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Transformational leadership and leading creativity

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Julkaisun nimike
Transformationaalinen johtajuus ja luovuuden johtaminen

Tiivistelmä
Väitöskirja tutkii transformationaalisen johtajuuden soveltuvuutta luovien ja innovatiivisten ihmisten johtamisessa. Asiaa tarkastellaan kahdesta näkökulmasta. Ensin tutkitaan asiaa alaisten näkökulmasta. Millaista johtajuutta innovaattorit haluavat ja ovatko jotkut transformationaalisen johtajuuden ulottuvuuksista arvokkaampia heille kuin toiset. Lisäksi tarkastellaan, miten hyvin suomalaisten johtajien johtajuuskäyttäytyminen sopii innovaattoreiden odotuksiin. Toiseksi tarkastellaan transformationaalisen johtajuuden ja luovuuden ennustavia tekijöitä, keskittyen erityisesti persoonallisuuteen. Näitä näkökulmia tutkittiin seitsemän artikkelin kautta.

Tulokset vahvistavat, että myös luovien ja innovatiivisten alaisten näkökulmasta transformationaalinen johtajuus on suositeltava johtamistyyli. Erityisesti älyllinen stimulointi eli yllyttäminen ja inspiroiva motivointi ovat tärkeitä innovatiivisten ihmisten johtamisessa. Älyllinen yllyttäminen on transformationaalisen johtajuuden ulottuvuus, jossa myös suomalaisten johtajien olisi kehityttävä.

Transformationaalisimmat johtajat ovat myös luovia ja heillä on erinomaiset lähtökohdat johtaa innovaattoreita. Tuloksia voidaan hyödyntää, kun haetaan johtajaa, joka osaa johtaa luovia ihmisiä sekä edistää organisaation luovuutta tukevaa kulttuuria.

Asiasanat
Transformationaalinen johtajuus, luova johtajuus, luovuuden johtaminen, luovuus, innovatiivisuus, innovaattorit, älyllinen yllyttäminen, älyllinen stimulointi, persoonallisuus, persoonallisuustyyppi

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Abstract
The purpose of this dissertation is to determine the appropriateness of transformational leadership in leading creative and innovative individuals. This is investigated from two perspectives. First is an examination of followers' leadership preferences to determine whether innovators, for example, may prefer transformational leadership to other styles, and if so then which sub-dimensions are important. It is also considered whether the actual behaviors of leaders in Finland correspond with these findings. Second is a comparison of the antecedents, particularly personality, of transformational leadership and creativity to determine if there is a fit. These questions are investigated through seven articles.

The results indicate that transformational leadership is an appropriate style for the leadership of creative people. In particular, intellectual stimulation and inspirational motivation should be applied when leading creative individuals and innovators. However, intellectual stimulation is an area of leadership that would benefit from development amongst leaders. In addition, the most transformational leaders are creative as well, which indicates that they are in good position to lead innovators. The results can be used in identifying the most transformational and creative individuals to increase the variety of personalities amongst leaders, especially when innovation is called for.

Keywords
Transformational leadership, creative leadership, creativity, innovativeness, innovators, intellectual stimulation, personality, personality type

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I have always loved learning, but I would have not taken on this extensive learning journey if my supervisor Professor Vesa Routamaa hadn't first hired me as a research assistant during my undergraduate studies and later asked to contribute as part of the *Personality approach to leadership and organizational studies* research team. Thank you for the trust, wise perspectives on personality differences and the strengths that lie within us, not to mention the fun stories!

My other supervisor, Associate Professor and docent Tiina Brandt, is the perfect example of a transformational leader who should be around to lead people like me! Leading by example, never judging or belittling my suggestions that were far from complete, constantly developing new ideas with a flare of fun! Giving freedom, and not pressuring, yet also challenging me to improve and figure things out! All of this with the humbleness and willingness to exchange feedback. Thank you for this journey Tiina, I cannot imagine it without you and our friendship!

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Sanna Skyttälä, Suvi Einola, Sniazhana Sniazhko, and Shaghayegh Ghaffaripour. I also have had a pleasure of collaborating with people outside of our unit: Thank you for the collaboration Doctor Pia Hautamäki, Doctor Krista Jaakson, Berndt Pape and Pia-Liisa Äijö. Finally, a special thank you to Associate professor Niina Koivunen, who was always ready to discuss and help with academic issues as well as life in general.

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Pre-examiners, professors Vesa Puhakka and Iiris Aaltio, helped to improve my dissertation through insightful comments. Thank you so much for your time and effort! I also want to thank Nathan Schwartzman, whose efficient proofing improved the language of this dissertation greatly. Thank you to Tiina Jokinen for helping me with so many practical things over the years and to Merja Kallio for finalizing the layouts.

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Haapalainen, thank you for accepting me into your lives. Our two-year-old godson Noel Haapalainen has been a reminder of what is important in life with his unsurpassable presence, smile, and wit. As has our Aldo, who took me out for walks and kept me company at all times with his understanding pup eyes.

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Piia Uusi-Kakkuri

Vaasa, 7th of May, 2017

-A complete lack of exertion or stress may seem desirable, but in fact it results in boredom and stagnation. It is essential that we keep making continuous efforts amid challenging circumstances, pushing forward with dynamic creativity and breaking through all obstacles. That is the way to develop new strength and achieve fresh growth, whether it be in the case of individual or an organization.-

Daisaku Ikeda

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Abbreviations

MBTI	Myers-Briggs type indicator
E	Extraversion
I	Introversion
S	Sensing
N	Intuition
T	Thinking
F	Feeling
J	Judging
P	Perceiving
LPI	Leadership Practices Inventory
MLQ	Multifactor leadership questionnaire
CEO	Chief executive officer
EI	Emotional intelligence

PART II: ARTICLES

This dissertation is based on seven appended papers that are:

[1] Uusi-Kakkuri, P. & T. Brandt (2015), "Preferred leadership behaviors by different personalities", International Journal of Business and Globalisation, 15:4, 461-474.

[2] Uusi-Kakkuri, P., Brandt, T. & S. Kultalahti (2016), "Transformational leadership in leading young innovators – a subordinate perspective", European Journal of Innovation Management, 19:4, 547-567.

[3] Brandt, T. & P. Uusi-Kakkuri (2016), "Transformational leadership and communication style of Finnish CEOs", Communication Research Reports. 30:2, 119-127.

[4] Brandt, T. & P. Edinger (2015), "Transformational leadership in teams – The effects of a team leader's sex and personality", Gender in Management: An International Journal, 30:1, 44-68

[5] Uusi-Kakkuri, P., Brandt, T., Ghaffaripour, S., & B. Pape (under review), "Do personality and emotional intelligence predict transformational leadership qualities?".

[6] Routamaa, V., Brandt, T. & P. Uusi-Kakkuri (2016), "Personality of Finnish innovative entrepreneurs", International Journal of Entrepreneurship and Small Business, 29:1, 133-148.

[7] Uusi-Kakkuri, P. (under review), "Creative leaders – Interaction of the personality and gender of leaders with their creativity". Earlier version of this paper was presented at the 4th Ashridge International Research Conference, in Berkhamsted, UK, in June 2015.

1 INTRODUCTION

Socrates led people to think creatively by asking provocative questions that required reconstructing learned things, which produced original ideas. Plato instead emphasized the enjoyability of learning new things instead of forcing it (Torrance 1965). This is what transformational leaders are doing when they engage in intellectual stimulation or use modelling to show that creativity is appreciated and not questioned or rejected.

The importance of innovation is undeniable for each company and society in the world. Innovations and the creativity that precedes them are essential for any organization's effectiveness, success, and long-term survival (Amabile, Conti, Coon, Lazenby, & Herron 1996; Anderson, Potočnik, & Zhou 2014; Woodman, Sawyer, & Griffin 1993; Zhou & Hoever 2014). A company's innovation can revitalize it, while the innovation of a competitor can take away the basis of its whole business in a matter of months. A creative thought may spark a new inspiration for one person that motivates them for that week or year, or be a starting point for a bigger collaboration that leads into innovation that makes a difference for that team, or for the whole planet. Although Schumpeter (1970) argued that only a small fraction of people has the courage to break routines and ignore resistance and that the need for these types of personalities will eventually diminish due to constant change and economic progress, to this day it is important to recognize these innovators. The role of leaders in this is ever as important (Amabile, Schatzel, Moneta, & Kramer 2004; Brandt 2011) and supporting creative individuals is and should be of interest (Denti 2011; Oldham & Cummings 1996).

Creativity and innovation are trendy terms in the talks of many organizational leaders and the company visions, but are these people really walking the talk, or just talking the talk? Leaders and organizations should embrace complexity, changing environments, and even failures (Poutanen, Soliman, & Ståhle 2016) but in reality when CEOs or leaders are hired they need to prove themselves, and they get perhaps three years to do that (Toivola 1984). In such a short time, it is easier to cut costs and increase efficiency than create something totally new. Although CEOs consider creativity to be one the key competences, still the financing end gets the final call (Taylor 2012). There is a need for a shift of attitudes toward creativity and innovation.

Contrary to Schumpeter's view is the claim that creativity can come from for any individual no matter their position in the organization or the task they perform

(Zhou & Hoever 2014). Creativity among employees, and how leaders and organizations could increase it, has been widely studied (Basu & Green 1997; Leif Denti 2011; Dul, Ceylan, & Jaspers 2011; Elenkov & Manev 2005; Jung, Wu, & Chow 2008; Martinaityte & Sacramento 2013; Škerlavaj, Černe, & Dysvik 2014; Slåtten & Mehmetoglu 2014; Yuan & Woodman 2010; Zhou & Hoever 2014). Creativity and innovation have been held up as the greatest savior of small economies, but who is able to innovate now and in the future in this demanding environment. It has been found that innovativeness is supported by "supervisor support, leader member exchange, manager's creative personality, organizational culture and climate, level of information sharing, creativity training, organizational policies, job motivators, degree of corporate socialization and creative time pressure" (Gupta & Banerjee 2016: 172). Based on the earlier findings (introduced later in section 2.2), it is safe to assume that the leader is one of the key factors in supporting creativity and innovativeness.

Leaders usually influence internal factors (the organizational environment and climate, vision and strategy, technology, tools and techniques) that influence innovative performance (Hunter & Cushenbery 2011; Thamhain 2003) to make the environment as hospitable as possible for idea generation and effective collaboration among different kinds of workers (Mumford, Scott, Gaddis, & Strange 2002a). The amount of resources does not inhibit or increase creativity, since it is the leaders' and subordinates' creative actions that can make limited or abundant resources work for their benefit (Sonenshein 2014). Managers can create this kind of culture (Leavy 2005) and psychological environment (Leonard & Swap 2011), which should increase overall business performance (Kyrgidou & Spyropoulou 2013). Although the contextual factors and organizational culture are also important antecedents of creativity (Amabile et al. 1996), they will be excluded from this dissertation, and the focus on the environmental aspects will be only on transformational leadership behaviors.

The ability to manage change and creativity has been said to be one of the key elements of transformational leadership (Walck 1996), and there are some positively correlating findings between transformational leadership and organizational innovativeness (Jung et al. 2003; Khan, Sarwar, Malik, & Ahmad 2014; Shin & Zhou 2003) including on the individual level (Gumusluoglu & Ilsev 2009a). Transformational leaders are intellectual, innovative, and entrepreneurial: they understand and respond to the needs of society (Burns 1978; Tichy & Devanna 1986) or an organization and its people. "The transformational leader can move those influenced to transcend their own self-interest for the good of the group, organization, or country" (Bass 1985: 15). Then again, leadership is not tied to the people with formal power on top, as it can

happen at all levels (Bass & Riggio 2006) and can be learned (Sashkin, Rosenbach, Deal, & Peterson 1992; Tichy & Devanna 1986). Previous studies show that both transformational leadership and creativity are related to Myers-Briggs personality type (Brandt 2011; Brandt & Laiho 2013; Brown & Reilly 2009; Carroll 2010; Gryskiewicz & Tullar 1995; Hautala 2006; Houtz et al. 2003; Lee & Min 2016). Because knowledge of employee personalities can be used to benefit mutual understanding and effectiveness in organizations (Fleenor 1997; Gallén 2009; Hautamäki 2016; Routamaa & Hautala 2015; Routamaa, Honkonen, Asikainen, & Pollari 1997) this study also focuses on the Myers-Briggs personality type as an antecedent to creativity and transformational leadership. The Myers-Briggs type indicator (MBTI) is popular in research on organizations, consulting and management, and is one of the psychological "tool[s] for understanding managers and the process of management and leadership" (Walck 1996: 55).

In addition, it has been argued that leaders themselves should be creative in order to be able to act as role models, to motivate (Mathisen, Einarsen, & Mykletun 2012), to apply unconventional solutions to problems and challenges (Proctor 1991), to promote ideas, and to develop and mentor others (Mumford et al. 2002a). Since transformational leadership and intellectual stimulation (Bass & Riggio 2006; Brandt 2011) have been suggested as important for the leadership of creative people, it is of interest whether leaders who are transformational are also creative.

1.1 Research gap and research questions

This dissertation aims to answer a main research question:

Is transformational leadership an appropriate style for leading creative and innovative individuals?

Although many different types of positive effects of transformational leadership has been found at the organizational, team, and individual levels (Cummings et al. 2010; Hoyt & Blascovich 2003; Ng 2016; Noruzy, Dalfard, Azhdari, Nazari-Shirkouhi, & Rezazadeh 2013; Wang, Oh, Courtright, & Colbert 2011), subordinates' leadership preferences vary depending on their personalities (Hautala 2005) or characteristics (Alsabbagh, Hamid, & Khalil 2015). It has been suggested (Anderson, Potočnik, & Zhou 2014) that innovativeness should be treated as an independent variable, and therefore it is important to investigate

what kind of leadership behaviors individuals with high innovativeness levels want rather than looking at how leaders can influence subordinates. So far, innovators' preferences regarding transformational leadership have not been studied. Also, more country specific studies are needed since leadership styles and subordinates preferences depend on culture (House et al. 2004; Pöllänen 2008) and the interaction of personality and culture (Routamaa & Pollari 1998).

In addition, it has been suggested that the sub-dimensions of transformational leaders should gain more attention since different antecedents may correlate with different aspects of leadership behaviors (Deinert, Homan, Boer, Voelpel, & Gutermann 2015; van Knippenberg & Sitkin 2013). The effectiveness of transformational leadership has gained lot of support, but the level of skills of behaviors in each sub-dimension is often left without consideration. It has been found that intellectual stimulation, inspirational motivation, and individualized consideration (Herrmann & Felfe 2014; Hyypiä & Parjanen 2013; Mumford, Scott, Gaddis, & Strange 2002; Ng 2016; Sosik, Kahai, & Avolio 1998) are effective in increasing creative or innovative behaviors. Yet, no studies have been made of how the most creative and innovative individuals experience them as having differing levels of importance.

Thus, the abovementioned main question is investigated from two angles. The first angle (as presented in the left side of figure 1) was chosen to explore the issue from the subordinates' perspective because this perspective has been largely ignored, and to find relevant information on Finnish leaders focusing on different sub-dimensions of transformational leadership, as doing so has been recommended. Both sub-research questions are wider than usual, since the purpose is to re-examine the included articles from new perspectives, instead of only summarizing their main results. The first sub-research question is:

Q1) *What are creative and innovative subordinates' transformational leadership preferences and do the leadership behaviors correspond with these needs?*

This question is investigated through three articles. First, transformational leadership is investigated from the subordinates' perspective in the first and second articles. Specifically, what kind of TF behaviors do creative and innovative individuals prefer? Next, in the third article, actual CEOs are investigated and to determine how well their transformational leadership abilities correspond with their subordinates' preferences. The first research question determines how suitable is transformational leadership to lead creative people from the subordinates' perspective, while adding information about how effectively this leadership style is currently used in leading creative people.

Article 1) Uusi-Kakkuri, P. & T. Brandt (2015), "Preferred leadership behaviors by different personalities", International Journal of Business and Globalisation, 15:4, 461-474.

Article 2) Uusi-Kakkuri, P., Brandt, T. & S. Kultalahti (2016), "Transformational leadership in leading young innovators – a subordinate perspective", European Journal of Innovation Management, 19:4, 547-567.

Article 3) Brandt, T. & P. Uusi-Kakkuri (2016), "Transformational leadership and communication style of Finnish CEOs", Communication Research Reports. 30:2, 119-127.

Second, the importance of the creativity of leaders has received discussion (Guo, Gonzales, & Dilley 2016; Mathisen, Einarsen, & Mykletun 2012; Proctor 1991; Brandt 2011). Innovative leaders have been described as comfortable with change, thorough, persevering (Kanter, 2004), open, driven, energetic, unorthodox, experimenting, self-confident, intelligent, having an ability to think outside the box and generate ideas, being intrinsically motivated, and extroverted (Higgs & Hender 2004). However, it is important to establish how creative leaders can be recognized and recruited (Škerlavaj et al. 2014) since the requirements from leaders of creativity differ from the traditional setting (Mumford et al. 2002a). The personality of creative persons (Dollinger, Palaskonis, & Pearson 2004; Gryskiewicz & Tullar 1995; Houtz et al. 2003; Isaksen, Lauer, & Wilson 2003; Lee & Min 2016) and transformational leaders (Brandt & Laiho 2013; Brown & Reilly 2009; Carroll 2010; Hautala 2006, 2008) have been studied earlier but it has not been considered whether or not there are similarities or dissimilarities between these antecedents. Personality is indeed connected to creativity and innovativeness, and creative leaders have been found to be extraverted, intuitive, feeling, and perceiving (Fleenor 1997; Gryskiewicz & Tullar 1995; McKinnell Jacobson 1993). Gender has also been suggested to influence transformational leadership (Brandt & Laiho 2013) and is considered here as well. However, more studies are needed; the personalities of creative leaders in Finnish context need to be confirmed and more studies are needed overall since only one study has been done using the MBTI. Also, the conflicting results regarding the connection of intuition or sensing to transformational leadership (Brown & Reilly 2009; Hautala 2006) need more investigation.

In the next phase, as presented on the right side of figure 1, the antecedents of transformational leadership, in other words, especially personality and gender in a Finnish context, are studied using the fourth and fifth articles. To answer the second research question, it is also examined how well the personality and gender of creative leaders correspond with these antecedents using the sixth and

seventh articles. That is, are the most transformational leaders also creative? This second angle will answer the second sub research question:

Q2) *Which antecedents lead to a transformational leadership style and do they suit the leadership of creativity?*

Article 4) Brandt, T. & P. Edinger (2015), "Transformational leadership in teams – The effects of a team leader's sex and personality", Gender in Management: An International Journal, 30:1, 44-68

Article 5) Uusi-Kakkuri, P., Brandt, T., Ghaffaripour, S., & B. Pape "Do personality and emotional intelligence predict transformational leadership qualities?", submitted to journal.

Article 6) Routamaa, V., Brandt, T. & P. Uusi-Kakkuri (2015) "Personality of Finnish innovative entrepreneurs", International Journal of Entrepreneurship and Small Business, 29:1, 133-148.

Article 7) Uusi-Kakkuri, P. "Creative leaders – Interaction of the personality and gender of leaders with their creativity", submitted to journal.

With the findings of these two objectives, this dissertation's goal is to find more specific knowledge and empirical support for this area of leading creative and innovative individuals, as presented in the middle of figure 1. The findings are combined, and both theoretical and practical implications are suggested.

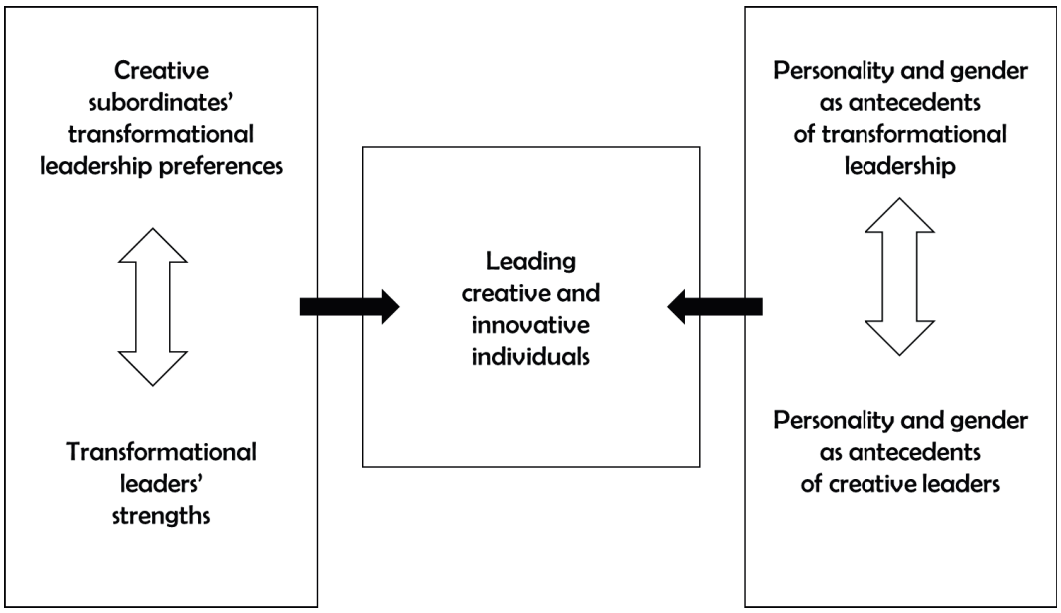

Figure 1. Overall framework of the dissertation

1.3 The structure of the study

This dissertation has two major parts. In the first part, which is divided into five sections, the background of this work is presented, followed by the research gap, the objectives, and the contribution of the author to each article is discussed. In the next section the theoretical background is examined, focusing first on transformational leadership and relevant empirical findings, then on creative and innovative individuals. The third section is about the research methods. In the fourth section, the results are presented as to the two objectives. In the fifth section, the results are discussed and conclusions are made.

The second part consists of all seven articles. Uusi-Kakkuri was the first writer in the first two articles, and in article five. She had a significant role also in articles three and four, but a smaller input in sixth article. The final article was written as a single author. Uusi-Kakkuri has designed three of these studies with her colleagues and conducted all or half of the data analysis in five articles. In the single authored article, an existing dataset was used in the new way.

2 LEADERSHIP, CREATIVITY AND PERSONALITY

2.1 Transformational leadership

"You have brains in your head. You have feet in your shoes.

You can steer yourself, any direction you choose"

Dr. Seuss

Leadership theories can be divided into trait theories and process theories. Trait theories were the earliest attempt at a study of leadership. The first were the "great man" theories and though trait theories have evolved over time, their central aspect of identifying traits that are crucial for effective leadership is still strongly present in modern studies (Northouse 2013). Researchers have also focused on the behaviors of leaders and have established different styles of leadership. Early on, leadership styles were divided into task- versus people-orientated, autocratic versus democratic, and directive versus participative dichotomies (Bass & Riggio 2006; Bass 1985). Situational approaches and contingency theories added context and examined how well a leaders' style suits a given situation (Fiedler & Garcia 1987; Reddin 1970). There are at least 66 different theoretical leadership domains used today (Dinh et al. 2014). However, transformational leadership has been the most studied leadership theory for the last 30 years (Díaz-Sáenz 2011) since it was introduced to wider audiences by Burns (1978).

In 1978, Burns suggested it was time to bring together the concepts of leadership and followership, because leadership is about more than using the power of subordinates to fulfill a leader's desire. It is about "leaders inducing followers to act for certain goals that represent the values and the motivations—the wants and needs, the aspirations and expectation—of both leaders and followers" (1978: 19). This illustrates the importance of the leader-follower relationship and the important role that subordinates play in leadership.

One of the first contingency theories to consider subordinates' motivations, work tasks, and performance in regards to leadership was the path-goal theory (see Evans 1970; House 1996). The role of the subordinate was taken even further with a focus on interactions by developing the leader-member exchange (LMX) theory (see Graen & Uhl-Bien 1995), while contributing to leadership process theories. Although LMX theory is unique in its focus on relations, it does not seek

to answer how to create and maintain high-quality relationships between subordinates and leaders (Anand, Hu, Liden, & Vidyarthi 2011). It has been suggested that LMX and transformational leadership theories should be used together to investigate individual outcomes (Anand et al. 2011), but recent studies have found that transformational leadership is more vital for effective leadership than having good relationships (Boer, Deinert, Homan, & Voelpel 2016).

In transformational leadership theory, both leaders and subordinates are engaged in a common purpose and lift each other's motivations higher than they thought was possible (Bass & Riggio 2006; Burns 1978; Bass 1985). This is done in three ways: "expanding the subordinate's needs, by focus on transcendental interests, and/or altering or widening the subordinate's level of needs on Maslow's hierarchy [that is needs of self-actualization]" (Bass 1985: 22). Thus, the leader makes the subordinate understand the value of the desired outcome or helps to expand the possible ways of reaching the goal. Secondly, the leader is able to create a culture or situation in which everyone pitches in for the team and sacrifices their self-interest. And finally, the leader is able to excite the subordinate to fulfill his or her potential through working processes rather than focusing on safety, affiliation, or recognition (Bass 1985).

In addition, leaders themselves learn more in the process "by responding to individual followers' needs by empowering them and by aligning the objectives and goals of the individual followers, the leader, the group, and the larger organization" (Bass & Riggio 2006: 3). According to Tichy and Devanna (1986), transformational leaders need to recognize the need for change, create a new vision, and then institutionalize that change by motivating people and using creative destruction. The needed change may deal with new goals and strategic directions, but also with increased effort or changes in attitudes. These change-promoting leadership styles have also been called democratic and relationship orientated leadership (Bass 1985.)

Bass' full range of leadership models consists of transformational leadership, and transactional leadership with its three components: contingent rewarding, active and passive management-by-exception, and laissez-faire (Bass 1985; Bass & Riggio 2006). Contingent rewarding describes a situation in which a leader agrees with a subordinate on a task and a reward for successful completion. If the reward is material then the style is transactional, and if the reward is praise then the style is transformational. Management-by-exception has an active and a passive version. In active management-by-exception, a leader actively monitors for mistakes or wrong directions and takes action to correct them. In the passive

style, a leader reacts only after hearing a mistake has happened. The active style can be very important in a situation in which safety is paramount, while the passive style is appropriate where the number of subordinates is high. Laissez-faire, or non-leadership, describes a style in which a leader avoids decision-making, taking responsibility, and action. It has been found to be an ineffective leadership style (Bass & Riggio 2006). Bass (1985) suggested that rather of being distinctive, transformational leadership, transactional leadership, and laissez-faire all lie on the same continuum (Northouse 2013).

In the transactional leadership process, the manager recognizes the achievable goal for the subordinate and clarifies it, while also focusing on the needs of the subordinate and reiterates how those will be fulfilled when satisfactory work has been performed (Bass 1985), and thus involves an exchange of valued things without a common interwoven purpose (Burns 1978). The manager's clarification and promise of reward will then give the subordinate confidence and motivation to perform the task (Bass 1985). In the business world, rewarding often means giving bonuses or promotions for good work and refusing rewards in case of poor performance (Bass & Riggio 2006).

According to Bass and Riggio (2006; see also Bass & Steidlmeier 1999), transformational leadership consists of four components: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. This has many similarities with transformational leadership model of Kouzes and Posner (1988; 2002). Their model includes five components: modelling the way, inspiring a shared vision, challenging the process, enabling others to act, and encouraging the heart, and was determined by their interview data of leaders' best practices. Bass' and Kouzes and Posner's transformational components do overlap, and surveys based on their components were also used in studies in this work.

Idealized influence is closest to charisma (Northouse 2013) and means that the leader acts like a role model (is consistent, demonstrates high standards of ethical and moral conduct, yet takes risks) and is viewed like a role model, that is, they are admired and trusted (Bass & Riggio 2006). This has a some similarities to the concept of *inspiring a shared vision,* which requires passion and enthusiasm to paint and communicate the future goal so that subordinates decide to commit to it (Kouzes & Posner 2002; Posner & Kouzes 1988). Ideal leaders will also listen to others' dreams and help them realize them (Northouse 2013).

Inspirational motivation means that the leader behaves enthusiastically and optimistically. They share positive future visions, display confidence, and communicate expectations, which subordinates want to meet due to the

motivating behaviors that their leader has displayed (Bass & Riggio 2006; Bass 1985.) Those motivating behaviors can be emotional appeals or use of symbols, or whatever raises the team spirit (Northouse 2013). In *Modelling the way*, the motivating happens in leading by example. It requires that the leader has established values and beliefs, and is putting in time, effort, and action, communicating those values, and getting people to consider their own values (Kouzes & Posner 2002; Posner & Kouzes 1988). Ideal leaders "set personal example … by their own behavior" and follow through with their promises (Northouse 2013: 198).

Intellectual stimulation is especially focused on stimulating subordinates' creativity and innovativeness. Such subordinates question the assumptions and values of themselves, their leaders, and their organizations. They seek to reframe problems, approach old situations in new ways, and try creative solutions, and they do not criticize others for making mistakes or having differing opinions (Bass & Riggio 2006; Northouse 2013). At lower levels, in a variety of industries, it has been found that intellectual stimulation was practiced usually in a participative style (instead of a directive style). This was done by having brainstorming meetings in which people were encouraged to view things with fresh eyes, question settled decisions, and highlight the importance of everyone's input no matter their position or the quality of their ideas. The other practice is to question, to encourage others to question, and to challenge everything and this happens in dialogues (Arnold & Loughlin 2013.) This is the same as *challenging the process*, which was defined as, the leader is the "early adopter of innovations", which means recognizing and supporting good ideas, driving for change, accepting risks and mistakes, and learning from them (Kouzes & Posner 2002: 17). From here on, only the term intellectual stimulation is used for two reasons even though in some articles it is called "challenging". The first reason is to keep things as simple as possible and the second reason is that the term "challenging" is often viewed as negative; challenging someone may mean to challenge them to a competition or to justify themselves. Intellectual stimulation is a more accurate description that avoids confusion.

In *individualized consideration,* the leader accepts and takes into consideration subordinates' differing needs. The leader acts as a mentor or coach, encouraging two-way communication and practicing active listening (Bass & Riggio 2006). The practice of individualized consideration includes the leader acknowledging good performance or providing constructive feedback upon noticing a weakness. Mentoring is the best example of individualized consideration, but not all transformational leaders need to excel at individualized consideration (Bass 1985). Some similarities can be seen when leaders are *enabling others to act*,

they are trusting their subordinates and empowering them, sharing leadership, and emphasizing the team effort (Kouzes & Posner 2002; Posner & Kouzes 1988). In practice, they are great listeners, respectful of others and their decisions, and able to create an environment where people feel appreciated (Northouse 2013).

Finally, leaders need to *encourage the heart,* which requires authentic caring, praise and appreciation of individuals and their contributions, and celebration of their achievement. This also includes common celebrations and rituals to build a sense of community (Kouzes & Posner 2002; Posner & Kouzes 1988.)

Originally, Bass' components included charisma, inspirational leadership (which was a sub-factor within charismatic leadership), individualized consideration, and intellectual stimulation. Charisma is as dependent on the subordinates' personalities as it the leader's. Charismatic leaders appeal to the subordinates' emotions, create an inspiring vision, and lead by example (Bass 1985). Therefore, charisma is now included in the components of idealized influence and inspirational motivation. Charismatic leaders are said to always be acting on the stage, persuading with their words (Bass 1985), in contradiction to Collins' (2005) study, who found that great leaders are actually modest and let others take the stage. Bass (1985) agrees success without charisma is possible.

Another perspective on transformational leadership and its components is that of Bennis and Nanus (1986). Regarding the research study results, transformational leaders have a clear and realistic vision, shape social identities, build trust by being reliable and predictable, and focus on their strengths instead of their weaknesses, which then shows in their motivation and effectiveness. (Northouse 2013). Rafferty and Griffin (2004a) have identified five sub-dimensions: vision, inspirational communication (which differs from motivation since it highlights the importance of positive, motivational communication), intellectual stimulation, supportive leadership (which concerns in addition to accounting for personal needs, sincere expression of caring), and personal recognition (the acknowledgement of achievements). In table 1 below, the components are presented to make the comparison easier. Table does not cover all classifications of transformational leadership, but rather gives an overview of the most common ones in the literature.

Table 1. Summary of transformational components

Bass (1985)	**Bass & Steidlmeier (1999)**	**Posner & Kouzes (1988)**	**Bennis & Nanus (1985)**	**Rafferty & Griffin (2004)**
charisma sub-factor: inspirational leadership	idealized influence	inspire a shared vision	have clear vision	vision
individualized consideration	individualized consideration	enabling others to act	Creating meaningfulness through communications	personal recognition
intellectual stimulation	intellectual stimulation	challenging the process	use creative deployment of self	intellectual stimulation
	inspirational motivation	encourage the heart	build trust	inspirational communication
		modelling the way		supportive leadership

2.1.1 Earlier studies of transformational leadership

Transformational leadership has been investigated from many angles. Hautala (2005) presented four perspectives based on earlier studies: 1) Impact of transformational leadership on organizations, 2) Impact on followers 3) Training to increase transformational behaviors and 4) Qualities of transformational leaders. Based on earlier studies and the viewpoint of this study one additional perspective will also be considered here 5) Subordinates' viewpoint of transformational leadership. These research angles are next viewed focusing particularly on creativity and innovation.

Impact of transformational leadership on organizations

Hautala (2005) summarized after her review that transformational leadership resulted in higher effectiveness and outcomes in organizations. Recent studies have also confirmed a positive influence of transformational leadership on organizational performance (Noruzy, Dalfard, Azhdari, Nazari-Shirkouhi, & Rezazadeh 2013; Wang, Oh, Courtright, & Colbert 2011). Transformational

leadership is also vital for effective leadership,[1] leadership performance (Boer et al. 2016; Deinert et al. 2015; Neufeld, Wan, & Fang 2010; Yammarino & Bass 1990), and building effective organizational cultures (Sashkin et al. 1992).

Moreover, there is a positive and direct link between transformational leadership and organizational innovation (Hu, Gu, & Chen 2013; Noruzy et al. 2013; Jung et al. 2008a; Jung, Wu, & Chow 2008b). This relationship has also been found to be mediated by internal and external social capital, which means that co-worker relations and external networks are important in ensuring that transformational leadership is effective (Chen, Zheng, Yang, & Bai 2016). Transformational leadership is more effective if employees feel that their work environment supports innovation (Khalili 2016) and when they are psychologically empowered, that is, they feel competent and that they are able to be innovative (Pieterse, van Knippenberg, Schippers, & Stam 2010).

Both Shin and Zhou (2003) and Jung et al., (2003) found some evidence of a positive relationship between transformational leadership and organizational innovativeness. Jung et al. (2003) however, did question whether their results were similar to those of Shin and Zhou (2003) because both samples were from collectivist and high power distance cultures, South Korea and Turkey. However, recent results from Turkey support a positive relationship between transformational leadership and individual creativity, with psychological empowerment as a mediator (Gumusluoglu & Ilsev 2009). In South Africa, inspirational motivation, intellectual stimulation, and contingent rewards were positively correlated with innovative behavior (Sethibe & Steyn 2016) and in Malaysia idealized influence, intellectual stimulation, and individual consideration had a positive correlations with innovation performance, mediated by perceived organizational support (Tajasom, Hung, Nikbin, & Hyun 2015). Finnish culture is far more individualistic and less hierarchical than the countries above (Hofstede 2014), and so may give rise to different outcomes. However, the positive connection is convincing. The studies reviewed by (Rosing, Frese, & Bausch 2011) revealed transformational leadership to positively influence innovativeness, but that influence operated more directly at the organizational level than at the individual level.

Especially, the importance of intellectual stimulation for creativity and performance has been recognized recently and studied in a variety of ways. The meaningfulness of work was also associated with CEOs' intellectual stimulation

[1] Leadership effectiveness can be measured by "the degree to which a leader promotes (1) instrumental attitudes and behaviors that encourage the achievement of group objectives, (2) followers' satisfaction with the task and context within which they operate, and (3) followers' acceptance of their leader's influence"(Conger & Kanungo, 1998: 39).

in innovation-driven industries (Peng et al. 2016). A recent study found that intellectual stimulation and innovation were highly correlated (r=.74) and that intellectual stimulation explained 62% of the variance of SMEs' performance (Yasin, Nawab, Bhatti, & Nazir 2014).

Wang and Rode (2010: 1122) not only suggested creating an innovativeness supporting climate, but also "fostering employees' identification with leaders" to increase the effectiveness of transformational leadership. Kang, Solomon, & Choi (2015) did find in their study that in addition to transformational leadership, the transactional leadership of CEOs is positively associated with managers' innovative behavior in start-ups. According to Rosing, Frese and Bausch (2011), the appropriate use of transformational and transactional behaviors depends on the phase of the innovation process. Of course, it is important to remember that not all transformational leaders have high skills in intellectual stimulation and they might be modelling for different behaviors than creativity, or perhaps they are not experienced enough to apply different behaviors, as suggested by Hyypiä and Parjanen (2013).

Impact of transformational leadership on followers

Followers have been found to be more satisfied (Cummings et al. 2010; Lowe, Kroeck, & Sivasubramaniam 1996; Podsakoff, MacKenzie, Moorman, & Fetter 1990), more optimistic and engaged (Tims, Bakker, & Xanthopoulou 2011), and perform better (Bass, Avolio, & Atwater 1996; Bass & Riggio 2006; Kirkpatrick & Locke 1996; Ng 2016) when having a highly transformational leader (see also Hautala 2005). Transformational leaders increase job satisfaction and job performance by being experts at sharing leadership (Masal 2015) and by building strong relationships with their subordinates (Ng 2016).

Transformational leaders are able to influence, for example, turnover intentions by inspiring subordinates and getting them to commit to common goals rather than by building high-quality relationships (Tse, Huang, & Lam 2013). They do this by ensuring there is no conflict between the personal goals and values of the subordinate and the goal and values of the team or organization (Bass & Riggio 2006). Even though transformational leadership works both ways, it is the leader who initiates and maintains this relationship and sets the tone for the exchange. The leader also has to recognize subordinates' motives and take these into account to be able to influence their future motives (Burns 1978). Transformational leadership has been found to enhance trust and satisfaction in virtual teams (Avolio, Kahai, & Dodge 2000; Hoyt & Blascovich 2003) but with virtual teams leaders need to alter their behavior according to the situation and

display transformational behavior even more because virtual team processes are more ambiguous (Purvanova & Bono 2009).

Developing transformational leadership, specifically intellectual stimulation, has been shown to improve "subordinates' perceptions of managers' leadership behaviors, subordinates' own commitment to the organization, and some aspects of financial performance" (Barling, Weber, & Kelloway 1996: 831). In healthcare, intellectual stimulation has been found to be the key mediator in ensuring that a leader's integrity and open communication resulted in employee empowerment, which in this case was vital for increasing patient safety (Smothers, Doleh, Celuch, Peluchette, & Valadares 2016). When studying the influence of intellectual stimulation on college students' intrinsic motivation, it was the intellectual stimulation behavior rather than interactive style and encouragement of independent thinking that accounted for the improvement (Bolkan, Goodboy, & Griffin 2011).

The role of transformational leadership is especially important when considering activities such as creativity (Mittal & Dhar 2015) that display distal outcomes; the evidence presented by (Boer et al. 2016) implies that that relationship between the leader and the subordinate does not play a role in this this distal outcome but rather that transformational leadership is more important. However, a result from meta-analyses showed that transformational leadership improves leader-member relationship, which increases innovative behavior among other positive influences (Ng 2016).

Transformational leadership has also been found to positively relate to the innovation performance of subordinates in a variety of countries and fields (García-Morales, Matías-Reche, & Hurtado-Torre 2008; Yan, Gu, & Tang 2012). It has been found to be effective in promoting creative behavior on the individual level (Gumusluoglu & Ilsev 2009; Khalili 2016; Shin & Zhou 2003) and the team level (Sosik, Kahai, & Avolio 1998). Especially important here are individualized consideration (Ng 2016; Sosik et al. 1998), intellectual stimulation, inspirational motivation based on earlier findings regarding behaviors that promote creativity (Mumford et al. 2002; Sosik et al. 1998). Different approaches should be used when individual or team level innovativeness is the goal, although "individual-level transformational leadership was found to increase individual innovation in teams" (Li, Mitchell, & Boyle 2016: 85). If individual level innovativeness is desired, then the leader should minimize team goal and interdependency (ibid). Herrmann and Felfe (2014) found that support, particularly intellectual stimulation, enhances individuals' creative outcomes. In addition to encouraging individuals to question all their assumptions, innovativeness is increased at the

individual level when the motivation is built by "setting challenging work targets, providing advanced training and developmental feedback" (Li et al. 2016: 86).

In one study (Sosik et al. 1998), transformational leaders were found to be most effective at encouraging people to create original ideas and elaborate solutions further, rather than generating lots of ideas and solutions to problems. This indicates they valued quality rather than quantity. Transformational behaviors are much more direct and influential on creativity and innovativeness than simply having, for example, a supportive climate, which may be too impersonal (Gumusluoglu & Ilsev 2009). Bass and Riggio (2006: 54) summarized the way that transformational leaders influence creativity. They first focus on increasing intrinsic motivation and then encourage followers to think "outside of the box". This has gained empirical support also in Finland. In a qualitative case study, Hyypiä and Parjanen (2013) found that idealized influence and inspirational motivation were used more in the beginning of the innovation process, while intellectual stimulation was practiced more in the later stages. Individualized consideration also fluctuated in different stages but should be used at all times, according to subordinates (ibid). Transformational leaders need to expect their subordinates to be creative (Qu, Janssen, & Shi 2015).

Nevertheless, conflicting results have been presented on whether transformational leadership is the style that should be applied to enhance employee or team creativity and innovativeness (Basu & Green 1997; Gumusluoglu & Ilsev 2009; Jaussi & Dionne 2003; Jung, Chow, & Wu 2003b; Mumford, Scott, Gaddis, & Strange 2002b; Shin & Zhou 2003). This implies that certain conditions need to be fulfilled before transformational leadership can be effective (Wang & Rode 2010; Rosing et al. 2011). Jaussi and Dionne's (2003) study suggested that there was no relationship, and that transformational leadership might even have a negative impact on creativity; the study suggested that unconventional, surprising behaviors on the part of leaders are more helpful. Basu and Green (1997) suggested that their unexpected results might have occurred because a charismatic style may be too intimidating and cause stress for subordinates. Poor innovative behavior might have also resulted because the more transformational leaders are, the more negatively they will assess subordinates who do not meet the standards that they have because of their own innovativeness (Basu & Green 1997).

Training to increase transformational behaviors

Transformational leadership can be enhanced by group-based leadership training or counseling based on subordinate feedback (Chaimongkonrojna & Steane 2015; Kelloway & Barling 2000; Kelloway, Barling, & Helleur 2000). However, some

precautions need to be considered during the training to avoid negative outcomes. Leaders reported higher transformational leadership only when they also experienced positive affect, that is, experiencing positive emotions for example in regards of self-knowledge, ideal self, and personal vision (Mason, Griffin, & Parker 2014).

Intellectual stimulation has been suggested to be an appropriate component to develop, due to its low scores and easier way to train, when compared to inspirational motivation (which may appear unauthentic if learned thought training, although here communication training would be useful) or individualized consideration (which is time consuming) (Barling et al. 1996). Peng et al. (2016) suggested that communication would be an appropriate way of becoming more intellectually stimulating in meetings, speeches, and conversations. Bass (1985: 176) suggested that intellectually stimulating leaders would be high in "social boldness, introspection, thoughtfulness, and general energy but not sociability, cooperativeness, and friendliness". Thus appears that highly intellectual leaders will take charge, perhaps because they believe they can make a difference, but they may have room for development in right type of approach and communication.

Antecedents and qualities of transformational leaders

According to Bommer, Rubin, & Baldwin (2004: 196), it is still unclear why some individuals use transformational behaviors while others do not. Originally, Bass (1985) wrote that transformational leaders have high self-confidence and are active, energetic, and self-starting. He also speculated that they were introspective and thoughtful, not necessarily cooperative and friendly. Antecedents may also involve environmental conditions, organizational structures, cultural and social environments, and early life and adulthood experiences (Bass & Riggio 2006; Bommer, Rubin, & Baldwin 2004; Shamir & Howell 1999) but the focus in this dissertation is on the individual level antecedents.

Bass and Riggio (2006) summarized the earlier empirical findings of multiple researchers that have found support for the following to be positively correlated with transformational leadership: extroversion, dominance, self-confidence, openness to experience, locus of control hardiness, physical fitness, high moral reasoning, feeling, and femininity. It is to be expected that transformational leadership correlates with emotional intelligence since the transformational process is about "evocation, framing, and mobilization of emotions" rather than rational exchanges (Ashforth & Humphrey 1995: 116). Transformational leaders are "expected to build an emotional bond with followers", and that leads to

higher performance (Bass et al. 1996: 27). Many studies support the association between transformational leadership and emotional intelligence (Barbuto & Burbach 2006; Rubin, Munz, & Bommer 2005), but more detailed results reveal that emotional intelligence has been found to be associated with the other components of transformational leadership, but not with intellectual stimulation (Barling, Slater, & Kelloway 2000).

It has been shown in multiple studies that women are more transformational than men (Bass et al. 1996; Bass 1999; Burke & Collins 2001; Doherty 1997; Eagly, Johannesen-Schmidt, & Van Engen 2003; Northouse 2007; Powell, Butterfield, & Bartol 2008; Turner, Barling, Epitropaki, Butcher, & Milner 2002). Both, female and male subordinates appear to be more effective and satisfied with female transformational leaders (Bass 1999). "Women managers are more likely to be developmentally orientated, empathetic, and caring, or at least perceived as such, they may have been using more recognition with followers, blurring expected differences on the contingent reward scale." (Bass et al. 1996: 27). Brandt and Laiho (2013) found that women leaders rated themselves as more enabling (individualized consideration according to Bass) while men rated themselves as more intellectually stimulating. Contradictory findings suggest that there are no differences between the sexes (Mayrhofer & Schneidhofer 2009), or that the differences are only found in self-evaluations and superiors' estimates but not in the ratings of the subordinates (Carless 1998).

