in extra-role behavior such as working overtime or helping coworkers. In turn, this extra-role behavior will be beneficial for the effectiveness of the team as a whole. All the above leads to the following hypothesis:

Hypothesis 2: The average quality of leader-member exchange is positively related to team effectiveness.

2.2.3 The moderation of LMX differentiation on the relationship between average LMX quality and average TMX quality

It is hypothesized that the mean level of LMX and the mean level of TMX within the team are negatively related. This relationship is expected to be stronger for teams that report different quality relationships (high LMX differentiation) with their supervisor.

This expectation has to do with the perception of fairness and the underlying equity theory (Scandura, 1999). When LMX differentiation is high, quality relationships with the team leader vary. This differentiation can violate the level of fairness within the team (Liden et al., 2006) because of different levels of resources and support towards coworkers (Uhl-Bien, Graen, & Scandura, 2000). As a result, a high level of LMX differentiation, which indicates that the supervisor allocates resources differentially, may violate the norm of fairness (Roberson & Colquitt, 2005). As a response, team members will strive for high quality relationships with their direct colleagues instead of their supervisor because they have the feeling that their manager does not treat every team member equally. Therefore, team members will compensate by clustering internally. This leads to the third hypothesis:

Hypothesis 3: The relationship between the average quality of leader-member exchange and the average quality of team-member exchange is positively moderated by LMX

differentiation. This means that the negative relationship between the average quality of LMX and the average quality of TMX is expected to be stronger for high LMX differentiation teams than for low LMX differentiation teams.

**2.2.4 The moderation of LMX differentiation on the relationship between average LMX quality and team effectiveness**

As stated by Cogliser and Schriesheim (2000), recent research suggests that there are a number of variables that moderate the relationship between leader-member exchange and performance. One of these variables might be LMX differentiation.

The explanation behind this moderation also has to do with perceptions of fairness. As stated earlier, differentiation might create a decreased level of fairness within the team (Liden et al., 2006). When LMX differentiation is high, the level of trust individual team members report to their supervisor will be undermined. High LMX differentiation will also lead to feelings of unfairness because of different levels of resources and support across coworkers (Uhl-Bien, Graen, & Scandura, 2000). As a result, a high level of LMX differentiation, which indicates that the supervisor allocates resources differentially, results in violation of the norm of fairness (Roberson & Colquitt, 2005).

On the contrary, low LMX differentiation will result in shared perceptions of justice because when team members universally experience a high (or low) level of exchange with their manager, they will perceive themselves as being treated comparable to their direct colleagues (Liao et al., 2010). Therefore, it is expected that a low level of LMX differentiation combined with high average LMX quality will result in the highest level of team effectiveness. This line of reasoning is reflected in the following hypothesis:

Hypothesis 4: *The relationship between the average quality of leader-member exchange and team effectiveness is negatively moderated by LMX differentiation. This means that the positive relationship between average LMX quality and team effectiveness is expected to be stronger for low LMX differentiation teams than for high LMX differentiation team.*

Figure 3. Conceptual model
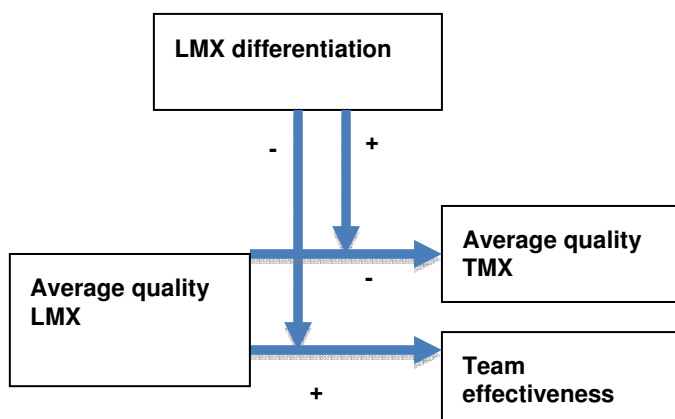
3. Methodology

This chapter contains the explanation and motivation of choices concerning research design, data collection and sample. Also more information about the instruments and statistical analyses is provided. Finally, the research quality indicators are described.

3.1 Research strategy

3.1.1 Research design

The present study has a deductive cross-sectional quantitative research design. Hypotheses are formulated based on available theory in the literature. In order to test these hypotheses, empirical data is gathered at one moment in time by using surveys. The level of observation is the individual organizational member, the level of analysis is the team.

3.1.2 Data collection

Data was collected by making use of questionnaires on paper (see Appendix A). Two different questionnaires were composed; one for the team leader and one for the team members. This was done because data from both the team leader and the team members had to be conducted. In order to reduce the length of the questionnaire for the respondents and in order to prevent confusion, the choice for two questionnaires was made. Together, those two questionnaires consisted of scales reflecting all the variables included in this study. The reason for choosing quantitative data collection had to do with the time available for data collection as well as the purpose of this study. Considering the limited time available as well as the aim to collect data from a large amount of work teams in order to be able to generalize findings, quantitative data collection seemed to be the best choice.

3.1.3 Sample strategy and final sample

According to Kozlowski and Ilgen (2006) a team can be defined as "two or more individuals who socially interact (face-to-face or, increasingly, virtually), possess one or more common goals, are brought together to perform organizationally relevant tasks, exhibit interdependencies with respect to workflow, goals, and outcomes, have different roles and responsibilities and are together embedded in an encompassing organizational system, with boundaries and linkages to the broader system context and task environment" (p. 79). During the sampling procedure this definition was used in order to include appropriate work teams. Besides this, two additional sampling criteria were kept in mind, namely: team members had to work together for at least six months and their minimal educational level had to be MBO.

Non-probability convenience sampling was used to select participants, meaning that some

groups within the population had a higher chance of being selected by the researcher, because those groups are easier to get access to (Bryman, 2008). This strategy is chosen because of a higher expected response rate; the possibility that questionnaires will be filled in by respondents knowing the researcher is higher. Therefore, most data was collected by family / acquaintances, (previous) work relations and their direct colleagues.

Initially, team leaders were contacted by phone, e-mail or by visiting the organization. Information about the content of the research was provided. It was also made clear that the focus of the research was the team meaning that it was considered to be crucial that all team members of the team were willing to participate. After agreement from the side of the team leader, all team members were contacted. Depending on the approach of the team leader, team members were simply informed about the fact that collaboration was expected from them or they were informed and asked to consider collaboration.

The sampling procedure took approximately 6 weeks. During this sampling procedure, meetings were organized in order to make sure that participants filled in the questionnaire. If this was not possible, the researcher precisely monitored response. Eventually, the final within team response rate of the present study is 86%, which means that on average 86 per cent of every team (including all team members as well as the team leader) did fill in the questionnaire.

Considering the purpose of this study, the total sample consisted of work teams having a direct supervisor. Some examples of sectors within this sample: government, banking, consultancy and health care. In total, 13 different organizations were included. On the individual level, the sample consists of 356 individuals (see Appendix B for the characteristics). The final aggregated sample consists of 80 teams (see Appendix C for the exclusion of data).

3.2 Instruments

3.2.1 Team effectiveness

Within the present study team performance as well as member attitudes, more specifically job satisfaction, are chosen to conceptualize team effectiveness.

Team performance refers to "the extent to which team members produce outputs that respect the standards set by the organization" (Hackman, 1987 in Rousseau & Aubé, 2010, p. 755). Team performance is the most frequent used dimension in research to assess the effectiveness of work teams (Mathieu, Maynard, Rapp & Gilson, 2008). Team performance was judged by the team leader and was measured with a 5-item scale from Rousseau and Aubé (2010). The team leader was asked to judge by paying attention to five different performance

criteria; for example "respect for deadlines". Reliability analysis showed a Cronbach's Alpha of .799.

Job satisfaction is defined as "an employee's affective response to his or her job" (Dubinsky, Dougherty & Wunder, 1990, p. 123). Information concerning job satisfaction was derived from team members by making use of a four-item scale developed by Price (1997). An example of an item on this scale is: "I'm not happy with my job". Ratings of both scales are made on a 5-point scale (ranging from 1 = "disagree strongly" to 5 = "agree strongly"). Reliability analysis showed a Cronbach's Alpha of .807. The average interrater agreement-score of this scale was .93.

3.2.2 Leader-member exchange

Information concerning leader-member exchange was also derived from team members. Leader-member exchange was measured using the 7-item scale developed by Janssen and Van Yperen (2004). This particular scale was based on member versions of LMX ratings developed and used in prior research (e.g. Wayne, Shore, & Liden, 1997). In order to reach consistency with other scales, one minor change was made. The original 7-point Likert scale was replaced by a 5-point Likert scale (in accordance with Keulen, 2006). Ratings are made on a 5-point scale ranging from 1 ("disagree strongly") to 5 ("agree strongly"). An example of an item on this scale is: "My supervisor understands my problems and needs". The Cronbach's Alpha of this scale was .859 and the average IRA index .97.

3.2.3 Team-member exchange

The ten-item scale developed by Seers, Petty and Cashman (1995) was used to measure team-member exchange. Obviously, information was derived from the team members. In order to reach consistency, also here the original 7-point Likert scale was replaced by a 5-point Likert scale (in accordance with Bierens, 2010). Ratings are made on a 5-point scale ranging from 1 ("disagree strongly") to 5 ("agree strongly"). The original scale (Seers et al., 1995) includes items paying attention to actual team-member exchange. Because of the fact that the included scale of leader-member exchange consists of intentional behavior and consistency between those two operationalizations was considered to be essential, some minor changes in the TMX-scale were made. An example of an item is: "My team members understand my problems and needs".

