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SOCIALLY COMPETENT LEADERSHIP
- predictors, impacts and skilling in engineering

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Abstract

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Earlier management studies have found a relationship between managerial qualities and subordinate impacts, but the effect of managers' social competence on leader perceptions has not been solidly established. To fill the related research gap, the present work embarks on a quantitative empirical effort to identify predictors of successful leadership.

In particular, this study investigates relationships between perceived leader behavior and three self-report instruments used to measure managerial capability: 1) the WOPI Work Personality Inventory, 2) Raven's general intelligence scale, and 3) the Emotive Communication Scale (ECS). This work complements previous research by resorting to both self-reports and other-reports: the results acquired from the managerial sample are compared to subordinate perceptions as measured through the ECS other-report and the WOPI360 multi-source appraisal. The quantitative research is comprised of a sample of 8o superiors and 354 subordinates operating in eight Finnish organizations.

The strongest predictive value emerged from the ECS self- and other-reports and certain personality dimensions. In contrast, supervisors' logical intelligence did not correlate with leadership perceived as socially competent by subordinates.

16 of the superiors rated as most socially competent by their subordinates were selected for case analysis. Their qualitative narratives evidence the role of life history and post-traumatic growth in developing managerial skills.

The results contribute to leadership theory in four ways. First, the ECS self-report devised for this research offers a reliable scale for predicting socially competent leader ability. Second, the work identifies dimensions of personality and emotive skills that can be considered predictors of managerial ability and benefited from in leader recruitment and career planning. Third, the Emotive Communication Model delineated on the basis of the empirical data allows for a systematic design and planning of communication and leadership education. Fourth, this work furthers understanding of personal growth strategies and the role of life history in leader development and training.

Finally, this research advances educational leadership by conceptualizing and operationalizing effective managerial communications. The Emotive Communication Model devised directs the pedagogic attention in engineering to assertion, emotional availability and inspiration skills. The proposed methodology addresses classroom management strategies drawing from problem-based learning, student empowerment, collaborative learning, and so-called socially competent teachership founded on teacher immediacy and perceived caring, all constituting strategies moving away from student compliance and teacher modelling.

The ultimate educational objective embraces the development of individual engineers and organizational leaders that not only possess traditional analytical and technical expertise and substantive knowledge but are intelligent also creatively, practically, and socially.

Key words: Social competence, leadership, engineering, competence development

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For the past four years, this research has filled my evenings, weekends and holidays, not because I felt obligated but because the topic was (and still is!) so close to my heart. I've put my soul to this work, again not out of discipline but because I found my calling in the study of the emotional exchange between individuals. Everything I've written, I've written out of curiosity, passion, and inspiration, enjoying every moment of the process.

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And as if this wasn't enough, I'm at work surrounded by an extraordinarily supportive battalion of professionals – what a wonderful English team we have! Also the students at Aalto are a source of inspiration to me; let's welcome with open arms the new generation of emotionally intelligent and socially competent engineering experts!

In good times and in bad, every woman needs a soul sister – I've been blessed with several. My precious, wise, emotionally intelligent, deep and loyal friend **Hellu** has stood by me all my adult life, through heaven and hell, always there for me, always believing in me – what would I have done without her! **Tusbo** and **Maijastina** I appreciate for their humor, assertiveness and opinionated stance to practically everything that goes on in our society ☺. I greatly value my friendship with **Heli**, whose social skills are beyond comparison. **Rasa** I admire for her courage, flexibility and appreciation of life with all its surprises. **Lena**'s beautiful personality, gentle encouragement and warmth have helped me grasp the true essence of socially competent conduct – I'm so grateful for knowing her! I cherish my friendship with **Ilona**[1], who seems to have made it her mission to spread energy, happiness and harmony to those around her. With **Ansku** we go back a long way – in my world, she stands for integrity and social expertness. **Satu** is probably the most unselfish person on Earth – please remember to take care of yourself! I'm thankful for **Mira** and **Sanna,** who, over the years, turned from colleagues into friends. **Anneli** and **Ritva** are true gems; with you, it is so easy to remember what matters in life! Last but not least, I think highly of **Marja** for the caring and sharing she is so well-known for.

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This work is dedicated to my brother **Jani**, whose untimely death so tragically interrupted his own research. Jani taught me what it means to be loyal; his uncompromising love and unwavering trust in my capability keeps me going. "Kyllä Pia osaa" is what he used to say.

Pia,
Espoo, 10.2.2012.

[1] Ilona's mother, late **Mirja Tolsa,** who was my supervisor in teacher training, inspired me to take an interest in communicative language teaching; in this work, I strive to further Mirja's revolutionary ideas on how to de-inhibit and free young learners from fear of public performance.

Contents

Tables

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Appendices

ability	Natural aptitudes and learned capabilities needed to successfully complete a task (McShane et al.:2000)
affect	A longer-lasting positive or negative experience. (Gooty et al.:2010)
assertion	Tendency to constructively and proactively speak up for or reactively defend their own values, interests or goals verbally and nonverbally. (Ames et al.:2007)
Big Five	Personality traits embody five abstract personality dimensions: conscientiousness, emotional stability, openness to experience, agreeableness, and extroversion (McShane et al.:2000)
communication	The process by which information is transferred and understood (McShane et al:2000), with the ultimate aim of building communality and establishing a foundation for human interaction. (Juholin:2001)
competence	Possession of required skill, knowledge, qualification, or capacity. (Webster's:1989) Area of work (Moore et al.:2002)
dialogue	A conversation process among team members in which they learn about each other's mental models and assumptions to form a common model for thinking. (McShane et al.:2000)
emotional intelligence, EI	Ability to perceive, access, recognize and generate emotions so as to assist thought. (Ciarrochi et al.:2006)
emotion	Psycho-physiological reactions and subjective feelings in response to a perceived trigger (Ciarrochi et al.:2006); the subjective elements that we feel; the displayed experience. (Fineman:2003)
emotive communication	Transfer of attitudes and feelings through the strategic modification of affective signals to influence others' behavior in a way that is controlled by social norms. (Eelen:2001)
empathy	Ability to understand and be sensitive to the feelings, thoughts, and situation of others. (McShane et al.:2000)
feeling	The displayed features that we show; the subjective and private experience. (Fineman:2003)
intelligence	Capacity to reason abstractly and act rationally so as to adapt to the environment. (Ciarrochi et al.:2006)
interaction	Effective and purposeful communication; motivation to communicate and interact with others. (Rouhiainen-Neunhäuserer:2009)
interpersonal skills	Intelligence providing the capability to perceive, understand and react to other people's moods and motives. (Moller et al.:2000)
intrapersonal skills	Intelligence offering the capability to form an accurate model of oneself and to use this model effectively. (Moller et al.:2000)
leadership	Here defined as the process of influencing people through power and persuasion and providing an environment to achieve shared goals. (McShane et al.:2000)
personality	The stable pattern of behavior and consistent internal states that explain a person's behavioral tendencies. (McShane et al.:2000)
skill	Knowledge-based ability to do something well, proficiency or facility in a craft. (Webster's:1989)
social competence	A set of emotional, personal and social knowledge and abilities that promote coping with environmental demands and pressures. (Moller et al.:2000)
social intelligence	A set of interpersonal competences built on specific neural circuits and related endocrine systems that inspire others to be effective. (Goleman et al.:2008)
trait	Characteristic of an individual, describing a habitual way of behaving, thinking or feeling. (Ciarrochi et al.:2006)

Table 1. Key terms and concepts.

PROLOGUE

Nosce te ipsum!

In an epoch before Christ, the seven sages of Greece, Chilon of Sparta, Heraclitus, Pythagoras, Socrates, Solon of Athens, Thales of Miletus and Phenomoe philosophized the make-up of a good life. Unanimously, they concluded that Nosce te ipsum (Know Thyself) was the key to successful life.

Socrates, in particular, favored the maxim as a means to remind people of their ignorance. For him, the most important knowledge to be pursued was self-knowledge. (Kahlos:2008) The wise men believed that knowing oneself was ultimately instrumental to knowing other human beings. (Scholtz:2006)

Nosce te! will take us on a journey to industrial communities, with our emotional landscape as the starting point and our social competence as subject to lifelong learning and development, towards successful self-leadership, all the way to satisfying quality of working life and organizational performance.

1 INTRODUCTION

The technological development as well as workplace and job redesign typifying the knowledge society have undermined the quality of working life through stressors such as excessive or contradictory demands, complex social conditions, lack of organizational support, and lowered motivation or work ability, impacting well-being at work. (Rintala:2005) Similarly, today's hyper-competition and quartile economy subject corporate experts to a working life that is experienced as more hectic and emotionally consuming than ever before. The constant demands for flexibility and commitment, and the continual changes in working life generate race-typical emotions in human beings, inflicting feelings of insecurity and threat, even emotional problems. In case a work community lacks the emotional instruments pertinent for tackling these problems, the exposure to oppressive physical and psychological impacts will eventually endanger productivity and coping at work. (Saarinen:2007)

Moreover, conflicts between supervisors[2] and employees seem to be on the rise, while the digital economy is increasingly creating distributed work that reduces the opportunity for face-to-face collaboration, challenging knowledge sharing and the construction of shared cultural domains. The spatial, chronological, cultural, disciplinary, economic and organizational boundaries characterizing today's technical and professional work settings impede the build-up of social connections and trust, thereby causing disengagement. (McNair et al.:2010)

Furthermore, today's employees are increasingly strained by leveraged demands on first-rate expertise extending beyond domain-specific capabilities, intensifying efficiency requirements, constant rush, and pressing need for continuing learning, which also pose challenges to modern management. (Keltikangas et al.:2009; Simström:2009) While the basic mission of

[2] In the present work, the terms "manager", "supervisor", "superior" and "leader" are used interchangeably to refer to an individual responsible for managing and leading subordinates. The variety is necessary to showcase the versatility of managerial tasks and the numerous contextual roles those holding a managerial position have.

management has remained the same, managerial tasks have become complicated by e.g. the increasing diversity of workforce, calling for cross-cultural skills such as cultural empathy and adaptability. (Niitamo:1999b)

Also, inter-human interaction is taking new forms as knowledge workers are no longer regarded as subordinates but rather as equal partners. To further add to the complexity of the task of leading employees, staff can no longer be committed and motivated by means of financial incentives alone. Instead, various higher-level needs must be attended to: employees need challenges, they long for supervisors that are present and available for them, they demand debureaucratization, and they call for sound operating principles and values. (Åhman:2004; Simström:2009)

In order to optimize agility and efficiency, organizations are to sustain and foster the intellectual and mental capacity of their personnel to encourage them to give their utmost best, every single day. Unfortunately, it is too often ignored that the build-up of organizational capability calls for trust and communality, a clear division of versatile tasks, and employee autonomy. Instead, the prevailing instability and lack of predictability cause growing employee insecurity and frustration, subsequently undermining organizational performance. (Simström:2009; Kolari:2010; Kultanen:2009)

What is more, industries are facing mounting needs to raise, not only their level of productivity, but creativity, as well. The accelerating technological advancement is pressuring engineering organizations to be first-to-market with new ideas and products, which forces managers to augment innovativeness and self-directedness at work. Product development is more and more dependent on multidisciplinary competences and systems thinking, and ways of working are increasingly characterized by project-type tasks and responsibilities. (Atware et al.:2009; Koivumäki:2008; Silva et al.:2009; Virolainen:2010)

Not only are industries changing but so is also the larger, societal set-up. The transfer from modern to postmodern society in general entails promotion of values celebrating the Good Life, as a contrast to modern values which emphasized financial growth. The new demands embrace learning, social relations, the ability to live up to one's capacity, and management of one's life. In addition to financial success, people long for mental rewards, including freedom, good treatment and positive feedback and recognition, especially from their immediate supervisor. (Jaari:2004) The resemblance of organizational realities to family life and of managerial duties to parental responsibilities is turning our focus to emotive leader responsibilities. (Juholin:2008)

Indeed, leadership is often merited as the source of unexplained variance in organizational performance, in the absence of more tangible factors. Leader conduct and activities turn into a quick-fix answer whenever sources and underlying causes of organizational outcomes cannot be accounted for. (Hansen et al.:2007). Affect has emerged as a decisive indicator of the quality of relationship between a leader and the followers, and for example, appreciation received from the supervisor seems to be the most important factor increasing employee ability to cope with work. Similarly, reports of the close association between communications and management (Juholin:2001) and of the link between managerial communication practices and employee motivation evidence the affective revolution in working life (Åberg:1996). The paradigm shift from pure cognition-based models of organizational behavior towards ones

combining cognition and affect is resultative of the understanding that emotions are the key psychological driver of thinking, motivation, and behavior. (Gooty et al.:2010; Saarinen:2007) Also more generally, emotional intelligence has become a determinant contributing to subjective life satisfaction and physical and mental well-being. (Gannon et al.:2005)

Conclusively, today's employees are faced with a myriad of emerging competence requirements, among which the role of intellectual capital is becoming accentuated as a production factor, regardless of industry (Roos:2006) In search for productive employees, organizational recruitment has traditionally focused on screening candidates with highly specific skills, and naturally engineers have managed well with their outstanding mathematical-logical intelligence. But in the knowledge society this no longer suffices to turn an individual into a professional, productive and efficient employee (Momeni:2009; Duse et al.:2009b). By way of contrast, it is recognized that the success of sustainable technological development depends, in addition to technical factors, on soft socio-economic, social-emotional, and socio-cultural ones. (Kamp:2010; Lappalainen:2009b; Niitamo:1999b)

With increasing consensus, environmental awareness and sustainability are gaining ground among employee competence requirements. Demands for multi-disciplinary and cross-disciplinary competences require individuals not only to develop themselves as human beings but also to build up societies that meet the requirements of the economy, ecology, and ethics. Such interdisciplinarity calls for broad-based collaboration skills and ability to work and communicate in teams, as organizations increasingly resort to teamwork in an effort to sharpen their competitiveness. (Bolanakis et al.:2010; Sydänmaanlakka:2003; Glavic et al.:2009; Richter et al.:2009; O'Neill et al.:2011)

Furthermore, the rise of the service sector with its emphasis on people skills is creating a need for high-level communication skills. (Barrett et al.:2006) Postmodern society in general requires continuous self-reflection of its members and analysis of one's interpretations and meanings. The adoption of new ways of thinking means giving up old conceptions and questioning one's prevalent mindsets. This necessitates self-understanding, self-knowledge, self-directedness, self-leadership, tolerance for ambiguity, and flexibility. (Simström:2009; Gallén:2010; Virolainen:2010)

The phenomena mentioned above are shifting the focus in working life to mental and physical wellness and emotional intelligence, which is increasingly regarded as the most important leadership skill. The implications reach far beyond the psychological well-being and self-reported health of individuals; the workplace as a forum of social relationships is being merited as a determinant of overall population health. (Oksanen:2009) Particularly, research over the past 30 years has drawn attention to the link between poor social and emotional adjustment and peer difficulties. (Rose-Krasnor:1997)

Overall, the recently founded postulation of all social systems being systems of communication (Kilkki:2010) and the concern for the added value created at the inter-human interface, inexplicable through the examination of the characteristics of the individuals, have made the interlocutors recede in the background and have placed the relational aspects at the centrepiece. The associated explosion of interest in organizational interaction also involves a

shift in focus towards the wide array of interpersonal qualities and social skills germane to social interaction at the workplace. (Mikkelson et al.:2006)

This paradigm shift is evidenced by studies reporting that success in professional life is the result of individuals' social competence (Duse et al.:2009b). The discussion has been further stirred by the potentially polemic claims that IQ and leadership qualities are weakly correlated, and that in general, IQ does not account for more than 20% of a person's success in life. (Kets de Vries:2001) This has resulted in inchoate university curricula and professionally incomplete engineering syllabi, calling for gap-filler measures to define, conceptualize and structure the essential working life skills in engineering. (Powers:1995)

These trends set the agenda for the present research. Although the significance of the emotional exchange at work has already for some time been advocated for, empirical support has been sparse. Therefore, the present work sets out to further the study of workplace communication by drawing attention to the emotive elements involved. In contrast to traditional monological approaches to organizational communication, this study takes an interest in dialogical workplace interaction (Nikko:2009) and in supervisor-subordinate interaction, in particular.

The interest in interpersonal skills stems from findings indicating that leadership evolves through interpersonal interactions and that certain personal characteristics seem predictive of leadership potential. Further, what lies at the kernel of this research is an understanding that the relationship between leader traits and perceived leadership quality tends to be defined by the leader's oral communication and non-verbal cues. (Balthazard et al.:2009)

More specifically, it can be argued that in the knowledge society, relational communication should be prioritized over formal and hierarchical relations and administrative practice. Leaders' social and emotional skills contribute more effectively to the efficacy of leadership in organizations, as it is through emotional skills and social competence that leaders influence and motivate their followers. Some go as far as to claim that communication as a fundamental management function serves as management subject matter, and that leadership emerges and is enacted through communication. (Rouhiainen-Neunhäuserer:2009; Groves:2005) Unfortunately, empirical evidence corroborating the claim is scarce; hence the focus on interpersonal skills and social competence in the present study.

Social competence draws from emotional intelligence, known to explain for unique variance in work success (Fox et al.:2000, Goleman et al.:2002), academic success (Parker et al.:2005), overall life success (Gannon et al.:2005), longevity (Mikkelson et al.:2006), adaptive coping styles, and for the negative association with depressive thoughts and somatic problems. (Mavroveli et al.:2007) Furthermore, increased levels of emotional competence have been reported to result in improved quality of social relationships. (Kotsou et al.:2011)

In a nurturing environment characterized by social-emotional competence, employees are capable of bringing others into harmony with their own intentions, which is known to be a fundamental instrument of a successful business. This emotional economy manifests its importance, not only within corporate-internal interaction, but also in stakeholder interfaces proving itself as vital for the bottom line as the money economy. Fortunately, focus on the

emotional economy does not necessitate compromises at the expense of efficiency or productivity. (Goff:1996; Saarinen et al.:2003)

The demands for a new type of leadership competence give rise to emerging organizational capabilities drawing from *both* intelligence *and* emotion - the interaction between intelligence and emotion is not a question of either-or, but rather one of both-and. Managerial interaction competences play a key role in the management of the relationship between superiors and subordinates. (Rouhiainen-Neunhäuserer:2009) Some argue for a relationship between certain personal competences - often conceptualized as emotional intelligence- and individuals' success at work, eventually contributing to organizational productivity. (Fox et al.:2000, Goleman et al.:2002)

In addressing the demands for promoting the emotional economy in organizations, the current study demythologizes leadership traits by turning focus to leaders' interaction skills. This work also challenges the deeply ingrained view that leaders are born, not made. (Takala et al.:2007) In doing so, it forwards the position that instead of resorting to emotional intelligence as an ambiguous yet trendy fad pointing to soft skills and people skills, it is important to operationalize such concepts in order to identify methodology for the related competence build-up. (Goldenberg et al.:2006)

The starting point in the present research is the acumen that outstanding leader performance is the outcome of persistent, deliberate practice and coaching instead of an innate talent or skill. The amount and quality of practice are key factors in the level of expertise people gain; experts are made, not born. (Ericsson et al.:2007) It is argued that, in particular, leadership communication competence is comprised of skills that can be taught and developed, urging universities and corporate training providers to revise their curricula.

Before such a revision, however, education providers need to acquire a better insight into the true nature of social competence and its most pertinent competence development needs. To fill the related knowledge gap, this research sets out to tackle the unanswered questions concerning the predictors, impacts and development of interpersonal leadership competences and socially competent leadership. (Rouhiainen-Neunhäuserer:2009)

1.1 Scope of the Study

This research takes an interest in socially competent leadership in Finnish industries. The scope of the study can be divided into two:

> **Scope 1**: The work aims at the identification and definition of socially competent leadership by proposing a model depicting successful managerial communications. In pursuit of identification, this work sets out to identify predictors of leaders' social competence as perceived by subordinates, which accounts for ***predictors*** in the title.
>
> As a by-product, the study endeavours to devise a measurement for self-assessing and peer-assessing socially competent behavior. This section also explores what type of leader styles or communication patterns are perceived as the most socially competent by subordinates, hence the term ***impacts*** in the title.

Scope 2: The work investigates how social competence could be inculcated and developed both prior to a person's entrance to working life and during his or her career as an investment in lifelong learning. This sets off the adoption of ***skilling*** in the research title, in pursuit of methodology for developing social competence as part of higher engineering education and corporate training.

Please note: Despite its focus on engineers' skilling, this work resorts to empirical research in different industries. This is justified by two factors:

1) the companies involved in this research either operate in engineering fields or provide services to engineering companies;
2) the sample organizations' roles as part of industrial value chains has necessitated the employment of engineers in expert positions.

However, part 2 only concentrates on identifying pedagogy for teaching social skills as integrated into the engineering curriculum since this is where the researcher operates, as lecturer educating Aalto students at the School of Science.

It should also be disclaimed that the present research is narrowed down to the perceived impact of managerial social competence and does not attempt to establish or measure its absolute value. By *perceived* this work refers to the views of subordinates as the reference group. The illustration below delineates the scope of the present work by outlining the various fields involved as well as their hierarchical structure:

- *Engineering*: this study focuses on industrial competence requirements in engineering.
- *Leadership*: the target group of this study consists of managers and leaders.
- *Competence Development*: this study pursues pedagogy for learning and teaching social skills.
- *Organizational Communication*[3]: this study takes an interest in workplace interaction.
- *Social Competence*: this study centres on social competence as pertinent to communication.

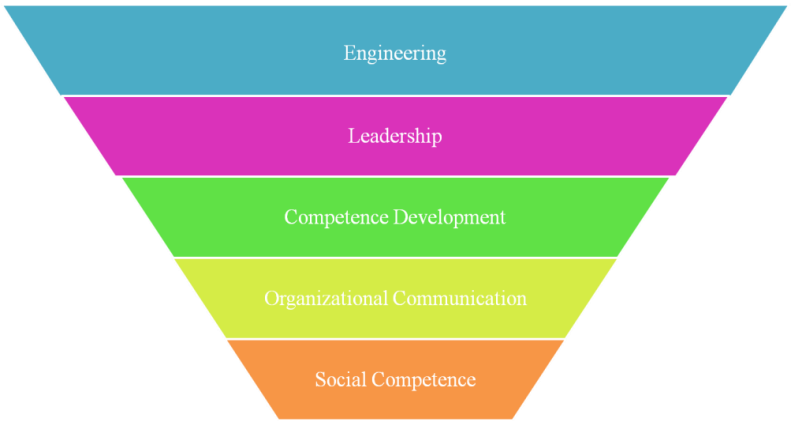

Figure 1. The fields involved in the present study.

[3] In this work, *communication* refers to the act of *communication*, where communications denotes the related discipline.

1.2 Research Objectives

The overall research problem of this study is: **How to equip managers with skills meeting industrial needs?** This implies the challenge of determining both the ingredients of successful leadership and the methodology for the related competence development.

The overall research problem can be broken down to three more specific research objectives:

1) First, the work sets out to determine what makes leaders successful. As a by-product, it identifies a measurement for effectively and reliably predicting socially competent leader attributes.

2) Second, effective managerial communication is conceptualized and operationalized, and a related communication model delineating its most essential cornerstones is designed. To bring pragmatic value to the model, related self-report and other-report tools are devised to allow the assessment and measurement of emotive communication.

3) Third, pedagogy is pursued to identify means of learning, developing and teaching emotional skills and social competence.

1.3 Research Questions

It is widely accepted that managerial social competence has an impact on subordinate perceptions. To corroborate the claim, literature is reviewed to examine the considerable, extant body of research pertaining to effective leadership. Furthermore, retrospective research is conducted in responding to Research Questions (RQ) 1 and 2 in order to establish predictive value (Metsämuuronen:2006).

RQ1: What predicts and explains socially competent leadership?

RQ2: What type of leadership or communication styles are perceived as most socially competent by subordinates?

RQ1 examines various managerial attributes (traditional intelligence, personality, emotive skills) to establish correlation between managerial qualities and their perceived subordinate impact.

Through RQ2, the research strives to investigate what type of leader conduct is perceived as socially competent by subordinates. The methodology is built on quantitative subordinate appraisal to evaluate and define managerial social competence and to determine the perceived impact of such competence on subordinates.

This section is based on empirical research, consisting of 5 stages (3 self-reports and 2 other-reports). The research design aiming at responding to Research Questions 1 and 2 is illustrated below.

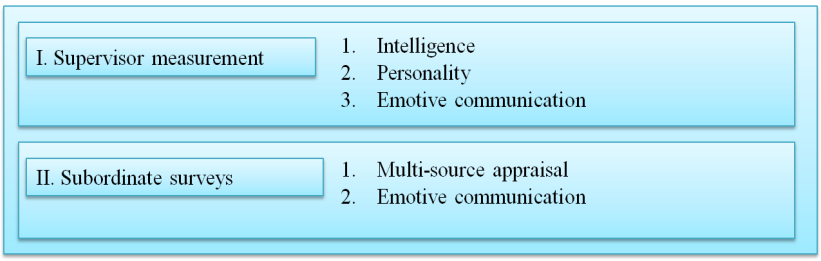

Figure 2. The research design for responding to Research Questions 1 and 2.

To apply in practice the knowledge acquired in the first part of the research, the second part focuses on identifying ways of enhancing social competence in higher engineering education and corporate training. This effort draws from recent understanding that social competence can be learned, developed, and taught, and generates the following two research questions:

RQ3: How do socially competent leaders develop their communication style and social competence?

RQ4: How can social competence be learned, developed and taught in universities and organizations?

All the managers participating in the research are given feedback on their performance in all the tests, including information on the overall sample averages. In addition, semi-structured interviews are conducted of the 16 managers who scored highest in the subordinate ratings. The interviewed leaders' analyses of their individual means of self-development are documented and reported as 16 case studies or narrative nature. RQ3 gives special emphasis to conscious and subconscious efforts of improving one's social skills for the workplace.

RQ4 reviews previous research on the emerging education needs in industries. Further, this section embarks on an endeavour of pragmatic value, proposing a set of methods applicable to both universities and organizations for teaching and assessing social competence.

The research design aiming at responding to Research Questions 3 and 4 is illustrated below.

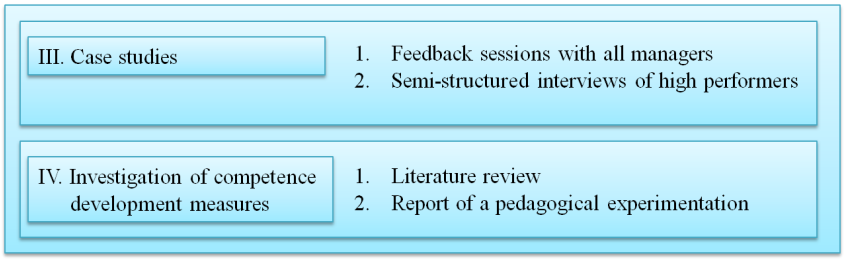

Figure 3. The research design for responding to Research Questions 3 and 4.

The treatment of the four research questions involves a variety of substantive concepts that are not unambiguous. This necessitates the identification of the key concepts and their usage as adopted in the present work as well as their inter-relations.

The concepts will be elaborated on in more detail later on in this work, but the figure below attempts to position the terms within the organizational communication context, appreciating the two-way impact on the interaction with the surrounding work community.

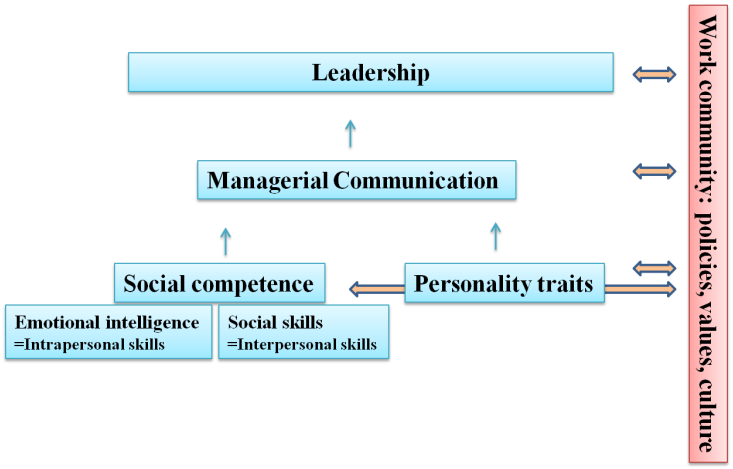

Figure 4. The key concepts of the present study and their association with the work community.

1.4 The Overall Research Design

Before delving into empirical research, it is of the essence to identify one's research philosophy in order to be able to make informed decisions about the related research design. This study intersects with various disciplines and draws subsequently from different field-specific paradigms and theories. The present chapter depicts the scientific starting points underlying this work but also the related frameworks that the study deviates from; when examining an emergent, cross-disciplinary field, it is sometimes easier to rule out rather than explicitly count in scientific premises and theories.