As reviewed by Hautala (2005), personality has been connected to transformational leadership, and this perspective will be viewed in more detail in section 2.3.

Early on, some argued that transformational or charismatic leadership involves dangerous tyrants. It has since been established that transformational leadership is positive and often involves leaders with high moral standards. Self-concerned, exploitative people are pseudotransformational leaders (Bass & Riggio 2006). Some claim that the transformational leadership model is flawed, stating it promotes an unhealthy culture that believes that "the leader knows the best" and "all change must come from the top". To avoid this possibility of authoritarianism, they call for more participatory leadership process models (Tourish 2013; Tourish & Pinnington 2002: 161.) Despite their concerns, the positive evidence of the universally accepted effectiveness of transformational leadership from the high number of empirical studies around the world (Bass & Riggio 2006; Chokkar, Brodbeck, & House 2008; Javidan, House, & Dorfman 2004) supports the continuing usage of it in academia, and more studies are called for in the areas of antecedents and followers' perspectives.

Subordinates' viewpoint of transformational leadership

Transformational leadership is a process theory that involves the subordinate, who has also a large impact on the leader. It is a give-give relationship in its best form, but unfortunately past studies have mainly focused on leaders (Uhl-Bien, Riggio, Lowe, & Carsten 2014). One of the tasks of a leader is to "accommodate subordinates' wants and needs", and therefore it is important to know what different types of subordinates prefer (Burns 1978). Theoretically, one would expect all subordinates to be in favor of transformational leadership, especially if they like to be included in decision-making (Ehrhart & Klein 2001). Subordinates' levels of education and experience influence the degree of instructiveness they seek from their leaders (Blanchard & Johnson 1982, as cited in Bass 1985) and individuals high in status, inflexibility, and skepticism were suggested to show weaker responsiveness to transformational leadership (Bass 1985).

It has been found that gender and management level influence what is perceived as effective leadership (Muchiri, Cooksey, Di Milia, & Walumbwa 2011) and that subordinates personalities' influence what kind of leadership expectations they have and value (Hautala 2005). It has been found that subordinates' characteristics influence how transformational leadership is perceived (Alsabbagh, Hamid, & Khalil 2015). For example, extraverted subordinates assessed their leaders more transformational than did introverted subordinates (Hautala 2005). Ehrhart and Klein (2001: 170) found that subordinates who rated charismatic leaders positively described them as creative, open-minded, innovative, daring, committed, energized, team-oriented, accomplished, and empowering, while the ones who rated them poorly described them as overbearing, over-enthusiastic, innovative, ambitious, zealous, and arrogant. They found that 50% of the respondents preferred relationship-oriented leaders, while 30% chose charismatic leaders, and 20% preferred task-orientated leaders. Subordinates who preferred relationship-oriented leaders valued unexpectedly extrinsic rewards, while subordinates who preferred charismatic leadership valued participation (Ehrhart & Klein 2001). Furthermore, women and extraverted people prefer transformational leadership more than introverted people and men (Felfe & Schyns 2006).

Brandt (2011) found that innovative people were happy to have a leader that worked in the same way as they did (developing and working on new ideas), while less creative people appreciated their leaders stimulating them to question and look at things from different perspectives, because they would not otherwise. So even though it has been found that charismatic-visionary and charismatic-

inspirational leadership attributes are universally seen as key elements in outstanding leadership (Dorfman, Hanges, & Brodbeck 2004), there are still differences between individuals that should not be ignored. Some find constant development and changes tiring, while others are inspired by them (Brandt 2011). Then again, it could be concluded that everyone wants an innovative leader since innovative less creative subordinates both preferred an innovative leader; first wanted to work with like-minded leaders and latter with different more stimulating leaders than they are themselves.

To summarize the earlier research areas around transformational leadership focusing on the perspectives of this dissertation, following conclusions can be made. Transformational leadership is indeed an effective way to lead organizations and its individuals when creativity and innovation are called for. It also seems that intellectual stimulation, individualized consideration, and inspirational motivation are specifically important, and intellectual stimulation may be the easiest to develop. It has also been determined that transformational leaders have specific qualities, which may mean that some people are more accustomed to displaying these behaviors or may have an easier time to develop them. These qualities are viewed more in detail in section 2.3.2. To conclude, some studies have also been done regarding subordinates' points of view on transformational leaders, but more is called for. Next, the area of leading creative and innovative individuals is viewed to get an idea of what kinds of needs they might have.

2.2 Leading creative and innovative individuals

> *"A new project was coming up and we were meeting up to make the initial plans. I was trying to think out-side-the box, and suggested an idea for a discussion. CEO said to me: 'You're like weather vane, turning with the winds'. What a way to undermine my attempts"*
>
> *Julia, head of HRM*

The leadership of creative people is demanding, since the usual tactics and structures do not work, and the outcomes are uncertain (Mumford et al. 2002a). Creativity is not easy, since a person needs to be willing to be exposed to vulnerability and to reveal personal feelings and ideas (Koivunen 2015) in a business environment with an underlying logic typically based on seriousness and rationality (Gustafsson 1994; as cited in Koivunen 2015).

To understand how one can lead creative and innovative individuals, one must understand what kind of process is in question, what kind of people are in question, and how a leader can influence the process and individuals. It has been found that the number of innovations may increase when creativity is supported and promoted in an organization, and even individuals "who lack the natural inclination to be creative may become creative" and the leaders are key in enabling this (Škerlavaj et al. 2014; Zhou & Hoever 2014: 353). Unconventional means might be called for. Individuals feel safe to share their insights when they have the organization's support and a positive supervisor relationship (Yuan & Woodman 2010). In addition to providing the right levels of support, leaders must also build good relationships with their employees (Shalley & Gilson 2004). Foremost, creativity or innovativeness should be recognized and tasks assigned accordingly, after which those individuals should have the resources and freedom to try and also fail, with the full support and respect of their manager (Amabile et al. 2004; Hunter & Cushenbery 2011; Janssen 2005; Loewenberger 2009; Tierney et al. 1999).

O'Shea & Buckley (2007: 104) defined innovation as the "application of creativity", viewing both concepts are part of the same process. However, Csikszentmihalyi (1990) claims that, often, studies that deal with creativity are labeled "entrepreneurship in the business field" or "innovation in sociology" amongst other terms. Recently, Anderson et al. (2014: 4) presented an integrative definition intended to clarify the situation of the terms creativity and innovation:

> *Creativity and innovation at work are the process, outcomes, and products of attempts to develop and introduce new and improved ways of doing things. The creativity stage of this process refers to idea generation, and innovation refers to the subsequent stage of implementing ideas toward better procedures, practices, or products. Creativity and innovation can occur at the level of the individual, work team, organization, or at more than one of these levels combined but will invariably result in identifiable benefits at one or more of these levels of analysis.*

In addition, it has been recently found (Sarooghi, Libaers, & Burkemper 2015) in a meta-analysis that, especially at the individual level, the concepts of "creativity and innovativeness" are closely related. Therefore, the terms are used at times interchangeably in this work.

Wallas (1926; King 1990: 23) created a widely cited model of creative thought process with four phases: 1) preparation, in which the person considers the problem and/or collects information that is relevant to the issue at hand; 2)

incubation, which happens if the solution does not happen instantly; a relaxed atmosphere and mindset is required, which leaves room for active subconscious processes (Wang 2009); 3) illumination, which happens when the solution appears; and 4) verification, in which the solution is tested and evaluated and the final product is created. After the final stage, if and when the new product, process, or solution adds value, it becomes an innovation. The idea needs to be new but it does not have to be new to the world, only to the people involved (Van de Ven et al. 1999).

For managers to understand this process, they need to consider all factors that help and inhibit this process (Van de Ven 1986). Creativity among employees, and ways for leaders and organizations to increase it, have been widely studied (Basu & Green 1997; Leif Denti 2011; Dul et al. 2011; Elenkov & Manev 2005; Martinaityte & Sacramento 2013; Škerlavaj et al. 2014; Slåtten & Mehmetoglu 2014; Yuan & Woodman 2010; Zhou & Hoever 2014). In their review, Denti and Hemlin (2012) concluded that leaders and their subordinates can exercise their creativity in most effectively in organizations that support innovativeness and are de-formalized and de-centralized (Damanpour 1991; Denti & Hemlin 2012; Jung et al. 2008a). Resources and freedom are not as important as organizational factors, such as "challenge, organizational encouragement, work group supports, supervisory encouragement, and organizational impediments" (Amabile et al. 1996: 1178).

Culture, both national and organizational, is a very important environmental aspect that influences whether ideas are shared, built upon, and supported. In 1984, Toivola wrote how Finnish culture is very much organized, focused on efficiency and processes, and views success gained by a sudden realization or a victory done by a feeling as being not as valuable as something gained by a long, well planned process. He continues that disorganization and failures caused by creativity should be allowed in organizations. To increase organizational creativity, managers should have the ability and will to ensure that subordinates work in a positive atmosphere and mood, which calls for relationship-building skills (Davis 2009; Tierney et al. 1999). Cooperation, motivation, and adapting to new pressures and innovations were suggested to Finnish leaders in the insurance field among other things to improve leadership (Pöllänen 2008). Managers can create a positive culture (Leavy 2005) and doing so should increase overall business performance (Kyrgidou & Spyropoulou 2013). Based on their findings, Sarros, Cooper and Santora (2008) suggested that organizational cultures that support innovations are built by articulating a vision and providing individual support in addition to setting high performance expectations.

Amabile (1990) has found in studies that creative persons all felt least creative when external pressures, such as evaluations, deadlines or promised rewards, were a concern, while they felt most creative in the flow state that comes from intrinsic motivation. This implies that in an organization, when a certain problem needs a creative solution it is very harmful if the leader or someone else is evaluating and dismissing any suggestions instead of working and contributing as a group. It does appear, however, that creative people are able to dismiss external pressures and enter a flow state, and surprise bonuses had a positive effect. Individuals need to feel that they have the freedom to express all kinds of ideas without fear of judgment (Loewenberger 2013) and need to know when they have the organization's support and a positive supervisor relationship (Yuan & Woodman 2010). Authoritative leadership style (Derecskei 2016) and aversive leadership, that is, intimidation and shaming, have been found to have a negative effect on creativity (Choi, Anderson, & Veillette 2008).

Mathisen et al. (2012: 369) concluded that employee creativity can be improved with "supportive, inspirational, and noncontrolling leadership". Leaders can also support innovators (Amabile et al. 2004; Janssen 2005; Loewenberger 2013) by communicating their supportive values so they are realized in the behavior of subordinates (Henry 2001; Nutt 2002; Yukl 2002; as in Elenkov & Manev 2005) and encouraging team members to engage in external communication with various stakeholders since that increases creativity (Hülsheger, Anderson, & Salgado 2009). Employee innovativeness can also be supported in a more direct way by identifying a natural creative tendency, allocating assignments accordingly, and rewarding (Hunter & Cushenbery 2011; Tierney et al. 1999).

Recently, Hoffman et al. (2011) found important individual differences regarding effective leadership, namely the trait-like constructs of *creativity*, energy, and integrity. Skills in communication, problem-solving, and management were also found to be crucial. Effective leaders also pay attention to the ordinary behavior of their subordinates, empathize with the subordinates' feelings, keep an open mind, and show appreciation for their ideas (Amabile, Schatzel, Moneta, & Kramer 2004).

To summarize, the innovation process is complicated and perhaps it is easier for leaders to focus on making sure that creative individuals have the right kind of setting to perform the best rather than focusing on their own behavior. However, the behaviors and attitudes of leaders have a large impact on creativeness, and many of the suggestions match well with the behaviors of transformational leadership. However, there are no earlier studies made from the perspective of creative or innovative subordinates, as suggested by Anderson, Potočnik et al.

(2014). Next, these creative and innovative individuals are viewed more in-depth, to gain more perspective on what these individuals are like. Are we all creative or innovative if provided with appropriate environments and leaders, or do creative individuals have some special qualities in them?

2.2.1 Qualities and skills of creative and innovative individuals

Creativity is often associated with artistic processes, but as Coyne (1999) put it: "we innovate every day and when it is successful it brings out so much joy we want to do it again." The concept of creativity can be divided into factors that can and should be considered separately: 1) personality; 2) the creative process; 3) products or other outcomes; and 4) environmental influences, i.e., motivating and inhibiting aspects (Ruth 1984; Torrance 1965). In the previous section, the role of the leader was described as an environmental influence, since the leader in many cases is involved in setting the goal and providing resources. In all cases, a leader is creating or influencing the culture, communicating the vision, reacting to ideas and mistakes, and is involved in the process of deciding what ideas are worth pursuing and may be involved in rallying others behind a new solution. In this section, the personality aspect will be examined. What kind of person is able to bring forth creative ideas and/or drive them into innovations?

Amabile (see e.g. 1990) has theorized that the creativity of a person consists of three different components: domain-relevant skills, creativity-relevant skills, and task motivation. Domain-relevant skills include all factual knowledge and technical skills and competences relating to the task at hand. These are influenced by education and innate cognitive abilities, and by motor skills. Persons with creativity-relevant skills have a cognitive style that favors new approaches; have a persistent, energetic working style; and are not afraid to apply creativity heuristics (Amabile 1990). Other antecedents of creativity at the individual level in addition, to personality, are, according to Woodman et al. (1993), intrinsic motivation and domain specific knowledge. Recently, the individual level antecedents were updated to also include "affect, thought fluency, and imagination" (Gupta & Banerjee 2016: 172). The levels of these skills depend on personality, training, and experience in idea generation (Amabile 1990). Finally, the third aspect is task motivation, which Amabile claims to be the most important since no amount of competence or creativity skills can replace it. If the intrinsic motivation is high, however, the person will use networks or develop abilities to reach the intrinsically set goals. If the intrinsic motivation is nonexistent then the activity is done just to fulfill the external requirements or is not done at all.

Already in the 60s and 70s, as pointed out by Barron and Harrington (1981: 453), a fairly stable set of personality characters relating to creativity had been established, including attraction to complexity and variety of interests; high energy and self-confidence; autonomy; intuition; seeing oneself as creative; valuing aesthetic experiences; and solving contradictory issues.

Csikszentmihályi (1990) summarized his and his colleagues' (e.g. Csikszentmihalyi & Getzels 1973; Csikszentmihalyi & Massimini 1985; Csikszentmihalyi 1988; Getzels & Csikszentmihalyi 1968; 1976) findings in longitudinal studies of creativity in the domain of arts. They (Csikszentmihályi 1990) investigated which personal aspects distinguished original art students and successful artists from others, and found three aspects: 1) their values did not lie in status or money but in aesthetic values, and they were "sensitive, open to experiences and impulses, self-sufficient, uninterested in social norms and social acceptance" (p. 192) and cold and distant. 2) Their different cognitive processes led them to spend more time discovering and defining problems instead of settling with a presented situation, and 3) their intrinsic motivation, or the ability to feel rewarded from an activity itself, was high and this was most important. It is difficult to create anything, if one's focus is shifted from the task to external rewards or opinions. Many of these findings have been confirmed in other contexts (Csikszentmihalyi 1990).

Feist (1998) has found clear personality trait profiles for creative scientists and artists: their traits were higher on openness to new experiences, conscientiousness, introversion, self-acceptance, hostility, and impulsiveness and independence. He also stated that introversion might be related to creativity that requires working in isolation while extraversion is more relevant in interpersonal processes that call for creativity (Dollinger, Palaskonis, & Pearson 2004; Feist 1998; Higgs & Hender 2004). Recent studies have found positive correlations between openness to experience, extraversion, and creativity (Bender, Nibbelink, Towner-Thyrum, & Vredenburg 2013; Hughes, Furnham, & Batey 2013; Patterson & Zibarras 2017).

As mentioned earlier, in the innovation phase in the organizational context, a creative idea becomes a product, service, or process that increases profits, customer satisfaction, work effectiveness, safety, or something else desirable. Innovation requires persons to commit to the idea and sell it to others so that a strong enough network is ready to place it in practice or the market. Thus, unlike creative, original ideas, innovativeness requires spokesmanship and the ability to build networks (Akrich, Callon, Latour, & Monaghan 2002a, 2002b). Shavinina and Seeratan (2003) lean on earlier studies in claiming that one reason that some

become innovators can be found in the unique combination of their cognitive experiences in childhood and their personalities. Others view innovative individuals as having high abilities and do not distinguish among their creativity, intelligence, and giftedness (Shavinina & Seeratan 2003). Even though many believe it is possible for all individuals to be creative, it appears to be settled that creating new ideas or promoting them to others is just easier for some.

Innovative individuals are persistent (Hurt et al. 1977; Sandberg et al. 2013), motivated (Patterson & Zibarras 2017) tolerant of ambiguity, self-confident, open to experience, original, and independent (Barron & Harrington 1981; George & Zhou 2001; Patterson 1999; West 1987; West & Wallace 1991; as in Anderson, De Dreu, & Nijstad, 2004). They are also willing to change (Hurt, Joseph, & Cook 1977), to try new ideas (Rogers & Shoemaker 1971) out of curiosity (Amabile 1997) and to advance problem solving (Scott & Bruce 1994). When comparing innovators and opinion leaders with individuals who are more comfortable with traditions and routines, widely differing expectations and leadership behaviors might be expected.

The earlier findings presented above are collected and divided into Amabile's classifications of skills in the table 2; the characteristics are divided into categories by the author.

Table 2. Summary of creative and innovative people's characters

Domain-relevant skills	Creativity & innovativeness relevant skills	Task motivation
-Spokesmanship	-Sensitive and intuitive, introversion, extraversion	-Activity itself is rewarding
-Networking skills	-Open to experiences & impulses, high energy	-Aesthetic values, instead of value of status
	-Uninterested in social norms and acceptance, hostility	-Commitment
	-Spend time in discovering, defining the problem, persistent	
	-Attraction to complexity & variety of interests, tolerant of ambiguity	
	-Self-confidence, self-acceptance, autonomy	
	-Seeing oneself as creative, original	

It can be concluded that creative and innovative people have many qualities and skills that differentiate them from other people, and perhaps even the majority of people. Creative individuals may be recognized over time by observing the above mentioned qualities and skills, but if the environment and the people around them do not support these qualities or the leader does not have the interest or skills to recognize them, the person might leave or keep their new ideas to themselves. Personality tests or indicators can be used in recognizing the tendencies before it is too late. Next, the relationship between personality and creative is viewed, as is the relationship between personality and transformational leadership.

2.3 Personality, transformational and creative leadership

Although people are usually defined by their personalities, and most often by their social skills and first impressions, there is still no simple definition of personality (Hall, Lindzey, & Campbell 1997). Personality might be considered the one dominant trait a person displays, but usually it is defined as a distinctive

pattern of traits or behaviors that includes thoughts and emotions (Mischel 1986). Researchers' definitions of personality depend on their theory of personality (Hall et al. 1997). Across disciplines, all seek to better understand human beings, usually focusing on individuals' differences, but also on peoples' tendencies and processes (Hjelle & Ziegler 1981; Mischel 1986).

There are different approaches to researching personality: 1) the psychodynamic approach, 2) the trait approach, 3) the phenomenological approach, and 4) the behavioral approach (Mischel 1986). The most famous personality theories are Freud's psychoanalytic theory, Skinner's behavioristic-learning theory, and Maslow's humanistic theory of personality (Hjelle & Ziegler 1981). In this dissertation, personality is the main antecedent studied in relation to transformational leadership and creativity, other findings regarding a variety of characteristics, qualities, and skills have been summarized in earlier sections.

2.3.1 Myers-Briggs Type theory

There are over 4000 words that describe personality (Allport & Odbert 1936), so to keep the scope focused, this dissertation will address only Jung's personality theory and the Myers-Briggs type theory, which is the interpretation of Jung's theory created by Isabel Myers and Katharine Briggs (Myers, McCaulley, Quenk, & Hammer 1998). Jung's personality theory corresponds with Freud's psychoanalytic theory in many ways; Jung kept Freud's concepts of the psyche, the unconscious and conscious selves, and was interested in symbolic dreams. But he did not focus on the early childhood and psychosexual stages as did Freud (Hall et al. 1997; Hauke 2006) and believed in personality's "constant and often creative development, [and in] the search for wholeness and completion", unlike Freud (Hall et al. 1997: 83). Jung's approach is known as analytical psychology (Mischel 1986). Jung's analysis and methodology is critiqued by McGowan (1994), but he also admits the value of Jung's contribution to personality theory, and it has been argued that his work has been more influential in the long run than Freud's (Hall et al. 1997). The categories he presented were based on 20 years of empirical observations and are testable. Jung divided people into categories based on how they experience the world; the dominant behavior is conscious and "the other influences the unconscious side of personality" (Mischel 1986: 47).

The theory involves people's differences in perceiving things and decision making (judgment), which affects their values, reactions, and interests. This J/P (judging/perceiving, see below) pair was made explicit by Myers and Briggs. It is the only difference to the original preference pairs created by Jung (Myers et al.

1998). Type theory assumes that people are born with orientations towards certain preferences, but that environments can either foster or discourage those natural preferences. People might feel less competent and less content when forced to use their less-preferred functions. (Myers & McCaulley 1985.) Thus, there is no question of how extraverted or intuitive people are, or if some person is more intuitive than others, since only their preferences along the dichotomies are relevant (Quenk 1993).

Type theory has four dichotomies. The first one describes the kind of energy and attitude towards life; Extraverted (E) people direct energy mainly toward the outer world of people and objects. They are energized by interaction and activity; they tend to act first, and reflect later. Introverted (I) people direct energy mainly toward the inner world of experiences and ideas. They are energized by reflection and solitude. The next dichotomy describes differences in perception; Sensing (S) people focus mainly on the present moment, concrete and verifiable information, and experiences. They are practical and realistic. Intuitive (N) people focus mainly on perceiving patterns and interrelationships. They tend to value insights, abstractions, theory, and notions of what could be. They are future oriented and imaginative. The third dichotomy compares two kinds of judgement: Thinking (T) people tend to base their conclusions on logical analysis, with a focus on objectivity and detachment. They prefer justice and are guided by cause and effect reasoning. Feeling (F) people tend to base their conclusions on personal or social values, with a focus on understanding and harmony. The final dichotomy describes differences in attitudes towards the outer world: Judging (J) people prefer decisiveness and closure. They like to organize and follow plans. Perceiving (P) people prefer flexibility and spontaneity, and tend to be adaptable and curious and to keep options open (Killen & Williams 2009; Myers et al. 1998; Myers & Myers 1990)

These orientations can be combined in 16 ways, resulting in 16 different personality types. Other, shorter combinations are also used, for example for cognitive styles, but those are excluded from this dissertation since only some of them were used in article seven. Often, the preference level is investigated for its usefulness and simplicity, but in that the dynamicity is lost (Myers et al. 1998). Sixteen type descriptions below are based on Myers et al. (1998):

> ISTJ: Quiet and serious, succeeds through concentration and thoroughness. Practical, orderly, matter-of-fact, logical, realistic, and dependable. Sees to it that everything is well organized. Takes responsibility. Makes up their own minds as to what should be accomplished and work toward it steadily, regardless of protests or distractions.

ISFJ: Quiet, friendly, responsible, and conscientious. Works devotedly to meet their obligations. Lends stability to any project or group. Thorough, painstaking, accurate. Their interests are usually not technical. Can be patient with necessary details. Loyal, considerate, perceptive, concerned with how other people feel.

INFJ: Succeeds by perseverance, originality, and desire to do whatever is needed or wanted. Puts their best efforts into their work. Quietly forceful, conscientious, concerned for others. Respected for their firm principles. Likely to be honored and followed for their clear visions as to how best to serve the common good.

INTJ: Has original minds and great drive for their own ideas and purposes. Has long-range vision and quickly finds meaningful patterns in external events. In fields that appeal to them, they have a fine power to organize a job and carry it through. Skeptical, critical, independent, determined.

ISTP: Cool onlookers, quiet, reserved, observing and analyzing life with detached curiosity and unexpected flashes of original humor. Usually interested in cause and effect, how and why mechanical things work, and in organizing facts using logical principles. Excellent at getting to the core of a practical problem and finding the solution.

ISFP: Retiring, quietly friendly, sensitive, kind, and modest about their abilities. Shuns disagreements; do not force their opinions or values on others. Usually does not care to lead but are often loyal followers. Often relaxed about getting things done because they enjoy the present moment and do not want to spoil it by undue haste or exertion.

INFP: Quiet observers, idealistic, loyal. Placing importance on outer life being congruent with inner values. Curious, quick to see possibilities, often serve as catalysts to implement ideas. Adaptable, flexible and accepting unless a value is threatened. Wants to understand people and ways of fulfilling human potential. Little concern with possessions or surroundings.

INTP: Quiet and reserved. Especially enjoys theoretical or scientific pursuits. Likes solving problems with logic and analysis. Interested mainly in ideas, with little liking for parties or small talk. Tends to have sharply defined interests. Needs a career in which some strong interest can be used and useful.

ESTP: Good at on-the-spot problem solving. Likes action, enjoys whatever comes along. Tends to like mechanical things and sports, with friends on the side. Adaptable, tolerant, pragmatic; focused on getting results. Dislikes long explanations. Are best with real things that can be worked, handled, taken apart, or put together.

ESFP: Outgoing, accepting, friendly, enjoys everything and make things more fun for others by their enjoyment. Likes action and making things happen. Knows what is going on and joins in eagerly. Finds remembering facts easier than mastering theories. Are best in situations that need sound common sense and practical ability with people.

ENFP: Warmly enthusiastic, high-spirited, ingenious, and imaginative. Able to do almost anything that interests them. Quick with a solution to any difficulty and ready to help anyone with a problem. Often relies on their ability to improvise instead of preparing in advance. Can usually find compelling reasons for whatever they want.

ENTP: Quick, ingenious, good at many things. Stimulating company, alert, and outspoken. May argue for fun on either side of a question. Resourceful in solving new and challenging problems, but may neglect routine assignments. Apt to turn to one new interest after another. Skillful in finding logical reasons for what they want.

ESTJ: Practical, realistic, matter-of-fact, with a natural head for business or mechanics. Not interested in abstract theories, wants learning to have a direct and immediate application. Likes to organize and run activities. Often makes good administrators; are decisive, quickly moves to implement decisions and takes care of routine details.

ESFJ: Warm-hearted, talkative, popular, conscientious, born co-operators, active committee members. Needs harmony and may be good at creating it. Always doing something nice for someone. Works best with encouragement and praise. Main interest is in things that directly and visibly affect people's lives.

ENFJ: Responsive and responsible. Feels real concern for what others think or want, and tries to handle things with regard of other's feelings. Can present a proposal or lead a group discussion with ease and tact. Sociable, popular, sympathetic. Responsive to praise and criticism. Likes to facilitate others and enable people to achieve their potential.

ENTJ: Frank, decisive, leaders in activities. Develops and implements comprehensive systems to solve organizational problems. Good at anything that requires reasoning and intelligent talk, such as public speaking. Are usually well informed and enjoy adding to their fund of knowledge.

2.3.2 Personality type as an antecedent to transformational leadership and creative leadership

In the earlier sections on the qualities or antecedents of transformational leadership, creativity and innovativeness, and creative leaders, some aspects of personality were discussed. But before those are summarized, the findings relating to personality type as described by Myers and Briggs must be considered.

Firstly, it is important to remember that a person's having a certain personality type does not "rule out the effectiveness as a manager", however it does help in recognizing strengths and development needs as person and a leader (Van Velsor & Fleenor 1997: 158). It has been found that there is a difference in how leaders and subordinates rate their transformational leadership behaviors (Brandt & Laiho 2013; Brown & Reilly 2009; Hautala 2006b). Although it has been found

that only 7% over-rated their transformational leadership, while 58% accurately rated their behavior and the rest under-rated themselves (Carroll 2010), only findings that do not include self-assessments are included in the summarizing table 3 below. However, some self-assessed results are reported in this section.

Extraverted and intuitive people assessed themselves as more transformational than did introverted and sensing people (Brown & Reilly 2009; Hautala 2006), as did the perceiving over judging types (Hautala 2006). However, in the subordinates' assessments, the sensing types were rated as more transformational (Hautala 2006). Hautala (2005) suggested that this may be the result of subordinates being mostly sensing types who require more concrete approaches than intuitive leaders will offer. Also, extraverted women have been found to be more transformational than introverted women, and sensing men more transformational than intuitive men. Intuitive and judging women have been found to be more transformational than intuitive and judging men. (Brandt & Laiho 2013.) In a study on female hospital managers, extraverted, intuitive, and perceiving people were more transformational than introverted and judging (Carroll 2010). Hautala (2008) has also investigated the most common personality types among managers in Finland and found that ENTJs and ESTJs rated themselves as higher in transformational leadership than INTJs and ISTJs did, but there were no differences in the subordinates' assessments. In another study ENFPs, ENTPs, and ENTJs assessed themselves highest, but in subordinates' assessments, the highest scores were given to ESFJs, ESTPs, and INFJs. However, subordinates and leaders' do agree that ENTPs are the highest in intellectual stimulation (Brandt 2011).

As suggested (Deinert et al. 2015; van Knippenberg & Sitkin 2013), it is important to view the different sub-dimensions of transformational leadership to get a deeper understanding of these areas, since different antecedents may be in relationships with different aspects of leadership behaviors. Recently, Brandt and Laiho (2013) discovered several aspects regarding personality and gender's interaction with these sub-dimensions; for example, perceiving men practiced more intellectual stimulation than perceiving women or judging men. Carroll (2010) also found perceiving women to be more intellectually stimulating than judging women. And this has also been confirmed on the personality level, with perceiving being more transformational than judging (Hautala 2006). Women with extraversion, thinking, and/or judging were found to be more enabling than male leaders with the same preferences (Brandt & Laiho 2013). Thinking women were found to be more enabling than feeling women, and feeling men more than thinking men (Brandt & Laiho 2013).

Regarding other sub-dimensions, extraverted women were rated as more encouraging than introverted women leaders (Carroll 2010). Intuitive female leaders were rated as more modelling than sensing women (Carroll 2010). But Hautala (2006) found sensing people to be more modelling than intuitive persons, and the same direction was found in the case of rewarding and visioning. Also, extraverted and feeling persons were found more rewarding than their counterpoints (Hautala 2006). Further, in self-assessments, extraverted and intuitive people ranked their intellectual stimulation, inspirational motivation, and idealized influence as higher than introverted and sensing people did (Brown & Reilly 2009).

Other personality or characteristic antecedents relating to transformational leadership as stated earlier in section 2.1 were high self-confidence and energy, introspective and thoughtful (Bass 1985), which is the same as introversion. While others had found extraversion, dominance, self-confidence, openness to experience, locus of control, hardiness, feeling, femininity (Bass & Riggio 2006), and emotional intelligence (Ashforth & Humphrey 1995) to correlate with transformational leadership.

Table 3. Relationship of personality and transformational leadership

	Transformational leadership	**Intellectual stimulation**	**Enabling/ motivating**	**Modelling**	**Encouraging**	**Visioning**	**Rewarding**
Extraverted (E) – Introverted (I)	E women > I women		E women > E men		E women > I women		E > I
Sensing (S) – Intuition (N)	N women > N men N women > S women S men > N men S > N			N women > S women S > N		S > N	S > N
Thinking (T) – Feeling (F)			T women > T men T women > F women F men > T men				F > T
Judging (J) – Perceiving (P)	J women > J men P women > J women	P > J P men > P women P men > J men P women > J women	J women > J men				
personality types	ESFJ; INFJ; ENFJ	ENTP					
other qualities	openness to experience, self-confidence, energy, introversion, extroversion, dominance, self-confidence, locus of control, hardiness, feeling, femininity, emotional intelligence						

As summarized in Table 3, there is a relationship between personality and transformational leadership. However, more information is needed on personality connections to different dimensions of transformational leadership, as it has been found, for example, that intellectual stimulation, individualized consideration, and inspirational motivation are especially effective behaviors. The results are conflicting, in terms of whether it is intuitive or sensing people who are more transformational. We can, however, conclude that perceiving people are better at intellectual stimulation.

Finally, it is important to view the relationship of *personality and creativity*. Multiple studies have found that intuitive and perceiving people are rated as more creative and innovative (Gryskiewicz & Tullar 1995; Houtz et al. 2003;

Isaksen, Lauer, & Wilson 2003; Jacobson 1993; Walck 1996). Gridley (2006) found that according to previous studies, artists are more often intuitive, perceiving, and introverted. Lee and Min (2016) found that intuitive people are more creative than sensing people are, independent of field of an employment. Dollinger et al. (2004) suggested based on their empirical study that intuition predicts creativity, especially if the feeling preference is also considered. However, they suggested that judging-perceiving does not predict creativity.

It is to be expected that leaders with an intuitive personality preference will rate their creative ability higher than do managers with a sensing preference, since intuitive leaders generally evaluate their own management skills in a more positive light than do those people with a sensing preference (Buttner, Gryskiewicz, & Hidore 1999). Then again, it has been argued that intuitive and thinking types are better than their counterparts in complex, open-ended situations, and in the case of intuitives this would be the result of their "seeking out information about the world and identifying creative and integrative solutions to problems" (Tetlock, Peterson, & Berry 1993; as cited in Walck 1996: 62). Tetlock et al. (1993) also found that intuitive and perceiving people view themselves as creative individuals.

In the USA, when service managers were studied, it was found that managers with extraversion, intuition, feeling, and/or perceiving personalities correlated with the innovation style when compared to their counterparts (McKinnell Jacobson, 1993). Supporting results were also found in relation to innovativeness and intuitive and perceiving people by Gryskiewicz and Tullar (1995) and Fleenor (1997). Logical Decision makers (TJs) are usually overrepresented in managerial samples when compared to the whole population (Myers at el. 1998), and recently it was discovered that ESTJ and ISTJ types are less creative in the business field than in other domains such as journalism, law, medicine, and research and education (Lee & Min 2016).

Very little attention has been paid to the *creativity of leaders* (Guo, Gonzales, & Dilley 2016). This is an important topic because leader creativity predicts organizational creativity, that is, the creative behavior and outputs of subordinates (Mathisen et al. 2012), and middle managers as innovators have been said to be the key factors of economic growth (Kanter 2004). Creative leaders apply unconventional solutions to problems and challenges others (Proctor 1991). Acting as a creative role model inspires and motivates others, since creative leaders are in a better position to understand the requirements of creativity (Mathisen et al. 2012), inspiring and intellectually stimulating behaviors require personalities that are "active, self-starting, and proactive" (Bass

1985: 174). Kanter (2004) described innovator managers as comfortable with changes, knowing the direction of the organization, thorough, and able to use a participative style and act with perseverance. Higgs and Hender (2004) say that creative leaders "[are] open, driven, energetic, unorthodox and different, experimenting, have self-confidence, are able to tackle conflict, are intelligent, have the ability to think outside the box and generate ideas, have wide knowledge, and will challenge other's ideas" (p. 12), as well as being intrinsically motivated and extraverted.

It has been suggested that when an organization requires creativity, candidates' creativity levels should be considered carefully when recruiting managers (Higgs & Hender 2004; Mathisen et al. 2012). Collins and Cooke (2013) reported that when looking to increase performance, having a creative manager is particularly important for those individuals who are not particularly open to change. Earlier, Fiedler and Garcia (1987) suggested that primarily creative leaders might not focus sufficiently on the leadership process, favoring instead the idea-generating process, potentially leading the overall performance of the team to suffer. Therefore, Fiedler and Garcia concluded that leaders should monitor the process and limit the number of ideas. In practice this might not be difficult, since due to time pressures, social norms, and expectations, ideas that are original and risky are often rejected and this may eventually lead to a reduced number of novel ideas (Blair & Mumford 2007), and people who produce original ideas appear to have to better evaluating skills (Basadur, Runco & Vegaxy 2000).

Table 4. Relationship of personality and creativity

	Creativity	**Innovativeness**	**Creative/Innovative leader**
Extraverted (E) – Introverted (I)	I > E		E > I
Sensing (S) – Intuition (N)	N > S	N > S	N > S
Thinking (T) – Feeling (F)	T > F		F > T
Judging (J) – Perceiving (P)	P > J	P > J	P > J
preference combinations	NF		
other qualities			comfortable with changes, thorough, perseverance, open, driven, energetic, unorthodox, experimenting, self-confident, intelligent, creative, intrinsically motivated, extroverted

To conclude, personality is indeed connected to creativity and innovativeness. It is important to remember that the context does influence what type of personality is the strongest in using their creativity. In being a creative leader, extraverted, intuitive, feeling, and perceiving people have been found to excel over their counterparts. Based on earlier studies, at least the perceiving preference is appropriate for both creative and transformational leaders, but more studies are needed to get more information on the other possible similarities.

3 METHODOLOGY

This section begins with an overview of the philosophical assumptions that guided this work.

3.1 Philosophical assumptions

This dissertation's assumption about the nature of the social sciences reflect the scheme of Burrell and Morgan (1979), since they are widely accepted and adapted (Scherer 1998). Burrell and Morgan (1979) divided sociology into four paradigms, each of which contains ontological assumptions about how the world and knowledge are understood and epistemological assumptions about why and with what methods this knowledge may be studied. Although the complex and ever changing nature of the world makes it is impossible to ever define the full truth of something, the ontological view used in this dissertation is objectivism since it is possible to define and label at least some parts of the truth. At the other end of this ontological debate is subjectivism, also called constructivism, which is guided by the assumption that social world is not real, but rather constructed by its participants, and labels exist only to ease our understanding (Burrell & Morgan 1979; Eriksson & Kovalainen 2016).

The epistemological view used in this dissertation is positivism, "in which reality is constituted of observable material things" (Burrell & Morgan 1979; Eriksson & Kovalainen 2016: 16). The anti-positivistic view is that the truth cannot be verified, but rather is always dependent on the subjectivist frame of mind (Burrell & Morgan 1979). The third view is realism, in which reality is material but context influences how it is interpreted (Eriksson & Kovalainen 2016).

The next guiding aspect of this dissertation is the belief in determinism in human nature, that is, that people act accordingly to their situations, skills, and habits. The other option would be voluntarism, meaning that people have free will to choose their behaviors (Burrell & Morgan 1979). This dissertation also believes in the latter assumption, since through training and development it is possible to learn and take advantage of new behaviors.

Burrell and Morgan (1979) also highlighted the importance of often ignored dimensions of the nature of society: regulation vs. radical change, presented in figure 2 with subjective-objective dimensions. This results in four distinct paradigms. The majority of organizational studies have been done within the

functionalist paradigm. The others are the interpretive, radical humanist, and radical structuralism paradigms (Burrell & Morgan 1979). This dissertation is guided by the paradigm of functionalism, since its assumptions about the nature of science are objectivist and the nature of society is regulation, as the goal is to find answers that would enable consensus, social order, and cohesion by helping leaders, subordinates, and HRM recognize the needs of creative individuals and lead and recruit them accordingly. However, as suggested in the future studies section, the interpretative approach would also be recommended to identify certain types of leaders and observe the different behaviors they display. Also helpful could be the radical humanist approach, which would investigate how knowledge of a leader's intellectual stimulation capabilities, creativity level, or personality type would help them in developing themselves (see Walck 1996).

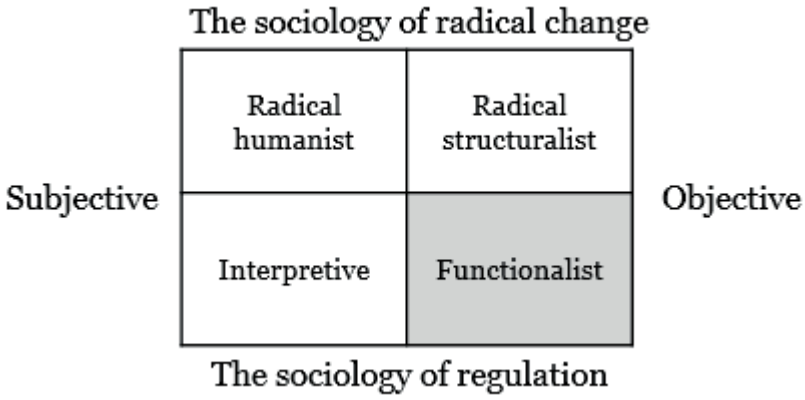

Figure 2. Four paradigms (Burrell & Morgan 1979: 22)

The functionalist paradigm is a commonly accepted paradigm in organizational studies and it "tries to understand world as it is" (Walck 1996: 73). It assumes that people behave rationally, that problems can be solved and answers found, and that understanding and knowledge are increased by hypothesis testing. The functionalist paradigm has a very pragmatic approach and seeks to generate information that can be put to use and provide explanations (Burrell & Morgan 1979). Thus, the main philosophical positions guiding this dissertation are objectivism, positivism, and the functionalist paradigm.

3.2 Research methods

In line with the abovementioned philosophical assumptions, nomothetic methods were used in all of the studies that were conducted to answer the main question of this dissertation. Nomothetic methods are as objective and systematic

as possible, and the goal is to be able to make generalizations and predictions (Burrell & Morgan 1979; Jaccard & Dittus 1990). The other approach would have been idiographic approach that focuses on individual rather than group level of investigation and is subjective and dependent on the context (ibid.). Latter approach is recommended in the future study suggestions as well. All studies include datasets that are cross-sectional, quantitative and include Finnish participants.

Transformational leadership was measured using two different measurements. The first one is based on Kouzes and Posner's (1988) Leadership Practices Inventory (LPI), and was used in articles 3, 4 and 5. LPI is based on interviews with managers and is well suited to the appraisal of leadership behaviors by both leaders and subordinates (e.g., Herold & Fields 2004). It was validated as appropriate for Finnish culture (see e.g., Hautala 2005) and is therefore used in this dissertation.

Verified LPI factors in the Finnish context are visioning, intellectual stimulation, enabling, and rewarding. Visioning means presenting the ideal future to others, making sure people hold common values, and communicating a view about the best way to lead the organization. Intellectual stimulation includes risk-taking, innovating to improve the organization, and looking for challenging tasks and opportunities. Enabling means respecting others, giving them the freedom to make their own decisions, creating a trusting atmosphere, and making others feel that projects are their own. Modeling includes consistency of organizational values and confidence in the philosophy of how to lead, alongside confirmation of planning and goal setting. Rewarding means celebrating and recognizing achievements when goals are met (Hautala 2005).

The second measurement of transformational leadership was developed for article 1 and 2. The survey is based on LPI and the multifactor leadership questionnaire (MLQ), which is the most commonly used transformational leadership measurement (Deinert et al. 2015) and in the leadership literature overall. This survey featured the transformational, transactional (including passive and active management by exception), laissez-faire, and authoritative leadership styles. The reason for this development was to try and find more differences in leadership preferences when the respondents were asked to rank different statements based on different leadership styles on a scale of 1-9, with 9 being the most desired leadership style and 1 the least preferred. The problem with some of the surveys is that with Likert scales many of the dimensions are viewed so negatively that no clear conclusions can be made. With ranking the different behaviors this goal was met, but unfortunately the factor analysis

produced only two components that described transformational leadership: inspirational motivation (α=0.81) and intellectual stimulation (α=0.71).

Creativity and innovativeness were measured three different ways in this dissertation: an innovativeness scale (translated and validated to Finnish by the author, based on Hurt et al. 1977), creativity orientation (designed by Asikainen and Routamaa 1997), and creative leadership (derived from wider leadership survey by (Reddin 1970).

The innovativeness scale (IS) measures individuals' levels of innovativeness, attitudes towards innovations, and will to adapt them and was used in article 2. This self-report questionnaire was developed by Hurt, Joseph and Cook (1977) and is based on Rogers and Shoemaker's theory (1971; as cited in Hurt et al. 1977). The reliability and validity of the scale have been approved (Goldsmith 1991; Hurt et al. 1977) The factor analysis extracted four components, which explain 64,7 % of the variance. Based on the items and innovativeness literature, the four factors are labeled as: 1) change resistance α=.84, 2) creativity, α=.80, 3) risk-taking, α=.70 and 4) opinion-leading, α=.68. The factors correlated significantly (p<.001) between each other, so separate factors were not used in the analysis.

In most leadership studies involving innovativeness, creativity or innovative behavior are dependent variables (see e.g. Rosing, Frese, & Bausch 2011; Scott & Bruce 1994). However, in article 2, the innovativeness level was an independent variable as suggested by Anderson, Potočnik, & Zhou (2014); the innovativeness level of the respondent was used as a predictor of leadership preferences, since almost always studies seek to examine how leaders can influence innovativeness outcomes.

Creativity orientation. Asikainen and Routamaa (1997) created a new validated creativity orientation measurement suitable for the Finnish context based on Byrd's (1986; see e.g. Harris 2016; Routamaa 2014) Creatrix inventory that produced eight styles, based on creativity and risk-taking, that described respondents' motivations and cognitive abilities in these areas. Asikainen and Routamaa (1997, see Routamaa 2014; Asikainen 1996) created a four-dimension model of meticulous planners, individualistic thinkers, idea creators, and creative rule challengers. Meticulous planners are not creatively orientated but prefer routines, are logical and systematic, and are likely to object to new creative approaches in order to keep well-defined methods in place. Individualistic thinkers are more unorthodox and outspoken; they might not have alternative suggestions to the methods they criticize. Idea creators conceive new ideas without considering their applicability; they value imagination and believe in

their own uniqueness and trust their intuition in problem solving. Creative rule challengers are even more trusting of the quality of their own ideas, and may be harder to work with, since they do not like to be led and become bored easily. In this dissertation, only the last two styles were considered in the sixth article and their reliability have been found acceptable, with the alphas of the items being over .75.