Based on the results derived from factor analysis as well as reliability analysis (see 3.3.2 Preliminary data analyses), the scale used in further analyses consisted of 9 items. The reliability of this scale was of .746. The average IRA-score was .98.

3.2.4 LMX differentiation

In accordance with other authors studying LMX differentiation, the moderating variable, LMX differentiation, was operationalized as the within-team variance across all team members on the LMX quality score (Liao et al., 2010; Liden et al., 2006). Higher within-team variance represents higher differentiation in experienced LMX quality.

3.2.5 Control variables

Within the present study the following control variables were used: team duration (age of the team), average age of the team members and team size.

Liden, Wayne and Stillwel (1993) argued that the amount of time a supervisor spends with his/her subordinates might have an effect on the quality of this relationship because it develops over time. The same argument can be applied to the quality of TMX. The average age of the team members is included because of the fact that demographic factors, such as age, might influence individuals' experience of team member affect (Tse & Dasborough, 2008). Team size is included because research has demonstrated that group size can influence group functioning because of the effect on group coordination (Stewart & Johnson, 2009).

3.3 Statistical analyses

3.3.1 Preparation of the dataset

After data collection the data was entered into the statistical program SPSS. Preliminary analyses were carried out to get a better understanding about the dataset. The data file was checked on missing values and errors using frequency tables. The descriptive statistics following out of these analyses were used to check the response, describe the population and to check for missing values. Questionnaires were rechecked to solve the missing value problem; when a respondent did not fill in an answer this particular answer was coded with a "999". When more answers were given to one item, the lowest score was taken. Then, reversed items on the scales were recoded. According to Price (1997), two items on the scale of job satisfaction had to be recoded. Finally, the dataset was checked on outliers. Concerning outliers, these were readjusted when possible or otherwise replaced by "999".

3.3.2 Preliminary data analyses

Presuming some discrimination between LMX and TMX, a factor analysis including the items of both variables was carried out. The results show no overlap between the items of both constructs (see Appendix D for the factor loadings, KMO scores and Bartlett's Test). This means that LMX and TMX are distinct constructs. However, the first item of the TMX-scale did not load on both components.

Also reliability analyses were executed (see 3.2 Instruments for Cronbach's Alpha scores). Based on these results as well as the results of the factor analysis, it was decided to delete item 1 of the scale of TMX for further analyses. Ultimately, all Cronbach's Alpha scores were at least .746, which is appropriate (Pallant, 2005).

3.3.3 Aggregation and Z-scores

The file on the individual level was aggregated in order to be able to conduct analyses on the team-level. After this, the two existing files (team member file and team leader file) were merged. Interrater agreement scores were calculated concerning information derived from the team members (job satisfaction, TMX, LMX) in order to justify aggregation. Interrater agreement (IRA) refers to "the absolute consensus in scores furnished by multiple judges for one or more targets" (LeBreton & Senter, 2008, p. 816). The IRA index for multi-items (Rwg(j)) developed by James, Demaree and Wolf (1984, 1993) was used. This indices range from 0 ("perfect lack of agreement") to 1 ("perfect agreement"). A traditional cut point is 0.7 (LeBreton, Burgess, Kaiser, Atchley & James, 2003). This means that thirty percent of the observed variance among team members should be ascribed to random responding (LeBreton & Senter, 2008). Within the present study, IRA indices show justification for aggregation (see 3.2 Instruments for average IRA scores). According to LeBreton and Senter (2007), "very strong agreement" within the teams existed.

Before conducting correlation analyses and regression analyses, the total variables were composed. For job satisfaction, TMX and LMX, this was done by calculating the sum of all the team members' scores on all the items divided by team size. For team performance, the total score of the team leader was calculated. Also the average LMX-score per team member was calculated. Then, the variance between those scores was calculated in order to compose LMX differentiation. Concerning the control variables, mean age of all team members as well as the mean team tenure was calculated. After this, those scores were transformed into z-scores. These standardized scores were utilized in further analyses. Scores were also checked on outliers (< -3.00 and > 3.00). Based on this, several teams were excluded from further analyses. This exclusion criterion was applied in order to make the results of the present study more robust.

3.4 Quality indicators
3.4.1 Reliability
The reliability of this study is relatively high because of the use of existing scales. For all scales (team performance, job satisfaction, LMX & TMX) reliability analyses demonstrated appropriate Cronbach's Alpha scores from above .7 (Pallant, 2005). Besides this, a sufficient

intra-team response rate as well as very strong within team agreement (*Rwg(j)*) contributed to the reliability of the present study.

3.4.2 Validity

Concerning validity, the internal validity could partially felt short because of the cross-sectional design; data was collected at only one point in time. However, control variables were used to partially compensate for this shortcoming. Internal validity was also taken into account by careful translation (translation double back) and by doing a pilot in order to make sure that questions were clear to the respondents. Feedback was used to adjust the surveys before setting out the actual questionnaires.

Diversity in team size, average age of team members and the origin of work teams included in the final sample, all contribute to the external validity. Therefore, findings based on this sample can be generalized to various types of work teams within multiple organizations.

3.4.3 Replication

Replication of the study is guaranteed because information in the methodology is detailed. By providing this highly detailed information, other researchers will be able to replicate this study by taking recommendations for further research into account in order to extent current insights.

4. Results

In this chapter the results of the statistical data analyses are presented. In the first place, the descriptive statistics of the variables and information of the correlations among those variables are presented. Second, the results concerning hierarchical regression analyses are provided.

4.1 Descriptives and Pearson correlations

The final sample has the following characteristics: the youngest team consisted of members with an average of 21 years and the oldest team consisted of team members with the average age of 54 years old (Mage = 38,46 SD = 8,78). The smallest team consisted of two team members (team leader excluded), the biggest team had ten team members. The average team tenure was 4 years and one month (M = 48,61 SD = 31,81). On average, teams consisted of 4 team members (M = 4,25).

See table 1 for the inter-correlations among the variables. Several significant correlations were found. Concerning the control variables, only a significant negative correlation between age and the dependent variable average TMX quality was found (-.32**). Age also significantly correlated with team tenure and team size (respectively .49** and .28*). Team tenure also positively correlated with team size (.65**).

As expected, TMX and LMX did correlate (.34**). Average leader-member exchange quality as well as average team-member exchange quality also positively correlated with job satisfaction (respectively .47** and .26*). A remarkable finding is the fact that LMX differentiation did significantly correlate with TMX (.23*) whereas this variable did not significantly correlate with LMX (.10).

Τable 1. Pearson Correlations

	M	SD	1	2	3	4	5	6	7	8
1. Age	38,46	8,78		.49**	.28*	-.15	-.02	-.32**	.03	-.16
2. Team tenure	48,62	31,81			.65**	-.04	-.01	-.16	-.08	-.08
3. Size	4,26	1,83				-.05	-.01	-.19	-.08	-.13
4. LMX	3,94	0,31					.10	.34**	.47**	.13
5. LMX differentiation	0,18	0,16						.23*	.09	-.06
6. TMX	3,84	0,24							.26*	.11
7. Job satisfaction	4,13	0,31								-.01
8. Team performance	3,50	0,61								

N=80
° Correlation is significant at the 0.10 level (2-tailed)
* Correlation is significant at the 0.05 level (2-tailed)
** Correlation is significant at the 0.01 level (2-tailed)

4.2 Hierarchical regression analyses

The results of the correlation analysis showed only one significant correlation between one of the control variables and one dependent variable, namely age and average team-member exchange quality (-.32**). In spite of this, by executing hierarchical regression analyses every control variable (either age, team tenure or team size) was inserted separately. With the exception of controlling for age with regard to average team-member exchange, the results of those analyses showed that inclusion of the control variables did not explain significant variance in the dependent variables (either average TMX quality, team performance or average job satisfaction). Therefore, it was decided to only include one control variable. During the hierarchical regression analyses there was controlled for either age or team size. Results are exposed in table 2 to 4.

4.2.1 Dependent variable: average TMX quality

The first model of table 2 shows that age explained 9,9% of the variance within average team-member exchange quality (p<0.01). After adding the variables average LMX quality and LMX differentiation, the model explained 22,6% of the variance in TMX quality (ΔR^2= .13, p<0.01). The third model (including the interaction term) explained 23,1% of the variance (ΔR^2= 0.01, p = n.s.).

Age was negatively related to the average quality of team-member exchange (ß= -.28, p<0.05). Results of this regression analysis imply that the average quality of leader-member exchange is positively related to the average quality of team-member exchange (ß= .25, p<0.05). This means that the higher the average quality of leader-member exchange between team members and their team leader, the higher the average quality of team-member exchange within the team. Based on this particular findings hypothesis 1, which stated that the average quality of leader-member exchange is negatively related to the average quality of team-member exchange, could not be confirmed. Since a negative relationship between these two variables was hypothesized, this is an unexpected but interesting finding. Also a significant positive relationship between LMX differentiation and average TMX quality was found (ß= .23, p<0.10), meaning that the higher the variation in leader-member exchange quality between team members, the higher the quality of exchange among those team members. Hypothesis 3, which stated that LMX differentiation positively moderated the negative relationship between average LMX quality and average TMX quality, was not confirmed (ß= .08, p = n.s.).