On the overall level, the present work could be labeled as social science since it examines aspects of human interactivity. As academic disciplines, it integrates 1) engineering in that it takes an interest in job requirements in engineering work, 2) work psychology, which explores the behavior of individuals in an organizational setting, and 2) educational research in its endeavor to expand understanding of teaching and learning methodology. Within the three fields, this research follows a strategy that is founded on quantitative and qualitative research paradigms. (Black:1994)[4]

[4] By means of theory and methods, paradigms direct the research process by helping advance assumptions and hypotheses, formulate relevant research questions, and identify legitimate criteria verifying the proof. (Creswell:1994)

The method of merging quantitative and qualitative data collection and analysis can be described as multi-method, hybrid, integrative, combined, or mixed methodology research. Mixed methods research is not used for cross-validation purposes but rather to expand the scope or depth of research by compensating for any weaknesses in either approach alone. (Driscoll et al.:2007; Gorard et al.:2004)

The quantitative research in question is characterized by a positivist approach, aiming at objective measuring of supervisor characteristics and quantification of the socially competent leadership concept. The qualitative research process, in contrast, draws from the assumption that organizational realities are socially constructed by the individuals within the organizations and thereby the data acquired should be examined interpretively. This ontological distinction derives differences also on the positioning of the researcher: where quantitative researchers strive to sustain distance to the research objects, their qualitative counterparts interact with what they study, interpreting and drawing conclusions. (Ibid.)

Another difference is induced on the methodological level; the quantitative research relies on deductive form of logic where empirical measurement is conducted to test hypotheses formulated on an a priori basis. Contrastively, the qualitative process draws from a case study approach and uses an inductive logic to allow findings to emerge from the informants. (Ibid.)

The 16 case studies are qualitative narratives that aim at retrospective sense-making. They may seem unconstructed, incoherent and fragmented but still represent genuine efforts of the informants to look back in their personal history, reflect on their life experiences, and make sense out of what took place earlier in their history. (Boje, D.:2001.)

The figure below compiles the different levels and stages of the research into a depiction of the overall research design in the present work.

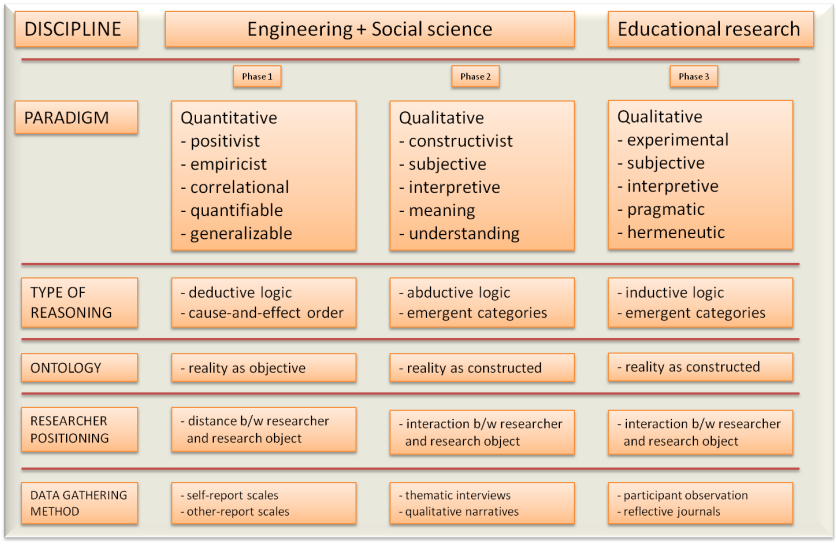

Figure 5. The overall research design of the present work.

1.4.1 Theoretical framework

The present work lies on the premise that all social systems are fundamentally systems of communication. (Kilkki:2010). The communication taking place at the workplace between leaders and followers is not only about exchange of information content. Viewing managerial communications as a linear, one-way process of information transfer does not do justice to the complexity of the interaction associated with organizational management chores or the nature of daily leadership routines. (McQuail's model, as cited in Rayudu:2010) This so-called 'injection model' assumes that information reception is automatic, disregarding the diverse human relationships involved that impose requirements on the message *form* as much as the message *content*. (Juholin:2001)

Rather, communication is treated here as a two-way process where content transfer becomes subdued to information transfer, response subdued to feedback, and compliance subdued to mutual understanding, relying on the skills of all interlocutors involved, not just those of the transmitter. (Hartley:1999) In this context, the value of managerial communication proves vital – it is recognized that managerial communication styles impact organizational work performance, culture, atmosphere[5], and results. (Juholin:2001; Juholin:2008)

The subsequent acknowledgement of the role of interaction and communication skills allows to move away from the examination of leadership through leader personality as a collection of permanent traits. Conversely, personality is in the present research understood as a dynamic, developing system with more or less stable goals. (Hakkarainen et al.:1999). This entails a shift from leadership research as stable trait studies or behavioral approaches (Hautala:2005) to the study of leadership as interaction based on learnable skills and abilities (Rouhiainen-Neunhäuserer:2009).

Among the skills fundamental to leadership, this research directs focus to emotional intelligence and social competence. Emotions are regarded here as organizational resources that can serve as mediators and facilitators of goal-oriented, purposeful action and social relations at the workplace, instead of discarding them as distractions that should be controlled by rational thinking. (Hakkarainen et al.:1999)

As for intelligence, then, this research departs from the psychometric approach that views intelligence as a property representing learning outcomes rather than learning abilities. (Hakkarainen et al.:1999). Instead, the study takes an integrative stand to intelligence, treating it as a holistic combination comprising of personality, knowledge, processes, and interests. (Chamorro-Premuzic et al.:2003)

As a consequence, emotional intelligence is not considered a dispositional tendency like personality (Austin et al.:2005) in this study but rather as a set of skills that can be learned, developed and taught (Bar-On:2006). Despite the strength of evidence from earlier studies indicating that *sociability* contributes to one's work success (Plomin:1976), this research chooses to prioritize social *competence* over permanent personality traits, with the aim of encouraging learners to compensate for what they lack in personality dispositions with

[5] Juholin (2008) introduces the concepts of *emotional work*, *emotion with work*, *emotion at work*, and *emotion toward work* as factors contributing to work atmosphere.

learnable skills. Investments in such learning can be justified by the fact that social competence, operationalized as learnable social, emotional, cognitive, and self-system attributes, promotes effectiveness in workplace interaction. (Rose-Krasnor:1997)

To secure effective outcomes in learning, developing and teaching social competence, this research proposes new types of pedagogical choices and diverts from the tradition of knowledge memorization, where learning refers merely to the reception of facts. Instead, it is crucial to appreciate the opportunities for active and reflective thinking that learning offers, and to turn education – in both universities and work communities - into a forum of passion, curiosity and inspiration. (Hakkarainen et al.:1999)

The table below summarizes the key theoretical conceptions adopted in the present research.

what this study draws from	what this study deviates from
Communication is a two-way process stressing feedback over response, relationship over content, and mutual understanding over compliance. (Hrtley:1999)	Communication is a linear, one-way process of information transfer, relying primarily on the skills of the sender. (Rayudu:2010)
Education serves as a forum of passion, curiosity and inspiration, aiming at changing student perceptions of the world (Hakkarainen et al.:1999)	Education refers to the process of ostensible memorization of inert knowledge (inapplicable knowledge structures). (Hakkarainen et al.:1999)
Emotional intelligence is a set of skills that can be learned, developed and taught. (Bar-On:2005)	Emotional intelligence is a dispositional tendency like personality. (Austin et al.:2005)
Affect and emotions influence judgement and decision-making outcomes. (Angie et al.:2011)	Emotions are distractions that need to be controlled by rational thinking. (Hakkarainen et al.:1999)
Intelligence in integrative theory is built on processes, personality, knowledge and interests. (Chamorro-Premuzic et al.:2003)	Intelligence is a psychometric property measurable as intelligence quota an representing learning outcomes rather than learning ability . (Hakkarainen et al.:1999)
Leadership should be examined as interaction between the leader and the follower, involving leader skills and behavioural patterns that can be developed. (Rouhiainen-Neunhäuserer:2009)	Leadership is examined through traditional leadership approaches such as trait studies, behavioural research or contingent theories. (Hautala:2005)
Learning refers to active, reflective thinking. (Hakkarainen et al.:1999)	Learning refers to the reception of objective facts to be memorized. (Hakkarainen et al.:1999)
Personality is understood here as a dynamic, developing system with more and less stable goals. (Hakkarainen et al.:1999)	Personality refers to a collection of permanent traits. (Hakkarainen et al.:1999)
Social competence determines effectiveness in social interaction and can be operationalized as learnable social, emotional, cognitive, and self-system attributes. (Rose-Krasnor:1997)	Sociability, which is largely inherited, determines a person's success at work and is measured as gregariousness and intensity of social relationships. (Plomin:1976)

Table 2. The definitions of the basic concepts as adopted in the present study.

1.5 Structure of the Present Work

The present work is divided into nine chapters. The theoretical background surrounding the research topic is reviewed through previous literature and research in Chapters 2-4. Chapter 2 introduces the trends in engineering that impact industrial ways of working and the related competence requirements, necessitating the revision of engineering education. Chapter 3 offers diverse definitions for emotional intelligence and social competence and takes the reader closer to the empirical research by outlining the most prevalent theoretical models in the field and introducing the model adopted as foundation for the empirical research. Chapter 4 examines the potential impacts of social competence in organizations.

After the definition and establishment of the research framework, methodology and instruments in Chapter 5, the four research questions are treated by following the research design in Chapter 6. The succeeding chapter 7 discusses the research findings, placing emphasis on the diligent reporting of the empirical outcomes. Finally, Chapter 8 outlines some of the practical implications of the present work, and Chapter 9 concludes the work with the impacts of the research in general and contemplates on potential further research topics that this study may give rise to.

The illustration below presents the structure of the present work.

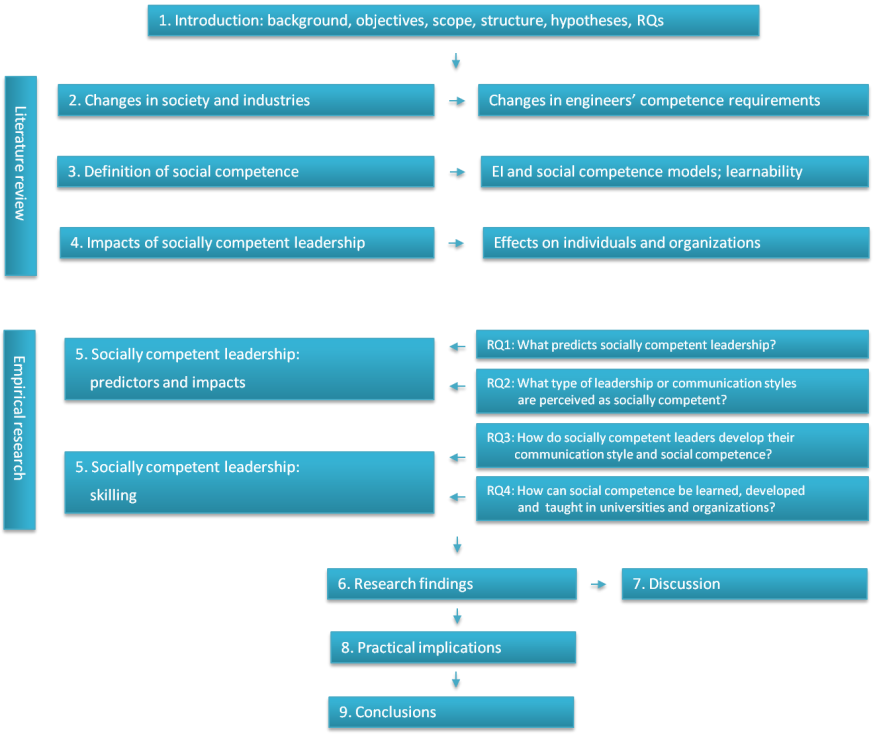

Figure 6. The structure of the present work.

2 SOCIETAL CHANGE AND TRENDS IN ENGINEERING

2.1 Changes in Society

Several trends actualized on the global level have driven changes in working life. First, the beginning of the 1970s saw the end of Keynesian economics and stable bureaucracies upon stagnation, resulting from the first oil crisis. The Bretton Woods system of monetary management collapsed in 1971 and paved the way for monetarism and post-fordism. (Koivumäki:2008) Market forces termed as globalization took effect in the 1990s, impacting today's society through two distinct change powers: technological and economic changes on the one hand, and as their consequence, the removal of trade barriers and freer movement of capital. (Hirschfeld et al.:2005)

On a more concrete level, these impacts tilted the global power balance, shifting focus from the two superpowers to e.g. Asia and coalitions such as the European Union. Further, the role of multinational companies transformed, leading to more intimate partnerships, networks and cooperation to aid industrial operators in agile adaptation to change. Globalization with the associated time-space compression also brought about mounting communication, coordination and transaction efforts and costs, as well as a new stance to ownership and proprietary rights. New types of earnings logics and management fads started emerging, further fuelling organizational evolution. (Mauno et al.:2008; Näsi et al.:2006)

As a response to globalization, the European political system instigated the advent of the knowledge society to secure the European competitive edge and prosperity through design, creativity, innovation, and build-up of new markets. (Kolmos:2006) The key success factors identified in the survival of the new society comprise adaptation to dynamic markets, consideration of customer needs, financing of innovations, service-orientation, highly educated workforce, and opening up of technological policies. (Tekes:2007) Interestingly, Ollila (2010) underscores the role of communality as a success factor, believing that future nokias are founded on such soft assets as passion, trust and sharing, all embracing and stemming from the human emotional capacity.

2.2 Rising Significance of Social Competence

To better understand the relevance of human capacity to industrial life, it is in order to discuss how the social dimension of organizations relates to organizational assets. Traditionally the value base of profit-seeking corporations has leaned on concrete, tangible, result-oriented assets. Industries have striven for success by operating efficiently and effectively, attempting to yield the highest possible returns to shareholders either through higher prices or increased productivity. Improved productivity has been achieved in two ways: either less input of labour or capital is used to generate the same output, or then more output is generated with the same input. Either way, this constant aim at increased productivity has been materialized at the expense of individual employees or teams of employees. (The European Union Productivity memorandum: 2005)

Other solutions, such as efficiency-enhancing technological innovations also increase productivity, but they often result in undesired side effects on the level of the individual in the

form of job redundancy. Ironically, the decreased need of human labour is one of the reasons why technology is invested in. (Ibid.)

Even with these mechanisms, only few listed companies have managed to grow profitably in recent years. One explanation for the failure to sustain profitability is due to the fact that although the overall supply has grown in the world economy, demand has not. In fact, in many developed market areas, statistics indicate decreases in population. When markets become crowded, the differentiation of brands becomes more difficult, and the price turns into the decisive factor determining purchasing decisions. This drives companies to price wars and declining profit margins. (Kim et al.:2006; Kaplan et al:2004)

When supply within one market area exceeds demand, the competing companies are forced to adopt new strategies to survive. The traditional way is to seek competitive edge by confronting the rival companies and by fighting for the territory or market area which is seen as both limited and stable. (Ibid.)

Another strategy, however, is to move to new, uncontested market areas, which may result in the creation of totally new industries. This strategy logic, called blue-ocean strategy (Kim et al.:2006) or value innovation, allows room for the utilization of human capital such as employee knowledge, information capital such as information systems and networks, or organizational capital such as culture and leadership. Markkula (2007) corroborates these findings and further suggests mental processes such as knowledge creation and structural thinking, in addition to targeted competence development and learning on-the-job, as measures improving productivity.

There is broad agreement that in competitive business surroundings, social competence as a dimension of engineering activities entails potential to yield gains and added value. It is acknowledged that in future organizations, effectiveness will increasingly be based on human capital; the value-adding effort will come from employees' back bones, and the exploitation of employees' extra input may, at least in the short run, lead to economic growth. (The European Union Productivity memorandum: 2005)

In particular, the development of human competences and organizational knowledge base, comprising tacit and explicit knowledge, offers a non-financial value objective. Similarly, commitment, trust, respect and voluntary cooperation are no longer regarded as attitudes or behavioral patterns only, but are nowadays valued rather as human capital margins and sources of well-being at work. (Kärkkäinen: 2005; Kim et al.:2006; Oksanen:2009)

Well-being is strongly tied to communality, which in the increasingly teamwork-oriented world has turned into a key workplace attribute. Membership of a community induces feelings of belonging and personal relationships with the other members, building social cohesion and reciprocal, two-way influence. When characterized by affiliation and attachment, these relationship grows into communality, resulting in a "we"-spirit and faith in everyone promoting the shared interests. The most pivotal cornerstone is trust, not confidence but rather con fide –type of trust in traditional morality and solidarity. Similarly, tolerance and mutual goodwill constitute key assets, capitalizing in value through physical and mental well-being. And vice versa, e.g. mistrust turns into a negative determinant of health. (Hyyppä:2002)

Positive emotions tie people together and bolster a sense of togetherness. Emotions are more prevalent in social contacts than when individuals are in isolation. These emotions are biological and present, not only in individuals but in entire communities. Positive feelings can be harnessed by inviting social participation and initiative, which in turn yield benefits through accumulation of social capital. (Ibid.) Investments in social capital imply potential value which can be transferred into tangible value by means of successful internal processes such as design, customer service (Kaplan et al.:2004), and industrial relational systems. (Gustafsson:2010)

2.3 Changes in Engineering Communities

Towards the end of last millennium, the engineering world was struck by growing awareness that engineers operate and cooperate in interdisciplinary arenas. This necessitated understanding of the significance of social skills for a business and of the integral role of socio-cultural aspects in the globalizing engineering communities where the members represent different educational backgrounds, cultures and nationalities. (Lehmann et al.:2008)

These recent developments have forced companies to modify their strategies in a way that integrates the potential offered by both science and markets. Added value is being sought in the interface between industry and academia. (Hirschfeld:2005)

In addition to altered strategy thinking, also the workplace atmosphere is undergoing changes. The technological development as well as workplace and job redesign characterizing today's knowledge society have undermined the quality of working life. The impacting factors include stressors such as excessive or contradictory demands, incessantly changing social conditions, lack of organizational support, motivation, or work ability, eventually influencing well-being at work. (Rintala:2005)

Emotionality has come to a rescue, acquiring particular importance especially in times of anxiety and early stages of group formation, when the probability of declining team spirits and mental states is higher. As a result, the group's focus may be directed to and their energy consumed by emotional states or moods that take over the members' focus on actual work, harming organizational effectiveness. (Schein:1987)

2.4 Changes in Engineering Skill Requirements

Several societal and industrial megatrends are altering the requirements imposed on higher engineering education. On a larger scale, the education system is being challenged by such society-wide phenomena as the ageing of population, mobility, and expanding use of ICT, but also the shifting of emphases from financial growth towards values promoting the Good Life. (Jaari:2004)

The knowledge society is characterized by the emergence of new interdisciplinary areas where it is hard to distinguish between basic science and applied science. The relationship between society and science has transformed drastically: instead of science addressing society the way it used to, it is now society that speaks to science, thereby offering a context and turning science contextual. Knowledge production is no longer the proprietary of

universities, as a range of private and public institutions presently form the cradle of new knowledge. (Hansen:2008)

The new society sets demands for higher-level job qualification in terms of advanced knowledge in certain areas of expertise. The higher demands render pivotal both scientific-technical and economic competences that bolster production, but also socio-cultural development bridging the gaps between the increasing numbers of experts in today's working life. (Kolmos:2006) Simultaneously, cultural and generic knowledge such as methodological, communicational, and personal skills facilitating the functioning of multicultural corporate teams are called for, as engineering tasks are becoming less repetitive, and engineers face new problems and situations more frequently. (Ibid.)

Today's advanced technologies, disappearance of market boundaries, transforming customer expectations and the subsequently modified operating principles in the corporate world are posing altered competence requirements. (Hammer:2001) Some argue for analytic competence, inter-relational competence, and emotional competence, as keys helping tackle the various aspects of emotionality at work. (Schein:1987) Others advocate know-what, know-how, know-why, and know-who, calling for strategic, practical, theoretical and relational competences, respectively (Sanchez:2001). O'Rourke (2007) claims today's employees need to be technically, relationally and conceptually adept, whereas Kets de Vries (2001) offers a more detailed listing, including surgency, sociability, receptivity, agreeableness, dependability, analytical intelligence, and emotional intelligence.

Also political systems are intervening with their requirements. On the European scale, EU-level strategies and policies, such as the Bologna process and Lisbon strategy, cascade down to the national level to enforce the university third mission of societal impact. Qualifications for good citizenship turn complexity, quality, active learning, and mastery of innovation imperative among employees. (Markkula:2007; Lappalainen:2010)

On the industrial front, companies growingly operate in global markets, engage in global value networks, and employ workforce from world-wide labour markets. Changes stemming from globalization accentuate socio-cultural aspects in engineering education to accommodate for the needs of individuals representing increasingly different educational backgrounds, cultures, and nationalities in the workplace. (Lehmann et al. 2008) Demands for innovativeness are also becoming louder, with innovation being one of the most persistent buzzwords of modern times - it is the foundation for companies' efforts to outperform their competitors. Innovations, then, rest on education and lifelong learning that allow people to live up to their full potential. (Tekes:2007) Technological innovation calls for individuals who can cross the boundaries between disciplines and visualize the broader context, that of society. Innovative engineers, also known as "Renaissance engineers" delve, not only into specialized technical content, but also into its broader implications, while harbouring an interest in developing their communication and leadership skills, and ability to adapt, change, and work in teams. (Akay:2008)

In addition to appropriate and relevant education, innovations necessitate networks which provide the social capital necessary for research and development. Networks present themselves as organizational structures but also as resources promoting communication, trust and understanding, thereby facilitating innovation activities. Networks also serve as a means

to learn, individually and organizationally, by offering forums for sharing information, exchanging best practices, and learning from one another. (Arhio:2007)

Feasibility of technical solutions no longer plays a decisive role, as technology enables most solutions humans can think of. Neither is viability at the centre of design, since commercial life cycles are becoming shorter and shorter, anyway. Desirability is the dimension that sets the agenda today. And for that, today's engineers require intuition and creativity but also appreciation of customer needs. Business logics are moving from goods-dominance to service-dominance, making service-mindedness and service-orientation tomorrow's competitive factors. These trends necessitate new types of mindsets and competences, presupposing a transformation also in university education. (Technology Trends Seminar:2008)

Among such competences, the role of personal abilities has become stressed among professional skills. (Fox et al.:2000; Goleman et al.:2002) Membership of engineering teams, networks and communities increasingly requires not only subject-related, hard core technological expertise, but also so-called soft skills enabling engineers to integrate thinking, feeling and behavior, while pursuing their professional goals. (Emilsson et al.:2008)

Also employers have articulated demands for personal qualifications of their future employees, in addition to traditional analytical and technical skills. These personal skills comprise communicative skills and ability to work in teams, as well as initiative. Cultural understanding and international orientation turn pivotal in global markets, which also require mental flexibility of their operators. (de Graaff et al:2007)

Similarly, engineers themselves have come face to face with the changing demands and needs of working life and industry. They have awakened to the fact that, although skilful and knowledgeable in their fields, they lack qualifications that provide them with prerequisites needed when taking on working life duties. Induction periods are lengthy and orientation towards productive employment laborious, raising the question of whether university education is too focused on producing substantive expertise and too ignorant of so-called social skills that turn this expertise into productivity and profitability. These process skills – learning to learn, lifelong learning, cooperation, communication, teamwork, intercultural cooperation, organizational understanding and project management – represent the socio-cultural dimensions that are becoming increasingly important as globalization intensifies the demands for flexible, socially adept and communicative engineering communities. (Christensen et al.:2006).

Traditionally these social aspects of working life have been largely neglected and underestimated in corporate life and subsequently in university education and corporate training as well. Engineering education has until now been strongly contents-driven, social skills being a relatively recent notion in education offerings. However, modern engineering communities are increasingly calling for the ability to integrate thinking, feeling and behavior in pursuit of professional objectives, pressing the education providers to develop ways of teaching social competence. (Emilsson et al.:2008)

Finally, recent examples manifesting abuses of industrial power and authority have revived interest in ethics, setting requirements on conduct that is in line with organizational values.

(Paeilla et al.:2007) More than ever, engineers need to be ethically oriented and socially responsible, capable of constructing a just, equitable and sustainable world. Sustainability embraces cultural, social and economic restructuring within the framework provided by technological restructuring. (Zandvoort:2008; Lucena et al.:2008; Holmberg et al.:2008, Lehmann et al.:2008; Lundqvist et al.:2008) What is more, engineers are expected to master ethical thinking both on the macro-ethical level related to the engineering profession and the micro-ethical level of the individual. And beyond thinking, they need to realize organizational values instead of merely talking about them. (Korhonen-Yrjänheikki et al.:2011)

The trends outlined above are placing more and more pressure for a university reform. (Borri:2007; Markkula:2007; Fink:2009a; Soeiro:2009; Lappalainen:2009a; Keltikangas et al:2009; Kelly:2009a) Traditionally the engineering education model has been founded on specialization, merited as the driving force enabling technological advancement and fuelling economic growth. Ironically, however, specialization is claimed to have turned into an unintended impediment to sustaining societal and economic change. (Akay:2008)

As a consequence, diverse engineering forums have begun to place emphasis on the controversy between specialized content and broader context (SEFI conference 2008; SEFI conference 2009; SEFI Biennial Report 2008-2009; IGIP-SEFI Conference 2010; a large number of 2009, 2010 and 2011 issues of the European Journal of Engineering Education) and also universities are addressing concerns related to inadequate and too narrowly oriented engineering education. The demands for closing the gap between engineering science and engineering practice in the societal context call for concrete measures in university curricula. Instead of serving merely as a hearth of technological knowledge disseminating traditional scientific knowledge to engineering graduates, higher engineering education (HEE) should offer experiential research and adaptive education. This would allow universities to harness their students with the ability for critical engagement and thought, interdisciplinary and creative thinking, collaborative teamwork, and socialization into the engineering community of practice. Additionally, it also helps develop capacity for cognitive complexity that is needed in understanding and seeing relationships among disparate fields. (Woollacott:2009)

These phenomena have changed the requirements imposed on engineers entering the employment markets. However, technical rationality with its long tradition still dominates public views on university education offering, causing disposition to criticize universities for not producing and disseminating the fundamental knowledge and practical competence relevant in today's society. Instead, these institutions are claimed to focus on epistemological academic activities that do not necessarily help secure professional artistry where knowledge becomes instrumental. (Schön:2005)

Subsequently, the advancement of the current university curriculum should aim at transforming the narrow focus and depth of knowledge in a single area into an extended avenue towards full-scale professional expertise (Newswander et al.:2009) in a way that safeguards engineering graduates' employability (Korhonen-Yrjänheikki:2011). Such broad competence is known to allow individuals to use emotions advantageously to achieve desired outcomes, thereby having become a business imperative affecting employee productivity, loyalty, engagement, and contribution. (Sudhakar et al.:2006)

Curriculum development also serves as a response to the critiques who claim that in Finland, the full potential of higher education has not been adequately benefited from in pursuit of improved productivity. Instead, they insist high productivity is mainly obtained through technological advancement. (Kärkkäinen:2005)

Higher education institutions are presently undergoing major transformations in pursuit of competitiveness, entrepreneurship, and market orientation. Their autonomy, bureaucracy, efficiency, high-quality management and restructuring into learning organizations are examples of current considerations reforming universities fundamentally. (Kelly:2009a; Kelly:2009b) In addition to these reforms in operating form and policies, education systems are subjected to changes impacting their mission and offerings. The development of the engineering profession from a status profession up till the 19th century, to a formal profession in the 20th century, and into an individual profession in the 21st century entail a respective change in focus from status power to information power and finally to learning power. Knowledge of natural sciences in general, topped off with expertise in one's major subject gained through studies and work experience no longer suffice; the ability for lifelong learning and interdisciplinary skills have emerged among the core competence requirements. (Korhonen-Yrjänheikki:2009)

Industrial demand for professionals who are immediately productive upon graduation has shifted the focus of engineering educators to graduate attributes. Universities are seeking to meet the emerging challenges by highlighting working life competences in their syllabus design, appreciating the necessity of preparing students for a successful career in industry. (Markkula et al:2008; Chinn et al:2008)

As an answer, communication education provides a particularly fruitful ground for the integration of industrial competences into syllabi. Communication courses offer a multitude of pedagogic opportunities for educating professionals who are not only fit in terms of substantive knowledge but whose attitudes and mindsets make a good match with entrepreneurial, cultural, lifelong learning, and internationalization demands. (Lappalainen:2010)

Besides discipline-specific technical knowledge, the need for such generic competences as teamwork and communication is pressing. (Brodie et al.:2008) More specifically, Huhta (2010) finds that positive markers of good language and communications education relate to socio-cultural and experiential learning, intercultural competence build-up, and learner agency and autonomy. All these elements compel higher education institutions to experiment with new pedagogy and methodology.

