

Networking as a key factor:

The role of emotional stability, extraversion and the motivation to affiliate on network leadership performance

Monique Grift
Utrecht University

2016

5653126

Masterthesis

Social and Organizational Psychology

16-08-2016

Mentors intern: Ms. van Veelen

& Ms. Brenninkmeijer

Mentors extern: Ms. Altink, Mr. Ellinikakis &

Mr. Taggenbrock

Abstract

The goal of this study was to obtain a broader insight in the relationship between emotional stability, extraversion and network leadership performance, because the traditional leadership hierarchy is increasingly changed into a network structure. Furthermore, a potential partial mediation effect of the motivation to affiliate in the relationship between emotional stability, extraversion and network leadership was examined. The data was gathered by means of online questionnaires (OPQ, MQ and 360° -feedback questionnaire) and was conducted among candidates of a high-tech company in the Netherlands (N = 73). Participants received feedback from their managers, colleagues and subordinates regarding their network leadership performance. In line with the expectations, emotional stability and extraversion were positively related to self-rated network leadership performance. Furthermore, extraversion was positively related to colleagues-rated network leadership performance. Moreover, no mediation effect of the motivation to affiliate was found in the relationship between emotional stability, extraversion and network leadership performance. Implications for research and practice are discussed.

Keywords: networking; network leadership performance; emotional stability; extraversion; motivation to affiliate

Introduction

'The classical top-down leadership model does not function anymore in the current network economy. More and more companies and institutions are part of chains or partnerships, whereby the ability to co-produce, collaboration and connecting is crucial' (Academie voor leiderschap, 2016).

In corporate life, businesses need to be able to adapt quickly due to an ever-changing environment of supply and demand (Castells, 2000). This is especially true for high-tech companies, because technical growth is accelerating at an astonishing rate (Kahn, Sagerer, Thomaz & Kanda, 2013). The degree of technological advances creates opportunities for innovations and companies are being forced to speed up these innovations in order to avoid lagging behind their competitors (Zhou, Yim & Tse, 2005). Previous research has shown that, in order to deal with the constantly changing environment, leaders have to develop the essential ability to connect with others within as well as outside their organization (Johnson, 2008; Rajagopal, Joosten-ten Brinke, Van Bruggen and Sloep, 2011). In recent years, an outstanding interest has grown towards networking within and between businesses (Chell & Baines, 2000). Furthermore, because of the importance of the leader's capacity to network, the focus of this study is *network leadership performance*, which is concerned with the performance of a leader to build, align and enable broad networks, both inside and outside his or her own organization (Balkundi & Kilduff, 2006; Wolff & Moser, 2006). Moreover, there are various definitions of networking, however, in this study, the definition of Forret and Dougherty (2001) is used whereby networking refers to the development and maintaining of personal relations to increase the exchange of work-related resources.

A large number of previous studies has merely focused on the benefits (such as career success) rather than the antecedents (such as individual dispositions) of networking behaviors (Wolff & Kim, 2012). Furthermore, many previous studies have focused on the personality of a leader and leadership performance (e.g. transformational leadership), however, the personality of a network leader remains somewhat unclear (Spangler, House & Palrecha, 2004). This study examines the influence of personality on network leadership performance.

Besides personality, motivation could also be an important factor with regard to network leadership performance. In addition, previous research argues that many research on leadership has examined how leaders can motivate their subordinates, however, little research has examined the leaders' own motivation to determine effective leadership behavior (Gilbert, Horsman & Kelloway, 2016). Moreover, there is a dearth of research with regard to clarifying a leaders' motivation that is associated with the development of network relationships over time (Ahuja, Soda & Zaheer, 2012). The leader's motivation could have an effect in the relationship between emotional stability, extraversion and network leadership performance and will therefore be examined in this study.

This research is of scientific interest to obtain more knowledge about organizational networking behavior. The networking approach of leadership is an emerging area of research, however, the theory about network leadership is ahead of the data (Cullen-Lester & Yammarino, 2016). Furthermore, the goal of this study is to obtain a broader insight in the relationship between various personality dimensions, motivation and network leadership performance, because the traditional leadership hierarchy is increasingly changed into a network structure (Grayson & Baldwin, 2007). By examining a network perspective on leadership, the importance of networking within as well as outside the organizations will be highlighted.

Finally, this study is valuable as it examines self-evaluations as well as other-evaluations (multi-rater feedback) with regard to a person's network leadership performance by using a 360°-feedback questionnaire. In many studies, a 360°-feedback survey is seen as a valid assessment for measuring leadership behavior and performance (Lawrence, 2015; Sikes, Jestes, LeClair-Smith & Yates, 2015). Moreover, the evaluation of others about the network leadership performance of a leader is important because network leadership involves more than solely the leader. Leaders are constantly involved in interpersonal relationships with their subordinates, peers and superiors (Mehra, Dixon, Brass & Robertson, 2006). Furthermore, multi-rater feedback provides more reliable information about the performance of a leader in contrast to the feedback of a single person (Kanaslan & Iyem, 2016). The use of a 360°-feedback questionnaire can contribute to a leader's understanding of the impact of their networking behavior on others, whereby receiving information from multiple resources can contribute to a leader's self-evaluation (Sikes et al., 2015). In addition, 360°-feedback about the leader's network

performance could cause positive changes in the networking behaviors of a leader as well as in the organizational outcomes (Atwater & Brett, 2006).

Network leadership

Over the years, there are many theories about effective leadership (e.g. transactional, charismatic and transformational leadership) (Cavazotte, Moreno & Hickmann, 2012; Mehra, Dixon, Brass & Robertson, 2006; Nixon, Harrington & Parker, 2012). Many prevailing research about leadership assumes that one person takes on the role of the leader (individual view) (Friedrich, Vessey, Schuelke, Mumford, Yammarino & Ruark, 2014). However, a paradigm shift has occurred with regard to leadership, with the focus more towards a relational view in contrast to an individual view (Cullen-Lester & Yammarino, 2016). In addition, Pearce and Conger (2003) argue that there has been a shift away from a vertical view (hierarchical influence) with regard to supervisor-subordinate relationships, to a more horizontal view which means that leaders share more of their leadership and decision making with their subordinates. The relational view is also known as the collectivistic approach, which describes leadership as a more dynamic and shared process (Friedrich et al., 2014). According to Yammarino, Salas, Serban, Shirreffs and Shuffler (2012), collectivistic leadership can be defined as 'multiple individuals assuming and perhaps divesting themselves of leadership roles over time in both formal and informal relationships'. In this sense, leaders can selectively use the skills of their subordinates and distribute leadership roles among the subordinates when the situation demands it (Friedrich et al., 2014).

Because of the growing interest in collectivistic leadership, many scholars have presented theories about this style of leadership. The overall theme of these theories are similar (shared leadership role with subordinates under certain conditions), however the approaches and labels for it are somewhat different (Carson, Tesluk & Marrone, 2007; Friedrich et al., 2014). Theories of collectivistic leadership that have been developed until now are: multi-team system leadership (leadership is based on the team's shared mental model), leadership networks (leadership in the context of a social system), shared or distributed leadership (leadership as a shared responsibility among multiple team members), complexity leadership (considers leadership across various dimensions and interactions occurring over time) and collective leadership (one or more leaders distribute the leadership role to others based on the skills and expertise required in the situation) (Yammarino et al., 2012).

This study focuses on *network leadership performance*, which lately gained much interest (Cullen-Lester & Yammarino, 2016; Schreiber & Carley, 2008; Yammarino et al., 2012). As mentioned earlier, networking refers to the development and maintaining of personal relations to increase the exchange of work-related resources (Forret & Dougherty, 2001). According to Carter and Deschurch (2012), network leadership theory focuses on 'examining how a leader impacts and is impacted by the network he or she is embedded within'. In addition, network leadership performance comprises the performance of a leader to build, align and enable broad networks, both inside and outside his or her own organization whereby subordinates are being motivated to enlarge their own network (Balkundi & Kilduff, 2006; Wolff & Moser, 2006).

Characteristics of network leadership are the contribution of the leader to a joint performance and a less hierarchical division within the company which means that leaders share more of their leadership and decision making with their subordinates (Graen & Graen, 2006). Furthermore, for effectively distributing parts of the leadership role among the subordinates, a well-developed network is necessary (Friedrich et al., 2014). Network leadership theory comprises two important assumptions of collectivistic leadership; members are connected with each other and are familiar with the expertise of those within the network and have to constantly gather information within the network. Secondly, the importance of networking for effective communication is emphasized, which in turn can lead to the distribution of parts of the leadership role (e.g. for giving directions) (Balkundi & Harrison, 2006; Friedrich et al., 2014).