Table 2. Regression analysis: dependent variable "average TMX quality"

	Model 1	Model 2	Model 3
Age	-.32**	-.27*	-.28*
LMX		.28**	.25*
LMX differentiation		.19°	.23°
Interaction term (LMX * LMX differentiation)			.08
R	.32	.48	.48
R^2	.10	.23	.23
R^2 change	.10**	.13**	.01
F-value	8.25**	7.11**	5.41**

N=80
° Significant at the 0.10 level
* Significant at the 0.05 level
** Significant at the 0.01 level

4.2.2 Dependent variable: team effectiveness

Concerning team performance (table 3), age only explained 2,6% of the variance in team performance (p = n.s.). After including the variables LMX and LMX differentiation, the model still explained just 4,2% of the variance in team performance (ΔR^2= .02, p = n.s.). Also the third model (with inclusion of the interaction term) did not show significant results (ΔR^2= 0.01,

p = n.s.). Concerning average job satisfaction (table 4), the first model revealed that size explained only 0.6% of the variance (p = n.s.). In model 2 (including of the variables LMX and LMX differentiation), 22,5% of the variance in average job satisfaction was explained (ΔR^2= .22, p<0.01). The third model just added 0,1% to the already explained variance in average job satisfaction (ΔR^2= .00, p = n.s.).

Based on the results of both regression analyses, the average quality of leader-member exchange was not significantly related to team performance (ß= .17, p = n.s.). However, findings confirmed the positive relationship between the average quality of leader-member exchange and average job satisfaction (ß= .45, p<0.01). This implies that an increase in average leader-member exchange quality perceived by team members, results in growing levels of job satisfaction among those team members. Because of the fact that the concept of team effectiveness was divided in team performance and average job satisfaction, hypothesis 2, which stated that the average quality of leader-member exchange was positively related to team effectiveness, could only be partially confirmed. Unfortunately, hypothesis 4, the expectation of the negative moderation of LMX differentiation on the relationship between the average quality of leader-member exchange and team effectiveness, could not be confirmed as well. Concerning team performance as well as average job satisfaction, LMX differentiation did not significantly moderate (respectively ß= -.14 and ß= .04).

Table 3. Regression analysis: dependent variable "team performance"

	Model 1	Model 2	Model 3
Age	-.16	-.15	-.13
LMX		.11	.17
LMX differentiation		-.07	-.12
Interaction term (LMX * LMX differentiation)			-.14
R	.16	.21	.24
R^2	.03	.04	.06
R^2 change	.03	.02	.01
F-value	2.03	1.08	1.06

N=80
° Significant at the 0.10 level
* Significant at the 0.05 level
** Significant at the 0.01 level

Table 4. Regression analysis: dependent variable "average job satisfaction"

	Model 1	Model 2	Model 3
Size	-.08	-.06	-.05
LMX		.46**	.45**
LMX differentiation		.05	.06
Interaction term (LMX * LMX differentiation)			.04
R	.08	.47	.48
R^2	.01	.23	.23
R^2 change	.01	.22**	.00
F-value	.46	7.06**	5.26**

N=80
° Significant at the 0.10 level
* Significant at the 0.05 level
** Significant at the 0.01 level

4.2.3 Additional regression analyses

Because of no significant results concerning one aspect of team effectiveness, namely team performance (see table 3), some extra regression analyses were executed. Two other operationalizations of team performance were tested. More precisely, a 12-item scale of internal team performance (Alper, Tjosvold & Law, 2000) and a scale of external team performance consisting of five items (Richter, Scully & West, 2005) were inserted as dependent variables which could result in other, interesting findings. Unfortunately, no significant findings were found concerning external team performance. When applying a significance level of 0.10, a positive relationship between average leader-member exchange quality and internal team performance was found (ß= .22, see table 5). Although the fact that this is a relatively weak relationship, it means that the higher the score of average leader-member exchange quality, the higher the score of internal team performance. Because of a significant positive relationship between average leader-member exchange quality and average job satisfaction (see 4.2.2), this finding provided justification for the acceptation of hypothesis 2, stating that the average quality of leader-member exchange was positively related to team effectiveness.

Table 5. Dependent variable: internal team performance

	Model 1	Model 2	Model 3
Size	-.11	-.11	-.11
LMX		.19°	.22°
LMX differentiation		-.05	-.08
Interaction term (LMX * LMX differentiation)			-.07
R	.11	.23	.23
R^2	.01	.05	.06
R^2 change	.01	.04	.00
F-value	.98	1.31	1.04

N=80
° Significant at the 0.10 level
* Significant at the 0.05 level
** Significant at the 0.01 level

Considering the feasibility of the current study, it was decided to not include the relationship between average team-member exchange and team effectiveness in the research model. Consequently, no hypothesis concerning this particular relationship was formulated. However, in order to present a complete picture and because of an earlier attempt by Cole et al. (2002), also the relationship between average team-member exchange and team effectiveness and the interaction of TMX differentiation were explored. No significant results concerning average TMX quality and team performance were found. Although, findings showed support for a positive significant relationship between average TMX quality and average job satisfaction (ß= .22, see table 6), implying that an increase in the average quality of team-member exchange will result in higher levels of job satisfaction among those team members.

Table 6. Average team-member exchange quality and average job satisfaction

	Model 1	Model 2	Model 3
Age	.03	.14	.12
TMX		.29*	.22°
TMX differentiation		-.12	-.17
Interaction term (TMX * TMX differentiation)			.18
R	.03	.31	.35
R^2	.00	.10	.12
R^2 change	.00	.10*	.03
F-value	.05	2.53°	2.43°

N=80
° Significant at the 0.10 level
* Significant at the 0.05 level
** Significant at the 0.01 level

5. Discussion

In this chapter, the key theoretical contributions of this study as well as content-related future research directions are discussed. Next to this, methodological limitations, implications and directions for future research are presented. Finally, managerial implications are provided.

5.1 Key contributions of the study

5.1.1 Synergistic relationship between internal and external social exchange

The main aim of the present study was to provide new insights to team research as well as social exchange literature by investigating the relationship between the quality of internal and external exchange at the team-level. The present study did not find support for the theoretical claim by Choi (2002) concerning a trade-off relationship between LMX and TMX. However, support was found for a significant positive relationship between average LMX quality and average TMX quality. This implies that the higher the score of perceived quality of exchange with the team leader, the higher the score of perceived quality of team-member exchange within the team. Although the fact that hypothesis 1 took another perspective, this finding is not that unexpected. Instead of LMX and TMX being competing forces due to scarcity of resources, LMX and TMX tend to maintain a so-called "synergistic relationship" (Choi, 2002).

Group identity theory may explain this synergistic relationship. Internal as well as external high quality relationships might be both essential in forming and maintaining a certain team identity. One the one hand, internal activities are important for getting a feeling uniformity. In fact, this feeling enhances group cohesiveness (Campion, Papper & Medsker, 1996). On the other hand, external activities are also necessary for the identity of a team. The team has to be unique, which implies interaction with the environment because this uniqueness has to be carried out (Festinger, 1954). Applying this theory to the current finding, high quality exchange with the team leader implies that the team identity is defined and that this identity is justified towards and within the organization (Choi, 2002). Initially, the team leader will set the boundaries by providing a clear structure and setting goals. In turn, this established team identity will strengthen the feeling of uniformity internally. Being part of a team having a unique team identity makes the team more cohesive which will be positive for the quality of exchange between those team members. In sum, the potential of leaders to create a certain shared identity can be seen as a predictor to energize team members and to make them establishing and maintaining close relationships (Ellemers, de Gilder & Haslam, 2004). This underscores the importance of leadership in creating synergy within the team because a leader being good in maintaining those high quality relationships seems to stimulate collaboration internally. When the team leader establishes close relationships with its'

members, he/she is able to influence the quality of the relationships between those members.

This study made one of the first attempts in examining the relationship between social exchanges, more specifically leader-member exchange and team-member exchange at the team-level. The present study found support for a positive relationship between those two types of social exchange. However, this particular finding does not deliver a conclusive answer. As claimed by Choi (2002), two sides of the coin might be realistic. Therefore, more empirical research is needed exploring the nature of the relationship between LMX and TMX.

5.1.2 Explaining team effectiveness

The second aim of this research was to explore the relationship between average LMX quality and team effectiveness. As mentioned earlier, the variable 'team effectiveness' was divided in team performance and average job satisfaction. Initially, hierarchical regression analyses were executed with inclusion of average job satisfaction and the intended operationalization of team performance. Those analyses only provided support for a positive significant relationship between average LMX quality and average job satisfaction of team members was found. After conducting new regression analyses with inclusion of two different measurements of team performance, a significant positive relationship between average leader-member exchange quality and internal team performance was found as well. Therefore, significant support was found for the relationship between LMX and effectiveness at the team-level.

The significant finding concerning average job satisfaction implies that when team members perceive high quality relationships with their supervisor, this will increase their level of perceived job satisfaction. This finding is in line with existing literature (Harris, Wheeler & Kacmar, 2009; Harris, Harris & Brouer, 2009). As stated earlier, those high-quality relationships within the team contain deep communication, high trust and respect which will result in a bond characterized by mutual obligations and reciprocity. Compared to a purely economic relationship, this social exchange relationship leads to higher job satisfaction (Harris et al., 2009). In the workplace, a warm and sincere relationship with the team leader will result in team members being satisfied with their job. This finding implies that, in spite of the individual level, leader-member exchange quality also is a predictor of job satisfaction at the level of the team as a whole.

Initially (with inclusion of the intended operationalization of team performance), no significant support was found for the relationship between average LMX quality and team performance, which was contrary to the expectations. After conducting this regression analysis, it was

thought that this could be due to the operationalization of team performance. After conducting new regression analyses with inclusion of two different measurements of team performance, a significant positive relationship between average leader-member exchange quality and internal team performance was found. Although this is not a robust significant result (at the level of 0.10), this was in line with the expectation. Compared to the other two measurements of team performance focusing on the attainment of work goals determined by the organization, this measurement pays attention to internal processes and the attainment of team goals. This means that the quality of LMX is a significant predictor in explaining the quality of internal processes and therefore internal team performance, whereas the quality of exchange with the leader does not explain the performance set by the organization itself.