Self-assessments of creativity and innovativeness was used in articles two, six, and seven, and have been used widely in the latest studies (Reiter-Palmon 2012). In experimental studies one can try and measure creativity output, and more specifically the quality and/or quantity of ideas or solutions (Herrmann & Felfe 2014). However, this is quite challenging in an organizational setting and therefore most studies use student samples. Reiter-Palmon et al. (2012) found that self-perceptions of creativity have a strong relationship to creative self-efficacy and a creative personality, and not so much to creative performance. That is why results of self-assessed creativity measures should be read with caution. Then again, (Silvia, Wigert, Reiter-Palmon, & Kaufman 2012) found self-assessments to be quite accurate, and based on earlier empirical work, Hughes et al. (2013: 77) stated that "it is evident that that self-estimates of creativity are related to more objective measures of creativity and important real-world outcomes." The seventh article includes an assessment of creative leadership from subordinates, but those assessments did not show as many differences as self-evaluations, which indicates a need for carefulness when generalizing the results.

Creative leadership was used in article seven, in self-assessments and in subordinates assessing their managers. The items are quite varied, measuring leaders' assessments of their own ability to be creative; how much and how well leaders support their subordinates; and how active leaders are in engaging and supporting others' creative activities. Creative ability and motivation do not guarantee that a person will act creatively. Even though creativity itself is only part of this measurement and includes creative motivation, creative ability, and support of others' creativity, due to positive indications (Hughes et al. 2013; Silvia et al. 2012) this concept was labeled "creativity" in the seventh article. All of the items were dispersed in a more extensive leadership survey, the 3-D theory of leadership effectiveness, which is a behavioral theory of management and is based on the situational management approach (Reddin 1970).

Personality was assessed with the validated Myers Briggs Type indicator (MBTI), which was developed by Katherine Briggs and Isabel Myers in 1942, and was licensed in the 1960s. MBTI is one of the most popular psychological instruments

and is based on C.G. Jung's (1921/1971) Psychological Types (Beebe 2006; Dollinger et al. 2004). It has been widely used in the field of leadership and organizations (e.g., Carroll 2010; Dollinger et al. 2004; Furnham & Stringfield 1993; Gallén 2009; Garden 1997; Gardner & Martinko 1996; Hautala 2005; Hautala 2006; Routamaa 2014). The MBTI is a self-assessment instrument, where the respondent selects one of two options for every item. The MBTI includes scores on four bipolar dimensions: extraversion-introversion (E/I), sensing-intuition (S/N), thinking-feeling (T/F), and judging-perceiving (J/P). Every item has two alternatives for the respondents to choose from. An individual is assigned a "type" classification based on one of 16 possible categories. In this dissertation the focus is mostly on the eight preferences, not on the whole type, except in the seventh article.

Certainly one reason for the use of this measurement is in the long and positive experiences by the research group involved in these articles, but also for its superiority over the most commonly applied big-five. Normally distributed trait theories (including big-five), involve diagnostics that lead to some traits being worse than others (Quenk 1993), for example, having low extraversion or high neuroticism. In the MBTI, all types have their strengths and weaknesses, but the focus is on the positive aspect and it is not used in diagnosing mental disorders (Myers et al. 1998). The scores in the MBTI only help in qualitatively categorizing each person, and tell only how confident one can be that that categorization is correct. Traits are used in studies more often, because more statistical analyses can be applied and data can be smaller because of its assumptions (Quenk 1993). However, there are many relationships between the dimensions of the MBTI and big-five traits. Furnham (1996: 306) found that "Agreeableness is closely linked to the Thinking-Feeling dimensions of the MBTI; Conscientiousness with the Judging-Perceiving dimensions; Extraversion naturally with the Introversion-Extraversion dimensions and Openness with the Sensing-Intuitive dimension. Only Neuroticism appeared to be correlated with a variety of MBTI dimensions and somewhat inconsistently."

The MBTI's "…validity is determined by its ability to demonstrate relationships and outcomes predicted by [Jung's] theory" (Myers & McCaulley 1985: 175) and it has been proved at the four preferences level, as well as at the type level. Its internal consistency and construct validity have been proved by several researchers (see e.g. Myers et al. 1998; Carlyn 1977; Gardner & Martinko 1996; Tzeng, Outcalt, Boyer, Ware, & Landis 1984), including by neuromapping, which shows different types of brain activity patterns in different personality types (Nardi 2011). Gender, age, membership of a minority ethnic group, and developmental level are just some of the topics that have been researched in

testing the reliability of the MBTI (see Capraro & Capraro 2002; Myers et al. 1998). The Finnish 'F-version' of the MBTI was used in these studies, which has been translated and validated in Finnish culture by Routamaa (see e.g. Routamaa & Hautala 2015) and its construct validity and reliability have been found acceptable (Heikkilä-Laakso 1995; Järlström 2000). One problem with the MBTI, as with any other self-report instrument, is that one cannot know how many of the respondents are inaccurate types, and behave in ways that are not natural to them (Myers et al. 1985).

The studies also measured communication styles and emotional intelligence. Although their role is large in the articles in question, their role is very limited in this dissertation and they will therefore be given very little consideration.

The participants in each dataset consist of Finnish respondents, with some being university students in business and/or management studies who represent future business professionals. A large number of the respondents were professionals from a variety of fields, with actual managers and CEOs numbering 536, and subordinates numbering 868 in articles four and seven. The variables studied in each article are also listed in table 5, as are the used data analyses. Taking part on the surveys was voluntary, although some surveys were done as part of leadership development, and thus anonymity for the participants was guaranteed. To diminish social desirability in answering, the respondents were always assured that the results are only for their own benefit and personal development, and that there were no right or wrong, good or bad responses. The questionnaire forms were handled with care and caution, and the answers were kept confidential. Only the members of the research group had access to the forms and were able to see the answers.

Table 5. Summary of articles' participants, measures, and analyses

	Participants	Variables	Analysis
Article 1	-360 Finnish university students and professionals -50% women	-Leadership preferences (Bass's MLQ, Kouzes&Posner) -Personality preference (MBTI)	-Non-parametric tests
Article 2	-297 Finnish university students -46% women	-Innovativeness scale (Hurt 1977) -Leadership preferences (Bass's MLQ, Kouzes&Posner) -Age	-Non-parametric tests
Article 3	-222 managers (out of which 203 are CEOs) -12% women	-Communication style (based on literature) -Transformational leadership (Kouzes&Posner 1988)	-Anova
Article 4	-104 team leaders (from university team leadership course) -672 team members -59% women	-Transformational leadership (Kouzes&Posner 1988) -Personality preference (MBTI) -Gender	-*T*-test
Article 5	-90 Finnish respondents from variety of fields -69% female	-Emotional intelligence (Schutte et al. 1998) -Transformational leadership (Kouzes&Posner 1988) -Personality preference (MBTI)	-Regressional analysis
Article 6	-108 professional -81 business students	-Creativity orientation (Routamaa 2014) -Personality type (MBTI)	-Chi square
Article 7	-314 Finnish managers -868 subordinates -25% women	-Creativity (Reddin 1970) -Personality preference (MBTI) -Gender	-Non-parametric tests

Each article contains limitations, as is to be expected. In article 1, "Preferred leadership behaviors by different personalities", and article 2, "Transformational leadership in leading young innovators – a subordinate perspective", the purpose was to try a new measure for ranking leadership preferences, but it did not work as hoped, resulting in only two satisfactory factors in the sub-dimensions of transformational leadership. In article 3, "Transformational leadership and communication style of Finnish CEOs", the number of women leaders among the participants is representative of the situation in Finland, since 4% of the CEOs and 11% of the other executives of listed companies are women (Linnainmaa 2016). The article does not allow to investigate the strengths of women leaders,

but mainly describes the situation amongst men. The fourth article, "Transformational leadership in teams – The effects of a team leader's sex and personality", consists of a student sample, thus their leadership experiences were limited and the input of team leaders varies in the project, which has not been taken into account in this dissertation.

The fifth article, "Do personality and emotional intelligence predict transformational leadership qualities?", would have benefited from a bigger dataset, as the amount of data was too small to get more specific results regarding the sub-dimensions of transformational leadership and the mediating effect of gender. In "Personality of Finnish innovative entrepreneurs", which is the sixth article, the limitations involve the sample. To improve the quality of the study, it would be recommended to study actual leaders and do a 360-degree assessment of their creativity orientations. The next step would be to see how creative and non-creative individuals feel about the leadership of these creative and less-creative leaders concerning the amount or quality of ideas, end product, commitment, and well-being.

Finally, in "Creative leaders – Interaction of the personality and gender of leaders with their creativity", the most serious limitation is its aging dataset. In addition, the reliability of the creativity variable was difficult to estimate due to the approach of extracting the items from an extensive leadership survey.

4 RESULTS

In this section, the results are presented by first answering the two research questions and then pondering the main question of this dissertation.

4.1 Matching of creative and innovative individuals' leadership preferences with actual leadership behaviors

The first question was: What are creative and innovative subordinates' transformational leadership preferences and do their leaders' leadership behaviors correspond with these needs? This question is investigated through three articles, the first two of which are concerned with subordinates' leadership preferences and the third of which examines the actual strengths and weaknesses regarding transformational leadership. These three articles are examined to see whether transformational leaders are behaving in the ways that creative and innovative people would prefer, as presented in figure 3 below.

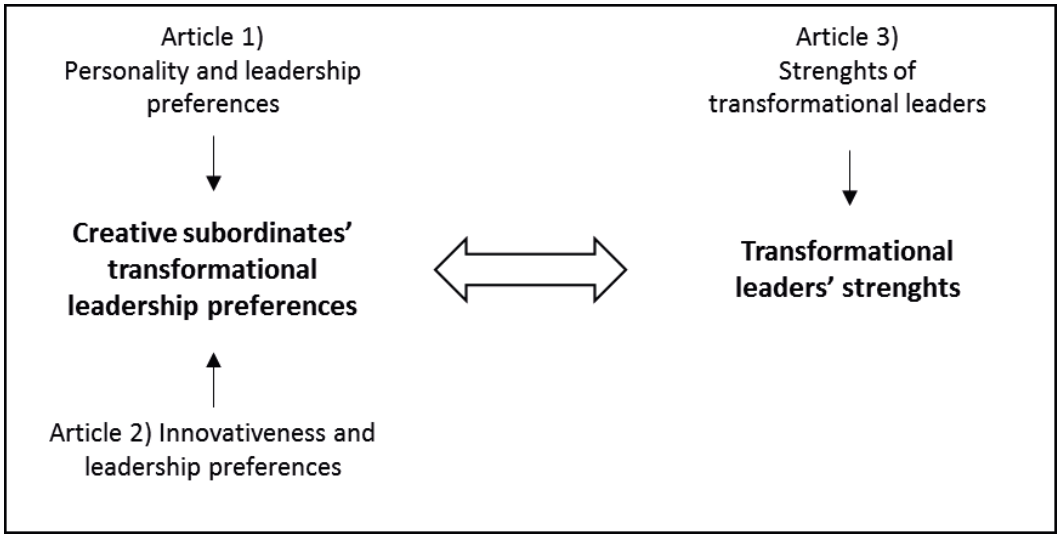

Figure 3. Approach to first sub-question

The first article, "Preferred leadership behaviors by different personalities", views the question from the personality perspective, and in the second article, "Transformational leadership in leading young innovators – a subordinate perspective", the innovativeness level is used to make comparisons among leadership preferences.

Transformational leadership was the most preferred leadership behavior amongst all personality preferences, but some differences were found within the two dimensions of transformational leadership; for example, sensing people preferred inspirational motivation while intuitive people preferred intellectual stimulation. Intuitive persons want their leaders to display transformational leadership behaviors, particularly intellectual stimulation, in comparison to sensing persons. It also appears that extraverted and feeling persons prefer transformational leadership a bit more than introverted and thinking persons. This supports the earlier findings of Hautala (2005), who found that extraverted and feeling persons need more external feedback and support, while introverted and thinking persons may do with less leadership.

Based on these results, managers and team leaders should focus most on the sensing-intuition differences among their subordinates. Sensing people focus on facts and things that can be sensed with their five senses, so it is quite natural that they would not mind if a leader is focused on tasks and they understand the need for more reporting and supervising. Perhaps most sensing people appreciate that they are getting information and clear deadlines and guidelines of how to proceed and see this as efficient management behavior. Meanwhile, intuitive people focus on insights, possibilities, and interrelationships instead of or in addition to hard facts. They prefer their leaders to stimulate them intellectually, that is, to encourage branching out. Intuitive people want leaders to support their natural strengths. They want to recognize patterns that are unseen and they want their leaders to help and stimulate them to transform. Sensing people want this also but they also appreciate their leaders to stay close, set up goals, or offer means and deadlines.

This dissertation adds additional support to the findings of (Hautala 2005) that sensing people want clearly defined areas and instructions, and supports the findings that transformational leadership has positive outcomes. Subordinates find transformational leadership most preferable and intuitive people should be intellectually stimulated.

The aim was to look at what kind of leadership behaviors subordinates prefer in their leaders, and more specifically at whether and how personality influences those preferences. This issue has not been studied before using this framework. This is important because it may prevent disappointment and help managers in developing themselves. Especially when leading challenging individuals or key talents this could be of importance. It could also be important in managing smaller teams or leading a small or micro company.

We only chose young respondents and divided them into innovators and non-innovators. Innovators are perhaps the key talents of today and tomorrow, but they are especially important for small economies. These individuals should be supported and led so that all their best competencies are brought out. Usually innovativeness (or its outcome) is used as a dependent variable, but as the key personnel, innovators should be the ones defining the leadership behaviors (Sharer 2013) instead of using existing generalizations of what is effective leadership. Participants consist of 282 university students; all were under the age of 30. Of those, the top 10 percentile was labelled as innovators, the lowest 25 percentiles as laggards, and the rest as the majority.

The results clearly indicate, as shown in table 6 below, that innovators do want their leaders to be transformational more than do the majority or laggards. However, it is the intellectual stimulation that they seek especially, since motivation is just as important to them as it is to others, and they are less accepting of transactional behaviors. This supports earlier studies that have found innovative persons to be intrinsically motivated (Amabile 1997).

Table 6. Key results – personality and and preferences of transformational leadership

Leadership dimensions *Personality, innovativeness comparisons*	**Transformational leadership**	**Inspirational motivation**	**Intellectual Stimulation**
Extraversion vs. introversion	E > I (*r* = .12)		E > I (*r* = .13)
Sensing vs. intuition	N > S (*r* = .24)		N > S (*r* = .23)
Thinking vs. feeling	F > T (*r* = .12)	F > T (*r* = .13)	
Judging vs. perceiving			P > J (*r* = .11)
Innovators vs. majority	Innovators > majority (*r* = .41)		Innovators > majority (*r* = .73)
Innovators vs. laggards	Innovators > laggards (*r* = .65)		Innovators > laggards (*r* = .80)

Based on these findings we can assume that creative (intuitive) people and innovators would want their leaders to stimulate them intellectually, that is, to challenge them. This dissertation will next consider if that is something that leaders and CEOs are good at.

In the next article, "Transformational leadership and communication style of Finnish CEOs", the length limitations of the paper demanded that we leave out much relevant information regarding transformational leadership, some of which is now included here.

First, we categorized the leaders into three groups based on their own evaluations of their transformational leadership behaviors. The first group appraised their skills as the weakest (below 25% quartile), the second group appraised their skills as moderate (between 25%-75%), and the leaders in the third group felt their leadership skills were at the very high level (highest 25% quartile). The means and the sizes of the groups can be seen in table 7 below. Then, a comparison was made between leaders in the low (G1), average (G2), and high (G3) groups.

Table 7. CEOs and transformational leadership dimensions

Group	**Enabling**	**Modeling**	**Intellectual stimulation**	**Rewarding**	**Visioning**	**Transformational**
G1. Below 25%	< 4.8214	< 4.1429	< 4.6667	<2.8750	<3.5000	<4.0798
n	53 (24.8%)	60 (28%)	69 (32.2%)	53 (24.8%)	69 (32.2%)	53(24.8%)
G2. Medium 25%-75%	4.8215< 5.8571	4.1430< 5.2857	4.6667< 5.6667	2.8750< 4.0000	3.5000< 5.0000	4.0799< 5,0274
n	97 (45.3%)	94 (43.9%)	104 (48.6%)	110 (51.4%)	119 (55.6%)	108(50.5%)
G3. Over 75%	>5.8572	>5.2858	>5.6667	>4.0001	>5.0001	>5,0275
n	64 (29.9%)	60 (28%)	41 (19.2%)	51 (23.8%)	26 (12.1%)	53 (24.8%)

As is evident from table 7, when viewing the score breakdown of group number 3, and the percentage of people in that group, there are some clear differences in the strengths and weaknesses of transformational leaders'. Transformational leaders were the least confident in the rewarding behaviors (very low scores) and visioning (only 12% evaluated their visioning high). The strongest transformational dimension was enabling (scores being the highest, and 30% of the leaders including in the highest scoring group). The next strength was modeling, with high scores and 28% of leaders feeling strong about their abilities.

Intellectual stimulation scores were higher than the modelling scores, but only 19% of the leaders felt they had high abilities in this area and a very high

percentage of 32% were in the lowest scoring group. Thus, we could conclude that even intellectual stimulation behaviors should receive more focus in leading innovators and leadership development.

The focus in the article was not in how that might influence innovators, thus that is not considered here. However, the implications of intellectual stimulation transformational leaders' communication style for supporting innovators will be briefly evaluated her to increase our knowledge of how that area of transformational leadership could be developed; see the summary in table 8. Intellectually stimulating leaders are foremost more controlled in their communication than other leaders, meaning they control their emotions and maintain a professional level in communication. They are also emotionally intelligent communicators, that is, they are polite and recognize other people's feelings and take them into account. They also listen to and appreciate others' input, and are able to convey their own messages efficiently. They are not insecure or avoiding in their style, which can be the case with other leaders.

Maintaining a controlled style in communication is helpful when it means that the leader does not lose his or her temper in times of difficulties or mistakes. But perhaps communication should not always be so controlled, as the effectiveness of challenging the status quo could be increased with surprising or dramatic ways of communication, which seems to be quite opposite of the controlled style.

Table 8. Strengths and weaknesses in transformational leadership and communication style of intellectual stimulation leaders

	Present dimensions	**Least present dimensions**
Transformational leadership dimensions of Finnish CEOs	Enabling Modeling Intellectual stimulation	Rewarding Visioning
Communication style of highly intellectual stimulation CEOs	Emotionally intelligent style Controlled style	Avoiding style Insecure style

To conclude, from the managerial perspective, motivational leadership behaviors are the most important aspect. With innovators, more stimulating behaviors should be used and when leading the least creative bunch, rewarding behaviors become very important. Intellectual stimulation "enhanc[es] employees' interest in, and awareness of problems, and increas[es] their ability to think about problems in new ways" (Bass 1985; as in Rafferty & Griffin 2004). This type of questioning and challenging of the status quo has been found to be negatively

associated with employees' trust in their leaders (Podsakoff et al. 1990), which is in line with the current findings; non-innovators appreciate routines and may get stressed by changes and ambiguity, while their own preferences are encaging to others (Rafferty & Griffin 2004b). Recently it was found (Qu et al. 2015) that transformational leadership is positively related to subordinate creativity since it enhances subordinates' identification with the leader, but only when the leader has set high creativity expectations. Thus, managers should communicate high expectations and challenge employees to look at things from new perspectives.

4.2 Matching of transformational antecedents with antecedents of creative leadership

The second question, "which antecedents lead to transformational leadership style and do they match with creative leadership?", is investigated with four articles. The first two studied personality and gender as antecedents of transformational leadership, and the latter two studied their role as antecedents of creative leadership, as presented in figure 4. This dissertation will consider if persons who are naturally gifted in transformational leadership are also the ones who are the most creative leaders.

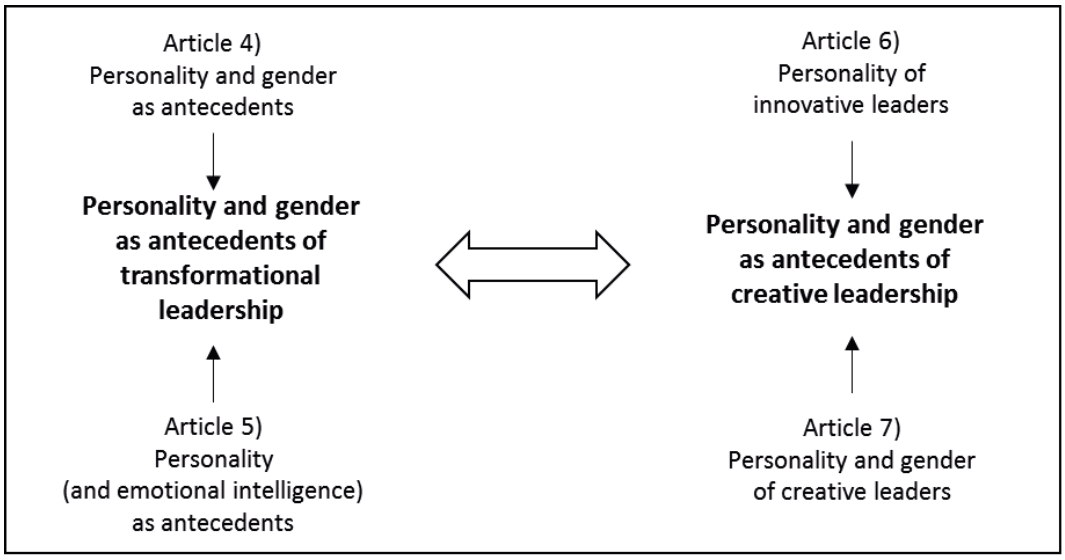

Figure 4. Approach to second sub-question

In the fourth article, "Transformational leadership in teams – The effects of a team leader's sex and personality", we found support for the earlier findings that women are indeed more likely to display transformational leadership behaviors (Bass 1999; Burke & Collins 2001; Northouse 2007) and that they excel in it over

men (Bass et al. 1996; Doherty 1997; Eagly, Johannesen-Schmidt, & Van Engen 2003; Powell, Butterfield, & Bartol 2008; Turner, Barling, Epitropaki, Butcher, & Milner 2002). However, women outperformed men in enabling and rewarding but not in intellectual stimulation. Since intellectual stimulation behavior is most desired by creative employees, the results regarding other transformational components are excluded from this part. Thus women are more transformational, but not more intellectually stimulating.

Regarding personality, we found that people with extraverted and judging preferences are more transformational than their peers with introverted or perceiving preferences. Extraversion has been found to be connected with leadership, especially to transformational leadership (Bono & Judge 2004; Judge & Bono 2000; Lim & Ployhart 2004; Ployhart, Lim, & Chan 2001). In a recent meta-analysis, extraversion was positively associated with transformational leadership and all of its sub-dimensions other than individualized consideration (Deinert et al. 2015). Extraverts were seen as more intellectually stimulating than introverts. The results regarding personality preferences and transformational leadership have been contradictory, but extraversion has received support in some of these studies, while judging has not (Church & Waclawski 1998; Hautala 2006).

The context might explain some of the found differences regarding personality. Acting as a team leader and coach was new for most and their preparation was mostly done on their own. It may be easier for extraverts to display the things they want, be outspoken, and model how they want team work to proceed. Regarding judging people, they might have been more prepared with a plan to impart transformational behavior to the freshmen of the teams when compared to the approach of perceiving people, who more often trust that they can wing it.

When interaction variables between personality preferences and gender were created, it was found that introverted, sensing, thinking, and perceiving women are more transformational than men of the same personality type, and the same results were found for intellectual stimulation, excluding the differences between introverted women and men. These results do not enable us to evaluate whether extraverted women are more transformational than introverted women, although the trend of the means implies that it could be so. The results are very consistent, and we could assume that especially introverted and perceiving men would benefit from transformational leadership development. However, Brandt and Laiho (2013) found that perceiving men are more intellectually stimulating than perceiving women and judging women are more transformational overall. This

could mean that these results are too dependent on the context of university teams, so this finding needs more research before it can be generalized.

Some of the findings were in conflict with earlier studies, which may indicate that other demographic variables, such as age and experience, as well as the type of the task may influence the antecedents of transformational leadership. However, it can be concluded that women excel in transformational leadership over men, as do extraverts (and perhaps also judging types). Extraverts practice intellectual stimulation more than introverted leaders. Some personality types, especially men, may be identified as needing development in transformational leadership more than others.

In the fifth paper, "Do personality and emotional intelligence predict transformational leadership qualities?", the objective was to investigate the interaction between personality and emotional intelligence as predictors of transformational leadership. Emotional intelligence has been found to be highly and positively related to transformational leadership, but when personality or experience were controlled for this relationship disappeared (Cavazotte, Moreno, & Hickmann 2012). As established in the earlier literature and other articles in this work, personality is indeed closely related to transformational leadership and its dimensions.

Emotional intelligence includes appraisal and the expression of emotion (in the self and others), regulation of emotion (in the self and others), and utilization of emotion (flexible planning, creative thinking, redirected attention, and motivation) (Salovey & Mayer 1990). It is essential for emotional competence and interacts with other factors, leading to enhanced performance as a manager (Brown, Bryant, & Reilly 2006; Modassir & Singh 2008). They even suggest that "emotional intelligence could be a characteristic that directly influences the development and maintenance of transformational leadership" (San Lam & O'Higgins 2012: 164). Managers' emotional intelligence could be a characteristic that directly influences the formation and strength of transformational leadership.

The results in this dissertation showed that intuitive people are transformational no matter what their EI score is, but for sensing people having high EI was crucial because only then they would be transformational. It also appears that the result is only accurate for intuitive women, but due to small sample size of sensing men, this area needs further research.

To conclude, we can say that extraverted, intuitive people and judging people are more transformational or are perceived as transformational, and that women are

more transformational than men. All the results from the fourth and fifth articles are summarized in table 9 below. Next, it will be considered if these same types are found to be creative leaders.

Table 9. Antecedents of transformational leadership

	Intellectual stimulation	**Transformational**
Sex	-	Women > Men
Personality (women & men)	E > I	E > I N > S J > P
Sex * personality	- - S women > S men T women > T men P women > P men	- I women > I men S women > S men T women > T men P women > P men
Emotional intelligence * personality		sensing with high EI > sensing with low EI

In the sixth article, "Personality of Finnish innovative entrepreneurs", the main objective was to determine what kind of personality preferences Finnish innovative entrepreneurs exhibit. Though Schumpeter (1934) defined entrepreneurs as innovators, not all entrepreneurial approaches require creative and innovative outlooks or skills. Many traits have also been found to be more common amongst entrepreneurs than managers, such as being impulsive and disorganized (Envick & Langford 2000) and innovative entrepreneurs in Finland had a high need for achievement, curiosity, and persistence (Sandberg, Hurmerinta, & Zettinig 2013)

It was found that ENFPs and ENTJs are much more often Idea creators than other personality types, while ISTPs, INTPs, and ENTPs are Creative rule challengers more often than other types. When matching these the earliest findings of Routamaa (2008, 2011) who found that the most common personality types among entrepreneurs are ESFPs, ESTPs, INTPs, ISTPs, ENTPs, and ENFPs, we can determine the most creative and innovative types. Of the creative types, only ENTJ is not common among entrepreneurial people, which is in line with earlier studies. The Judging (J) preference has been found to be more

strongly associated with organizational employment aspirations (Järlström 2000), with NJs being more internationally-orientated entrepreneurs (Routamaa & Miettinen 2006).

Below, in table 10, are listed the personality types that were found to be both entrepreneurial and innovative. Next to them are descriptions that are based on empirical findings about the personality types and preferences in relation to their creativeness and innovativeness. All types had one preference in common: perceiving (P), so that description is not included in the list. Perceiving has been described as following: Interested in acting by watching, trying out, adapting; prefer creative and autonomous career. Most of the descriptions and their origins can be found in the article, some additions have been added and those references can be found in the table. Also in the first column, there are sources of studies that have also found that specific type to be more common amongst entrepreneurs.

Thus, personality types of ENFP, ISTP, INTP and ENTP appear to be inclined to be the creative leaders. It should be noted that the most common personality types amongst Finnish managers are ENTJ, ESTJ, INTJ and ISTJs types (Hautala 2008), which certainly raises a question of the lack of variety amongst leaders and their strengths in Finland. These TJ managers, who were studied by Hautala (2008) have great abilities as they are described "tough-minded, executive, analytical, and instrumental leaders" but also may appear to others as "hypercritical, too quick to judge and act, and tactless in their communications, which tends to be direct and to the point" (Myers et al. 1998: 52, 53). TJ managers are not the best option when creativity is called for, according to these results.

Table 10. Personality as an antecedent of creativity and innovativeness of entrepreneurial individuals

Most innovative entrepreneurial types	Descriptions or findings regarding creativity or innovativeness on type level	Descriptions or findings regarding creativity or innovativeness on preference level	Findings regarding creativity or innovativeness on preference combinations
ISTP	"observe and analyze life with detached curiosity" "excel at getting to core of a practical problem and finding the solution"	I=interested in the ideas in their minds that explain the world	
INTP (Garden 1997)	"interest mainly in ideas" "especially enjoy theoretical and scientific pursuits"	I=interested in the ideas in their minds that explain the world N=Interested in what can be seen with the "mind's eye". Grasp of possibilities. N, P=prefer creative and autonomous career	NT=Visionary who enjoys complexity and is an architect of change, and focuses on possibilities NP=most creative NP=adaptable innovators, unconventional, enjoys seeking new solutions (Myers et al., 1998: 50–51) IN=thoughtful innovators (Myers et al. 1998: 55)
ENFP (Routamaa & Rissanen 2004)	"Ingenious, imaginative, ability to improvise" "produce individualistic and original ideas" Value creativity (Myers et al. 1998: 315)	E=Interested in things and people around them. Breadth of interests. N=Interested in what can be seen with the "mind's eye". Grasp of possibilities. N, P=prefer creative and autonomous career	NP=most creative EN=change agents; they see possibilities as challenges to make something happen (Myers et al. 1998: 57) NP=adaptable innovators, unconventional, enjoys seeking new solutions NF=insightful
ENTP (Garden 1997)	"Resourceful in solving new, challenging problems" "quick, ingenious, stimulating"	E=Interested in things and people around them. Breadth of interests. N=Interested in what can be seen with the "mind's eye". Grasp of possibilities. N, P=prefer creative and autonomous career	NT=Visionary who enjoys complexity and is an architect of change, and focuses on possibilities NP=most creative EN=change agents; they see possibilities as challenges to make something happen NP=adaptable innovators, unconventional, enjoys seeking new solutions

In the final paper, "Creative leaders – Interaction of the personality and gender of leaders with their creativity", the objective was to investigate creativity of leaders and how their personality and gender is connected to their level of creativity. As established already in the theoretical part, creativity of leaders is very important so that they can built an atmosphere and supportive culture to increase creativity, and it is also a very important part of being an effective leader. Some connections to personality preferences has been found before but connections of gender and creativity are conflicting and context specific.

Therefore, it was important to study the context of leaders in Finland to get relevant information.

The previous article discussed innovative entrepreneurs and based on the findings it could be easily assumed that perceiving (P) leaders in this dissertation would get the highest ratings in creativity. However, even though both the leaders and subordinates rated their creativity higher, there was no statistical difference when looking only at this personality preference. Actually, in all cases when only personality pairs or gender was compared, no meaningful results were produced. Although some statistical differences were found, their effect sizes remained quite small, thus the relationship was not very strong. The only meaningful finding was that Intuitive leaders are more creative than sensing leaders, supporting earlier studies. Leaders and their subordinates also rated women's creativity higher but the difference was not statistically strong.

When an interaction term of gender and personality preferences were created, that is the moderation of gender was investigated, multiple meaningful results were found (see table 11 below for the most interesting results). Extraverted women are more creative than introverted men. Extraverted male leaders are also more creative than introverted men, but introverted women were not less creative, though subordinates did give them noticeably lower scores in creativity. In the next preference pair, intuitive women and men excel in creativity more than sensing men. But again, when viewing the scores, subordinates assessed their sensing women managers much higher than sensing male managers. Thinking women are also more creative than thinking men, so here again; gender is the more important factor. Lastly, the perceiving preference appears to be more important with women, who are more creative than judging men.

Table 11. Personality and gender as an antecedent of creative leadership

Assessor	Preference*gender	n	Mdn	χ2(3)	P	Post-hoc Pairwise comparisons	z	p	r
Leader's self-assessments	E man leader	148	10.00	14.756	**.002**	**E men > I men**	7.733	.033	**0.40**
	I man leader	87	7.00			**E women > I men**	9.378	.013	**0.51**
	E woman leader	54	10.00						
	I woman leader	22	10.00						
	S man leader	145	7.00	21.116	**.000**	**N men > S men**	12.457	.002	**0.68**
	N man leader	91	10.00			**N women > S men**	15.227	.001	**0.86**
	S woman leader	31	10.00						
	N woman leader	45	10.00						
	T man leader	200	8.50	10.025	**.018**	**T women > T men**	7.884	.030	**0.45**
	F man leader	36	10.00						
	T woman leader	52	10.00						
	F woman leader	24	10.00						
	J man leader	177	8.50	10.461	**.015**	**P women > J men**	7.186	.044	**0.41**
	P man leader	59	10.00						
	J woman leader	53	10.00						
	P woman leader	24	10.00						
Subordinates' ratings of their leader's creativity	E man leader	149	4.67	8.026	**.045**	**E women > I men**	9.378	.013	**0.51**
	I man leader	87	4.00						
	E woman leader	55	6.00						
	I woman leader	22	3.83						
	S man leader	145	3.83	10.579	**.014**	No findings			
	N man leader	91	5.00						
	S woman leader	32	5.33						
	N woman leader	45	5.50						

Thus, it can be safely concluded that extraverted women are more creative leaders than introverted women, as subordinates agree. However, the other results can also be used in the next section, because the effect sizes are so high.

The results from all four articles are combined and presented in figure 5 below. On the left side are the results from articles four and five and on the right side the results from articles six and seven. Note that the order of the findings does not display the relationship in all accuracy. The purpose is to compare them, so antecedents of transformational leadership are on the upper part and antecedents of creative leadership on the lower part of the continuum. The results do not reveal, for example, whether extraverted men would be more creative than intuitive women would.

We can see however, from the figure 5 that there are many similarities in the antecedents of transformational leaders and creative leaders, especially extraversion and intuition. Further, women appear to be both more transformational and more creative leaders than men are. The only conflicting finding was that judging people were found to be more transformational than

perceiving people were, while when considering creativity, perceiving is the only common preference for the identified personality types. This can be explained by the type of short team project that the quite unexperienced team leaders were participating in. Being transformational is easier for judging types when there is a short, demanding team project to be led, and perhaps modelling is the most needed dimension. Also, other studies have found that perceiving is related to transformational leadership (Brandt & Laiho 2013; Carroll 2010) thus the relationship between judging and transformational leadership is left out of the final conclusions.

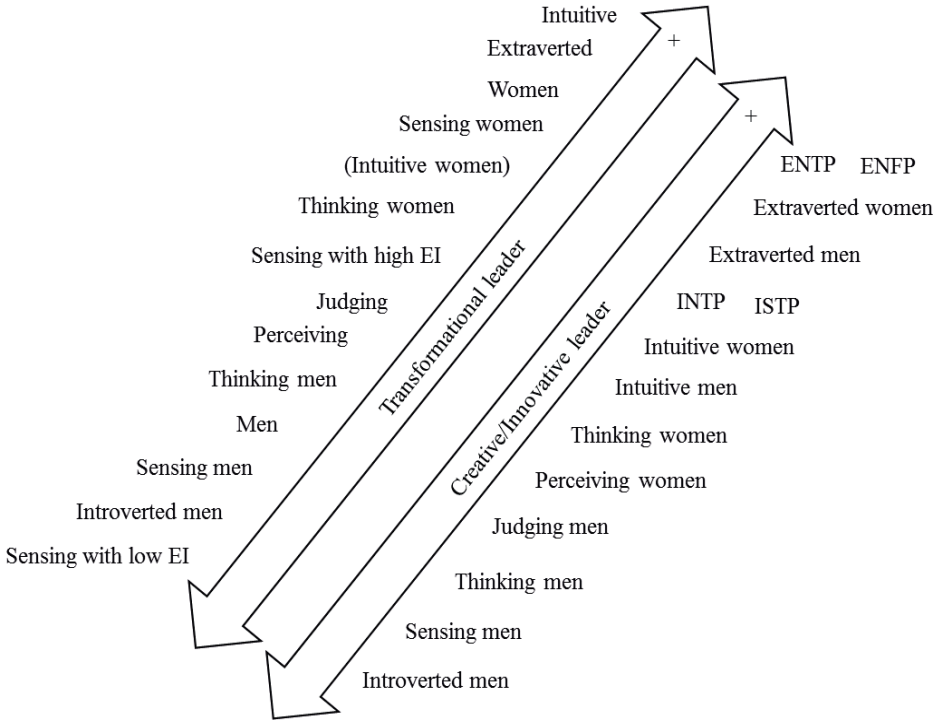

Figure 5. Match of transformational antecedents with antecedents of creative leadership

The second research question was "Which antecedents lead to transformational leadership style and do they match with creative leadership?" If an individual is intuitive, extraverted, and especially a woman, or if the personality type of a woman includes sensing or thinking, she is more likely to be transformational in her leadership than a man with a sensing or thinking personality is. If the man is a sensing type, he should be emotionally intelligent in order to be highly transformational. Moreover, these antecedents do suit creative leadership, while also revealing that extraverted and intuitive men are just as creative as women

are. It appears that the importance of the perceiving personality preference should be remembered when looking for a transformational leader who is able to model creativity and innovativeness.

4.3 Transformational leadership in leading creative and innovative individuals

To answer the main question of this dissertation, "Is transformational leadership an appropriate style to lead creative and innovative individuals?" we can conclude from the results above that transformational leadership is an appropriate style, but the intellectual stimulation component of transformational leadership is the most important skill. Even though intellectual stimulation is among the strengths of transformational leaders in Finland, this behavior should be developed further amongst leaders when leading creative and innovative individuals. Specific antecedents, as presented in figure 6, also lead to transformational leadership, and those antecedents are very similar to the antecedents of creativity. In other words, when a person is highly transformational she is also creative, which enables her to model creative or innovative behavior for others. Consequently, the appropriateness of transformational leadership received more support, but personality and sometimes gender should be considered when making recruitment decisions. It can be argued that it is easier for creative and more naturally inclined transformational leaders to develop their intellectual stimulation behavior or perhaps it just those persons who had the strongest abilities in that component.

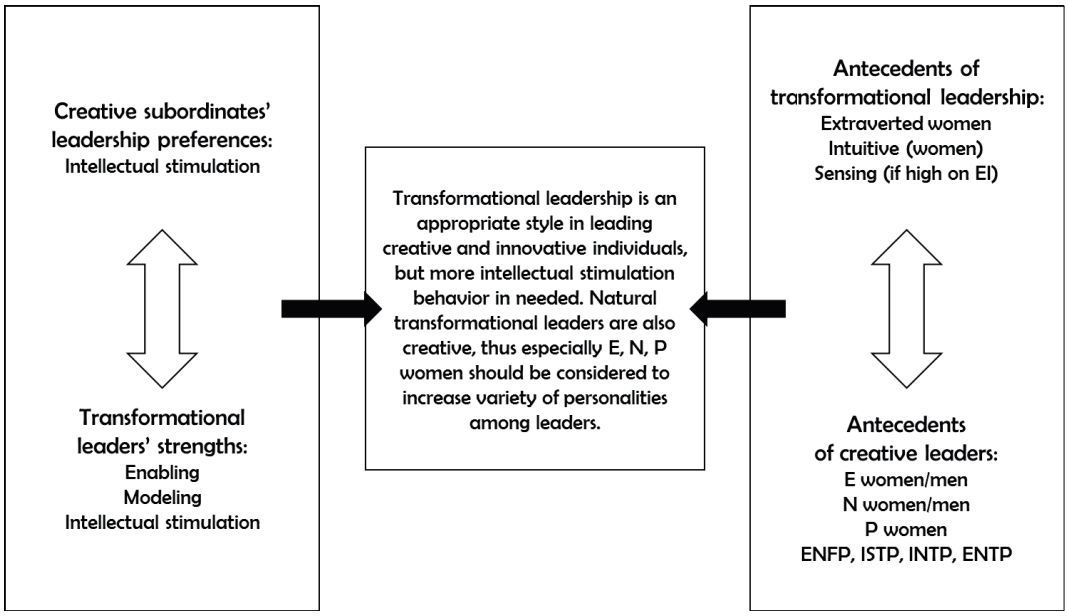

Figure 6. Summary of all the results

5 DISCUSSION AND CONCLUSIONS

In this section, the results are discussed in terms of their theoretical and practical implications. Then, the limitations of the results are discussed and future research directions are suggested.

5.1 Theoretical implications

The main question of this dissertation concerned the appropriateness of transformational leadership in leading creative and innovative individuals. This question was investigated from two perspectives: whether leaders excel in the behaviors that subordinates prefer, and what kind of antecedents do transformational leaders and creative leaders have and is there a match between them.

The first three articles were used to see what kind of leadership do innovative individuals prefer and do these expectations match with the abilities that leaders excel in. The first and second articles contributed to transformational leadership theory by confirming that creative and innovative individuals prefer transformational leadership and intellectual stimulation. This is an important finding because leadership studies have been focusing on the effects of transformational leadership while largely neglecting the viewpoints of subordinates, especially certain kinds of subordinates. Consequently, these articles also provide a theoretical contribution to the followership literature, specifically subordinates' leadership preferences and expectations.

The main theoretical contribution of the third article was in the field of leadership communication, however that aspect was excluded from this dissertation to focus on the strengths of the transformational behaviors of leaders. This article, therefore, used the third article to contribute again to transformational leadership theory by adding information about the different components of transformational leadership as requested by some researchers (Deinert et al. 2015; van Knippenberg & Sitkin 2013). The results reveal that even though a person might be rated transformational, he or she might be missing skills in specific behaviors; transformational leaders were not strong in visioning and rewarding, and the intellectual stimulation behavior that was crucial when leading creative and innovative people was not strong.

The other four articles addressed the second perspective: the antecedents of transformational and creative leadership. The fourth and fifth articles contributed to the transformational leadership literature, but also to personality type theory. The fourth article supported the earlier findings that women are more transformational and more skilled in enabling, modelling, and rewarding. However, this dissertation did not support the earlier finding that men are more skilled in intellectual stimulation. Women had a higher mean, but the difference was not statistically significant. Regarding personality as an antecedent, the earlier finding that extraverts are more transformational (Hautala 2006) was supported, but judging was unexpectedly found to be more transformational, which may be because of the nature of the task and the low experience level of both the team leaders and team members, who needed much modelling. When the interaction of gender and personality preference was investigated, the importance of gender was again highlighted. For example, while extraverts are more transformational, extraverted women excel in some areas over extraverted men, and introverted women excel over introverted men, again supporting the finding that transformational leadership is a more natural way of leading for women (Bass et al. 1996; Bass 1999; Burke & Collins 2001; Doherty 1997; Eagly, Johannesen-Schmidt, & Van Engen 2003; Northouse 2007; Powell, Butterfield, & Bartol 2008; Turner, Barling, Epitropaki, Butcher, & Milner 2002).

Hautala (2006) had a contradictory finding; intuitive leaders assessed themselves as more transformational than sensing leaders did, while subordinates' assessments rated sensing leaders to be more transformational. This could be explained by the subordinates' personalities, which have been found to affect their assessments and leadership expectations (Hautala 2005). In this dissertation, when just personality was included, it yielded no statistically significant differences, but when the moderating effect of gender was added, then sensing women were considered more transformational than sensing men were. Intuitive leaders were found to be more transformational overall with no moderating effect of gender. Thus, it appears that intuitive leaders are more transformational than sensing types and sensing women are more transformational than men are. Burns (1979: 50) suggested that the male bias of leadership being about controlling and commanding will be forgotten and the focus will be on "mobilizing the human needs and aspirations of followers", which will lead to the recognition of women leaders and men will have to change their styles accordingly. A completely new finding was, however, that emotional intelligence appears to be the key competence for non-intuitive individuals.

The sixth and seventh articles contributed to the creativity literature while considering the antecedents of creativity and innovativeness. Its contribution is

meant to be in the creative leadership literature, the importance of which has been just recently rediscovered. The importance of having a leader that is creative has been brought to discussion (Collins & Cooke 2013; Mathisen et al. 2012). It could be assumed that if a leader is creative, it is natural for her to arouse others' imaginations and challenge them to new heights. Intellectual stimulation is all about enhancing creativity and innovativeness. However, modelling the way could be anything at all; modelling, showing the example could therefore also be a key in increasing creativity if the leader acts creatively and unconventionally, or innovatively by standing behind the idea, and tries again after failures.

The sixth article contributes to personality type theory and creativity on the individual level by investigating the relationship of personality to two different styles: idea creators and creative rule challengers. The findings include that intuitive extraverted-intuitive people tend to be idea creators, while perceiving and introverted-perceiving people tend to be creative rule challengers. This article was important for the field of creative leadership because it identified entrepreneurial persons who are also creative or innovative: those personality types were INTPs, ISTPs, ENTPs, and ENFPs.

The final and seventh article contributed to the creative leadership literature by again investigating the relationship of personality and gender to creative leaders. It was found that extraverted women are creative leaders when compared to introverted men. In their self-assessments, intuitive and extraverted leaders considered themselves far more creative leaders than sensing and introverted men did.

Consequently, when these contributions were approached from the angles of the research questions, some new information was discovered concerning the transformational and creative leadership fields. Transformational leadership, and particularly intellectual stimulation, is something that creative and innovative individuals want from their leaders but at which leaders are often only mediocre. Transformational leadership is also very fitting because transformational leaders are also creative leaders, so choosing a person who displays the antecedents that are common for transformational leaders and creative leaders is likely to lead to the desired results of innovation. Transformational leadership alone may not be enough by itself when leading creative and innovative individuals. A leader might be good at transformational leadership yet practice too little intellectual stimulation and model all the wrong behaviors.

To conclude, some are naturally more inclined to be transformational and creative. In addition, these natural tendencies and the importance of creativity in a leader should be considered in future studies and recognized when recruiting,

developing, selecting mentors, planning goals, and evaluating leadership performance. This takes us to the next topic: what practical implications can be made of these results?