Luckily, to support the development of the language and communication education, the content of empirical needs analyses has shifted from subjective learner needs to objective needs, i.e. to comprehending the target communication context and requirements in working life. Unfortunately, language are in Finland traditionally taught for the purposes of academic study rather than for the purposes of industrial contexts. A distinction between academic and professional orientations should therefore be made to differentiate between communication for professional purposes and linguistically-oriented language study. (Huhta:2010) A factor opening new doors in communication pedagogy stems from a recent understanding that expertise does not necessarily stem from innate abilities but instead, deliberate practice is an

instrument helping build experts - even in leadership. Persistent practice will either help improve the skills students already possess or extend the reach and range of their skills. (Ericsson et al:2007)

If the trend towards working life competences serves as the first emerging requirement, the second paradigm shift can be detected in the transition of focus from learning outcomes to the learning process, moving education from didactic to more student-centred approaches such as cooperative and experiential learning. (Brodie et al.:2008; Fernandez et al.:2009) This also serves the aim of reducing traditional emphasis on the mere transmission of knowledge while encouraging students to understand, investigate, and solve problems. (Sanchez et al.:2008)

This shift forces educators to pay closer attention to student behavior and preferences. Student performance in class is dependent on the learning approaches defining individual learning styles. The existence of different styles and the increasingly inter-cultural nature of educational environments have turned student audiences into extremely heterogeneous groups. To avoid mismatches between teaching and learning styles, instructional conditions need to be adjusted and tailored. (Cagiltay:2008) Paradoxically, students within higher engineering education are largely visual, sensing, inductive and active, and yet the education offered is auditory, abstract, deductive, passive and sequential. However, the education that demands memorisation and application of course material has served its purpose and turned graduates into competent problem-solvers that possess a good memory. (Brodie et al.:2008) But as the professional engineering skill set is changing, some of the emerging competence needs to be addressed in curriculum design will be reviewed in the succeeding passage.

2.4.1 Socialization into Engineering Community

Organizational socialization or occupational socialization refers to the process by which new members adapt to the organization's value system. As organizational socialization is unlikely to alter entirely the fundamental value structure an individual brings to the organization (Judge et al.:1992), employees' value bases could and should be impacted already prior to their entrance to working life. The socialization process is one of being indoctrinated and inducted into what matters in the organization. The process bears significance to the extent that it has been said to make or break a career. The speed and effectiveness of the process play a major role as they determine employee loyalty, commitment, productivity, and turnover. Simply, an organization's stability depends on its ability to socialize its new members. (Schein:1987)

The process of socialization is associated with the adoption of the desired values, beliefs, norms and behavioral patterns, including the organization's goals, the preferred means of achieving the goals, each member's basic responsibilities, the related behavioral patterns securing effective completion of the tasks, and the principles helping maintain the organization's identity and integrity. (Ibid.) Organizational belief structures and the associated cultural practices bear value as they determine how people communicate within the culture. (Powers:1995) The process may also involve unlearning from former values, detaching the member from earlier behavioral patterns and urging a redefinition of his or her professional role. The success of the socialization process depends on the individual's motivation to commit him- or herself to the process but also on how effectively the organization manages to hold the individual captive during the process. (Schein:1987)

The purpose of organizational socialization is to elicit and speed up the newcomer's commitment and loyalty. This can be accomplished through several mechanisms. The first mechanism involves the investment of efforts and time in the member to create expectations that can be refunded by hard work. Extensive dialogue and costly training are examples of this first mechanism. In the second, the member is pushed to make minor behavioral commitments that necessitate the acceptance of the organizational values. The third method convinces the new member of general organizational ideals that can be highlighted whenever any counter-organizational conduct occurs. The fourth mechanism promoting socialization is the transition process leading from newcomer status to full-fledged membership through allocation of pivotal responsibilities of hierarchical positions entailing power, title, access to confidential information and special prerogatives. Finally, the new member becomes subject to peer or group norms and the examples of senior colleagues that can serve as a socializing and positively motivating force within the organization. (Ibid.)

Engineers start developing their engineering identity or engineering mindset already during their university studies, thereby becoming gradually socialized into their profession. (Brodie et al.:2008) Although not within the core of the engineering syllabus, imparting a sense of engineering professionalism as a natural by-product of higher engineering education (HEE) should be taken into account in curriculum design. As graduate dispositions impact the way engineers cultivate not only their expertise but also how they engage with others at the workplace, these dispositions should be developed and promoted in a controlled and systematic way. (Woollacott:2009)

Subsequently, facilitation of collaborative skills through build-up of communities of practice already on campus could entail value for individuals and industries. As examples of activities emulating communities of practice, research has identified journal clubs as a way of encouraging collaboration, camaraderie and sharing by establishing routines of regular interaction. (Newswander et al.:2009)

Identity is a product of social construction, constantly shaped by the surrounding world. As communities of practice are founded more strongly than many other professions on collaboration and teamwork, industrial workplaces may produce, maintain and even change identities. Teamwork sets specific challenges to individuals who are different from the mainstream. Therefore, the skilling for engineering jobs at the university level should address issues of workplace politics and development of strategies helping individuals position themselves more effectively as colleagues. Diversity of the professional body in engineering communities calls for measures preventing marginalization and exclusion. (Gill et al.:2008)

The linguistic dimension related to socialization and requesting focus in communication education materializes as interdiscursivity at the workplace. Its complexity has been recognized, but no research data exist yet to explicate it, nor have methodologies been identified to apply it in language education. Similarly, it is recognized that the simultaneous identities of individual interlocutors in situations requiring choices between different institutional, professional and personal interests and roles compete for priority. However, in engineering industries this phenomenon has not yet been researched and subsequently, no pedagogic methodology has been proposed. (Huhta:2010)

2.4.2 Collaboration and Teamwork

Today, organizations increasingly resort to teamwork in their efforts to sustain competitiveness. (O'Neill et al.:2011), urging industrial operators to develop coalitions and to form partnerships and teams with stakeholders through bargaining, negotiation, and compromise (Gustafsson:2010). This is turning teamwork ability into one of the most desirable characteristics of graduates. (Macukow et al:2007) Unfortunately, communality or collectivism is presently undermined by society-wide individualism, which shows as independence of and distancing from others and competitiveness (Hyyppä:2002), posing yet another challenge for university education.

Korhonen-Yrjänheikki (2009) points out the severity of missing collaborative learning opportunities in education. In higher education, students become accustomed to independence by working individually to complete degree requirements, their final thesis being an example. Despite its merits, such methodology is claimed to train graduates improperly in collaboration. (Newswander et al.:2009) To top off their expertise, teamwork and communication ability should also be inculcated as part of the targeted professional skill set. (Brodie et al.:2008) More specifically, oral interaction skills are raised as weaknesses in Huhta's (2010) communication needs analysis. Handicaps in oral communication easily turn employees into reluctant and passive contributors in social set-ups. This is particularly harmful as evidence from work psychology reveals that an individual team member's characteristics influence team performance through group processes. (O'Neill et al.:2011)

Teamwork not only involves individuals in group processes, such as collaboration, and emergent states, such as team cohesion, but collaboration across various boundaries also subjects organizational members to multiculturality. In her analysis of language and communication needs for professional purposes, Huhta (2010) found a shortage of intercultural skills in Finnish industry. Despite the common European mission to build up a pluricultural and plurilingual community (Council of Europe:2010), respect for cultural and linguistic diversity is difficult to materialize when the means of raising cultural awareness have not been established.

Cross-cultural settings require personal factors or personal abilities crucial for cross-cultural effectiveness. Research in the field (Niitamo:1999b, Niitamo:2011) illustrates that depending on categorization and approach, some three to five factors have been identified as abilities pertinent to multicultural communications. According to some, these competences encompass the ability to deal with psychological stress, to communicate, and to establish relationships. Others categorize the essential skills into relational, perceptual, and self-orientation skills, whereas the division into communication competence, cultural empathy, and communication behavior also has its advocates. A more extensive listing confirms motivation, communication, flexibility, empathy, respect, tolerance for ambiguity, and self-confidence, as personal resources for multicultural success. As can be concluded, all these formulations address social relations and communication behaviour.

2.4.3 Social and Global Responsibility

Recent corporate crises of e.g. the Lehmann Brothers and Enron have turned public attention to corporate governance and ethics, having created a significantly more constrained regulatory

operating environment than ever before and forcing companies to acquire a social license to be allowed to operate in their community. (Huang:2010) Further, the supposed positive link of corporate social responsibility (CSR) to consumer outcomes has strengthened the business case for CSR activity; CSR is associated with an increase in customer acquisition and purchasing intent. (Smith et al.:2009) Resultatively, individual employees are faced with expectations that their companies fulfill their social obligations. Instead of being modern-age representatives merely of their own organization, today's organizations and their individual employees are beginning to recognize their role as global citizens. (Lappalainen:2011a; Sierilä:2011)

As a consequence, the role of education in promoting global well-being has become accentuated, turning the engineering curriculum into a means of dividing well-being equally. The gradually fortifying calls for humanitarian engineering have resulted in the incorporation of social responsibility themes in the university curriculum, urging education providers to address such global-scale themes as ecological degradation, human equality, workplace diversity and sustainable development. (Lappalainen:2011b)

Originally, after World War II, engineers' participation in the economic development of nations was motivated by ideologies of modernisation and urbanisation. Gradually, concerns for how the developed technologies fitted in local contexts began to be voiced, resulting in more simple technologies that were cheaper to build, operate and maintain by developing villages. A major ideological leap was instigated by understanding that technology transfer needed to be based on the diffusion of technical information to help local communities develop their expertise, instead of merely delivering aid packages. Eradication of social problems was shifted to the centre of attention, and voices questioning the appropriateness of technology and its social and environmental impacts on local settings triggered an interest in sustainability[6]. Natural constraints such as irreversibility began to be acknowledged, with an increasing understanding that natural resources could not be treated similarly to human-made capital. This challenged economic competitiveness as the first priority in technological development. (Lucena et al.:2008)

A subsequent relationship between engineering and community development began to take shape. Unfortunately, the top-down approach practiced by the developed communities has not taken adequately into consideration the local needs nor consulted the people supposedly being aided with the local endeavours. Further justification for such imposition has been found in modernisation, which has motivated development work since the 1950s, in alliance with political agendas. As a remedy, participatory practices have been advocated since the 1980s to engage local communities in active, equal partnership instead of passive receptivity. This entails a shift away from a patronizing attitude and condescending language that disempowers the target community. (Ibid.)

A challenge set by development work in higher engineering education derives from engineers primarily being identified as problem solvers. And now engineers are invited to start tackling the marginally met challenge of target community inclusion and benefits in global industrial operations. However, as the problems being tackled in societal contexts rarely have either

[6] Sustainable development is defined as efforts to meet the needs for natural resources, industrial products, energy, food, transportation, shelter and effective waste management while conserving the environment and the natural resource base essential for future development. (Lucena et al.:2008)

right or wrong answers, the essential metric of ability in engineering no longer denotes being right, and difference no longer signifies an error. Unfortunately, such a mindset is far from today's educational reality, thereby calling for a drastic reform of university ideals. (Ibid.)

2.4.4 Creativity and Innovativeness

Traditionally, academic aptitude or general intelligence has been assumed to predict managerial job performance most effectively. However, as is becoming evident, conventional intelligence notions form only a portion of managerial intelligence, failing to recognize the role of other human capacities. (Sternberg:1997) In order to be successful, today's employees need to be intelligent analytically, creatively and practically. (Moller et al.:2000)

Practical wisdom allows leaders to deal effectively and ethically with uncertainty. It derives from concrete experiences that provide the individual with experiential encounters with relevant, lived situations. (Küpers et al.:2008) More concretely, practical knowledge manifests itself in tacit knowledge. Tacit knowledge is procedural, action-oriented knowledge that promotes attainment of goals with personal value for the individual. Especially the application or utilization of tacit knowledge is known to secure management success. (Sternberg:1997)

Creativity is similarly crucial for managers operating in the constantly changing business environment. Creative intelligence is pivotal for the formulation of extraordinary ideas and problem-solving. (Ibid.; Moller et al.:2000) Innovativeness in work communities builds largely on group diversity if the members are highly oriented towards common goals. Appreciation of diversity and criticism are instrumental in reducing unnecessary group conformity or groupthink and in giving a boost to group performance and especially creative thinking. (Korhonen-Yrjänheikki:2011)

Such cultural orientations cascade down from the management level, necessitating exemplary managerial conduct. Successful managers are also characterized by dynamic capabilities helping them identify their strengths and weaknesses and capitalize on the strengths and compensate for the weaknesses. This elicits the subsequent need to illuminate ways helping university students to appreciate their strengths and understand their limitations. (Sternberg:1997) Such pedagogy proves particularly crucial in the light of studies evidencing the connection between managerial self-knowledge and innovativeness: executives capable of seeing the outcomes of their conduct as results of their own efforts prevail and prosper in innovative businesses that place greater emphasis on product design. By way of contrast, executives who believe their life events are beyond their control are better equipped for more stable environments and for more modest, incremental product modifications. (Gallén:2010)

This research argues that university education should move away from static notions of academic intelligence founded on memory-analytical ability, toward a more dynamic notion of managerial intelligence which recognizes that, e.g. practical wisdom is not accumulated by amassing bits of information; rather, it is generated through experience. (Küpers et al.:2008) The resulting, larger spectrum of intellect would enhance practical and creative intelligence and thereby contribute more comprehensively to managerial success.

2.4.5 Communication Skills

Needs analyses of the future of the Finnish engineering education have identified several competence gaps involving communication skills. Korhonen-Yrjänheikki (2011) calls for emphasis on interpersonal, communication and teamwork skills in the engineering curriculum development. A broad stance should be taken to education development to discriminate between traditional linear views of communication as one-way information transmission (Rayudu:2010), and more recent understanding of communication as a social process involving emotional exchange, culture formation and relationship build-up (Hartley:1999). Focus on the latter is supported by the frequently quoted axiom "We cannot *not* communicate", which derives from findings indicating that even when individuals have ceased to consciously communicate, they continue to send signals, because feelings have a way of leaking out, despite conscious efforts to suppress them. (Goleman:2007)

One of the most intriguing organizational processes is interpersonal communication, not from the viewpoint of information exchange, but, in particular, from the point of view of innuendos, feelings and conscious and subconscious messages that employees convey. In addition to these intended or unintentional communication strategies, five filtering factors are known to influence what, when and how we communicate. As the first psychological factor, interlocutors tend to sustain a certain self-image of their selves to protect their feeling of self-worth. Second, people nurture images of those around, allowing these images to affect e.g. their tone. Third, people form unverbalized definitions of the communication situation, which impacts their role in the dialogue. Fourth, human motives, feelings, intentions and attitudes influence strongly how we communicate to obtain our communication objectives. Finally, expectations based on actual experiences, preconceptions or stereotypes have a tendency to color our way of communicating. (Schein:1988)

A recent surge of interest in interpersonal communication has focused on the communication of emotion, where three skills tend to be of particular importance: expressivity or sending of information (coding), sensitivity or reception of information (decoding), and control over or the regulation of information. This approach to communication study draws partly from neurology, the recent findings of which have suggested that differences between the two genders' communication styles are associated with the ways men and women code and decode emotions. Some researchers claim women express emotion more frequently and to a greater extent than men and are more skilled at encoding other people's facial expressions, although evidence exists also to the contrary. (Mikkelson et al.:2006)

The interpersonal communication competence is found to consist of three levels: motivation, knowledge, and skills. Ideally, they materialize as individual's knowledge about effective and appropriate communication, skilfulness in applying the knowledge in practice, and willingness to self-critically examine and adjust one's communication to meet contextual needs. (Rouhiainen-Neunhäuserer:2009) Furthermore, active listening deserves to be raised as a pertinent element of communicational exchange. Although vision tends automatically to be selected as the most vital sense by individuals, hearing is regarded as even more essential than vision for the humankind through its role in the development of language and abstract knowledge and thinking as well as higher-lever communication. Hearing plays a central role in verbal communication and yet little is known about the physiological phenomena involved in speech and complex sound reception in the human auditory system. (Jauhiainen:1992)

Hearing is also crucial for the build-up of solidarity and contacts with other human beings. The minor variations in tone, sighs and snorts all convey meaning, often unintentionally. Linkola (1992) claims that hearing constitutes an important cornerstone of human communication and of the ability to connect mentally with others. As Helen Keller once said: "When you lose your vision, you lose contact with things. When you lose your hearing, you lose contact with people".

It is difficult to discern how much of speech reception is auditory processing and how much cognitive processing. What can be taken for granted is the focus on contextual information and extralingual interpretative clues in the active monitoring of the received speech, although naturally semantic units form the centrepiece of attention. (Korpilahti:1992)

To secure a successful information flow, the interlocutors should code their speech in a way that can be decoded by the other party. Such processing embraces, not only language structure, but also certain physical, mental and social factors that represent other dimensions of spoken language. (Aaltonen:1992)

Due to the complexity of verbal communication, information exchange should be facilitated by active listening and not be left to passive hearing. Effective listening has been said to distinguish the best managers and leaders. They do not merely listen, they give their full attention, attune to the other person's feelings, and ask questions to better understand the background. Their attunement is not jeopardized by preoccupation; full listening maximizes physiological synchrony and emotional alignment, resulting in their presence being truly felt by the other person. (Goleman:2007) O'Rourke (2007) lists the essential skills that characterize successful listening. The first step is to convince the counterparty that one really *is* listening, e.g. by paraphrasing or summarizing what others are saying. In addition to the logical and cognitive content and meaning conveyed in the message, it is equally crucial, throughout the conversation, to reflect also the emotional load attached. Finally, a skilful listener manages, not only to conclude the conversation by summarizing the main message, but also to follow the conversation up by taking action that will prove that the conversation was, indeed, fruitful and worth the effort. (O'Rourke, 2007)

Listening is particularly critical in the reception of criticism and a preferred alternative to equivocation, use of ambiguity or vagueness, verbal aggression, diversion of attention, and avoidance, which typify managerial reactions in situations causing discomfort. Successful tactics when dealing with criticism include collaborative or confrontational leader response strategies. (Eubanks et al.:2010)

3 SOCIAL-EMOTIONAL COMPETENCE

Emotions affect the way individuals interpret the surrounding world, what choices they make, and how they act. (Vuori:2011) The post-industrial work environment with all its complexity and facets necessitates a wide coverage of emotional and psychological abilities. The demands for lifelong learning direct employees' attention to motivational phenomena, while the information society challenges the cognitive factors in employee personalities. Universally, the actions employees engage in at the workplace can be divided into independent action, leadership and cooperation. The latter two clearly materialize in the social context but also the first, independent action, can be oriented towards interaction when results are attained through competitive action. Leadership can be divided into leadership of other people's behavior, and of other people's thoughts. Cooperation, then, can be further grouped into communication, advising, and serving. (Nederström et al.:2010)

These emerging interaction-oriented ability requirements impelled researchers to examine the role emotions[7] play in organizational settings, resulting in studies on emotional expression, dispositional affect, trait affectivity, and mood effects. (Fisher et al.:2000) The term *emotion* was coined in the 16th century, originating from the Latin verb *emovere* (and indeed, emotions mobilize the human body to action!) (Charles et al.:2007) and has since then attracted increasing interest in concepts and phenomena revolving around this complex psychophysiological experience. Schein (1988) introduced two levels of communication that involve human emotions and cause emotional contagion: the manifest level of communication refers to the feeling that is explicitly and purposefully conveyed, and the latent level to the feeling that is actually displayed. Both these are mirrored on the feelings of the interlocutor.

Social constructionists, however, emphasize that private feelings are affected by social and cultural impacts. Subsequently, people rarely carry one fixed notion of themselves but their identities differ somewhat depending on the context. Therefore, in organizational settings, especially in multicultural ones, there are determinants defining what kinds of emotions are appropriate in that specific environment and the type of relationships and interaction it fosters, as it is the exchange of different types of emotions that builds social bonds. (Fineman:2003)

The evolution of new directions in the field of emotions, such as psychological mindedness and emotional awareness (Bar-On:2006) and the popularization of the related concepts has led to the emergence of a myriad of new coinages such as social calculation, social acuity, emotional intelligence, emotional exhaustion, social intelligence, emotional literacy, mindsight, social corrosion, social insulation, social circuitry, emotional subtext, social savvy, social instinct, and social anxiety, all heralding the advent of an emerging science. The effects have been felt from the early days of human history, but science has only recently undertaken to establish the mechanisms involved in the application of emotions in interpersonal relationships and the impacts these mechanisms elicit in our experiences, biology and relationships. (Goleman:2007; Johnson et al.:2003) Goleman et al.:2008; Hart:1985; Niitamo:1999a; Saarinen:2007)

[7] Fineman (2003) discerns two different elements of emotions, the subjective elements that we feel, and the displayed features that we show. Thus, emotion refers to the display and feeling to the more subjective and private experience. Due to the interest in interpersonal interaction in this work, this work focuses on emotions instead of feelings.

This chapter focuses on unveiling what is meant by social-emotional competence and what kind of intrapersonal and interpersonal capabilities it is based on. The work will probe into the cornerstones of social intelligence and examine how they relate to emotional intelligence. But before delving into the *social* component, the essential terms of intelligence, competence and skill are examined to justify the choice of social competence as the centrepiece instead of other ability-oriented concepts.

3.1 Terminological Choice: Social Competence

In the absence of formally established discourse and formalized expressions, discussions on workplace behavior abound in overlapping and synonymous coinages drawing from skills, competence and intelligence. The superordinate concept of *intelligence* refers to the "capacity for reasoning, understanding and for similar forms of mental activity; aptitude in grasping truths, facts, meanings; the faculty of understanding" (Webster's Encyclopedic Unabridged Dictionary:1989), translating into cognitive processes facilitating comprehension and theoretical knowledge by mind. Intelligence is always contextual and understood as the ability to learn and adapt and apply one's knowledge, also by means of social skills in a certain environment (Saarinen:2007). Competence, then, involves the "possession of required skill, knowledge, qualification, or capacity", providing proficiency and ability. Finally, *skill* denotes "the ability, coming from one's knowledge, practice, aptitude, etc., to do something well" pointing clearly in the direction of concrete proficiency or facility in a craft. (Webster's Encyclopedic Unabridged Dictionary:1989)

The term *intelligence* is somewhat problematic in this context as it is often associated with the psychometric approach, implying the possibility of psychometric assessment, testing and measurement. Despite the efforts in this work to measure leaders' social abilities by means of quantitative tests, the measurements in question are not yet established enough to provide solid evidence for *social intelligence*. Similarly, intelligence tends to highlight outcome and performance aspects (Rauthmann:2010a). Social intelligence, then, is understood through various social interaction competences, such as the ability to identify and interpret social cues and thereby to adjust behavioral responses (Groves:2005). Since it is not easy to define the outcomes of social ability without reducing the concept to its subcomponents, it is safer to resort to *social competence*.

In its treatment of socially competent leadership conduct, this research addresses both the theoretical wisdom and the concrete skills allowing a manager to operate in a way that fosters employee well-being and productivity; hence the focus on *social competence* in this study. However, it should be recognized that research abounds in diverse definitions and interpretations; Rose-Krasnor's (1997) review of the concept usage in literature reveals that its meanings vary from social success, attainment of relevant social goals in specified social contexts, ability to achieve desired outcomes and show adaptability across contexts, behavior that reflects successful social functioning, ability to perform culturally defined tasks and ability to achieve personal goals in social interaction while maintaining positive relationships, to formulation and adoption of personal goals that are appropriate and adaptive to specific social situations and implementing effective behavioral strategies, ability to generate and coordinate flexible, adaptive responses to demands and ability to accomplish interpersonal tasks and to interact effectively with the environment, all the way to an elaborate development

of social-cognitive skills and knowledge, including the capacity for emotional control to mediate behavioral performance in specific contexts.

3.2 Brief History of the Field

The study of social competence has come a long way despite its young age as a discipline. Abreast intelligence research, psychological measurement took off as emotions study in the first half of the 20th century. The study largely revolved around the dilemma of which comes first, the physiological reaction or the emotion. Emotion was seen as culturally determined, and the search for social intelligence remained pejorative as cognitive conceptions of intelligence prevailed. (Ciarrochi et al.:2006)

The two decades from 1970 onwards saw the emergence of the study of affect in connection with examination of how emotions interact with thoughts. The field of nonverbal communication took an interest in nonverbal information, touching on emotional data. The concept of intrapersonal intelligence was coined, delving into the capacity to perceive emotions. Major developments in empirical work resulted in categorization of social intelligence into social skills, empathy skills, prosocial attitudes, social anxiety, and emotionality. Brain research found further evidence of the existence of emotions as a separate entity from cognition. The first occasional references to emotional intelligence were made in this period. (Ibid.)

The end of the 20th century saw drastic leaps, with the first concept of emotional intelligence being created, the first ability measurement being investigated, and public debate on EI as an actual intelligence being instigated. The resulting popularization of EQ, with Goleman at the helm, attracted increasing interest in the concept, and the development of personality scales drawing from EQ gained ground. EI was suddenly understood as possibly the best predictor of success in life, and its study understandably gained momentum as it was seen as a characteristic accessible to anyone. Mayer and Salovey developed the first formal theory and definition of EI, addressing the contradictory nature of the concept. (Ibid.)

3.3 Intrapersonal Skills

Bar-On (2006) divides personal intelligences into intrapersonal or emotional, and interpersonal or social intelligences. A fundamental aspect of emotional intelligence is the reflection and understanding of one's own emotions, the honest and sometimes painful self-assessment being a prerequisite for the development of genuine expertise. (Ericsson et al:2007) Self-reflection and self-awareness are by many recognized as the most important and effective managerial tool, leading to the ability to see more options and choices as the person starts to understand what kind of meaning(s) he is giving to surrounding phenomena.

Emotional regulation, then, aims at preventing emotions from rising to a level that causes stress and problematic behavior. There is evidence that those capable of regulating their emotions by means of rational thinking are physiologically, cognitively and socially healthier. Also in situations of change, the ability to direct attention to one's own emotions seems essential for survival and professional development. The key to regulation is a positive relation to emotions, their monitoring, and willingness to subject oneself to them, instead of denying or belittling them. (Saarinen:2007) Such defensiveness negatively impacts self-

knowledge and may lead to a distorted perception of one's self and the surrounding world. (Niitamo:1999a)

In connection with self-regulation, current research focuses also strongly on the sense of coherence, which is defined as a system of beliefs connected to personality, describing the person's relation with his surroundings or life in general. A sense of coherence correlates highly with one's ability to cope with stress. (Saarinen: 2007) It has been suggested that emotional intelligence is an essential component of effective leadership, as it may equip a manager with the abilities to monitor and respond to subordinates and enhance their well-being at work. (Palmer et al.: 2001)

As an example, constructively charismatic leaders with their socialized motif (Popper:1999) are known to engage in tailoring their emotional communication content to meet subordinate needs, values and expectations, resulting in followers developing a respect for and trust in the charismatic individual. This can be attributed to high-level self-monitoring that translates into one of the sub-areas of emotional intelligence. (Sosik et al.:2007, McShane et al.:2000)

According to a study conducted among corporate employees, some 50-70 percent of an organization's climate can unambiguously be traced to the conduct and actions of its leader. Emotionally intelligent leaders are able to appreciate people's emotions, guide them in the right direction and create resonance by relying on the four domains of emotional intelligence: 1) self-awareness, 2) self-management, 3) social awareness and 4) relationship management. These four intertwined domains underlie all emotionally sustained conduct, with self-awareness forming the foundation for the rest. A person who does not recognize his or her own emotions will find it difficult to control his or her moods and understand those of others. Self-awareness is also crucial for empathy and for sensing and understanding other people's views and angles to situations. (Goleman:2002)

It must be highlighted that self-perceptions strongly influence cognition, behavior, and mental health, irrespective of how accurate they are (Petrides et al.:2003). These intrapersonal skills are essential for the development of interpersonal skills allowing for awareness of other people's reactions and understanding of their responses. (Mumbord et al.:2007)

3.4 Interpersonal Skills

The concept of interpersonal skills was first founded in the 1950s to refer to the ability to work well with others, without prejudice. Interpersonal competence comprises a set of skills, knowledge about communication, and self-evaluation. The related skills can be grouped into leadership, communication and motivation processes. In the leadership context interpersonal skills most evidently relate to leadership style, conflict management, team building and change management. Communication refers to information messaging and feedback provision. Finally, motivation can be broken down to goal setting, persuasion, and empowerment. (Matin et al.:2010)

The link between intrapersonal and interpersonal skills can be found in emotional intelligence - social competence is built on EI constructs. (Mavroveli et al.:2007) It is therefore important to discriminate between the two concepts: emotional intelligence is not synonymous with social intelligence. EI deals largely with our internal world, whereas social competence

determines how well we can utilize our personal influence and social expertness to interact with and respond to the external world. (Lynn:2008) Goleman (2002) divides social-emotional abilities into emotional intelligence and social intelligence or, in other words, into personal and social characteristics. Personal traits draw from intrapersonal abilities such as self-awareness and self-management, whereas social attributes embrace interpersonal abilities, denoting social awareness and social facility or relationship management.