A possible explanation can be found in social identity theory and the role of leadership. When the team leader is able to energize its' team members to act according to the teams' identity and in line with team-level goals, less social loafing will occur and at the same time team members will maintain close relationships with each other (Ellemers et al., 2004). Applying this logic to the current finding, high quality relationships with the team leader imply closeness within the team and therefore high performance according to team goals, which is reflected in the concept of internal team performance.

Based on the findings concerning team performance, it can be concluded that internal team performance and external team performance are distinct concepts. The study by Ancona and Caldwell (1992) corresponds to this; internal team processes and external performance seemed to be two rather different phenomena. In order to explain this difference, future research should take a closer look at LMX in relation to internal team performance (team processes) as well as external team performance (team performance compared to the norms of the organization).

As stated earlier, team effectiveness is a rather complex phenomenon (Marks et al., 2001). Cohen and Bailey (1997) divided the effectiveness of a team into three dimensions, namely: team performance, member attitudes and behavioural outcomes. However, the present study only included team performance and job satisfaction (one operationalization of member attitudes). Other examples of member attitudes are commitment and trust in management, behavioural outcomes can be absenteeism and turnover (Cohen & Bailey, 1997). Therefore, it is recommended to further explore leader-member exchange in relation to other dimensions of team effectiveness.

5.1.3 Additional discussion point: average TMX quality and team effectiveness

In order to present a complete picture and because of an earlier attempt by Cole et al. (2002), an extra hierarchical regression with regard to the relationship between average

team-member exchange quality and team effectiveness was executed. Those authors underscored the need to explore the contributions of TMX to employee outcomes (Cole et al., 2002).

As reported, average team-member exchange quality has a significant positive impact on the job satisfaction of team members. This implies that at the team-level, not only LMX quality is a determinant of attitudinal outcomes (more specific: job satisfaction), also average team-member exchange quality has to be considered as one. Therefore, future research should pay attention to the inclusion of both determinants in explaining team effectiveness.

5.1.4 Looking at the bigger picture: social exchange within team literature

Ancona and Caldwell (1992) studied the relationship between what goes on within teams and external team activities. Also within team research, no conclusive answer exists. Teams tend to develop distinct strategies in coping with their environment; some teams solely have an internal focus, others are only focused on external activities whereas some teams engage in multiple activities simultaneously (Ancona & Caldwell, 1992). The current study took the perspective of a trade-off. Findings indicated the opposite; engaging in external activities stimulates activity within the team. This is in line with the study of Ancona (1990); accurate interaction of teams with the environment was found to improve internal processes.

The present study contributes to team research by providing more insight by applying a social exchange perspective. Overall, findings emphasize the important role of leadership in stimulating internal processes as well as in improving the effectiveness of teams. However, a possible new avenue within team research can be entered. Ancona and Caldwell (1992) underscored the possibility of interaction between internal processes, external activity and team performance.

5.1.5 The role of LMX differentiation

The third aim was to investigate the role of LMX differentiation as a moderator. No support was provided for a significant moderating relationship. In their review, Graen and Uhl-Bien (1995) posed the following question: "How do differentiated exchanges within the same work group affect task performance and attitudes?" (p. 234). Unfortunately, this question cannot be unraveled any further because no new significant empirical knowledge can be added.

A possible explanation for this non-significance can be searched for in the sample size of the present study (N=80). Although the fact that, in comparison with other studies conducting team research, this sample size is relatively large, it is still quite small when studying moderation. Consequently, the so-called "type II error" might explain this insignificance. Possibly the sample size was too small in order to make sure that this study had the power to detect anything useful (Pallant, 2007). However, other studies exploring the moderating

effect of LMX differentiation (Sherony & Green, 2002; Liao et al., 2010; Boies & Howell, 2006) did find significant results and two studies even had a smaller sample consisting of respectively 67 individuals and 37 teams (Sherony & Green, 2002; Boies & Howell, 2006). Therefore, it can be concluded that sample size alone cannot provide an integral explanation. Another explanation may be that other dependent variables were included in the conceptual models of those studies. Liao et al. (2010) included team-member's creativity as the dependent variable whereas Boies and Howell (2006) explained team conflict and team potency. Those three constructs can be marked as so-called emergent states. Marks et al. (2001) defined emergent states as "constructs that characterize properties of a team that are typically dynamic in nature and vary as a function of team context, input, processes and outcomes" (p. 357). According to the integrative complex adaptive system model explaining team effectiveness (Cursue, 2006), emergent states and team effectiveness (divided in performance, attitudinal outcomes and behavioral outcomes) are two distinct phenomena. This might explain the difference in results with regard to (non-) significance. Therefore, LMX differentiation is an essential point of consideration in relation to team emergent states. However, the results of the present research imply that the importance of including LMX differentiation in relation to team effectiveness is doubtful and needs further investigation.

Considering the insignificancy of LMX differentiation, the investigation of different configurations of LMX within the team might be interesting (Boies & Howell, 2006). This study included mean scores and differentiation in LMX, but other indices, such as the minimum and maximum values, could also shed new light (Barrick, Stewart, Neubert & Mount, 1998; Neuman, Wagner & Christiansen, 1999).

Next to this, other theoretical paradigms might be interesting to study. The present study looked at LMX differentiation by underscoring the possibility of a violation of fairness when the team leader does differentiate in the quality of relationships with its' members. This violation was claimed to result in higher internal clustering and lower levels of team effectiveness. However, two other perspectives can also be realistic, which are mentioned below.

Firstly, Lau and Murnighan (1998) launched the notion of 'group faultlines'. Group faultlines are defined as "hypothetical dividing lines that may split a group into subgroups based on one or more attributes" (Lau & Murnighan, 1998, p. 328). Depending on the level of similarity or diversity of members' attributes, groups have the potential to develop faultlines. Those faultlines actually imply subgrouping within the team. Two categories of faultlines are mainly studied, namely: social category faultlines (for example age and gender) and information-based faultlines (for example education and work experience) (Bezrukova, Jehn, Zanutto & Thatcher, 2009). Thus far, no consistency exists whether faultlines are either positive or

negative for team functioning (Bezrukova et al., 2009). However, faultlines are important in explaining team functioning as well as social identities (Bezrukova et al., 2009; Lau & Murnighan, 1998). Besides faultlines based on diversity in social category and information, the difference in quality relationships between team members and their leader may also be a condition for the creation of a faultline within a team. It would be interesting to study under what conditions LMX differentiation helps and what conditions cause damage.

Secondly, differentiation in relationships with team members can also be a good thing to strive for. This idea is reflected in 'situational leadership'. In a most ideal situation, it is recommended that a leader establishes good relationships with all its' followers (Graen & Uhl-Bien, 1995). However, this is not a realistic advice. Leaders not have the resources to establish and maintain those high quality relationships with all members (Schriesheim, Castro & Yammarino, 2000). Here, situational leadership comes in; the relationship between leader and member is contingent (Blank, Weitzel & Green, 1990). Instead of LMX differentiation causing damage, Schyns and Day (2010) showed that when differentiation is perceived as legitimate, acceptance of those different quality relationships would be the result. Liden et al. (2006) even argued that, when leader treat members differently with regard to their contributions, LMX variability increases performance. This is agreed upon by Henderson, Wayne, Shore, Bommer and Tetrick (2008). Those authors underscored that differentiation in LMX quality at the team-level can be functional under certain circumstances, for example when differentiation is based on individual contribution.

Considering those different paradigms, future research concerning LMX differentiation should try to answer the following question (van Breukelen & Wesselius, 2007): Under what conditions is differentiation experienced as fair and consequently will lead to positive results and under what conditions is it experienced as unfair and will therefore result in negative outcomes?

5.2 Methodological limitations, implications and future research directions

The findings gathered within the present study add new knowledge to current team research as well as exchange literature. In the first place, this study makes one of the first steps in unravelling the relationship between social exchanges at the team-level. Secondly, team outcomes are explained with the usage of average leader-member exchange quality. Also, more insight concerning LMX differentiation is provided.

Besides these new insights, the present study also has its' limitations, derived from the research design, sample and the data collection. Those are mentioned below, together with implications and future research directions.

5.2.1 Cross-sectional design

As stated earlier, the present study applied a cross-sectional design. Questionnaires were filled in once. Relationships among variables could not be measured over time. It was not allowed to make causal statements about the results. A longitudinal design permits causality (Pallant, 2007). Especially concerning social exchange, this research design would have been more suitable. The amount of time a supervisor spends with his/her subordinate might affect the quality of the relationship because it develops over time (Liden et al., 1993). This logic can also be applied to relationships among team members. Although the fact that longitudinal research confiscates more time, future research should conduct this type of research to look at these phenomena over time.

5.2.2 Sample

The sample size of this study is another limitation. After exclusion of 14 teams due to insufficient data (missing values, IRA-scores and outliers), the total sample consisted of 80 teams. Although the fact that within team research a total sample of 80 teams is relatively large, this could be an explanation for the fact that no interaction was found. Nevertheless, regression analyses revealed (remarkable) significant results concerning direct relationships.

Next to this, the inclusion of teams having a within team response rate below 100% is doubtful. The reliability of the team-scores would have increased when all team members were represented within the sample. A more realistic view would have been the result.

5.2.3 Data collection

Convenience sampling was used and resulted in a lot of questionnaires being filled in by family and/or acquaintances and their direct colleagues and supervisor. Therefore, extra information concerning anonymity was provided to all respondents: questionnaires were handed in a closed envelope, questionnaires were not inserted by the contact person itself and no findings at the level of the individual or the team would be handed on to the team leader or the organization. Despite of these attempts, the first limitation of the present study has to do with a possible lack of feeling of anonymity, which in turn may have caused a source of bias in response. This may has resulted in social desirable answers. Therefore, future research should select another sampling method.