5.2 Practical implementations

Transformational leadership is an appropriate style to lead creative and innovative individuals, yet several aspects of it should be taken into consideration when the goal is to support creative individuals and increase creativity and innovativeness among subordinates. The results of this dissertation can be utilized on the organizational level, where human resource management (HRM) can take advantage of the results, on the managerial level, and to some degree on the subordinate level.

HRM is usually directly or indirectly influencing recruitment decisions. If new approaches or innovations are the target on the organizational or team levels, then those behaviors should be assigned as needed behaviors of new recruits on the employee but also on the leadership level. Škerlavaj et al. (2014) suggested that organizations have to consider leaders' capabilities when recruiting them and provide appropriate training, but also ensure that leaders have access to both intangible and tangible resources to support their subordinates. The first practical implication of this is in the identifying of individuals who are truly transformational. It is also important when forming mentoring pairs or designing leadership training. The MBTI is widely used worldwide in all kinds of organizations; thus, it is already in place to help in this aspect. It has been suggested that the MBTI and other assessments are important in attracting "true creative talents" (Gupta & Banerjee 2016: 172). It is important to remember, however, that rather than focusing on which type is the best kind of leader, it should be considered how each person displays their leadership styles and where and when their leadership styles are best suited and how they could be developed (McCaulley 1990; as cited in Walck 1996: 73). While perceiving personalities, for example, seem to excel in creativity, their opposites are better at something else, such as project management. Thus, the context and the goal needs to considered very carefully when making recruitment guidelines and decisions.

The second implication relates to the importance of recognizing the need to increase the number of creative leaders. Traditionally, Finnish culture has valued the logical analytical thinking and decision-making (Routamaa & Pollari 1998) of managers. Women in particular should be encouraged to pursue leadership positions, since there are still far more men in the upper echelons of leadership

than women, even in egalitarian Finland. Organizations must inevitably be missing many creative talents by not sufficiently encouraging their female employees to apply for leadership roles.

When the leaders are already in place, leadership development should be supported by HRM. Introverted, sensing, perceiving, and judging men are likely to benefit from transformational training, and sensing men and women from developing their emotional intelligence. This information is also helpful for trainers to aid them in designing more individualized sessions. Personality indicators and the innovativeness scale that was validated for Finnish respondents could be used to determine orientations toward creativity and innovativeness. These findings could help recognize potential talents and those individuals in need of creativity and leadership training in cases when creativity and innovativeness are prerequisites. Personality type theory could offer trainers a perspective on why creativity might not be a strength of an individual, and how it might be improved.

It is male leaders combining some or all of the introversion, sensing, thinking, and judging preferences who might benefit most from creativity training. Such training could focus specifically on creativity in social relationships or as it affects team leadership (Dollinger et al. 2004; Feist 1998; Kaufman 2006). Some may need to develop an open minded attitude to new ideas and approaches and how they might be encouraged. Extraverted, intuitive, thinking, and perceiving female leaders and intuitive male leaders, on the other hand, may be best placed to share their practical knowledge and mindsets to train their less creative peers. Individuals with these preferences should be encouraged to utilize their creativity and be rewarded for it even while engaged in higher education. In higher education or leadership development, creative rule challengers would benefit from team working skills and practicing perseverance, while idea creators would especially benefit from practicing implementation skills. Other types and orientations could be encouraged to develop their openness and flexibility in thinking and accepting new solutions.

On the managerial level, this information should be used in developing self-understanding and recognizing ones' own strengths and weaknesses in the area of creativity, since it is personality and gender specific. Managers should be advised to review their own beliefs about their creativity and how they support others. They should question whether their actions match their stated intentions, as in the example of Basadur and Gelade (2006: 56):

My manager talks a good game about not killing ideas, but he challenges almost everything I say as soon as I've said it. I find myself choosing my words carefully every time we speak and getting ready to defend myself.

When the wrong kind of people are supposedly supporting creativity, with wrong kinds of leadership styles and, sending poorly thought out messages, creativity will be fast dead or taken elsewhere. Unfortunately, while creativity and innovativeness is highly valued in the talks of most organizations and their leaders, their practices may be sending another message, and this is something that leaders need to be aware of. If the leader herself is highly creative, then she can further improve by considering the way she is modelling that behavior and focus on improving her intellectual stimulation of others. When the leader is not inclined to creativity, the road to successful leadership of creative and innovative individuals is harder. Nevertheless, there have been encouraging experiments indicating that creativity, or more specifically creating original or more high quality ideas (Basadur et al. 2000; Chiu 2015; Herrmann & Felfe 2014) and evaluating novel ideas better (Basadur et al. 2000), can be improved with training (ibid.) and in some cases even with meditation (Ding, Tang, Deng, Tang, & Posner 2015). Training should also strive to make managers aware of the impact of their behaviors on others, as they may well be unaware of the effects of their actions and how their subordinates view them (Reddin 1970). Leaders "must pay careful attention to the details of their own everyday – and seemingly mundane – behavior toward subordinates (Amabile et al. 2004). When the intention is to develop the creative abilities of managers, the training should be matched to the individuals' needs (Caroff & Lubart 2012; Scratchley & Hakstian 2001). Thus, it is important that HRM and leaders realize that developing creativity is just as important for leaders as for subordinates.

Leaders have to also bear in mind that although transformational leadership has been found effective and contributes to outstanding leadership, different sub-dimensions of leadership behavior are more effective for certain individuals. This information is also helpful in developing individualized training in transformational leadership and improving intellectual stimulation. Even though a leader might get a very positive outcome on a transformational leadership assessment in a 360° evaluation, she or he should remember to consider each sub-dimension and develop the ones that are the weakest. Innovative individuals do indeed want their leaders to challenge them intellectually. If a leader is not inclined to behave this way, it can be especially improved through training communication (Peng et al. 2016), and investing time in new meeting practices, which include brainstorming sessions and dialogues in which questions are asked and things are challenged (Arnold & Loughlin 2013).

On the subordinate level, individuals can improve their self-leadership, which is associated with the effective leadership of others (Furtner, Baldegger, & Rauthmann 2013) and explains innovative behavior (Carmeli, Meitar, & Weisberg 2006; Lee, Lee, & Kim 2007). Although intellectual stimulation has not generally been part of behavior-focused strategies in self-leadership (see e.g. Furtner, Rauthmann, & Sachse 2015), for it is quite a specific concept, nevertheless it would undoubtedly be beneficial for subordinates to stop and question the norms and tasks at hand, and challenge themselves to investigate things from multiple perspectives.

To summarize, the practical implications of this research should be useful in the following areas. 1) Human resource management can use them in making recruitment decisions and leadership development and training. 2) Leaders can use them to develop self-knowledge, identify their own strengths and weaknesses in creativity and transformational leadership, and make a development plan accordingly and 3) subordinates can use the results in self-leadership when creativity or innovations are the goal.

5.3 Limitations and future study suggestions

The limitations of each article have been considered shortly in the section 3.2 and in the articles themselves. Here, the limitations are viewed from the point of view of this dissertation. Accordingly, further study suggestions are made.

There have been suggestions of models that would enable a better integration of creativity and innovation (O'Shea & Buckley 2007), but unfortunately this dissertation's limitation is that is has not been able to contribute to that but uses the terms quite interchangeably. Although the concepts are closely linked, especially at the individual level (Sarooghi et al. 2015), creativity, however great the idea may be, does not always lead to innovations, and ideas can also be taken from external sources (Joo, McLean, & Yang 2013). Another limitation is that this dissertation does not add information on what kind of innovations transformational leadership increases, as it has been recommended to study (Hu et al. 2013). Innovations can take many forms; the degree of an innovation can be radical or incremental, and it can be a process or a product innovation.

The third limitation is the use of students in some of the data. In future studies, it would be preferable to use more experienced subordinates and leaders and conduct the studies in one specific field at once to get more specific information. Another limitation is the high number of self-assessments. Although steps to limit common-method bias, as described in the articles, have been taken, still

there is a possibility of this effect. Future studies should collect the data using 360° assessments. Also, a larger dataset would be needed to be able to do more comparisons on the type level, since that would give better picture of the reality, since type theory is a dynamic theory in which the combination of the four preferences is important. The beliefs of the raters and the rating scales used has been found to influence the rating of creativity (Long & Pang 2015). More reliable information would be achieved with interviews (Piffer 2012).

There is also a lack of qualitive approaches in the study. This could be remedied by next studying the behaviors of highly creative leaders by observation, to discover how they stimulate their subordinates and model desired behaviors, how dependent these behaviors are on the field, and whether they show individualized consideration depending on the level of creativeness of their subordinates. There is a need to understand "how leaders influence underlying processes" (Dinh et al. 2014) that lead to, in this case, creative ideas and innovative outcomes. There should be studies focusing on what kind of processes and interactions exist in organizations (Crevani, Lindgren, & Packendorff 2010) with these types of creative, transformational leaders.

Another limitation is also that all the studies were cross-sectional, so it would be important to study the effectiveness of interventions in which intellectual stimulation would be trained for different kinds of personalities. Could subordinates detect the difference, and would there be consequences for the number or quality of ideas? Just recently, Peng et al. (2016) made some suggestions on the role of communication in improving intellectual stimulation among CEOs and one of the articles acted as a starting point for this neglected area of transformational leaders' communication, and future studies should focus on that aspect even more.

5.4 Conclusions

Transformational leadership is an appropriate style for leading creative and innovative individuals, and the role of intellectual stimulation is important, when innovative and non-innovative groups are compared. However, the individual antecedents should be kept in mind, since they influence which components of transformational behaviors are strongest. Developing intellectual stimulation among Finnish leaders is recommended since that behavior is not their strongest suit, but luckily not one of the weakest either. When the creativity of individuals or an innovative organization is the goal, the individual differences should be considered in recruiting decisions, pairing mentors, and designing training. If the

antecedents, in this case personality and gender, are not best suited with transformational and creative leadership, these can and should be developed. However, the effectiveness of training to increase intellectual stimulation behavior and creativity should be studied in the future. More detailed information on the manifestation of intellectual stimulation behaviors among different fields and leaders is also needed to improve leadership development.

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PART II: ARTICLES

This part contains reprints of the original published studies and the two manuscripts of the forthcoming studies

[1] Uusi-Kakkuri, P. & T. Brandt (2015), "Preferred leadership behaviors by different personalities", International Journal of Business and Globalisation, 15:4, 461-474.

[2] Uusi-Kakkuri, P., Brandt, T. & S. Kultalahti (2016), "Transformational leadership in leading young innovators – a subordinate perspective", European Journal of Innovation Management, 19:4, 547-567.

[3] Brandt, T. & P. Uusi-Kakkuri (2016), "Transformational leadership and communication style of Finnish CEOs", Communication Research Reports. 30:2, 119-127.

[4] Brandt, T. & P. Edinger (2015), "Transformational leadership in teams – The effects of a team leader's sex and personality", Gender in Management: An International Journal, 30:1, 44-68

[5] Uusi-Kakkuri, P., Brandt, T., Ghaffaripour, S., & B. Pape (under review), "Do personality and emotional intelligence predict transformational leadership qualities?".

[6] Routamaa, V., Brandt, T. & P. Uusi-Kakkuri (2015), "Personality of Finnish innovative entrepreneurs", International Journal of Entrepreneurship and Small Business, 29:1, 133-148.

[7] Uusi-Kakkuri, P. (under review), "Creative leaders – Interaction of the personality and gender of leaders with their creativity". Earlier version of this paper was presented at the 4th Ashridge International Research Conference, in Berkhamsted, UK, in June 2015.

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Preferred leadership behaviours by different personalities

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Abstract: The purpose of this study is to examine the degree to which different personalities prefer different kinds of leadership. Finnish participants (n = 360) completed a leadership questionnaire compiled with reference to Bass's MLQ, Kouzes and Posner's LPI, and leadership literature overall. The subjects also had their personality type determined with the Myers-Briggs type indicator. Several results were found; there were statistically significant results in all preference pairs. For example, people with extraverted, intuitive and feeling preferences wanted to see transformational behaviours even more so than the people with opposite preference pairs. All personality preferences would rather have a transactional or authoritative leader than a non-leader. Rewarding behaviours are important across the board, but not as important as transformational behaviours. Sensing followers were more inclined to have an authoritative or transactional leader than intuitive ones, and introverted followers were slightly more comfortable with laissez-faire style behaviours than their extraverted counterparts were. These findings provide a good opening for research considering individuals' expectations of their leader, and they should be considered in human resource development, leadership training and relationship conflicts. Leaders' and followers' relationships are crucial and organisations would be wise to forestall any unnecessary clashes within them.

Keywords: personality; leadership preferences; transformational leadership; TF-leadership; transactional leadership; laissez-faire; rewarding; authoritative management.

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1 Introduction

Leadership theories state that leadership exists as part of the relationship between follower and the leader, and is affected by mutual interaction (Bass and Stogdill, 1990; Graen and Uhl-Bien, 1995). However, many studies have concentrated on the qualities of the leaders, and how leadership affects followers (Arnold et al., 2007; Judge and Piccolo, 2004; Masi and Cooke, 2000; Sparks and Schenk, 2001). In contrast, surprisingly little research has been conducted on the unique qualities of the follower and how they affect their roles. The importance of the effects of followers' characteristics on the preferred leadership style cannot be overstated because knowing what followers want in terms of leadership can help leaders to improve their understanding of individuals and develop their leadership skills. As stated by Schyns et al. (2008) organisations should address followers' preferred leadership styles, because doing so could forestall instances of disappointment in that relationship.

This research focuses on the transformational leadership (TF-leadership) because of its established position in research in past thirty years. TF-leadership is being connected to several positive outcomes regarding both follower effects and outcomes on the organisational level. These include improved productivity, reduced employee turnover rates, greater job satisfaction, well-being and motivation; all of which are more strongly associated with TF-leadership than with more transactional or non-TF-leadership (e.g., Arnold et al., 2007; Clover, 1990; Deluga, 1992; Judge and Piccolo, 2004; Marshall et al., 1992; Masi and Cooke, 2000; Medley and Larochelle, 1995; Sparks and Schenk, 2001). The group of studies indicating that TF leadership has strong positive effects has prompted this study to attempt to provide insights into how TF-leadership could be improved further.

It has been noted that people of certain a personality type use more transformational forms of leadership than other people do (e.g., Brandt and Laiho, 2013; Carroll, 2010; Hautala, 2005). Additionally, there are some studies on follower characteristics and the individual differences in the perception of TF-leadership (Brandt and Laiho, 2013; Hautala, 2005). Other research has confirmed that employees have varied expectations of different kinds of leadership behaviour (Hautala, 2007). However, as far as we know, there is no research on followers' personality and its relation to their desired form of leadership in the TF-leadership context. Thus, this study concentrates on the different personalities' preferred leadership style in the TF-leadership context. The current study uses the Myers-Briggs type indicator (MBTI) as a determinant of personality, because the relationship between personality and TF leadership has been established in many previous studies (Brandt and Laiho, 2013; Carroll, 2010; Hautala, 2005).

2 Background theories and earlier studies

2.1 Leadership theories

Each individual has his or her inherent beliefs about what kind of person is a good leader and Junker and van Dick (2014) for example have outlined the consequences of those assumptions. Implicit leadership theory investigates which traits separate leaders from non-leaders according to individuals (Epitropaki et al., 2013; Derue et al., 2011). These mental models and leadership preferences are formed early and have been found to be

affected for example by culture (House et al., 2004), personality of the follower (Hautala, 2005, 2008), and other characteristics like gender (Brandt and Laiho, 2013; see also Junker et al., 2014). Although recently there has also been a call for more focus on followership outcomes (Uhl-Bien et al., 2014), researchers still tend to focus more on explicit leadership behaviours and moreover on investigating what kind of effects different behaviours might have on employees on individual, team or organisational levels (see e.g., De Jong and Den Hartog, 2007; Littrell and Valentin, 2005; Waldman and Yammarino, 1999; Wang et al., 2011).

Since the time of Burns' (1978) seminal research that first categorised leadership behaviours, several researchers have studied and defined TF-leadership (Bass, 1985; Kouzes and Posner, 1988) and transactional leadership (Bass, 1985; Lowe et al., 1996) and operationalised the concepts (e.g., Bass and Avolio, 1990; Edwards and Gill, 2012; Kouzes and Posner, 1988; Roush, 1992). These constructs have been viewed as both polar (Burns, 1978) and complimentary (Bass, 1985). Common elements in definitions of TF-leadership are visioning, challenging, consideration, and acting as an example (Bass, 1985; Kouzes and Posner, 1988). Behaviours associated with TF-leadership inspire the followers to move beyond their self-interest and increase motivation and morale (Bass 1985; Burns, 1978; House, 1977 in Rahn, 2010) and the behaviours should assist organisations to change (Derue et al., 2011). Transactional leaders make the tasks clear and reward accordingly, they also actively undertake corrective actions to avoid anticipated problems (Antonakis et al., 2003; Derue, 2011). Common elements of transactional leadership are contingent reward, active management by exception, and corrective passive management by exception. Contingent reward refers to the specification of employee goals, assessment of how they are fulfilled, and rewarding employees. Active management by exception entails a leader becoming more involved and intervening to correct an employee who is not following agreed standards. In passive management by exception, leaders get involved reactively but make corrective actions (Antonakis et al., 2003; Avolio and Bass, 1999; Den Hartog et al., 1997; Vaccaro et al., 2012). In laissez-faire leadership, the supervisor chooses to avoid taking any action and does not act authoritatively, thus avoiding decision making and taking supervisory responsibility (Antonakis et al., 2003; Den Hartog et al., 1997).

2.2 Personality type

The MBTI used in this study, provides a dynamic approach to personality (Myers et al., 1998). The MBTI has been widely used in the field of leadership and organisations (e.g., Gallén, 1999; Storr and Trenchard, 2010; Luse et al., 2013; Madter et al., 2012) and is based on Jung's (1921/1971) work on psychological types. The MBTI reveals a person's habitual preference for an orientation of energy (extraversion/introversion), a process of perception (sensing/intuition), a decision-making function (thinking/feeling) and an attitude to life (judging/perceiving) (Myers et al., 1998).

Extraverted (E) people direct energy mainly toward the outer world of people and objects. They are energised by interaction and activity. Introverted (I) people direct energy mainly toward the inner world of experiences and ideas. They are energised by reflection and solitude. Sensing (S) people focus mainly on what can be perceived by the five senses. They are naturally interested in concrete and verifiable information about what is or what has been. Intuitive (N) people focus mainly on perceiving patterns and

interrelationships. They tend to be interested in flashes of insight, abstractions, theory, and notions of what could be. Intuitive people prefer to work in bursts and wait for inspiration. Thinking (T) people tend to base their conclusions on logical analysis with a focus on objectivity and detachment. They prefer to focus on the work at hand, and do not spend much time on getting to know others and building relationships. Feeling (F) people tend to base their conclusions on personal or social values with a focus on understanding and harmony: At work, they often want to spend time getting to know others. Judging (J) people prefer decisiveness and closure. They like to live in an orderly and structured fashion. Perceiving (P) people prefer flexibility and spontaneity and tend to be adaptable and often design flexible or innovative approaches to work (Demarest, 1997; Myers and Myers, 1990; Myers et al., 1998).

Several studies have concentrated on transformational leaders' personality traits, using various personality measures. Most studies of leaders' self-ratings using the MBTI find that extraversion, intuition, and perceiving preferences are more related to TF leadership than their polar opposites: introversion, sensing and judging (Church and Waclawski, 1998; Hautala, 2006). Some do not include extraversion (Van Eron and Burke, 1992) in the list, and some exclude both extraversion and intuition (Brown and Reilly, 2009). The results on subordinates' appraisals of their leaders' behaviour are less clear cut. Some studies did not find any relationships (Brown and Reilly, 2009), some supported similar results to those revealed by the leaders' self-ratings (Church and Waclawski, 1998; Roush, 1992), and some produced wholly opposite results indicating that sensing (Hautala, 2006; Roush and Atwater, 1992) and feeling preferences (Atwater and Yammarino, 1993; Roush and Atwater, 1992) were strongly associated with TF leadership.

Hautala (2007) has studied leadership preferences of different personality types, and produced several important results. With regard to expectations of leadership, *clearly set goals* were especially important to judging types. *Clearly defined areas and instructions* were important to sensing types. Introverted types preferred *continuous directing*. *Giving trust* was favoured by extraverted people. Feeling types favoured *support and directing* and *empathy and humanity*. The most significant differences were in the *giving information* characteristic as perceiving types were overrepresented in wanting information from their leaders.

3 Methodology

The well-established MBTI was chosen to determine respondents' personality type and a ranking leadership questionnaire was developed to support this study too. The data collection took place after creating the questionnaire in September 2012, and in 2013. The data were analysed in the spring of 2014.

The data were gathered from 360 Finnish university students and working professionals. The ages of the respondents varied between 18 and 62, their mean age was 26 and 49.7% were male. Only 346 respondents had reported their work experience in years, and the mean was six years, but 66% of them had four years or fewer work experience. However, the remainder of the respondents who did not report their work experience were likely to have very little or no work experience. Although the participants were chosen on grounds of convenience and ease of accessibility, the sample represents the Finnish business environment adequately, as it consists of well-educated

business students and professionals involved in professional training. Participation in this study was voluntary. The purposes of the study and how the results would be used were explained to the participants. They were also given the option to complete the questionnaire but exclude their answers from contributing to the study. The members of the research group were present when the questionnaires were completed, and the participants were given as much time as they needed to complete the questionnaire. The questionnaire forms were handled with care and the answers were confidential. Only the members of the research group had access to the forms and were able to see the answers.

The respondents completed a questionnaire based on Bass's MLQ, Kouzes and Posner's LPI and the leadership literature in general. The questionnaire featured statements about TF-leadership, Transactional Leadership (including Passive and Active Management by Exception), and laissez-faire and authoritative leadership styles. The respondents were asked to grade different statements based on the various leadership styles on a scale of 1–9, nine being the most desired leadership style and one the least preferred. This type of ranking style was chosen to see if more information could be received when respondents are forced to think about their preference choices, when in Likert-scaling they can easily disregard the leadership behaviours that appear negative in any way.

There were two components that described TF-leadership: inspirational motivation and intellectual stimulation/challenging. Inspirational motivation was measured with four items, such as, 'My supervisor encourages me', and the Cronbach's alpha was 0.81. Intellectual stimulation was described with four items, such as, 'My supervisor encourages me to develop ideas', and the Cronbach's alpha of this dimension was 0.71. When combining these two factors to measure TF-leadership, the Cronbach's alpha is .56.

Transactional leadership (α = .55) was measured with management by exception-active α = .38 (see e.g., Derue et al., 2011) and corrective management by exception-passive (α = .54). It included five items, for example, 'My supervisor reacts to ongoing problems'. 'The supervisor finds mistakes' and 'My supervisor makes even the smaller decisions'. Even though the alpha of management by exception-active was a little lower than is usually considered acceptable (George and Mallery, 2003, in Gliem and Gliem, 2003; Nunnally, 1967), we decided to include that factor in this paper and continue improving the survey. Authoritarian leadership could also be classified with task-orientated leadership behaviours with transactional leadership (Derue et al., 2011) but here it was measured separately. Authoritarian management was measured with three items, for example, 'My supervisor makes decisions' and recorded a Cronbach's alpha of .54.

The survey instrument also included statements describing non-leadership behaviours; five questions loaded to laissez-faire, including 'My supervisor avoids making decisions' (α = .76). Finally, rewarding (α = .56) was measured with three items, such as 'My supervisor notices my accomplishments'.

Turning to the MBTI, its validity has been proved at the four preferences level, as well as at the type level. Internal consistency is high when both the split-half and coefficient alpha reliabilities are measured. Internal consistency and construct validity have been proved by several researchers (e.g., Gardner and Martinko, 1996; Myers et al., 1998). Gender, age, membership of a minority ethnic group, and developmental level are just some of the topics that have been researched when testing the reliability of the MBTI

(see Myers et al., 1998). In this study, the Finnish research 'F-version' was used. The construct validity and reliability of this form have been proved during a validation process lasting several years, and for example, Järlström (2000) reported an internal consistency (Pearson's correlation coefficients) of 0.65 to 0.76 and (Cronbach's coefficient alpha) of 0.79 to 0.86.

Statistics are conducted with a Mann-Whitney U-test (McKnight and Najab, 2010) in order to determine if there are differences in TF-leadership scores between personality preferences. The effect sizes are calculated with the formula below and interpreted as suggested by Boduszek (2011), $r = \frac{z}{\sqrt{N}}$. As suggested by Coe (2002) unstandardised median differences were used because of the lower reliability of some of the outcome measures. The results are displayed in Table 1.

4 Results

Overall, TF-leadership was the most preferred leadership behaviour; the median of all respondents was 7.06. Rewarding behaviours were also preferred (Md*n* = 5.67). Transactional leadership behaviour (Md*n* = 3.83) was preferred over laissez-faire (Md*n* = 2.60) and authoritative leadership (Md*n* = 3.33). Nevertheless, there were many differences between the personality preferences. The sample was divided according to personality as follows: extraversion (n = 220) – introversion (n = 123), sensing (n = 209) – intuition (n = 151), thinking (n = 203) – feeling (n = 157), judging (n = 202) – perceiving (n = 158).

The distributions of the scores for all type comparisons were similar, as assessed by visual inspection. As can be seen, for the effect sizes, the strength of the association is small. In the following section, the results are presented in detail.

4.1 Transformational leadership

The median level of TF-leadership was statistically significantly higher in extraverted (7.13) than in introverted (6.88) subjects (U = 15498, z = 2.237, p = .025, r = 0.12). There were no statistically significant differences in the scores for inspirational motivation between extraverted (7.25) and introverted (7.25) respondents (U = 13925, z = .450, p = .653), but the intellectual stimulation/challenging factor revealed some differences. The median intellectual stimulation/challenging score was statistically significantly higher in extraverted (7.25) than in introverted subjects (7.00), (U = 15570, z = 2.322, p = .020, r = 0.13).

Next we will review the results of the differences in the TF-leadership score between sensing and intuitive preferences. The median of TF-leadership was statistically significantly higher in intuitive (7.38) than in sensing (6.88) subjects (U = 10094, z = –4.367, p = .000, r = 0.24). There were no statistically significant differences in the scores of inspirational motivation between sensing (7.25) and intuitive (7.25) respondents (U = 13218, p = .380), but the intellectual stimulation/challenging factor revealed some differences. The median intellectual stimulation/challenging score was statistically significantly higher in intuitive (7.50) than in sensing (6.75) types (z = –4.259, U = 10195, p = .000, r = 0.23).

The results for the third preference pair, thinking–feeling, are reported next. The median score for TF-leadership was statistically significantly higher in feeling (7.13) than in thinking (7.00) types (U = 12173, z = –2.259, p = .024 r = 0.12). The median inspirational motivation score was statistically significantly higher in feeling (7.50) than in thinking (7.25) types (U = 12014, z = –2.438, p = .015 r = 0.13). There were no statistically significant differences in the scores of intellectual stimulation/challenging, between feeling (7.25) and thinking (7.00) types (U = 13628, p = .518).

In the last preference pair, there were no statistically significant differences in the scores of overall TF-leadership between judging (7.06) and perceiving (7.13), types (U = 13231, p = .263). In addition, the motivation factor was equally important to the preferences of judging (7.38) and perceiving (7.25) types (U = 14769, p = .558). The median intellectual stimulation/challenging score was statistically significantly higher for the perceiving (7.25) than for the judging (7.00) types (U = 12464, z = –1.971 p = .049, r = 0.11).

To summarise, no matter what the subjects personality preferences were, they preferred TF-leadership behaviours over other behaviours. In particular, extraverted, intuitive, feeling and to some degree perceiving individuals prefer their leaders to display transformational behaviour, more so than do introverted, sensing, thinking, and judging types.

4.2 Transactional leadership

There were no statistically significant differences in the scores of transactional leadership between extraverted (3.83) and introverted (3.83) respondents' medians (U = 13409, p = .891). Regarding intuition (3.67) and sensing (3.96) there is a difference in the scores of transactional leadership (U = 18589, z = 3.006, p = .003, r = .16). Scores for intuition and sensing were similar, as assessed by visual inspection. Neither type can be said to categorically prefer transactional behaviours of their leaders since the scores are so low, but the sensing preference type is more comfortable with these behaviours than the intuitive type. No statistical difference was found between thinking (3.88) and feeling (3.80) types (U = 16333, p = .609). Neither were there differences between judging (3.80) and perceiving 3.88) types (U = 15313, p = .577).

Transactional leadership is not strongly preferred by any personality type, but those with a sensing preference are more accepting of those behaviours than people with a preference for intuition.

4.3 Rewarding

There were not significant differences between extraverted (5.50) and introverted (5.67) preferences regarding rewarding behaviour (U = 12532, p = .256). When comparing the scores of intuition (5.67) and sensing (5.67) types, no statistical difference was found (U = 15291, p = .615) either.

The thinking (5.67) – feeling (5.33) preference types did not differ in their scores regarding rewarding (U = 17054, p = .252). Finally, no statistical difference was found between perceiving (5.67) and judging (5.67) types (U = 15890, p = .944). We can conclude that personality does not have an influence on rewarding preferences and that it is an important form of behaviour for leaders to practice.

Table 1 Results

	Extra-version Mdn n = 220	*Intro-version Mdn n = 123*	*r*	*Sig.*	*Sensing Mdn n = 209*	*Intuition Mdn n = 134*	*r*	*Sig.*	*Thinking Mdn n = 203*	*Feeling Mdn n = 140*	*r*	*Sig.*	*Judging Mdn n = 202*	*Perceiving Mdn n = 141*	*r*	*Sig.*
Inspirational motivation (factor of TF-leadership)	7.25	7.25	.02	.653	7.25	7.25	.05	.380	7.25	7.50	.13	.015	7.38	7.25	.03	.558
Intellectual stimulation (factor of TF-leadership)	7.25	7.00	.13	.020	6.75	7.50	.23	.000	7.00	7.25	.03	.518	7.00	7.25	.11	.049
Transformational leadership	7.13	6.88	.12	.025	6.88	7.38	.24	.000	7.00	7.13	.12	.024	7.06	7.13	.03	.263
Transactional leadership	3.83	3.83	.01	.891	3.96	3.67	.16	.003	3.88	3.80	.03	.609	3.80	3.88	.03	.577
Authoritarian leadership	3.33	3.33	.04	.514	3.67	3.00	.22	.000	3.33	3.33	.05	.933	3.33	3.00	.06	.276
Laissez faire	2.60	2,80	.10	.069	2.60	2.60	.02	.967	2.60	2.60	.07	.206	2.60	2.60	.08	.152
Rewarding	5.50	5.67	.06	.256	5.67	5.67	.03	.615	5.50	5.33	.06	.252	5.67	5.67	.00	.944

4.4 Laissez-faire

The median was nearly statistically significantly higher for the introverted (2.80) than the extraverted (2.60) type (U = 11936, z = –1.817, p = .069), but the effect size (r = .10) indicates there might be a reason to investigate this further.

The median for both intuition and sensing was the same, 2.60, and there was no statistical difference between the scores of the two types (U = 14040, p = .967). In addition, the thinking and feeling type had a median of 2.60 (U = 11936, p = .206). Nor were there any statistically significant differences between perceiving and judging types with a median of 2.60 (U = 15531, p = .152). Thus, on the significant level of .05, there were no differences between personality preferences in the laissez-faire leadership preferences or more appropriately acceptance of non-leadership behaviours.

4.5 Authoritarian leadership

Finally, we present the results on the expectations of authoritarian leadership. Both, extraverted and introverted groups had a median score of 3.33, thus there were no statistically significant differences (U = 14103, p = .514). The median score for authoritarian leadership was statistically significantly higher among sensing (3.67) than intuition (3.00) types (U = 17614, z = 4.047, p = .000, r = 0.22). Therefore, sensing people prefer leaders to behave in authoritative ways, while intuitive people do not. The feeling and thinking preference is also not relevant with regard to the authoritarian scores, both had a median of 3.33 (U = 14286, p = .933). Perceiving types registered a slightly lower score (3.00) than judging types (3.33) but there was no statistically significant difference (U = 15222, p = .276).

5 Conclusions

Results indicated that TF-leadership was the most preferred leadership behaviour and laissez-faire the least welcome leadership style. Neither authoritarian nor transactional styles were preferred leadership styles, but rewarding was rated highly across all groups. Because rewarding is regarded as an important leadership skill (Bass, 1985; Tichy and Devanna, 1990), we treated it as separate construct to investigate it in detail instead of linking it with transformational or transactional leadership, and our findings support its importance.

Three statistically significant results occurred in the extraverted/introverted dimension. Extraverted people would like to have more intellectual stimulation and TF-leadership overall. Introverted people were more tolerant of laissez-faire leadership. These results may be due to introverts more peaceful orientation (Myers and Myers, 1990). They are not as interactive as extraverts thus they do not necessarily demand such an active form of leadership and can accept more passive leadership styles than extraverts would.

The most significant results occurred in the sensing/intuitive dimension. The desire for intellectual stimulation and TF-leadership was stronger among by intuitive types than it was among sensing personalities. Authoritarian and transactional leadership behaviours were clearly more accepted by sensing types. In Hautala's (2007) study *clearly defined*

areas and instructions were important to sensing types. It may be that sensing people are more frustrated with laissez-faire forms of leadership due to the lack of rules than with authoritarian or task-focused leadership, which many would interpret as too rigid and old-fashioned, but which does tend to generate clear decisions and instructions, and revolve around deadlines being set, which are the kind of behaviours appreciated by sensing types.

People with a feeling preference hoped for more inspirational motivation and TF-leadership than people with a thinking preference would. Feeling personalities appreciate harmony and tend to give positive feedback to others, and therefore they naturally prefer this style for themselves too. In Hautala's (2007) study feeling types did favour *support and directing* and *empathy and humanity*, which is in line with the findings of this study and the type description of those of a feeling type. Feeling types are more tender-hearted, more tactful, and more social than thinking types (Myers and Myers, 1990), so it is quite natural for them to prefer their leaders to treat them in a similar way.

With regard to the last preference pair, one difference occurred: more spontaneous perceiving types wished for more intellectual stimulation than did more orderly judging types. Perceiving leaders have a tendency to use intellectual stimulation more than judging ones do, thus this is also in line with previous studies (Brandt and Laiho, 2013).

These results offered insights into leader-follower dynamics and also highlighted the followers' role in this relationship. In addition to previous research and theory this study offered new knowledge on followers' personality related expectations of their superiors, an area that has been very neglected to date.

Our results have some implications for the human resource development field, especially for management training. Leaders should consider personality differences more than they do currently. That might involve offering more support, motivation and harmony to feeling types than to others. They would also be wise to acknowledge and utilise the fact that sensing people are more comfortable with transactional and authoritative behaviours, while intuitive ones would rather work with an intellectually stimulating transformational leader. Supervisors and HR could arrange for new employees to participate in discussions about their desired work place and the leadership style they prefer to their superiors to adopt, which could head off unnecessary disappointment further down the line. To improve the limitations of this study, longitudinal research is recommended and more variety of leadership behaviours should be considered (Dinh et al., 2014). Further studies could investigate the extent of the impact the match of preferences with actual leadership behaviours has for example on turnover, motivation, performance, and well-being. Moreover, further studies could improve the level of knowledge on the varying desires for types of leadership according to different personalities.

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Transformational leadership in leading young innovators – a subordinate's perspective

Structured abstract

Purpose This study investigates what kind of leadership young innovative people prefer and whether their level of innovativeness has an influence on those leadership preferences. It also asks specifically whether some leadership behaviours are preferred over others by young innovators, by comparing that group's preferences to those of the majority of young people and an outlier group labelled laggards. Leadership preferences are studied in the context of transformational leadership covering transformational leadership, transactional leadership (including passive and active management by exception), rewarding, laissez-faire and authoritative leadership styles.

Design/methodology/approach 297 Finnish university students completed a voluntary leadership behaviour questionnaire and an innovativeness scale. A non-parametric independent samples median test was run to determine if there were differences in the leadership preference score between the innovativeness level groups.

Findings Results indicate that the level of innovativeness influences leadership preferences. Receiving intellectual stimulation from their leader is more important to young innovators than it is to their peers but the former are also less comfortable with active management by exception.

Originality/value Young innovators leadership preferences have not been studied. Harnessing the full power of this important talent pool is central to the future competitiveness of organizations and nations. This study intends to prompt discussion and studies on how to lead young innovators given their preferences.

1. Introduction

Innovation is "the multi-stage process whereby organizations transform ideas into new/improved products, service or processes, in order to advance, compete and differentiate themselves successfully in their marketplace" (Baregheh *et al.*, 2009, p. 1334). At the individual level, a person can be involved in all or some of the stages of innovation: generating ideas, seeking sponsorship, and producing testable processes or products (Scott and Bruce, 1994). It is usually R&D units and innately creative people that bear the responsibility for innovations, but successful innovations can manifest themselves at all levels of an organization and originate with all kinds of individuals if they are supported (Rogers, 2003; Loewenberger, 2013). Innovative people must stand behind their ideas and bring them to fruition. The assumption may be that it is mere risk-taking, but innovative people must also be politically active, as they must obtain the support of other people for any thought-provoking innovation (Anderson *et al.*, 1990 cited in Hughes, 1994). Creativity does not always lead to innovation but is an essential prerequisite of it, and since the two concepts are very closely related especially at the individual level (Sarooghi *et al.*, 2015; Anderson *et al.*, 2014) they will be used interchangeably in this paper.

Demographic factors such as age impact behaviour at workplaces and Klonoski (2012) among others found signs of age-related differences concerning innovativeness. The ageing population in western societies will cause the relative proportion of young employees in the workplace to increase quite dramatically in the coming years. It has been estimated that by the end of 2020 45% of workforce will be under 40 years old (Erickson, 2008). This demographic change has already boosted the research attention on young employees and the calls for more age-related discussion around leadership issues (e.g. Zacher *et al.*, 2011). As employees, young people appreciate up-to-date technological solutions and tools (Smith, 2010), opportunities for development and training (Sturges *et al.*, 2002), change rather than stagnation (Martin, 2005), and flexibility (Behrstock-Sherratt and Coggshall, 2010) among other aspects. These characteristics could be fostered with leadership practices suited to the preferences of young employees.

One widely studied area examines how leaders and organizations can increase creativity or innovativeness (Basu and Green, 1997; Denti, 2011; Dul *et al.*, 2011; Elenkov and Manev, 2005; Jung *et al.*, 2008; Martinaityte and Sacramento, 2013; Škerlavaj *et al.*, 2014; Slåtten and Mehmetoglu, 2014; Yuan and Woodman, 2010; Zhou and Hoever, 2014), but very little attention has been paid to what kind of leadership. Additionally, the currently available studies do not address leadership issues in the context of innovativeness among young employees,

despite this group of employees posing new challenges for leadership and reporting that leadership issues are very important to them (Jamrog, 2002). Previous studies also indicate that demographic characteristics like age can have an impact on the perceptions of the respondents (Birasnav *et al.*, 2011).

In this study, innovativeness is used as an independent rather than a dependent variable, as suggested by Anderson *et al.* (2004), and instead of looking at innovativeness as an outcome of leadership or other circumstances, the assumption is that certain individuals are more innovative than others, and thus might prefer different things of their leaders. The review of Hiller *et al.*, (2011) establishes the importance of defining the key issues of leadership studies, because one person may be seen as a great leader from one perspective but as less impressive from another. Therefore, it is important to know which behaviours young innovators and other less innovative people prefer in their leaders. The lead on how leaders should behave should come from the key personnel in the company, and in many cases those key personnel will be the company's innovators (Sharer, 2013), though young inexperienced innovators might not be the key people to the enterprise early on in their careers, their preferences should not be ignored. This study investigates the leadership preferences of young innovative individuals and tries to understand whether transformational leadership behaviours should be applied to support young innovators' creativity and innovativeness for example (e.g. Mumford *et al.*, 2002; Jaussi and Dionne, 2003; Shin and Zhou, 2003; Jung *et al.*, 2003; Gumusluoglu and Ilsev, 2009). The current research covers four constructs of leadership behaviour: the transformational, transactional, laissez-faire and authoritative, and uses a self-reported level of innovativeness to address the research questions below.

Amar (2004) suggested that organizations should investigate what motivates knowledge workers to innovate, so that managers might know what to focus on. Many aspects in the environment affect intrinsically-motivated creators and innovators, leaders and their practices being one of the environmental elements (Amabile, 1997). Studies have not been conducted on innovators in the transformational leadership context, and this study therefore seeks to elicit new knowledge in that field. Furthermore, the meaning of age-related issues merits more attention in research, especially in the context of studies of young employees (e.g. Amar, 2004), as the mean age in previous research has been rather high (e.g. Basu & Green, 1997; Amabile et al. 2004).

The overarching objective of this study is to acquire knowledge of the explicit conceptions of young innovators and non-innovators when they consider their ideal leadership behaviours. More specifically, this research explores how these

different groups of people rank different leadership behaviours in terms of innovativeness. Since most studies have used innovativeness as a dependent variable, they will not serve as a source of specific hypotheses; instead, an explorative approach is adopted. This study will explore the following research questions: a) Does the level of innovativeness influence leadership preferences of young people? and b) Are some dimensions of transformational leadership preferred by young innovators over other leadership behaviours?

Thus, based on these suggestions and notions found in previous literature, this study adopts a new angle in examining not only the relationship between innovativeness and leadership, but also young people's leadership preferences.

The remainder of this article is organized as follows. The following two sections provide an overview of the relevant literature on leadership behaviours and leading innovators. The study then proceeds to outline its methods before presenting its results. The final section discusses of the research and practical implications, considers the limitations, and suggests options for future research.

2. Leadership behaviours

Each individual has their inherent beliefs about what kind of person makes an effective leader; implicit leadership theory investigates which traits separate leaders from non-leaders according to different individuals (Epitropaki *et al.*, 2013; Derue *et al.*, 2011). These mental models and leadership preferences are formed early and have been found to be affected for example by culture (House *et al.,* 2004), personality (Hautala 2005; 2008; 2007), and gender (Brandt and Laiho, 2013). However, more often, researchers focus on leadership behaviours and the outcomes they might give rise to (See e.g. Jung *et al.*, 2003; Wang *et al.*, 2011; Waldman and Yammarino, 1999; De Jong and Den Hartog, 2007; García-Morales *et al.*, 2012; Cheung and Wong, 2011; Schweitzer, 2014).

Since the time of Burns' seminal research (1978) that first categorized leadership behaviours, several researchers have studied and defined transformational leadership (TF leadership) (Bass, 1985; Bennis and Nanus, 1985; Kouzes and Posner, 1988; Tichy and Devanna, 1990) and transactional leadership (Bass 1985; Lowe *et al.*, 1996) and operationalized the concepts (e.g. Bass and Avolio, 1990; Kouzes and Posner, 1988; Podsakoff *et al.*, 1990; Roush, 1992, Edwards and Gill, 2012). These constructs have been viewed as polar (Burns, 1978) and as complementary (Bass, 1985). Common elements in definitions of TF leadership are visioning, challenging, consideration, and serving as an example (Bass, 1985;

Bennis and Nanus, 1985; Kouzes and Posner, 1988; Tichy and Devanna, 1990). Transformational leadership behaviours inspire followers to move beyond their self-interest and increase motivation and morale (Burns, 1978; Bass, 1985; House, 1977; as in Rahn, 2010) and the behaviours should assist organizations to change (Derue *et al.*, 2011). Transactional leaders make the tasks clear and reward accordingly, they also actively make corrective actions to avoid anticipated problems (Derue, 2011; Antonakis *et al.*, 2003). Common elements of transactional leadership are contingent reward and (active) management by exception. Contingent reward refers to specifying employee goals, assessment of performance, and rewarding. Active management by exception entails having a more involved leader who intervenes if an employee is not following the agreed standards (Antonakis *et al.*, 2003; Vaccaro *et al.*, 2010; Den Hartog *et al.*, 1997). In passive management by exception, leaders get involved after problems have occurred and this form correlates with non-leading laissez-faire leadership, in which a leader chooses to avoid taking any action and does not act authoritatively, such a leader might also avoid decision making and taking supervisory responsibility (Den Hartog *et al.*, 1997; Antonakis *et al.*, 2003).

The solid position of TF leadership in research is due to it being connected to several positive outcomes regarding both follower effects and outcomes on an organizational level. These include improved productivity, reduced employee turnover rates, and greater job satisfaction and motivation. All of the above are more strongly associated with TF leadership than with more transactional or non-transformational leadership (e.g. Clover, 1990; Deluga, 1992; Marshall *et al.*, 1992; Masi and Cooke, 2000; Medley and Larochelle, 1995; Sparks and Schenk, 2001; Judge and Piccolo, 2004). Recently, studies of TF leadership have also focused on areas of well-being (Arnold *et al.*, 2007), ethical sides (Bass and Steidlmeier, 1999), psychological capital (Nielsen *et al.*, 2009), cultural intelligence (Keung and Rockinson-Szapkiw, 2013), knowledge management (Birasnav *et al.*, 2011) and technological innovation (Chen *et al.*, 2012).

Leaders' transformational behaviours can be developed with leadership training (Mason *et al.*, 2014) and leadership development has been found to 'magnify the effects of perceived organizational support for creativity' (Houghton and DiLiello, 2010: 240) thus if innovators do prefer these behaviours it is important to know so in order for investments in training to be implemented.

3. Leading innovators

Innovative individuals are persistent (Hurt *et al.*, 1977; Sandberg *et al.*, 2013), tolerant of ambiguity, self-confident, open to experience, original and independent (Barron and Harrington, 1981, West, 1987; George and Zhou, 2001; West and Wallace, 1991 cited in Anderson *et al.*, 2004). They are also willing to change (Hurt *et al.*, 1977), to try new ideas (Rogers and Shoemaker, 1971), act out of curiosity (Amabile, 1997) and to advance problem solving (Scott and Bruce, 1994).