Essentially, Goleman's model approaches social-emotional intelligence through four cornerstones. The first, ***self-awareness*** refers to the ability to know your own strengths, limitations and self-worth and to read your own emotions. Self-aware individuals intuitively know how they affect other people. Second, ***self-management*** translates into emotional control and honest and reliable conduct. Adept self-managers understand the sources of their moods and know how to articulate them to others. Third, ***social awareness*** allows people, not only to sense other people's emotions, but also to demonstrate empathy and care. They are sensitive and know how to adjust their own words and behavior not to negatively impact other people. Self-aware individuals whose self-ratings are in agreement with other-ratings are known to achieve superior individual and organizational outcomes. (Dai et al.:2007) Fourth, ***relationship management*** denotes the ability to create lasting bonds with other people and to communicate convincingly, clearly and in a conflict-disarming way. Effective relationship managers excel at inspiring others and solving disagreements, even with humor and kindness. (Goleman et al.:2001) The ability to build bonds with followers is particularly crucial as it tends to promote affective trust among employees, which, in turn, explains variance in organizational commitment. (Yang et al.:2010) Contrastively, it is acknowledged that violations of personal trust are associated with strong emotional reactions on the part of employees. (Johnson et al.:2003)

In general, social competence is associated with the *quantity* of interaction with others. A low rate of interaction has in theory been identified as a risk factor but empirical investigations have demonstrated that it is not necessarily associated with poor functional outcomes in interaction or lack of social skills. Focus should therefore be turned to the *quality* of interaction and the related skills. As attributes indicative of interaction competence have been proposed e.g. helpfulness, empathy, and assertion. Unfortunately this approach through virtues has been criticized for being vague, difficult to measure, and culturally biased. As an example, self-assertion can be interpreted as competence by some but as insensitivity by others. (Rose-Krasnor:1997)

Goleman (2002) discerns two areas of abilities pertinent to interpersonal skills: 1) social awareness, and 2) social facility or relationship management. The former is comprised of primal empathy, attunement, empathic accuracy, and social cognition, while the latter embraces synchrony, self-presentation, influence and concern. Social awareness is important for driving resonance and attunement, and for sensing the group's shared values. Also, the accurate perception of the type and intensity of another person's emotions facilitates the prediction of that person's subsequent actions. (Ibid; Brackett et al.:2006) Leaders who recognize their own values and detect the emotions of the surrounding group can benefit from relationship management skills to catalyze resonance. They know how to execute a meaningful vision by motivating, inspiring, listening, persuading, and generating excitement and passion. For anyone with understanding about the role of emotions for business results, it is, in reality, worrying how often business cultures value intellect higher than emotion;

especially in situations of emergency, emotions prove more powerful than intellect, taking command of the rest of the brain. (Goleman et al.:2002)

Social awareness refers to perspective taking, empathy, and appreciation for diversity, as well as respect for others. Responsible decision making facilitates problem identification and situation analysis, problem solving, evaluation and reflection, and personal, moral and ethical responsibility. Self-management is instrumental in impulse control and stress management, self-motivation and discipline, and goal-setting and organizational skills. Finally, relationship management necessitates skills in communication, social approach and engagement, cooperation, negotiation, and conflict management. (Goleman et al.:2002; Ciarrochi et al.:2006)

The processes helpful in influencing behavior towards more socially and emotionally intelligent conduct draw from intervention. The processes relating to effective emotional orientation include avoidance of unhelpful emotion control strategies and acceptance of the inevitable. Using emotion as information will help the individual identify emotions, understand the appraisals that activate different emotions, comprehend the consequences of emotions on health and cognition, and distinguish between helpful and unhelpful emotions. Defusing from unhelpful thoughts means seeing emotionally charged thoughts as not equivalent to reality. Letting go of unhelpful self-concepts helps acknowledge that self-evaluations are not descriptions of an individual's essence. (Goleman et al.:2002; Ciarrochi et al.:2006)

Finally, effective action orientation is instrumental in the awareness of values and their importance, and in the ability to act in conformity with goals and values, even when impulses, fears, lack of confidence, uncertainty, fatigue, or pain urge otherwise. Moreover, action orientation provides the individual with the ability to sustain committed action in the face of inconsistent feedback, frustration and failure. (Ibid.)

3.5 Emotional Intelligence and Social Competence Models

Recent research has built up several theories around emotional and social competence. They partly overlap, addressing similar dimensions but also conceptualize some fundamental elements differently. This section reviews briefly the most broadly researched emotional competence models and theories that have dominated empirical research: ability models, trait models, and mixed models. (Ciarrochi et al.:2006; Bar-On:2006) What all the models have in common is that they address the ability to perceive or identify emotions in oneself and others, use emotion to assist in cognitive processes, understand emotion for analytical aims, and manage emotion to modify an emotional response in oneself and others, and to experience emotions. (Brackett et al.:2006)

Ability models conceptualize EI as a set of mental abilities pertinent to the cognitive processing of emotion-relevant information, viewing EI is as a set of various competences, practical skills and characteristics that can be learned and benefited from in effectively accomplishing working life tasks. (Austin et al.:2005) The EI Ability Model developed by Mayer and Salovey views emotions as evolved signal systems where each emotion conveys a specific meaning and emotional intelligence as a general, traditional intelligence made up of specific, interrelated abilities. They define EI as a capability to monitor one's own feelings

and those of others, to discriminate among them, and to use the information to guide one's behavior. (Ciarrochi et al.:2006)

Mayer and Salovey propose that focus be directed to such mental abilities as recognition of one's own emotions as well as those of the others, and to the anticipation of emotional reactions which can be measured more objectively than personal traits. Ability models are founded on the idea that these mental abilities are assessable by means of performance tests. (Brackett et al.:2006) Subsequently, the performance-based model developed by Mayer and Salovey is divided into three sections: 1) evaluation and expression of emotions, 2) emotional regulation and 3) effective utilization of emotions. (Saarinen:2007) The Mayer-Salovey-Caruso Emotional Intelligence Test MSCEIT measures four areas of EI: the ability to 1) perceive emotion, 2) use emotion to facilitate thought, 3) understand emotional meanings, and 4) manage emotions in oneself and others. (Ciarrochi et al.:2006)

Performance-based measurement is feasible when aiming at defining and measuring EI in a way that improves its usability as a cognitive, emotion-based skill operating in accordance with the principles of general intellectuality. (Saarinen:2007) Further, EI ability tests may prove to be a good choice for recruitment and hiring; being objective by nature, they are less susceptible to social desirability and faking effects. Further, as they do not require respondents to rate their own emotive abilities, the tests offer a useful tool in feedback provision. (O'Boyle et al.:2010)

For proponents of the ***trait model***, emotional intelligence is a trait viewed as a constellation of emotion-related self-perceptions and dispositions. (Petrides et al.:2003) Traits are rather fixed or stable characteristics, implying a lower degree of learnability or changeability. (Kirkpatrick et al.:1991) As a trait, EI embraces emotional self-efficacy and it is best measured through self-report questionnaires. (Petrides et al.:2003)

Finally, ***mixed models*** address three categories of constructs: perceived abilities, competences, and personality traits, examining EI as a combination of cognition, meta-cognition, emotions, moods and personality, motivation, personal traits, and social habits that influence one's ability to cope with environmental demands and determine effective human behavior at the workplace but also in life, in general. The problem with these mixed models is that the related measurement and verification rely strongly on self-assessment. (Saarinen:2007; Ciarrochi et al.:2006; Bar-On:2005)

The mixed approach has at times been criticized for its popularized depictions of EI based on Goleman's non-empirical research and conceptualizations. (Brackett et al.:2006) Empirical evidence is sparse but emerging. Bar-On (2006) has managed to demonstrate through his Emotional-Social Intelligence Model that social-emotional competence constitutes five areas: 1) Self-awareness, 2) Self-management, 3) Self-motivation, 4) Social awareness, and 5) Social skills. His model, also called the 15-factor model, provides the platform for the EQ-I measurement tool. The five meta-factors and the 15 sub-scales in the model address the following competences: 1) intrapersonal (self-regard, emotional self-awareness, assertiveness, independence, and self-actualization); 2) interpersonal (empathy, social responsibility, interpersonal relationship); 3) stress management (stress tolerance and impulse control); 4) adaptability (reality-testing, flexibility, problem-solving); 5) general mood (optimism and

happiness). The tool correlates strongly with the Big Five personality dimensions. (Bar-On:2006; Ciarrochi et al.:2006; Moller et al.:2000)

Bar-On's 15-factor model will serve as the platform for the study of EI in this research. This is justified by the benefits entailed by the value of acknowledging the importance of multiple aspects of personality possibly related to emotion. It also supports the objectives related to competence development in this research through its treatment of social-emotional abilities as skills or aptitudes that can be developed and learned. (Goldenberg et al.:2006)

3.6 Emotive Communication

Despite the evident connection between language and emotions, their relationship, and the way emotions condition language usage, have been largely neglected in academic studies. In linguistic research, scientific endeavours to integrate cognition and emotion have proven to be indispensable steps toward full-fledged investigation of interpersonal communication. Similarly, neuroscience has proposed that the status of emotions be established as equal to that of cognition. (Kopytko:2004) In communication, these two dimensions exist in parallel: words and messages can convey two kinds of meaning(s), cognitive and emotive. And only rarely do people interact without transmitting any emotive meaning (Braber:2006; Macagno et al.:2010), inviting a more detailed examination of the concepts of *emotive communication* and *emotional communication* and their most distinctive differences. [8]

Emotion-driven communication covers an entire bandwidth of processes that are somewhat heterogeneous in terms of definition. (Bartsch et al.:2005) In the present work, *emotional communication* refers to the spontaneous, uncontrolled expression of emotion, as opposed to *emotive communication* that implies more controlled signalling. Emotive communication refers to the transfer of transitory attitudes, feelings and other affective states, i.e. the conscious and strategic modification of affective signals to influence others' behavior in a way that is controlled by social norms and expectations that enable people to control their natural impulses. This type of communication can be passive, reactive, evocative, active or proactive and includes not only speech but also paraverbal signals such as voice quality and non-linguistic or nonverbal vocalizations, e.g. laughter. Such signals are means of conveying signaller intentions and emotions to influence the affective states and behavior of listeners. (Rauthmann:2010b; Owren et al.:2003)

Eelen (2001) defines emotive communication through three dimensions: confidence, positive-negative affect, and intensity. By means of verbal, vocal and kinetic choices, the speaker signals information about his confidence in what the others say, affect towards the speaker and emotional involvement. High confidence can be demonstrated nonverbally by falling intonation and direct body posture, whereas low confidence is conveyed by means of questioning intonation and averted posture. (Eelen:2001) Verbally, confidence is further bolstered by so-called powerful (or power) language, which is characterized by verbal directness, lack of nonverbal hesitations (e.g., "umm"), verbal hesitations (e.g. "I mean"), deictic expressions ("that man over there", formal language ("Yes, Sir"), hedging ("sort of"),

[8] In the present discussion, emotive words and connotations will be set aside. Admittedly, they offer persuasive instruments laden with argumentative effect but are outside the present scope as they draw attention to the semantic level. (Macagno et al.:2010) Similarly, ideological action-guiding language is ignored here, although directive by nature and thereby well-suited to leadership contexts. (de Souza:1983)

and intensifiers ("It was really, really late"). Of these, tag questions, hedging and hesitations seem the most harmful for credibility and persuasive effect. (Areni et al.:2005)

Affect cues can be positive (positively value-laden verbal choices, warm tone of voice, smile) or negative (negatively value-laden language, harsh voice, angry look). Intensity or involvement, then, can be signalled as being high (by high referential intensity, positive articulatory force, and a full gaze) or low (low referential intensity, a flat tone of voice and an averted gaze).

The underlying motivation to communicate emotively may derive from the attempt to conform to social expectations but also from the desire to avoid interpersonal conflict. Effective communicators aim at minimizing their interlocutors' emotional uncertainty by being as supportive as possible. Instead of applying non-supportive communication strategies, they resort to supportive ways of expressing positive and negative feelings. An interactant who attempts to support the other participants by smoothing over any unpleasant situations, focuses on verbally, vocally and kinetically acknowledging and strengthening the other person's intrinsic worth as a person. (Eelen:2001) This is particularly important as research has evidenced that others' beliefs about individuals' behavior guide the individuals' behavior in a manner consistent with the expectations. The subsequent role of nonverbal behavior in the construction, expression and maintenance of social and interactional power should not go unnoticed, whether stemming from personality dominance or organizational rank. (Carney et al.:2005) Emotive communication also designates the smart use of extraverbal interaction patterns such as clothing, hair style (Rauthmann:2010b) as well as the ability to create an atmosphere that appreciates and respects heterogeneousness.

Emotive communication relates closely to intuitive communication, both being elements of nonverbal interaction. The former conveys moods, emotions and states of mind, whereas the latter helps transmit the core idea and purpose of the message and the perceived presence of the communicator. Intuition can be seen as an instinct, a mental connection, a sixth sense, a gut feeling, an insight, or being on the same wavelength with others. (Dunderfelt:2001)

It is important to acknowledge that nonverbal and paralinguistic or vocalic cues such as pitch, loudness or rate have a particularly large bearing on how an emotive message is perceived. (Andersen et al.:1985) In contrast to communication conveying explicit or factual information, emotive communication relies largely on vocal and facial qualities. Some even claim that when conveying feelings and attitudes, only 7% of the message is verbal communication, 38% being vocal and 55% facial. (Lepakko:1997)

Based on research conducted in the fields of leadership, communications and social competence, the study in question set out to build a model for both predicting and defining socially competent managerial conduct through manifestations of emotive communication. The model took it as its starting point that out of Bar-On's categories, certain intrapersonal and interpersonal skills have to be represented in managerial communication in order to turn it into empowering and effective interaction. For pedagogic ends, it is in order to consider in the following to what extent, if any, EI-based communication skills can be learned.

3.7 Learnability of Social Competence

The central question in the revision of higher education to promote soft skills is whether social competences can be taught. This discussion is colored by three different leadership approaches. The first treats leadership behavior as dependent on certain innate leader **traits**, such as extraversion. The second views leader conduct as associated with certain leader **competences,** e.g. social competence, and the third approaches managerial interaction through teachable and learnable leader **skills**. (Rouhiainen-Neunhäuserer:2009)

The key acumen has for long been the understanding that human beings are endowed with abilities for emotional and non-verbal exchange already at infancy. Children and adolescents learn to display interpersonal engagement as mutual regulation, mutual influence, synchronization, reciprocity, behavioral dialogue, accommodation, coordination, and attunement. (Saarinen et al.:2010) However, such development of socio-cognitive understanding necessitates an environment of conversational interactions that helps them augment their capacity to employ psychological explanations of human behavior and to predict behavior on psychological grounds. More specifically, these interactions should involve emotion explanation, or elaboration of emotion references in creating causal discourse, in order to elicit superior perspective-taking in children. (de Rosnay et al.:2006)

Recent research and field experiments provide accumulating evidence that maturational trends and significant life course transitions induce changes in aspects of EI even at later stages of life. Slight and subtle absolute changes are also known to occur when individuals experience changes for the worse in family and social life, working life, and health status. (Kokkonen et al.:2001) Paradoxically, the physiological declines related to aging support emotion regulation, and the physiological changes maximize emotional functioning. (Charles et al.:2007)

Such development arises as a result of neurobiological changes, growing conceptual skills, temperamental individuality, and, what is of most significance here, social influences and outsider interventions. Social processes are instrumental in shaping the growth of emotion regulation and developing personal emotion regulation strategies that help individuals to interpret, appraise and control their feelings. (Thompson et al.:2007) Evidence is also mounting on the possibility of promoting emotional intelligence and social skills through education and training. (Kultanen:2009; Lappalainen:2011c) This research urges for the deployment of educational and training contexts as venues for learning self-regulatory mechanisms. In a similar vein, McShane et al. (2000) remind organizations not only to hire the competences they need, but to more actively develop leadership potential, through development programs and practical experience.

The Collaborative for Academic, Social, and Emotional Learning (CASEL) has advanced the education of emotional intelligence in schools. The mission of the organization to humanize children is founded on the understanding that social-emotional intelligence denotes a set of skills that can be taught and learned. Their fundamental ideology is based on the listing of specific targeted skills, categorized into five: 1) self-awareness, 2) social awareness, 3) responsible decision making, 4) self management, and 5) relationship management. (Ciarroachi et al.:2006)

According to a popularly cultivated belief, those working in highly technical fields possess inferior emotional intelligence skills, and although Duse et al. (2009a) have detected slightly lower scores in engineers' EI abilities, they claim it can be accounted for by the infrequent training available in higher engineering education or lack of reward for social competence in engineering industries.

Encouragingly, scores on the emotional intelligence quotient are found to increase as a result of the individual's psychological maturity, as a result of the experiences he is confronted with, or as a result of the training attended. (Duse et al.:2009b) What is more, some (Kets de Vries:2001) believe personal attributes such as charisma can be learned. In specific, proponents of EI training claim it is possible to learn to master the most essential components and expressions of charismatic leadership: 1) articulating and communicating the vision interactively, 2) empowering colleagues and followers, and 3) energizing subordinates for positive action.

Contrary to IQ, which changes little after teenage years, EQ assumedly continues to develop through the entire lifetime. (Kets de Vries:2001). Interestingly, Saarinen (2007) did not find evidence supporting his expectations on the correlation between EI and the age factor, although many others, especially those viewing EI as ability, have found it to develop with age and experience, like any other ability. (Goldenberg et al.:2006) It is likely that the discrepancy in key findings is resultative from central methodological differences between the various studies. (Parker et al.:2005)

There is controversy over the role of psychological treatment in enhancing EI skills. Some argue that psychological treatment is likely to promote greater emotional skills, others claim treatment seeking is a behavioral index resulting in higher probability of seeking treatment when in need. Either way, individuals who have received therapy scored significantly higher in MSCEIT. (Goldenberg et al.:2006)

Many of the human characteristics are formed outside of awareness. It is difficult for individuals to become aware of these blind spots and see their true character as they are equipped with a defensive structure that controls impulsive thoughts and ideas. In order to instigate change in the character, individuals need to become aware of their dysfunctional behavior. For that they need feedback from others and the ability to welcome this feedback in a constructive way. (Kets de Vries:2001) In particular, individuals need feedback on how their behavior affects others. Therefore, the surrounding community is decisive for personal development and learning; people need others to rehearse their emotional capacity with, but they also need a safe environment where to experiment and reflect on their progress towards the ideal self. (Goleman et al.:2001)

The first step on this journey is acknowledgement of emotions overriding the overall mental capacity and performance in stressful situations. The second is the motivation to study one's reactions and control one's emotional patterns. Such self-knowledge is instrumental in learning not to let emotions interfere negatively in one's performance and in becoming more sensitive to signs indicating a potential risk disturbing the intellectual processing. (Hosseinian et al.:2008) Willingness to commit to self-development in the area of soft skills is likely to result in concrete benefits impacting one's overall life quality; as an example, people experiencing high levels of neuroticism may find relief by learning EI skills that allow them

to develop a greater awareness, understanding and regulation of emotions. (Gannon et al.:2005)

Within the framework of leadership, it follows that socially competent leader conduct can be learned. Goleman et al. (2008) go as far as to claim that learning to be a successful leader is ultimately about developing a genuine interest in priming positive feelings in the followers. Such interpersonal influence at the workplace could offer a new niche for engineering educators and is of particular interest in the present work, among other communication skills. The New Agenda Model of Communication of Work Communities (Juholin:2010) crystallizes the main communication challenges for modern work communities:

1) sharing and discussing major organizational alignments,
2) receiving and sharing topical information and strengthening partnerships in exchanging it,
3) promoting the organizational atmosphere,
4) participating and influencing in the work community,
5) working and learning together,
6) identifying new communications forums and making the best use of them.

While describing the multidimensional nature of workplace communication, the above Model also sets the agenda for modern communication education by specifying the skills that can and should be promoted both as part of university and corporate communication training.

4 PERCEIVED IMPACT OF LEADER'S SOCIAL COMPETENCE

Ultimately leadership stems from the relationship between leaders and followers (Kort:2008). The focus in leadership research has recently shifted from leader actions to the perceptions of the followers, taking the premise that without followers, there is no-one to be led. The present chapter reviews some of the impacts of the interaction taking place between leaders and followers at the workplace.

Traditionally, leadership has been approached through three different theory lines: the first examined leader attributes, the second leader behavior, and the third, contingency theory acknowledged the role of situational variables, or contingency factors, in moderating leadership effects. However, a group of leadership styles exist that do not fit into any of these theories directly as they cut across several theories, directing the focus to a mixture of leader traits, conduct and contextual variables. (Hautala:2005)

It is hypothesized in this research that socially competent leadership is not a leadership style per se, but it can rather be understood as a platform of communication patterns that draw upon the fundamental traits and resources built within every human being, that is, emotional capabilities, skills, and intelligence. Emotions are central to organizations as they pervade all work contexts and provide a key psychological driver of employee cognitions, motivation, and behavior. (Gooty et al.:2010) Being concerned with follower needs and motivational aims, socially competent leadership bears resemblance to transformational leadership (Hautala:2005; Leban et al.:2005), but it was not found necessary in this study to label the approach under scrutiny as a leadership style, rather as a way of leading that provides a solid foundation for any leadership framework.

Leadership, then, is evidently connected to emotions: emotions and affect are deeply intertwined with leading, leader outcomes, and follower outcomes. (Gooty et al.:2010) The motivation and need to follow have deep emotional roots. Psychoanalysts argue that the profound motive derives from craving for care and attention, sense of identity and purpose, and by allowing ourselves to be controlled by accepting someone else's leadership, we feel strong, protected and secure. The leader provides meaning and simplifications in otherwise so complex surroundings. (Fineman:2003)

This longing for protection grants the manager with *potential* for power, in other words, managerial responsibilities do not automatically entail power. In expert organizations, managerial duties are complicated by subordinates often being more competent and skilled in their tasks than the manager. These types of organizations are characterized by self-leadership and entrepreneurial ways of working, which require strong coaching-type capabilities of the leader. (Hirvikorpi:2005)

Therefore, a successful manager is also concerned with the emotional effects of work. Typically this refers to the analysis and measurement of the work load and job satisfaction (Juuti:2002) but also to the quality and impact of an individual's affective responses to work. It is maintained, e.g. that it is the share of time an employee feels net positive affect that matters for job satisfaction, more than the intensity of that affect. This implies that employers should rid their staff from minor irritations that accumulate into a mental load that tips the

balance towards constant negative affect. Contrastively, frequent positive reinforcements, although less intense, elevate job attitudes. (Fisher:2000)

Current understanding expands this insight into the engagement of one's personality in workplace interaction. O'Rourke claims that *a messenger always accompanies a message* (2007), uncovering the power stemming from the different personalities liaising in the exchange of information and meanings in any organization.

Managing used to refer to situations where a person with managerial authority acted in a certain way to make subordinates act in a desired way, (Åhman:2004) even against their own will, or in a way they would not normally act on their own accord. Such power can be labelled as coercive power, legitimate or positional power, informational power (ability to control the availability or accuracy of information) or reward power, where the superior can mediate punishment, prescribe actions, or mediate incentives, respectively. (Jain et al.:2011)

Nowadays managing is much more complex, calling for other means of establishing authority. Social power, either referent power or expert power by nature, means that the individual is either seen in high esteem or is regarded as possessing unique knowledge, providing him or her with subsequent authority. Social power is linked with influencing strategies and contributes largely to organizational citizenship behavior, which in turn promotes individual and organizational effectiveness. (Ibid.)

Traditionally corporate managers have regarded emotions as an element that disturbs the rational operation of organizations (Juholin:2008) but have finally come to understand that humanity goes hand in hand with good performance. (Åhman:2004) Also, the power of emotions is increasingly being recognized as a determining factor distinguishing *leaders* from *managers*, especially in creative industries (Kärkkäinen:2005). Higher degrees of tolerance, caring and sense of personal responsibility have proven to be of value to any community. Goleman et al. (2002) claim that the fundamental or primal task of leadership[9] is emotional, to prime good feeling in those they lead by creating resonance that allows the best in people to be unleashed. This good feeling in the community facilitates the build-up of a reservoir of positivity, which brings added value as the decisive factor driving the overall performance of the organization.

Certain leader traits such as extraversion and emotional stability have been found to correlate with leadership emergence. Personality moderates the individual's perceptions as leader-like, but it does not seem valid as a predictor of job performance or actual leadership effectiveness. In other words, perceived influence is not equivalent to effectiveness. The other way round, the absence of certain traits may hinder the individual from emerging as a leader. (Judge et al:2009)

[9] Superficially, leaders with the ability to ignite passion in others seem to carry out the same job as their manager peers. Closer scrutiny proves that, indeed, they manage the same tasks, that is, mobilize their subordinates to carry out their daily duties, but the subtle difference lies in *how* they perform their responsibilities, that is, in the mood and tone they convey to those around them, and in the type of emotions they raise in others. (Judge et al:2009)

4.1 Emotional Contagion

Research in the field of neuro-cognitive psychology has provided empirical support for the existence of the phenomenon called *emotional contagion*. It derives from the capacity of mirror neurons to reproduce or mimic what other beings do. Emotional contagion thereby refers to the tendency to mirror and synchronize with the interlocutor's verbal and non-verbal cues, resulting in emotional convergence and an instant sense of shared experience with the other party. Functional magnetic resonance imaging methods indicate that this contagion occurs physically in the brain's limbic areas as a type of empathy. (Goleman et al.:2008; Dashborough et al.:2009)

All individuals have the capacity to catch other people's emotions, but they vary in their tendencies to get swept up in them. Such individual variation results from genetics, personality traits, and gender, contributing to people's susceptibility or resistance to emotional contagion. Those most susceptible to emotional contagion are those who are self-aware and emotionally reactive, pay attention to others, see themselves as inter-related to others, can read others' emotions and can mimic others' emotional expressions. (Wang et al.:2010)

Mood contagion, and in particular, a leader's positive emotional expression induces several consequences, among them the impact on the mood states of the followers, ratings of leader effectiveness, and follower attraction to the leader, eventually influencing behavioral outcomes. The connection between a leader's mood and the subsequent mood of his subordinates is grounded on the design of the human brain, and because of this so-called mirroring process, huge expectations are placed on a leader, as his emotions tend to shift into the registers of those in interaction with him. (Bono et al.:2006)

What is noteworthy is that moods can be transmitted also nonverbally, because emotions can be conveyed even in silence, through body language. Although every participant in a culture adds his own touch to the mixture of personal footprints, those of leaders have the strongest impact, since their messages bear most weight because of the role assigned to them. They manage meaning and interpretations for the entire organization, even when not expressing their thoughts out loud. Their responses and bodily conduct are followed closely and modelled on, and this is how they set the emotional standard. It should be noted that emotional leadership does not automatically coincide with the official, authorized management within a group of employees. In case the designated manager lacks credibility, the group turns to someone else, a de facto leader, for emotional guidance. (Dashborough et al:2009)

The ease and force with which a leader's emotional state catches on and spreads to the others is dependent on the leader's skill at transmitting his emotions through facial expressions, voice and gestures. This should not be interpreted as encouragement for theatrical exaggeration; instead, open expressions that stimulate upbeat feelings and enthusiasm carry most impact. (Goleman et al.:2002)

Research provides evidence of the impact of emotions in organizations. Positive emotions attribute to the organization's cognitive performance and general well-being, and since leader behavior is a crucial source of affective occurrences for the subordinates, leaders should pay

attention to how they interact at the workplace. Affective displays need to be sincere to keep managers from igniting negative attributions, as subordinate cognitions elicit emotional responses. (Dashborough et al:2009)

While repeatedly emphasizing the significance of emotions here, it should be highlighted that leaders are expected to keep their own emotions in neutral. This is a necessity in situations of crises and emergencies, where those responsible for company management are expected to focus on solving the problems instead of dwelling in irrational feelings generated in the midst of controversy. (O'Rourke:2007)

Paradoxically, negative changes in attitudes towards employees are detected (Saarinen:2007) at a time where employee motivation could be elicited simply through winning the subordinates' trust and respect. As an example, Gabriel has in his research reported employee feelings of gratitude "for being treated with consideration, caring, and respect" (Gabriel:1997, p.323). Similarly, trust is regarded as one of the foundations of relationship quality between superiors and their subordinates. Empirical evidence reveals that when managers are regarded as trustworthy, their subordinates are motivated to enhance their performance thanks to leveraged job satisfaction. (Wasti et al.:2007)

A successful manager is one who manages not to fall into two potential pitfalls: temptation to be lured into an emotional state, and temptation to force subordinates to work when they are in an emotional state that does not allow them to work. Working out the group's problems to help them out of their declined emotional state is one of the most difficult roles a manager has to face. (Schein:1987)

Similarly, Pöllänen (2008) found evidence of the necessity to integrate people issues into task management. His study of insurance sector leaders indicates that maximum leadership effectiveness can only be reached when the leader is highly concerned both for production and people, integrating the human and task requirements of his job simultaneously. In practice, this materializes in subordinates requiring their managers to lead by example and to motivate them by giving feedback and reviewing their work. However, Finnish insurance leaders were viewed as socially more motivated than, e.g. American leaders, focusing on empowering their employees more. Contradictorily, subordinates feel their managers should place more emphasis on company success, but the managers themselves do not consider this important.