Networking is associated with multiple benefits for the individual as well as for the organization as a whole (Birkinshaw, Bessant & Delbridge, 2007; Bodell & Hook, 2011; Johnson, 2008; Rajagopal et al., 2011). For example, work by Johnson (2008) has shown that networking can be useful to continuously support one's workplace learning. Moreover, several studies show that networking is positively related to career success and enhanced promotions (Forret & Dougherty, 2004; Wolff & Moser, 2009). Besides the individual benefits, organizations benefit as well from networking. Networking is seen as a vital aspect with regard to innovation and competitiveness (e.g. obtaining access to new markets and technologies and speeding new products to the market) (Birkinshaw, Bessant & Delbridge, 2007; Pittaway, Robertson, Munir, Denyer & Neely, 2004; Rajagopal et al., 2011). In addition, research of Bao, Chen and Zhou (2012) has shown that networking with other firms is seen as a competitive advantage, as the firm's internal resources and external resources can be combined. As

mentioned earlier, there is an ever-changing environment whereby leaders need to perform flexible and innovative (Rajagopal et al., 2011). Finally, while job roles become more collaborative and information-dependent, leaders need to be connected with others within and outside one's own organization (e.g. for work- and learning resources) (Birkinshaw, Bessant & Delbridge, 2007).

To sum up, network leadership has gained much attention, especially due to the everchanging environment. Furthermore, network leadership could enhance the organizational performances as networking is related to various benefits for the individual as well as for the organization.

Personality and network leadership performance

The personality of a leader is widely examined with regard to leadership performance and effectiveness (e.g. transformational leadership), however, the personality of a network leader remains somewhat obscure (Spangler, House & Palrecha, 2004). Previous research has shown that personality predicts various parts of organizational behavior, like job performance and leadership (Judge, Klinger, Simon & Yang, 2008). This study attempts to comprise important personality traits of a network leader. Furthermore, personality traits are in general stable patterns of how a person thinks, feels and behaves (Cervone & Pervin, 2015).

The most influential personality model is the five factor taxonomy of personality traits (better known as the 'Big-Five model'), which is examined by a majority of lexical personality studies (Goldberg, 1990; Saucier & Srivastava, 2015). The Big-Five model consists of the following dimensions: extraversion, agreeableness, conscientiousness, emotional stability and openness to experience (Goldberg, 1990; Wang, Jackson, Zhang & Su, 2012). It is expected that a network leader tend to score high on extraversion and emotional stability, since previous research has shown that extraversion and emotional stability are positive predictors of networking behaviors and leadership performance (Crawford, Shaver & Goldsmith, 2007; Van Zalk, Van Zalk, Kerr & Stattin, 2011).

Emotional stability

Emotional stability (also referred to by its opposite neuroticism) refers to the regulation of emotions and measures the degree to whether a person is rapidly upset and is being teased by unpleasant feelings (Branje, van Lieshout, van Aken & Gerris, 2005). People who are more

emotionally stable are more likely to be calm, imperturbable and complain less about their anxieties and worries (Hills & Argyle, 2001). Furthermore, several studies show that emotional stability is marked by the following characteristics: worrying (low), relaxed, tough minded (determined), socially confident and optimistic (Ngoma & Dithan Ntale, 2016; Rammstedt, 2007; Stanton, Mathews, Graham & Brimelow, 1991).

According to previous studies, emotional stability is a valid, positive predictor of the work performance of executives (Bono and Judge, 2004; Colbert, Barrick & Bradley, 2014; Deinert, Homan, Boer, Voelpel & Gutermann, 2015; Neal, Yeo, Koy & Xiao, 2012; Salgado, 1997; Tet, Jackson and Rothstein, 1991). For example, research of Deinert, Homan, Boer, Voelpel and Gutermann (2015) has shown that when people are more neurotic, they tend to be less involved with the needs of their subordinates. Moreover, leaders who are more emotionally stable are also more inclined to be flexible and show more positive feelings which in turn increase their information processing, creativity and motivation in solving problems (Bono & Judge, 2004; Judge, Erez & Bono, 1998). As mentioned before, being flexible and innovative is seen as an important factor for dealing with an ever-changing environment (Johnson, 2008; Rajagopal et al., 2011).

Furthermore, previous research has shown that neuroticism, in general, is negatively related to networking (Klein, Lim, Saltz & Mayer, 2004; Ritter, 1999). People who are more neurotic have an enhanced fear of rejection in social relationships (Crawford, Shaver & Goldsmith, 2007). As a result, people who are more emotionally stable have more people interacting with them whereas people who are more socially anxious have fewer friends in their network (Kanfer & Tanaka, 1993; Van Zalk, Van Zalk, Kerr & Stattin, 2011).

Hypothesis 1: There is a positive relationship between emotional stability and network leadership performance.

Extraversion and network leadership performance

Besides emotional stability, extraversion may also influences network leadership performance. Meta-analytic evidence has shown that extraversion is the most consistent correlate of leadership, whereby extraversion is seen as the most important trait of leaders (Judge, Bono, Ilies & Gerhardt, 2002). People who have a high tendency to approach social situations are more likely to be extraverted (Wolff & Kim, 2012). Extraverted people are described as being more

gregarious, active, assertive, sociable, lively and talkative whereas people who are more introverted have a greater desire to remain in solitude and are more likely to be quiet, reserved and shy (Borkenau and Ostendorf, 2008; Goldberg, 1993; McCrae & Costa, 1987).

Previous studies have found a positive relationship between extraversion and networking (Forret & Dougherty, 2001; Van Hoye, Van Hoft & Lievens, 2009; Wanberg, Kanfer & Banas, 2000; Wolff & Moser, 2006; Wolff & Kim, 2012). Leaders who are more extraverted are more likely to seek information, which inclines them to engage in social interactions (Wolff & Kim, 2012). Moreover, extraverted leaders show a tendency for approaching others to build new contacts (Bozionelos, 2003; Forret & Dougherty, 2001). In addition, approaching others is seen as the precondition of networking behaviors (Wolff & Kim, 2012). Finally, more extraverted leaders have a powerful role in empowering group communication and cohesion which in turn is important for effective network leadership (Lemoine, Aggarwal & Steed, 2016).

Hypothesis 2: There is a positive relationship between extraversion and network leadership performance.

Motivation and network leadership performance

Besides personality, motivation could also have an effect on network leadership performance. As mentioned earlier, there is still limited insight in the person's motivation to develop network relationships over time (Ahuja, Soda & Zaheer, 2012). According to Deci and Ryan (2008), motivation can be defined as the 'processes that initiate behavior, or what moves people to act'. The amount of interest in having interpersonal relationships, however, can vary between persons. A construct that presumably comprises the amount of interest in interpersonal relationship, is the motivation to affiliate. The motivation to affiliate maintains the degree in which a person feels the need to use the opportunities to interact with others in his or her environment, also known as the 'need to belong' (Leary, Kelly, Cottrell & Schreindorfer, 2013; Nichols & Webster, 2013). People with a higher degree on the motivation to affiliate are more likely to feel the need to use the opportunities to interact with others (Leary et al., 2013). Previous research of Choi (2011) has shown that the motivation to affiliate has a positive influence on interpersonal relation building and communication competency within the workplace. In this study, it is expected that there is a positive relationship between the motivation to affiliate and network leadership performance.

Furthermore, besides the potential relationship between the motivation to affiliate and network leadership performance, personality could have an effect on the motivation to affiliate. In addition, previous research has shown that personality traits are strongly related to an individual's motivation (Poropat, 2009). Furthermore, research of Leary et al. (2013) has shown that there is a negative, significant relationship between neuroticism and the need for affiliation. According to this research, it is likely that when people are more emotionally stable, they show a higher degree of the need for affiliation and are therefore more likely to be motivated to affiliate. Furthermore, as mentioned earlier, a characteristic of neuroticism is the fear of being rejected by others (Crawford, Shaver & Goldsmith, 2007). It is likely that when people are more neurotic, they are less inclined to feel the need to use the opportunities to interact with others. It is expected that there is a positive relationship between emotional stability and the motivation to affiliate.

Moreover, extraversion could also be a positive predictor of the motivation to affiliate. According to previous research, affiliation is an aspect of extraversion (Do & Minbashian, 2014; McLaughin, 2013). Knowing this, it is likely that extraversion is related to the motivation to affiliate whereby people who are more extraverted, are more likely to be motivated to affiliate. In this study, it is expected that there is a positive relationship between extraversion and the motivation to affiliate.

The (partially) mediating role of the motivation to affiliate

The relationship between emotional stability and network leadership performance (hypothesis 1) as well as the relationship between extraversion and network leadership performance (hypothesis 2) are presumably partially mediated by the motivation to affiliate, because it is likely that there are also more constructs which could mediate these relationships (e.g. self-esteem) (Marshall, Parker, Ciarrochi & Heaven, 2014; Tazghini & Siedlecki, 2013). Furthermore, research of Duffy and Chartrand (2015) has shown that the ability of extraverts to network depends on the level of the motivation to affiliate.