When comparing innovators and opinion leaders with individuals who are more comfortable with traditions and routines, widely differing preferences and leadership behaviours might be expected. It is debatable whether innovations can be forced, because they are often unexpected and very difficult to predict. In some cases, innovation spreads due to its intrinsic qualities but in others, the success of innovation depends on the activities of the innovator and the network s/he builds to support it (Akrich *et al.*, 2002b; Akrich *et al.*, 2002a). Naturally people in leadership positions are often important allies and champions of innovators (Akrich *et al.*, 2002b; Akrich *et al.*, 2002a; Simmons and Sower 2012). Innovative and creative people may appear unusual when compared to the majority of workers. Nevertheless, there are some ways in which innovativeness can be fostered and stimulated by the leader.

Individuals need to feel that they have the freedom to express all kinds of ideas without fear of judgment (Loewenberger, 2013). Leaders can also support innovators (Amabile *et al.*, 2004; Janssen, 2005; Loewenberger, 2013) and communicate supportive values to others to help assimilate those values in the behaviour of subordinates (Henry, 2001; Nutt, 2002; Yukl, 2002; as in Elekov and Manev, 2005). Employee innovativeness can also be supported in a more direct way by identifying a natural creative tendency, allocating assignments accordingly, and rewarding (Tierney *et al.*, 1999; Hunter and Cushenbery, 2011). Leaders can also usually influence internal factors (the organizational environment and climate, vision and strategy, technology, tools and techniques) that influence innovative performance (Thamhain, 2003; Hunter and Cushenbery, 2011). For team-level processes, leaders can support innovation by communicating clear, motivating goals, giving constructive feedback, and being both task orientated and supportive of innovations. Finally, a leader should also encourage team members to engage in external communication with various stakeholders since that increases creativity (Hülsheger *et al.*, 2009).

Most leadership studies involving innovativeness, have set creativity or innovative behaviour as dependent variables (e.g. Rosing *et al.*, 2011; Scott and

Bruce, 1994). The studies reviewed by Rosing *et al.*, (2011) revealed transformational leadership to positively influence innovativeness, but to exert such influence more directly at the organizational than at the individual level. In addition, Denti (2011) found that leaders can best affect innovativeness on a team level, but then the whole organization should be supportive. Mumford and colleagues (2002) proposed that TF leadership might enhance innovation 'through motivation and intellectual stimulation'. Both Shin and Zhou (2003) and Jung *et al.*, (2003) found some evidence of a positive relationship between TF leadership and organizational innovativeness. Jung *et al.*, (2003) did however question whether their results were similar to those of Shin and Zhou (2003) because both samples were from collectivist and high power distance cultures, specifically Korea and Turkey. In addition, recent results from Turkey support a positive relationship between TF leadership and individual creativity, with psychological empowerment as a mediator (Gumusluoglu and Ilsev, 2009). Finnish culture is far more individualistic and less hierarchical than that of Korea or Turkey (Hofstede, 2014), and so may give rise to different outcomes.

There are also contradictory results indicating transformational leadership may even have a negative effect on innovative behaviour. For example, some results suggest that TF leadership may hinder creativity and that it is heavily moderated by other organizational factors. This implies that certain conditions have to be fulfilled before transformational leadership can be effective (Wang and Rode, 2010; Rosing *et al.*, 2011). Jaussi and Dionne's (2003) study suggested that TF leadership has little effect on individual creativity and a negative effect on group creativity; in fact they found that a leader's unconventional, surprising behaviour boosts follower creativity. Basu and Green (1997) found support for a leader to be positively related to innovative behaviour, yet did not find the expected support for the importance of employees' autonomy in relation to innovativeness. Perhaps innovators are not such independent employees as is often assumed. Basu and Green also expected transformational leadership to positively moderate the relationship between innovative behaviour and the autonomy and commitment of followers and support for their leaders, but instead found a negative relationship between TF leadership and innovativeness.

Additionally there is a large variance in the impact of transactional leadership on innovativeness. Researchers have suggested applying both transformational and transactional behaviours depending on the phase in the innovative process (Rosing *et al.*, 2011). Wang and Rode (2010: 1122) not only suggested creating an innovativeness supporting climate, but also 'fostering employees' identification with leaders' to increase the effectiveness of TF leadership.

Transformational leadership's positive influences have been confirmed in many studies, yet some conflicting examples have been published regarding its relationship to innovativeness. Conflicting results have been presented on whether transformational leadership is the optimum style that should be applied to enhance employee or team creativity and innovativeness (e.g. Mumford *et al.*, 2002; Jaussi and Dionne, 2003; Shin and Zhou, 2003; Jung *et al.*, 2003; Gumusluoglu and Ilsev, 2009).

5. Methodology

Data were first collected in 2012 and supplemented in 2013 to improve their quality. Data analysis was conducted in spring 2014. The data were gathered from 297 Finnish university students of between 18 and 30 years old, and with a mean age of 22. A slight majority (54%) were male. The respondents had worked for an average of 2.9 years, while 80% of them had four years or less working experience. 15 responses were removed due to some missing answers. It could be argued that students are not the most appropriate group to provide information for a leadership preference study, but this sample was not only chosen for its convenience but also because organizational cultures and managers have not yet made such lasting impressions on them. In addition, a recent study found that leadership preferences correlate with leader-member relationship quality (Notgrass, 2014) that is; a sample comprising working professionals would be heavily influenced by their current leader and the prevailing relationship. Certainly there is a possibility that these young individuals have romanticized ideas of leadership, nevertheless the results are no less valuable.

The relationship between age and innovativeness (or creativity) has not been widely studied to date. As a matter of fact, the literature in this area is scarce. However, some studies (e.g. Ng and Feldman, 2008) have approached the gap between age and organizational performance based on aspects like creativity. Overall it is widely accepted that age can play an important role in managing people effectively (Strack *et al.*, 2008) and that age has an effect on the level and nature of creativity (Shimonaka and Nakazato, 2007). This implies that examining a certain age group based on the level of innovativeness might be a productive approach. The sample in this study comprises respondents of less than 30 years of age, meaning there is no need to control for the effect of age.

Participation in the study was voluntary. The students were advised of the purposes of the study and how the results would be used. Those completing the questionnaire were also offered the option of having their answers excluded from

the study. The questionnaire forms were handled with care, and the answers were confidential. Only the members of the research group had access to the forms and were able to see the answers. As recommended by Podsakoff *et al.* (2003), we applied several strategies to control for common method bias. The items dealing with leadership preferences and an individual's own level of innovativeness were clearly differentiated and respondents were guaranteed anonymity, we also ran Harman's single factor test but no general factor emerged: the largest factor did not explain the majority of variance (but only 12%) and the three largest explained only 27%.

The respondents completed a leadership behaviour questionnaire (in Finnish) based on Bass's MLQ, Kouzes and Posner's LPI and leadership literature generally. The questionnaire included statements that described transformational leadership, transactional leadership (including passive and active management by exception), rewarding, laissez-faire and authoritative leadership styles. The respondents were asked to grade different statements chosen to represent the various leadership styles on a scale of one to nine, nine representing the most desired leadership style and one the least preferred. This ranking survey form was utilized to deliver more varied information because it forced the respondent to think about the order of preference.

Factor analyses resulted in two components that described transformational leadership: inspirational motivation and intellectual stimulation, two other constructs (idealized influence-charisma and individualized consideration) of transformational leadership were not formed according to the analyses. This may indicate that in the case of leadership preferences the questionnaire does not generate similar results as when measuring actual leaders' behaviour. It could also indicate that young people do not appreciate charisma and individual consideration as much as older people do, but it seems more likely that having little work experience they have not yet clearly formulated their preferences.

Inspirational motivation was measured with four items, including for example, 'The supervisor encourages me', and overall the Cronbach's alpha was 0.818. Intellectual stimulation was measured with four items, including for example, 'The supervisor encourages me to develop ideas', and the alpha of this dimension was 0.711. When combining these eight items to measure transformational leadership overall, the alpha is a little lower than is usually considered acceptable (Nunnally, 1967), but is included in this study because transformational leadership consists of different sets of skills, which might not always correlate perfectly.

Factor analysis loaded six items that together describe active management by exception and authoritarian leadership, the alpha was .611. The items included the following statements: 'The supervisor finds mistakes', 'Most decisions are made by the supervisor' and 'the supervisor actively guides the process' and 'The supervisor enforces the norms and rules' (for more about active management by exception, see e.g. Derue *et al.,* 2011). Rewarding (α=.562) was measured with three items including, 'The supervisor notices my accomplishments' and 'the supervisor rewards the attainment of goals'. Rewarding behaviours are often grouped with transformational leadership (e.g. Lowe *et al.*, 1996), and as the items did not load with other factors, rewarding is treated separately; as it should be because no other behaviour of a leader comprehensively describes acknowledging a person's achievements and/or rewards them with something, whether it is a handshake, a thank you, conferring new responsibilities, or promotion. Finally, the laissez-faire style (α=.772) was measured with five items, for example, 'The supervisor avoids decision making' and 'The supervisor's motto is "Don't fix what isn't broken"'. The items measuring passive management by exception and two dimensions of transformational leadership (idealized behaviour and individualized consideration) did not load appropriately or their reliability was too low to be included.

The innovativeness scale (IS) measures individuals' levels of innovativeness, their attitudes towards innovations and their willingness to change. Innovativeness was determined with a self-report questionnaire developed by Hurt *et al.,* (1977) based on Rogers and Shoemaker's theory (1971; as cited in Hurt *et al.,* 1977). It is an instrument that has been widely used, especially in marketing studies, and its reliability and validity have been established (Hurt *et al.,* 1977; Goldsmith, 1990). After the data were reviewed and prepared for the actual data analysis, principal component factoring with Varimax-rotation was performed to ensure the validity of the IS in the Finnish context. The KMO Measure of Sampling Adequacy was .844, suggesting no reason to examine the anti-image correlation matrix. The value for Bartlett's test of sphericity was statistically significant ($p < .000$), indicating that the data was probably factorable. Factor analysis extracted four components that explained 64.7 % of the variance. Based on the items and innovativeness literature, the four factors are labelled: 1) Change resistance α=.84 with factor loads ranging between .68 and .83. The factor consists of three items, for example 'I must see other people using new innovations before I will consider them' (reversed). 2) Creativity, α=.80 and factor loads range between .55 and .74. The factor consists of three items, for example 'I consider myself to be creative and original in my thinking and behaviour'. 3) Risk-taking, α=.70 and factor loads range between .51 and .65. The factor consists of two items, for example 'I accept new things with consideration'. 4) Opinion-leading, α=.68 and

factor loads range between .49 and .76. Factor consists of three items, for example 'I feel that I am an influential member of my peer group'. The factors correlated significantly (p<.001) with each other, thus separate factors were not used in the analysis.

Seven items that did not load cleanly were removed. Factor analysis yielded similar results in the validation process of a Turkish version of the scale (Kiliçer and Odabaşi, 2010). The cases with a z-score of over ±2.58 were identified as outliers and their scores were adjusted to be the same as the lowest or highest score that was in the range of 99% of the data. The test was also run with and without outliers and no major changes occurred: 1% of the outliers were adjusted merely to increase the power of the test.

Grouping the data based on standard deviation produced a smaller group of innovators and early adopters. The data is lightly negatively skewed, indicating that young people may be a little uncertain of their strengths in terms of innovativeness and more people than usual were in the late majority (standard deviation between 0 and -1)(see e.g. Hurt *et al.*, 1977). To represent the distribution of the data and ensure the group sizes were equally large at the extremes, the late and early majorities were combined into one group labelled *majority* (see the labels in Hurt *et al.,* 1977). The smaller than usual high scoring group (top 10 percentile, often this is around 16 %, i.e. two standard deviations above 0) consisting of innovators and early adopters was labelled *innovators* (see e.g. Stafford, 2003; Uray and Dedeoglu, 1997). The lowest 25% (again representing the distribution of the data) were placed in a group called *laggards*.

Innovators, that is, the innovative early adopters, are the rarer breed in this sample. Members of this innovator group consider themselves to be creative, inventive and they get excited about their original ways of thinking or behaving. They approach ambiguities and unresolved issues challenges more than as problems. They are often opinion leaders and role models (see also Mansfeld *et al.*, 2010) and may adopt the responsibility for leadership in peer groups. Innovators are open and willing to change and spend less time considering possible risks than other groups. Laggards are the opposite of this type, they do not consider themselves creative or inventive, and they are also sceptical of new ideas, innovations, and change. They might resist new things indefinitely. Prior research has associated this group with people with literacy problems, lower education, or limited access to resources (Hurt *et al.*, 1977; Tveden-Nyborg *et al.*, 2013). This is not the case with business students in Finland (though laggards in this sample might also of course have smaller networks) thus it reflects that the laggards in the current sample have certain attitudinal characteristics and how

they assess their own abilities in terms of innovativeness and creativity. The majority group are also non-innovators but they are not as resistant to change and new ideas as the laggards; once they have seen enough people adopting new processes or promoting new innovations they will also eventually adopt them too.

6. Results

Overall, transformational leadership was the leadership behaviour most preferred by the respondents. The median of all respondents was 7.00, within that style there were two behaviours that were distinguishable within this survey: inspirational motivation (Mdn=7.33) and intellectual stimulation (Mdn=7.00). Rewarding behaviour was also ranked highly with a median of 6.00. Active management by exception behaviours (Mdn=2.33) were preferred over laissez-faire forms (Mdn=2.00). All results are presented below.

Transformational leadership

A non-parametric independent samples median test was conducted to determine if there were differences in the leadership preferences score between the innovativeness level groups. Pairwise comparisons were performed using Dunn's (1964) procedure with a Bonferroni correction for multiple comparisons. The transformational leadership preference score was statistically significantly different in the different groups, $\chi2(2) = 11.130$, $p = .004$. Post-hoc analysis revealed statistically significant differences in preference scores between the laggards (Mdn = 6.57) and innovators (Mdn = 7.29) ($p = .004$) and between the majority (Mdn = 7.00) and innovator groups ($p = .040$), but not between the laggards and the majority ($p = .240$). Although all groups preferred transformational leadership from their ideal leader, the results indicate that the more innovative a young person is the more they prefer transformational behaviour.

To obtain more detailed information about leadership preferences related to transformational leadership, its dimensions – intellectual stimulation and inspirational motivation – will be examined next. There were no statistically significant differences between the groups in terms of inspirational motivation $\chi2(2) = 1.329$, $p = .515$ thus no pairwise comparison was conducted. It appears that innovativeness, or the lack of it, does not influence the need or desire for motivational behaviour. All groups had a median of 7.33 on this component,

which makes it the highest scoring leadership behaviour among the laggards and the majority groups. The intellectual stimulation preference score was statistically significantly different between the different groups, $\chi2(2) = 21.832$, $p = .000$. There were statistical differences between the laggards (Mdn = 6.50) and the innovators (Mdn = 7.75) ($p = .000$) and the majority (Mdn = 7.00) and the innovators (Mdn = 7.75) ($p = .000$) but not between the laggards and the majority ($p = .309$). Young innovators expect their leaders to stimulate them intellectually. The young majority and the young laggards also prefer this behaviour of their leaders but not to the same degree, they would prefer to receive inspirational motivation.

Rewarding behaviours

Ranking scores for rewarding behaviours were statistically significantly different between the groups, $\chi2(2) = 8.171$, $p = .017$. Pairwise comparisons revealed statistically significant differences in the score between the laggards (Mdn = 5.67) and the majority (Mdn = 5.50) ($p = .033$) and close to a significant difference between laggards and innovators (Mdn = 5.50) ($p = .081$) but not between the majority and innovator groups ($p = 1.00$).

Active management by exception (AMbE) and Laissez faire

The active management by exception score was statistically significantly different between the different groups, $\chi2(2) = 6.417$, $p = .040$. Pairwise comparisons revealed statistically significant differences between the scores of only the majority (Mdn = 2.33) and the innovators (Mdn = 2.33) ($p = .038$) but no differences between the laggards (Mdn = 2.33) and innovators ($p = .168$) or the laggards and the majority groups ($p = 1.000$). Since the medians are the same, a visual examination of the box plots was required, and that showed the majority group prefers AMbE more than the innovators do, although it should be noted that this behaviour would not be the first choice of either group as both would rather have a TF leader.

The laissez faire behaviour (i.e. non-leadership) was the least preferred form of leadership, and there were no statistically significant differences in the scores, $\chi2(2) = .580$, $p = .781$. No pairwise comparisons were made.

Summary

The effect sizes are included in Table 1 below and these reveal more about the strength of the associations found. To summarize the most important findings: Transformational leadership differences result from differences in the level of intellectual stimulation, thus we cannot generalize the findings to address an overall TF leadership style even though the effect sizes are for the most part large. Effect sizes are large in the pairwise comparison of laggard/innovators and majority/innovators. Even between the laggards and the majority, the effect size indicates a small association, even though there was no statistically significant difference. Thus, the more innovative a young person is, the more that person desires to receive intellectual stimulation from their leader.

The more innovative a person is the lower they seem to rank rewarding behaviour, although there were no statistical findings to support this assertion because there is no measurable difference between the young majority and the young innovators. The results do indicate that young laggards differ a great deal from the young majority and the young innovators. Their ranking of rewarding was the same as for intellectual simulation, whereas the young innovators ranked intellectual simulation noticeably higher than they did rewarding behaviours.

Finally, while the medians were the same across the groups, there were strong and medium associations found between the groups. Being a young innovator instead of part of the majority has a large effect on whether one prefers active management by exception. Young innovators prefer it to a lesser degree than the majority does. In addition, all groups were least enthusiastic about having a non-leader.

Figure 1 encapsulates all the statistically significant results. The boldness of the arrows represents the significance level, and the direction of the arrow indicates which group values the particular behaviour more. As can be seen from Figure 1, statistically the most significant relationships concern intellectual stimulation, and there are also other rather noteworthy connections. First, young innovators prefer this leadership style to a greater extent than do laggards or the majority, and this connection is statistically highly significant. Second, young innovators prefer transformational leadership to a greater degree than do laggards or the majority, however, this connection is not as strong as in the case of intellectual stimulation. Third, the young majority prefers the active management by exception to a greater extent than does the young innovator group. Fourth, rewarding is preferred to a greater extent among young laggards than among the majority group.

Table 1. Summary of the results

Leadership behaviours	Innovativeness level groups **1. Laggards n=75** Median (std)	**2. Majority n=135** Median (std)	**3. Innovators n=72** Median (std)	**Pairwise test**	**Sig.**	***r***
Transformational leadership	6.57 (1.03)	7.00 (.96)	7,29 (1.01)	1—2[a]	.240	.216
				1—3[b]	.004**	.654
				2—3[c]	.040**	.410
Inspirational motivation	7.33 (2.22)	7.33 (2.03)	7.33 (2.21)	1—2	n/a	n/a
				1—3	n/a	n/a
				2—3	n/a	n/a
Intellectual stimulation	6.50 (1.33)	7.00 (1.22)	7.75 (1.11)	1—2	.309	.189
				1—3	.000***	.804
				2—3	.000***	.730
Rewarding	6.50 (1.50)	6.00 (1.50)	5.50 (1.55)	1—2	.033**	.475
				1—3	.081	.377
				2—3	1.00	.003
Management by Exception: active	2.33 (.90)	2.33 (.89)	2.33 (.76)	1—2	1.00	.010
				1—3	.168	.291
				2—3	.038**	.414
Laissez Faire	2.00 (1.39)	2.00 (1.24)	2.00 (1.07)	1—2	n/a	n/a
				1—3	n/a	n/a
				2—3	n/a	n/a

[a]pairwise test for traditionalists and majority, [b]compares traditionalists and innovators, [c] compares majority and innovators

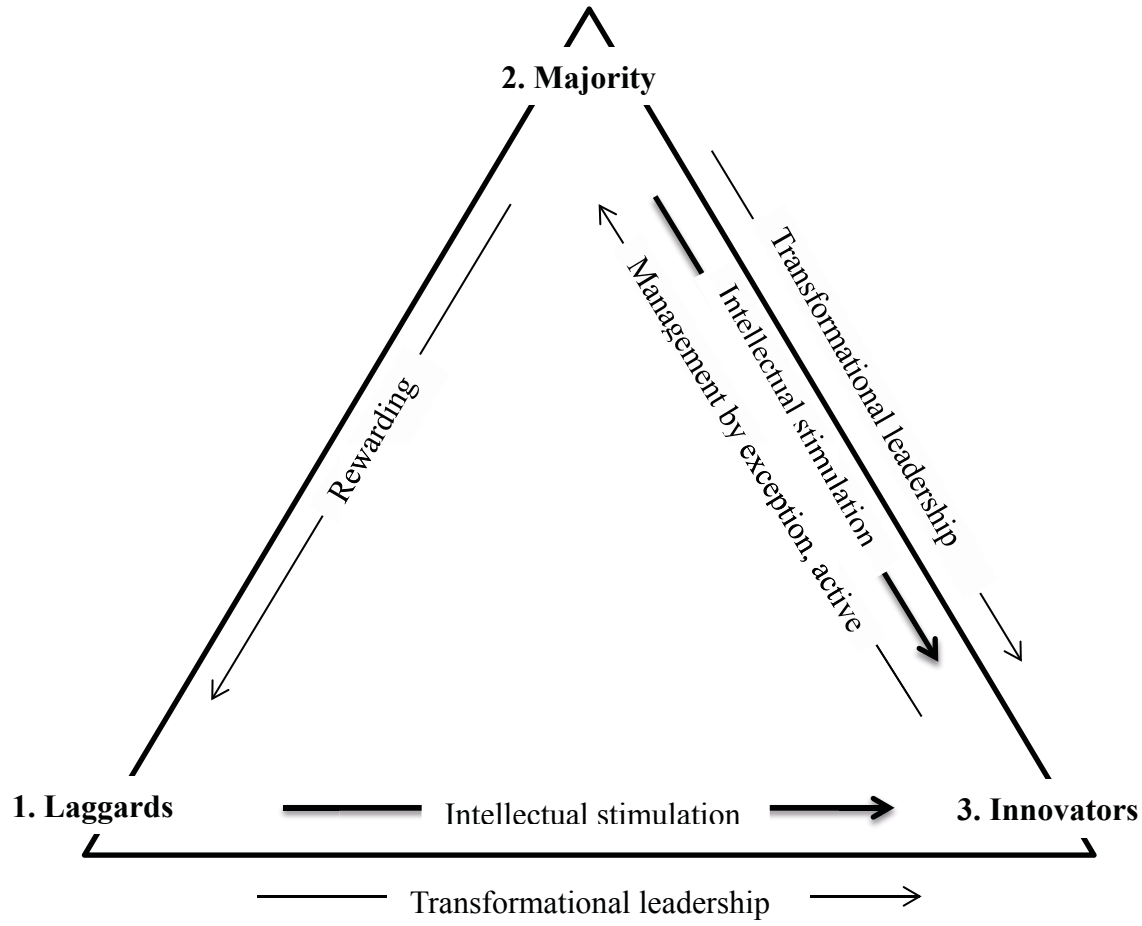

Figure 1. Results: young innovators' leadership preferences compared to the young majority and laggards. The boldness of the arrows represents the significance level (the bolder lines represent more significance) and the direction of the arrow indicates which group values the particular behaviour more.

7. Discussion

This study concentrated on the young (people of less than 30 years old), innovativeness, and that group of followers' desired forms of leadership. Followers' leadership preferences have rarely been studied, and the current study adopted an additional angle in investigating young followers with different levels of innovation. To answer the research questions, this study's results strongly

infer that the level of innovativeness does have a considerable influence on leadership preferences, and that intellectual stimulation is far more important to young innovators, while inspirational motivation is more important for young laggards and the majority group. Young people have been described as appreciating opportunities for development and training (Sturges *et al.*, 2002), relishing change rather than stagnation (Martin, 2005), and valuing flexibility (Behrstock-Sherratt and Coggshall, 2010). Thus, our study is in line with previous studies concerning the leadership preferences of young employees, despite innovativeness not having been stressed in the literature to date.

Prior research has reported conflicting results on whether TF leadership is effective with innovators (Mumford *et al.*, 2002; Jaussi and Dionne, 2003; Shin and Zhou, 2003; Jung *et al.*, 2003; Gumusluoglu and Ilsev, 2009). Some studies advocating transformational leadership as an effective style to support innovativeness also claim that many circumstances have to be aligned for it to be so (Wang and Rode, 2010; Rosing *et al.*, 2011). That said, this study confirms that TF leadership, and especially intellectual stimulation should be practiced with young innovators. Among young laggards and the majority, inspirational motivation was the most desired example of TF leadership behaviour. Second, most laggards desired intellectual stimulation and rewarding behaviour equally, while the young majority wanted stimulation in the second rank and rewarding in the third. As a general rule, the most important behaviour for young people is inspirational motivation. When taking individuals into consideration to a greater extent, managers leading young laggards are likely to find implementing rewarding behaviour is more effective, and when leading young innovators that intellectual stimulation is likely to bring dividends.

The more innovative a person is, the less important to them are the rewarding behaviours of their leader, which is to be expected because innovative individuals are likely to be intrinsically motivated (Amabile, 1997). All respondents regarded the management by exception and laissez-faire leadership styles to be the least welcomed behaviours. These results support the previous finding that young workers are motivated by the absence of control, it 'frees their minds, which allows them to engage in activities that bring out innovation' (Amar, 2004: 97). When compared to the young majority, young innovators were even less inclined to have a leader who actively monitors processes and enforces the rules, thus authoritarian, active transactional behaviours (see the methods section for a more detailed description) should be avoided with the innovative type in particular.

This study builds on the knowledge of young employees and their preferences in working life, as leadership and supervisor issues have been found to be important for this group of people in previous studies (see e.g. Smith, 2010; Hurst and Good, 2009; Martin, 2005; Jamrog, 2002). Overall, these findings indicate that management should carefully consider the different dimensions of TF leadership when seeking the best way to lead innovators and consider individualized preferences.

Practical implications

It seems natural that young innovators would like to see stimulating behaviour from their leaders. They want their leaders to offer new ways of thinking and insights, the leadership behaviour that encourages innovations and creativity (Bass, 1985; Bommer *et al.*, 2004; as in Rahn, 2010). This means that a leader would not necessarily offer solutions to problems, but would encourage subordinates to devise solutions themselves. A leader should also continuously encourage thinking about how things could be improved at work and also emphasize their subordinates' personal development in the workplace. This implies that the leader should identify the most innovative young individuals and nurture their independent problem solving and also encourage them to take risks, while ensuring the more traditional workers receive the motivation to satisfy them and help them perform at their best.

Then again, it should not be forgotten that human resource development and specific training could enhance individuals' creativity (Joo *et al.*, 2013) and organizational factors can even more easily be altered to support creative and innovative behaviours. Knowing which leadership behaviours are appropriate to support such training and organizational improvement is important. As Janssen (2005) states, organizations can train their managers to respond to innovative employees in a supportive way. Training can also be offered to develop leaders' transformational behaviours (Mason *et al.*, 2014). In addition, Amabile *et al.* (2004) found that routine practice, such as openness to and expressing appreciation of employees' ideas, honed communication skills, emphasizing and recognizing feelings, giving and receiving relevant information on a project and avoiding micromanagement were behaviours appropriate for leading creative employees. Houghton and DiLiello (2010) confirmed the high impact of leadership development.

Accordingly, the results of the current research contribute information to the human resource development field, especially with regard to management

training. Even if transformational leadership is an effective way to lead people, it could be used even more effectively if the application of its various dimensions was targeted according to the preferences of specific staff members. Supervisors and the human resources function could discuss their preferred leadership style and workplace context with new employees, and also determine their levels of innovativeness. Moreover, leaders with excellent intellectual stimulation behaviour could share their practical approaches with other leaders. The current results and their implications could also be utilized in leadership education in a higher education setting, to convey in which circumstances the different leadership behaviours would be appropriate, and to encourage innovativeness among young people.

It might be assumed that people who are innovative themselves would naturally provide intellectual stimulation to others; it follows therefore, that HR managers could pair older innovative people in organizations with young innovators to act as mentors.

With regard to team leadership, the leader should create a transformational team culture, in which team members would motivate, reward and intellectually stimulate each other and raise their performance level, including in terms of the quality or quantity of innovations. Having such a team culture in place would be particularly valuable when bringing a talented young innovator into the team, as it would encourage commitment to the team and a focus on results.

Limitations and future studies

The limitations of the current research would include the risk of common method bias, as with most self-report questionnaires. The dependent variable of course deals with the behaviour of an unidentified person and is very different from an analysis of an individual's own level of innovativeness. The procedures adopted to control this limitation were reported in the methodology section, but they do not eliminate the possibility that the relationships might be exaggerated due to common method bias. The issue could be addressed by using different approaches such as interviews. Another limitation lies with the leadership survey, which could be improved when investigating preferences, as only a two-factor solution for transformational leadership (intellectual stimulation and inspirational motivation) was adopted instead of the usual four components (idealized influence and individualized consideration were omitted from this study). In addition, in future studies the nature and field of work of the

respondents should be controlled for, as there might be differences in how innovativeness is valued in relation to different tasks (see e.g. Klonoski, 2012).

Future studies should investigate these relationships and their possible consequences further. In addition, they might compare respondents of different ages, and whether older and younger innovators share similar leadership preferences, and whether leadership preferences vary in different fields, and indeed if they are shaped by experience. Furthermore, more recent leadership theories (see e.g. Avolio *et al.*, 2009) could be studied in relation to young innovators. Longitudinal studies would be welcome to reveal how different leaders' behaviours match the preferences of young innovators and others, and what happens in terms of motivation, creativity, and turnover, for example, when there is a match or mismatch. Other interesting avenues of investigation would be how leadership preferences evolve with maturity and work experience, or a comparison of the preferences of young people with those of middle-aged innovators or those closer to retirement age.

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Transformational Leadership and Communication Style of Finnish CEOs

Tiina Brandt & Piia Uusi-Kakkuri

This study focuses on the communication style of transformational leaders. Seven different communication styles were established and labeled: emotionally intelligent, impatient, controlled, insecure, avoiding, dominating, and transparent. Responses from 216 Finnish CEOs indicate that certain communication styles are connected with transformational leadership, including the emotionally intelligent, the transparent, and the controlled styles.

Keywords: Communication; Communication Styles; Top Management; Transformational Leadership

Leaders serve as key channels through which to communicate values and strategic changes and to motivate followers within the organization. For example, Schnurr (2008) has said, "Communication not only constitutes one of the crucial aspects of leadership performance, but leadership can productively be viewed as a communication process" (p. 1), and some say leadership equates to communication (De Vries, Bakker-Pieper, & Oostenveld, 2010). In this study, the focus is strictly on the communication styles employed by transformational leaders, who have been found to be more effective communicators than other types of leaders (Berson & Avolio, 2004).

Communication style has been defined in many ways, and Norton (1978), for example, wanted to measure the "way one verbally and paraverbally [tone, pitch etc.] interacts to signal how literal meaning should be taken, interpreted, filtered, or understood" (p. 99). Norton (1978) categorized communication styles as dominant,

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dramatic, animated, open, contentious, relaxed, friendly, attentive, and impression-leaving, but there is no generally accepted classification for organizational communication research. Overall, surprisingly little research has been conducted on the relationship between leadership and communication, despite studies confirming the importance of the topic, and indicating that leaders who pay attention to their own communication are more effective change agents than those who do not (Gilley, Gilley, & McMillan, 2009) and that the communication styles of superiors are linked to their subordinates' levels of satisfaction (Infante, Elissa, & Gorden, 1982) and motivation (Kay & Christophel, 1995).

Lewis (2006) asserted that communication differs between cultures. Sallinen-Kuparinen, McCroskey, and Richmond (1991) found Finns to be less willing to communicate than Americans, Swedes, and Australians were. In the Netherlands, De Vries et al. (2010) reported on charismatic, human-oriented, and task-oriented leadership (the first being almost akin to transformational [TF] leadership) and concluded that leadership is very much grounded in communication style in relation to charismatic and human-oriented leadership. They found charismatic leadership to be characterized by communication styles incorporating assuredness, supportiveness, argumentativeness, and preciseness. Berson and Avolio (2004) found that leaders assessed as transformational were more effective communicators in all three areas factored in—that is, they were careful listeners, open, and careful transmitters.

Although some connections have already been found between communication styles and transformational (TF) leadership, this study adopted an explorative approach because no commonly accepted communication style survey covers this area comprehensively and because the topic would benefit from more studies adopting different viewpoints. Leaders could develop their style of communication to become more transformational if they knew which kind of leadership their communication stakeholders (and particularly their subordinates) rated the most efficient and positive. Mishra, Boynton, and Mishra (2014) noted that effective internal communication can enhance employee trust and engagement if transparent and conducted in person. In order to cultivate leaders' TF leadership skills, trainers would require more detailed knowledge that included which skills and behaviors to develop. Furthermore, understanding culture-specific types of communication and leadership could contribute new knowledge—for example, to support expatriates. This study focuses on this knowledge gap to answer the following research questions:

RQ1: Is transformational leadership connected to communication?
RQ2: What kind of communication profile do transformational CEOs in Finland have?

Methodology

The data were collected with an online survey conducted in 2008 and 2009. The survey attracted responses from 222 managers (20.24% of those invited). Missing values meant six survey responses had to be excluded; thus, the final response rate was

a reasonable 19.7 %. Almost all of the respondents were CEOs of firms (203 respondents, 94%), the remainder being either general directors (three people) or entrepreneurs (five people), and the last five gave their title as *other*. Men made up 88% (N = 190) of the sample. Most of the leaders, 70.4% (N = 152), were in the 40- to 60-year-old age group, 102 (47.2 %) had a university degree, and 61 (28.2%) of those had graduated from a university of applied sciences. A one-way ANOVA was used to test the relationships of the variables included.

Transformational Leadership Questionnaire

Respondents received the Finnish modified version of the Leadership Practices Inventory (LPI) (Posner & Kouzes, 1990). The items in the questionnaire were rated on a 7-point Likert scale from 1 (*not at all if not very rarely*) to 7 (*frequently if not constantly*). The five factors in this Finnish version characterize TF leadership as typified by *visioning, challenging, enabling, modelling*, and *rewarding*. The reliabilities can be regarded as adequate; alphas ranged from 0.59 in *modelling* to 0.87 in *enabling*.[1]

The Communication Style Questionnaire

Communication style was measured with 34 items examining different perspectives on communication styles with a 7-point Likert scale from 1 ("I never behave like this") to 7 ("I always behave like this"). Following factor analyses with Varimax rotation, seven communication styles were designated:

- *emotionally intelligent* (see Richmond & McCroskey's [1990] responsiveness factor and Norton's [1983] attentive style),
- *impatient* (the opposite of Norton's [1983] relaxed style),
- *controlled* (that is, communicating professionally, not losing the temper, sharing some similarities with the opposite of Norton's [1983] dramatic style),
- *insecure* (some similarities to the opposite of Norton's [1983] impression-leaving style),
- *avoiding* (avoids revealing personal emotions and discussing difficult topics),
- *dominating* (similar to Richmond & McCroskey's [1990] assertiveness factor and Norton's [1983] dominant style), and
- *transparent* (see Norton's [1983] open communicator).

More detailed descriptions are presented in the results section. The reliability coefficient alphas varied from 0.50 (transparent style) to 0.72 (controlled style). These values can be regarded as adequate because reliabilities of 0.50 and 0.60 are regarded as sufficient (Nunnally, 1967, p. 226). The low alpha recorded for the transparent style modeling dimension suggests that the results relating to it should be interpreted cautiously.

Results

In order to answer our research questions about the connection between TF leadership and the communication styles and communication profile of TF leaders in Finland, leaders were placed in one of three categories based on their own evaluation of their TF leadership behaviors. This was done for each factor and for the whole TF leadership profile. The first group appraised their skills as being the weakest (below the 25% quartile); the second group appraised their skills as moderate (between 25% and 75%), and the leaders in the third group felt their leadership skills were at a very high level (the highest 25% quartile). Table 1 presents all the results on TF leadership and its dimensions in relation to communication style. Then a comparison was made between leaders in the low (G1), average (G2), and high (G3) groups.[2]

Concerning *enabling*, CEOs who placed themselves in the highest group in this dimension were connected to both the emotionally intelligent and the controlled communication styles. They were also more transparent in their communication than leaders with the lowest and the average scores for enabling practices. Even the average group showed a statistical difference to the lowest group, indicating that the lowest group found it challenging to maintain a transparent communication style. The low- and average-scoring groups featured leaders who most often exhibited insecure and controlled communication styles and to a greater extent than the highest-scoring enablers. The lowest-ranked group for enabling practices was also more dominating than the highest-ranked group.

Next, the findings indicated that leaders with average and high levels of modeling leadership skills more often demonstrated emotionally intelligent, controlled, and transparent styles of communication than leaders in the lowest group in the TF leadership dimension. The highest-ranked group of modelers were also far less likely to have an insecure communication style than leaders with the lowest-ranked modeling skills. Regarding *challenging* behaviors, the more challenging the leaders were, the more often they would employ emotionally intelligent and controlled communication styles. Challenging leaders were less likely to exhibit insecure and avoiding communication styles than leaders with the lowest scores on challenging practices.

Rewarding leadership behavior does not appear to have any influence on differences in communication style. In the case of *visioning*, the high-scoring group of leaders were more likely to use emotionally intelligent and impatient communication styles than others and found it easy or important to communicate transparently. Finally, all the leadership behavior factors mentioned were combined to investigate the relationship between *overall* TF leadership behavior and the communication style. Leaders who estimated their TF behaviors to be on an average or high level used the emotionally intelligent communication style more often than those in the lowest group. The most transformational leaders also controlled their emotions more often or more successfully than the leaders with lowest TF leadership appraisals. The lowest group proved more likely to adopt an *avoiding* communication style than the average and high group. Leaders with average TF leadership appraisals were more likely to use a *dominating* communication style than the most TF leaders. The most

Table 1 Transformational Leadership and the Relationship Between Its Dimensions and Differences in Communication Style

TF Leadership communication styles	Enabling Sig. Post hoc Tukey HSD	Modelling Sig. Post hoc Tukey HSD	Challenging Sig. Post hoc Tukey HSD	Rewarding Sig. Post hoc Tukey HSD	Visioning Sig. Post hoc Tukey HSD	Transformational leadership Sig. Post hoc Tukey HSD
Emotionally intelligent	.000*** G1, G2 < G3	.000*** G1< G2, G3	.000*** G1< G2, G3	.192–	.001** G1, G2< G3	.000*** G1 <G2, G3
Impatient	.189–	.918–	.783–	.857–	.015* G1, G2< G3	.651–
Controlled	.000*** G1, G2 < G3	.000*** G1< G2, G3	.000*** G1< G2, G3; G2< G3	.834–	.183–	.001** G1 < G3
Insecure	.000*** G1, G2 > G3	.012* G1 > G3	.009** G1 > G3	.561–	.311–	.077–
Avoiding	.000*** G1, G2 > G3	.049*	.001** G1 > G2, G3	.082–	.843–	.005* G1 >G2, G3
Dominating	.023* G1 > G3	.628–	.851–	.972–	.536–	.013* G2 > G3
Transparent	.000*** G1< G2, G3; G2 < G3	.000*** G1< G2, G3	.555–	.212–	.095 G1, G2< G3	.003* G1, G2 < G3

Note. G1: Weakest in TF leadership, below 25% (percentile rank) in self-evaluations. G2: Average in TF leadership, scores between 25% and 75%. G3: Highest in TF leadership, scores over 75%.
*$p < .05$; **$p < .01$; ***$p < .001$.

transformational leaders admit to mistakes in their communication more than would leaders in the average or lowest groups.

Discussion

This study focused on the relationship between the TF leadership and communication styles of Finnish CEOs. Finnish culture differs from some others, and there are some traits particularly common to Finnish people. Those include not tending to show their feelings and considering it better not to appear overly enthusiastic or loquacious.

This study found in response to RQ1 that there is a relationship between TF leadership and communication styles. Additionally, it was able to formulate a communication profile for transformational Finnish CEOs. Those leaders who judged themselves to have a strong TF leadership style also reported they had an emotionally intelligent, controlled, and transparent communication style. Their leadership style was marked by the absence of the *avoiding* or *dominating* approaches. Only the evaluation of the *rewarding* dimension of TF leadership did not reveal differences among the groups.

Transformational Leadership and Communication

Thus, Finnish transformational CEOs have the following communication profile: They are emotionally intelligent, controlled, and transparent. Leaders with an *emotionally intelligent* communication style are polite, recognize other people's feelings, and take them into account. Such leaders listen to and appreciate others' input and convey their own messages efficiently. The more the leaders practiced TF behaviors, the more they *controlled their emotions* and maintained communication on a professional level. It appears that the communication rules identified in organizations (Kramer & Hess, 2002) apply in Finland.[3]The controlled style correlated to several TF dimensions; this means that TF leaders are capable of handling negative and more challenging topics. Most people recognize when they have made mistakes, but transformational leaders are those who want to build trust by communicating *transparently* and, for example, admit their mistakes *and* apologize for them. Those people tend to have high self-esteem and not to shirk difficult issues. The *impatient communication* style was only statistically related to the visioning factor, despite modeling, challenging, and rewarding having the highest mean scores here too.

The negative connection between communication and TF leadership was associated with the avoiding and dominating approaches. The average group appears to use *a dominating style* more than the strongest TF leaders do, which indicates that they might be people who compensate for their lack of certain leadership skills or communication skills by adopting a dominating communication style. The weakest TF leaders, especially those scoring lowest on challenging and enabling, tended to adopt an *avoiding* style of communication. Moreover, the *insecure* style had a tendency to indicate a negative relationship with TF leadership. It correlated negatively with the

enabling quality. An insecure style indicates that people are insecure about how they communicate key messages and also might struggle to understand others' goals or miss their reaction to what is being discussed.[4] A *courageous* communication style among leaders is a rarely investigated topic and merits further study (Fairhurst & Connaughton, 2014).

Transformational Leadership Profile

Overall, the communication style of TF leaders indicates that they have an empathetic way of communicating, are not dominant types, and so may be approachable. Those qualities mean it is likely that they are likeable leaders, as transformational leaders often are. From a cultural point of view, these results connect positive leadership to controlled communication in Finland, which might not be the case in Italy, for example, where the culture values showing one's feelings and being loquacious (Lewis, 2006). With regard to the TF dimensions, the visioning and rewarding aspects produced different results than the three other TF dimensions. Those leaders with highly developed visioning skills were also more likely than most to adopt an impatient communication style.[5] Rewarding had the lowest mean in appraisals, as is usually the case (Hautala, 2005). Finnish leaders are not very good at giving positive feedback and recognizing accomplishments. Rewarding was the only TF dimension that did *not* have a relationship to any particular communication style. The most emotionally intelligent and transparent leaders might have been expected to be among those adopting the most rewarding style, but it seems that rewarding behavior is not connected to communication, at least among Finnish CEOs.

In conclusion, those CEOs who regarded themselves as transformational also assessed themselves to be using emotionally intelligent, controlling, and transparent styles of communication, and those who viewed themselves as exhibiting low levels of transformational leadership behavior reported using insecure, avoidant, and in some cases dominating communication styles.

There are some limitations to this study, the most problematic being common method bias, as with most self-report questionnaires. This could be improved by employing a 360-degree evaluation technique. The questionnaire was devised with reference to several different communication studies because the purpose was to create a more extensive survey, but it still needs some improvement, and the results should be interpreted cautiously owing to the poor reliability rating in the case of the transparent communication style. We used several strategies to control for common method bias.[6]

These results indicate that leadership and communication training could be more targeted. It may be that potential TF leaders could be trained to excel if one focus of training was on developing their communication style. These results hint at some practical areas that it might be useful to focus on in the Finnish context. Nevertheless, it is still important to be able to talk openly about personal issues, emotions, and personal mistakes. Leadership training should strive to improve true listening skills

instead of argumentation skills that can unwittingly encourage a dominating communication style. Emotionally intelligent communicators not only allow others to state their opinions but also genuinely try to find the value in them. Too little attention is currently paid to the development of communication skills among leaders, and we hope the current research will go some way to redressing that situation.

Notes

[1] Both questionnaires were analyzed with principal component factoring with Varimax rotation.

[2] We only reported statistically significant results; other results are available from the first author.

[3] These dictate that emotions should be kept in check by maintaining professional communication standards and that negative emotions should be masked and even positive ones displayed in a manner appropriate to the specific company's culture. Enabling, modeling, and challenging behaviors were particularly related to a communication style involving controlling emotions.

[4] This style did not differ among the groups on the overall TF leadership scale, but those who reported underusing modeling, enabling, and challenging practices were also more likely to demonstrate an insecure communication style.

[5] A positive view of the situation might suggest that visionaries are trying to create the urgency necessary to impel change with their impatient style. On the other hand, communicating impatiently could well serve only to increase the pressures felt in busy organizations.

[6] The items dealing with leadership and communication styles were clearly differentiated, and respondents were guaranteed anonymity; we also ran Harman's single factor test, but no general factor was apparent: The largest factor did not explain the majority of variance (only 32%), and the three largest explained only 58%. However, these procedures can never eliminate the possibility that the relationships reported might be inflated due to common method bias.

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Transformational leadership in teams – The effects of a team leader's sex and personality

Abstract

Purpose – This study investigates whether transformational leadership exists in teams and if so, whether it is represented in a similar way as in more traditional leadership situations. The study also aims to determine whether a team leader's sex has an influence on the relationship between personality and team leadership when team members evaluate the leader's behaviour.

Design/methodology/approach – A quantitative analysis is conducted on input from 104 team leaders and 672 team members from a Finnish university. Data were collected during university courses and the team leaders' transformational leadership styles were evaluated by team members at the end of the courses.

Findings – The results indicate that the transformational leadership questionnaire is applicable when studying team leadership; the *Visioning* dimension might be absent but *Modelling*, *Enabling*, *Challenging* and *Rewarding* represent transformational leadership in teams. Women tend to be more transformational team leaders than men. Personality seems to influence both sexes so that extraverted and judging personality types are more transformational leaders than introverted and perceiving ones. In relation to sex, introverted, sensing, thinking and perceiving female leaders are regarded as more transformational than men with similar preferences. Additionally, some personality preferences seem to be sex neutral in terms of team transformational leadership when rated by team members.