Besides this, another limitation contains some operationalizations of the included instruments. Although the fact that exchange is a two-way interaction, leader-member exchange quality was only judged by the team members. Management judgements of performance and team-rated performance are proved to be different (Ancona & Caldwell, 1992). Therefore, future research should pay more attention to the double-sided nature of

social exchange. Team performance was only judged by the team leader. Data from both the team members as well as the team leader might have resulted in a more robust view.

5.3 Practical implications

The founding of this study also has practical implications for organizations and its' managers. Managers seem to have a significant impact in influencing internal collaboration (in terms of the quality of relationships between team members within the team they manage) as well as the effectiveness of the team (in terms of performance and member attitudes). Consequently, it can be concluded that managers really pull the strings. The leader of the team has an essential role in moving the team in the right direction. Since team effectiveness directly relates to organizational effectiveness (Sundstrom, McIntyre, Halfhill & Richards, 2000), organizations should pay attention and make their managers aware of this. For example, by providing training that highlights and attends to the importance of team identity and social exchange.

6. Conclusion

The main aim of the present study was to investigate the possible trade-off relationship between LMX and TMX at the team-level. Besides this, team effectiveness was explained. In exploring those relationships, LMX differentiation was taken into account. Therefore, this study focused on answering the following research question:

To what extent is the average quality of leader-member exchange related to the average quality of team-member exchange and team effectiveness, and to what extent are these relationships moderated by the differentiation of leader-member exchange within a team?

The results indicate that, instead of a trade-off relationship, average leader-member exchange quality has a significant positive impact on average team-member exchange quality. Results provide support for the expected positive relationship between LMX quality at the team-level and team effectiveness; support was found for a significant positive direct relationship between average leader-member exchange quality and average job satisfaction as well as team performance. No support for the interaction of LMX differentiation was found.

These findings build upon social exchange literature as well as team research. The results add new knowledge to both fields about the interaction between different types of exchanges because this study provided empirical support for a synergistic relationship between LMX and TMX. The present study also builds upon current insights concerning the relationship between LMX and team outcomes at the team-level; average job satisfaction and internal team performance can be added to the list of already examined team outcomes. Next to this, it became clear that much work has to be done concerning an interesting new avenue for both fields, namely LMX differentiation.

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Appendices

Appendix A – Questionnaires (team leader & team members)

UNIVERSITEIT ◆ VAN TILBURG

Beste meneer/mevrouw,

Hierbij ontvangt u de vragenlijst die betrekking heeft op afstudeeronderzoeken aan de Universiteit van Tilburg.

De vragenlijst gaat over werken binnen teams, alle vragen hebben betrekking op het team waaraan u leidinggeeft (…….). Naast algemene informatie bestaat de vragenlijst uit twee onderdelen; 1) vragen betreffende het team, 2) vragen betreffende de organisatie. Bij elk onderdeel treft u een aantal vragen aan met daarboven een korte invulinstructie. Lees deze alstublieft zorgvuldig! Als u twijfelt over het goede antwoord, kies dan het antwoord dat het dichtst in de buurt komt van wat u denkt. Er is geen goed of fout antwoord. Het gaat enkel om uw eigen mening. Het is van groot belang dat u ALLE vragen beantwoordt. Het invullen van deze vragenlijst duurt ongeveer 15 minuten.

In dit onderzoek is anonimiteit gegarandeerd. Dit betekent dat de door u verstrekte informatie op geen enkele wijze bij derden binnen uw organisatie terecht zal komen. Als u de vragenlijst volledig heeft ingevuld, kunt u deze in bijgevoegde envelop inleveren bij diegene waarvan u de vragenlijst heeft ontvangen. Mochten er vragen zijn met betrekking tot deze vragenlijst, dan kunt u altijd contact opnemen met onderstaande contactpersoon.

Alvast hartelijk dank voor uw medewerking!

Fieke Fleskens
Tel.: 06-24957749
E-mail.: F.M.J.Fleskens@uvt.nl

Algemene informatie

Uw geslacht: 0 man 0 vrouw

Uw leeftijd: _____ jaar

Wat is uw hoogst afgeronde opleiding?
0 middelbaar onderwijs
0 lager (beroeps) onderwijs
0 middelbaar (beroeps) onderwijs
0 hoger (beroeps) onderwijs
0 wetenschappelijk onderwijs

Hoelang bent u al werkzaam voor deze organisatie? _____ jaren _____ maanden

Wat is uw beroep? _____

Uit hoeveel personen bestaat het team
waaraan u leidinggeeft? _____ personen

Hoelang werkt het team waaraan u leidinggeeft al
samen in deze samenstelling? _____ maanden

Hoeveel invloed heeft het team op alledaagse
beslissingen en taken?
0 Heel veel
0 Veel
0 Gemiddeld
0 Weinig
0 Heel weinig

Op de volgende pagina's staan de overige vragen. Lees de vragen goed door, maar denk niet te lang na over uw antwoorden. Succes!

1. Vragen betreffende het team

A. In de onderstaande tabel staat de namen van de teamleden van uw team.

- Geef voor elke persoon aan hoe vaak u met hem/haar communiceert. Deze communicatie kan gaan over zowel werkgerelateerde als niet-werkgerelateerde zaken ("social talk"). Beoordelingen variëren van;
        1 = "minder dan 1 keer per maand"
        2 = "1-3 keer per maand"
        3 = "1 tot 3 keer per week"
        4 = "dagelijks"

- Geef daarnaast ook voor iedere persoon aan, door een kruisje te zetten wanneer dit het geval is, of u met hem/haar een hechte relatie heeft (close bent).

- Geef ook voor iedere persoon aan, door een kruisje te zetten wanneer dit het geval is, of u met hem/haar al eerder hebt samengewerkt in een ander project en/of team.

- Geef tot slot voor iedere persoon aan hoe u zich in het algemeen voelt tegenover hem/haar. Dit op een schaal van 1 (mag ik helemaal niet) tot 4 (mag ik heel erg graag).

	Naam van teamlid	Hoe vaak u communiceert met hem/haar -- ++				Met deze persoon heb ik een hechte relatie (ben ik close)	Met deze persoon heb ik al eerder samengewerkt	Hoe u zich in het algemeen voelt tegenover hem / haar -- ++			
		1	2	3	4			1	2	3	4
1.											
2.											
3.											
4.											
5.											

B. De volgende indicatoren hebben betrekking op het functioneren van het team waaraan u leidinggeeft (……). Geeft u aan hoe het team functioneert gekeken naar deze vijf criteria (gebaseerd op de afgelopen zes maanden).

		Erg laag	Laag	Gemiddeld	Hoog	Erg hoog
1.	Behalen van gestelde doelen	○	○	○	○	○
2.	Productiviteit (kwantiteit)	○	○	○	○	○
3.	Kwaliteit van geleverd werk	○	○	○	○	○
4.	Respect voor deadlines	○	○	○	○	○
5.	Respect voor kosten	○	○	○	○	○

C. De stellingen behorende bij onderstaande vraag hebben betrekking op de prestaties van het team (cluster communicatie). Geef aan in hoeverre u het eens dan wel oneens bent met onderstaande stellingen.

		Helemaal oneens	Oneens	Neutraal	Eens	Helemaal eens
1.	Dit team voldoet aan de <u>kwaliteit</u>standaarden die de organisatie ons stelt	○	○	○	○	○
2.	Dit team voldoet aan de <u>kwantiteit</u>standaarden die de organisatie ons stelt	○	○	○	○	○
3.	Dit team behaalt de deadlines die de organisatie ons stelt	○	○	○	○	○
4.	Dit team heeft een goede reputatie voor het leveren van excellent werk binnen de organisatie	○	○	○	○	○
5.	Leden van dit team houden zich actief bezig met het herzien van hun werk met het doel dit te verbeteren	○	○	○	○	○
6.	Leden van dit team werken effectief	○	○	○	○	○
7.	Leden van dit team moeten hun werk vaak opnieuw doen doordat ze onnauwkeurig werken	○	○	○	○	○
8.	Leden van dit team steken aanzienlijk veel moeite in hun werk	○	○	○	○	○
9.	Leden van dit team zijn bezorgd over de kwaliteit van hun werk	○	○	○	○	○
10.	Leden van dit team verspillen werkmaterialen	○	○	○	○	○
11.	Leden van dit team moeten voldoen aan productiviteiteisen	○	○	○	○	○
12.	Leden van dit team zijn toegewijd om kwaliteitswerk te produceren	○	○	○	○	○
13.	Leden van dit team verzorgen werkmaterialen en machines goed	○	○	○	○	○
14.	Leden van dit team doen wat van hun verwacht wordt om zich ervan te verzekeren dat hun producten op tijd geleverd worden	○	○	○	○	○
15.	Leden van dit team komen met ideeën om beter werk met een hogere kwaliteit te leveren	○	○	○	○	○
16.	Leden van dit team hebben met succes ideeën geïmplementeerd zodat de kwaliteit omhoog gaat	○	○	○	○	○
17.	Leden van dit team hebben met succes plannen geïmplementeerd om productiever te zijn	○	○	○	○	○

D. Hieronder volgt een lijst met een aantal beloften/toezeggingen die u als leider/manager kunt doen aan uw team.

- Geef voor elk van de beloften/toezeggingen aan in welke mate u ze heeft gedaan aan uw team (1 = Totaal geen belofte, 2 = Nauwelijks een belofte, 3 = Enigszins een belofte, 4 = Sterke belofte, 5 = Zeer sterke belofte)

- Geef voor elke belofte/toezegging aan in welke mate u vindt dat u de belofte/toezegging heeft *vervuld* (1 = Totaal niet vervuld, 2 = Nauwelijks vervuld, 3 = Enigszins vervuld, 4 Grotendeels vervuld, 5 = Volledig vervuld).