Hypothesis 3: The relationship between emotional stability, extraversion and network leadership performance is partially mediated by the motivation to affiliate.

To sum up, because of previous findings it is expected that emotional stability has a positive influence on the motivation to affiliate and network leadership performance. The relationship between emotional stability and network performance is presumably partially mediated by the motivation to affiliate. Furthermore, it is also expected that extraversion is positively related to the motivation to affiliate and network leadership performance. The relationship between extraversion and network performance is presumably partially mediated by the motivation to affiliate. Moreover, a positive influence of the motivation to affiliate on network leadership performance is expected (see figure 1).

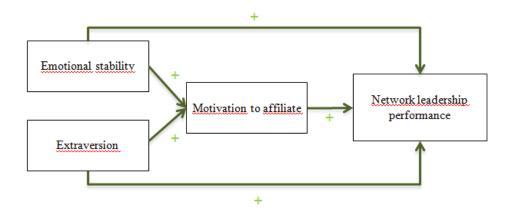


Figure 1. Research model

Method

This current research took place in a Dutch high-tech company. Commissioned by the high-tech company, a research was conducted concerning leadership's development and strengths. The company aimed to achieve a better cooperation between the leaders but also, more importantly, with other organizations (e.g. for forming partnerships). Therefore, networking was a crucial factor. The research was conducted by the 'Corporate Executive Board' (CEB, previously known as SHL), a consultancy company established in Utrecht, the Netherlands. CEB provided the high-tech company the insight to take decisions on recruitment and selection procedures by making use of their assessment instruments and consultancy. In this study, a correlational descriptive research design was used whereby interrelationships between various variables were explored without any intervention or manipulation of the dependent variable (network leadership performance) (Mitchell & Jolley, 2012).

Participants

The data was collected by CEB, the Netherlands. The total amount of participants in this study was 73, consisting of 68 males (93.2%) and 5 females (6.8%). The group of participants consisted of people with leadership-experience in the high-tech company. This study combined the test scores of two measuring points (2014 + 2015) of different leaders. Judgment sampling was used whereby leaders who performed well in their current position (based on the knowledge and judgment of the managers) were selected. Furthermore, leaders were selected by their managers when they had the potential to grow. Participation was not obliged.

Materials

Various online materials were used to measure emotional stability, extraversion, the motivation to affiliate and network leadership performance¹

Emotional stability

For measuring emotional stability, a part of a larger questionnaire called 'Occupational Personality Questionnaire' (OPQ) was used (SHL, 2013). It measured the participant's aspiration to lead and their preferences for specific leadership behaviors. It provided an indication for their potential grow towards future senior leadership positions. The OPQ dimensions: 'worrying (low), relaxed, tough minded, socially confident and optimistic' were used for measuring emotional stability. The dimension 'worrying' was reverse scored. Furthermore, the dimensions consisted of a total number of 47 question-items, whereby each dimension consisted of 9 or 10 question-items². The question format was a forced choice format consisting of three statements, whereby the participant had to choose which statement was most true or typical, and which statement was most least true or typical. Example questions were: 'I am confident with strangers' and 'I find it difficult to relax'.

Sten scores were used to score the results of the participants. First it was necessary to recode responses into paired comparisons. Furthermore, the 'Thurstonian IRT model' was used, which describes the decision process of responding to any stimuli presented in ranking or paired comparison form. Sten scores were obtained directly from theta scores by normalizing data using percentile cut points that divide the distribution into percentile bands corresponding to the appropriate standard score intervals³. It was a standard score system, which was based on a linear

transformation of the z-score and had a mean of 5.5 and a standard deviation of 2. The internal consistency of the combined dimensions was high ($\alpha = .82$).

Extraversion

A part of the 'Occupational Personality Questionnaire' (OPQ) was also used for measuring extraversion (SHL, 2013). It measured the participant's aspiration to lead and their preferences for specific leadership behaviors. The dimension 'Outgoing' was used to measure extraversion. Moreover, the dimension consisted of 10 question-items. The question format was a forced choice format, consisting of three statements whereby the participant had to choose which statement was most true or typical, and which statement was most least true or typical. Example questions were: 'I talk a lot' and 'I enjoy the companionship of others'. Sten scores (with a mean of 5.5 and a standard deviation of 2) were used to score the results of the participants³. The internal consistency was excellent ($\alpha = .95$) (Kline, P).

The motivation to affiliate

The motivation to affiliate was measured by a part of the 'Motivation Questionnaire' (MQ) (SHL, 1992). It provided the participants insight about what really inspires them in a leadership role and work context. The dimension 'Affiliation' was used for measuring the motivation to affiliate. This dimension consisted of 10 question-items. The question format was a 5-point Likert scale. The participant had to choose the degree in which the statement reduced or increased his or her motivation to work (with 1 = 'greatly reduces my motivation to work' and 5 = 'greatly increases my motivation to work'). Example statements were: 'Contact with others in your working life' and 'Having to train a new member of staff'. Sten scores (with a mean of 5.5 and a standard deviation of 2) were used to score the results of the participants³. The internal consistency was acceptable ($\alpha = .71$).

Network leadership performance

The network leadership performance of the participant was measured using a part of the '360°-feedback questionnaire' (SHL, 1993). It provided insights into current strengths and potential development needs with regard to networking. It measured the current leadership performance, perceived by the participant and people who work with and around the participant (with a minimum of two colleagues, two subordinates and one manager). The item format of the

360°-feedback questionnaire was a five-point Likert scale. The participants had to decide how often a given behavior had happened (with 1 = almost never and 5 = almost always). Moreover, for measuring network leadership performance, mean scores of 'Leverage networks and partnerships' (consisting of the dimensions 'Relating and Networking' and 'Persuading and Influencing') of the 360°-feedback questionnaire were used. The dimensions consisted of 10 items, whereby each dimension consisted of 5 items. Example questions were: 'Uses people networks to the advantage of the organization' and 'Creates an immediate, positive and credible impression on others.' The internal consistency of the combined dimensions was excellent ($\alpha =$.90).

Two participants did not participate in the 360°-feedback survey (N = 71). Furthermore, not all participants received feedback from their colleagues (N = 70), subordinates (N = 61) and managers (N = 62). The total number of feedback givers varied with regard to colleagues ($N_{colleagues} = 295$), subordinates ($N_{subordinates} = 237$) and managers ($N_{manager} = 75$). The missing data was deleted by means of pairwise deletion, which attempted to minimize the loss by including cases that contained some missing data. In this way, all available data of a variable was used (Cox, McIntosh, Reason & Terenzini, 2014).

Procedure

At the beginning of this study, the participants were given an invitation (see appendix I). The participants were given an username, password and link, which directed them to an internet page where they could fill in the tests. The internet page showed three links, one link for the OPQ, one for the MQ and one for the 360°-feedback questionnaire. All tests were made online. Before the online tests started, the participants needed to agree with the informed consent to take part in this study. The OPQ and MQ were self-descriptive questionnaires. An item had to be completed before the participant could go to the next item. The average time for completing the OPQ, MQ and 360°-feedback questionnaire was 25 – 30 minutes per questionnaire, however, there was no time limit. The participants had three weeks to complete the tests.

Furthermore, the 360°-feedback questionnaire was also self-descriptive, however, participants were recommended to ask their manager, three colleagues and three subordinates to also fill in the questionnaire. Moreover, the minimum amount was two colleagues, two subordinates and one manager whereby no maximum number was set. The managers, colleagues

and subordinates also received an username, password and link, which directed them to an internet page where they could fill in the 360°-feedback questionnaire. They had four weeks to complete the tests. CEB received all data automatically, by means of a program called 'SHL ondemand'. The participants received feedback on their results. They had an individual conversation with a senior CEB consultant and got an copy of their individual reports. In the individual conversation, participants were encouraged to think about development areas and further actions that had to be taken. Furthermore, the collected data remained anonymous.

Analyses

All data were analyzed by using Statistical Package for Social Scientists (SPSS, standard version 20.0.0.1, 2012). Descriptive statistics were used to describe the basic features of the data. Furthermore, for measuring the consensus between the raters of the 360°-feedback study, the Intraclass Correlation Coefficient (ICC) was used. Moreover, for measuring the relationship between emotional stability, extraversion and network leadership performance, multiple regression analyses were used. Finally, the program 'Process' of Hayes (2012) was used for analyzing the potential mediation effects of the motivation to affiliate.

¹The materials used in this study were part of a larger research, which also consisted of an 'ALAP Development Centre' which includes a learning and development experience where participants engage in a challenging 'Day in the life' simulation and Capacity tests (numerical-, verbal- and inductive reasoning), completed by participants without leadership experience.