Alarmingly, Finnish leaders operating in the insurance field are claimed to lack three central leadership qualities: motivating their subordinates, serving as an example to them, and emphasizing the importance of the company's success. Interestingly, the CEOs from large companies stress goal achievement and new challenges in turbulent times. Also strong and determined top-down management activities and proactive strategic leadership are prerequisites when promoting adaptive behavior in the organization. (Pöllänen:2008)

Emotional experiences seem more significant to subordinates than to leaders. This difference may stem from the psychological aspects related to being in a superior position as opposed to a less powerful position. Leader-subordinate relationships are characterized by strong positive and negative moods and four affective factors (recognition, frustration, violation and uncertainty) that determine employees' job satisfaction as well as the quality they experience

when interacting with their supervisors. Managers should focus more on providing emotional support to those subordinates who suffer from a lack of recognition or fear of losing their job. (Ibid.)

An interesting contradiction in management valuations has been detected in large organizations. Top-level executives do not regard human resource management and job-related needs articulated by their employees as crucial. Contrastively, middle managers in Pöllänen's study considered human resources and employee needs more important than their colleagues operating in smaller companies. A logical explanation can be found in work distribution. In big companies human resources management is delegated to middle managers, which results in middle management valuing and rating human resources issues as important. In smaller companies top executives often have to be more involved in personnel management. (Ibid.)

Underneath the pursuit of financial success, the modern management is endowed with the power and pressures to create meanings through which the organization's direction is determined. And along the travel to the desired destination or vision, leadership can offer examples, ideals and occasional safe havens for any corporate player to resort to if willing to benefit from the potential offered by emotions. (Juuti:2002)

4.2 Climate and Culture

Organizations are not impersonal entities that act independently of the employees that populate them. They are ever-changing, subjectivist and built on subjective and inter-subjective relations that provide a ground for actual and virtual images of the host organization. (Tlili:2008) In brief, organizations are social constructions formed by its members. (Aula et al.:2000)

When viewing organizations as cultural and meaning-creating systems, it becomes pertinent to conceptualize their communication from the perspective of communality, where communication assumes the role of community build-up and sustenance – there is no culture without communication. (Ibid.)

Employees moderate organizational identification and culture - the more, the higher the employee status, and therefore organization-cultural dimensions are not separate, isolated aspects of corporate activities but closely intertwined with several other aspects, such as leadership. (Wiesenfeld et al.:1998; Schein:1987) This is true to the extent that 55% of organizational climate is claimed to be caused by the EI of its managers. Culture and leadership seem to be flip sides of the same coin. As Kim & Mauborgne's (2003) findings suggest, the most profound changes in organizational climate induced by executives may even outlast their instigators. In other words, those in managerial positions can more easily leave their footprints on the organization than those without de facto power, in modelling the communication culture preferred in the organization. In fact, 70% of employee perceptions of organizational climate[10] can be traced to their managers' morale and behavior.

[10] Momeni (2009) defines an organization's climate as employee perceptions and attitudes toward their organization.

From this it follows that influencing the organizational climate is seen as an essential function of leadership. The present work forwards the position that this function is particularly critical, for a successful organizational climate predicts increasing profits, decreases the cost of personnel turnover and employee resistance to change, and improves quality, creativity and customer loyalty. (Momeni:2009) A growing body of research corroborates the relationship between effective human resource management and organizational performance. The linking mechanism can be found in employee perceptions and attitudes between human resources management activities and outcomes, accounting, as an example, for the effect of job security on productivity but also vice versa – productivity has a positive effect on job security. (Van de Voorde et al.:2010) This mechanism ultimately explains the connection between a manager's emotional maturity and his or her financial performance. (Goleman et al.:2001)

The explanation advanced for the association between managerial work and organizational characteristics draws from emotional intelligence theory. Research indicates the positive correlation between managerial emotional intelligence and organizational climate. More specifically, the EI factors most influential in the process are the manager's social awareness and self-awareness. This is logical as self-awareness is the foundation of good communication skills, interpersonal expertise, and mentoring abilities. (Momeni:2009)

It is noteworthy that in organizations where employees are empowered to influence their own work, result objectives are not experienced as factors increasing stress. On a higher, mental level, the effects of work refer to the demands of supportive atmosphere and a culture of trust, which is a necessity when securing information sharing – the quality and quantity of communication tend to increase hand in hand with increase in trust. Open and fair interaction is the building block of a healthy organizational climate and trust. Trust then, results from the genuine willingness to listen, understand and respect the views of others. It should be noted that understanding does not necessarily entail agreement; a mature person can simultaneously understand an opposing viewpoint and disagree with it. If the superior tolerates disagreement, the work group can trust him, which creates the prerequisites for the community to feel safe and cooperate productively. (Kärkkäinen:2005) Both Kärkkäinen and Ropo (2005) emphasize the benefits of so-called shared leadership, which enhances trust and job satisfaction and eventually organizational efficiency and results.

Interactive leadership facilitates diversified communication in the workplace, when the superior's formal authority fades in the background. This may prove decisive in cultures like Finland, where the main weaknesses related to leadership can be found in the areas of information delivery and feedback provision. (Juuti:2002)

Evidently communication is especially critical to organizational ethics, as it is the means through which organizational members learn and internalize the ethics standards of the surrounding environment. Ethics systems are based on shared values, and how else to share them if not by communicating. In the case of ethics, it is of the essence to make sure the organization possesses a shared understanding of how ethics is actualized and demonstrated. The communication of ethics standards can be formal, coming across in training programs, code manuals, value statements, or presentations given by executives. On the other hand, the values can be conveyed informally, by means of socialization, observation, and trial and error. In either case, the management of the organization has a role of undeniable importance in transferring and modelling these ethics standards. The members of the organization easily

conclude by observing the conduct of their superiors what type of behavior is rewarded or punished in their organization. (Seeger:2003)

Ranta (2005) has found evidence supporting the view that unless the organization provides the proper entrepreneurial environment and ethical guidance, managers may be in jeopardy of displaying rogue behavior. By this he means the crossing of the line of good judgment and unethical acts in pursuit of personal gain.

Communication, whether formal or informal, is therefore crucial in providing the members with understanding of which values are accepted and emphasized in which contexts, and the relative hierarchy of the values in different contexts. (Seeger:2003)

Socially acceptable conduct is a way of showing respect to those around. One way of interpreting and communicating respect is through social politeness. The notion of social politeness has been researched by Eelen (2001), together with *tact*, which is an elaborated notion of supportiveness. Where social politeness refers to highly conventionalized language usage with a regulative function, tact is more conciliate in nature.

Aspects of politeness are visible not only through language usage but through overall communicational patterns and styles. Schein (1988) proposes that dialogue triggering demonstrates either support or desire to undo someone else's points or comments. Furthermore, he claims that interruptions are a signal or indication of deference, e.g. when persons representing a higher rank, status, or power feel they can interrupt those of a lower rank. Lack of interruptions in these situations shows equality between participants of different ranks. Similarly, loudness and exaggerated assertion often result in a declining influence in the environment, with the paradoxical result that the communicator may blame the content of his message instead of the delivery style.

Schein also emphasizes the significance of kinesics, the nonverbal messages conveyed through posture, gestures, and facial expressions. The different phases of positioning for courtship and actions of invitation send clear, culturally learned messages manifesting aggressiveness, deference, boredom and various other feelings. Violation of a person's sphere could be interpreted as either aggressiveness or intimacy. (Ibid.)

Modern companies are facing cultural challenges stemming from ethnic, national or occupational traits as well as from those of various sub-organizations and groups within the companies. These challenges are, however, worth meeting and tackling, because culture has clear roles within any organization. For one, culture can be benefited from when struggling to survive in and adapt to some external environment. Furthermore, culture serves to reduce anxiety in times of informational insecurity or overload. Finally, culture responds to human needs of belonging to a group and identifying oneself with a community, having influence in and control over group activities, and feeling accepted. (Schein:1987)

These basic needs relate to security, control and affection, and are increasingly important as modern workplaces have become fragmented, thanks to e-work and remote work. On the positive side, however, cyclically coherent and complete work processes force employees to co-operate in the form of work planning and evaluation together with one's colleagues and superiors. Among others, this facilitates the sharing of each individual's tacit knowledge into

a common resource, which improves the organization's competitive edge and the formation of a healthy working culture. (Juuti:2002)

Attempts to define *culture* generally embrace human conduct, emphasizing behavioral patterns and the related language usage and rituals associated with good manners. Some researchers highlight values and norms as providers of guidance in team operations, or staff policies or rules of the game that form the organization's basic philosophy, to be adopted and followed by the members. Yet others concentrate on organizational climate and atmosphere, placing emphasis on interaction among internal members or at the customer interface. (Schein:1987)

Another cornerstone in allowing an organization to adopt new ways of working is the conception that employee conduct is always based on beliefs that help individuals filter, perceive, interpret and value diverse phenomena. Contrary to natural sciences where beliefs do not have any impact on the reality, in human sciences, individuals' basic beliefs affect their behavior and attitudes towards other people. As an example, a manager who believes in dictating orders is not likely to advocate self-leadership and responsibility within the organization. Or an organization that considers its ways superior to others will find it difficult to promote good partnerships, nurturing feelings of distrust and suspicion in the stakeholders. This is why it would be crucial to make the prevailing beliefs visible and to analyze and question them. And, in fact, it is one of the most significant tasks of a leader to challenge the beliefs coloring the surrounding organization culture, as these beliefs tend to limit individuals' potential and organizational capability. (Juuti:2002)

The alliance between culture and communication is strong. The significance of communication abilities, on the one hand, and corporate value base on the other, become accentuated in mergers and acquisitions. Cultural transformation can succeed only when personal and organizational values and beliefs are communicated congruently. (Pöllänen:2008)

As the collision of cultures is a frequent phenomenon in today's corporate organizations, it is similarly crucial to promote cultural competences. Cultural awareness promotes deeper understanding of potential issues causing cultural conflicts, such as whether the organizational symbols convey the same meanings to all the employee groups, how culturally associated symbolic borders exist side by side, and what type of a trust culture the company fosters. (Juuti:2002)

Trust manifests itself in the ability to tolerate mistakes, which is an important stepping stone in securing organizational growth, renewal, and innovation. A climate that does not accept errors and imperfection cannot be creative. The essential thing is to learn from the past mistakes, and not to make the same mistake twice. Naturally all organizations pursue the right choices, and validating the right direction with the right people is a good way of reflecting on the interpretations made and conclusions drawn. But a manager cannot truly rely on others to share their genuine insights and exchange opinions unless he or she treats the surrounding people as his partners and equals. (Åhman:2004)

Industrial organizations increasingly promote values of equal opportunities and equal treatment. A major attitudinal change has contributed to the way information workers are

perceived – they are no longer subordinates but partners. They may know more about their own areas of expertise than their managers do, and subsequently they should be treated as self-directive, collaborating partners with valuable expertise. Well-functioning interaction between equal in-house partners can presently be fostered in strategy planning, as well. According to some studies, strategy brainstorming is no longer regarded as a management responsibility only; nowadays more and more companies exercise dialogue between management and experts when formulating the strategy. This is why corporations needs managers who can make subordinates feel like partners, not just followers. (Ibid.)

Ultimately, culture is decisive for successful strategy implementation. Top managers easily focus on strategy work and formulation of impressive and pompous statements, but if the surrounding culture does not support the strategy, the implementation will fail miserably. Strategy and organizational structure are always interconnected, as the symbolic environment where strategic planning is accomplished and through which the strategy is implemented, is the organizational culture. Successful implementation necessitates that the basic assumptions, values, and ways of working required by the new strategy are in alignment with the organization's prior basic assumptions. (Åhman:2004; Schein:1987)

Finally, culture is decisive also in determining what is regarded as ethical in the organization. Organizations made up of diverse sub-cultures are inclined to embrace several, culture-bound ways of perceiving and materializing ethics. (Schein:1987)

Ethics is demonstrated also in the way an organization's leaders exercise power. A leader's power derives either from a personalized motive or a socialized one. Personalized motivation draws strength from controlling others and making them feel weak, aiming to raise devotion and unwavering trust in the audiences. Socialized motivation builds the leader's authority through subordinate empowerment. (Pöllänen:2008)

4.3 Social Competence and Team Dynamics

Corporate cultural factors are recognized as shapers of organizational performance through the hidden potential of intangible assets (Kaplan et al.:2004). Similarly, team member personalities and individual characteristics influence team performance through group processes involving emotional intelligence. (O'Neill et al.:2011) Also groups' emotional dynamics impact team outcomes - people make choices not based on their knowledge but on their affective reactions to that knowledge. (Vuori:2011)

The underlying mechanisms of EI relate to the brain's ability to process and respond to information more effectively when in a positive mood. Prolonged distress, on the contrary, tends to sabotage a person's relationships and hamper work performance, as an increase in anxiety is known to erode mental abilities and make people emotionally less intelligent, impairing their social skills. Good feelings, then, enhance creativity, decision-making skills, sense of connection and trust and cooperation, whereas negative emotions foster personality clashes, anger, friction and disagreement. (Goleman et al.:2002).

Due to their position, managers play a decisive role in group processes. Managers with high levels of EI promote workgroup cohesion. (Luthans et al.:2001) Gallén (2010) lends support to such findings, corroborating that managerial characteristics and cognitive styles, in

particular, predict organizational outcomes and strategic choices. Goleman et al. (2002) offer a case illustrating correlation between the work of a poorly cooperating management team and the company's low return. Along the same lines, leadership is known to affect corporate stock performance and profitability (Groves:2005) and to have paramount significance for a company's ability e.g. to maximize return-on-investment in its endeavors (Dearborn:2002).

The effects of EI on the individual have been recognized; as an example, EI correlates almost linearly with the yearly income of managers (Saarinen:2007). Furthermore, EI has been claimed to be as important as, or even more important than IQ or school grades as a predictor of success in one's career and life in general. (Kärkkäinen:2005; Ciarrochi et al.:2006) Of more interest here, however, is its impact on entire organizations - social and relational capital can be the source of efficient improvement in an organization. A healthy and supportive socio-cultural environment is likely to foster innovation (Hautamäki:1998), which is embedded in social structures, and social mechanisms also facilitate institutional change and even new field emergence. (Gustafsson:2010)

Social relations materializing and formed in interaction with other employees enact information channels, which help reduce the amount of time and investment required for information retrieval. In short, social interaction benefits organizations in terms of access, timing and referral advantages. Moreover, the social dimension materializing through leadership can be seen as a determinant of organizational performance; more specifically, charismatic leaders are often associated with leadership effectiveness, in particular in uncertain environments. (Agle et al:2006) Similarly, Jaeger et al. (2010) have found that such human factors as social competence, communication ability, leadership ability, and assertiveness rooted in a manager's personality have a direct impact on project success or failure.

Furthermore, organizational trust is correlated with organizational performance. Whether cognitive or affective, trust can, in fact, be regarded as a predictor of workplace attitudes and behavior. Affective trust in management and one's immediate supervisor are known to explain variance in organizational commitment. Similarly, cognitive trust in management and affective trust in the supervisor account for variance in job satisfaction. Ultimately, leadership behaviors that generate trust affect employees' work outcomes. (Yang et al.:2010)

Finally, managers should appreciate the overall impact of affects at work. Interestingly, the frequency of affects seems more decisive than their intensity: it is the per cent of time that one experiences positive affect at work that matters for job satisfaction, and not the intensity. Therefore, managers should take measures to free the work environment of minor irritations that tip the balance toward more frequent, although mild, negative affect. And conversely, frequent yet modest positive reinforcements through, say, job design or informal reward systems are found more beneficial for organizations than more intense but less frequent ones. (Fisher:2000)

4.4 Critical Notes on Social Competence

In the last analysis, it is of the essence to underscore the deficiency of definitions and measures of emotional intelligence and social competence – the abundance of approaches ranging from focus on moods and states to emotional competence does not satisfy the

academic discussion in all its ambiguity and lack of agreement. (Gooty et al.:2010) The impact of social competence is more equivocal than many of the findings presented earlier in this study would imply. Evidence supporting the relationship between leader conduct and leveraged organizational performance cannot be found in, e.g., net profit margin, shareholder return, or return on assets; instead, organizational outcomes have been found to associate, among others, with perceptions of leader charisma (Agle et al:2006). Molina-Morales et al. (2009) argue that the effect of e.g. social interactions and trust on value creation can be depicted as an inverted U-shaped curve, indicating that beyond a certain point of development, the impact of social assets starts to decrease. Excessive social interaction and affect may, in fact, turn into a constraint hurdling access to valued resources, encouraging organizations to find an optimal level of these social dimensions.

Despite their merits, not all organizational problems can automatically be solved by means of social skills. Undeniably, the supportive qualities of managerial conduct tend to augment, the better the quality of relationship between the supervisor and subordinates. However, this only seems to apply to less creative subordinates, implying that organizations need to appreciate and take into account the diversity of subordinate needs. (Atware et al.:2009)

In some situations, the impact of leader emotions may entail negative effects in an organization. Rubin et al. (2009) found that leader attitudes mediate relationships, not only with leader outcomes, but also with employee outcomes, offering an explanatory mechanism for organizational performance. In case of e.g. leader cynicism, the attitude can clearly be toxic for organizational health. Chun et al. (2009) support this with their multi-source data, validating that strong follower commitment to the leader mediates followers' attitudinal, behavioral, and performance outcomes. This is particularly evident in close follower-leader relationships that encourage personal identification with the leader and value internalization. Furthermore, leader charisma is frequently associated with dysfunctional narcissism, giving cause for a critical stance towards strong leader traits. And even when inducing positive organizational outcomes, charismatic leadership may be the result of attributions applied by a successful organization to its leader. (Agle et al:2006)

Another factor challenging our discussion on social competence is the idea that social skills are typically associated with face-to-face contexts, emphasizing the significance of extraversion and aptitude in oral communication. However, in distributed or virtual teams the impact of oral communication becomes attenuated, whereas the quality of writing increases in importance. Therefore, the potential of introverted individuals that master intricacy and grammatical complexity in writing should be acknowledged in virtual settings relying on computer-mediated communication. (Balthazard et al.:2009)

Finally, results have been attained in reverse of the expected. As an example, Niitamo (1999b) warrants attention to findings signalling that companies led by high-affiliation leaders are not as successful as those led by high-achievement or high-power managers.

5 RESEARCH METHODOLOGY

Leaders do not operate in vacuums; they rather emerge at the interface with the followers. Their position depends naturally on subordinates but they also require support from peers and the entire work community to allow the psycho-physiological regulatory mechanism to keep them in control. (Hyyppä:2002) This approach to leadership as a social process places emphasis on the dynamic, collective, and multidirectional dimensions of management, and highlights relational interactions, in particular. (Fernandez et al.:2010)

This interaction necessitates social competence, hence the search for socially competent leadership in this research. Socially competent leadership as a management approach can serve as a platform for democratic leadership, and enabling and empowering management conduct. This platform gives rise to communicative and emotionally intelligence leadership styles such as servant leadership (Dale:2007), coaching leadership (Poundsford:2007), and transformational leadership (Hautala:2005), just to name three, that draw on positive and contagious workplace resonance fuelled by EI.

As organizations are social systems (Kilkki:2010), the study of organizational leadership is, ultimately, a study of interaction between leaders and followers. Postmodern research, drawing mainly from relativistic and qualitative approaches, sees human behavior as largely dependent on the context and cultural patterns. This dependency governs communications to a great extent, as it is an integral element in human interaction and the creation of meanings. Qualitative research focuses on interpreting and understanding human views and conduct, and this focus on understanding is particularly relevant in studies where qualitative methodology is preferred for its treatment of reality as socially constructed. **Qualitative methods** bring benefits in the study of interaction-driven situated activity, and upon instigation of the research journey, the researcher's mind was set to resort to qualitative examination through thematic interviews and narrative analysis. (Hirsjärvi et al.:2001)

However, literature in the field reveals that **quantitative methods** are more prevalent in leadership studies. Traditionally, research on leadership has been largely based on quantitative thinking characterized by the belief that it is possible to identify general laws and governing factors dictating human behavior irrespective of the individuals' personal traits. Such a quantitative study aims at discovering ways of predicting and controlling human behavior and at identifying behavioral norms. As the present work strives to establish predictive value, quantitative research is selected as the primary method. (Ibid.)

Yet, as the current research attempts to reveal dimensions of managerial activity that have value both as objects of a deduction-oriented quantitative study and induction-driven qualitative research, combined methodology will be resorted to in order to integrate both methodologies into a mixed model to ensure a richer and more complete treatment of the phenomenon in question. (Driscoll et al.:2007)

The qualitative analysis strives to explain for the quantitative findings obtained and to secure face validity. Furthermore, the qualitative approach will allow the individual's voice to be heard so as to uncover subjective leader motivations and subordinate perceptions and interpretations. (Hirsjärvi et al.:2001) This results in the subsequent move away from the traditional positivistic approach prevalent in social sciences; the naïve realism does not

necessarily reveal the whole truth, paving the way for post-positivism and critical realism in the present work. It also provides room for a constructivist philosophy, justifying the focus on subordinate perceptions. Such a hermeneutic approach is interpretative in nature. (Metsämuuronen:2006)

This research is also a case study since the individual supervisors can be examined as cases to find the commonalities, on the one hand, and unique features, on the other, in their behaviors. However, any generalizations should be made with caution. (Metsämuuronen:2006) The primary objective is qualitative understanding of socially competent leadership - its definition through archetypes, leader traits and behavior, impacts on individuals and teams, and educational methods.

5.1 Research Questions

Kant's model of three independent mental faculties, cognition, emotion, and motivation drives the present research by offering a platform for the first research question and the related measurements. (Eich et al.:2000) The subsequent starting point of this research is to examine how an individual's logical ability, personality, or emotive skills correlate with subordinate evaluations. Furthermore, an ambitious research attempt is made to devise a scale for applied personnel use that would add to the prediction of outcomes beyond what can be predicted with more conventional assessment strategies. Such incremental validity refers in this work to the ability of a scale to add to the prediction of managerial success. Improvement in prediction can be demonstrated through increased power, specificity, sensitivity, or predictive efficacy, the last being the empirical aim here. (Hunsley et al.:2003) In brief, this work strives to design a tool for diagnosing and predicting socially competent leadership.

The three measurements in the first phase of the research were selected to acquire an understanding as comprehensive as possible of the impact of leader attributes. The abundant definitions of EI range from traditional intelligence and a collection of attributes to a system of traits comprising an aspect of one's personality (Ciarrochi et al.:2006), recognizing the possible connection between emotions and personality. Emotions can be resultative of personality; people high on positive affectivity tend to experience positive emotional states more often than those high on negative affectivity. Affectivity, then, predicts feelings about work, although to a lesser extent than situational factors. On the other hand, feelings have an impact on attitudes, which are composed of the affective and the cognitive component, both linked to behavior. The reason why attitudes should not be overlooked in the organizational setup is that they affect our judgement. As an example, job satisfaction is an attitude, and when negative, it can lead to one's decision to resign. (McShane et al.:2000, Fisher et al.:2000; Fisher:2000)

Personality psychology is interested in human individuality and draws from dispositional[11] traits that drive differences in human functioning. Personality research is on a mission to build integrative frameworks for understanding the whole person (McAdams et al.:2006), in which task it views personality on three levels: 1) the decontextualized traits that provide a dispositional signature for personality description; 2) personal concerns that invoke personal strivings, defence mechanisms, copying strategies and motivation constructs that

[11] Dispositions commonly refer to the basic analytic units of personality. (Niitamo:1999)

contextualize in time, place and role; 3) identity as an internalized and evolving life story that results from the individuation process of the self. (McAdams:1995)

A brief overview of the dimensions of personality will provide understanding of an individual's psychological subsystems. Niitamo slices personality into attitudes, cognitive styles and motives (1999a), whereas for Ciarrochi et al. (2006), motives, cognitions, the self and emotions constitute the four psychological subsystems of an individual. The first subsystem, motives, refers to the ability to channel mental motives (by amplification or diminishing), guide them with emotions, and direct action towards socially attainable goals. The second area, knowledge guidance, is where knowledge is developed, maintained and applied in a person's planning and decision-making processes. It contains an individual's mental models of the self and of the surrounding world. The third area, conscious self-regulation, comes to the rescue when mental functioning requires special attention, reassessment or revision. It aims at securing the smooth functioning of the psychological system through conscious awareness, self-reflection, self-regulation, and will. The fourth area, social implementation, performs social activities by adjusting them to the social context involved. It secures the individual's expression of personality, enforces his or her natural behavioral styles, and assists social self-presentation. (Ibid.)

Many self-judgment scales of EI overlap with and follow elements pertinent to these areas of personality. As an example, the Big Five, a contemporary conception of personality, addresses traits on five continuums. It organizes broad individual differences into categories labelled as Extraversion, Neuroticism, Openness to experience, Agreeableness, and Conscientiousness. (Ibid.)

This discussion revolving around the role traditional intelligence, personality, and emotional intelligence play in workplace interaction provides motivation for the current research in general, and Research Questions 1 and 2, in particular:

RQ1: What predicts and explains socially competent leadership?

One of the goals of this research is to increase understanding of the patterns of relationships between predictors and workplace performance. It is hypothesized that managerial competences and social competence, in particular, attribute to employee contribution. (Bartram:2005) Subsequently, managerial social competence and emotional intelligence form the centrepiece of attention in this research. Being latent phenomena, they can only be measured by means of conduct-based observations. Therefore, the instruments applied in the first quantitative empirical research round comprise three quantitative measurements: 1) a paper-and-pencil mathematical-logical ability scale (Raven), 2) a web-based personality inventory (WOPI), and 3) an e-mail survey on emotive skills, the self-report Emotive Communication Scale (ECS). As so often in humanities, the measurements are not absolute but rather comparative.

There has been lively debate concerning the most appropriate approach to measuring the EI construct. Performance measurements have been found to be more valid when EI is conceptualized as an ability, whereas self-report instruments are seen to provide more value when EI is understood as addressing nonability-related traits or attributes. Performance measurements present the test objects with problems thought to have correct or superior

responses and can thereby be evaluated against objective, predetermined scoring criteria. Self-report inventories, on the other hand, inquire respondents about their self-perceived levels of EI. Some argue that what such tools actually embrace are personality aspects and noncognitive characteristics. (Goldenberg et al.:2006)

In the second quantitative research round, subordinate views are monitored to establish correlation between subordinate perceptions and the target managers' performance in the three measurements and subordinate perceptions. The 180-degree Emotive Communication Scale is used to monitor subordinate perceptions on a scale of 1-7. The first 20 questions are identical with the managerial self-report scale, except for the wording that now turned the managers into objects for subordinate evaluation. Finally, the subordinate evaluation ends in a general question intended as a control question: "Overall, how good is he/she as a supervisor?" to monitor whether there is correlation between the overall rating achieved through the scale and the perceived *goodness* or success of the supervisor.

The self-report instruments having been selected, it is time to verify that the method selected actually helps bring answers to the targeted research problems. In order to design a sound quantitative study, a preliminary survey is conducted. (Erätuuli et al:1994) This research phase focuses on validating the Emotive Communication Scale; as the other two scales utilized to respond to RQ1 represent well-established instruments used previously by other researchers and tested on with tens of thousands of objects, their validity and reliability have already been largely verified.

One of the assumptions implied within RQ1, one with pragmatic value in managerial recruitment and corporate career planning and personnel development systems, is the hypothesis that it may be possible to identify one tool for testing potential managers for their leader abilities instead of applying a mixed variety of instruments. Finding an independent variable in either Raven, WOPI or ECS that correlates with the dependent variable of perceived social competence (Laininen:2000) would make the other instruments redundant.

RQ2: What types of leader or communication styles are perceived as most socially competent by subordinates?

The validation of the Raven/WOPI/ECS/ measurement results acquired to answer RQ1 will be based on subordinate appraisal, which will also serve as the second part of the empirical research. In humanities, one of the main objectives is to find causalities, but the present research aims to further the study of managerial communications by examining relationships to establish the association of managerial social competence with the perceived leader performance. (Laininen:2000).