		1	2	3	4	5
1.	Het team goede faciliteiten bieden (werkruimte, computers, etc.) om te presteren.					
	Mate van belofte	○	○	○	○	○
	Mate van vervulling	○	○	○	○	○
2.	Het team trainingen en opleidingen aanbieden.					
	Mate van belofte	○	○	○	○	○
	Mate van vervulling	○	○	○	○	○
3.	Duidelijke doelen en prioriteiten stellen voor het team.					
	Mate van belofte	○	○	○	○	○
	Mate van vervulling	○	○	○	○	○
4.	Feedback geven over de prestaties van het team.					
	Mate van belofte	○	○	○	○	○
	Mate van vervulling	○	○	○	○	○
5.	Het team een prettige werksfeer bieden.					
	Mate van belofte	○	○	○	○	○
	Mate van vervulling	○	○	○	○	○
6.	Het team eerlijk behandelen.					
	Mate van belofte	○	○	○	○	○
	Mate van vervulling	○	○	○	○	○
7.	Ondersteuning bieden wanneer het team problemen heeft.					
	Mate van belofte	○	○	○	○	○
	Mate van vervulling	○	○	○	○	○
8.	Het team autonomie geven bij de uitvoering van het werk.					
	Mate van belofte	○	○	○	○	○
	Mate van vervulling	○	○	○	○	○

2. Vragen betreffende de organisatie

A. De stellingen behorende bij de volgende vraag hebben betrekking op de cultuur binnen de organisatie waarvoor u werkzaam bent (…….). Geef aan in hoeverre u het eens dan wel oneens bent met onderstaande stellingen.

In deze organisatie…	Helemaal oneens	Oneens	Neutraal	Eens	Helemaal eens
1. …voelen werknemers zich prettig in onbekende situaties	○	○	○	○	○
2. …brengt elke dag nieuwe uitdagingen met zich mee	○	○	○	○	○
3. …hebben werknemers een maximale inbreng	○	○	○	○	○
4. …worden belangrijke beslissingen individueel door werknemers gemaakt	○	○	○	○	○
5. …is de organisatie alleen geïnteresseerd in het werk dat werknemers individueel verrichten	○	○	○	○	○
6. …is er weinig belangstelling voor persoonlijke problemen van werknemers	○	○	○	○	○

7.	…is het privéleven van werknemers hun eigen zaak.	○	○	○	○	○
8.	…zijn functie-eisen de enige criterium om werknemers aan te nemen	○	○	○	○	○
9.	…denken werknemers drie jaar of meer vooruit	○	○	○	○	○
10.	…passen alleen heel speciale werknemers binnen de organisatie	○	○	○	○	○
11.	…zijn werknemers en de organisatie zelf gesloten en geheimzinnig	○	○	○	○	○
12.	…hebben nieuwe werknemers meer dan een jaar nodig om zich op hun plek te voelen	○	○	○	○	○
13.	…zijn alle werknemers zich kostenbewust	○	○	○	○	○
14.	…worden vergaderingen stipt op tijd gehouden	○	○	○	○	○
15.	…spreken werknemers altijd serieus over hun team en hun organisatie	○	○	○	○	○

Vriendelijk bedankt voor uw medewerking!

UNIVERSITEIT ◆ ◆ VAN TILBURG

Beste meneer/mevrouw,

Hierbij ontvangt u de vragenlijst die betrekking heeft op afstudeeronderzoeken aan de Universiteit van Tilburg.

De vragenlijst gaat over werken binnen teams, alle vragen hebben betrekking op uw eigen team (……). Naast vragen over algemene informatie bestaat de vragenlijst uit drie onderdelen; 1) vragen betreffende uw team, 2) vragen betreffende uw baan in het algemeen en 3) vragen betreffende de organisatie. Bij elk onderdeel treft u een aantal vragen aan met daarboven een korte invulinstructie. Lees deze alstublieft zorgvuldig! Als u twijfelt over het juiste antwoord, kies dan het antwoord dat het dichtst in de buurt komt van wat u denkt. Er is geen goed of fout antwoord, het gaat enkel om uw eigen mening. Het is van groot belang dat u ALLE vragen beantwoordt. Het invullen van deze vragenlijst duurt ongeveer 20 minuten.

In dit onderzoek is anonimiteit gegarandeerd. Dit betekent dat de door u verstrekte informatie op geen enkele wijze bij uw organisatie of uw leidinggevende terecht zal komen. Als u de vragenlijst volledig heeft ingevuld, kunt u deze in bijgevoegde envelop inleveren bij diegene waarvan u de vragenlijst heeft ontvangen. Mochten er vragen zijn met betrekking tot deze vragenlijst, dan kunt u altijd contact opnemen met onderstaande contactpersoon.

Alvast hartelijk dank voor uw medewerking!

Fieke Fleskens
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Algemene informatie

Uw geslacht:	0 man 0 vrouw
Uw leeftijd:	_____ jaar

Wat is uw hoogst afgeronde opleiding?

0 middelbaar onderwijs
0 lager (beroeps) onderwijs
0 middelbaar (beroeps) onderwijs
0 hoger (beroeps) onderwijs
0 wetenschappelijk onderwijs

Wat is uw beroep?   _____

In welke beroepsgroep bent u voornamelijk werkzaam

geweest gedurende de afgelopen tien jaar?   _____

Hoelang bent u al werkzaam voor deze organisatie?   _____ jaren _____ maanden

Hoeveel uren werkt u per week voor deze organisatie?   _____ uren per week

Hoelang bent u al werkzaam binnen uw team?   _____ jaren _____ maanden

Hoeveel uren werkt u per week voor dit team?   _____ uren per week

Binnen hoeveel teams bent u in totaal werkzaam binnen
deze organisatie?   _____ teams

Hoeveel uren werkt u per week voor deze
teams?   _____ uren per week

Op de volgende pagina's staan de overige vragen. Lees de vragen goed door, maar denk niet te lang na over uw antwoorden. Succes!

1. Vragen betreffende uw team

A.   In de onderstaande tabel staat de naam van uw direct leidinggevende en de namen van de verschillende teamleden vermeld.

- Geef voor elke persoon aan hoe vaak u met hem/haar communiceert. Deze communicatie kan gaan over zowel werkgerelateerde als niet-werkgerelateerde zaken ("social talk"). Beoordelingen variëren van;

        1 = "minder dan 1 keer per maand"
        2 = "1-3 keer per maand"
        3 = "1 tot 3 keer per week"
        4 = "dagelijks"

- Geef daarnaast ook voor iedere persoon aan, door een kruisje te zetten wanneer dit het geval is, of u met hem/haar een hechte relatie heeft (close bent).

- Geef ook voor iedere persoon aan, door een kruisje te zetten wanneer dit het geval is, of u met hem/haar al eerder hebt samengewerkt in een ander project en/of team.

- Geef tot slot voor iedere persoon aan hoe u zich in het algemeen voelt tegenover hem/haar. Dit op een schaal van 1 (mag ik helemaal niet) tot 4 (mag ik heel erg graag).

	Naam van leidinggevende / teamgenoot	Hoe vaak u communiceert met hem/haar -- ++				Met deze persoon heb ik een hechte relatie (ben ik close)	Met deze persoon heb ik al eerder samengewerkt	Hoe u zich in het algemeen voelt tegenover hem / haar -- ++			
		1	2	3	4			1	2	3	4
1.											
2.											
3.											
4.											
5.											
6.											

B.   Onderstaande vragen gaan over teamrollen binnen uw team. Lees eerst de specificatie per teamrol zorgvuldig door, deze zijn te vinden in de tabel. Daarna dient u voor uzelf aan te geven welke teamrol op u van toepassing is. U heeft hiervoor tien punten beschikbaar. U geeft tien punten aan de rol die het dichtst bij uw persoonlijkheid ligt. Indien u zich herkent in meerdere teamrollen verdeelt u de punten (zie voorbeeld Piet). Vervolgens, kent u voor ieder teamlid tien punten toe volgens de hierboven beschreven manier.

	Naam teamgenoot	Brononderzoeker Is een extraverte netwerker, regelt contacten en heeft veel ideeën. Is sociaal, stabiel, dominant, nieuwsgierig, ruimdenkend en enthousiast.	Groepswerker Is een warme sfeerbewaker en creëert saamhorigheid. Is sociaal, contactgericht, vriendelijk, gevoelig en behulpzaam.	Voorzitter Is de coördinator van het team die de procedure aangeeft, bedoelingen verheldert en zorgt voor consensus. Kan goed delegeren en is resultaat gericht. Het is een neutrale organisator.	Vernieuwer Is introvert, serieus, creatief, origineel en intelligent. Is een out-of-the-box denker en vernieuwend.	Totaal Score
	Voorbeeld *Piet*	*3*		*7*		*10*
1.						10
2.						10
3.						10
4.						10
5.						10

C. De stellingen behorende bij de volgende vraag hebben betrekking op de cultuur binnen uw team (…..). Geef aan in hoeverre u het eens dan wel oneens bent met onderstaande stellingen.