Originality/value – There is no previous study combining these variables in the academic team context.

Keywords Teams, transformational leadership**,** team leadership, personality, sex, gender

Paper type Research paper

Introduction

Leadership theories are often presented as being gender/sex neutral (Fletcher, 2004), but sex, gender and personality have been noted to influence leaders' behaviour and how subordinates evaluate leaders (Brandt and Laiho, 2013). Expectations and stereotyping may give rise to varying evaluation results for men and women. Women are often expected to be nurturing and considerate, while men are assumed to be assertive, rational, and independent (Hoyt *et al.*, 2009). Male leaders applying autocratic leadership styles are not evaluated as harshly as females (Eagly *et al.*, 1995), and some claim that both women and men are most effective in leadership roles that are congruent with their genders (Eagly *et al.,* 1995; Northouse, 2007).

Today, when flat, team-based organizations are often cited as the ideal, female leaders might have a better chance of being appointed to leading positions. Transformational, participative, and people-oriented leadership have all been connected to feminine characteristics, while masculine characteristics are more fitting to transactional, autocratic, and business-oriented leadership (Appelbaum *et al.,* 2003). Women have been found to practice transformational leadership more than men (Bass, 1999; Northouse, 2007), but since that kind of behaviour is expected of females, male subordinates and colleagues may undervalue their transformational leadership styles (Northouse, 2007). Wolfram and Mohr (2010) found that male leaders in female-dominated industries benefit from transformational behaviour, while females in male-dominated sectors do not. Additionally, male peers have a tendency to view female leaders differently (Lyons and McArthur, 2007).

Studies utilizing leadership ratings have usually concentrated solely on either personality (Bono and Judge, 2004; Emery *et al.*, 2013; Lim and Ployhart, 2004) or gender / sex (Bass, 1999; Lyons and McArthur, 2007; Northouse, 2007), but one recent study indicates that both personality and sex affect leadership ratings (Brandt and Laiho, 2013). In addition to the topics examined in previous studies, we concentrate on how sex and personality may affect leadership ratings, particularly in team settings. Our approach is similar to Powell's (2012: 120, see also Borna and White, 2003) in the use of the key terms, "sex differences in leadership examines how male and female leaders actually differ in attitudes, values, skills, behaviours and effectiveness", rather than focusing on gender differences which draws attention to beliefs about what the differences might be, and what is more appropriate or typical behaviour for females and males. Some of the literature focuses on the gender differences, especially since transformational leadership has feminine interdependences. However, since the

evaluators (i.e., team members) were not asked to comment on their leader's masculinity or femininity, differences of sex are the sole focus of the analysis.

Accordingly, this study combines these three elements—transformational leadership, sex, and personality—in an academic project team context. The goal is to see whether team leaders' personalities and sex affect their team members' assessments of the leaders' transformational leadership ability. Additionally, the current research examines whether a transformational leadership questionnaire is applicable to team leadership and all its dimensions. The choice of focus was motivated by the need for more information on whether transformational leadership manifests similarly within a short-term project and more traditional work settings. To date, transformational leadership studies have focused on leading organizations and less-defined, bigger groups. Studies that focus on teams have applied transformational leadership, without considering its relevance in the team context. Moreover, by combining an examination of team leaders' personality and sex, this study offers a new perspective on training and on team members' and leaders' self-development.

The team leaders in this study were young management students who were interested in team leadership skills, and who are likely to become leaders in the next decade. The results give clues about whether transformational leadership can be applied to team leadership and to understanding the combined effects of gender and personality on team members' views of leadership behaviour. The results may enable leaders to develop their understanding of how others view their behaviour, and may also enhance their awareness of sex and gender dynamics (see eg. Thomas-Hunt and Phillips, 2004), develop their understanding of themselves, and encourage their personal development.

Team transformational leadership

"Teamwork is a set of interrelated and flexible cognitions, behaviours, and attitudes that are used to achieve desired mutual goals" (Day *et al.*, 2004: 863). Team leadership was defined by Burke *et al.* (2011: 338) as "an enactment of the affective, cognitive, and behavioural processes needed to facilitate performance management… and team development". Day *et al.* (2004) called for more research on leadership in teams in their review of leadership capacity in teams. Team leadership differs from traditional leadership, and it should not be assumed that leadership is similar at the top management and smaller operational team levels (Zaccaro and Klimoski, 2001). Leading or coaching a

team demands the ability to share power, as without it the benefits of teamworking will be lost (Stewart and Manz, 1995).

Many researchers have studied and defined transformational leadership (Bass, 1985; Bennis and Nanus, 1985; Kouzes and Posner, 1988; Tichy and Devanna, 1990). Common definitions of transformational leadership involve visioning, challenging, consideration, and acting as an example (Ibid.). Transformational leadership has been connected with leader effectiveness, higher productivity, lower employee turnover rates, and higher job satisfaction rates and stronger motivation (e.g., Clover, 1990; Guay, 2013, Marshall *et al.*, 1992; Masi and Cooke, 2000; Medley and Larochelle, 1995; Sparks and Schenk, 2001).

Previous studies indicate that transformational leadership can also be beneficially implemented in teams. Studies indicate for example that team learning (Raes *et al.*, 2013), subordinates' self-reported empowerment (Jung and Sosik, 2002; Özaralli, 2003), group cohesiveness (Jung and Sosi, 2002; Stashevsky and Koslowsky, 2006) and effectiveness (Jung and Sosik, 2002) can be enhanced in the presence of transformational leadership. Wang *et al.* (2011) found in their meta-analytical review that transformational leadership correlates positively with performance in teams. More specifically, Lim and Ployhart (2004) indicated that it relates more strongly to team performance in the optimal rather than the typical context. Strang (2005) found transformational leadership in project teams to be more successful than a laissez-faire leadership style, which resulted in lower project efficiency and team satisfaction. Leaders practicing at least a moderate number of transformational behaviours and very little (if any) laissez-faire attitude, and displaying absent or unproductive behaviours, were more successful, as indicated by more effective and efficient organizational-level deliverable production. The same study also revealed that project leadership does not always require strong transformational behaviour on the part of the leader to produce effective organizational outcomes, although applying transformational leadership behaviour tends to improve follower satisfaction and bolster leader-follower relationships. Moreover, Schaubroeck *et al.* (2007) found that transformational leadership has an influence on team performance through its mediating effect on team potency. The effect of transformational leadership on team potency was moderated by team power distance and team collectivism, such that higher power distance teams and more collectivist teams explified stronger positive effects of transformational leadership on team potency.

The positive relationship between transformational leadership and efficiency has been established in studies of various types of teams. In the case of academic teams, Braun *et al.* (2012) found that transformational leadership was positively

related to followers' job satisfaction at both individual and team levels and to objective team performance. In a complex international project team context, transformational leadership was also found to positively correlate with team performance, job satisfaction, and work adjustment (Gundersen *et al.,* 2012). Interestingly, in the uncertain context of a virtual team, the team's effectiveness was more dependent on transformational leadership than it was in a traditional team context (Purkanova and Bono, 2009).

There are only a couple of studies of team diversity and transformational leadership available to review (Kearney and Gebert, 2009; Rowold, 2011). Kearney and Gebert (2009) studied age, nationality, and diverse educational backgrounds and found that when levels of transformational leadership were high, nationality and educational diversity were positively related to team leaders' longitudinal ratings of team performance. With regard to sex, transformational leadership worked best for teams with both male and female employees (Rowold, 2011).

Researching the dimensions of transformational leadership, Strang (2005) found that the team leaders assessed in his study did not get overly involved with the process and therefore did not challenge their team members. Nor did they create new visions and they shared only exciting visions. Strang explains these findings in light of the nature of project management, which requires adherence to strict budgets and timetables. Lee *et al.* (2011) found only the intellectual stimulation dimension of transformational leadership to be related to team performance in the banking industry, where teams are large and relatively permanent.

The importance of the team context has been acknowledged (Mannheim and Halamish, 2008), but the studies reviewed by the authors did not test just how applicable the different dimensions of transformational leadership were. Transformational leadership has been successfully applied and found useful in the team context too, improving effectiveness and performance for example. Yet there remains a scarcity of clear information on whether tranformational leadership is similar in short team projects and in more traditional work settings.

Earlier studies of transformational leadership in teams suggest it is present in its many forms in that context; therefore the first hypothesis is:

H1: All dimensions of transformational leadership are also practiced in teams by team leaders

Sex and personality in the leadership context

This section considers the previous studies on sex and personality in relation to transformational leadership. Studies indicate that sex and personality may affect why some leaders engage in transformational leadership behaviour and others do not.

Sex, gender, and leadership

Several studies indicate that women make better transformational leaders than men (e.g., Bass *et al.,* 1996; Doherty, 1997; Eagly *et al.,* 2003; Turner *et al.,* 2004). In general, Eagly *et al.*'s meta-analysis revealed that, compared to male leaders, female leaders are more transformational and more at ease with contingent rewards (which is one component of transactional leadership). Another recent study (Wolfram and Mohr, 2010) found that the frequency of transformational behaviour is not dependent on sex. Female leaders were evaluated as more transformational than males by their superiors and according to their own self-ratings, although subordinates evaluated them equally (Carless, 1998). According to Brandt and Laiho's (2013) study, female leaders were rated by their subordinates as being more enabling and rewarding than their male counterparts, and males were rated as being more challenging than females. Subordinates reported that their leaders' personality determined the leaders' behaviour, but less than the leaders themselves thought.

Personality and leadership

Personality can be considered the dominant trait a person displays, but is more usually defined as a distinctive pattern of traits or behaviour in which thoughts and emotions are included (Mischel, 1986). The Myers-Briggs Type Indicator (MBTI) used in this study, offers a dynamic approach to personality. The MBTI has been widely used in the field of leadership and organizations (e.g., Gallén, 2009; McCarthy and Garavan, 1999; Storr and Trenchard, 2010). The MBTI is based on Jung's (1921/1971) work on psychological types. It reveals a person's habitual preference for an orientation of energy (extraversion/introversion), a process of perception (sensing/intuition), a decision-making function (thinking/feeling) and an attitude to life (judging/perceiving).

The personality characteristics associated with transformational leaders include creativity, being open to novelty, innovativeness, propensity to risk, courage,

belief in people, being value-driven, valuing life-long learning, pragmatism, nurturing, feminine attributes, and self confidence (Bass, 1985; Tichy and Devanna, 1990; Ross and Offerman, 1997).

Several studies have concentrated on transformational leaders' personalities, using different personality measures. Research applying the five-factor model (FFM) of personality has produced results indicating strong support for the relationship of extroversion and leadership, and especially transformational leadership (Bono and Judge, 2004; Judge and Bono, 2000; Lim and Ployhart, 2004; Ployhart *et al.,* 2001). The meta-analysis by Judge *et al.* (2002) found that extraversion was the personality trait most consistently linked to the emergence of leaders. Bass and Bass (2008) also suggested that the person in the group who spent more time talking was often the one to emerge as group leader. Reichard *et al.*'s study (2011) indicated a significant relationship between adolescent extraversion and adult workplace leader emergence and transformational leadership above and beyond adolescent intelligence, across a 12-year span. Such clear relationships of the other dimensions of the "big five" to leadership are not supported empirically. For example according to Judge and Bono (2000) agreeableness correlated to transformational leadership, whereas Ployhart *et al.* (2001) found a correlation with openness, and Cavazotte *et al.* (2012) with conscientiousness. According to Lim and Ployhart (2004) neuroticism and agreeableness correlated negatively with transformational leadership.

In the case of the Sixteen Personality Factor Questionnaire (16PF), conformity predicted transformational behaviour when superiors rated the participants. However, intelligence was also connected with transformational leadership in subordinates' evaluations (Atwater and Yammarino, 1993.) Hetland and Sandal (2003) studied four scales from the 16PF (warmth, reasoning, openness to change and tension), finding warmth to be the strongest personality correlate. A significant negative relationship occurred between tension and transformational leadership. Furthermore, each of the four scales explained the variance of tranformational leadership significantly but modestly, according to subordinates. Furthermore, according to the superiors, openness to change was predictive of transformational leadership.

Most studies of leaders' self-ratings using the MBTI find that extraversion, intuition, and perceiving preferences are more related to transformational leadership than their polar opposites: introversion, sensing and judging (Church and Waclawski, 1998; Hautala, 2006). Some do not include extraversion (Van Eron and Burke, 1992) in the list, and some exclude both extraversion and intuition (Brown and Reilly, 2009). The results on subordinates' appraisals of

their leaders' behaviour are less clear cut. Some studies did not find any relationships (Brown and Reilly, 2009), some supported similar results to those revealed by the leaders' self-ratings (Church and Waclawski, 1998; Roush, 1992), and some produced wholly opposite results indicating that sensing (Hautala, 2006; Roush and Atwater, 1992) and feeling preferences (Atwater and Yammarino, 1993; Roush and Atwater, 1992) were strongly associated with transformational leadership.

Sex, personality and leadership

Carroll's (2010) recent study focused on women's transformational leadership and personality in healthcare organizations. Here too, self-ratings indicated that the extraversion, intuition, feeling, and perceiving dimensions correlate with transformational leadership.

Brandt and Laiho (2013) found extraverted women leaders to be more enabling and rewarding than extraverted men. Intuitive women were more rewarding and scored higher on overall transformational profile than intuitive men. Thinking women were regarded as being more enabling than thinking men and finally, judging women were seen as more enabling and transformational overall than judging men. With regard to men, perceiving men scored higher on challenging than perceiving women. Because Brandt and Laiho's study focused on more experienced leaders and their subordinates did not form academic project teams, we do not use these findings to set hypotheses.

Based on the available empirical studies, our second hypothesis is:

H2: A leader's sex and personality have an impact on team transformational leadership evaluations as independent variables

H2A) Female leaders will be more enabling and rewarding in their transformational leadership behaviour than males.

H2B) Men will be more challenging than women.

H3: A leader's sex will influence the relationship of personality and leadership in team members' evaluations

Method

Data and process

Data were collected from 104 team leaders and 672 team members on Finnish university courses between 1998 and 2012. Forty-one percent of the team leaders were male. The leaders' role was to act as a coach and a motivator. They did not participate in any of the tangible team work. Most attended to all of the team meetings and some only to a couple of them. The leaders' personality types were recorded at the beginning of the course. They were voluntarily evaluated by team members (from one to three teams of three to five members each) at the end of the course and teamwork. The team members conducted the evaluations anonymously.

The leaders were majoring in Management and Organizations, and were at least second year students. The team members were mostly first year business students who had not yet chosen their majors. The leaders were participating in a team leader course that was not part of their compulsory studies. Team members, on the other hand, were enrolled on a compulsory course as part of their bachelor's degree studies, and one requirement of their coursework was to complete an extensive written assignment in a team with three to six students.

Measures

Transformational leadership behaviour is based on the interpretation of Kouzes and Posner (1988). They discovered that executives who persuaded others to join them followed the path of the vision-involvement-persistence model. The more specific dynamics of this model comprise five parts: challenging the process, inspiring a shared vision, enabling others to act, Modelling the way, and encouraging the heart (Kouzes and Posner, 1988). Kouzes and Posner developed the Leadership Practices Inventory (LPI) that has subsequently generated other research (see e.g., Carroll, 2010; Hautala, 2008). The LPI was found to be suited to Finnish culture (see e.g., Hautala, 2005) and is therefore used in this study.

The descriptions of the dimensions used in the LPI in the Finnish context are the following (Hautala, 2005). Visioning means presenting the ideal future to others, making sure people hold common values, and communicating a view about the best way to lead the organization. Challenging includes risk-taking, innovating to improve organization, and looking for challenging tasks and opportunities. Enabling means respecting others, giving them freedom to make their own

decisions, creating a trusting atmosphere, and making others feel that projects are their own. Modelling includes consistency of organizational values and confidence in the philosophy of how to lead, alongside confirmation of planning and goal setting. Rewarding means celebrating and recognizing achievements when goals are met. The Finnish version of the LPI (Posner and Kouzes, 1990) was adopted for this study. The LPI is based on interviews with managers and is well suited to the appraisal of leadership behaviour by both leaders and subordinates (e.g., Herold and Fields, 2004). As one of the objectives was to investigate whether transformational leadership is applied similarly in this specific team context, section "team transformational leadership", elaborates earlier findings of this topic.

The items in the questionnaire were rated on a Likert scale anchored with *not at all or very rarely* (1) and *frequently if not constantly* (5). Principal component factoring with Varimax rotations was performed on a total sample of 672 team-member appraisals.

The personality of the team leaders was evaluated with the MBTI. The MBTI includes scores on four bipolar dimensions: extraversion-introversion (E/I), sensing-intuition (S/N), thinking-feeling (T/F), and judging-perceiving (J/P). Every item has two alternatives for the respondents to choose from. An individual is assigned a type classification based on one of 16 possible categories. In this study the focus is on the eight preferences rather than on the whole type.

The MBTI's "…validity is determined by its ability to demonstrate relationships and outcomes predicted by [Jung's] theory" (Briggs Myers *et al.*, 1985: 175). The MBTI's construct validity has been proven by independent studies that investigated whether type distributions coincide with the requirements of certain professions. Correlations of other measures with the MBTI's continuous scores and studies of behavioural differences between the types have also validated the system (see e.g. Briggs Myers *et al.,* 1985 for more detail). Gardner and Martinko (1996: 77) considered whether the MBTI is "a reliable and valid instrument for studying relationships among managerial personalities, cognitions, behaviours, effectiveness, and situational variables" and their thorough review suggested that it is. They did recommend some "refinements of type construct and its measures." The construct validity and reliability of the Finnish form (F-version) have been proven during a validation process spanning several years (see e.g., Järlström, 2000). Järlström reported an internal consistency (Pearson's correlation coefficients) of .65 to .76 and Cronbach's coefficient alpha of .79 to .86.

Analysis

Analysis was conducted at the team-member level, as recommended by Hopkins (1982), group means were not used so as to avoid impoverished analysis and to increase generalizability. The *t*-test was used in data analysis, in order to reveal differences between personalities and sexes. The *t*-test is used when two variables are compared and the distribution of the data is normal. Degrees of freedom were adjusted in line with the requirements of Levene's test. The effect sizes (Cohen's *d*) were also calculated and interpreted (Norusis, 1994).

Results

This section concentrates first on testing whether the transformational leadership questionnaire can be applied to team leadership, then on sex and personality differences in team leadership, and finally on personality through sex interaction differences. All comparisons concentrate on team members' views of their leaders' behaviour.

Applying transformational leadership in teams

One of the main purposes of this study was to empirically investigate whether transformational leadership takes the same form in leading teams as in other contexts. Transformational leadership in teams has been studied widely, yet this aspect has not been addressed. The factor model accounted for 80.8% of the variance. The factor analysis also supports earlier studies using similar factors in Finland (e.g., Hautala, 2005). The five factors in this Finnish version characterize transformational leadership as *Visioning, Challenging, Enabling, Modelling*, and *Rewarding* (Ibid.). However, in the factor analysis involving team members, the questions dealing with *Visioning* did not load cleanly, and had to be removed. The descriptions of the dimensions of this team LPI are: *Challenging* (encouraging new methods and evaluating work from a learning perspective), *Enabling* (involving everyone in the work, dividing work equally), *Modelling* pursued in concert with *Rewarding* (henceforth *Modelling&Rewarding*) (finding enough time for teams, planning and goal setting, recognizing achievements). Reliability levels were adequate, as Cronbach's alphas ranged from .840 to .939. In Posner and Kouzes' (1988) study, the alphas were reported to be at least .70, while in Brown and Posner's (2001) study, alphas ranged from .66 to .84. In terms of overall evaluation, *Modelling&Rewarding* had the highest mean (3.86),

and *Challenging* the lowest (3.45). The mean for *Enabling* was 3.62 and *Transformational Leadership* 3.65 (the mean of all dimensions).

Turning to overall evaluations of transformational leadership, the results are in line with a previous study in Finland establishing *Enabling* and *Modelling* as the dimensions most emphasized in contrast to the situation in the U.S.A where *Enabling* and *Challenging* are emphasized (Hautala, 2005).

The factor analysis indicated that *Visioning* was not as relevant for team leadership, as the other dimensions (*Modelling*, *Enabling*, *Challenging*, and *Rewarding*). *Visioning* is one of the central themes in transformational leadership, but Burke *et al.* (2006) state that utilizing general leadership theories (such as transformational leadership) in the team setting is not always the best solution. Team members were presented with a new and complex task and given only six weeks to complete it. It appears that practical leadership was more acute requirement than visioning. In addition, it may be that team settings in general demand different kinds of leadership. Furthermore, the team leaders were students who were largely inexperienced in the leader role; thus *Visioning* may be something that develops with experience. It can be assumed that *Visioning* does not play as important a role in this type of short-term academic project as other aspects of transformational leadership.

Rewarding was connected to *Modelling* in the factor analysis, which might suggest that in the case of student team work, the rewarding is not so overt and widely practiced. This paper concludes that applying transformational leadership (including *Visioning*) is possible in teams, especially when the team is intended to be relatively permanent and the team members are dealing with tasks that they are quite familiar with. *The first hypothesis which predicted that all dimensions of transformational leadership are also practiced in teams by the team leaders is rejected.*

Sex

Female team leaders were regarded as being statistically significantly more oriented toward *Modelling&Rewarding* than males (t(510)=-3,557, p= .000), and Cohen's effect size value (d= .16) does suggest a small practical difference. Levene's test indicated unequal variances (F=14.26, p= .000), so degrees of freedom were adjusted from 657 to 510. Women are also more *Enabling* than men (t(541)=-2,881, p= .003), and again Cohen's effect size value (d= .23) does suggest a small practical difference in their leadership behaviour. Finally, also

Overall Transformational Profile (henceforth *Transformational*) was higher for women (t(521)=-3,111, p= .002) than for men and Cohen's effect size value (d= .24) does suggest a small practical difference in the overall transformational profile also (see Table 1).

Essentially, female team leaders received higher ratings than male leaders, especially in the *Modelling* & *Rewarding, Enabling and Overall Transformational leadership*. This is consistent with Posner and Kouzes' (1993) study where, according to self-ratings and subordinates' appraisals, female managers were more likely than male managers to practice "Modelling the Way" and "Encouraging the Heart" (*Modelling* and *Rewarding* respectively in the Finnish version). Additionally, the meta-analysis of Eagly *et al.* (2003) revealed that female leaders favored contingent reward and, overall, were more transformational than males. The current study also accords with earlier studies, which have found that women are more transformational than men (e.g., Bass *et al.,* 1996; Doherty, 1997; Turner *et al.*, 2004). The results were also consistent with Brandt and Laiho's (2013) study where women received higher ratings in *Enabling* and *Rewarding*. Surprisingly however, men were rated higher in *Challenging* in their study.

The current results in the case of female leaders also accord with social role theory (Eagly, 1987), which indicates that women are expected to act in a helpful and nurturing manner and men in an assertive and confident way (Eagly, 1987; Heilman, 2001). However, the results did not support hypothesis 2B proposing that men would be more challenging than women. Maybe the young adults participating in the evaluation did not have such clear gender-related leadership expectations as their older counterparts; alternatively, behaviours that conform to gender-related expectations might be disappearing, and female team leaders are no longer afraid to set clear goals. *Hypothesis 2A: 'female leaders will be more Enabling and Rewarding' was supported but hypothesis 2B: 'males will be more challenging than females' did not find support.*

Table 1. Sex differences in Transformational leadership

Dimensions	Sex	N	Mean	Std.	t-value	Sig.
Modeling & Rewarding	Men	272	3,72	,891	-3,557	,000***
	Women	387	3,95	,735		
Enabling	Men	273	3,51	,890	-2,881	,003**
	Women	393	3,70	,794		
Challenging	Men	276	3,38	,899	-1,789	,074
	Women	393	3,51	,843		
Transformational	Men	269	3,54	,837	-3,031	,002**
	Women	384	3,73	,722		

T-test. *Level of Significance *0.05 level, ** 0.01 level, *** 0.001 level*

Personality preferences in comparison

The personality of the team leader has an important and statistically significant influence on ratings in the case of the preference pair extraversion and introversion. Extravert team leaders were evaluated as more *Modelling&Rewarding* oriented (t(657) = 1.970, p = .049) than introverted team leaders, and Cohen's effect size value (d = .16) does suggest a very small practical difference. The extraverts also received a higher rating against *Challenging (*t(667) = 2.040, p = .042), and Cohen's effect size value (d = .17) again suggests a very small practical difference. Extraverted leaders' *Transformational leadership profile* (t(651) = 2.013, p = .044) evaluations also appeared statictically different, but Cohen's effect size value (d= .07) suggests there is no practical difference compared to introverted team leaders. Judging types were evaluated as more *Modelling&Rewarding* (t(544) = 3.092, p = .002), further Cohen's effect size value (d= .25) does suggest a small practical difference. Judging types were also evaluated as being more *Enabling* (t(664)=2.383, p= .019, d= .19), and *Transformational* (t(557)=2.348, p= .019) than perceiving types and Cohen's effect size value (d = .19) again suggests a very small practical difference. (see Table 2).

These results are statistically significant in the dimensions of extraversion-introversion and judging-perceiving. Extraverted team leaders were rated higher than introverts in terms of *Modelling&Rewarding* and *Challenging*. College freshmen might appreciate the extraverted leaders' approach, since extraverted

people focus more on team members and giving them feedback and encouragement as rewards, while introverted team leaders focus on the tasks at hand. Extraverts tend to give more positive feedback than introverts, who do not require as much feedback themselves and so do not naturally offer it (Briggs Myers *et al.,* 1998). Earlier studies have also confirmed the presence of *rewarding* behaviour among extraverted leaders (Hautala, 2006).

Team leaders with a judging preference were more *Modelling&Rewarding*, *Enabling* and *Overall Transformational* oriented than perceiving leaders. This finding runs contrary to earlier findings such as those of Hautala (2006) where perceiving types were noted to be more *Challenging* than judging types. One reason for this surprising result may be that schedule oriented and strict judging types tend to take their studies more seriously than more flexible and spontaneous perceiving types. According to Hautala and Routamaa (2007) judging types are more active in their studies than perceiving types, when grades and credits are compared. This may offer a reason for their higher levels of motivation as a team leader. We can observe evidence of that motivation when team members report judging team leaders take their work more seriously and offer team members more organized support and examples of good practice. More perceiving types of leaders might have a slightly too relaxed approach to their teams' progress (Myers and Myers, 1990). Overall, hypothesis 2 was supported.

Table 2. Personality preference differences in Transformational leadership

Dimensions	Preference	N	Mean	Std.	t-value	Sig.
Modeling & Rewarding	E	419	3,90	,817	1,970	,049*
	I	240	3,77	,796		
Enabling	E	424	3,66	,859	1,592	,112
	I	242	3,55	,801		
Challenging	E	427	3,51	,873	2,040	,042*
	I	242	3,36	,854		
Transformational	E	415	3,70	,790	2,013	,044*
	I	238	3,57	,749		
Modeling & Rewarding	S	379	3,84	,828	-0,613	,540
	N	280	3,88	,788		
Enabling	S	384	3,60	,836	-0,566	,572
	N	282	3,64	,846		
Challenging	S	384	3,41	,879	-1,547	,122
	N	285	3,51	,851		
Transformational	S	375	3,63	,787	-0,946	,345
	N	278	3,69	,763		
Modeling & Rewarding	T	335	3,87	,802	0,550	,582
	F	324	3,84	,821		
Enabling	T	339	3,64	,798	0,682	,497
	F	327	3,60	,882		
Challenging	T	341	3,48	,846	0,776	,438
	F	328	3,43	,891		
Transformational	T	333	3,67	,749	0,653	,514
	F	320	3,63	,806		
Modeling & Rewarding	J	368	3,94	,718	3,092	,002*
	P	291	3,74	,904		
Enabling	J	373	3,69	,788	2,347	,019*
	P	293	3,53	,895		
Challenging	J	373	3,49	,837	1,151	,250
	P	296	3,41	,905		
Transformational	J	366	3,72	,712	2,348	,019*
	P	287	3,57	,847		

T-test. *Level of Significance *0.05 level, ** 0.01 level, *** 0.001 level*

The interaction of personality and sex

This section addresses the comparison between sexes with similar personality preferences, for example, a comparison of female and male introverted leaders, female and male extraverted leaders, female and male sensing leaders, and the other available combinations.

Extraversion – Introversion

The results indicated that female extraverted team leaders were regarded as being more *Modelling&Rewarding* than extraverted male team leaders (t(283)=-2.287, p= .023), also Cohen's effect size value (d= .24) suggests a small practical difference. In case of introversion, females were regarded as more *Modelling&Rewarding* (t(219) = -2.608, p= .009, d= .34)*, Enabling* (t(230)= -2.795, p= .006, d= .40) and *Transformational* than males (t(222) = -2.397, p= .017, d= .31) (Table 3), Cohen's effect size values here suggest a moderate practical difference in their leadership behaviour, especially in terms of *Enabling*.

Extraverted women were more *Modelling&Rewarding* oriented than extraverted men. Thus similar to previous findings, extraverted women are more transformational than extraverted men, and *hypothesis 3A was supported*. In Brandt and Laiho's (2013) study, extraverted women were more enabling and rewarding, but there was no difference in the case of introversion. Here, introverted women were more *Modelling&Rewarding*, *Enabling,* and *Transformational* than introverted men. According to the previously mentioned social role theory, which anticipates women being be more nurturing and helpful, it may be that it is easier for women to give positive feedback and adhere to schedules (=Modelling) than men who are expected to be more masculine in their behaviour (Eagly, 1987). Interestingly, the differences between the sexes in the case of introversion are seen with younger but not with older people.

Table 3. Comparison of sex differences between introverted and extraverted preferences

Dimensions	Sex	N	Mean	Std.	t-value	Sig. (2-tailed)
Extraverted-Mod. & Rew.	Men	157	3,78	,905	-2,287	,023*
	Women	262	3,98	,752		
Extraverted-Enabling	Men	157	3,58	,922	-1,419	,157
	Women	267	3,70	,817		
Extraverted-Challenging	Men	159	3,44	,904	-1,197	,232
	Women	268	3,54	,853		
Extraverted-Transformation.	Men	155	3,61	,857	-1,788	,065
	Women	260	3,75	,744		
Introverted-Mod. & Rew	Men	115	3,63	,869	-2,632	,009**
	Women	125	3,90	,700		
Introverted-Enabling	Men	116	3,40	,840	-2,795	,006**
	Women	126	3,69	,742		
Introverted-Challenging	Men	117	3,30	,890	-1,036	,301
	Women	125	3,42	,818		
Introverted-Transformation.	Men	114	3,34	,805	-2,397	,017*
	Women	124	3,68	,676		

T-Test. *Level of Significance *0.05 level, ** 0.01 level, *** 0.001 level*

Sensing – Intuition

Sensing women were regarded as more *Modelling&Rewarding* (t(265)= -3.191, p= .002, d= .34), *Enabling* (t(299)=-3.191, p= .001, d= .34), *Challenging* (t(382)=-2.012, p= .049, d= .21) and *Transformational* (t(276)=-3.031, p= .003, d= .33) than male sensing leaders (Table 4). Cohen's effect size values here suggest a moderate practical difference in the transformational leadership behaviour of sensing women and men, more specifically in *Enabling* and *Modelling&Rewarding*, less noticeably in *Challenging*. In the case of the intuition preference, there were no evident differences between male and female team leaders, yet the means of women were higher here too.

Sensing women were more *Enabling, Challenging,* and *Transformational* than sensing men. According to the leaders' self-evaluation, sensing female leaders regarded themselves as more enabling than men, however subordinates did not confirm this in Brandt and Laiho's (2013) study. It may be that both, sensing and

intuition have an impact on transformational leadership behaviours. It appears that a new short team project is easier to handle for sensing women and they are able to learn and implement taught leadership skills while more experienced intuitive women (in comparison with men) excel in displaying transformational leadership behaviours in more traditional organizational settings.

Table 4. Comparison of sex differences between sensing and intuitive preferences

Dimensions	**Sex**	**N**	**Mean**	**Std.**	**t**	**Sig. (2-tailed)**
Sensing-Mod. & Rew.	Men	147	3,66	,917	-3,191	,002*
	Women	232	3,95	,747		
Sensing-Enabling	Men	150	3,43	,867	-3,252	,001**
	Women	234	3,71	,798		
Sensing-Challenging	Men	151	3,30	,915	-2,012	,049*
	Women	233	3,48	,849		
Sensing-Transformation.	Men	146	3,47	,847	-3,031	,003*
	Women	229	3,73	,731		
Intuitive-Mod. & Rew.	Men	125	3,78	,859	-1,810	,071
	Women	155	3,95	,719		
Intuitive-Enabling	Men	123	3,59	,915	-,819	,414
	Women	159	3,67	,789		
Intuitive-Challenging	Men	125	3,49	,871	-,513	,608
	Women	160	3,54	,837		
Intuitive-Transformation.	Men	123	3,62	,821	-1,217	,224
	Women	155	3,74	,713		

T-test. *Level of Significance *0.05 level, ** 0.01 level, *** 0.001 level*

Thinking – Feeling

With regard to the thinking and feeling preferences, female thinking types were more *Modelling&Rewarding* (t(329)=-3.720, p = .000, d= .40)*, Enabling* (t(336)=-3.581, p= .000, d= .39)*, Challenging* (t(338)=-2.268, p= .024, d=.24) and *Transformational* (t(326)=-3.446, p= .001, d= .38) than male thinking types. Cohen's effect size values here suggest a moderate practical difference in their leadership behaviour, with the exception of the *Challenging* measure, which demonstrates only a small difference. In the case of the feeling preference, there were no differences between male and female team leaders (Table 5).

Thinking women were more *Modelling&Rewarding*, *Enabling, Challenging,* and *Transformational* than thinking men. This result complements the finding of Brandt and Laiho (2013) establishing that thinking women were more enabling than men.

Table 5. Comparison of sex differences between thinking and feeling preferences

Dimensions	Sex	N	Mean	Std.	t-value	Sig. (2-tailed)
Thinking-Mod. & Rew.	Men	179	3,73	,873	-3,720	,000***
	Women	156	4,04	,676		
Thinking-Enabling	Men	180	3,50	,847	-3,581	,000**
	Women	159	3,80	,707		
Thinking-Challenging	Men	182	3,38	,911	-2,268	,024*
	Women	159	3,59	,753		
Thinking-Transformation.	Men	177	3,54	,818	-3,446	,001**
	Women	156	3,82	,632		
Feeling-Mod. & Rew.	Men	93	3,70	,930	-1,726	,086
	Women	231	3,89	,768		
Feeling-Enabling	Men	93	3,52	,975	-1,037	,300
	Women	234	3,63	,842		
Feeling-Challenging	Men	94	3,38	,881	-,623	,534
	Women	234	3,45	,897		
Feeling-Challenging	Men	92	3,53	,878	-1,383	,167
	Women	228	3,67	,774		

T-test. *Level of Significance *0.05 level, ** 0.01 level, *** 0.001 level*

Judging – Perceiving

Female team leaders with a preference for perceiving were regarded as more *Modelling&Rewarding* (t(289)=-3.996, p= .000, d= .46)*, Enabling* (t(290)=-3.312, p= .001 d = .38)*, Challenging* (t(290)=-3.536, p= .000, d= .41) and *Transformational* (t(285)=-3.863, p= .000, d= .45) than their male counterparts. Cohen's effect size values suggest a moderate practical difference between female and male perceiving team leaders in all factors and in the overall evaluation of transformational leadership. In the case of judging leaders there were no differences (Table 6). According to Brandt and Laiho (2013) perceiving men were more challenging than perceiving women, but there were no other differences in the case of this dimension. Again, it may be that social expectations have an impact, in that older men especially have been expected to behave in a more masculine way and older women in a more feminine way (Eagly, 1987), and when perceiving types have a tendency to behave in such a way, that has been most evident in the behaviour of older men. Younger generations may not feel as compelled to behave in a manner expected of them as their older peers would, and thus these results may indicate personality differences more than gender differences.

Table 6. Comparison of sex differences between judging and perceiving preferences

Dimension	Sex	N	Mean	Std.	t-value	Sig. (2-tailed)
Judging-Mod. & Rew.	Men	106	3,95	,665	,079	,937
	Women	262	3,94	,739		
Judging-Enabling	Men	107	3,69	,747	,007	,994
	Women	266	3,69	,805		
Judging-Challenging	Men	107	3,58	,774	1,373	,171
	Women	266	3,45	,860		
Judging-Transformational	Men	106	3,74	,664	0,370	,712
	Women	260	3,71	,732		
Perceiving-Mod. & Rew.	Men	166	3,57	,984	-3,996	,000***
	Women	125	3,97	,730		
Perceiving Enabling	Men	166	3,39	,956	-3,312	,001**
	Women	127	3,72	,772		
Perceiving-Challenging	Men	169	3,26	,950	-3,536	,000***
	Women	127	3,62	,800		
Perceiving-Transformational	Men	163	3,41	,912	-3,863	,000***
	Women	124	3,78	,703		

T-test. *Level of Significance *0.05 level, ** 0.01 level, *** 0.001 level*

These results support the third hypothesis. For example, comparing female judging leaders' overall transformational evaluation scores with those of judging male leaders revealed them to vary considerably more (d=.45) than when comparing just gender (d=.24) or the personality preference of judging (d=.19). Leadership experiences, experience of the evaluator and context, whether it is a team or other setting appear to influence some of the responses. The overall results are presented in Table 7. Even if women are evaluated as being more transformational, in some cases personality preferences may have a greater impact than sex.

Table 7. Summary of the findings

	Modeling &Rewarding	**Enabling**	**Challenging**	**Transformational**
Sex	Women > Men	Women > Men	-	Women > Men
Personality (women & men)	E > I J > P	J > P	E > I	J > P
Sex and personality	E women > E men I women > I men S women > S men T women > T men P women > P men	- I women > I men S women > S men T women > T men P women > P men	- - S women > S men T women > T men P women > P men	- I women > I men S women > S men T women > T men P women > P men

Discussion

The first aim of this study was to find out whether **transformational leadership** exists in teams. The Finnish version of Kouzes and Posner's (1988) LPI was tested with Finnish university students.

The factor analysis indicated that *Visioning* was not as relevant for team leadership as the other dimensions (*Modelling*, *Enabling*, *Challenging*, and *Rewarding*). *Rewarding* was connected to *Modelling* in the factor analysis, which might suggest that, in the case of student team work, rewarding is not practiced so overtly. It could be suggested that the relevance of the *Visioning* dimension in team leadership studies should always be investigated. Owing to its importance to leadership, visioning could be emphasized more when teaching business students. This paper concludes that applying transformational leadership is possible in teams (including *Visioning*), especially when the team is created to be relatively permanent and the team members are dealing with tasks that they are relatively familiar with. Concerning overall evaluations of transformational leadership, the results are in line with a previous study conducted in Finland, where *Enabling* and *Modelling* were the dimensions most emphasized, in contrast to findings from the U.S.A that showed people emphasize *Enabling* and *Challenging* (Hautala, 2005).

In the case of **sex**, female team leaders received higher ratings than male leaders, especially in the *Modelling&Rewarding, Enabling and Overall Transformational leadership*. All team leaders conducted interactive lectures involving good team leadership practices and content indicative of

transformational leadership. It appears that female students were able to best capture those behaviours or that doing so is quite natural to them. Male leaders may need more training or different approaches in team leadership training to improve their transformational leadership behaviours.

When focusing only on **personality,** extraverted team leaders were rated higher than introverts in terms of *Modelling&Rewarding* and *Challenging*. Judging team leaders received higher evaluations than perceiving ones regarding *Modelling&Rewarding, Enabling,* and *Transformational* behaviours. Extraverted people may feel more at ease stepping into a short team leader role, so may adjust quicker, and thus be able to display their transformational behaviours. Team leaders with a perceiving preference may need more practice to get accustomed to taught leadership behaviours or skills. On the other hand, it might be the case that they themselves need more specific direction or supervision to perform or behave in certain ways. This study may reveal more about, how well can different personality types absorb and implement transformational team leadership behaviours in the short time span, rather than which types are more transformational team leaders overall.

In relation to sex, introverted, sensing, thinking, and perceiving female leaders were more transformational than men with similar preferences. Additionally, some personality preferences seem to be sex neutral here. Thus, both personality and sex have an impact on leadership style, and this approach makes acquiring more specific knowledge about transformational leadership in a team setting a possibility. Some mentoring programs for students could be useful, and these results could be helpful in isolating the typical strengths and weaknesses of male and female team leaders and analysing their personalities. Inexperience and young age of the team leaders will influence their leadership style, which is likely to still be forming, hence it is important to give specific feedback about and increase student leaders' self-awareness. Gender expectations may influence the appropriate behaviour of the various personality types; meaning the results will be different in some cases. However, it may be that younger people are not so concerned with behaving in the manner traditionally associated with their gender and this may have affected the results. Billing and Alvesson (2000) warned against gender labeling in post-heroic leadership theories: Transformational leadership is often seen as a more natural way of leading for women, while men may stick to authoritarian leadership. This is unlikely in a very egalitarian country like Finland; when leading smaller teams, men also need to display transformational qualities. Men are capable of acting in feminine ways and women in masculine ways (Billing and Alvesson, 2000: 152). The leadership

styles used by different types of people will be determined by context, which is why this study is important, especially because the team setting is very common.

People with strongly developed transformational leadership qualities are usually marked out for rapid career advancement (Yammarino and Bass, 1990), and this study like many others indicates that women are more inclined toward transformational leadership than men (e.g., Burke and Collins, 2001). However, interestingly, the percentage of women in top leadership positions in Finland is still very low. The glass ceiling and different motivations might still interfere with the realization of seeing more women in those positions. Then again, female university students are generally more conscientious than men (Sheard, 2009), which means that during the course monitored for this study they may have been putting more time and effort into practicing what they learned during the course, which may have influenced the results. But then, how well are these men and women able to transfer the knowledge into working life and do the behaviours change when the safe academic environment is not around.

Conclusions

This study focused on the relationships between sex, personality, and team transformational leadership. Personality was defined according to the MBTI and transformational leadership by the Finnish version of the LPI. The sample was made up of university students who acted as team leaders for younger students. The team members appraised their leaders' behaviour using the LPI.

In support of the hypotheses, we found that the transformational leadership questionnaire is applicable when studying team leadership; the *Visioning* dimension might be absent but *Modelling*, *Enabling*, *Challenging,* and *Rewarding* represent transformational leadership in teams, however *Modelling* and *Rewarding* were connected in factor analysis. Second, women tend to be more transformational team leaders than men. Third, personality seems to influence both sexes so that extraverted and judging personalities are more transformational leaders than introverted and perceiving ones. Fourth, in relation to sex, introverted, sensing, thinking and perceiving female leaders are regarded as more transformational than men with similar preferences. Fifth, an interesting result is that some personality preferences seem to be sex neutral in terms of team transformational leadership when rated by team members: intuition, feeling, and judging seem to be the sex-neutral preferences in question.

These results will be useful for those conducting further studies on transformational leadership in team settings. They could also be used by those seeking to enhance leaders' self-knowledge and to offer insights into subordinates' appraisals of their leaders. The results also indicate that men with certain personality types should pay careful attention to their leadership practice and behaviour in teams, and this study offers instructors very specific guidance on recognizing possible developmental needs for certain personality types regarding transformational leadership. For example, Varvel *et al.* (2003) have found that training individuals on the MBTI personality of team members helped them to improve communication, trust, and interdependence: all essential characteristics of an effective team. Moreover, Rekar's (2001) action research focusing on MBTI-personality increased performance and improved satisfaction among team members. When leaders know how they are perceived by others, they can address their weaknesses and maximize their strengths. We hope this study sheds some light onto to the reasons behind those perceptions.

This paper has some limitations. The sample was based on students, who were at most 25 years old and largely lacking experience of management. They were, however, being taught about team leadership and teams on the course while the project took place and were encouraged to practice their transformational leadership skills, since the team members were new to team projects at the university level. However, as young students, they may have been timid and seen as lacking authority by their subordinates, and therefore may not have acted naturally during their short tenure as a team leader. Universities in Finland are becoming increasingly female-dominated and this factor may have affected results too. Additionally, team members' sex and personality may have had an impact on the appraisals, and this, could be an interesting aspect for future studies to investigate. Further studies on team leadership, sex, and personality would be merited to improve knowledge in this field.

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Do personality and emotional intelligence predict transformational leadership qualities?

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Abstract

This research focuses on the impact of personality and emotional intelligence upon transformational (TF) leadership in a sample of 90 Finnish respondents. An intuitive personality and high emotional intelligence promote transformational leadership behavior. Preferences for the dimensions thinking-feeling and judging-perceiving have no significant impact upon TF leadership. The positive impact of extraversion upon TF leadership disappears after controlling for gender. Women have a stronger tendency to demonstrate transformational leadership behavior than men. A preference on the sensing-intuition dimension moderates the effect of emotional intelligence: Sensing persons must have high emotional intelligence to be considered transformational, whereas intuitive persons record high TF leadership scores regardless of their scores on emotional intelligence.

Keywords: transformational leadership, emotional intelligence and personality type

Contemporary leadership theory has been dominated by the significance of transformational (TF) leadership for approximately two decades (Bass, 1985; Brown & Reilly, 2008) since the theory was developed by Burns in 1978 and enhanced by Bass (1985, 1998). Previous research details how transformational leaders enhance performance, effort, satisfaction, and organizational effectiveness (Lowe, Kroek & Sivasubramaniam, 1996) in a wide variety of cultures and organizational settings. Rubin Munz, and Bommer (2005) have suggested that the relationships between transformational leadership and outcomes at the individual, group, and organizational levels have become self-evident.