²The OPQ and MQ items are intellectual property of CEB.

³ Details of the scoring processes are provided in the technical documentation of CEB.

⁴More information about 'SHL Ondemand' can be obtained at CEB.

Results

First, a positive relationship between emotional stability and network leadership performance was expected. Secondly, a positive relationship between extraversion and network leadership performance was expected. Finally, a partial mediation effect of the motivation to affiliate was expected in the relationship between emotional stability, extraversion and network leadership performance. Moreover, the network leadership performance rated by the participant was called 'self NLP', by the manager 'manager NLP', by the colleagues 'colleagues NLP' and by the subordinates 'subordinates NLP'.

Correlations, means and standard deviations

Pearson's correlation coefficients were used for measuring the strength of the relationships between emotional stability, extraversion, motivation to affiliate and network leadership performance (perceived by the self, managers, colleagues and subordinates). A correlation coefficient of .10 was considered as weak, a correlation coefficient of .30 as moderate and a correlation coefficient of .50 or larger as strong (Cohen, 1998). The correlations, means and standard deviations are shown in table 1.

The correlation between the two independent variables (emotional stability and extraversion) was moderate (r = .36, p < .01). Emotional stability was positively, significantly correlated with self NLP (r = .42, p < .01). This was in line with hypothesis 1. However, no significant correlations were found between emotional stability and network leadership performance rated by others. Moreover, a significant, negative correlation was found between emotional stability and the motivation to affiliate (r = -.24, p < .05). This was not in line with the expected, positive relationship between emotional stability and the motivation to affiliate. Furthermore, there was a positive, significant correlation between extraversion and self NLP (r = .59, p < .01) and colleagues NLP (r = .24, p < .05). This was in line with hypothesis 2. The motivation to affiliate did not correlate significantly with self NLP (r = -.22, p = .06), manager NLP (r = .04, p = .74), colleagues NLP (r = -.21, p = .08), and subordinates NLP (r = .07, p = .60). Interestingly, self perceived NLP did not correlate significantly with network leadership performance rated by others. However, manager and colleagues NLP (r = .26, p < .05), manager and subordinates NLP (r = .46, p < .01)

correlated significantly. Finally, the mean scores of self NLP are lower in comparison with the scores of network leadership performance rated by others.

Table 1. Pearson correlations, means and standard deviations of extraversion, emotional stability, motivation to affiliate and network leadership performance (NLP).

	1.	2.	3.	4.	5.	6.	7.	M	SD
Emotional Stability	1							5.10	1.73
2. Extraversion	.36**	1						5.51	2.37
3. Motivation to affiliate	24*	16	1					5.16	2.31
4. Self NLP	.42**	.59**	22	1				2.82	1.09
5. Manager NLP	13	05	.04	.01	1			3.63	.50
6. Colleagues NLP	.02	.24*	21	.16	.26*	1		3.74	.33
7. Subordinates NLP	02	.16	.07	01	.29*	.46**	1	3.95	.35

^{**.} Correlation is significant at the p < .01 level (2-tailed).

Inter-rater reliability

For measuring the inter-rater reliability of the 360°-feedback study, the Intraclass Correlation Coefficient (ICC) was used. The ICC could range from 0 to 1, whereby an ICC of 1 indicated the strongest inter-rater reliability (Nakayama, Covassin, Schatz, Nogle & Kovan, 2014). ICC values less than .50 were considered as poor, values between .50 and .75 as moderate and values between .75 and 1.0 as good (Portney & Watkins, 1993). According to the ICC measurement (two-way random effects model regarding consistency), the ICC of all raters (self, colleagues, subordinates and managers) was poor (.23). The ICC of the managers, colleagues and subordinates was moderate (.54), as well as the ICC of the colleagues and subordinates (.62). Furthermore, the ICC of the managers and colleagues was poor (.38), as well as the ICC of managers and subordinates (.42). Finally, the ICC of self and manager, self and colleagues and self and subordinates was low (.00; .16; -.02 respectively).

^{*.} Correlation is significant at the p < .05 level (2-tailed).

Emotional stability, extraversion and network leadership performance

It was hypothesized that there was a positive relationship between emotional stability, extraversion and network leadership performance (hypotheses 1 and 2). Normal probability plots were conducted to ensure no violation of the assumptions of outliers, normality, linearity and homoscedasticity. Moreover, multicollinearity was examined by means of a Pearson correlation coefficient. According to the results, there were no abnormalities.

For testing the hypotheses, a multiple regression analysis was used (see table 2). There was a positive, significant relationship between emotional stability and self NLP (b = .15, p = .02). Moreover, a positive, significant relationship was found between extraversion and self NLP (b = .23, p < .001). These findings were in line with hypothesis 1 and 2, where positive relationships were expected. Furthermore, 39.9% of the variance of self NLP was explained by emotional stability and extraversion (r^2 = .39). The parameters of the multiple regression analysis of emotional stability, extraversion and self NLP are shown in table 2. No significant relationship was found between emotional stability and manager NLP (b = -.04, p = .34) and extraversion and manager NLP (b = .00, p = .99) (see table 3). Furthermore, there was no significant relationship between emotional stability and subordinates NLP (b = -.02, p = .49) as well as for extraversion and subordinates NLP (b = .03, p = .16) (see table 4). Finally, with regard to extraversion and colleagues NLP, only a significant, weak effect was found (b = .04, p = .04) whereas there was no significant relationship between emotional stability and colleagues NLP (b = -.01, p = .56) (see table 5).

Table 2. Parameters of the multiple regression analysis of emotional stability, extraversion and self NLP.

-	b	SE	β	t
Constant	.78	.35		2.24
Emotional stability	.15*	.06	.24	2.34
Extraversion	.23***	.05	.51	5.05

Note: dependent variable is self NLP.

^{*} p < .05,*** p < .01, **** p < .001

Table 3. Parameters of the multiple regression analysis of emotional stability, extraversion and manager NLP.

	b	SE	β	t
Constant	3.83	.22		17.44
Emotional stability	04	.04	13	96
Extraversion	.00	.03	00	01

Note: dependent variable is manager NLP.

Table 4. Parameters of the multiple regression analysis of emotional stability, extraversion and subordinates NLP.

	b	SE	β	t
Constant	3.89	.15		25.60
Emotional stability	02	.03	09	69
Extraversion	.03	.02	.20	1.42

Note: dependent variable is subordinates NLP.

Table 5. Parameters of the multiple regression analysis of emotional stability, extraversion and colleagues NLP.

	b	SE	β	t
Constant	3.61	.13		27.12
Emotional stability	01	.02	07	.56
Extraversion	.04*	.02	.27	2.11

Note: dependent variable is colleagues NLP.

^{*} p < .05, ** p < .01, *** p < .001

^{*} p < .05,*** p < .01, **** p < .001

^{*} p < .05,** p < .01, *** p < .001

Mediation effect of the motivation to affiliate

The potential mediation effects were analyzed by using the method of Hayes (2012). This method makes use of four paths: the path between the independent variable and the mediator (a), the path between the mediator and the dependent variable (b) and the path between the independent variable and the dependent variable (c). The relationship between the independent and dependent variable will be significantly reduced when there is a mediation effect (c'). The paths are shown in figure 1. Furthermore, this method makes use of bootstrapping, which is based on re-sampling with replacement and generates 1000 repeats whereby for each repetition, an indirect effect is measured. When the indirect effect falls within the 95% confidence interval, a mediation effect is present. However, when the confidence interval includes the number 0, the relationship is interpreted as not-significant at a p < .05 level.

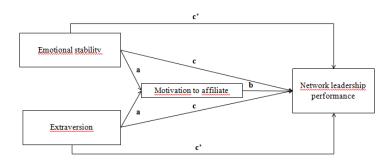


Figure 1. Path model

According to the multiple regression analyses previously examined, there were no significant main effects between emotional stability, extraversion and manager NLP as well as for emotional stability, extraversion and subordinates NLP. Therefore, potential mediation effects were examined for the relationship between emotional stability, extraversion and self NLP as well as for extraversion and colleagues NLP.

Self network leadership performance

There was a significant, negative relationship between emotional stability and the motivation to affiliate (b = -.35, p = .03) (path a). No significant relationship was found between extraversion and the motivation to affiliate (b = -.16, p = .19) (path a). Moreover, no significant relationships were found between the motivation to affiliate and self NLP (path b) with emotional stability as independent variable (b = -.05, p = .29) as well as with extraversion as

independent variable (b = -.06, p = .19). Furthermore, there was a significant, positive relationship between emotional stability and self NLP (b = .26, p = .00) and extraversion and self NLP (b = .28, p = .00). Finally, no mediation effects of the motivation to affiliate were found for both emotional stability (b = .02, p = .38) and extraversion (b = .01, p = .41) on self NLP (c-c'). The results of the mediation analysis with self NLP as dependent variable, are shown in table 6 and 7.