In ons team…..	Helemaal oneens	Oneens	Neutraal	Eens	Helemaal eens
1. …voelen teamleden zich prettig in onbekende situaties	○	○	○	○	○
2. …brengt elke dag nieuwe uitdagingen met zich mee	○	○	○	○	○
3. …hebben teamleden een maximale inbreng	○	○	○	○	○
4 …worden belangrijke beslissingen individueel door teamleden gemaakt	○	○	○	○	○
5. …is het team alleen geïnteresseerd in het werk dat teamleden individueel verrichten	○	○	○	○	○
6. …is er weinig belangstelling voor persoonlijke problemen van teamleden	○	○	○	○	○
7. …is het privéleven van teamleden hun eigen zaak.	○	○	○	○	○
8. …zijn functie-eisen de enige criterium om teamleden aan te nemen	○	○	○	○	○
9. …denken teamleden drie jaar of meer vooruit	○	○	○	○	○
10. …passen alleen heel speciale mensen binnen het team	○	○	○	○	○
11. …zijn teamleden en het team zelf gesloten en geheimzinnig	○	○	○	○	○
12. …hebben nieuwe teamleden meer dan een jaar nodig om zich op hun plek te voelen	○	○	○	○	○
13. …zijn alle teamleden kostenbewust.	○	○	○	○	○
14. …worden vergaderingen stipt op tijd gehouden	○	○	○	○	○
15. …spreken teamleden altijd serieus over hun team en hun baan	○	○	○	○	○

D. De hierna volgende stellingen hebben betrekking op uw betrokkenheid bij uw team (…..). Geef aan in hoeverre u het eens dan wel oneens bent met onderstaande stellingen.

	Helemaal oneens	Oneens	Neutraal	Eens	Helemaal eens
1. Ik zou graag bij dit team blijven werken tijdens de rest van mijn carrière	○	○	○	○	○
2. Ik vind het leuk om over mijn team te praten met personen die zelf niet tot het team behoren	○	○	○	○	○
3. Het voelt werkelijk alsof de problemen van het team ook problemen van mijzelf zijn	○	○	○	○	○
4. Ik denk dat ik mezelf net zo makkelijk aan een ander team kan hechten als dat ik mezelf aan dit team gehecht heb	○	○	○	○	○
5. Ik voel me opgenomen in het team	○	○	○	○	○
6. Ik voel me emotioneel verbonden met het team	○	○	○	○	○
7. Dit team heeft veel persoonlijke betekenis voor me	○	○	○	○	○
8. Ik voel mezelf niet sterk verbonden met dit team	○	○	○	○	○

E. De volgende stellingen hebben betrekking op de hechtheid binnen uw team (….). Geef aan in hoeverre u het eens dan wel oneens bent met onderstaande stellingen.

		Helemaal oneens	Oneens	Neutraal	Eens	Helemaal eens
1.	Teamleden handelen meer vanuit individueel oogpunt in plaats van te handelen als een team	○	○	○	○	○
2.	Ons team vindt het leuk om tijd met elkaar door te brengen buiten werktijd	○	○	○	○	○
3..	Teamleden "socializen" nauwelijks met elkaar	○	○	○	○	○
4.	Buiten werktijd onderhouden teamleden ook contact met elkaar	○	○	○	○	○
5.	Ons team is eensgezind om het doel te bereiken dat we voor ogen hebben om optimaal te presteren	○	○	○	○	○
6.	Ons team voelt zich in zijn geheel verantwoordelijk voor een door iemand gemaakte fout	○	○	○	○	○
7.	Ieder teamlid probeert te helpen wanneer zich problemen voordoen bij andere teamleden	○	○	○	○	○
8.	In het team wordt er open gesproken over de verantwoordelijkheden van elk teamlid	○	○	○	○	○

F. De volgende stellingen gaan over de relatie met uw teamleden (dit zijn de personen over wie u eerder in de tabellen bij vraag 1A en 1B informatie heeft verstrekt, …..). Geef aan in hoeverre u het eens dan wel oneens bent met onderstaande stellingen.

		Helemaal oneens	Oneens	Neutraal	Eens	Helemaal eens
1.	Ik geef mijn teamleden vaak suggesties voor betere werkmethoden	○	○	○	○	○
2.	Mijn teamleden laten het me over het algemeen weten wanneer ik iets doe dat hun werk makkelijker (of moeilijker) maakt	○	○	○	○	○
3.	Ik laat het mijn teamleden gewoonlijk weten wanneer zij iets doen wat mijn werk makkelijker (of moeilijker) maakt	○	○	○	○	○
4.	Mijn teamleden erkennen mijn potentieel	○	○	○	○	○
5.	Mijn teamleden begrijpen mijn problemen en behoeften	○	○	○	○	○
6.	Ik ben flexibel in het wisselen van taakverantwoordelijkheden om het mijn teamleden makkelijker te maken	○	○	○	○	○
7.	In drukke situaties vragen mijn teamleden mij om hulp	○	○	○	○	○
8.	In drukke situaties bied ik vrijwillig aan om anderen in mijn team te helpen	○	○	○	○	○
9.	Ik ben bereid om mijn teamleden te helpen werk af te maken dat aan hen is toegewezen	○	○	○	○	○
10.	Mijn teamleden zijn bereid om mij te helpen werk af te maken dat aan mij is toegewezen	○	○	○	○	○

G. De volgende stellingen gaan over de mate waarin u afhankelijk bent van uw teamleden (dit zijn de personen over wie u eerder in de tabellen bij vraag 1A en 1B informatie heeft verstrekt, …..).

		Helemaal oneens	Oneens	Neutraal	Eens	Helemaal eens
1.	Ik heb informatie en advies nodig van mijn teamleden om mijn werk te kunnen voltooien	○	○	○	○	○
2.	Ik ben afhankelijk van mijn teamleden voor de voltooiing van mijn werk	○	○	○	○	○
3.	Ik heb een individuele baan; ik hoef zelden het werk van mijn teamleden te controleren of samen te werken	○	○	○	○	○
4.	Mijn teamleden hebben informatie en advies van mij nodig om hun werk te kunnen voltooien	○	○	○	○	○

H. De volgende stellingen gaan over mogelijke verschillen tussen uw team (……) en de rest van de organisatie (…..). Beantwoord de stellingen gezien vanuit uw positie als teamlid ten opzichte van andere teams of afdelingen binnen uw organisatie.

		Nooit	Zelden	Soms	Vaak	Altijd
1.	Hoe vaak zijn er conflicten over ideeën tussen uw team en de organisatie?	○	○	○	○	○
2.	Hoe vaak is uw team het niet eens met opvattingen over het werk dat gedaan moet worden binnen de organisatie?	○	○	○	○	○
3.	Hoe vaak zijn er conflicten over het werk dat uw team verricht binnen de organisatie?	○	○	○	○	○
4.	Hoe vaak zijn er meningsverschillen tussen uw team en de organisatie?	○	○	○	○	○
5.	Hoe vaak bestaan er wrijvingen tussen uw team en de organisatie?	○	○	○	○	○
6.	Hoe vaak zijn er persoonlijke conflicten tussen uw team en de organisatie?	○	○	○	○	○
7.	Hoe vaak bestaat er spanning tussen uw team en de organisatie?	○	○	○	○	○
8.	Hoe vaak zijn er emotionele conflicten tussen uw team en de organisatie?	○	○	○	○	○

I. Onderstaande stellingen hebben betrekking op de verschillende teams waarvoor u werkzaam bent. Eerder in deze enquête, bij het onderdeel "algemene informatie", heeft u vermeld in hoeveel teams u werkzaam bent. Indien u hier aangegeven hebt in slechts één team werkzaam te zijn, kunt u de stellingen van dit onderdeel overslaan en verdergaan met vraag J. Indien u heeft aangegeven in meer dan één team werkzaam te zijn, lees dan onderstaande instructie zorgvuldig en beantwoord bijbehorende stellingen.

Stellingen behorende tot deze vraag hebben betrekking op de ondersteuning die u vanuit verschillende teams kunt ervaren. Hierbij wordt een onderscheid gemaakt tussen:
- Team A : dit is in uw geval …...
- Teams buiten team A : het gaat hierbij om het gemiddelde van alle andere teams waarvoor u werkzaam bent naast team A.

U dient dus iedere stelling tweemaal te beantwoorden. Op de eerste regel, geeft u aan in hoeverre u het met de stelling eens dan wel oneens bent wanneer u deze toepast op team A. Op de tweede regel, geeft u aan in hoeverre u het met de stelling eens dan wel oneens bent wanneer u deze toepast op het(de) team(s) waarin u werkzaam bent buiten team A (gemiddelde van de teams buiten team A).

		Helemaal oneens	Oneens	Neutraal	Eens	Helemaal eens
1.	Mijn teamgenoten waarderen het wanneer ik extra werk verricht					
	Team A	○	○	○	○	○
	Team(s) buiten team A	○	○	○	○	○
2.	Mijn teamgenoten negeren het wanneer ik klachten heb met betrekking tot het team.					
	Team A	○	○	○	○	○
	Team(s) buiten team A	○	○	○	○	○
3.	Mijn teamgenoten zijn bereidt mij te helpen wanneer ik een probleem heb					
	Team A	○	○	○	○	○
	Team(s) buiten team A	○	○	○	○	○
4.	Mijn teamgenoten geven werkelijk om mijn welzijn					
	Team A	○	○	○	○	○
	Team(s) buiten team A	○	○	○	○	○
5.	Zelfs als ik op mijn best zou presteren zouden mijn teamgenoten dit niet opmerken					
	Team A	○	○	○	○	○
	Team(s) buiten team A	○	○	○	○	○
6.	Mijn teamgenoten helpen mij wanneer ik hen om een speciale gunst vraag					
	Team A	○	○	○	○	○
	Team(s) buiten team A	○	○	○	○	○
7.	Mijn teamgenoten vinden mijn mening van belang					
	Team A	○	○	○	○	○
	Team(s) buiten team A	○	○	○	○	○
8.	Mijn teamgenoten proberen mijn werk zo interessant mogelijk voor me te maken					
	Team A	○	○	○	○	○
	Team(s) buiten team A	○	○	○	○	○

J. De volgende stellingen gaan over de relatie met uw formeel leidinggevende (dit is de persoon die in de tabellen bij vraag 1A en 1B als eerste vermeld staat, namelijk …..).