While the empirical evidence supporting the relationship between transformational leadership and positive organizational outcomes seems strong (Brian, Moates & Gregory, 2011; Phipps & Prieto, 2011; Cavazotte, Moreno & Hickmann, 2012), advancing knowledge in the field would require knowing more about the potential individual predispositions of transformational leadership behavior (Bass, 1998; Popper, Mayseless & Castelnovo, 2000). Studies of the psychological aspects of transformational leadership focus on aspects of personality (Bono & Judge, 2004; Brandt & Edinger, 2015; Hautala, 2006; Judge

& Bono, 2000), emotions (Pescosolido, 2002), emotional intelligence (e.g., Barling, Salter & Kelloway, 2000; Gardner & Stough, 2002; Palmer, Gardner & Stough, 2001), life experiences (Barbuto & Burbach, 2006), motivation (Barbuto & Burbach, 2006) or gender (Brandt & Laiho, 2013), but only a few have studied combined effects. Emotional intelligence (EI) is an essential factor in successful leadership (Goleman, 1998a, 1998b; Gardner & Sough, 2002) and according to Rosete and Ciarrochi (2005) leaders with higher levels of EI are more likely to deliver business outcomes and be evaluated as effective leaders by their subordinates and direct manager. Emotional intelligence affects leaders' social interactions and from that perspective plays an important role in the quality and effectiveness of social interactions with others (House & Aditya, 1996). Moreover, the ability of leaders to influence the emotional climate can strongly influence performance (Humphrey, 2002).

It has been argued that among the precursors of transformational leadership are corresponding personality configurations (Bass, 1985) and personality (and other relevant predictors) should not be omitted when testing the relationship between EI and leadership (Cavazotte et al., 2012). Other studies highlight another facet of the personality of the transformational leader that includes emotional and social competence, as well as developmental orientation toward employees (Popper, Mayseless & Castelnovo, 2000).

In this study, we explore the capacities required for the advancement of transformational leadership behaviors by studying the interaction of personality and EI.

Theoretical Background and Hypotheses

Research has investigated the personal characteristics that might influence transformational leadership in the hope of providing a holistic and comprehensive understanding of the social influence process (Brown & Reilly, 2008). Coetzee, Martins, Basson and Muller (2006, p. 64) reviewed the theory of Mischel (1999) and Worline, Wrzesniewski and Rafaeli (2002) and concluded, "behaviour is shaped by personal dispositions plus a person's specific cognitive and affective processes which may include perceptions of and feelings about themselves in a particular situation that is meaningful to them". There are several characteristics relevant to the emergence of leadership, such as certain mental abilities, personality traits, emotional capacity, leadership behaviors, and a person's physical attractiveness (López-Zafra, Garcia-Retamero & Landa, 2008).

Since the connection between transformational leadership and desired outcomes is well established (Lowe, Kroeck & Sivasubramaniam, 1996), new efforts tend to

investigate the relationship between dispositional characteristics and transformational leadership. Particular traits and competencies associated with leadership include integrity, confidence, extraversion, determination, resilience, the relentless pursuit of goals, the tendency to take risks, inventiveness, conscientiousness, the readiness to face uncertainty, innovativeness, adaptability, knowledge of the market, and the ability to learn from adversity (Connell, Cross & Parry, 2002).

Emotional Intelligence and Transformational Leadership

Emotional intelligence was first defined as "a set of skills hypothesized to contribute to the accurate appraisal and expression of emotion in oneself and in others" (Salovey & Mayer, 1990, p. 185). The concept of EI attracts interest both in the lay and applied fields, and dominates other classical psychological concepts, such as personality. The influential effect of emotions and feelings on work outcomes is seen to offer a suitable scientific framework in the organizational field to support employees at work, with respect to both evaluative and formative tasks (Berrocal & Extemera, 2006). The EI concept was originally seen as incorporating appraisal and expression of emotion (in the self and in others), regulation of emotion (in the self and in others) and utilization of emotion (flexible planning, creative thinking, redirected attention, and motivation) (Salovey & Mayer, 1990). However, issues related to definition and measurement, and to relationships with leadership and organizational outcomes remain unresolved (Brown & Moshavi, 2005; Leary, Reilly & Brown, 2009).

The findings of previous studies show that EI is essential for emotional competence, combining or interacting with other factors, leading to enhanced performance (Brown, Bryant & Reilly, 2006) and employee job satisfaction (Miao, Humphrey & Qian, 2016). Research suggests that the difference between a simply capable person and a capable manager is a person's EI (Modassir & Singh, 2008).

There are several theoretical discussions around the association between EI and transformational leadership (Harms & Credé, 2010). The connection between TF leadership and emotions has already been established by Bass (1999, p. 18), who reveals that "leadership is as much emotional and subjective as rational and objective in effect." Ashkanasy and Tse (2000) claim that TF leadership can be an essential factor in integrating emotional dimensions into extended leadership research.

In addition to the theoretical discussion, there is considerable support from empirical research for the relationship of EI and TF leadership (Barling et al.,

2000; Gardner & Sough, 2002; Kerr, Garvin, Heaton & Boyle, 2006; Lam & O'Higgins, 2012; Palmer et al., 2001; Sivanathan & Fekken, 2002). Sivanathan and Fekken (2002) conclude that having high EI intensifies a person's TF leadership behavior. Polychroniou (2009) finds support for a model suggesting that supervisors' EI components such as social skills, motivation, and empathy are positively associated with transformational leadership increasing team effectiveness with subordinates. According to Palmer et al. (2001) the most important indicators of TF leadership are EI's components of understanding emotions and emotional management. Another perspective views the inspirational motivation, idealized influence, and individualized consideration of components of TF leadership as associated with the ability to monitor and manage emotions (Barling et al., 2000; Gardner & Sough, 2002; Lam & O'Higgins, 2012; Palmer et al., 2001). According to Lam and O'Higgins (2012), managers' EI might directly influence the formation and strength of transformational leadership.

Barling et al. (2000) offered some reasons to clarify why individuals high in EI would be more likely to implement transformational behaviors. First, leaders who know and can manage their own emotions could provide an inspiring model for their followers, thereby strengthening followers' trust in, and respect for, their leaders. Second, with their focus on perceiving others' feelings, leaders with high levels of EI understand the degree to which followers' expectations could be raised, a sign of inspirational motivation, and according to George (2000) emotional appeals may be used by transformational leaders for inspirational motivation. Third, a major part of individualized consideration is the ability to recognize followers' needs and to interact appropriately. With its emphasis on empathy and the ability to manage relationships positively, leaders manifesting EI would be likely to extend individualized consideration (Lam & O'Higgins, 2012). Such leaders also employ emotion to transmit a vision and to elicit responses (Kupers & Weibler, 2006). EI competencies such as self-confidence, self-awareness, transparency, and empathy are fundamental to communicating visionary messages (Goleman, 2002; Harms & Credé, 2010). In a similar manner, others suggested that an individual scoring higher in EI would recognize a social setting and emotional state more acutely than an individual with lower EI, and would accordingly be more likely to accept behaviors consistent with the transformational leadership dimensions (Brown & Moshavi, 2005; Harms & Credé, 2010).

Although the above mentioned studies show that TF leadership seems to be inherently associated with emotions and EI, many studies have failed to find a significant relationship between EI and TF leadership (e.g., Modassir & Singh,

2008; Sosik & Megarian, 1999; Antonakis 2004; Weinberger, 2004; Brown, Bryant, & Reilly, 2006; Kupers & Weibler 2006; Moss, Ritossa & Ngu, 2006; Barbuto & Burbach 2006; Lindebaum & Cartwright 2010; Harms & Credé 2010; Lam & O' Higgins 2010; Cavazotte et al., 2012). Three main reasons could account for the discrepancy. The first is the size of the data set, the second is the nature of the data source (same-source or multi-source data), and the third concerns the research instruments used (Hunt & Fitzgerald, 2013). However, we believe there is enough empirical evidence to support the relationship; thus, our first hypothesis is:

Hypothesis 1: Emotional intelligence is related to transformational leadership.

Personality and Transformational Leadership

Personality can be considered the dominant trait a person displays, but is more usually defined as a distinctive pattern of traits or behavior which includes thoughts and emotions (Mischel, 1986). The Myers-Briggs Type Indicator (MBTI) used in this study, offers a dynamic approach to assessing personality. The MBTI is widely used in the field of leadership and organizations (e.g., Gallén, 2009; McCarthy & Garavan, 1999; Storr & Trenchard, 2010), and is based on Jung's (1971) work on psychological types. Its first dichotomy pair reveals a person's habitual preference for an orientation of energy: extraversion directs their "energy toward the outer world and people" while introversion is more concerned with the "inner world of experiences and ideas" (Myers, McCaulley, Quenk, & Hammer, 1998, p. 6). The second pair addresses the process of perception and features dichotomies of sensing and intuition; a sensing orientation focuses on what can be perceived by the five senses, while intuition is focused on patterns, interrelationships and possibilities; the third pair relates to decision making and reveals whether a thinking preference is dominant, that is, has a desire for objectivity and a reliance on logical analysis in decision making, or if a person favors feeling, thus seeking understanding and drawing conclusions based on "personal or social values". The final pair is the judging-perceiving dichotomy that reflects the attitude "toward dealing with the outside world." People with a judging orientation prefer "decisiveness and closure that results from dealing with the outer world using" thinking or a feeling process, while those with a perceiving orientation are more flexible and spontaneous and prefer to apply sensing or intuition in decision making (Myers, McCaulley, Quenk, & Hammer, 1998, p. 6). The personality characteristics associated with transformational leaders include creativity, being open to novelty, innovativeness, propensity to risk, courage, belief in people, being value-driven,

valuing life-long learning, pragmatism, nurturing, feminine attributes, and self-confidence (Bass, 1985; Tichy & Devanna, 1990; Ross & Offerman, 1997).

Several studies concentrate on discerning transformational leaders' personalities, using different personality measures to do so. Research applying the five-factor model of personality suggests a relationship between extroversion and leadership, and especially transformational leadership is very probable (Bass, &Bass, 2008; Bono & Judge, 2004; Hautala, 2006; Judge & Bono, 2000; Judge, Bono, Ilies & Gerhardt, 2002; Lim & Ployhart, 2004; Ployhart Lim & Chan, 2001). Reichard et al. (2011) indicated a significant relationship between adolescent extraversion and adult workplace leader emergence and transformational leadership extending above and beyond adolescent intelligence, across a 12-year span. Such clear relationships of the other dimensions of the so-called big five to leadership are not supported empirically. For example, according to Judge and Bono (2000) agreeableness correlated to transformational leadership, whereas Ployhart et al. (2001) found a correlation with openness, and Cavazotte et al. (2012) with conscientiousness. According to Lim and Ployhart (2004) neuroticism and agreeableness correlated negatively with transformational leadership.

In the case of the Sixteen Personality Factor Questionnaire (16PF), research finds conformity predicts transformational behavior when superiors rated the participants. However, intelligence was also connected with transformational leadership in subordinates' evaluations (Atwater & Yammarino, 1993). Hetland and Sandal (2003) studied four scales from the 16PF (warmth, reasoning, openness to change, and tension), finding warmth to be the strongest personality correlate. A significant negative relationship was present between tension and transformational leadership. Furthermore, each of the four scales explain the variance of transformational leadership significantly but modestly, according to subordinates. Furthermore, according to the superiors, openness to change predicted transformational leadership.

Most studies of leaders' self-ratings using the MBTI find that extraversion, intuition, and perceiving preferences are more related to transformational leadership than their polar opposites: introversion, sensing, and judging (Church & Waclawski, 1998; Hautala, 2006). Some do not include extraversion (Van Eron & Burke, 1992) in the list, and some exclude both extraversion and intuition (Brown & Reilly, 2009). The results on subordinates' appraisals of their leaders' behavior are less clear cut. Some studies do not find any relationships (Brown & Reilly, 2009), some support similar results to those revealed by the leaders' self-ratings (Church & Waclawski, 1998; Roush, 1992), and some produce wholly

opposite results indicating that sensing (Hautala, 2006; Roush & Atwater, 1992) and feeling preferences (Atwater & Yammarino, 1993; Roush & Atwater, 1992) are strongly associated with transformational leadership. Palmer, Walls, Burgess and Stough (2003) also search for the relationship between a self-report measure of EI, personality, and TF leadership. They find that EI, specifically the ability to perceive and understand emotions in others, accounts for most of the variance in transformational leadership when compared with personality measures. The above findings on the relationship of personality preferences and TF leadership leads to our next set of hypotheses:

Hypothesis 2: The personality preferences extraversion, intuition and perceiving are related to transformational leadership.

Hypothesis 3a: The relationship of EI and TF leadership is moderated by extraversion-introversion.

Hypothesis 3b: The relationship of EI and TF leadership is moderated by intuition-sensing.

Hypothesis 3c: The relationship of EI and TF leadership is moderated by perceiving-judging.

Method

Participants and Procedure

The data are elicited from 90 Finnish respondents of differing professions and ages, 69 % of whom were female. The respondents completed a self-assessment of personality, EI, and leadership behavior. The personality and EI survey components were on the same online or paper form, but the leadership behavior questionnaire was in most cases completed separately.

Measures

Emotional Intelligence. Based on Mayer and Salovey's (1990) model of EI, Schutte et al. (1998) created a self-assessment questionnaire, originally with 33 items, but shortened to 21 items for the purpose of the current research to enable inclusion in the questionnaire set and back-translation into Finnish. The items in the questionnaire were rated on a Likert scale anchored with I completely disagree (1) and I completely agree (5). The authors conducted principal component factoring with Varimax-rotation as suggested by Petrides and Furnham (2000) to ensure the validity of EI in the Finnish context. The KMO Measure of Sampling Adequacy was .752, and accordingly there was no reason to

examine the anti-image correlation matrix. As suggested, we carefully considered the number of factors in this case (Petrides & Furnham, 2000). The value for Bartlett's test of sphericity was statistically significant ($p < .000$), indicating that the data were probably factorable. Based on the theoretical background the factor analysis was set to extract four components, and those explained 56.6 % of the variance. Based on the items and the literature, the four factors are labeled: 1) understanding emotions $\alpha=.77$ with factor loads ranging between .61 and .80. The factor consists of five items, for example "I console other people when they are down" and "It's easy for people to share their feelings to me." 2) perceiving emotions, $\alpha=.82$ and factor loads range between .83 and .72. The factor consists of four items, for example "I can recognize people's emotional states by looking at their faces." 3) Using emotions, $\alpha=.70$ and factor loads range between .80 and .62. The factor consists of four items, for example "I come up with new ideas when I'm in a positive mood." 4) Managing emotions, $\alpha=.52$ and factor loads range between .73 and .60. The factor consists of three items, for example, "I look for hobbies and activities that make me happy." Five items that did not load cleanly were removed.

Transformational leadership. Transformational leadership behavior is based on the interpretation of Kouzes and Posner (1988) who discovered that executives who persuaded others to join them followed the path of the vision-involvement-persistence model. The more specific dynamics of this model comprise five parts: challenging the process, inspiring a shared vision, enabling others to act, modeling the way, and encouraging the heart (Kouzes and Posner, 1988). Kouzes and Posner developed the Leadership Practices Inventory (LPI) that has subsequently spawned other research (see e.g., Carroll, 2010; Hautala, 2008). It is based on interviews with managers and is well suited to the appraisal by both leaders and subordinates of leadership behavior (e.g., Herold and Fields, 2004). The LPI is used in this study because it is well suited to Finnish culture (see e.g., Uusi-Kakkuri & Brandt 2015; Hautala, 2005). The descriptions of the dimensions used in the LPI in the Finnish context are: Visioning, which means presenting the ideal future to others, making sure people hold common values, and communicating a view about the best way to lead the organization. Challenging includes risk-taking, innovating to improve the organization, and looking for challenging tasks and opportunities. Enabling means respecting others, allowing them the freedom to make their own decisions, creating a trusting atmosphere, and making others feel they have ownership of projects. Modeling includes consistency of organizational values and confidence in the philosophy of how to lead, alongside confirmation of planning and goal setting. Rewarding means celebrating and recognizing achievements when goals are met (Hautala, 2005).

The items in the questionnaire were rated on a Likert scale anchored with not at all or very rarely (1) and frequently if not constantly (5).

Personality. Personality was evaluated with the MBTI. It includes scores on four bipolar dimensions: extraversion-introversion (E/I), sensing-intuition (S/N), thinking-feeling (T/F), and judging-perceiving (J/P). Each item offered the respondents two alternatives. An individual is assigned a type classification based on one of 16 possible categories. In this study the focus is on the eight preferences rather than on the whole type. The MBTI's "…validity is determined by its ability to demonstrate relationships and outcomes predicted by [Jung's] theory" (Myers et al., 1998: 171). The MBTI's construct validity has been proven by independent studies that investigated whether type distributions coincide with the requirements of certain professions. Correlations of other measures with the MBTI's continuous scores and studies of behavioral differences between the types have also validated the system (see e.g., Myers et al., 1998). Gardner and Martinko (1996: 77) undertook a thorough review and concluded that the MBTI is "a reliable and valid instrument for studying relationships among managerial personalities, cognitions, behaviors, effectiveness, and situational variables." The construct validity and reliability of the Finnish form (the F-version) have been proven during a validation process spanning several years (see e.g., Järlström, 2000). Järlström reported an internal consistency (Pearson's correlation coefficients) of .65 to .76 and Cronbach's coefficient alpha of .79 to .86.

Data Analysis. We regressed the score for transformational leadership behavior on EI centered around the neutral value 3 and four dummy variables representing the bipolar dimensions of the MBTI coded as follows: Extraversion = 0, introversion =1; Sensing = 0, Intuition =1; Thinking = 0, Feeling = 1; and judging = 0, perceiving =1. When controlling for gender, we coded the gender variable as Man=0 and Woman = 1.

Results

We started by regressing transformational leadership behavior upon the four MBTI dimensions and EI, in order to get a general feeling for the determinants of TF. The results are below on table 1.

Table 1. Parameter estimates from regressing transformational leadership upon all personality dimension and emotional intelligence

Coefficient	Coefficient Estimate	Standard Error	p-value
Constant	3.271	0.120	<0.0005
Extraversion (E) – Introversion (I)	-0.258	0.094	0.008
Sensing (S) – Intuition (N)	0.266	0.106	0.014
Thinking (T) – Feeling (F)	-0.085	0.091	0.353
Judging (J) – Perceiving (P)	0.032	0.103	0.756
Emotional Intelligence (EI)	0.333	0.106	0.002

Emotional Intelligence has a positive effect upon transformational leadership behavior. Increasing the EI score by one yields an increase of 0.333 for the score on TF (p=0.002), thus the first hypothesis is supported. Extraverted persons record a TF score 0.258 higher than that for introverted persons (p=0.008) and intuitive persons record a TF score 0.266 higher than that for sensing persons (p=0.014). The second hypothesis is partly supported; extraversion and intuition is related to TF leadership, but our data do not support the relationship between perceiving and TF leadership. The MBTI dimensions thinking-feeling and judging-perceiving have no significant impact upon transformational leadership behavior.

We next checked whether the significant personality dimensions have any moderating effect upon the impact of EI by including the corresponding interaction terms as shown below in table 2.

Table 2. Parameter estimates from regressing transformational leadership upon E – I, S – N, EI, interaction of E – I and EI, and interaction of S – N and EI.

Coefficient	Coefficient Estimate	Standard Error	p-value
Constant	3.199	0.163	<0.0005
Extraversion (E)– Introversion (I)	-0.450	0.193	0.022
Sensing (S) – Intuition (N)	0.551	0.198	0.007
Emotional Intelligence (EI)	0.380	0.177	0.035
(E – I)* Emotional Intelligence	0.305	0.215	0.160
(S – N) * Emotional Intelligence	-0.402	0.214	0.064

None of the interaction terms is significant, however the variance inflation factors of all coefficients except for EI are in the range 4.5 to 5, so the term for the interaction between sensing versus intuitive personality and EI with p=0.064 might have missed the significance point only due to multicollinearity. We therefore repeated the analysis above with the insignificant term (p=0.16) for the interaction between extraversion versus introversion and EI removed, see table 3 below.

Table 3. Parameter estimates from regressing transformational leadership upon E – I, S – N, EI, and interaction of S – N and EI.

Coefficient	Coefficient Estimate	Standard Error	p-value
Constant	3.060	0.131	<0.0005
Extraversion (E)– Introversion (I)	-0.210	0.093	0.027
Sensing (S) – Intuition (N)	0.634	0.190	0.001
Emotional Intelligence (EI)	0.539	0.138	<0.0005
(S – N) * Emotional Intelligence	-0.472	0.209	0.027

We see that the sensing-intuition dimension of the MBTI has a strong moderating effect upon the relationship between EI and transformational leadership behavior (p=0.027). While sensing persons record a highly significant (p<0.0005) increase of 0.539 on their TF score for a one-point increase on their EI score, the corresponding increase of 0.067(=0.539-0.472) for an intuitive person is not significant at all (p=0.666). Extroversion carries a TF reward of 0.210 (p=0.027) and intuition carries a TF reward of 0.634 (p=0.001) for a person with an EI score of 3. Thus, hypotheses 3a and 3c were not supported, but hypothesis 3b was: the relationship between EI and TF leadership is moderated by intuition-sensing.

Including gender as an explanatory variable in the regression, as shown in table 4, reveals that men and women have different predispositions for transformational leadership behavior and there is no significant impact of the extraversion-introversion personality dimension upon TF after controlling for gender.

Table 4. Parameter estimates from regressing transformational leadership upon E – I, S – N, EI, interaction of S – N and EI, and gender.

Coefficient	Coefficient Estimate	Standard Error	p-value
Constant	2.827	0.161	<0.0005
Extraversion (E)– Introversion (I)	-0.156	0.093	0.098
Sensing (S) – Intuition (N)	0.680	0.186	<0.0005
Emotional Intelligence (EI)	0.523	0.135	<0.0005
(S – N) * Emotional Intelligence	-0.491	0.204	0.018
Gender	0.267	0.113	0.020

Women on average receive TF scores that are 0.267 higher than those of men (p=0.020). The absolute value of the coefficient estimate for the extraversion-introversion dimension has decreased to 0.156 and is no longer significant (p=0.098). Removing this insignificant factor, we obtain our final model, as presented in table 5.

Table 5. Regressing of transformational leadership upon S – N, EI, interaction of S – N and EI, and gender

Coefficient	Coefficient Estimate	Standard Error	p-value
Constant	2.696	0.142	<0.0005
Sensing (S) – Intuition (N)	0.755	0.183	<0.0005
Emotional Intelligence (EI)	0.566	0.134	<0.0005
(S – N) * Emotional Intelligence	-0.565	0.201	0.006
Gender	0.313	0.110	0.006

All coefficients are highly significant. With an EI score of 3, being an intuitive person rather than a sensing person carries a TF reward of 0.755. However, such people get no extra TF reward for EI (0.566-0.565=0.001, p=0.995) whereas sensing persons see a TF score increase of 0.566 for each point increase in EI. Intuitive persons obtain a high TF score regardless of their EI score, whereas sensing persons must earn a high TF score by being emotionally intelligent. This is also evident from the figures 1 and 2 below that display the TF scores as a function of EI separately for the subgroups of sensing and intuitive persons.

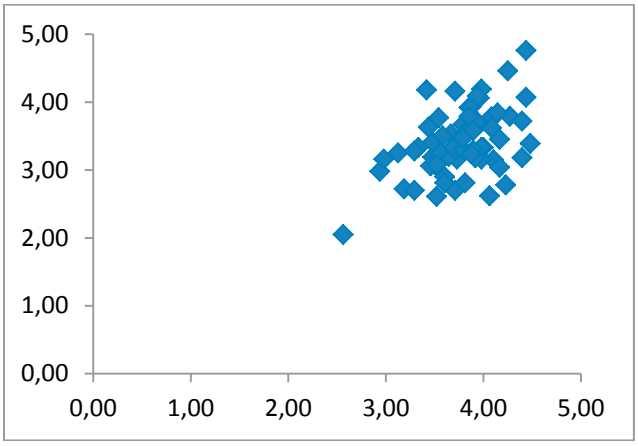

Figure 1. TF Score for Sensing Persons (n=63)

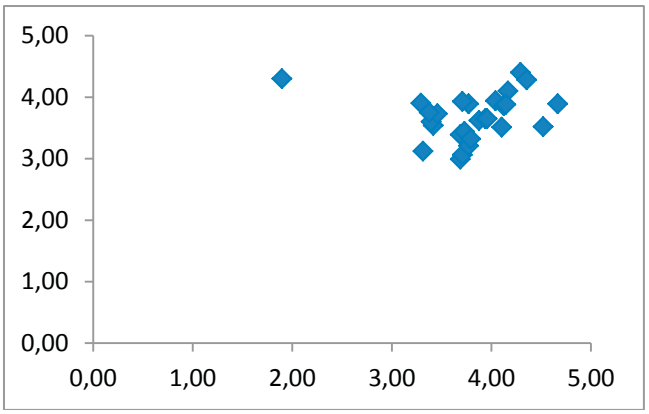

Figure 2. TF Score for Intuitive Persons (n=27)

The model indicates women have TF scores 0.313 points higher than those of men. We also checked for interactions between gender and the variables above. Below in figures 3 and 4 are the TF scores for intuitive persons plotted separately for men and women.

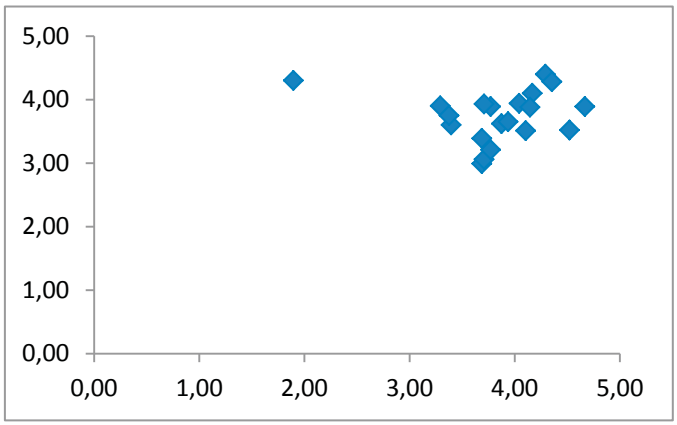

Figure 3. TF Score for Intuitive women (n=20)

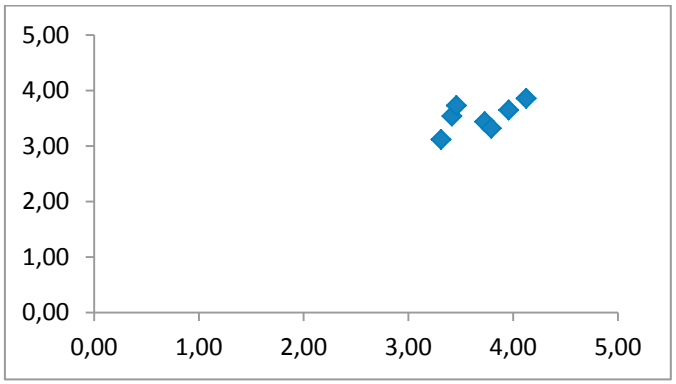

Figure 4. TF Score for Intuitive men (n=7)

While these figures suggest that the lack of susceptibility to EI might actually be limited to the TF leadership scores of intuitive women only, we are unable to prove that this is also the case due to the very small number of intuitive men in the sample (n=7). We tried introducing interaction terms with gender for all variables considered in the regression above, but none proved significant. We are therefore compelled to leave this question open for further research.

Discussion

The TF forecast for a person with high EI (remember that the x-axis shows EI minus 3) is about 3.7 no matter to which subgroup the person belongs. The difference is for intermediate to low EI. All other subgroups must be high in EI in order to be highly transformational.

The importance of both transformational leadership and EI, especially among leaders, is well established in the literature. However, research also suggests that despite the many empirical studies supporting the relationship of TF leadership and EI, the role of personality is meaningful (Cavazotte et al., 2012).

The current research indicates that an extraverted and/or intuitive personality and a high level of EI promote transformational leadership behavior. Preferences on the dimensions thinking-feeling and judging-perceiving have no significant impact upon TF leadership and the positive impact of extraversion on TF leadership disappears after controlling for gender. Women do have a stronger tendency to transformational leadership behavior than men do.

The preference for the sensing-intuition dimension moderates the effect of emotional intelligence: Sensing persons must have high levels of EI to acquire high TF leadership scores whereas intuitive persons get high TF leadership scores regardless of their scores on emotional intelligence. This can be explained by Higgs' (2001) finding that intuition is the only MBTI function that is strongly positively related to EI, and this can be explained perhaps by the fact that intuitive people are interested in relationships, including the relationships of people. That interest places them in the best position to pay attention to and understand the people around them and to recognize how their emotions might influence other aspects of their working lives. Intuitively-oriented people are likely to see that the impact of emotions can be meaningful and that such emotions can also be influenced. It appears that intuitive people are naturally adept at every aspect of transformational behavior, and sensing leaders must have a high level of EI to be able to foster a strong people orientation. So if a leader is intuitive, he or she is probably behaving in a transformational way, but if he or she is of the opposite sensing type, then it would be important to have high levels of EI, or to focus on developing it, to spur effective transformational leadership behaviors. These results offer new ideas for further studies with a larger dataset. An interesting question is why EI affects sensing people's leadership behavior, but not that of intuitive people. In addition, the role of gender in this relationship remains unclear. Sensing leaders with low or high levels of EI act differently, when intuitive people with low or high levels of EI act similarly. It may be that EI is an internalized process for intuitive people, and a more external process with sensing people.

Despite its contributions, the current research is affected by some limitations. The number of participants is rather low and therefore many aspects of the study would benefit from further research with broader data sets and perhaps using subjects from one field to make the subjects more easily comparable. The current

results can be generalized only with caution. Owing to the small dataset, the statistical analyses were conducted only on the general level for transformational leadership and EI, meaning that their specific dimensions were not studied. Common-method bias is also a risk, since all data were collected from the same source in the form of self-assessments.

George (2000) argued that emotionally intelligent leaders can promote effectiveness at all levels of an organization, but the current research indicates that some personality preferences (specifically intuition) can compensate for the lack of EI. The practical implications of this include that training EI for sensing people is especially important from the leadership point of view. It has been suggested that the MBTI could be used to develop EI (Higgs, 2001), the current results can support that goal, in that the strengths of intuitive people might be considered when planning EI development; or when planning mentoring pairs, intuitive people should be paired with sensing people.

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Personality of Finnish innovative entrepreneurs

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Abstract: Although anyone can form a company, having certain personal characteristics and behaviour patterns may benefit those running an enterprise. Earlier studies indicate that entrepreneurs as individuals differ from other people, in that they have different personality structures. It can be assumed that the choice of entrepreneurs to work in certain fields or forms of enterprising might be connected with their having certain characteristics. In this study, entrepreneurs' personality types will be analysed and compared with the general population. Additionally, the study will compare the creativity and innovation orientations of different personality types to discern who the innovators are. The analysis is based on the typologies of Jung and of Myers and Briggs, and on an empirical Finnish sample. The results indicate that the most typical entrepreneurial personalities are often spontaneous, curious, adaptable, and open to what is new and changeable. Correspondingly, creative innovators are often intuitive and spontaneous.

Keywords: entrepreneurs; personality; psychological types; Myers-Briggs type indicator; MBTI; innovative entrepreneur; creativity; Finland.

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1 Introduction

In promoting entrepreneurship, the importance of the personality of the potential entrepreneur is usually ignored. Researchers have studied many factors that may predict entrepreneurship; some of those are work-environment and employment status, age, educational level and financial situation, and environmental factors like taxes and culture (Lee et al., 2011; Bates, 1995; Bergmann, 2011; Lofstrom et al., 2014). Other studies have focused instead on identifying the differences between entrepreneurs and non-entrepreneurs (Chen et al., 1998). Previous studies have generated some results on this subject but have largely ignored the personality aspect. The current research in contrast acknowledges the role of the environment but focuses primarily on the association between entrepreneurial creativity and personality to reveal the make-up of innovative entrepreneurs. Schumpeter (1934) indicated that becoming an entrepreneur requires tendencies that are unique, and McClelland (1961) agreed and added that a high need for achievement, a risk-taking ability, preferences for challenges, acceptance of personal responsibility, and innovativeness are key characteristics of an entrepreneur. Other traits found to describe entrepreneurs are for instance tolerance of ambiguity and an internal locus of control (Begley and Boyd, 1986).

The majority of the studies dealing with entrepreneurship and personality have focused on finding one description of entrepreneurs, or a set of characteristics that typifies them. However, such studies largely ignore the possibility that entrepreneurs from different fields, or the different forms of entrepreneurship, might be connected by possessing certain characteristics or traits. In other words, there might not be just one *true* personality of an entrepreneur, but many personalities favouring different forms of entrepreneurship. Other aspects of entrepreneurs' orientations that would differ according to personality type are those to networking (Routamaa and Varamäki, 1998) or internalisation (Routamaa et al., 1996). An enterprise can actually take multiple forms requiring more or less training and advanced or elementary skills, examples include an expert entrepreneur, farmer entrepreneur, entrepreneur in a cooperative movement, scientist entrepreneur, venture capitalist, franchising entrepreneur, partner entrepreneur, businessman, shopkeeper, intrapreneur, and etc. It is not necessary for an entrepreneur or the founder of an enterprise to have all the required skills, since it is possible to outsource sub-functions, to purchase from a network or from a joint venture, or to subcontract; sometimes one may only need a cellphone and good organising skills. We can however assert that the personality structure of entrepreneurs differs from that of the general population (see Routamaa, 2008, 2011), but entrepreneurs also differ from each other, and different personality types favour different entrepreneurial identities. Even in the 1930s, Schumpeter (1934) saw real entrepreneurs as innovators and their role as the key driver of economic growth. New innovations replace old innovations in a form of creative destruction. That is, creativity and innovations are connected to entrepreneurial types. Just as not all SMEs are innovative in the sense intended by Schumpeter's description of creative destruction; neither do all entrepreneurs need to be especially innovative. Furthermore, one does not need to be an entrepreneur to benefit from entrepreneurial orientation: many fields rely on such an attitude and innovative approaches, certainly the technological and chemical industries spring to mind, but also less obvious examples such as the sports industry (Ratten, 2011).

Schumpeter's (1934) work sparked a considerable volume of research on entrepreneurial characters in general (e.g., Carland et al., 1984; Gartner, 1989; Smith, 1967; Stanford and Curran, 1976; Routamaa and Vesalainen, 1987; Timmons, 1989). However, in spite of the overarching importance of entrepreneurship to many of the world's economies, there is relatively little research on entrepreneurs as personalities. Most often, a trait approach has been used to illustrate entrepreneurial characteristics, like for example the need for achievement, internal locus of control and the propensity to take risks (e.g., McClelland, 1961; Hornaday and Aboud, 1971; Timmons, 1978; Welsh and White, 1981; Borland, 1974; Brockhaus, 1982). More recently, the five-factor model of personality was applied in a comparison of entrepreneurs and managers (Envick and Langford, 2000). It is a moot point, however, whether the entrepreneurs constitute a homogeneous group that can be described using common traits. Are the trait tests able to identify different kinds of enterprising personalities? The snapshot of a person produced by a trait approach is a very narrow view in comparison to the dynamic type, the system of judging and perceiving. Empirical research has not found any trait that is consistently associated with entrepreneurship (Järlström, 2002).

The basic question here is whether it is possible to identify the potentially most innovative entrepreneurs in terms of personality preferences or types.

2 Personality and personality types

It is safe to say that there are people who are more entrepreneurial and others who are less so and that level of entrepreneurialism will be largely influenced by the personality of the individual (Zhao and Seibert, 2006). Then again, it is not necessary for all entrepreneurs to be of same personality type, because there are myriad different businesses and roles within them. Moreover, different personality traits also predict entrepreneurial intentions, processes, performance and business exits (Zhao et al., 2010; Caliendo et al., 2014). Most often, a trait approach has been used to illustrate entrepreneurial characteristics, such as the proactivity need for achievement, an internal locus of control, and the propensity to take risks (e.g., Rauch and Frese, 2007; Borland, 1974; Brockhaus, 1982; Hornaday and Aboud, 1971; McClelland, 1961; Timmons, 1978; Welsh and White, 1981). Recently researchers in Germany have found for example that a high level of agreeableness (a Big Five dimension) will reduce the likelihood entrepreneurs failing in innovative fields, and this may be because they excel at relationship building (Cantner et al., 2011). The German study, however, did not evaluate how innovative the successful entrepreneurs were. Leutner et al. (2014) found agreeableness to predict invention entrepreneurship and extraversion to predict overall entrepreneurial success, again using the Big Five personality trait measure. Other studies have confirmed the effect of agreeableness but found other traits to have no predicting power (Zhao and Seibert, 2006). However, despite the important findings relating to trait theories there remains a need for more studies relating to type theory.

In this study, the Myers-Briggs type indicator (MBTI®) was used to conceptualise and assess personality. Type theory involves qualitatively distinct preferences that sort people into categories, but do not involve diagnostics as are applied in normally distributed trait theories, in which for example low agreeableness or low extraversion may be a negative thing. The MBTI® categorisation recognises different dynamic types

and all of them have strengths and behaviours that express their preferences but the scores do not express the measure of quality, only how confident one can be that the categorisation is correct (Quenk, 1993). It is based on Carl Jung's theory of psychological types and it reports personality preferences on four scales: Jungian extraversion – introversion, sensing – intuition, thinking – feeling, and the judging – perceiving preference added by Briggs and Myers (see e.g., Myers and McCaulley, 1985). According to Myers (1992): "The MBTI is primarily concerned with the valuable differences in people that result from where they like to focus their attention, the way they like to take information, the way they like to decide, and the way they like to adopt". Briefly illustrated the preferences or dimensions are (Myers, 1992):

- Extraversion (E): Interested in people and things in the world around them. Breadth of interests.
- Introversion (I): Interested in the ideas in their minds that explain the world. Depth of concentration.
- Sensing (S): Interested in what is real and can be seen, heard and touched. Reliance on facts.
- Intuition (N): Interested in what can be imagined and seen with 'the mind's eye'. Grasp of possibilities.
- Thinking (T): Interested in what is logical and works by cause and effect.
- Feeling (F): Interested in knowing what is important and valuable. Warmth and sympathy.
- Judging (J): Interested in acting by organising, planning, deciding. Organisation.
- Perceiving (P): Interested in acting by watching, trying out, adapting. Adaptability.

The eight preferences are identified in 16 types, each representing a certain preference order (Myers and McCaulley, 1985). Myers and McCaulley (1985) concisely explained the type theory as follows:

> "According to theory, each of the 16 types results from a preference for one pole of each of the four preferences over the opposite pole. A preference of any dimension is designed to be psychometrically independent of the preferences of the other three dichotomies, so that the preferences on the four dichotomies yield sixteen possible combinations called types, denoted by the four letters identifying the poles preferred (e.g., ESTJ, INFP). The theory postulates specific dynamic relationships between the preferences. For each type, one process is the leading or dominant process and a second process serves as an auxiliary. Each type has its own pattern of dominant and auxiliary processes and the attitudes (E or I) in which these are habitually used. Determining these dynamic relationships is enabled by the J-P dichotomy of the MBTI®. The characteristics of each type follow from the dynamic interplay of these processes and attitudes."

In order to interpret the association between type and entrepreneurial identities, the types are next briefly illustrated (Myers and McCaulley, 1985):

- ISTJ quiet and serious. Succeed through concentration and thoroughness. Practical, orderly, matter-of-fact, logical, realistic, and dependable. See to it that everything is well organised. Take responsibility. Make up their own minds as to what should be accomplished and work toward it steadily, regardless of protests or distractions.
- ISFJ quiet, friendly, responsible, and conscientious. Work devotedly to meet their obligations. Lend stability to any project or group. Thorough, painstaking, accurate. Their interests are usually not technical. Can be patient with necessary details. Loyal, considerate, perceptive, concerned with how other people feel.
- INFJ succeed by perseverance, originality, and desire to do whatever is needed or wanted. Put their best efforts into their work. Quietly forceful, conscientious, concerned for others. Respected for their firm principles. Likely to be honored and followed for their clear visions as to how best to serve the common good.
- INTJ have original minds and great drive for their own ideas and purposes. Have long-range vision and quickly find meaningful patterns in external events. In fields that appeal to them, they have a fine power to organise a job and carry it through. Skeptical, critical, independent, determined. Have high standards of competence and performance.
- ISTP cool onlookers, quiet, reserved, observing and analysing life with detached curiosity and unexpected flashes of original humour. Usually interested in cause and effect, how and why mechanical things work, and in organising facts using logical principles. Excel at getting to the core of a practical problem and finding the solution.
- ISFP retiring, quietly friendly, sensitive, kind, modest about their abilities. Shun disagreements; do not force their opinions or values on others. Usually do not care to lead but are often loyal followers. Often relaxed about getting things done because they enjoy the present moment and do not want to spoil it by undue haste or exertion.
- INFP quiet observers, idealistic, loyal. Important that outer life be congruent with inner values. Curious, quick to see possibilities, often serve as catalysts to implement ideas. Adaptable, flexible and accepting unless a value is threatened. Want to understand people and ways of fulfilling human potential. Little concern with possessions or surroundings.
- INTP quiet and reserved. Especially enjoy theoretical or scientific pursuits. Like solving problems with logic and analysis. Interested mainly in ideas, with little liking for parties or small talk. Tend to have sharply defined interests. Need careers where some strong interest can be used and useful.
- ESTP good at on-the-spot problem solving. Like action, enjoy whatever comes along. Tend to like mechanical things and sports, with friends on the side. Adaptable, tolerant, pragmatic; focused on getting results. Dislike long explanations. Are best with real things that can be worked, handled, taken apart, or put together.

- ESFP outgoing, accepting, friendly, enjoys everything and makes things more fun for others by their enjoyment. Like action and making things happen. Know what is going on and join in eagerly. Find remembering facts easier than mastering theories. Are best in situations that need sound common sense and practical ability with people.
- ENFP warmly enthusiastic, high-spirited, ingenious, imaginative. Able to do almost anything that interests them. Quick with a solution to any difficulty and ready to help anyone with a problem. Often rely on their ability to improvise instead of preparing in advance. Can usually find compelling reasons for whatever they want.
- ENTP quick, ingenious, good at many things. Stimulating company, alert and outspoken. May argue for fun on either side of a question. Resourceful in solving new and challenging problems, but may neglect routine assignments. Apt to turn to one new interest after another. Skilful in finding logical reasons for what they want.
- ESTJ practical, realistic, matter-of-fact, with a natural head for business or mechanics. Not interested in abstract theories, want learning to have direct and immediate application. Like to organise and run activities. Often make good administrators; are decisive, quickly move to implement decisions; take care of routine details.
- ESFJ warm-hearted, talkative, popular, conscientious, born cooperators, active committee members. Need harmony and may be good at creating it. Always doing something nice for someone. Work best with encouragement and praise. Main interest is in things that directly and visibly affect people's lives.
- ENFJ responsive and responsible. Feel real concern for what others think or want, and try to handle things with due regard for the other's feelings. Can present a proposal or lead a group discussion with ease and tact. Sociable, popular, sympathetic. Responsive to praise and criticism. Like to facilitate others and enable people to achieve their potential.
- ENTJ frank, decisive, leaders in activities. Develop and implement comprehensive systems to solve organisational problems. Good at anything that requires reasoning and intelligent talk, such as public speaking. Are usually well informed and enjoy adding to their fund of knowledge.

In addition to the types, the preferences (E, I, S, N, T, F, J, P) illustrated above as well as the pairs (EN, NT, ST, etc.) and temperaments (SJ, SP, NF, NT) of the personality in relation to entrepreneurs and innovativeness will be addressed.

3 Earlier studies

Concerning the MBTI® preferences, Barbato and Durlabhji (1989), Carland (1982), and Carland and Carland (1992) found that entrepreneurs tended to more often be intuitive thinking (NTs) whereas typical owner managers or managers were sensing judging (SJs). Carland et al. (1993) found NTs displayed the highest entrepreneurship tendency, that is NTs, as distinguished from the other temperaments (ST, SP, NF), fit the traditional view of entrepreneurship in that the NT preference was highly correlated with innovation

(see also Keirsey and Bates, 1984). An NT type is a visionary who enjoys complexity and is an architect of change, sees long- and short-term implications, and focuses on possibilities (Keirsey and Bates, 1984). These results revealed that entrepreneurs tend to be NTs but also NPs (intuitive spontaneous). Referring to Asikainen and Routamaa (1997), NPs were found to be the most creative type. In addition, ENFPs have been shown to produce individualistic and original ideas. Accordingly, Asikainen and Routamaa's (1997) view sounds logical. According to Ginn and Sexton (1988), fast-growth entrepreneurs tended to have significantly higher N, P, and NP orientations than managers. These results were in line with those of Routamaa et al. (1996), who found more Es, Ns, ENs, NTs but also NJs than ISs and IJs (introvert judging) among internationally-oriented entrepreneurs. It could also be concluded that SPs and IPs are more locally-oriented entrepreneurs, and also SJs seem to prefer traditional, local fields with low risk, that is, NPs as entrepreneurs may be more suitable in global and new business areas with high risk. The SP type has often been associated with the typical entrepreneur: one who negotiates well, is good in a crisis, and is a risk taker. However, the SP lives for the moment and does not like theory or routine (see Keirsey and Bates, 1984).

Reynierse (1997) found that entrepreneurs included significantly higher numbers of Ps and lower numbers of Js in their ranks. Furthermore, entrepreneurs were more often EPs, NPs, and TPs (thinking spontaneous) than IJs, SJs, and FJs. In her study of business students, Järlström (2000) found that Ns and Ps relatively more often chose creativity (entrepreneurial) and autonomous career anchors than Ss and Js. Järlström (2002) also found that the J-P dichotomy of the MBTI® played the most important role in separating entrepreneurial aspirations from organisational employment aspirations. Intuitive (N) and perceiving (P) preferences were more strongly associated with entrepreneurial aspirations, whereas sensing (S) and judging (J) were more strongly associated with organisational employment aspirations.