Table 6. Mediation analysis of the motivation to affiliate on the relationship between emotional stability and self NLP.

	b	SE	t	95% CI
Constant	1.46	.38	3.89	
Emotional Stability – Motivation to affiliate (path a)	35*	.16	-2.24	[66,04]
Motivation to affiliate – self NLP (path b)	05	.05	-1.00	[16, .05]
Emotional stability – self NLP (path c)	.26***	.07	3.81	[.12, .40]
Indirect effect (c-c')	.02	.02		[01, .07]

Note: * p < .05,*** p < .01, **** p < .001

Table 7. Mediation analysis of the motivation to affiliate on the relationship between extraversion and self NLP.

	b	SE	t	95% CI
Constant	1.29	.27	4.74	
Extraversion – Motivation to affiliate (path a)	16	.12	-1.32	[39, .08]
Motivation to affiliate – self NLP (path b)	06	.04	-1.33	[15, .03]
Extraversion – self NLP (path c)	.28***	.04	6.1	[.18, .37]
Indirect effect (c-c')	.01	.01		[00, .04]

Note: * p < .05,*** p < .01, **** p < .001

Colleagues network leadership performance

According to the mediation analysis, there was no significant, positive relationship between extraversion and the motivation to affiliate (b = -.16, p = .18) (path a). Moreover, there

was no significant relationship between the motivation to affiliate and colleagues NLP (b = -.02, p = .14) (path b). Furthermore, there was a significant, positive relationship between extraversion and colleagues NLP (b = .03, p = .04) Finally, no mediation effect of the motivation to affiliate was found on the relationship between extraversion and colleagues NLP (b = .00, p = .37) (c-c'). The results of the mediation analysis with colleagues NLP as dependent variable are shown in table 8. Hypothesis 3 was rejected.

Table 8. Mediation analysis of the motivation to affiliate on the relationship between extraversion and colleagues NLP.

	b	SE	t	95% CI
Constant	3.55	.10	35.56	
Extraversion – Motivation to affiliate (path a)	16	.12	-1.35	[40, .08]
Motivation to affiliate – colleagues NLP (path b)	02	.02	-1.49	[06, .01]
Extraversion – colleagues NLP (path c)	.03*	.02	2.05	[.00, .07]
Indirect effect (c-c')	.00	.00		[00, .02]

Note: * *p* < .05,** *p* < .01, *** *p* < .001

Discussion

The goal of this study was to obtain a broader insight in the relationship between a leader's emotional stability, extraversion and motivation to affiliate with regard to network leadership performance, since the traditional leadership hierarchy is increasingly changed into a network structure. The networking approach of leadership is an emerging area of research, however, there is more theory about network leadership than actual data (Cullen-Lester & Yammarino, 2016). Finally, this study is valuable as it examines self-evaluations as well as other-evaluations (manager(s), colleagues and subordinates ratings) with regard to a person's network leadership performance by using a 360° -feedback questionnaire. The data was collected by means of three online questionnaires (OPQ, MQ and 360° -feedback questionnaire) (N = 73).

Emotional stability, extraversion and network leadership performance

A positive relationship was expected between emotional stability and network leadership performance (hypothesis 1). This study confirms the expectation, emotional stability was positively related to network leadership performance when network leadership performance was

rated by the participant (not by the manager, colleagues or subordinates). This means that when a leader is more emotionally stable, he or she is also more likely to show a higher self-rated network leadership performance. This is in line with previous research of Klein, Saltz and Mayer (2004) which argued that neuroticism is negatively related to networking, whereby people who are more neurotic tend to have fewer people in their network.

Furthermore, a positive relationship was expected between extraversion and network leadership performance (hypothesis 2). This study confirms the expectation, however, only when network leadership performance was rated by the participant and the colleagues. This means that it is likely that when a leader is more extraverted, he or she is also more likely to show a higher degree of self-rated and colleagues-rated network leadership performance. This is in line with previous research of Wolff and Kim (2012) which has shown that extraverted people tend to approach social situations, which is a precondition of networking.

A potential explanation for not finding positive relationships between emotional stability and network leadership performance when rated by the manager, colleagues and subordinates and for not finding positive relationships between extraversion and network leadership performance when rated by the managers and subordinates, is that self-measurements (e.g. emotional stability and self NLP) tend to correlate higher in comparison with self and othermeasurements (e.g. emotional stability and managers NLP) (Christiansen & Tett, 2013). The other observers did not rate the personality of the participants (emotional stability and extraversion were not measured by the managers, colleagues and subordinates). Furthermore, according to previous research, self-reports tend to have lower criterion-validity than otherreports with regard to job performance (Christiansen & Tett, 2013). In addition, self-ratings of personality and performance do not have to be in accordance with the reality. The situational context could be an explanation for the lower criterion-validity of the self-reports. Self-reports tend to include perceptions of the self across various contexts, whereas the perceptions of others about the participant are likely to be formed within the specific work-context (Bowling & Burns, 2010). In this sense, it was possible that the leaders rated their network performance differently in comparison with the other observers. In addition, there was a low inter-rater agreement of the participant, managers, colleagues and subordinates regarding network leadership performance. Furthermore, when the manager, subordinates and colleagues rated network leadership performance, the mean scores were higher than self-rated network leadership performance. This

may indicate that the participants undervalue their network leadership performance.

Mediation effect of the motivation to affiliate

A partial mediation effect of the motivation to affiliate was expected in the relationship between emotional stability, extraversion and network leadership performance. The motivation to affiliate did not function as a partial mediator in the relationship between emotional stability, extraversion and network leadership performance rated by the participant, managers, colleagues or subordinates. This means that the relationship between emotional stability, extraversion and network leadership performance is not partially explained by the motivation to affiliate. This is not in line with research of Duffy and Chartrand (2015), which argued that the ability of extraverts to network is depending on the motivation to affiliate. A possible explanation could be that the relation between personality and leader performance is largely impacted by motivational processes, however, 'research is hindered because an accepted framework does not exist for studying motivational constructs' (Parks & Guay, 2009). In addition, different labels (e.g. need to belong, need to affiliate) and ways of measurements (e.g. motivational questionnaire (MQ), need to belong scale (NTB)) are used for measuring the motivation to affiliate, which could result in different outcomes (Nichols & Webster, 2013).

Theoretical implications

This study has obtained a broader insight in the relationship between personality and the motivation of a leader with regard to network leadership performance. The traditional leadership hierarchy is increasingly changed to a network structure, which resulted in new approaches regarding leadership styles (Yammarino et al., 2012). Furthermore, this study is valuable because self-ratings as well as other-ratings are used which provides more reliable information about the performance of a leader than solely the feedback of the participant (Kanaslan & Iyem, 2016). This study has shown that emotional stability as well as extraversion are positively related to self-rated network leadership performance. Furthermore, extraversion was also related to a higher colleagues-rated network leadership performance. This is in line with previous research which argues that emotional stability and extraversion are positively related to networking and leadership performance (Bozionelos, 2003; Klein, Lim, Saltz & Mayer, 2004). No mediation effect was found for the motivation to affiliate in the relationship between emotional stability, extraversion and network leadership performance rated by the participants, managers, colleagues

and subordinates.

The inter-rater agreement of the participant and other observers with regard to network leadership was low. This is in line with the meta-analysis of Conway and Huffcutt (1997) which indicated low correlations between self, manager, colleagues and subordinates ratings with regard to job performance. In this study, the inter-rater agreement was higher when self-rated network leadership performance was not included. This may indicate that other-ratings are more reliable with regard to a leader's network performance. Furthermore, the inter-rater agreement was highest for colleagues and subordinates.

Practical implications

The current findings indicate that leaders who are more emotionally stable are more likely to show higher self-rated network leadership performance. Furthermore, leaders who are more extraverted tend to show higher self-rated and colleagues-rated network leadership performance. The use of the 360°-feedback questionnaire can contribute to a leader's understanding of the impact of their networking behavior on others. Moreover, the examined high-tech company could use the results of this study for developmental needs. Leaders who score low on emotional stability, extraversion and/or network leadership performance can be trained (e.g. mindfulness training; leader training), however, personality traits are in general stable patterns which makes it difficult to change a leader's personality (Cervone & Pervin, 2015; Wenzel, von Versen, Hirschmüller & Kubiak, 2015). With regard to future recruitment and selection procedures, organizations may choose to employ candidates who score higher on emotional stability and/or extraversion.