RQ2 focuses on the implications of leader conduct as perceived by followers. For this end, the managers are examined through two 360-degree measurements, with subordinates providing perceptions of their managers' 1) social competence 2) general leader competences by specifying their level of agreement on 7-level psychometric Likert scales. (Metsämuuronen:2006)

Due to the latent nature of social competence, the related concepts have in this research been operationalized into a number of measurable concepts or sub-factors, relying on findings acquired through a literature review. (Metsämuuronen:2006; Simström:2009; Erätuuli:1994)

The preliminary survey will help the researcher confirm the topologies, categories and question items for the actual subordinate scale. The external evaluations acquired from the subordinates will be compared with the managers' measurement results to find indication which test type correlates most strongly with subordinate perceptions. The second goal is to identify for thematic interviews those managers that are regarded as the most competent socially by their subordinates. The third goal is to respond to RQ2.

As the researcher has also other pragmatic aspirations regarding the outcomes of the research, one of the aims is to learn how managers and engineering students could be helped to develop their social skills, leading to Research Questions 3 and 4:

RQ3: How do socially competent leaders develop their communication style and social competence?

The focus of interest here is on understanding how managers perceived as socially competent by their subordinates develop their communication style and social skills. Is their success based on conscious efforts and practice? Do they control their behavior in a way that helps build an image as socially competent? Do they recognize the benefits and drawbacks of certain types of behavioral and communicational patterns? These questions will be approached by means of qualitative semi-structured interviews of those managers that are perceived as good communicators and socially competent leaders of their subordinates.

All the managers in the population receive their personal measurement results in a 30-60 -minute feedback session. The researcher takes the opportunity to observe also those managers that are not viewed as socially competent by their subordinates, particularly in terms of how they respond to their results, how they justify or account for them, and how they feel about personal development measures.

RQ4: How can social competence be learned, developed and taught?

The analyses conducted at Aalto University and lecturer observations in English communications courses on how well the communications curriculum matches audience needs, reveal gaps in student competences. Benchmarked against working life needs, students signal sufficient aptitude in written English but demonstrate competence gaps in communication, interaction and presentation skills. They have the knowledge but lack the confidence, courage or the practice to apply their knowledge. (Lappalainen:2009b) On the other hand, industrial managers have identified e.g. communication of negative messages and openness as their major challenges at the workplace, necessitating the provision of support in the area of social competence. (Rouhiainen-Neunhäuserer:2009)

5.2 Research Framework

A research framework is a presentation of the argumentation justifying the research problems. It compiles the theories or theoretical models through which the research objects are

approached and treated. (Erätuuli et al.:1994) To form a general understanding of social competence, the present research resorts to Bar'On's (2006) mixed ability-trait model.

The short history in the field of EI research has approached the study of EI-based competences from three different angles. Mayer and Salovey see EI as a type of intelligence in their performance-based model which focused on the intelligent utilization of emotional information. Bar-On models EI as a combination of emotions, social skills and intelligent behavior in his mixed model that is based on personality and trait theories. Finally, for Goleman (2001; 2002; 2007), EI is a set of various competences, practical skills and characteristics that can be learned.

There has been much debate on the utility of performance-based versus self-report measurements of EI. Their weak or non-significant correlation stems from the two approaches being based on different conceptualizations of EI. Some argue that it is the measurement approach rather than the theoretical basis for a measurement that ultimately determines the nature of the EI model being measured. (Goldenberg et al.:2006) As it has become apparent that the approaches mentioned above measure different phenomena, this work draws from a conceptualized approach following Bar-On's mixed model conceptualization of EI. This allows for the treatment of EI as a set of behavioral skills dependent on both personality and learnable competences. (Saarinen:2007)

In this study, leader competences are narrowed down to the examination of interpersonal communication and social competence at the interface of the subordinates. Particular focus will be put on the role of emotive messaging to identify whether the managers in question and their subordinates have engaged in or created any interpretative repertoires to facilitate communication in situations involving emotions. Finally, thematic interviews conclude the interview round to allow the managers to reflect on how they consciously train and develop their social skills, and to gain understanding of how to prioritize and select pedagogy for communication education and training. (Hirsjärvi et al.:2001) The table below presents the rationale for the research plan.

Research Questions	Research Targets	Type of Methodology
RQ1: What predicts and explains socially competent leadership?	Quantitative measurement of managers	1) Logical ability scale (Raven) 2) Personality inventory (WOPI) 3) Emotive Communication Scale, self-report
RQ2: What types of leader or communication styles are perceived as most socially competent by subordinates?	Quantitative measurement among subordinates	1) Multi-source appraisal (WOPI360) 2) Emotive Communication Scale, other-report
RQ3: How do socially competent leaders develop their communication style and social competence?	Qualitative study of managers perceived as socially competent	1) Semi-structured interviews based on critical incident analysis 2) Qualitative narratives
RQ4: How can social competence be learned, developed and taught in universities and organizations?	Literature review and findings from the empirical study.	Literature review and a summary of empirical findings and classroom observations

Table 3. The empirical research methodology applied.

5.3 Reliability of the Research Methodology

Many leadership studies are claimed to be limited due to their mono-method bias stemming from the predominance of single-source follower survey ratings. To avoid this shortcoming, the present study relies on both leader self-reports and other-ratings. In this study, subordinates are selected as the target group whose perceptions are used as the control measurement against which leader behavior is mirrored. It is predicated that thanks to their daily interaction with the leader, the subordinates are privy to direct observation of the leader's interpersonal behavior and assumingly can provide more accurate ratings or leadership impacts than more distant followers. (Groves:2005)

Absolute reliability in analyses of employee perceptions and interpretations is difficult to achieve as the voices heard are subjective and may even change over time. Therefore, in this research reliability cannot be understood as identical results obtained through two successive studies or through two researchers conducting the same survey. Test-retest has its downsides as a measurement of phenomenon stability, because often, in practice, it proves to measure the measurement itself. (Metsämuuronen:2006)

Cronbach's alfa will be utilized as means of establishing internal consistency reliability for the total ECS sum score as well as the different sub-scales in the Emotive Communication (ECS) self-report and other (subordinate)-reports. The two ECS scales are refinements based on previous research and therefore their validity and reliability have not been established. The ECS is a relatively concise survey with its 20 items, thereby causing disposition to question its adequacy in separating responses - extensive measurements are known to have higher reliability than more limited ones. (Metsämuuronen:2006; Goldenberg et al.:2006))

The empirical research in question aims to establish validity and reliability by utilizing different methodologies to approach the same data, i.e. both self- and other-ratings in the form of quantitative questionnaires, and qualitative semi-structured or thematic interviews of the research targets. Especially when it comes to unestablished constructs such as emotional intelligence (EI), there is no agreement yet on the most valid or effective way of measuring it. (Goldenberg et al.:2006) The use of self-reports can prove problematic as self-assessments tend to correlate only modestly with actual or observed performance. Respondent self-evaluations are at large driven by chronic self-views and preconceived notions about one's abilities. (Critcher et al.:2009)

Reliability in the second round of the empirical study may be hurdled by the fact that several of the companies hosting the research populations have recently undergone changes impacting organizational atmosphere; those remaining in staff have seen their colleagues being made redundant, and they themselves have been subjected to cost-savings measures and job insecurity. All these may affect respondent willingness to contribute to the research and employee attitudes upon the moment of answering. (Simström:2009) The subsequent decision to use several populations in the second research phase is one way of ruling out distortions in results. (Walpole et al:2002)

Furthermore, validity and reliability will be ensured by collecting a vast amount of data. The entire population is comprised of line managers on diverse organizational levels in companies operating in different fields, totalling 80 supervisors. Conducting a census with the entire

population as the study object would secure high-level generalizability, as it might be difficult to select those sampling units that would represent the overall population vastly enough. However, realistically it may not be feasible to expect so many company representatives to dedicate working time to this research in a situation where they are following a cost-efficiency program. Therefore, the work settles to examine only volunteers willing to contribute.

This may prove to become a factor possibly undermining the results of the study: when no manager can be forced to take part in the survey, it can be assumed that the ones with more confidence as to their own leader abilities are more willing to participate. As simple random sampling cannot be achieved, it can be assumed that the sample examined is somewhat biased. (Walpole et al:2002)

Finally, the researcher will preliminarily invite as many participants as possible to ensure adequate coverage. This way research reliability will not be undermined in case of nonresponse. (Holopainen et al.:2003) According to Jyrinki (1977), the response percentage in social studies tends to vary between 51 and 91 in surveys focusing on work satisfaction. Furthermore, the percentage is inclined to rise when the target group is functionally homogeneous compared to a structurally heterogeneous general population.

5.4 Validity of the Research Methodology

Naturally the research in question aims to achieve validity of prediction that could provide valuable, guiding information in e.g. managerial recruitment, corporate in-house training and career planning, and engineering education. With this objective in mind, the comprehensiveness of mixed methodology with its quantitative measuring and semi-structured and thematic interviews serves as an appropriate method in examining and revealing the implications of certain types of human conduct and competences in leader roles. (Hirsjärvi et al.:2001) Relationships will be examined in order to find predictive validity. (Metsämuuronen:2006)

Structural validity necessitates careful conceptual analysis in order to make sure the interviewer and the interviewees have the same conception of the terms and concepts being discussed. This is a prerequisite in securing that the research is focused on the targeted phenomenon. For this reason, a review of the survey items was conducted with the researcher's linguist colleagues to prevent misinterpretations. The researcher has a background as an English major and translator and therefore resorted to her competence in translating the ECS question items from Finnish into English. For the sake of quality assurance, she also had the statements reviewed by a peer. However, no respondent utilized the English versions of the self-report tool as all managers in the population were Finns, but the translations still came in handy in reporting the results. (Hirsjärvi et al.:2001)

Furthermore, this research attempts to secure internal validity by critically taking causality issues into account when formulating the survey questions. By admitting the contextual nature of human behavior, the researcher no longer sees human factors as a weakness jeopardizing the quality of the research but rather as one dimension of the phenomenon at hand. (Ibid.)

Construct validity strives to operationalize the central concepts in a way that results in strong correlation of items measuring the latent variables. (Metsämuuronen:2006) Such internal consistency is expected, e.g., in the ECS sub-scales. Some argue that EI scales overlap with personality measurements, and that they are, in fact, measurements of personality. (Gannon et al.:2005) Logically this could be accounted for by the fact that mixed measures address a variety of personality traits. (Gannon et al.:2005) Despite correlations between measurements of personality and self-report measures of EI, self-reported EI results are found to have incremental validity (Goldenberg et al.:2006), explaining unique variance to some extent beyond personality and IQ variables in outcomes such as life satisfaction and happiness (Gannon et al.:2005).

Therefore, further research is needed to understand more comprehensibly the nature of EI and its relationship with personality. In this study, the measurements of personality and EI partly overlap, sharing some of the same constructs (e.g. empathy and inspiration). This phenomenon is not unique to this study, however, as most EI conceptualizations encompass aspects that are incorporated into the major personality hierarchies. Petrides et al. (2003) claim that scales that seem to be duplicates have the potential of providing incremental information. This is because the facets and the scope of their operationalization are differentially relevant to the domain from which they have been sampled. To identify the most appropriate methods of measuring EI, more extensive examination of the relationships between actual abilities, self-reported abilities, and other-reports of abilities is required. (Gannon et al.:2005)

Last, generalization of the results achieved is risky when analyzing human behavior in a certain environment, and therefore the researcher cannot but recognize that external validity is difficult to obtain. (Hirsjärvi et al.:2001) Also, it is important to acknowledge that as human behavior is contextual, the researcher is unlikely to acquire identical results if the data collection was repeated. This should not be merited as a weakness in methodology but rather as a fact of life.

5.5 Research Measurements

5.5.1 Raven's Advanced Progressive Matrices Test

The Raven's Advanced Progressive Matrices Test (APM) administered in this research is widely used to measure problem-solving ability, fluid intelligence, and analytic intelligence, or the common ability to decompose problems into segments that are manageable. (Hamel et al.: 2006) What turns this ability relevant to today's working life is its correspondence with the ability to deal with novelty and to adapt one's thinking to a new cognitive problem. (Carpenter et al.:1990) In the test, participants are asked to respond to 36 items that gradually increase in difficulty. The time needed to complete the test is generally regarded as a drawback. As the scores acquired through the 20-minute timed test correlate strongly (r=0.75) with the untimed version, indicating that the timed version is a reasonable predictor of the untimed APM score, it was decided to rely on the timed version. The other alternative would have been selecting, say, 12 items from the APM for testing, but as this would have left intermittent items out, the task would have represented a somewhat different challenge. (Hamel et al.: 2006)

5.5.2 Work Personality Inventory (WOPI)

Personality is of interest in this study for certain personality traits are known to correlate with e.g. academic success (Chamorro-Premuzic et al.:2003) and to be associated with specific leadership styles and follower perceptions of leaders (Hautala:2005). This is possibly due to the role of personality in influencing affective responding. (Petrides et al.:2003)

The WOPI inventory chosen is a standardized self-report[12] inventory of personality with 14 scales that are deemed important for work settings. Included are seven scales for motives, four for cognitive styles and three for attitudes, one of which functions also as a scale for the socially desirable response style. The 224 respondent-descriptive item statements are answered on a dichotomous (True-False) scale. Nederström et al. (2010) report moderate reliabilities, with internal consistency median of r=0.77 (KR-20) and stability (retest-reliability) coefficient median of r=0.85, comparable to established personality inventories.

The WOPI instrument is included in this research, as personality traits are known to predict behavior and performance in diverse life domains. Traits function as probabilistic statements that predicate future performance. Contrary to more established general-purpose personality inventories measuring needs, motives, or cognitive styles, WOPI distinguishes the measurement of work-related personality by addressing motives, cognitive styles and attitudes in its pursuit to cover the multifactorial personality. The measurement includes scales on respondent achievement motivation (focused and competitive achievement), leadership motivation (leadership and inspiration), interaction motivation (sociability, empathy and reliance), thinking (orientation, perception, thinking and decision making) and attitudes (ambiguity-change, optimism and self-reflection). (Ibid.)

WOPI scale	KR-20 [13]	Retest [14]t
(fo) Focusing	0 .76	0.71
(co) Competition	0.78	0.83
(le) Leadership	0.80	0.89
(is) Inpiration	0 .74	0.86
(so) Sociability	0.74	0.84
(em) Empathy	0 .75	0.85
(re) Reliance	0 .69	0.76
(or) Orientation	0 .77	0.89
(pc) Perception	0 .78	0.80
(th) Thinking	0 .81	0.80
(dc) Decision making	0 .77	0.91
(am) Ambiguity-Change	0 .71	0.85
(op) Optimism	0 .81	0.85
(sr) Self-reflection	0 .78	0.73

Table 4. WOPI scale reliabilities

[12] The terms *report, rating, judgment, assessment* and *evaluation* are used interchangeably here, even though *report* typically refers to verbal accounts while the others denote conclusions made by respondents. (Paunonen et al.:2010)

[13] Internal consistency reliability; Kuder-Richardson-20 for dichotomous scales, 723 adults in a wide set of recruitment and training programs, approximately equal number of men and women.

[14] Temporal stability; Pearson r, 33 vocational counsellors, five-week interval between testing 1 and 2.

Both the internal consistency and temporal stability coefficients for WOPI are comparable to reliability figures reported on established, well-validated personality inventories. (WOPI Technical Manual:2011)

5.5.3 Emotive Communication Scale (ECS)

The second measurement run on managers is targeted to measure their emotional intelligence and emotive communication skills. The main basis for discriminating between trait EI and ability EI lies in the choice of a measurement approach and not in the theoretical domains of the diverse EI conceptualizations: trait EI is measured through self-reports, and ability EI is measured through maximum-performance tests where items have correct and incorrect answers. (Petrides et al.:2003) The present research approaches leaders' social competence through the so-called mixed trait-ability model, allowing for the use of both self-report and other-report instruments.

The self-report instrument Emotive Communication Scale is devised for this specific research to address phenomena relevant to the workplace and leadership. A self-report instrument is pursued, because prior research has pronounced evidence that self-perceived EI abilities relate accurately to individuals' social skills as perceived by others who know them. They are known to produce low-to-moderate positive correlations with actual abilities. (Petrides et al.:2003; Mavroveli et al.:2007) The Affective Communication Test ACT (Appendix 1) was selected as the foundation for this measurement. The ACT is an instrument designed to understand and assess nonverbal expressiveness and the affective elements that are essential to face-to-face and interpersonal relations, in particular, in effective leadership. The instrument is valid for examining one's ability to transmit emotio, and to lead and inspiree others, thanks to its focus on such dimensions of expressivity as communication ability, emotionality, extraversion, responsivity, and empathy. (Friedman et al.:1980)

The ACT is a self-report tool, the design of which takes into account the challenges related to the self-measurement of qualities mostly outside awareness. Challenges are also induced by the distortion of an individual's knowledge about himself. (Paunonen et al.:2010) However, as most people receive feedback through social interaction, the developers of the instrument assume sufficient self-awareness of the measured qualities of expressivity. They report high internal consistency (coefficient alpha r=0.77) and test-retest reliability (r=0.90) that correlate with judgments made by others. The relationship reported between the ACT scores and peer ratings of subject expressiveness is significant and non-trivial (r(59) =0 .39). This paper-and-pencil test is a self-description questionnaire with 13 statements on a 9-point response scale (Appendix 1).

Half of the statements are worded in the reverse direction so that a negative response indicates expressivity. The statements examine expressivity through the dimensions of extraversion-introversion and neuroticism-stability. Extraversion should not be confused with expressivity although their relation is evidenced by the fact that people who communicate emotions well, are more likely to be social and express feelings more fluently. People who are high on neuroticism tend to be emotionally labile and overresponsive. (Friedman et al.:1980)

Despite the merits of the ACT tool as a reliable and concise self-report measure of affective communication, certain handicaps were identified in pilot testing among the researcher's peers. First of all, all the items are **not relevant** to the organizational context (items 1, 4, 10, 11). Second, hugging and touching (items 4, 13) are **culturally contextual** and not typically favored behavior that Finnish men, in particular, would engage in at the workplace. In addition to being a partial statement that does not allow the male gender to score high, some male respondents in the pilot phase found this item risky in that touching is not encouraged or even accepted in times where sexual harassment has become a sensitive workplace dilemma. Therefore, item 13 needed to be modified by changing the trigger of "liking someone" to an event-response trigger.

Third, the ACT was found insufficient in that even though it addresses issues of preferences and functional behavior in human interaction, it **does not systematically embrace social-emotional motives and competences** epitomized in more broadly researched emotional intelligence models. It is hypothesized in this research that one of the key managerial tasks is building relationships (Hamel et al.:2007), as leadership comes to being through and in the interaction between the leader and the followers, being a socially constructed phenomenon.

This phenomenon has been conceptualized as relational competence, interpersonal competence, communicative competence, linguistic competence, and social competence. It is therefore postulated that successful leadership is founded on the platform of social-emotional competence and communication, the latter being understood here not merely as information transmission but also as a means of making the information understood (McShane et al.:2000; Rouhiainen-Neunhäuserer:2009; Palmgren:2010). Furthermore, successful leadership embodies a healthy notion of one's true self and a subsequent communion with oneself. (Ladkin et al.:2010)

Subsequently, the instrument designed here to examine leaders' emotive communication ability aims to operationalize emotive communication through the aspects of emotional regulation, assertion, empathy, and agreeableness, as they constitute essential components in successful inter-human interaction.

Emotional regulation

Emotional regulation, control or management consists of the extrinsic and intrinsic processes responsible for monitoring, evaluating, and modifying one's emotional reactions (Thompson et al.:2007) It can be enacted through three different strategies, which can be both conscious and non-conscious: behavioral, cognitive or social. In behavioral regulation, an emotion is turned into action or it is avoided by concentrating on some action. Cognitive strategy refers to an active attempt to turn negative emotions into more positive ones. Social regulation is understood as the social support and encouragement received from an individual's close ones to direct his or her behavior. (Kokkonen et al.:2001; Saarinen:2007; Gooty et al.:2010)

This component of emotional intelligence is included in this study because contemporary personality research regards emotion regulation as a core component of personality functioning and a crucial predictor of psychological adjustment and social competence. (Thompson et al.:2007) Moreover, it

accounts for significant variance in individuals' life satisfaction. (Gannon et al.:2005; Goleman et al.:2001)

Alexithymia, that is, behavior characterized by difficulty to identify feelings or describe them to others is, in contrast, associated with lowered capacity for empathy and for affect-regulating abilities, with interpersonal problems, low quality of interpersonal relationships, and difficulty coping with stress. (Parker et al.:2005) Emotional awareness is therefore seen as crucial for managers' ability to lead teams.

The effective regulation of one's behavior has its roots in meta-cognitive skills allowing the individual to analyze, plan, anticipate and control his interaction. (Rouhiainen-Neunhäuserer:2009) Such reflective ability is an instrument in playing down negative emotions and in fortifying positive ones, contributing to effective managerial self-leadership, which seems to correlate with team productivity. (Simström:2009; Åhman:2003)

Furthermore, leaders high on emotional control are likely to be good nonverbal actors, with the ability to activate emotions on cue and adjust their nonverbal behavior in a way that fits in to different social situations. In contrast, ill-timed or excessive emotional displays may drive followers to perceive their leader as unauthentic or inappropriate. (Groves:2005)

Assertion

Assertion is generally associated with leader success; more specifically, individual differences in assertiveness contribute to observer perceptions of leaders. (Ames et al.:2007) Ideally, leaders are portrayed as argumentative and assertive, which traits contribute to so-called power language that is essential in bolstering subordinate confidence and trust in the supervisor. (Areni et al.:2005)

As its key constituents, clarity, frankness, articulation, errorless message delivery, and verbal directness bear relevance through their association with speaker confidence, eloquence and credibility, and therefore deserve emphasis in this study. People high on argumentativeness are clear, frank, firm, forceful and capable of defending their position, and what is more, not afraid of discussing controversial issues, which all facilitate e.g. conflict management (Pöllänen:2008; Eelen:2001). Low levels of assertiveness may bring social benefits and help the leader get along with people but at the same time undermine goal achievement. Excessive amounts of assertion, in contrast, are known to promote instrumental benefits but at social costs, helping the leader get his or her way. (Ames et al.:2007)

Emotional accessibility

Empathy is a cornerstone in genuine and meaningful interaction, preconditioning that the interlocutors be willing and able to construe each other's points of view. Empathy, both cognitive perspective-taking and emotional understanding of another person's feelings, is a central dimension impacting leader behavior in interaction with others; it contributes to the ability

to apprehend the state of mind of those around and to take into account the reasons and logic behind the interlocutor's feelings. Empathy comprises of factors such as social self-confidence, sensitivity and flexibility, facilitating true dialogue. (Gooty et al.:2010; Johnson et al.:1983; Rouhiainen-Neunhäuserer:2009; Goleman et al.:2001; Lynn:2008). Diverse affective and cognitive factors build and distort employee perceptions and interpretations, and as a remedy, empathic understanding offers a managerial stepping stone for influencing subordinates through emotional means. (Simström:2009; Kets de Vries:2001)

Agreeableness

Finally, *agreeableness* is included as it allows managers to reframe difficult situations in a positive way. (Kets de Vries:2001) Despite studies that argue against any strong correlation between managers' agreeableness and their work performance, agreeableness is pertinent to the leader-follower interaction. (Simström:2009)

Agreeable managers are cooperative, flexible and likable, making it easy for subordinates to approach them. Managers high on agreeableness help remove barriers to open dialogue and communication by reducing the interlocutors' fear of being judged. (Byrge et al.:2009) Approachability is crucial when encouraging employees to present unconventional, innovative ideas or criticism. (Hamel et al.:2007)

The resultative tool designed is an outcome combining modified versions of the relevant items from the ACT (ACT items 3,4,5,8,12,13), topped off with elements listed above from emotional intelligence research and communications studies.

The emerging tool, the Emotive Communication Scale, models the scaling and strategies of its predecessor in that it is built on a 7-point Likert scale and that it uses reversed wording in some of the items (items 8,9,10,13,14,15,16,18). The chosen scale name is synonymous with the original Affective Communication Test, apart from resorting to "emotive", which is more idiomatic in communications research.

Emotive Communication Scale, self-report

The components under examination in the ECS self-report are presented below together with the related statement items:

Emotive Communication Scale, Self-report, pilot version	
Emotional regulation: 6 statement items	
7.	I express emotions at workplace in the presence of others.
8.	I feel uncomfortable when giving feedback.
9.	I get nervous about public presentations at workplace.
10.	I feel uncomfortable at the centre of attention.
13.	I get provoked when discussing with my subordinates.
16.	I have regrets for what I've said.

Assertion:	6 statement items
2.	My messages are misinterpreted.
6.	I can express myself clearly also in challenging situations.
14.	I'm afraid of expressing my opinions directly to my subordinates.
15.	I avoid situations that may raise emotions in others.
18.	I communicate difficult matters by email rather than face-to-face.
19.	I put effort to monitoring how my messages are received.
Emotional accessibility: 3 statement items	
4.	I feel empathetic when hearing about my subordinates' sorrows.
11.	I hug or touch my subordinates at the moment of great joy or sorrow.
20.	When seeing my subordinates, I ask how they are doing.
Agreeableness:	5 statement items
1.	Subordinates give me feedback.
3.	Subordinates reveal their personal matters to me.
5.	I discuss issues outside work with my subordinates.
12.	I feel responsible for our organizational climate.
17.	Subordinates express negative emotions to me.

Table 5. The main components and the related statement items of the ECS self-report instrument in the pilot version.

The twenty test items are organized into a mixed scale of emotive communication skills. (Appendix 4) The pilot sample is comprised of 22 supervisors working in a north-European finance corporation and 78 subordinates offering a peer evaluation of these supervisors.

The results revealed certain handicaps in the instrument. First, only two of the items received responses ranging across the full 1-7 scale. Naturally, this may have been the result of response set behavior, that is, the tendency of subjects to respond systematically to items regardless of content. Especially in self-assessment the items may easily become vulnerable to social desirability.

However, one of the items (16 – "I have regrets for what I've said.") was only responded to with 1s (never) and 2s (almost never), averaging on 2.25 with standard deviation of 0.66. It can be assumed that this particular item tended to direct responses in a certain direction, thus causing response bias. Since this item was worded in a reversed order, the average of 2.25 obtained indicates highly skilled behavior. Goldenberg et al.'s (2006) findings corroborate that respondents may tend to overestimate their EI abilities, but yet, self-report measures provide an adequate index of important EI components.

Similarly, number 18 ("I communicate difficult matters by email rather than face-to-face.") seemed to push evaluations towards the 'never' or 'almost never' end of the scale as the

responses averaged on 1.4 with standard deviation of 1.5. This may be the result of successful communications training and managerial awareness of effective communication practices; the managers in question had attended in-house training and were conscious of the risks related to emailing, especially when delivering bad news. Thereby, the scores given reflected either mastery of communications or attempts at socially desirable responses. Against this background, the formulated statement may have sounded too leading and self-evident. The item was therefore rephrased into 'I prefer communicating even negative issues face-to-face rather than electronically'.

Then, two of the items (9 – 'I get nervous about performing in public at workplace'. and 10 – 'I feel uncomfortable at the centre of attention'.) that were targeted to measure self-confidence and ability to perform in public in a way that inspires other,s failed to meet the target. Their score averages in the pilot group were 2.85 and 3.10 and the standard deviations 1.31 and 1.59, respectively. Further, the pilot study revealed that managers' nervousness or inability to effectively communicate in public did not correlate with overall subordinate perceptions.

On the other hand, during the research process it became increasingly evident that elements related to inspiration and motivation needed to be more intensively underscored. As an example, communication signaling enthusiasm contributes to trust build-up in teams. (McNair et al.:2010) Similarly, leader positivity and optimism, both of which represent factors of inspiration, tend to induce cognitive trust in the leader and perceptions of leader effectiveness. (Norman et al.:2010) Subsequently, the questions were modified to better address the dimension impacting subordinate performance – ability to inspire others. The revised items now stated: 9 – 'I get inspired and energetic when performing in public'. and 10 – 'I am capable of inspiring and motivating others'.

The second weakness related to the vague definition and ambiguous role of agreeableness in the measurement and the research in general. The item overlapped excessively with emotional accessibility and in the end, it was difficult to assess the added value it induced, as outcomes such as approachability and warmth could also be traced to emotional accessibility. As a consequence, the items originally intended to measure *Agreeableness* were moved to the category of *Emotional accessibility*. The subsequent adjustments were also implemented in the ECS other-report scale. In both tests, items 2, 8, 13, 14 and 15 were worded reversely.