		Helemaal oneens	Oneens	Neutraal	Eens	Helemaal eens
1.	Mijn leidinggevende zal zich persoonlijk inzetten om mijn problemen op het werk te helpen oplossen	○	○	○	○	○
2.	Mijn werkrelatie met mijn leidinggevende is doelgericht	○	○	○	○	○
3.	Ik heb voldoende vertrouwen in mijn leidinggevende om zijn/haar beslissingen te verdedigen en te verantwoorden indien hij/zij zelf niet aanwezig is	○	○	○	○	○
4.	Mijn leidinggevende neemt mijn suggesties voor verandering in overweging	○	○	○	○	○
5.	Mijn leidinggevende en ik vullen elkaar aan	○	○	○	○	○
6.	Mijn leidinggevende begrijpt mijn problemen en behoeften	○	○	○	○	○
7.	Mijn leidinggevende erkent mijn potentieel	○	○	○	○	○

2. Vragen betreffende uw baan in het algemeen

A. De stellingen behorende bij deze vraag hebben betrekking op uw baan in het algemeen. Geef aan in hoeverre u het eens dan wel oneens bent met onderstaande stellingen.

		Helemaal oneens	Oneens	Neutraal	Eens	Helemaal eens
1.	Meestal ben ik enthousiast over mijn werk	○	○	○	○	○
2.	Mijn werk verveelt me vaak	○	○	○	○	○
3.	Ik ben niet gelukkig met mijn werk	○	○	○	○	○
4.	Ik vind plezier in mijn baan	○	○	○	○	○
5.	Ik ben zelfverzekerd over mijn vermogen om mijn werk te doen	○	○	○	○	○
6.	Het werk dat ik doe is belangrijk voor mij	○	○	○	○	○
7.	Mijn invloed op wat er gebeurt binnen mijn afdeling is groot	○	○	○	○	○
8.	Ik kan zelf beslissen over de uitvoering van mijn eigen werk	○	○	○	○	○
9.	Mijn werk sluit goed aan bij mijn capaciteiten	○	○	○	○	○
10.	Ik beheers de vaardigheden die nodig zijn voor mijn werk	○	○	○	○	○
11.	Mijn mening telt bij afdelingsbesluitvorming	○	○	○	○	○
12.	Ik heb aanzienlijk veel invloed op wat er gebeurt binnen mijn afdeling	○	○	○	○	○

B.	Geef bij de volgende vraag aan in welke mate u het eens bent met de stellingen. Bij stelling 4 en 6 wordt gesproken over beroepsverenigingen. Hierbij moet u denken aan een over-koepelende beroepsvereniging (bijvoorbeeld de Nationale Tandartsen Bond of de Vereniging voor Juristen).

		Helemaal oneens	Oneens	Neutraal	Eens	Helemaal eens
1.	Ik lees regelmatig professionele tijdschriften	○	○	○	○	○
2.	Als er een beroep is wat onmisbaar is, dan is het dit beroep wel	○	○	○	○	○
3.	De beroepsvereniging doet niet echt veel voor haar leden	○	○	○	○	○
4.	De toewijding van mensen in dit beroep geeft voldoening	○	○	○	○	○
5.	Ik vind dat mijn beroep, meer dan andere, van essentieel belang is voor de maatschappij	○	○	○	○	○
6.	Ik vind dat beroepsverenigingen gesteund moeten worden	○	○	○	○	○
7.	Sommige andere beroepen zijn eigenlijk veel belangrijker voor de maatschappij dan het mijne	○	○	○	○	○
8.	De mensen in dit beroep hebben een echte "roeping" voor hun werk	○	○	○	○	○
9.	Het is bemoedigend om te zien hoe hoog het niveau van idealisme is binnen dit beroepsveld	○	○	○	○	○
10.	Ik woon regelmatig professionele bijeenkomsten bij op lokaal niveau	○	○	○	○	○
11.	De meeste mensen zouden dit beroep blijven uitoefenen ook al zouden hun inkomens gereduceerd worden.	○	○	○	○	○
12.	Het belang van mijn beroep wordt soms overdreven	○	○	○	○	○

3. Vragen betreffende de organisatie

A.	De stellingen behorende bij deze vraag hebben betrekking op de organisatie waarvoor u werkzaam bent (…..). Geef aan in hoeverre u het eens dan wel oneens bent met onderstaande stellingen.

		Helemaal oneens	Oneens	Neutraal	Eens	Helemaal eens
1.	De organisatie vindt mijn bijdrage waardevol	○	○	○	○	○
2	De organisatie zou elke klacht van mij negeren	○	○	○	○	○
3.	De organisatie geeft werkelijk om mijn welzijn	○	○	○	○	○
4.	Zelfs als ik mijn werk zo goed mogelijk uitvoer, zal de organisatie het niet opmerken	○	○	○	○	○
5.	De organisatie geeft om mijn algemene werktevredenheid	○	○	○	○	○

B. Hieronder volgt een lijst met een aantal beloften/toezeggingen die organisaties (of vertegenwoordigers van de organisatie zoals de teamleider, de HR-manager, of de directie) soms doen aan hun teams.

- Geef voor elk van de beloften/toezeggingen aan in welke mate deze organisatie ze heeft gedaan aan uw team (1 = Totaal geen belofte, 2 = Nauwelijks een belofte, 3 = Enigszins een belofte, 4 = Sterke belofte, 5 = Zeer sterke belofte)

- Geef voor elke belofte/toezegging aan in welke mate deze organisatie de belofte/toezegging heeft *vervuld* (1 = Totaal niet vervuld, 2 = Nauwelijks vervuld, 3 = Enigszins vervuld, 4 Grotendeels vervuld, 5 = Volledig vervuld).

	1	2	3	4	5
1. Het team goede faciliteiten bieden (werkruimte, computers, etc.) om te presteren.					
Mate van belofte	○	○	○	○	○
Mate van vervulling	○	○	○	○	○
2. Het team trainingen en opleidingen aanbieden.					
Mate van belofte	○	○	○	○	○
Mate van vervulling	○	○	○	○	○
3. Duidelijke doelen en prioriteiten stellen voor het team.					
Mate van belofte	○	○	○	○	○
Mate van vervulling	○	○	○	○	○
4. Feedback geven over de prestaties van het team.					
Mate van belofte	○	○	○	○	○
Mate van vervulling	○	○	○	○	○
5. Het team een prettige werksfeer bieden.					
Mate van belofte	○	○	○	○	○
Mate van vervulling	○	○	○	○	○
6. Het team eerlijk behandelen.					
Mate van belofte	○	○	○	○	○
Mate van vervulling	○	○	○	○	○
7. Ondersteuning bieden wanneer het team problemen heeft.					
Mate van belofte	○	○	○	○	○
Mate van vervulling	○	○	○	○	○
8. Het team autonomie geven bij de uitvoering van het werk.					
Mate van belofte	○	○	○	○	○
Mate van vervulling	○	○	○	○	○

Vriendelijk bedankt voor uw medewerking!

Appendix B

Table. Demographics sample (individual level)

Variable		Percentage	Total
Gender	Men	38.2%	136
	Women	61.2%	218
Highest education	Primary education	12.1%	43
	Vocational education (low)	2.5%	9
	Vocational education (middle)	36.2%	129
	Vocational education (high)	34.6%	123
	Scientific education	13.8%	49

Appendix C - Exclusion data

	Number of members	Number of leaders	Number of teams (aggregated)
Original data	425	92	94
Exclusion aggregated file:			
- Based on average variance (> 1.00)			1
- Outliers Z-scores			7
- Missing data all team members or team leader			6
Final sample	**356**	**80**	**80**

Appendix D - Factor analysis (LMX & TMX)

	LMX - TMX
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.791
Bartlett's Test of Sphericity: Sig.	.000

Pattern matrix

	Component 1	Component 2
Ik heb voldoende vertrouwen in mijn leidinggevende om zijn/haar beslissingen te verdedigen en te verantwoorden indien hij/zij zelf niet aanwezig is	,804	
Mijn leidinggevende zal zich persoonlijk inzetten om mijn problemen op het werk te helpen oplossen	,783	
Mijn leidinggevende begrijpt mijn problemen en behoeften	,763	
Mijn leidinggevende erkent mijn potentieel	,750	
Mijn leidinggevende neemt mijn suggesties voor verandering in overweging	,732	
Mijn leidinggevende en ik vullen elkaar aan	,714	
Mijn werkrelatie met mijn leidinggevende is doelgericht	,572	
In drukke situaties bied ik vrijwillig aan om anderen in mijn team te helpen		,670
Ik ben bereid om mijn teamleden te helpen werk af te maken dat aan hen is toegewezen		,622
In drukke situaties vragen mijn teamleden mij om hulp		,606
Mijn teamleden zijn bereid om mij te helpen werk af te maken dat aan mij is toegewezen		,599
Mijn teamleden laten het me over het algemeen weten wanneer ik iets doe dat hun werk makkelijker (of moeilijker) maakt		,568
Mijn teamleden begrijpen mijn problemen en behoeften		,557
Ik ben flexibel in het wisselen van taakverantwoordelijkheden om het mijn teamleden makkelijker te maken		,523
Ik laat het mijn teamleden gewoonlijk weten wanneer zij iets doen wat mijn werk makkelijker (of moeilijker) maakt		,494
Mijn teamleden erkennen mijn potentieel		,464
Ik geef mijn teamleden vaak suggesties voor betere werkmethoden		

Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.
a. Rotation converged in 4 iterations.