Limitations

There are several limitations in the current study. First, the amount of participants was relatively small (N = 73). With regard to the 360°-feedback questionnaire, two participants did not participate as well as 20 observers (manager, colleagues and subordinates). This may have had an influence on the results. However, it is presumably a good indication for the examined high-tech company and the available leaders but it is difficult to generalize the results into other sectors and organizations. Secondly, age was not measured. This could have an impact on the results since previous research has shown that younger (25 to 40 years) and older individuals (55+ years) report less networking behaviors in comparison with middle-aged individuals (40-55)

years) (Lambert, Eby & Reeves, 2006). Furthermore, years of leadership experience was not taken into account which could possibly have an effect on the results. Also here, leaders aged 40-55 years have presumably more leadership experience than leaders aged 25-40, which in turn result in higher networking behaviors. Thirdly, the amount of women who participated in this study was very low (6.8%). According to Forret and Dougherty (2001), women are less inclined to engage in socializing than men. The results of network leadership performance could be lower for women than for men. Fourth, this study has used a non-experimental correlational design whereby no causal relations can be determined (Curtis, Comiskey & Dempsey, 2016). In addition, causes and effects cannot be distinguished whereby reverse causality of the found relationships is possible. Finally, in this study, leaders were not randomly selected which can have an effect on the generalizability of the results (Teh, Ahmed, Cheong & Yap, 2014).

Follow-up study could choose for a probability design to enhance the generalizability. Moreover, further research could focus on other mediators in the relationship between emotional stability, extraversion and network leadership performance. For example, self-esteem could potentially be a mediator. In addition, emotional stability and extraversion are related to self-esteem, whereas self-esteem is related with networking behaviors (Marshall, Parker, Ciarrochi & Heaven, 2014; Tazghini & Siedlecki, 2013). Also, further studies could focus on the kind of network relationship, since research has shown that extraversion is more related with building contacts in comparison with maintaining and using contacts which are important factors with regard to network leadership performance (Wolff & Kim, 2012). Finally, this study has used self-ratings of emotional stability and extraversion. Follow-up study could choose to also rate emotional stability and extraversion by the managers, colleagues and subordinates. Previous research has shown high inter-rater reliabilities of self and other-ratings when measuring extraversion (Connelly & Ones, 2010). However, the inter-rater reliability of self and other-ratings was weaker when emotional stability was measured.

Conclusion

This study has obtained a broader insight in the influence of emotional stability, extraversion and the motivation to affiliate on network leadership performance. The results indicate a positive influence of emotional stability on self-rated network leadership performance. Furthermore, extraversion is positively associated with a higher self-rated as well as colleagues rated network leadership performance. The potential mediating role of the motivation to affiliate

was not confirmed. Moreover, this study is of practical value to indicate the influence of emotional stability and extraversion on network leadership performance, so that future recruitment and selection procedures can be modified and potential development programs can be used.

Literature

- Ahuja, G., Soda, G., & Zaheer, A. (2012). The genesis and dynamics of organizational networks. *Organization Science*, 23(2), 434-448.
- Atwater, L. E., & Brett, J. F. (2006). 360-Degree Feedback to Leaders Does it Relate to Changes in Employee Attitudes? *Group & organization management*, 31(5), 578-600.
- Bao, Y., Chen, X., & Zhou, K. Z. (2012). External learning, market dynamics, and radical innovation: Evidence from China's high-tech firms. *Journal of Business Research*, 65(8), 1226-1233.
- Bartram, D., Robertson, I. T., & Callinan, M. (2002). Introduction: A framework for examining organizational effectiveness. *Organizational effectiveness: The role of psychology*, 1-10.
- Balkundi, P., & Harrison, D. A. (2006). Ties, leaders, and time in teams: Strong inference about network structure's effects on team viability and performance. *Academy of Management Journal*, 49(1), 49-68.
- Balkundi, P., & Kilduff, M. (2006). The ties that lead: A social network approach to leadership. *The Leadership Quarterly*, 17(4), 419-439.
- Birkinshaw, J., Bessant, J., & Delbridge, R. (2007). Finding, forming, and performing: Creating networks for discontinuous innovation. *California management review*, 49(3), 67-84.
- Bodell, S., & Hook, A. (2011). Using Facebook for professional networking: a modern-day essential. *The British Journal of Occupational Therapy*, 74(12), 588-590.
- Bono J.E., & Judge T.A. (2004). Personality and transformational and transactional leadership: a meta-analysis. *Journal of Applied Psychology*, 89(5): 901–910.
- Borkenau, P., & Ostendorf, F. (2008). NEO-Fünf-Faktoren Inventar nach Costa und McCrae.

 Manual (NEO Five Factor Inventory of Costa and McCrae. Manual), Hogrefe, Göttingen.
- Bowling, N. A., & Burns, G. N. (2010). A comparison of work-specific and general personality measures as predictors of work and non-work criteria. *Personality and Individual differences*, 49(2), 95-101.
- Bozionelos, N. (2003). Intra-organizational network resources: Relation to career success and personality. *International Journal of Organizational Analysis*, 11, 41–66.
- Branje, S. J., van Lieshout, C. F., van Aken, M. A., & Gerris, J. R. (2005). Verandering en ontwikkeling in Big Five-persoonlijkheidsfactoren tijdens de adolescentie. *Netherlands journal of psychology*, 60(3), 59-69.

- Brass, D. J., Galaskiewicz, J., Greve, H. R., & Tsai, W. (2004). Taking stock of networks and organizations: A multilevel perspective. Academy of Management Journal, 47, 795–817.
- Castells, M. (2011). The rise of the network society: The information age: Economy, society, and culture (Vol. 1). John Wiley & Sons.
- Carson, J. B., Tesluk, P. E., & Marrone, J. A. (2007). Shared leadership in teams: An investigation of antecedent conditions and performance. *Academy of management Journal*, 50(5), 1217-1234.
- Carter, D. R., & Dechurch, L. A. (2012). Networks: The way forward for collectivistic leadership research. *Industrial and Organizational Psychology*, *5*(4), 412-415.
- Cavazotte, F., Moreno, V., & Hickmann, M. (2012). Effects of leader intelligence, personality and emotional intelligence on transformational leadership and managerial performance. *The Leadership Quarterly*, 23(3), 443-455.
- CEB (2011). The SHL Leadership Report: Technical manual. Thames Ditton, UK: SHL Group Ltd.
- CEB (2013). The rise of the Network Leader: CEB Executive Guidance. Washington D.C.: CEB.
- CEB (2014). Creating Enterprise Leaders to drive breakthrough performance. CEB Annual Executive Retreat, Washington, DC.: CEB
- Cervone, D., & Pervin, L. A. (2015). Personality. John Wiley & Sons.
- Chell, E. & S. Baines (2000) Networking, entrepreneurship and micro-business behaviour. Entrepreneurship and Regional Development, 12(3), 195–215.
- Choi, Y.M. (2011). Development and validation of collegiate teamwork competency test. *The Journal of Vocational Education Research*, *30*(2), 173–196.
- Christiansen, N., & Tett, R. (2013). Handbook of personality at work. Routledge.
- Cohen, J., 1998. Statistical Power Analysis for the Behavioural Sciences, 2nd ed. Lawrence Erlbaum Associates Inc., New Jersey.
- Colbert, A. E., Barrick, M. R., & Bradley, B. H. (2014). Personality and leadership composition in top management teams: Implications for organizational effectiveness. *Personnel Psychology*, 67(2), 351-387.
- Connelly, B. S., & Ones, D. S. (2010). Another perspective on personality: meta-analytic integration of observers' accuracy and predictive validity. *Psychological bulletin*, *136*(6), 1092.

- Conway, J. M., & Huffcutt, A. I. (1997). Psychometric properties of multisource performance ratings: A meta-analysis of subordinate, supervisor, peer, and self-ratings. *Human Performance*, *10*(4), 331-360.
- Cox, B. E., McIntosh, K., Reason, R. D., & Terenzini, P. T. (2014). Working with missing data in higher education research: A primer and real-world example. *The Review of Higher Education*, *37*(3), 377-402.
- Cullen-Lester, K. L., & Yammarino, F. J. (2016). Collective and network approaches to leadership: Special issue introduction. *The Leadership Quarterly*, 27(2), 173-180.
- Curtis, E. A., Comiskey, C., & Dempsey, O. (2016). Importance and use of correlational research. *Nurse Researcher*, *23*(6), 20-25.
- Deci, E.L., & Ryan, R.M. (2008). "Facilitating optimal motivation and psychological well-being across life's domains", *Canadian Psychology*, 49(1), 14-23.
- Deinert, A., Homan, A. C., Boer, D., Voelpel, S. C., & Gutermann, D. (2015). Transformational leadership sub-dimensions and their link to leaders' personality and performance. *The Leadership Quarterly*, 26(6), 1095-1120.
- Do, M. H., & Minbashian, A. (2014). A meta-analytic examination of the effects of the agentic and affiliative aspects of extraversion on leadership outcomes. *The Leadership Quarterly*, 25(5), 1040-1053.
- Duffy, K. A., & Chartrand, T. L. (2015). The Extravert Advantage How and When Extraverts Build Rapport With Other People. *Psychological Science*, 26(11), 5-7.
- Dulworth, M. (2006). "Enhancing personal and professional development: The role of peer networks," *Employment Relations Today*, *33*(3), 37–41
- Forret, M. L., & Dougherty, T. W. (2001). Correlates of networking behavior for managerial and professional employees. *Group & Organization Management*, 26(3), 283-311.
- Forret, M. L., & Dougherty, T. W. (2004). Networking behaviors and career outcomes: differences for men and women?. *Journal of Organizational Behavior*, 25(3), 419-437.
- Friedrich, T. L., Vessey, W. B., Schuelke, M. J., Mumford, M. D., Yammarino, F. J., & Ruark,
 G. A. (2014). Collectivistic leadership and George C. Marshall: A historiometric analysis of career events. *The Leadership Quarterly*, 25(3), 449-467.
- Gilbert, S., Horsman, P., & Kelloway, E. K. (2016). The Motivation for Transformational Leadership Scale: An examination of the factor structure and initial tests. *Leadership* &