Examination of the ECS self-report results in the pilot sample (n=22 supervisors), in contrast with the ECS other-report or subordinate survey results (n=74 subordinates), to identify the level of self-other agreement, indicates a high correlation between item averages. Analysis of the self-report and other-report results reveals that item correlations ranged from -0.16 to 0.56, with an average correlation of 0.26. In humanities and in particular, in self-other ratings, correlations exceeding 0.2 are considered meaningful. In the pilot study, four of the correlations fell below this limit, whereas the other 16 items rose above. When analyzed in groups of male and female respondents, both groups resulted in 5 items with correlations below 0.2, with only one overlapping result (item 17). The table below lists the scale item averages, standard deviations, and response ranges.

self-report				**other report**		
average	sd	range		average	sd	range
n=22		1-7		n=74		1-7
3,18	1,42	1-6	**1**	3,70	1.49	2-7
2,70	1,20	1-6	**2**	2,70	0.66	2-4
4,18	1,59	1-7	**3**	5,30	0.8	4-7
4,57	1,77	1-7	**4**	5,30	0.98	3-7
5,03	1,57	1-7	**5**	5,65	0.93	4-7
4,66	1,56	1-7	**6**	4,55	1.23	2-7
3,82	1,67	1-7	**7**	4,55	1.47	2-6
2,46	1,27	1-6	**8**	3,35	0.88	2-5
2,20	1,41	1-7	**9**	2,85	1.31	2-6
1,96	1,09	1-6	**10**	3,10	1.59	1-7
3,27	2,00	1-7	**11**	4,70	1.56	1-7
4,24	1,64	1-7	**12**	6,00	1.12	3-7
2,82	1,47	1-7	**13**	2,65	1.14	1-5
2,31	1,37	1-7	**14**	2,00	0.92	1-4
2,62	1,21	1-6	**15**	2,85	0.99	1-5
2,14	1,04	1-5	**16**	2,25	0.64	2-4
3,58	1,44	1-7	**17**	4,25	1.07	2-5
2,14	1,17	1-5	**18**	1,40	0.5	1-2
4,16	1,56	1-7	**19**	4,85	0.75	4-6
4,43	1,62	1-7	**20**	4,95	0.89	3-6

Table 6. Averages, standard deviations, and response ranges of item responses in the ECS self-reports and other-reports.

Due to the shortcomings presented earlier and problems of interpretation that surfaced in the managers' interviews, it became evident that some of the statement items needed revision. Also, closer examination of item contents and discussions with the respondents revealed that the dimensions *Emotional regulation* and *Emotional accessibility*, in fact, addressed the same phenomenon, hereon labelled as *Emotional availability*. As a result, the ECS instrument was modified to address the following three dimensions: Emotional availability, Assertion, and Inspiration (See Appendix 4).

Three of the items were revised: item 9 was reworded so as not to direct respondent answers, item 10 was reformulated to provoke genuine feelings in answering, and 16, which had caused confusion in answering, was changed to address inspirational skills. The revised statement items are highlighted in italics below (Appendix 5):

Emotive Communication Test, Self-report, revised version	
Emotional availability: 10 statement items	
1.	Subordinates give me feedback.
3.	Subordinates reveal their personal matters to me.
4.	I feel empathetic when hearing about my subordinates' sorrows.
5.	I discuss issues outside work with my subordinates.
7.	I express emotions at workplace in the presence of others.
8.	I feel uncomfortable when giving feedback.
11.	I hug or touch my subordinates at the moment of great joy or sorrow.
13.	**I get provoked when discussing with my subordinates.**
17.	Subordinates express negative emotions to me.
20.	When seeing my subordinates, I ask how they are doing.
Assertion: 6 statement items	
2.	My messages are misinterpreted.
6.	I can express myself clearly also in challenging situations.
14.	I'm afraid of expressing my opinions directly to my subordinates.
15.	**I avoid situations that may raise emotions in others.**
18.	*I prefer communicating even difficult issues face-to-face rather than electronically.*
19.	I put effort to monitoring how my messages are received.
Inspiration: 4 statement items	
9.	*I get inspired and energetic when performing in public.*
10.	*I am capable of inspiring and motivating others.*
12.	I feel responsible for our organizational climate.
16.	*I get excited about new ideas and change.*

Table 7. The main components and the related statement items of the ECS self-report instrument in the revised version.

To verify the reliability of the ECS scale, the internal consistency of the scale was measured by means of Cronbach's alpha. The purpose was to monitor intercorrelations among the scale items and to verify that all the items measured the same construct, which in this case was managerial social-emotional competence.

The analysis yielded three main components, further in this research named as sub-scales, and the following alphas for the three sub-scales:

1. **Assertion: items 2, 6, 8, 14, 18 and 19. Alpha: 0.88.**
2. **Emotional availability: items 3,4,5,7,11,12,17 and 20. Alpha: 0.90.**
3. **Inspiration: items 1, 9, 10 and 16. Alpha: 0.81.**

The measurements proved 18 out of the 20 revised ECS items to be highly reliable as measurements of the emotional intelligence construct, leading to the subsequent removal of the two redundant scale items, **13** and **15** (marked in **bold** in the Table above), from the final correlation analysis.

Emotive Communication Scale, other-report

A good case has been made for the fact that diverse elements of EI contribute to managerial performance (Dulewicz et al.:2004). As monomethod biases are known to limit leadership studies (Groves:2005) and due to shortcomings in self-ratings for reasons such as self-defensiveness, leniency and attribution bias, this study pursued verification by using also multi-rater assessment. Self-other ratings have their weaknesses, too, being impacted by the extent to which raters have been able to observe a competence demonstrated by the supervisor, which is why the present study selected immediate subordinates as the observer group. Also, individuals with a higher level of self-awareness are likely to achieve higher self-other agreement, thanks to their skill in assessing other people's assessments of their selves and the subsequent incorporation of that knowledge into their self-evaluations. (Dai et al.:2007)

The ECS other-report aimed at unveiling subordinate perceptions of superior performance through 21 questions and comparing these evaluations with supervisor self-reports. 20 of the questions reflected the items in the self-report test, and the final item, number 21, was a control question ('Overall, how good is he or she as a supervisor?') formulated for correlation analysis. Ultimately this phase aimed at exploring any correlations between subordinate views and supervisor self-reports, but it also served as a tool in revealing development needs. Where performance appraisal systems have traditionally been used as vehicles for developing people, they presently serve assessment purposes to an increasing extent. In this research, the measurements were viewed as indicators of development potential and needs.

One of the purported advantages of multi-rater feedback systems is greater accuracy and objectivity. Supplementary to managerial self-reports, multiple rating is expected to reduce rating errors and distortions, and provide a psychometrically sound and valid evaluation that is fair and less biased than, e.g., when resorting merely to supervisor perceptions. The problem that remains is attributable to the subjective nature in general of appraisal judgments. (Fletcher et al.:1998) However, this study approaches leader traits through their perceived impact, not through absolute leadership effectiveness. (Judge et al.:2009)

The statements found in the ECS self-report are found in the ECS other-report, identical contents-wise. The purpose is to acquire other-ratings from subordinates of their supervisor's performance, with the exception of wording, which addressed subordinates as observers. (Appendix 9).

Item analysis was conducted in order to verify whether the three categories (assertion, emotional availability, and inspiration) contributed to the targeted purpose of the

measurement. The results were acquired from the sample that had been tested on (n=52) with the revised version. The resulting item correlations are shown below in Table 8 with items 1-20, the survey average scores (avrg) and control question 21 scores, which inquired about the respondents' overall evaluations of the supervisor ('Overall, how good is he or she as a supervisor').

ECS Item Correlations

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	avrg	21
1	1	,383*	,393*	,595**	,495**	,594**	,347*	,389*	,428*	,510**	,386**	,283	,189	,364**	,400**	,493**	,353*	,463**	,576**	,606**	,677**	,371**
2	,383*	1	,456**	,526**	,430**	,436**	,300*	,618**	,201	,329*	,256	,473**	,519**	,492**	,539**	,325*	,402**	,383**	,502**	,415**	,654**	,529**
3	,393*	,456**	1	,696**	,742**	,360**	,556**	,389**	,250	,474**	,527**	,603**	,219	,235	,353*	,389**	,408**	,489**	,336*	,428**	,696**	,529**
4	,595**	,526**	,696**	1	,766**	,655**	,589**	,565**	,284*	,768**	,572**	,626**	,440**	,436**	,454**	,536**	,273	,651**	,640**	,686**	,883**	,701**
5	,495**	,430**	,742**	,766**	1	,538**	,628**	,502**	,242	,611**	,517**	,578**	,373**	,358*	,544**	,494**	,347*	,569**	,491**	,606**	,812**	,585**
6	,594**	,436**	,360**	,655**	,538**	1	,216	,648**	,423**	,758**	,128	,365**	,391**	,627**	,571**	,442**	-,029	,595**	,681**	,597**	,740**	,638**
7	,347*	,300*	,556**	,589**	,628**	,216	1	,301*	,203	,478**	,503**	,456**	,195	,126	,312*	,501**	,417**	,442**	,320*	,472**	,630**	,345*
8	,389**	,618**	,389**	,565**	,502**	,648**	,301*	1	,390**	,501**	,141	,354**	,294*	,682**	,609**	,415**	,158	,524**	,397**	,418**	,681**	,611**
9	,428**	,201	,250	,284*	,242	,423**	,203	,390**	1	,411**	,283*	,270	,201	,447**	,206	,656**	,103	,358*	,388**	,259	,527**	,236
10	,510**	,329*	,474**	,768**	,611**	,758**	,478**	,501**	,411**	1	,200	,566**	,469**	,432**	,339*	,674**	,074	,634**	,690**	,571**	,781**	,676**
11	,386**	,256	,527**	,572**	,517**	,128	,503**	,141	,283*	,200	1	,524**	,245	,149	,221	,342*	,317*	,411**	,215	,483**	,571**	,276
12	,283*	,473**	,603**	,626**	,578**	,365**	,456**	,354**	,270	,566**	,524**	1	,472**	,262	,288	,503**	,259	,460**	,417**	,589**	,699**	,647**
13	,189	,519**	,219	,440**	,373**	,391**	,195	,294*	,201	,469**	,245	,472**	1	,483**	,309*	,391**	,031	,347*	,479**	,239	,549**	,363**
14	,364**	,492**	,235	,436**	,358*	,627**	,126	,682**	,447**	,432**	,149	,262	,483**	1	,671**	,341*	,043	,430**	,430**	,259	,609**	,365**
15	,400**	,539**	,353*	,454**	,544**	,571**	,312*	,609**	,206	,339*	,221	,288	,309*	,671**	1	,267	,285*	,365**	,284*	,411**	,613**	,425**
16	,493**	,325*	,389**	,536**	,494**	,442**	,501**	,415**	,656**	,674**	,342*	,503**	,391**	,341*	,267	1	,350*	,484**	,543**	,406**	,712**	,347*
17	,353*	,402**	,408**	,273	,347*	-,029	,417**	,158	,103	,074	,317*	,259	,031	,043	,285*	,350*	1	,108	,117	,251	,371**	,197
18	,463**	,383**	,489**	,651**	,569**	,595**	,442**	,524**	,358*	,634**	,411**	,460**	,347*	,430**	,365**	,484**	,108	1	,717**	,518**	,746**	,563**
19	,576**	,502**	,336*	,640**	,491**	,681**	,320	,397*	,388*	,690**	,215	,417**	,479**	,430**	,284*	,543**	,117	,717**	1	,524**	,723**	,500**
20	,606**	,415**	,428**	,686**	,606**	,597**	,472**	,418**	,259	,571**	,483**	,589**	,239	,259	,411**	,406**	,251	,518**	,524**	1	,729**	,590**
avr	,677**	,654**	,696**	,883**	,812**	,740**	,630**	,681**	,527**	,781**	,571**	,699**	,549**	,609**	,613**	,712**	,371**	,746**	,723**	,729**	1	,702**
21	,371*	,529**	,529**	,701**	,585**	,638**	,345*	,611**	,236	,676**	,276	,647**	,363**	,365**	,425**	,347*	,197	,563**	,500**	,590**	,702**	1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 8. Correlations achieved from item analysis of the piloted ECS self-report instrument.

The item analysis reveals that all the items within *Assertion* correlate on a highly significant level with both the survey total average and the control question. Item 7 ('I express emotions at workplace in the presence of others'), two items under *Inspiration* (9. 'I get inspired and energetic when performing in public' and 16. 'I get excited about new ideas and change') and two items under *Emotional availability* (11. 'I hug or touch my subordinates at the moment of great joy or sorrow' and 17. 'Subordinates express negative emotions to me') do not correlate with control question 21.

In conclusion, the three main components or sub-scales surfacing from the ECS are valid for leadership perceived as socially competent by subordinates, even though not all the items under *Emotional availability* and *Inspiration* proved to be effective predictors of successful leadership. In contrast, all items depicting *Assertion* are valid as predictors of social competence, based on item correlation analysis.

5.5.4 Multi-Source Appraisal

In the empirical research, subordinate perceptions were monitored by means of two measurements: 1) Emotive Communication Scale and 2) Multi-source appraisal (360°). The two instruments supplement each other in that the first is focused on communication drawing from emotional intelligence and the second on a more general and comprehensive set of managerial abilities.

In the original, piloted subordinate survey, 15 questions were utilized to address more traditional managerial communication challenges, such as future vision, task allocation and feedback. The survey in question relied on previous research, basing the foci under scrutiny on a measurement by Fletcher et al. (1998) examining supervisor achievement, capacity and relationship dimensions through a Confirmatory Factor Analysis.

However, after the initial testing phase, it was decided to remove the 15-question survey for three reasons. First, 14 of the responses, on a scale from 1-7, averaged well beyond 4 (4.36-5.18) and one averaged on 1.99, indicating that the questions elicited respondent biases. The second and more important reason was the opportunity to use a more validated tool, a multi-source appraisal form (360°), which offers an omnibus or comprehensive assessemts of managerial work, including non-communicative as well as communicative behaviors such as direction setting, problem solving, motivating, resourcing, advising and listening. (Nederström et al.:2010).

WOPI360 is a multi-source appraisal instrument for the comprehensive assessment of managers' and non-managers' competent, good and desired behaviors. The 45-item questionnaire incorporates descriptive statements typical in managerial work situations. The respondents use a 1-7 graphic rating scale to appraise how descriptive each statement is of the target person's habitual behavior (1 = not at all descriptive; 7 = very descriptive). Respondent categories can include the target person himself or herself, his or her immediate supervisor, his or her colleagues, his or her direct subordinates and/or customers, but in study the survey was sent only to subordinates. Subordinate appraisals are averaged to convey an objective picture of the target person's behavior. The use of direct subordinates' perceptions of managerial behavior is clearly justified by the general goal of the present study. However, omission of the other perceiver categories (manager's colleagues and his/her direct supervisor) introduces certain bias, which canbe avoided only in a comprehensive, full-fledged 360 appraisals. In the present study, subordinate appraisals were averaged to convey a maximally objective picture of the managers' behavior.

WOPI360 measures four universal competences (Nederström & Niitamo, 2010) at work: independent action, leadership, cooperation, and planning and problem solving. These competences divide into ten sub-scales reflecting the content of competent, or "good" behaviors. Therefore, competent independent action is characterized by focused and efficient action. Competent leadership addresses directing, motivating and resourcing of people and organizations. Competent cooperation contains communicating, advising and listening activities. Finally, competent or good planning and problem solving is made of operative or practical as well as creative and visionary planning behaviors.

The following table presents the four key competences, the sub-scales underneath each competence area, as well as an exemplary statement for each sub-scale.

Competence	Sub-scale	Exemplary statement
Independent action	Focusing	Focuses truly on the task at hand.
	Efficiency	Takes determined steps towards reaching goals.
Leadership	Directing	Strong and determined in getting things going.
	Motivating	Creates inspiring visions and goals for others.
	Resourcing	Keeps people updated and abreast of things going on.
Cooperation	Communicating	Is open and easily approachable.
	Advising	Advises and supports others in problems.
	Listening	Listens attentively to others' views and opinions.
Planning and problem solving	Operative	Approaches things based on facts.
	Creative	Is inspired by new ideas.

Table 9: WOPI360 competences, sub-scales and exemplary statements. (WOPI Technical Manual:2011)

5.6 Empirical Research Samples

To secure reliability, the present research targeted to conduct both self- and other-reports on a sample as extensive as could be obtained. As it was difficult to acquire sufficient objects from one organization, the researcher set out to rely on several companies, which also served comparative study objectives. While the variety of target organizations served to increase generalizability of the present research findings, such heterogeneity tends to introduce more hurdles for research results in terms of sample-, or company-specific effects. In practice, in the organizations in question the populations formed through the snowball effect, with one or two individuals serving as guinea pigs in the initial phase. They encouraged their peers to participate and eventually the groups grew larger. (Metsämuuronen:2006) Finally, a note must be made that two of the large target companies in the present study were undergoing restructuring and downsizing interventions leading to potential cut-downs on staff. However, it is difficult to judge how the visible unrest in these companies might affect perceptions of managerial behavior.

1. The first target organization to become involved in this study was a Nordic group with a strong focus on commercial and investment banking. The population invited by the company HR function to take part in the study included 45 superiors who had participated in EI training the year before. Out of them, 22 supervisors took part in the study. As a control measurement, 78 subordinates responded to the other-reports. Unfortunately, four of the subordinate respondents had to be discarded as their response sheets contained no indication of the target supervisor, making it impossible

to know who they were evaluating. At a later stage, another six supervisors entered the process, together with 18 subordinates.

2. The second organization to participate represented the forest industry. The invitation letter was sent to a group of 59 supervisors, selected by the HR function on the basis of leadership training they had attended before. Nine supervisors and 55 subordinates took part.

3. The third organization to contribute to the present research was an infra-construction company. The HR function was not involved at all, but instead, the researcher benefited from her direct contacts to the management. All in all, seven supervisors and 32 subordinates filled out the reports.

4. Fourth came in a global ICT company, through a contact that acted as the liaison and orchestrated the involvement of herself and her colleagues. Nine supervisors and 33 subordinates took part in the study.

5. The fifth sample was provided by an originally Finnish but well globalized software business. The invitation was sent to 45 potential managers, out of which 17 contributed, together with 69 of their subordinates.

6. Sixth, an engineering association, the strategy of which addressed the development of engineering education and employability interests, got involved. They made a management team of three and 15 subordinates available to the present research.

7. Finally, a Finnish information security company got involved with participation from its management team. 5 managers and 35 subordinates contributed.

The table below shows that altogether 240 self-reports were acquired on the attending managers and 708 other-reports from their subordinates, totalling 948 different measurement cases revolving around the 80 managers who volunteered to contribute to the present research.

	Supervisors	**Subordinates**	**Superv measurement**	**Subord measurement**	**Total**
Company 1: Finance	28	97	84	194	278
Company 2: Forest	11	73	33	146	179
Company 3: Construction	7	32	21	64	85
Company 4: ICT	9	33	27	66	93
Company 5: Software	17	69	51	138	189
Company 6: Eng. Assoc.	3	15	9	30	39
Company 7: IT Security	5	35	15	70	85
Total	**80**	**354**	240	708	**948**

Table 10. The research populations and the number of measurements completed.

6 RESEARCH FINDINGS

This chapter presents, analyzes and discusses the empirical research findings acquired from the study of the four research questions. The first three questions aimed at basic research and the findings entail predictive or descriptive value. The final research question differs from the first three in being of applied nature.

1.1 Research Question 1: What Predicts and Explains Socially Competent Leadership?

To respond to RQ1, quantitative research was conducted in two stages. In the first, the supervisors took Raven's Progressive Matrices Test for the measurement of their logical ability, the WOPI personality inventory for assessment of their personality, and the ECS for self-analysis of their emotive communication ability.

Both Raven and ECS results were recorded as sum totals, whereas the personality inventory comprised 14 dimensions scales. result was broken down to 14 sub-factors according to the profile dimensions. Altogether 80 supervisors took part in the empirical study.

In the second stage, subordinates expressed their perceptions of their supervisors' abilities by means of the ECS other-report and the multi-source appraisal (360°). A total of 354 subordinates delivered their evaluations.

All the results obtained are listed in Appendix 18 together with supervisor gender and age. As to the other-reports, the ECS scores are keyed in per item average (ia), total score average (sa) and average score for question 21 (21). The multi-source appraisal (360°) results are listed as question item averages.

Any results that are statistically significant (all the sample correlations can be found in Appendix 17) in the quantitative, empirical research conducted, are reported below, indicating that

1) of the measures applied, dimensions of the personality inventory and the total sum result of both Emotive Communication Scale self- and other-reports are more effective predictors of subordinate perceptions than Raven's mathematical-logical scale.
2) the strong correlation between the ECS self-report and a) the ECS other-report sum scales average, b) all the three ECS other-report sub-scales, and 3) all WOPI360 items suggests the validity of the self-report instrument in assessing and predicting managerial capability.
3) control question 21 in the ECS other-report, 'Overall, how good is he or she as a supervisor?' correlates strongly with all the three ECS other-report sub-scales, implying that there is an association with the perceived overall leader competence and the leader's ability for assertion, emotional availability, and inspiration.
4) the ECS self-report sum-scale correlates strongly with the subordinate control question 21 'Overall, how good is he or she as a supervisor?'
5) managers' scores on the mathematical-logical intelligence test correlate with a) leadership motivation in the WOPI scale as well as with b) abstract thinking.
6) variation in ECS performance can be assigned to gender: female managers scored higher in the ECS other-report sub-scale 2 (emotional availability) than men.

7) age contributes to a decrease in a) mathematical-logical intelligence, WOPI b) sociability and c) optimism scores, whereas intuitive thinking seems to increase with age.
8) a manager's self-reflection correlates with his or her self-perceived a) ability for assertive communication and b) inspiration but not with other-reported views of these same dimensions.
9) a manager's self-reported sociability score correlates with other-report sum scale, that is, the overall subordinate impression on his or her emotive communication ability.
10) a manager's level of optimism correlates negatively with his or her age and self-reported empathy but positively with a) his or her self-reported ECS total score, b) his or her self-reported ECS sub-scale scores 1 (assertion) and 3 (inspiration), c) self-reported competition motivation, d) self-reported leadership motivation, e) self-reported sociability, f) self-reported speedy decision-making tempo, and g) self-reported tolerance of ambiguity and change.
11) a manager's level of reliance on others correlates positively with his or her self-reported a) ECS total score, b) sub-scale 3 score for inspiration, c) sociability, d) creativity, e) self-reported intuition, and f) tolerance of ambiguity and change.
12) a manager's competition and leadership motivations decrease with age.
13) a high self-reported total emotive communication ability correlates with the manager's self-reported a) inspiration, b) sociability, c) speedy decision-making, d) tolerance of ambiguity, and optimism.
14) control question 21 ('Overall, how good is he or she as a superior'), the three ECS sub-scales and all the multi-source appraisal (360°) items intercorrelate strongly. This provides evidence that a) the multi-source appraisal (360°) is a valid instrument in appraising an individual's managerial skills, b) a simple question monitoring subordinates' overall impression on their manager provides an accurate evaluation of the manager's overall managerial competence, and c) all the three ECS sub-scales are valid predictors of managerial competence.
15) high focused achievement motivation correlates negatively with the sum average of ECS other-reports but positively with the manager's self-reported a) competition motivation, b) leadership motivation, c) abstract thinking, and d) careful decision-making.

In sum, the results demonstrate that mathematical-logical intelligence does not predict social competence in the leadership position, nor do high leadership, competition, or focused achievement motivations. In contrast, a manager's self-reported sociability, assertion, emotional availability, and inspiration explain for variance in subordinate perceptions. As high scores in self-reported and other-reported emotive communication ability correlate with positive subordinate perceptions, it is in order to further explore and understand the role of socially competent communication in workplace interaction.

6.2 Research Question 2: What Type of leadership or Communication Styles Are Perceived as Most Socially Competent by Subordinates?

The findings from the empirical study accord with the original conceptualization of managerial social competence offered earlier in this work in that they corroborate subordinate impacts induced by emotive managerial communication. This is supported by the overall results from the population as well as by item correlation analysis of the ECS instrument.

The overall results demonstrate that the ECS self-report results strongly predict subordinate assessment of their leader's managerial competence. In the present sample, subordinates seem to value social skills in their managers more than mathematical-logical intelligence.

Item analysis of the ECS results corroborates that effective managerial communication is founded on assertion, emotional availability and inspiration. The figure below delineates the building blocks of emotive managerial communication as well as their key expressions.

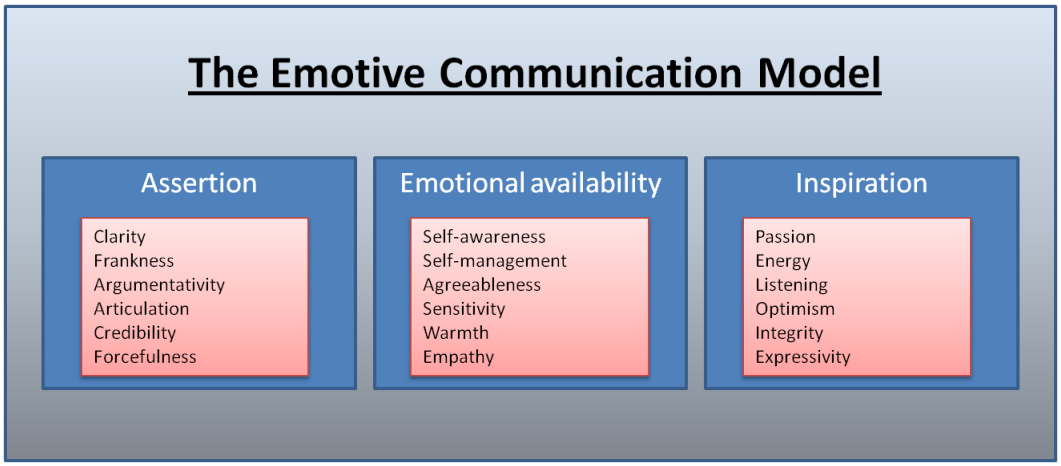

Figure 7. The Emotive Communication Model.

Admittedly, two of the dimensions addressing emotional availability did not correlate with subordinate perceptions, probably for cultural reasons as they dealt with touching and emotional displays at the workplace. A subsequently more appropriate means of demonstrating closeness and care is managers' frequent attention paid to employee performance and well-being, and small-talk about issues that do not necessarily revolve around work. Superior-subordinate conversations do not have to be deep and meaningful; the quantity and frequency of interaction seem to effectively elicit employee feelings of being valued and important.

The WOPI 360 multi-source appraisal used was responded to by 354 subordinates and the results show that the managers observed seem to be practicing what they preach as evidenced by the high score for approachability (total sample average 5.96). They also received high scores for focused achievement (6.11) and persistence (5.80) on a scale from 1 (poor) to 7 (outstanding). Naturally managerial efficiency and effectiveness serve productivity targets and help model performance that is result-oriented and goal-driven. However, taken to the extreme, too much focus and persistence may prove to be detrimental in managerial work as they eat away time and energy from interaction with subordinates.

In contrast, the lowest score emerged from the dimension that addresses inspirational communication or the ability to create inspiring visions and goals (4.90). Being capable of

leaving people excited and energized brings added value by engaging subordinates in the operations and creating resonance that boosts productivity. Lack of inspiring elements could be tackled with training to allow supervisors to rehearse communication strategies that elicit audience passion and motivation. Among such strategies are e.g. active listening and expressivity.

An alarming finding was induced by the managerial wellbeing statement (4.97). Management of one's own wellbeing in a managerial role is decisive as it sets the example for the entire organization. Ignorance of human physical limitations and mental attrition is short-sighted and jeopardized productivity.

The sample managers did no better in the management of subordinate competences (4.99). Many of the managers felt this responsibility was out of their hands and that they were between a rock and a hard place as their unit's operations and responsibilities did not leave room for this type of personnel development. They claimed their team could hardly cope with their daily routines, let alone spend time on planning and implementing competence development measures. They could only hope that their subordinates could find satisfaction in developing their competences on the job.

6.3 Research Question 3: How Do Socially Competent Leaders Develop Their Communication Style and Social Competence?

> *"When trying to cope with my alcoholic father as a teenager,*
> *I decided I would one day be a better father myself.*
> *And I see myself as a father also in my role as a supervisor." Case 8.*

The data obtain quantitatively opened the curtains on many of the leadership issues raised in the present study. However, as there is often more than meets the eye, the statistical results should not be regarded as absolute, objective truths but rather be treated with caution. Indeed, it has been argued that the outputs of qualitative research may be of more relevance to the field of management research and practice than those of quantitative methodology. (Cassell et al.:2006)

To achieve a more comprehensive research contribution in this study, a method was called for that allowed to involve contextual and personality concerns. (Gummesson:2006) To give voice to the individuals examined and to gain access to their subjectivity, narrative methodology was adopted in the qualitative research. (Osgood:2010)

To let the interviewee narratives surface, qualitative interviews were conducted following a semi-structured questionnaire. The 16 supervisors who received the highest scores from their subordinates were selected for the interviews. The supervisors were asked to reflect on three questions:

1) How would you describe your managerial communication style?
2) What do you think accounts for your positive subordinate assessments?
3) How did you become who you are – how have you developed your social competence?