Envick and Langford (2000) compared entrepreneurs and managers using the five-factor model of personality. Their results indicated that managers are significantly more conscientious (playful, neat, dependable) and agreeable (team-oriented, trusting, considerate) than entrepreneurs. That is, entrepreneurs were more impulsive, careless, and disorganised as well as more self-interested, cool, and skeptical. Managers were also more social (warm, optimistic and talkative) than entrepreneurs, who were a little more independent, reserved, and hard-to-read. Entrepreneurs for their part were more adjusted (stable, confident and effective rather than nervous, self-doubting and moody) and open (imaginative, curious and original rather than practical, unimaginative, literal-minded) than managers, but not to a significant degree. These results support those reported above at least regarding the frequency of the perceiving preference among entrepreneurs. Impulsive, careless, and disorganised entrepreneurs are able to act in a flexible, spontaneous, and changing environment. This corresponds with the P preference of the MBTI®. However, Routamaa et al. (2010) found that entrepreneurs are more extravert (E) and feeling (F) than salaried managers, in addition that entrepreneurs were significantly more spontaneous. Sandberg et al. (2011) investigated two highly innovative entrepreneurs in Finland and found them both to have the following traits: "a high need for achievement, a risk-taking propensity and persistence, as well as an internal locus of control, self-efficacy, high tolerance of ambiguity, a willingness to change, curiosity and an interest in problem solving".

Routamaa (2008, 2011) collected 2960 observations from Finland and found that ESFP, ESTP, INTP, ISTP, ENTP, and ENFP were the six most entrepreneurial types based on the occupation statistics of the sample.

Table 1 Entrepreneurs' type distribution (cursive), mixed population's type distribution, and ranking position of entrepreneurship of all occupations

ISTJ	*ISFJ*	*INFJ*	*INTJ*
8.9%	*0.0%*	*0.0%*	*1.8%*
12.3%	5.4%	1.1%	3.5%
32.	*44.*	*39.*	*33.*
ISTP	*ISFP*	*INFP*	*INTP*
3.0%	*1.2%*	*0.6%*	***3.0%***
2.4	2.1%	1.2%	**1.8%**
9.	*19.*	*40.*	*6.*
ESTP	*ESFP*	*ENFP*	*ENTP*
7.7%	*9.5%*	*8.9%*	*8.9%*
5.1%	5.4%	7.1%	5.6%
5.	*3.*	*17.*	*12.*
ESTJ	*ESFJ*	*ENFJ*	*ENTJ*
20.2%	*7.7%*	*4.2%*	*14.3%*
20.2%	9.8%	5.2%	12.1%
19.	*24.*	*33.*	*23.*

What is common to all of the more entrepreneurial types? The common preference is perceiving (P), that is, they all are spontaneous, interested in acting by watching, trying out, and adapting. The typical managerial types, ISTJ, ESTJ, and ENTJ (see Routamaa et al., 1997; Routamaa et al., 2010; Routamaa and Ou, 2012) are not among the top six entrepreneurial types. The most entrepreneurial types prefer a flexible, spontaneous, and changing environment whereas the managerial types, in Finland at least, prefer a structured, organised, and planned environment.

The following sections address the methods and the research results of the relationship between creativity and the most entrepreneurial types of people.

4 Methods

A Finnish version of the MBTI®, validated by the author, was used in the study to measure the personality types. The construct validity and reliability of the indicator has been presented, for example, by Asikainen (1996). The whole sample (N = 189) is presented in Table 2. The sample consisted of Master's degree level business students (N = 81) and adult Open University students in a variety of occupations (N = 108).

Measuring creativity is very challenging. At best it would be some kind of laboratory testing but, in practice, it would be very difficult in correlational research. In general, the measures of creativity or creation are non-validated questionnaires indicating attitudes, opinions, or manners, and owing to their evident deficiencies, a totally new measure was

constructed (Routamaa, 2014). Analysing 332 observations answering some 230 items, a unique four-dimension model of creativity orientation was obtained using factor analysis to indicate creativity orientations. Four factors, that is, the dimensions of creativity behaviour were obtained:

1 meticulous planner

2 individualistic thinker

3 idea creator

4 creative rule challenger.

The internal consistencies of all four dimensions were at least satisfactory, with all Cronbach's alphas over .75.

Table 2 Distribution of personality types

ISTJ	*ISFJ*	*INFJ*	*INTJ*
N = 14	N = 6	N = 1	N = 4
% = 7.41	% = 3.17	% = 0.53	% = 2.12
ISTP	*ISFP*	*INFP*	*INTP*
N = 10	N = 4	N = 1	N = 5
% = 5.29	% = 2.12	% = 0.59	% = 2.65
ESTP	*ESFP*	*ENFP*	*ENTP*
N = 12	N = 10	N = 21	N = 16
% = 6.35	% = 5.29	% = 11.11	% = 8.47
ESTJ	*ESFJ*	*ENFJ*	*ENTJ*
N = 37	N = 20	N = 5	N = 23
% = 19.58	% = 10.58	% = 2.65	% = 12.17

Meticulous planners are dutiful, punctual, and systematic, do not tolerate disorganisation, and favour routines and logical, well-defined methods. *Individualistic thinkers* may choose an unorthodox way of life and are not so concerned about following conventional views. They are usually very social but are not afraid to express their opinions, regardless of the opinions of others. However, they do not necessarily suggest creative alternatives to the things they criticise. *Idea creators* value creative people and imagination, question things even if they cannot offer solutions, and conceive new ideas without worrying whether they are useful or not. They believe in their own uniqueness and that dreams are important sources of innovation, they also trust their own intuition for problem solving. Idea creators may seem a little strange to more traditional individuals. *Creative rule challengers* are self-reliant and are unwilling to be led. They trust that their own ideas are best and become bored easily. They can be expected to bend the rules and test the parameters of moral codes.

A total of 189 respondents comprising both university students and adult workers completed both the MBTI® form and the creativity orientation form for this study. Those whose responses placed them in the upper quarter in the idea creator and creative rule challenger categories were compared to the whole sample.

Table 3 Idea creator compared with the total sample

Relationship between personality type and idea creators					*N*	*%*	*I*
ISTJ	*ISFJ*	*INFJ*	*INTJ*	E	40	83.33	1.09
N = 0	N = 0	N = 0	N = 1	I	8	16.67	0.70
% = 0.00	% = 0.00	% = 0.00	% = 2.08	S	14	29.17	0.49***
I = 0.00*	I = 0.00	I = 0.00	I = 0.98	N	34	70.83	1.76***
				T	29	60.42	0.94
				F	19	39.58	1.10
				J	21	43.75	0.75*
				P	27	56.25	1.35*
ISTP	*ISFP*	*INFP*	*INTP*	IJ	1	2.08	0.16*
N = 3	N = 2	N = 0	N = 2	IP	7	14.58	1.38
% = 6.25	% = 4.17	% = 0.00	% = 4.17	EP	20	41.67	1.33
I = 1.18	I = 1.97	I = 0.00	I = 1.58	EJ	20	41.67	0.93
				ST	10	20.83	0.54**
				SF	4	8.33	0.39*
				NF	15	31.25	2.11***
				NT	19	39.58	1.56**
ESTP	*ESFP*	*ENFP*	*ENTP*	SJ	8	16.67	0.41***
N = 1	N = 0	N = 13	N = 6	SP	6	12.50	0.66
% = 2.08	% = 0.00	% = 27.08	% = 12.50	NP	21	43.75	1.92***
I = 0.33	I = 0.00	I = 2.44***	I = 1.48	NJ	13	27.08	1.55*
				TJ	17	35.42	0.86
				TP	12	25.00	1.10
				FP	15	31.25	1.64*
				FJ	4	8.33	0.49
ESTJ	*ESFJ*	*ENFJ*	*ENTJ*	IN	3	6.25	1.07
N = 6	N = 2	N = 2	N = 10	EN	31	64.58	1.88***
% = 12.50	% = 4.17	% = 4.17	% = 20.83	IS	5	10.42	0.58
I = 0.64	I = 0.39	I = 1.58	I = 1.71*	ES	9	18.75	0.45***
				Sdom	1	2.08	0.09***
				Ndom	20	41.67	1.87***
				Tdom	21	43.75	1.10
				Fdom	6	12.50	0.79

Notes: Calculated values of chi square,
I = 1, the proportion of the variable is identical to whole sample;
I > 1, bigger; I < 1, smaller.

Table 4 Creative rule challengers compared with the total sample

Relationship between personality type and creative rule challengers					*N*	*%*	*I*
ISTJ	*ISFJ*	*INFJ*	*INTJ*	E	37	69.81	0.92
N = 4	N = 1	N = 0	N = 0	I	16	30.19	1.27
% = 7.55	% = 1.89	% = 0.00	% = 0.00	S	25	47.17	0.79*
I = 1.02	I = 0.59	I = 0.00	I = 0.00	N	28	52.83	1.31*
				T	37	69.81	1.09
				F	16	30.19	0.84
				J	18	33.96	0.58***
				P	35	66.04	1.58***
ISTP	*ISFP*	*INFP*	*INTP*	IJ	5	9.43	0.71
N = 6	N = 1	N = 0	N = 4	IP	11	20.75	1.96**
% = 11.32	% = 1.89	% = 0.00	% = 7.55	EP	24	45.28	1.45**
I = 2.14*	I = 0.89	I = 0.00	I = 2.85*	EJ	13	24.53	0.55***
				ST	19	35.85	0.93
				SF	6	11.32	0.53*
				NF	10	18.87	1.27
				NT	18	33.98	1.34
ESTP	*ESFP*	*ENFP*	*ENTP*	SJ	12	22.64	0.56**
N = 3	N = 3	N = 9	N = 9	SP	13	24.53	1.29
% = 5.66	% = 5.66	% = 16.98	% = 16.98	NP	22	41.51	1.82***
I = 0.89	I = 1.07	I = 1.53	I = 2.01**	NJ	6	11.32	0.65
				TJ	15	28.30	0.69*
				TP	22	41.51	1.82***
				FP	13	24.53	1.29
				FJ	3	5.66	0.33*
ESTJ	*ESFJ*	*ENFJ*	*ENTJ*	IN	4	7.55	1.30
N = 6	N = 1	N = 1	N = 5	EN	24	45.28	1.32*
% = 11.32	% = 1.89	% = 1.89	% = 9.43	IS	12	22.64	1.26
I = 0.58	I = 0.18*	I = 0.71	I = 0.78	ES	13	24.53	0.59**
				Sdom	11	20.75	0.93
				Ndom	18	33.96	1.53*
				Tdom	21	39.62	1.00
				Fdom	3	5.66	0.36*

Notes: Calculated values of chi square,
I = 1, the proportion of the variable is identical to whole sample;
I > 1, bigger; I < 1, smaller.

The selection ratio type table (see Tables 3 and 4) (Moody et al., 1993) was devised by Isabel Myers as a way of displaying the distribution of types within a sample and comparing different samples. It applies either a chi-square or Fisher's test depending on the number in each cell. The following section analyses which personalities are the most innovative in terms of idea creator or creative rule challenger. The results permit us to deduce who are the most innovative entrepreneurs, assuming that creativeness is a prerequisite of innovativeness.

5 Results

Who are the innovative entrepreneurs? The question was answered by focusing on the idea creators (n = 44) and rule challengers (n = 53), who occupied the highest quartiles of those categories and utilising the previous findings of entrepreneurial personality types in Finland (Routamaa, 2008, 2011).

An analysis of the idea creator group reveals an overrepresentation of the intuitive (N), cognitive style intuitive feeling (NF), pair intuitive spontaneous (NP), pair extravert intuition (EN), type ENFP, and intuitive dominance (Ndom) preferences (see Table 3). Ndom encompasses those whose dominating, that is, strongest preference is intuition. The ENTP and ENTJ types are also overrepresented among the idea creators even though not statistically significantly. The small number of observations representing some types restrains deductions. Intuition (N) with spontaneous (P) seems to be a common link to creativity.

In Table 4, the creative rule challengers are compared to the total sample. It can be found that preference spontaneous (P), pairs introvert spontaneous (IP) and thinking spontaneous (TP), cognitive style intuitive spontaneous (NP) are overrepresented among the creative rule challengers. At the type level, ISTP, ENFP, ENTP and also INTP are overrepresented, as is intuitive dominance albeit not statistically significantly.

It seems that intuition and spontaneity are the basic elements of creativity. Leading a spontaneous lifestyle and working on intuition is associated with controlled chaos, and it is known that chaos leads to creative solutions. When these results are compared with the results of Routamaa (2008, 2011), revealing that ESFPs, ESTPs, INTPs ISTPs, ENTPs, and ENFPs are the most common entrepreneurs, we can conclude that ESFPs and ESTPs use strengths other than creativity and innovativeness. Innovative entrepreneurs are most often INTPs, ISTPs, ENTPs and ENFPs.

6 Discussion

The results were able to determine which common entrepreneur personality types are most innovative and confirmed the earlier studies on the relationships between personality and creativity. As mentioned, according to McCaulley (1990), riskier decisions might be expected from extraverted (E), intuitive (N), and feeling (F) types. Asikainen and Routamaa's (1997) results on resourceful thinkers and innovators corresponded quite closely with McCaulley's (1990) view but emphasised the role of spontaneity (P). It must be noted, however, that depending on the type, feeling (F) can either restrict (e.g., ESFJ) or support (e.g., ENFP) new and daring creative solutions. As Brandt and Routamaa (2010) explain, particularly certain F-type women had more

economic difficulties in business leading to reorganisation more often than occurred with other personality types. Those people we label idea creators and creative rule challengers are particularly connected with extraversion (E), intuition (N), and spontaneous behaviour (P). Additionally, intuitive dominance (Ndom) is clearly connected with creative behaviour. At the type level, ENFP, ENTP, and INTP are most overrepresented among the creative factors.

The results obtained here are largely supported by those of Routamaa and Rissanen (2004) who found that ENFPs were the most willing to evaluate themselves as innovator entrepreneurs and INTJs, ISTPs and ENTPs seemed also to favour this identity only slightly. ISTPs are often sole proprietors where the introvert spontaneity combination generates original business ideas. The results also support the entrepreneurs' rankings in each type as presented in Table 1. Further, as found by Routamaa et al. (1996) entrepreneurs with an N preference are more interested in growth companies and internalisation, whereas S-preference entrepreneurs favour smaller, local enterprises. The results obtained here support those findings.

Overall, the results obtained here and supported by some earlier studies indicate, first, that there are certain differences in the creativity and innovativeness of different personalities. Second, there are personality types which are more entrepreneurial. Some of these may rely on innovative ideas and approaches (INTP, ISTP, ENTP, ENFP) while others utilise the strengths of their co-workers to a greater degree (ESFP, ESTP). In other words, some types prefer safe, risk-free, and stable working environments whereas some types crave self-fulfillment or independence in entrepreneurship. However, those desires may be met in a variety of ways: in establishing a small local business or in a riskier growth or globalised business operating in a flexible environment. Doubtless, perceiving (P) is the most visible personality preference of entrepreneurs. In connection with that there may be many kinds of preference combinations. However, anyone can start up an enterprise and become an entrepreneur because there is a wide selection of more or less challenging entrepreneurial identities available.

The results can be used in developing higher education and teaching methods, entrepreneurial education and in coaching entrepreneurs. Creative individuals should be encouraged when they present new ideas and assisted with the organising side of establishing a business, while less-creative individuals should be challenged to think outside the box. Teams or pairs should be formed of individuals with different strengths. Both, entrepreneurs and educators should comprehend how to develop the self-knowledge needed to be successful in business. Understanding ones' own strengths in entrepreneurship is irreplaceable: MBTI® can be very useful, both in this research field and in practical entrepreneurial coaching.

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Creative leaders –Interaction of the personality and gender of leaders with their creativity

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Purpose. The main focus of creativity studies has been on how to increase followers' creativity. The importance of the leader's role in that has been acknowledged but the creativity of leaders has received little attention. This study aims to advance this area by investigating the relationship between a leader's creativity and their personality and gender in the Finnish context.

Methodology. Respondents are 314 Finnish managers from the private and public sectors (75 % men / 25% women) and their 868 subordinates. The leaders carried out a self-assessment of their personality (using the Myers–Briggs Type Indicator) and creativity while their followers assessed their leader's leadership skills, with creativity being a part of that evaluation. A non-parametric Mann–Whitney U-test and a non-parametric independent samples median test were used to compare the groups, and pairwise comparisons were also run.

Findings. The results indicate that personality or gender alone do not have a strong relationship to creativity. With gender acting as a moderator, very substantial relationships were discovered and it could be concluded that women of a certain personality type are more creative than men of a certain personality type.

Practical implications. The results could be utilized in recruiting creative individuals and planning personalized training for managers whose roles demand they improve their creativity.

Originality/value. Prior studies have largely ignored the role of gender in the creativity of leaders.

Keywords: Creativity, leadership, personality, gender

Introduction

The associated topics of creativity among employees, and how leaders and organizations could increase it, have been widely studied (Basu and Green, 1997; Denti, 2011; Dul et al., 2011; Elenkov and Manev, 2005; Jung et al., 2008; Martinaityte and Sacramento, 2013; Škerlavaj et al., 2014; Slåtten and Mehmetoglu, 2014; Yuan and Woodman, 2010; Zhou and Hoever, 2014) but little

attention has been paid to the creativity of leaders. This is an important topic because leader creativity predicts organizational creativity (Mathisen et al., 2012).

Creative leaders apply unconventional solutions to problems and challenges (Proctor, 1991), and acting as a creative role model inspires and motivates others (Mathisen et al., 2012). Individuals feel safe to share their insights when they have the organization's support and a positive supervisor relationship (Yuan and Woodman, 2010). The number of innovations can be increased when creativity is supported and promoted in an organization, even individuals "who lack the natural inclination to be creative may become creative", and their leaders are key to enabling this transition (Škerlavaj et al., 2014; Zhou and Hoever, 2014, p. 353). Managers can create this kind of culture (Leavy, 2005; O'Reilly III et al., 2014) and psychological environment (Leonard and Swap, 2011) and that should also increase overall business performance (Kyrgidou and Spyropoulou, 2013).

Innovations and the creativity that precedes them, are important elements of an organization's effectiveness, success, and long-term survival (Amabile et al., 1996; Anderson et al., 2014; Woodman et al., 1993; Zhou and Hoever, 2014). Creativity and innovation are not the same thing, but are closely related, especially at the individual level (Sarooghi et al., 2015) and recently Anderson et al. (2014, p.4) presented an integrative definition intended to clarify the situation:

Creativity and innovation at work are the process, outcomes, and products of attempts to develop and introduce new and improved ways of doing things. The creativity stage of this process refers to idea generation, and innovation refers to the subsequent stage of implementing ideas toward better procedures, practices, or products.

According to Woodman et al. (1993) individual creativity is the result of a combination of personality, cognitive factors, intrinsic motivation, and knowledge. Creativity can be an outcome for any individual, no matter what their position in the organization or the task they perform (Anderson et al., 2014; Zhou and Hoever, 2014).

This study aims to investigate leaders' creativity and how it relates to personality and gender in the Finnish context, since those two concepts (and especially gender) have been largely ignored in earlier studies. Although the article discusses creativity, it assumes a relationship to innovativeness as well.

The article is organized as follows. This short introduction is followed by a review of some relevant earlier studies, first relating to leadership and leaders' creativity, and then looking at creativity in terms of personality and gender. In the methods section, the assessment of creativity and personality is discussed and the process and details of the data explained. Next, the results are presented and evaluated. Finally, the article concludes with its implications, limitations, and future research suggestions.

Earlier studies

Creative leaders and leaders' influence on creativity

Creativity has been found to be one of the important trait-like constructs of effective leaders. In addition, energy and integrity, communication skills, problem solving ability, and management are also crucial (Hoffman et al., 2011). Effective leaders also pay attention to their routine behavior toward their followers, empathize with the followers' feelings, keep an open mind, and show appreciation for followers' ideas (Amabile et al., 2004).

Mathisen et al. (2012) found support for their hypothesis that leader creativity predicts organizational creativity, that is, the creative behavior and outputs of subordinates. This may be because modeling a role inspires and motivates others, and reflects a creative leader understanding the requirements of creativity (Mathisen et al. 2012). The study suggested that when an organization requires creativity, candidates' creativity levels should be considered carefully when recruiting managers. De Jong and Hartog (2007) also found innovative role modeling to be one of the key behaviors leaders utilize to support employees' innovativeness; others included intellectual stimulation, providing vision, organizing feedback, and providing resources.

Collins and Cooke (2013) reported that when looking to increase performance, having a creative manager is particularly important for those individuals who are not particularly open to change. Earlier Fiedler and Garcia (1987) suggested that primarily creative leaders might not focus sufficiently on the leadership process, favoring instead the idea generating process, potentially leading to the overall performance of the team suffering. Therefore, Fiedler and Garcia concluded that leaders should monitor the process, limiting the number of ideas. In reality this might not be a problem, since due to time pressures, social norms, and expectations, ideas that are original and risky are often rejected, and this may eventually lead to a reduced number of novel ideas (Blair and Mumford, 2007), and people who produce original ideas appear to have better evaluating skills too (Basadur et al., 2000).

Mathisen et al. (2012, p.369) concluded that employee creativity can be improved with "supportive, inspirational, and noncontrolling leadership", while aversive leadership, that is intimidation and shaming, has been found to have a negative effect on creativity (Choi et al., 2008). Furthermore, managers should have the ability and will to ensure the followers work in a positive atmosphere and mood, which calls for relationship-building skills (Davis, 2009; Shalley and Gilson, 2004; Tierney et al., 1999). These styles and skills may be easier to implement for women and for those with certain personality types.

Earlier findings on creativity and personality

Feist (1998) found clear personality trait profiles for creative scientists and artists: their traits were higher for example on openness to new experiences, conscientiousness, introversion, self-acceptance, hostility, and impulsiveness and independence. He also stated that introversion might be related to forms of creativity that require working in isolation, while extraversion is more relevant in interpersonal processes that call for creativity (Dollinger et al., 2004; Feist, 1998). Recent studies have found positive correlations between openness, extraversion, and creativity (Bender et al., 2013; Hughes et al., 2013). Some traits have been found to correlate with personality preferences, for example openness correlates positively with intuition, and conscientiousness with judging (see e.g., Furnham, 1996).

The following findings regarding the relationship of personality and creativity only include studies that have used the Myers–Briggs Type indicator (MBTI). Short descriptions follow in Table 1 below (Briggs Myers et al. 1998), and more detail is available in the Methods section.

Table 1. MBTI preference pairs

Extraversion–Introversion Dichotomy *(attitudes or orientations of energy)*		**Sensing–Intuition Dichotomy** *(functions or processes of perception)*	
Extraversion (E)	**Introversion** (I)	**Sensing** (S)	**Intuition** (N)
Directing energy mainly toward the outer world of people and objects	Directing energy mainly toward the inner world of experiences and ideas	Focusing mainly on what can be perceived by five senses; real facts	Focusing mainly on perceiving patterns and interrelationships; possibilities
Thinking–Feeling Dichotomy *(functions or processes of judging)*		**Judgment–Perception Dichotomy** *(attitudes toward dealing with outer world)*	
Thinking (T)	**Feeling** (F)	**Judging** (J)	**Perceiving** (P)
Basing conclusions on logical analysis with a focus on objectivity and detachment	Basing conclusions on personal and social values with a focus on understanding and harmony	Preferring the decisiveness and closure that result from dealing with the outer world using one of the Judging processes	Preferring the flexibility and spontaneity that result from dealing with the outer world using one of the Perceiving processes

Intuition has been found to predict creativity (especially when combined with a feeling preference) and a judging-perceiving preference does not predict creativity (Dollinger et al., 2004). However, several studies have found that intuitive (Houtz et al., 2003) and perceiving people are rated as more creative or innovative than others (Gryskiewicz and Tullar, 1995; Isaksen et al., 2003; Jacobson, 1993). It is to be expected that leaders with an intuitive personality preference are more creative than managers with a sensing preference, especially following self-evaluations since intuitive leaders generally evaluate their own management skills in a more positive light than do people with a sensing preference (Buttner et al., 1999).

Gender and creativity

There are conflicting findings on the relationship between gender and creativity (see e.g., Kaufman 2006; Bender et al. 2013; Baer and Kaufman 2008). Kaufman (2006) found for example that women rated themselves higher in the creativity areas of the social and the visual-artistic aspects while men had higher scores in science and sports factors. Similarly, Hughes et al. (2013) found that men rated their sporting creativity higher while women reported higher scores in the visual-artistic area; and Bender et al. (2013) found men to rate their creativity higher than women did. In their extensive review Baer and Kaufman (2008) concluded that the gender differences in creativity result from differing environments.

There are hardly any studies on gender differences and the creativity of leaders. Chusmir and Koberg (1986) found that the gender of managers does not correlate with creativity levels and similar results were found later by Scratchley and Hakstian (2001). However, it appears that women managers are more creative in their social relationships while men display their creativity in competition and problem solving (Chusmir and Koberg, 1986).

As stated above, the variables featuring in the current research have not been combined in earlier studies. The aim here is to investigate leaders' creativity and how it relates to personality and the gender of leaders in the Finnish context, and thereby to prompt more studies and interest in the neglected area of creative leaders.

Methods and data

Data and analysis

Data were collected during leadership training led by Professor Routamaa starting in the 1990s, and continuing until the late 2000s. The analysis was

conducted on 314 responses from 237 Finnish male managers and 77 female managers, and their 868 followers. Responses relating to 28 managers were removed because they were based on a rating from only one follower or had missing information. Of the respondents, 56 % worked in the private sector and the remainder in the public sector, mostly in industrial companies and offices but also in other areas such as higher education. The mean age of the managers was 42, and ranged from 26 to 65. Managers' mean years of working in their current position were 6.9 and the median 4.5. The proportion with a university level education was 42 %.

Statistical tests were conducted with a Mann–Whitney U-test (McKnight and Najab, 2010) for comparing two groups and a non-parametric independent samples median test used when comparing multiple groups. Non-parametric analyses were used because the data was not normally distributed. Pairwise comparisons were performed using Dunn's procedure with a Bonferroni correction for multiple comparisons. Those cases with a z-score of over ±2.58 were identified as extreme outliers and removed. The distributions of the scores for all type comparisons were similar, as assessed by visual inspection.

Assessing creativity

Self-assessment of creativity has been used widely in the latest studies (Reiter-Palmon et al., 2012). In experimental studies one can try and measure creativity output, and more specifically the quality and/or quantity of ideas or solutions, as for example in Herrmann and Felfe (2014), this is quite challenging in an organizational setting and therefore most studies use student samples.

Reiter-Palmon et al. (2012) found that self-perceptions of creativity have a strong relationship with creative self-efficacy and a creative personality, and less with creative performance, and that is why results of self-assessed creativity measures should be read with caution in this type of study. Then again (Silvia et al., 2012) found self-assessments to be quite accurate, and based on earlier empirical work, Hughes et al. (2013:77) stated that "it is evident that that self-estimates of creativity are related to more objective measures of creativity and important real-world outcomes." This study however also includes an assessment from followers. Because creative self-perception appears to be domain specific, the measure used reflects the domain of interest as suggested by Reiter-Palmon et al. (2012), that is, work, and more specifically, leadership at work.

The three positive items dealt with creating ideas, presenting them to others, and encouraging others to do the same. Examples included, "I look for new ideas and encourage other people to do the same," and "I create and suggest new ideas

myself." The reversed three items dealt with supporting creativity in a practical way. Examples of those included, "Official meetings are the best place for creating new ideas" and "I sometimes encourage new ideas but seldom take advantage of them." The reversed items show that the leaders might mean well or try to be supportive, but in reality, use ineffective means and are more focused on maintaining the current situation. The final two items measure the obstructive attitude toward creativity, and those items are weighted -1.5. Those items were: "I think values of creativity, changes, and innovations are often exaggerated," and "I think managers' ideas are more valuable than those of followers." In the follower's survey, the items were formed in the style of, "My supervisor looks for new ideas and encourages others to do the same," and "My supervisor appears to think that followers' ideas are not as valuable as managers' ideas."

The items are quite varied, measuring leaders' assessment of their own ability to be creative; how much and how well the leader supports their followers; and how active the leader is in engaging and supporting others' creative activities. Creativity and motivation do not guarantee that the person will act creatively. Even though creativity itself is only part of this measurement and includes the creative motivation, creativity, and support of others' creativity, due to positive indications (Hughes et al., 2013; Silvia et al., 2012) this concept is labeled "creativity" in this study.

All of the items were dispersed in a more extensive leadership survey, the 3-D theory of leadership effectiveness, a behavioral theory of management based on the situational management approach (Reddin, 1970).

Assessing personality

The Myers–Briggs Type Indicator (MBTI) used in this study provides a dynamic approach to personality, and it "is one of the most commonly used inventories for assessing normal personality" (Dollinger et al. 2004: 249). The MBTI is based on Jung's (1921/1971) work on psychological types. It has been widely used in the field of leadership and organizations (e.g., Gallén, 2009; Hautala, 2006; Dollinger et al., 2004; Routamaa, 2014; Furnham and Stringfield, 1993; Gardner, 1996; Uusi-Kakkuri and Brandt, 2015; Asikainen and Routamaa, 1997), and accordingly was selected for this study too.

Extraverted (E) people direct energy mainly toward the outer world of people and objects. They are energized by interaction and activity, and therefore do first, and reflect later. Introverted (I) people direct energy mainly toward the inner world of experiences and ideas. They are energized by reflection and solitude. Sensing (S) people focus mainly on the present moment, concrete and verifiable

information, and experiences. They are practical and realistic. Intuitive (N) people focus mainly on perceiving patterns and interrelationships. They tend to value insights, abstractions, theory, and notions of what could be. They are future oriented and imaginative. Thinking (T) people tend to base their conclusions on logical analysis with a focus on objectivity and detachment. They seek justice and are guided by cause and effect reasoning. Feeling (F) people tend to base their conclusions on personal or social values with a focus on understanding and harmony. Judging (J) people prefer decisiveness and closure. They like to organize and follow plans. Perceiving (P) people prefer flexibility and spontaneity and tend to be adaptable and curious and keep their options open (Briggs Myers et al. 1998; Myers and Myers 1990).

The validity of the MBTI has been established at the four preferences level, as well as at the type level. Internal consistency is high when both the split-half and coefficient alpha reliabilities are measured. Internal consistency and construct validity have been validated by several researchers (see e.g., Gardner 1996; Briggs Myers et al. 1998). Gender, age, membership of a minority ethnic group, and developmental level are just some of the topics that have been researched when testing the reliability of the MBTI (see Briggs Myers et al. 1998). In this study, the Finnish research 'F-version' was used. The construct validity and reliability of this form were validated in a process spanning several years, and for example, (Järlström, 2000) reported an internal consistency (Pearson's correlation coefficients) of 0.65 to 0.76 and (Cronbach's coefficient alpha) of 0.79 to 0.86. The personality types of the leaders are based on the reported scores, and the distributions of the preferences are reported in the results section.

Results

This section reports on followers' assessments of their leaders; first briefly examining only personality preferences, then gender, and finally gender and personality combined. After that, the leaders' self-assessments are reviewed in the same order.

Followers' assessments

A Mann–Whitney U-test was run to determine if there were differences in the followers' score for their leaders' creativity when the leader was extraverted and when they were introverted (see Table 2). The followers' ranking was statistically significantly higher for extraverted leaders than for the introverted ones ($U = 9500$, $z = -2.119$, $p = .034$, $r = -0.12$), but the strength of this relationship was weak due to a small effect size. Next, we looked at how the sensing-intuition preference of a leader influenced the ratings. Intuitive leaders' creativity was

ranked higher by their followers than by that of sensing leaders (U = 13611, z = 1.986, p = .047, r = 0.11), but with a very small effect size. Leaders' thinking and feeling preferences did not have any influence on how followers rated their creativity (U = 7845, z =.406, p = .685, r = 0.02) nor did judging and perceiving preferences (U = 10246, z =.993, p = .321, r = 0.06). To sum up, no important findings emerged.

When comparing followers' evaluations of their leaders' creativity in relation to the gender of the leader, again another Mann–Whitney U-test was run. Followers' evaluations of female leaders' creativity did not differ from those for male leaders (U = 9735, z = 1.465, p = .143, r = 0.08). Thus, in itself the gender of the leader did not influence how followers rated their leaders' creativity and support for creativity.

Table 2. Results regarding gender and personality separately

	Woman leader N=76 Median	Man leader N=237 Median	E leader N=204	I leader N=109	S leader N=177	N leader N=136	T leader N=253	F leader N=60	J leader N=230	P leader N=83	U	z	p	r
Follower's rating	5.58	4.50									9735	1.465	.143	0.08
Leaders' Self-rating	**10.00**	**8.50**									**10733**	**2.682**	**.007**	**0.15**
Follower's rating			**5.00**	**4.00**							**9500**	**-2.119**	**.034**	**0.12**
Leaders' Self-rating			**10.00**	**7.00**							**8322**	**-3.906**	**.000**	**0.22**
Follower's rating					**4.16**	**5.50**					**13611**	**1.986**	**.047**	**0.11**
Leaders' Self-rating					**7.00**	**10.00**					**15666**	**4.875**	**.000**	**0.28**
Follower's rating							4.66	4.42			7845	.406	.685	0.02
Leaders' Self-rating							8.50	10.00			8307	1.213	.225	0.07
Follower's rating									4.58	5.00	10246	.993	.321	0.06
Leaders' Self-rating									8.50	10.00	10771	1.849	0.64	0.10

The next step was to investigate how the gender of the leader moderated the responses of followers when comparing different personality preferences. An independent samples median test was conducted to determine if there were differences in followers' ratings of their leaders' creativity scores. The groups are therefore extraverted men, introverted men, extraverted women, and introverted women (see Table 3 for results). Distributions were similar for all groups, as assessed by visual inspection of a boxplot. Median scores were statistically significantly different between the groups, $\chi2(3) = 8.026$, $p = .045$. Subsequently, pairwise comparisons were performed using Dunn's procedure. A Bonferroni correction for multiple comparisons was made with statistical significance accepted at the $p < .0083$ level. This post hoc analysis revealed statistically significant differences in the ratings between the extraverted women and introverted men ($z = 9,378$, $p = .013$, $r = 0.51$), but not between any other group combination. The relationship is strong. Extraverted men received the second highest rating and introverted women the lowest. Thus, gender moderates the relationship of extraversion-introversion preference and followers' rating of their leaders' creativity, because only in the case of extraverted women was the rating higher compared to their introverted peers. Next, the process was repeated in relation to other personality preferences and gender.

The groups in this comparison are sensing men, intuitive men, sensing women, and intuitive women. The groups were statistically different, that is, the evaluations of followers differed depending on what gender and sensing-intuition preference their leaders had ($\chi2(3) = 10.579$, $p = .014$). Pairwise comparisons however revealed no statistical difference in any group comparisons.

The groups in this comparison are thinking men, feeling men, thinking women, and feeling women. An independent samples median test showed no differences between the groups ($\chi2(3) = 4.447$, $p = .217$), although visual inspection of the box plots shows that women did receive slightly more positive evaluations.

Finally, the fourth interaction comparison included groups of judging men, perceiving men, judging women, and perceiving women, but no statistical difference was found in the evaluations of followers' experiences of those groups ($\chi2(3) = 4.596$, $p = .204$).

Table 3. Subordinates' ratings of their leader's creativity

Follower's rating	n	Mdn	χ2(3)	P	Post-hoc Pairwise comparisons	z	p	r
E male leader N=149	149	4.67	**8.026**	**.045**	**E women > I men**	**9.378**	**.013**	**0.51**
I male leader N=87	87	4.00						
E female leader N=55	55	6.00						
I female leader N=22	22	3.83						
S male leader N=145	145	3.83	**10.579**	**.014**	**No findings**			
N male leader N=91	91	5.00						
S female leader N=32	32	5.33						
N female leader N=45	45	5.50						
T male leader N=200	200	4.50	4.447	.217				
F male leader N=36	36	4.17						
T female leader N=53	53	5.89						
F female leader N=24	24	5.50						
J male leader N=177	177	4.33	4.596	.204				
P male leader N=59	59	5.00						
J female leader N=53	53	5.66						
P female leader N=24	24	5.25						

Leaders' self-assessment

Extraverted leaders evaluated their own creativity higher than their introverted peers did (U = 8322, z = -3.906, p = .000, r = 0.22) but the effect size was again very small (see Table 2). Intuitive leaders had higher self-ratings, and sensing leaders viewed their creativity to be statistically significantly lower (U = 15666, z = 4.875, p = .000, r = 0.28), and here the relationship is almost on the medium (.3) level. Similarly to the followers' ratings, thinking and feeling preferences did not cause any statistical differences to the leaders' self-rating (U = 8307, z = 1.213, p = .225, r = 0.07). Furthermore, the judging and perceiving preferences did not cause any statistical differences to the leaders' self-rating (U = 10771, z = 1.849, p = .064, r = 0.10).

A Mann–Whitney U-test was run to determine if the self-evaluations of their creativity differed among women and men. Distributions of these scores were similar for both, as assessed by visual inspection. Women's self-ratings were statistically significantly higher than men (U = 10733, z = -2.682, p = .007, r = 0.15) but the effect size was very small. Again, no important findings emerged when comparing creativity without the interaction of gender and personality.

The next stage investigated whether gender might act as a moderator in the self-ratings. Two cases (one extraverted man and one extraverted woman) were removed as extreme outliers, thus the total number of leaders contributing was 311. The group sizes and labels were otherwise the same as in the followers' comparisons. An independent samples median test revealed that the groups were statistically significantly different ($\chi 2(3) = 14.756$, p = .002). Post hoc analysis revealed that introverted men rated their own creativity significantly lower than extraverted men (z = 7,733, p = .033, r = 0.40), and extraverted women (z = 9,378, p = .013, r = 0.51) did. The relationships were strong (medium and large). Introverted women rated their own creativity highly, but there were no statistical differences to other types.

When comparing sensing and intuitive types by gender, one outlier was removed (N=312). Group medians differed statistically ($\chi 2(3) = 21.116$, p = .000) and post hoc analysis showed that sensing men again rated themselves lower than intuitive men (z = 12.457, p = .002, r = 0.68) and intuitive women (z = 15.227, p = .001, r = 0.86). These relationships are very strong. Gender acts as a moderator as illustrated by sensing women having a median of 10, although that was not statistically different from that of sensing men, but it was also not different from intuitive women.

Next, the thinking and feeling preferences were divided by gender (one case was removed as an extreme outlier). Group medians differed statistically ($\chi 2(3) = 10.025$, $p = .018$) and pairwise comparisons revealed that thinking women estimated their creativity significantly more positively than thinking men did ($z = 7.884$, $p = .030$, $r = 0.45$) and the relationship strength was medium. Feeling men and women had a median of 10 but they were not statistically different in any group comparisons.

Finally, comparisons were made between judging men, judging women, perceiving men, and perceiving women. One judging woman was removed as an outlier. Group medians differed statistically ($\chi 2(3) = 10.461$, $p = .015$) and pairwise comparisons revealed that perceiving women estimated their creativity significantly more positively than judging men did theirs ($z = 7.186$, $p = .044$, $r = 0.41$) and the effect size was large. There were no differences in any other group comparisons, judging women and perceiving men had a median of 10.

Table 4. Leader's self-assessment of their creativity

Leader's self-assessments	n	Mdn	$\chi 2(3)$	P	Post-hoc Pairwise comparisons	z	p	r
E male leader	148	10.00						
I male leader	87	7.00			**E men > I men**	**7.733**	**.033**	**0.40**
E female leader	54	10.00	**14.756**	**.002**	**E women > I men**	**9.378**	**.013**	**0.51**
I female leader	22	10.00						
S male leader	145	7.00						
N male leader	91	10.00			**N men > S men**	**12.457**	**.002**	**0.68**
S female leader	31	10.00	**21.116**	**.000**	**N women > S men**	**15.227**	**.001**	**0.86**
N female leader	45	10.00						
T male leader	200	8.50						
F male leader	36	10.00						
T female leader	52	10.00	**10.025**	**.018**	**T women > T men**	**7.884**	**.030**	**0.45**
F female leader	24	10.00						
J male leader	177	8.50						
P male leader	59	10.00	**10.461**	**.015**	**P women > J men**	**7.186**	**.044**	**0.41**
J female leader	53	10.00						
P female leader	24	10.00						

Research implications

Overall, the followers' ratings were considerably lower than the self-assessments of their leaders. However, this disparity was not the primary concern of the current research investigating leaders' creativity and how it relates to the personality and gender of the leader. The relationships between leaders' personality preferences and leaders' gender appeared very weak to non-existent, thus they did not present very important findings. As mentioned earlier, the link between gender and creativity is highly dependent on the environment, thus it is not surprising that no significant differences were found because, as mentioned in the methods section, the leaders come from varying fields. However, personality with gender as a moderator did produce substantial results in all personality preference pairs.

With regard to the followers' ratings, the important finding was that they evaluate extravert women leaders to be far more creative than introverted men. The non-findings in other areas suggest that leaders' individual differences do not overly influence how their followers experience the leaders' creativity, or they may well confirm that the raters' (i.e., the followers') personality differences should be taken into account to reveal meaningful differences in their ratings (Hautala, 2005; Routamaa et al., 1997).

The self-assessment segment revealed many substantial findings signaling that personality and gender together have a large impact on how leaders view their own capabilities with regard to creativity. A very strong relationship was found with intuitive men and women; they both assess their creativity to be far higher than sensing male leaders do. Moderate relationships were evident in the remainder of the results; extraverted women rated their creativity higher than introverted men did theirs. Thinking women were more positive in their self-assessments than thinking men were, and perceiving women were more positive than judging men. When combining the followers' ratings, it is safe to assume that introverted male leaders are not as creative as extraverted women are, or at least do not demonstrate their own creativity and support of others' creativity to their followers very effectively.

These results are consistent with earlier studies indicating that extraverted people (in positions that require interpersonal processes) and intuitive people are more creative, specifically in this case when compared to sensing or introverted men. It would be important to study if the findings are similar in other cultures to reveal if it is possible to generalize these results beyond the Scandinavian context, although personality type generally displays in a quite similar fashion across national cultures. Moreover, future studies might investigate different fields to

acquire more specific knowledge on which types of leaders are successful in terms of creativity in particular fields.

Practical implications

Managers would be advised to review their own beliefs about their creativity and how they support others. They should question whether their actions match their stated intentions, and if not, then an action plan to change this should be done. There have been encouraging experiments indicating that creativity, or more specifically creating original or higher quality ideas (Basadur et al., 2000; Chiu, 2015; Herrmann and Felfe, 2014) and evaluating novel ideas better (Basadur et al., 2000), can be improved with training (ibid.) and in some cases even meditation (Ding et al., 2015).

Škerlavaj et al. (2014) suggested that organizations must consider leaders' capabilities when recruiting and provide appropriate training, but also ensure that leaders have access to both intangible and tangible resources to support their subordinates. Training should also target making managers aware of the impact of their behavior on others, as they may well be unaware of the effect of their actions and how their subordinates view them (Reddin, 1970). Moreover, when the intention is to develop the creative abilities of managers, the training should be matched to the individuals' needs (Caroff and Lubart, 2012; Scratchley and Hakstian, 2001). These findings could help recognize potential talents and those individuals in need of creativity and leadership training when creativity and innovativeness are vital. Personality type theory could offer trainers a perspective on why creativity might not be a strength of an individual, and how it might be improved, for example.

It is male leaders of a type combining some or all of the following, introversion, sensing, thinking and judging who might benefit most from creativity training. Training could also focus more specifically on creativity in social relationships, as it affects team leadership for example (Dollinger et al., 2004; Feist, 1998; Kaufman, 2006). Some may need to develop an open-minded attitude to new ideas and approaches and how they might be encouraged. Extraverted, intuitive, thinking, and perceiving female leaders and intuitive male leaders on the other hand may be best placed to share their practical knowledge and mindset to train their less creative peers. Individuals with these preferences should be encouraged to utilize their creativity and be rewarded for it even while still in higher education.

Women in particular should be encouraged to pursue leadership positions, since there are still far more men in the upper echelons of leadership than women,

even in egalitarian Finland. Organizations must inevitably be missing out on many creative talents by not sufficiently encouraging their female employees to apply for leadership roles. In addition, men (and women) leaders are more often sensing, thinking and judging types rather than intuitive, feeling and perceiving types (Brandt and Laiho, 2013; Routamaa and Ponto, 1994), which needs to be considered in the organization and leadership trainers. This study has adopted a new and important approach to enhance knowledge of leaders' creativity.

Limitations and future research

This study has several limitations. The participants work in a variety of fields and have very different backgrounds. Although we have taken into account some demographic variables there is no knowledge of how the raters (both leaders and followers) see creativity and how it is valued or required in each case. The beliefs of the raters and the rating scales used have been found to influence the rating of creativity (Long and Pang, 2015). More reliable information would be achieved with interviews (Piffer, 2012), and accordingly this particular study can be evaluated as only having measured creativity indirectly, since self-reports and peer evaluations do not reveal the actual creativity of a person, which according to Piffer (2012) cannot be measured.

Another limitation is the possible influence of common method variance in the case of self-ratings. The current research considered this issue by looking at the followers' assessments, and collecting the personality and creativity surveys on different occasions. Furthermore, all the results were only available to the individuals, and followers' ratings were not given to their leaders (Ng and Feldman, 2012; Podsakoff et al., 2003).

The third limitation is the fact the data is aging, being collected mainly in the first decade of the century. However, it was decided that the available data could be used to test a new approach, and to stimulate discussion in this area because none of the concepts involved were new to organizational studies. Future studies should collect fresh data with an established creativity survey, in specific fields, and in different societies.

Conclusions

Managers' and leaders' creativity has attracted little attention. It is quite clear that managers have a huge impact on the creativity of both employees' and organizations. Levels of creativity could be improved by recruiting creative leaders skilled at modeling creativity and capable of understanding the ingredients and process required to enhance such creativity. This study attempts

to determine more specifically how leaders' personality and gender relate to creativity. Its findings suggest that introverted and sensing men as well as thinking and judging men might be a productive target for training if creativity is called for, while not diminishing their strengths in other areas of leadership. Extraverted women, intuitive men and women, thinking women, and perceiving women would appear to make the most creative leaders

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