- *Organization Development Journal*, *37*(2), 158-180.
- Goldberg, L. R. (1990). An alternative" description of personality": the big-five factor structure. *Journal of personality and social psychology*, 59(6), 1216.
- Goldberg, L. R. (1993). The structure of phenotypic personality traits. *American Psychologist*, 48, 26-34.
- Graen, G. B., & Graen, J. A. (2006). Sharing network leadership (Vol. 4). IAP.
- Grayson, C., & Baldwin, D. (2007). *Leadership networking: Connect, collaborate, create* (Vol.125). Center for Creative Leadership.
- Hayes, A. F. (2012). PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling. Retrieved from http://www.afhayes.com/public/process2012.pdf
- Hills, P., & Argyle, M. (2001). Emotional stability as a major dimension of happiness. *Personality and individual differences*, *31*(8), 1357-1364.
- Johnson, M. (2008). "Expanding the concept of networked learning," *Proceedings of the Sixth International Conference on Networked Learning*. Halkidiki: Greece, 154–161.
- Judge, T. A., Bono, J. E., Ilies, R., & Gerhardt, M. W. (2002). Personality and leadership: A qualitative and quantitative review. *Journal of Applied Psychology*, 87, 765–780.
- Judge T.A, Erez, A., & Bono J.E. (1998). The power of being positive: the relationship between positive self-concept and job performance. *Human Performance*, 11(2/3), 167–187.
- Judge, T. A., Klinger, R., Simon, L. S., & Yang, I. W. F. (2008). The contributions of personality to organizational behavior and psychology: Findings, criticisms, and future research directions. *Social and Personality Psychology Compass*, 2, 1982-2000.
- Judge, T. A., Van Vianen, A. E., & De Pater, I. E. (2004). Emotional stability, core selfevaluations, and job outcomes: A review of the evidence and an agenda for future research. *Human performance*, 17(3), 325-346.
- Kahn Jr, P. H., Sagerer, G., Thomaz, A. L., & Kanda, T. (2013). Revisioning HRI given exponential technological growth. *Proceedings of the 8th ACM/IEEE international conference on Human-robot interaction*, 291-292.
- Kanaslan, E. K., & Iyem, C. (2016). Is 360 Degree Feedback Appraisal an Effective Way of Performance Evaluation?. *International Journal of Academic Research in Business and Social Sciences*, 6(5), 172-182.

- Kenis, P. (2016). Samenwerking en co-productie. Deventer, Avicenna. Available at: http://academievoorleiderschap.nl/leergangen/netwerk-leiderschap/ (accessed at June, 20, 2016).
- Klein, K. J., Lim, B. C., Saltz, J. L., & Mayer, D. M. (2004). How do they get there? An examination of the antecedents of centrality in team networks. *Academy of Management Journal*, 47(6), 952-963.
- Kline, P. (2000). The handbook of psychological testing (2nd ed.). London: Routledge.
- Kurz, R., & Bartram, D. (2002). Competency and individual performance: Modelling the world of work. *Organizational effectiveness: The role of psychology*, 227-255.
- Lambert, T. A., Eby, L. T., & Reeves, M. P. (2006). Predictors of networking intensity and network quality among white-collar job seekers. *Journal of career development*, *32*(4), 351-365.
- Lawrence, P. (2015). A best practice model for the effective deployment of 360° feedback.

 Development and Learning in Organizations: An International Journal, 29(6), 13-16.
- Leary, M. R., Kelly, K. M., Cottrell, C. A., & Schreindorfer, L. S. (2013). Construct validity of the need to belong scale: Mapping the nomological network. *Journal of Personality Assessment*, 95(6), 610-624.
- Lemoine, G. J., Aggarwal, I., & Steed, L. B. (2016). When women emerge as leaders: Effects of extraversion and gender composition in groups. *The Leadership Quarterly*.
- Marshall, S. L., Parker, P. D., Ciarrochi, J., & Heaven, P. C. (2014). Is self-esteem a cause or consequence of social support? A 4-year longitudinal study. *Child Development*, 85(3), 1275-1291.
- McCrae, R. R., & Costa, P. T., Jr. (1987). Validation of the five-factor model of personality across instruments and observers. *Journal of Personality and Social Psychology*, *52*, 81-90.
- McLaughlin, E. M. (2013). How locus of control, need for affiliation, the big five factors, and perceived risk relate to texting while driving. *Department of Psychology*, 29-33.
- Mehra, A., Dixon, A. L., Brass, D. J., & Robertson, B. (2006). The social network ties of group leaders: Implications for group performance and leader reputation. *Organization science*, *17*(1), 64-79.
- Mitchell, M. L., & Jolley, J. M. (2012). Research design explained. Cengage Learning.

- Neal, A., Yeo, G., Koy, A., & Xiao, T. (2012). Predicting the form and direction of work role performance from the Big 5 model of personality traits. *Journal of Organizational Behavior*, 33(2), 175-192.
- Ngoma, M., & Dithan Ntale, P. (2016). Psychological capital, career identity and graduate employability in Uganda: the mediating role of social capital. *International Journal of Training and Development*, 20(2), 124-139.
- Nichols, A. L., & Webster, G. D. (2013). The single-item need to belong scale. *Personality and Individual Differences*, 55(2), 189-192.
- Nixon, P., Harrington, M., & Parker, D. (2012). Leadership performance is significant to project success or failure: a critical analysis. *International Journal of productivity and performance management*, 61(2), 204-216.
- Parks, L., & Guay, R. P. (2009). Personality, values, and motivation. *Personality and Individual Differences*, 47(7), 675-684.
- Pittaway, L., Robertson, M., Munir, K., Denyer, D., & Neely, A. (2004). Networking and innovation: a systematic review of the evidence. *International Journal of Management Reviews*, 5(3-4), 137-168.
- Poropat, A. E. (2009). A meta-analysis of the five-factor model of personality and academic performance. *Psychological Bulletin*, *135*, 322–338.
- Portney, L. G., & Watkins, M. P. Foundations of clinical research: Applications to practice. 1993. *Norwalk, Connecticut: Appleton & Lange*, 722.
- Rajagopal, K., Joosten-ten Brinke, D., Van Bruggen, J., & Sloep, P. B. (2011). Understanding personal learning networks: Their structure, content and the networking skills needed to optimally use them. *First Monday*, *17*(1).
- Rammstedt, B. (2007). Who worries and who is happy? Explaining individual differences in worries and satisfaction by personality. *Personality and Individual Differences*, 43(6), 1626-1634.
- Ritter, T. (1999). The networking company: antecedents for coping with relationships and networks effectively. *Industrial Marketing Management*, 28(5), 467-479.
- Salgado, J. F. (1997). The Five Factor Model of personality and job performance in the European Community. *Journal of Applied psychology*, 82(1), 30.

- Saucier, G., & Srivastava, S. (2015). What makes a good structural model of personality? Evaluating the Big Five and alternatives. *Handbook of personality and social psychology*, 3, 283-305.
- Schreiber, C., & Carley, K. M. (2008). Network Leadership. M. Uhl-Bien and R. Marion, ed, 291-332.
- SHL. (1992). *Motivation Questionnaire manual and user's guide*. Thames Ditton, UK.: CEB SHL.
- SHL (1993). Inventory of management competencies: Manual and user's guide. Thames Ditton, UK: SHL Group plc.
- SHL (2013). OPQ32r technical manual version 1.0. Thames Ditton, UK: SHL Group.
- Sikes, D., Jestes, E., LeClair-Smith, C., & Yates, R. R. (2015). Using a 360° Feedback Evaluation to Enhance Interprofessional Collaboration. *Nurse Leader*, *13*(4), 64-69.
- Spangler, W. D., House, R. J., & Palrecha, R. (2004). Personality and leadership. *Personality and organizations*, 251-290.
- Stanton, N. A., Mathews, G., Graham, N. C., & Brimelow, C. (1991). The OPQ and the big five. *Journal of Managerial Psychology*, 6(1), 25-27.
- Tazghini, S., & Siedlecki, K. L. (2013). A mixed method approach to examining Facebook use and its relationship to self-esteem. *Computers in Human Behavior*, 29(3), 827-832.
- Teh, P. L., K. Ahmed, P., Cheong, S. N., & Yap, W. J. (2014). Age-group differences in Near Field Communication smartphone. *Industrial Management & Data Systems*, 114(3), 484-502.
- Tett, R. P., Jackson, D. N., & Rothstein, M. (1991). Personality measures as predictors of job performance: A meta-analytic review. *Personnel Psychology*, *44*, 703–742.
- Van Hoye, G., Van Hoft, E.A.J., & Lievens, F. (2009). Networking as a job search behavior: a social network perspective, *Journal of Occupational and Organizational Psychology*, 82(3), 661-82.
- Van Zalk, N., Van Zalk, M., Kerr, M., & Stattin, H. (2011). Social anxiety as a basis for friendship selection and socialization in adolescents' social networks. *Journal of Personality*, 79(3), 499-526.
- Wanberg, C.R., Kanfer, R. and Banas, G.T. (2000), Predictors and outcomes of networking intensity among unemployed job seekers, *Journal of Applied Psychology*, 85(4), 491-503.

- Wang, J. L., Jackson, L. A., Zhang, D. J., & Su, Z. Q. (2012). The relationships among the Big Five Personality factors, self-esteem, narcissism, and sensation-seeking to Chinese University students' uses of social networking sites (SNSs). *Computers in Human Behavior*, 28(6), 2313-2319.
- Wenzel, M., von Versen, C., Hirschmüller, S., & Kubiak, T. (2015). Curb your neuroticism—Mindfulness mediates the link between neuroticism and subjective well-being.

 *Personality and Individual Differences, 80, 68-75.
- Wolff, H. G., & Kim, S. (2012). The relationship between networking behaviors and the Big Five personality dimensions. *Career Development International*, 17(1), 43-66.
- Wolff, H.G., & Moser, K. (2006). Entwicklung und Validierung einer Networkingskala (Development and validation of a networking scale). *Diagnostica*, 52(4), 161-80.
- Wolff, H.G., & Moser, K. (2009). Effects of networking on career success: a longitudinal study. *Journal of Applied Psychology*, 94(1), 196-206.
- Yammarino, F. J., Salas, E., Serban, A., Shirreffs, K., & Shuffler, M. L. (2012). Collectivistic leadership approaches: Putting the "we" in leadership science and practice. *Industrial and Organizational Psychology*, *5*(4), 382-402.
- Zhou, K. Z., Yim, C. K., & Tse, D. K. (2005). The effects of strategic orientations on technology-and market-based breakthrough innovations. *Journal of marketing*, 69(2), 42-60.

Appendix

I. Participant invitation.

Email 1: 360 Feedback invitation – ALAP Development Centre - Start up Focus

Dear \$RCPFirstName \$RCPLastName,

You are going to participate in the Advanced Leadership Acceleration Program of '...' and as a part of this, you are asked to complete a 360° feedback questionnaire (self-assessment). The 360 feedback measures how you perform as a leader and in which areas you can develop and accelerate your potential. Further down in this email, you will find a link to the internet site and your individual User ID and Password to complete the feedback questionnaire for yourself. Please set aside 20 minutes to complete this task.

Besides this invitation to complete the 360 feedback questionnaire, you will receive a separate email invitation to complete the Personality Questionnaire and the Motivation Questionnaire (also part of this program).

We also have send separate e-mails to the feedback providers you have chosen, providing each with a unique user id and password and instructions to complete the 360 feedback questionnaire for you.

The process for completion is as follows:

Please log on to the CEB SHL-Solutions website at: \$UniqueLink

Enter your user name and password:

Your ID: \$UserID

Your Password: \$UserPW

The system will guide you through the process. Please make sure that you keep your ID and password in case you need to re-access the system.

PLEASE COMPLETE YOUR QUESTIONNAIRE(S) BEFORE [PHASE 2 DEADLINE].

Should you require help, please do not hesitate to contact us by e-mail: ManagedServices@shl.com

or phone: +44 (0) 870 070 8000

The process is supported by CEB, a specialised assessment and development consultancy.

Thank you very much for your participation.

CEB

<u>Email 2: 360 Feedback invitation – Advanced Leadership Acceleration Program - Start up</u> Rater

Dear \$RCPFirstName \$RCPLastName

The Advanced Leadership Acceleration Program forms a significant part of '...'s efforts to ensure best practice in development and support of leaders. Part of this program is a 360° Feedback process. You have been asked by one (or more) of the participants of this program to give feedback on his/her current (leadership) behaviour.

Your contribution will be greatly appreciated. The information you provide will help the participant(s) identify current strengths and areas of improvement for future growth and development as a leader. The data will not be used for performance appraisal purposes.

The participant will receive a 360 feedback report, based on the responses of all feedback providers. The results are anonymous in the sense that the report does not contain the names of the feedback providers. When you are a colleague or direct report, your responses are grouped with the other responses in your category. Each of these categories always contains at least 2 feedback providers. However, if you are completing the questionnaire as the manager of the participant, your ratings will be clearly identifiable as you are likely to be the only respondent in this category.

The process is supported by CEB, global leader in the field of assessing and developing (leadership) talent. All data will be stored and processed on CEB's secure and protected site.

Completing a 360 feedback questionnaire will take you approximately 20 minutes per participant.

The process for completion is as follows:

Please log on to the CEB SHL-Solutions website at: \$UniqueLink

Enter your user name and password:

Your ID: \$UserID

Your Password: \$UserPW

The system will guide you through the process. Please make sure that you keep your ID and password in case you need to re-access the system.

All data will be stored and processed on CEB's secure and protected site. The participant will only see a summary of the data - not individual feedback from each provider. However, if you are completing the questionnaire as a Line Manager, your ratings will be clearly identifiable as you are likely to be the only respondent in this category.

PLEASE COMPLETE YOUR FEEDBACK BEFORE [PHASE 2 DEADLINE].

Should you require help, please do not hesitate to contact us by e-mail: ManagedServices@shl.com

or phone: +44 (0) 870 070 8000

The process is supported by CEB, a specialised assessment and development consultancy.

Thank you very much for your participation.

CEB

ALAP Participant Invitation - incl 360 feedback providers list

From: Potential Acceleration Program

Sent: Tuesday, September 23, 2014 6:07 AM

Subject: Follow up mail Advanced Leadership Acceleration Program (ALAP)

Dear Participant,

Welcome to the **Advanced Leadership Acceleration Program** (ALAP) for which you are nominated.

Following up on the previous email from Harry de Vos, I like to inform you about the next steps.

We start the program with a **Development Center** that takes place in November and beginning December.

What is a Development Center?

A Development Center is an inspiring Learning and Development experience in which the group of participants engages in a challenging "Day in the Life" simulation. You receive on the spot feedback and coaching and will be guided in translating insight into a clear Personal Development Plan. You gain thorough insight in your developmental focus areas and key strengths in your leadership (for more information read the leaflet attached).

Pre-work

Before we start with the Development Center you will be asked to conduct pre-work. The first part of the pre-work is that you gather information from your direct environment using a **360 feedback questionnaire.** The second part of the pre-work is completing a **self- assessment on Personality and Motivation**.

To support and stimulate insight in and development of leadership competencies, an experienced CEB consultant will provide you individual feedback on the output of this pre-DC assessment. These feedback sessions will be conducted during the ALAP Development Centre.

360°-feedback is a process in which you receive feedback on your current performance from the people who work with and around you. This typically includes your manager, peers, (internal) customers and direct reports. This feedback facilitates a constructive dialogue about the leadership behaviors and triggers personal development aimed at individual and organizational results and goals.



→ Attached you find an excel file to fill in the names of your 360° feedback givers. We recommend asking your manager, 3 peers and 3 direct reports to fill out the 360° questionnaire.

Please return the excel file a.s.a.p. but not later than Thursday 2th of October to joost.taggenbrock@shl.com

On **Monday 7th of October** you will receive the invitation for the tests and secondly you and your feedback givers will receive an email with a link to the 360° questionnaire.

Please finish and submit both, tests and 360° feedback, at the latest on **Monday 27th of October.**

CEB/SHL, our global preferred supplier for Assessments and Development Centers, will facilitate the process and reflects with you on the results in a report evaluation meeting.

If you have questions you can contact me.

Best regards,

"..." (Project Manager Potentials Acceleration Programs)