Altogether 16 supervisors were interviewed, for 30-90 minutes each, in order to document any best practices cultivated by the leaders perceived as socially competent. The thematic interviews were structured freely around three questions, with the atmosphere kept as casual and informal as possible to encourage the interviewees to open up about their private experiences and life history.

The interviews are recorded here as qualitative narratives, with each supervisor treated as a case. Any consistencies and regularities are compiled under the "Case study analysis" section in categories emerging from the interview discussions.

Case 1. Female, 28 years

1) "For me being interested in my subordinates' well-being is just part of my work. I have a very open style, I easily express my emotions and share my thoughts, both positive and negative ones. But I think I could give more feedback. I expect my subordinates to come up with solutions to problems, but I also give them time for that. If I have something on my mind, I walk to them instead of asking them to come and see me.
2) I'm always available and accessible, empathetic, I can interpret and read others and adjust my conduct accordingly. Social situations are easy for me; I find it equally easy to talk with our CEO as with lower-level employees. I have an understanding of what my subordinates do for I have worked in the same tasks myself. Sometimes I give them a hand in their tasks, perhaps I do that too readily.
3) I believe my upbringing has made me who I am. I was raised to know how to deal with both 'kings and peasants', as my mother used to say. I was taught to be humble, and my mother emphasized how important it was to know how to interact with different kinds of people. I have tried to learn from my supervisors, but also my own experiences have changed me. I have also found our in-house courses and the feedback I've received useful."

Case 2. Male, 44 years

1) "Since my team is small, I'm more of a colleague than a supervisor. I value and respect my subordinates; our interaction is based on trust. I'm also strongly result-oriented. My communication style may at times be a bit unclear. I'm not too authoritarian; instead, I aim at a two-way dialogue. My subordinates are mathematicians to whom their projects are important. I set the framework, but together we decide on the time lines. It is important for me to be available and accessible.
2) I believe the positive evaluations I received from my subordinates stem from the open dialogue that we engage in.
3) The profiling measures we've taken in our teams have helped me learn, even though I have been aware of the importance of social competence already before. The army time I served at Reserve Officer School was beneficial as it provided me with some of the competences that are needed in my current role."

Case 3. Female, 40 years

1) "My subordinates work with details - it is my job to keep an eye on the bigger picture. I like to organize and others probably find me quite organized because I take care of tasks and chores right away. I share a lot of information with my team, sometimes perhaps too much, but I don't like to hold back.

2) I'm open by nature, it's better to talk things through. We had a lot of problems in our team earlier but we managed to sort them out. I don't have problems receiving criticism and I'm particularly active in giving positive feedback on a very personal level.
3) I believe the losses I've experienced in my life have had an impact on who I am. I come from a warm and loving family where our mother has always done her utmost to protect us children from anything bad. My father died suddenly when I was 10, leaving my mother and the four of us children devastated. One of my older brothers became a father figure to me, our chemistries worked well together. Unfortunately he died last year, which was a shock to the entire family. I also lost a friend who died some years ago. The most painful loss was my sister's baby-grandchild's death a few years back. All these sorrows have made me more empathetic. Also, they've given me perspective, I no longer get upset over little things."

Case 4. Female, 43 years

1) "I allocate responsibility to my subordinates and trust them. Sometimes they feel insecure and that's when I try to help them grow more secure about themselves. I try to communicate as much information and as fast as possible. If there's negative news to be delivered, I try to do that as positively as I can and explain that this is the reality. I may even admit that this was a poor decision but I always explain and give background justifying the decision. When I have something to say, I always go and see my subordinates face-to-face.
2) I'm close with my subordinates. I try to keep them informed without delays. I constantly think about what I could do better, which is why I appreciate our in-house courses. I often stop to think about what to do and how to do.
3) Training has been good and I learned a lot at home. I've also been interested in psychology, I like to read. And I believe that with age I've developed and grown more mature. I've also noticed how one of my previous supervisors also improved with age and experience."

Case 5. Male, 45 years

1) "I treat people equally. I've grown more confident; I have gained security by having done in practice everything, all the tasks that I now have to deal with. I'm interested in people; I listen to how they are doing. I react when I disagree with them. I communicate with my people every day. The ones I like the least I seat closest to me. I communicate a lot, and I've stopped being afraid of revealing my true self.
2) I have taken conscious decisions: when I was younger, I was an insecure leader. I believe my scores were high compared to other leaders here as the overall quality of leadership in our organization is not very good. I master the subject matter and find it easy to encounter other people and navigate in social situations.
3) I'm from Karelia but that doesn't explain it all. I treat others the way I want others to treat myself. I always side with the weaker ones, I'm sick of hypocrisy. I know I'm evaluated every day, and that's why I've stopped trying to be what I'm not. What has changed me most was my father's death when I was 17."

Case 6. Male, 36 years

1) "I'm a visionary who shares responsibility to allow others to grow and learn. I'm a strong personality who tries to identify weaknesses in those around. I communicate openly also about my personal, negative issues.
2) I systematically build my team and consider what types of people are needed in it. I focus on creating an atmosphere that is found challenging. I remove communication barriers and lower the bar as to which issues can be talked about in our organization.
3) My personality has been strongly impacted by my childhood milieu; my father was a strong personality whose emotions varied a lot, I had to learn to read and interpret his moods. I'm interested in ways of influencing others; I read books on behavioral psychology and consult my sister, who's a psychologist. Personal crises such as my divorce, child's severe diagnosis and death in the family have changed me, I've learned to talk. Previously I was only open about positive things."

Case 7. Male, 58 years

1) "I give space and in a way 'force' others to work independently to allow them to grow. I don't mind mistakes; I often resort to humor when dealing with failures and negative issues. I give positive feedback only scarcely. My communication is constant ad hoc messaging. I gave up my own room as I found it easier to be amongst my subordinates.
2) I treat my subordinates as peers. I value them and care about them. I urge them to exercise and to quit smoking.
3) I'm from Ostro-Bothnia; I'm not talkative by nature. But life makes you learn. When I lived abroad I had no choice but to learn to talk and communicate."

Case 8. Male, 52 years

1) "I tolerate and accept mistakes because I want to encourage others to exceed the boundaries of their capability. However, if they make the same mistake for the third time, I get upset. It also upsets me hearing people say that some task is not within their responsibility. I would like to see my subordinates give their heart and soul to the tasks at hand. When my experts speak, especially in front of a customer, I remain quiet and refrain from commenting, supporting their message even when I disagree. I want to trust their expertise and signal outwards that they have my trust. Attentive and careful listening is important.
2) I genuinely care about my workers, for me they are human beings with each of them having potential if they only believe in themselves. I also care about their sorrows and feel for them.
3) When struggling with my alcoholic father as a teenager, I decided I would one day be a better father myself. And I see myself as a father also in my role as a supervisor and it is not a question of age, being older than my subordinates. Also, as I haven't educated myself much, I have consciously focused on being competent at work."

Case 9. Female, 43 years

1) "I base my managerial work on interaction. Even goal setting, which I consider extremely important, is carried out in collaboration with my employees. Together we define the goals we want to reach and the concrete measures that need to be taken. For us goal setting is a continual, interactive process. I try to communicate as simply and unambiguously as possible. But first it is of the essence that I simplify the message to

myself and focus on understanding how the message will impact my subordinates. I try to comprehend what matters to them and what they find essential. Honesty is important and I also pursue openness, to the extent that I can. This brings along challenges, what to tell your subordinates if you personally don't agree with some upper management decision?

2) I value my subordinates to the extent that I regard myself as their servant. Being a leader is not the thing for me, the position does not matter. I'm here for my subordinates. Also, I'm highly excited and inspired by my work.
3) I used to be socially inhibited and shy. But I've experienced some dramatic events in my life that changed me and provided me with perspective. My parents got divorced when I was 11, my father committed suicide when I was 25 and my own marriage ended in a divorce when I was 35. I also feel that my children have helped me develop, especially now that they are teenagers. Moreover, I think some aspects of my work have helped me grow more open and self-confident; especially, having received respect for my professional expertise and my employer's commitment to my own development have enhanced my self-confidence."

Case 10. Female, 35 years

1) "My leadership style could be described as participative; I try to make everyone feel part of the team. I follow closely what my subordinates are doing, but I don't have to try and control them as I have full faith in their capabilities. For me being a leader is more about coordinating than managing things; my employees know what they are doing. We collaborate a lot, sometimes we actually accomplish some of the operative tasks together but on the other hand, I give them a lot of space so that they can take credit for their successes. I provide them with plenty of freedom and reward for work well done. I try to identify what kind of information and knowledge my employees need. I focus on being open and honest, I expect all of us to be able to discuss also negative things. In HR we deal with issues of utmost confidentiality and I'm grateful I can trust my subordinates to the extent that I don't have to express it every single time I want a matter to be kept confidential. I rely on the expertise of my subordinates by consulting them and thereby acknowledging their expertise. Some time ago I got a team member who was regarded as difficult by others, but I quickly gained her trust by trying to learn from her and by publicly acknowledging her competence by asking a lot of questions and not shutting her out.
2) I believe the key to motivated subordinates is working together, without controlling them. I'm socially quite apt and reading other people is easy for me. Working together has proven to be a good way of eliciting trust within our team.
3) I'm from a Karelian family where I learned to cry and laugh. In my childhood home I received full support for everything I did, I was given space and trusted in all my dealings. I became accustomed to showing my feelings and expressing emotions. Also sports (I was a competitive skier) have been a good school for me, especially the related social situations and losses. I've been lucky to have had competent superiors from whom I've been able to learn, and naturally, having children brought out the softness in me but also the reality of scheduling, it is easy for me to prioritise now. I used to work long hours but thanks to my children, it's no longer possible. My life is happy, with all its spices. I still have my childhood home and my parents who have never judged me, and good relationships with my family. It is easy to succeed when you are whole."

Case 11. Male, 45 years

1) "I'm a servant leader. My subordinates are the ones accomplishing the work, I merely help and support them by making sure the circumstances are right. In my free time I engage in national defence activities but instead of becoming authoritarian, this has taught me not to ever humiliate my employees in front of others. When I was younger, I once ordered my privates to dress in an inappropriate way for some army activity, and when my own supervisor asked who gave such an order, I took responsibility. He only nodded, not saying a word in front of my subordinates. Later on, in private, he criticized my order. I learned how important it is to support the authority of my subordinates. Whenever I have anything negative to say, I try to say something positive, as well. It is my principle to never badmouth one employee to another one, and I never humiliate anyone in front of others.
2) I've known all my employees for a long time, with some I've worked with for as long as 15 years. Our history has taught us how to communicate with each other and how to approach each individual. I'm always on their side, even when they've failed. I never abandon them; we're a team and together we take the responsibility for mistakes. I once had a somewhat 'difficult' lumberman in my team but once I found out he trained dogs, I found a way to connect with him through that subject. Whenever something difficult needed sorting out, I always started the dialog form the topic of dogs, getting him attuned, after which it was no problem getting him to collaborate.
3) I was raised by a strong woman, my parents got divorced when I was 7. My childhood was rough, with my father being an alcoholic. Even though we were quite close, there were a lot of issues where I hoped I could become different from my father. I spent a lot of time with my grandma, who was hard, in a negative way. Later on in life there have been hardships, as well. My wife suffers from a mental illness; she almost died when our child was an infant. But I can manage and keep my head together, thanks to my hobby, motorcycling."

Case 12. Male, 34 years

1) "I put a lot of effort to setting clear and demanding but realistic goals for my subordinates. I go to great lengths to support them and to provide them with all the needed information so that they can meet their goals. I myself hate failing so I do what I can to help my employees avoid failure and to accomplish the best possible result. I like to communicate the important messages and factual information in writing so that it leaves a permanent mark and a note for future needs. But I always take care of personal and intimate matters face-to-face or over the phone. I share all the information that I can with my subordinates but naturally there is knowledge that cannot be delivered to employees. I appreciate and protect the privacy of my employees by sustaining the confidentiality of personal matters at all times.
2) Our interaction is characterized by openness and working together. Ultimately I of course bear the responsibility, I make the decisions when needed, but other than that, we accomplish things together.
3) My life story is somewhat tragic. My father suffered from mental health problems; he was depressed and ended up committing suicide when I was only 10 years old. He was a good person and a good father, and losing him came as a total shock to me. I think this loss has, however, taught me a lot and has turned into something that could be described as an asset: I learned early what really matters in life; I understood what can

be bought and replaced with money and what not. I learned that what is really valuable in life is other people and relationships. After my father's death I got great comfort from my mother and my siblings and we became extremely close as a family. We lived in a farm so after my father passed away, we just had to get the work done. I believe this taught me to take responsibility and now I even feel that this tragedy has made me stronger."

Case 13. Male, 49 years

1) "My leadership style is participative; I readily roll up my sleeves and get involved in operational work. I'm result-oriented and competitive, mostly against other service providers but also against other people in almost any situation. I'm also highly ambitious. I try to communicate face-to-face as much as possible and leave only very general information to the email. I speak with my subordinates on the phone while commuting. I've made sure they all have clear goals, the official agenda that is followed up. I try to be fair and treat everyone equally so that they all know, e.g. on which grounds people get to take part in our social happenings. What is missing in our corporation is a coffee break culture; I wish we could regularly sit down together and just enjoy our coffee.
2) I believe my subordinates appreciate the fact that I interact constantly with them and also that I master my own area well. I'm good at problem solving and easily approachable. I'm in a bad mood only at home. At work I wear a professional mask and at home a private mask.
3) I believe the losses I've experienced have moulded my personality and have made me see things in a new perspective. I stop more to think about things, how I approach them. I had lost both of my parents by the time I was 40 years old and I'm now the oldest male in our entire family. I was there, for all of them, at the moment of death. I was very fragile and sensitive as a child; I experienced all feelings very strongly. Some see Dr. Jekyll and Mr Hide in me, they claim they can see in my eyes when the mode changes. Usually this happens when I experience unfairness or when people don't do what they should."

Case 14. Female, 34 years

1) "I focus on listening, and my leadership style could be labelled as coaching. I find it important to articulate clear goals but I expect my subordinates to figure out themselves how to reach the goals. I provide support but no direct answers (which I don't always even know as I haven't done their jobs). I demand a lot, I expect them to be active and to take the initiative but I'm also flexible and appreciate diverse ways of reaching the same goal. Openness is of utmost importance to me and facing each other directly and openly. There are no secrets between us. Our communication is not just about facts, for me communication is much more. If I disagree on a top-management decision, I openly express it to my underlings but I always emphasize that work still needs to get done. I aim at being clear and encourage also others to make sure that everyone has understood what we have decided.
2) I enjoy working and succeeding together; the finest things in life are the ones that one can share with others. For me the people always come first. I confront difficult issues directly, without secrecy. I'm fair and systematic – I always provide justification for my decisions.

3) What has influenced my personal development the most is the fact that I'm the eldest of us, three sisters. When I was 12, my youngest sister was diagnosed with cancer and I know it just had a huge impact on our family. I used to be shy but at my teens I consciously took the decision of changing to a high school where I didn't know anybody as I wanted to start afresh. Also my year as an exchange student transformed me; I became more spontaneous and communicative. I have always looked for roles where I can take responsibility for others. When I was young, I was involved in scouting and became a leader scout at the age of 12. During my university studies I became chairman of our engineers' guild."

Case 15. Female, 51 years

1) "I listen a lot and focus on interaction. I'm responsible for decision-making but not before I've engaged in dialogue with my subordinates. I'm quite thorough in gathering data before taking decisions, I don't decide based on my emotions but rather based on facts. I stay calm, no matter what, and am known to be an asset in conflicts as I don't lose my temper. I don't use social media, instead I like to talk to people face-to-face and if that's not an option, then on the phone. I'm fact-oriented and try to make a clear, concise point, sometimes perhaps too much so.
2) I'm good at listening, and despite my factual orientation, I'm also quite empathetic. My subordinates don't have to worry about my reactions. I don't spend time complaining but rather, I persistently pursue solutions.
3) I've encountered hardships in life and I believe these life experiences have made me who I am. My biggest crisis was my infertility; it took me seven years to get through the different stages of the crisis. I learned that you cannot control life and in my HR tasks this sorrow serves as a reminder that even our top employees may go through experiences that make them weak or less effective and they have the right not to be 100% productive all the time. I believe my history has made me more empathetic and people sense that, they easily come and share their personal distresses with me. What saved me was professional help and most of all, peer support from our church."

Case 16. Female, 52 years

1) "I treat others the way I expect to be treated. Sometimes I have to rule and give orders but mostly I go to great lengths to motivate my subordinates. I deal with issues as they come, right away. I encourage my people to assume responsibility and in return, I provide flexibility, e.g. with working hours. I've also realized that money is not the best incentive; instead people have to like it here. I'm open; we talk a lot, also about private matters. I cannot help my subordinates if I don't know what's going on.
2) I believe they appreciate my way of encouraging them to go the extra mile. I make sure they understand which aspects of our operations are being monitored and measured company-internally. For me personally, a key goal for everyone in my team is to demonstrate service-mindedness.
3) What has moulded me most is the fact that I went to the Catholic elementary and secondary schools in Helsinki; that really taught me discipline and order. It also gave me self-assurance and confidence. Later on I lived for three years in Moscow, being in charge of ethical responsibility in our operations. The culture was so different; I always had to know how to justify our actions. On purpose, I had to simplify my communications style to make sure others knew what I meant. During that period I had a supervisor who was a great role model to me."

6.3.1 Case Study analysis

"It's easy to succeed when you are whole." (Case 10)

The interviewees were given plenty of latitude in approaching and elaborating on the interview themes in the qualitative, semi-structured interviews of the managers perceived as socially competent by their subordinates. Therefore the discussions were framed only by means of the three interview questions, without defining the targeted result categories beforehand. The purpose was to allow, following abductive reasoning, central findings to emerge from the research targets themselves.

Certain consistencies emerged in the managers' accounts, leading to the forming of three categories under which the revelations most essential for the focus of this research could semantically be grouped. The findings will be treated in this section under **Life experiences**, **Attitude to self-development**, and **Reaction to individual research results**.

Life experiences

Two types of tracks surfaced in the interviews. The first was introduced by the three supervisors who had not suffered from tragedies or dramatic life events and whose childhood had been a happy and balanced one. They claimed their childhood home provided a safe haven that helped them grow into balanced, whole individuals, and consequently they emphatically gave credit to their upbringing, parents and childhood environment in general - for them their past was a resource that had made them who they were. Their strong appreciation of their background and childhood home signalled a high level of gratitude but also awareness of being fortunate to have had such an unusually happy past. They looked back, acknowledging how acceptance, uncompromised support and parental love had allowed them to learn how to treat other people in a way that is supportive of their managerial role. This gratitude was not only directed to their parents but also to life in general for they acknowledged that life does not treat everybody equally and that they had had more than a fair share of life's blessings.

The second track emerged through the interviews of those who had suffered from stressful life events. Many of them fostered painful memories of their parents or childhood home and had, often quite early in their teen ages, decided to become something totally different from their mentally handicapped or abusive parent. Some even made a far-reaching decision of one day becoming a better parent themselves, which also moulded their role as a supervisor.

Many of these managers expressed interest in workplace psychology and human interaction, to the extent that they consulted psychology literature to expand their expertise in the field. Some found their social skills stemmed from childhood where they learned that being humble and treating others with respect, irrespective of their background or status, was an asset. Others identified the critical incidents in their past such as death, illness, divorce, or alcoholism in their childhood home or prior life as events that had changed them or had instigated personal growth and pursuit of development as human beings.

These self-observations coincide with recent findings from the field of psychology, which claim that there is personal gain to be found in suffering. The topic of growth following

adversity has recently become a focus of empirical research[15]; as an example, social and behavioural sciences have established that stressful events can provoke positive psychological changes. (Joseph:2009) In literature, these changes, labelled as posttraumatic growth, are now known to induce appreciation for life in general, more meaningful relationships, sense of personal strength, changed priorities and a richer spiritual life. However, the positive impacts are not automatic; rather, it is assumed that the prerequisite in turning trauma or crisis into positive outcomes is the individual's ability for cognitive processing, which was underscored also in the above qualitative narratives. (Tedeschi et al.:2004)

Attitude to self-development

Most managers perceived as socially competent seemed genuinely eager to identify means of effective self-development. Some resorted to personal contacts with professional expertise in psychology or work psychology; others relied on management literature and psychology books. All in all, they took concrete measures and put efforts and time to studying and learning, feeling that their current competence was not enough.

Many women also articulated and acknowledged the impact of parenthood, claiming that children had motivated and speeded up their personal growth. They felt that having to look after someone else's best interests and comfort had reduced their level of self-centeredness, increased patience, helped in defining overall life priorities, and supported organization and management skills in a way that made multitasking easier.

Further, some managers recognized emotionally intelligent adult role models in their childhood environment and claimed that without their example, they would not be who they were today. Naturally they had not, as children or youngsters, understood the role of these individuals as anything more than providers of security and comfort, but looking back, they appreciated the example these adults had set and believed they were more and more consciously following their path in self-development and personal growth.

Reaction to individual research results

Observation of the respondents receiving feedback revealed some patterns in their reactions and self-management. The feedback sessions held with the rest of the managers, those who received average or lower-than-average scores in the surveys, also revealed interesting personal philosophies and ways of responding to feedback from the environment. Many seemed to be in denial, eagerly seeking explanations for the poor results from factors outside themselves. Some belittled the judgment of the subordinates; others put the blame on the organization in general, claiming it was difficult to do well as a manager in the circumstances that prevailed. Quite often the blaming finger was turned to their immediate supervisor for lack of a role model, support or guidance in managerial tasks.

In general, these supervisors gave the impression of wanting to make a fast exit from the interview situation and were in overall not interested in hearing about the research or the results within the organization. The table below compiles the key differences in the attitudes and reactions between those whose results were above and those whose results were below the average.

[15] Even new fields such as Positive Clinical Psychology are emerging as a result of this recent focus. (Wood et al.:2010)

Respondent group	Typical expressions and comments	Overall reaction and attitude
Managers with higher-than-average scores	• I love what I do and want to learn more and become better. • I've been lucky in many ways. • The title is not important. Being a manager is not the thing for me, I would be happy as an expert, too. • I'm grateful for having had supervisors that I've been able to model after. • I was regarded as inspirational only because my predecessor hated performing in public and compared to her, anyone would be OK. • I don't think my subordinates would have appreciated my style earlier but thanks to my kids, I've grown and learned a lot about leadership.	• wanted to reserve plenty of time for the feedback session • seemed genuinely surprised at the positive subordinate ratings • asked a lot of questions regarding the measurements and the research results in general • expressed enthusiasm about the research topic and gratitude for being allowed by the employer to take part • tried to explain for the good scores with external, environment-related reasons or with luck • paid particular attention to their lower scores, wanting to know how they could develop themselves or improve their performance in those areas • readily accepted the poorer scores and included the related themes in their personal development agendas • reacted good-naturedly or with humor to their lower-than-average logical intelligence scores
Managers with lower-than-average scores	• I'm not at all surprised by the results. • I think I know which of my subordinates gave these scores. • Our organization does not support leadership. • If more of my subordinates had responded to the survey, the results might look different. • This is who I am, what can one do to change his personality. • Would it really do any good to adjust my communication; my subordinates wouldn't notice that anyway. • One can interpret these results in different ways, depending on what you're looking for.	• tried to explain for the results with the circumstances, the organization or the subordinates • most were in haste to make an exit from the interview situation • some asked what the researcher intended to do with the results, instead of stopping to think how they could use the results for their own advantage • many commented that the results were exactly what they had expected and that there was nothing that surprised them • some tried to fish information about which of their subordinates had responded to the subordinate surveys

Table 11. The key themes and attitudes that surfaced in the thematic interviews.

6.3.2 Comparison of Qualitative and Quantitative Results

The premise taken in the present, qualitative research was that a manager's emotional and social competence impacts subordinate perceptions of the manager's leadership ability. One of the cornerstones of social-emotional ability was self-awareness, which was placed under scrutiny in both the quantitative testing and the qualitative narrative analysis. As the other-reports assessing managerial emotive communication ability correlated at a significant level ($p<0.01$) with perceived successful leadership, it can be concluded that subordinates regarded managerial social-emotional skills as decisive for leadership. A subsequent focus was put on observing signs of emotional self-management and means of implementing it in the narrative descriptions.

The qualitative narratives revealed differences in managerial self-management ability. The supervisors with scores above the average were humble, acknowledged their handicaps and deficits, and were willing to put forth an effort to improve and develop themselves. They did not resort to external factors to account for weaknesses revealed in their assessment. They took responsibility for and readily accepted what and who they were, demonstrating self-awareness and self-acceptance, but yet determination and willingness to grow.

In contrast, the supervisors whose scores were below the average cultivated opposite types of reaction patterns. They felt the poor scores were someone else's fault and that there were explanations for their results beyond their own performance. They were also keen on knowing *who* had given the feedback and *why*, and focused more on the feedback source than on why their performance was perceived negatively. Eventually subordinates start sensing that their supervisor cannot take feedback, which will result in communications shutting down and the supervisor ceasing to obtain critical information from their team. Inability to accept criticism, even constructive, was difficult for them, implying the need to develop this particular area of self-management.

The narratives corroborate the significance of self-management in supervisory positions. They also prove the importance of self-awareness and ability for continuous improvement and lifelong learning.

Assertion or clarity and frankness of communication, emotional availability, and inspiration were confirmed by both the ECS other-report total sum average and the multi-source appraisal (360°) as dimensions instrumental for successful leadership. In the interviews the successful managers articulated their efforts to be clear, to the point, open, fact-based, warm, approachable, and direct in their communication.

Raven's ability scale results did not correlate with subordinate satisfaction with their supervisor. Some of the managers who performed outstandingly in the scale and did poorly in other-reports, offered an explanation for their contradictory results: they believed that highly intelligent people were less patient than others and found perspective-taking difficult. As one of them commented: "I realize I'm sharp and fast, and sometimes it infuriates me how slow the others are. I don't have the patience to spell everything out".

6.4 Research Question 4: How Can Social Competence Be Learned, Developed and Taught?

Engineering education should respond to competence development needs arising from industrial methods and processes. In addition to substantive, field-related engineering expertise, today's universities should meet needs related to working life skills, or transferrable or professional skills. The table below offers a brief review of the knowledge types and competences relevant in today's organizations.

Sanchez:1997	Houseman & Goodman:1999	Nonaka, Toyama, Nonno:2000	O'Rourke:2007	Kets de Vries:2007	Lappalainen:2011
1. Know-how 2. Know-why 3. Know-what 4. Know-who	1. Public knowledge 2. Industry knowledge 3. Company knowledge	1. Explicit 2. Tacit 3. Ba	1. Technical 2. Relational 3. Conceptual	1. Surgency 2. Sociability 3. Receptivity 4. Agreeableness 5. Dependability 6. Analytical intelligence 7. Emotional intelligence	1. Substantive knowledge: technical + industrial 2. Intrapersonal skills: self-regulation + discipline 3. Social competence: assertion + empathy + inspiration

Table 12. The knowledge types relevant in today's organizations.

This section leans largely on the empirical findings uncovered through the treatment of the above research questions in the empirical research. RQ4 asks: "How can social competence be learned, developed and taught?", attempting to bring pragmatic value to the treatment of the first three research questions. This final question grapples with the findings reported in journal articles published by the researcher, and papers presented by the researcher in international conferences. This section is also founded on the researcher's work experience as a university lecturer. As a response to the literature review presented in Chapter 2, this part of the work sets out to identify how social competence could be integrated into university education and corporate training.

The aim here is to propose pedagogy that helps meet the emerging education requirements by responding to the key question: How to educate socially competent leaders? Despite the emergence of theories explaining how teams, organizations, or communities change, the processes through which individuals change as a result of education, coaching or training are not understood, making it difficult to pursue desired, sustained change. Ideally, education and training promote a permanent capacity change that does not result from maturation and that simultaneously involves the individual's cognitive and social processes. (Korpelainen:2011)

In education such a change typically aims at altering action, habits or competences but a more holistic view to competence development would also embrace the change of feelings, dreams or aspirations. **Affecting an individual's will or motivations is particularly important since adults learn what they want to learn.** Such an approach calls for an understanding of the roles of the real self and the ideal self in building a personal vision, and of recognition of

the connection between aspiration and an individual's level of activation. Education and training providers ought to examine their resources and opportunities to facilitate such personal agendas, acknowledging that visualization of a positive future and a positive vision is an element of academic performance. (Boyatzis et al.:2006)

The measures proposed on the basis of the journal articles and conference papers address such classroom methodologies that promote the integration of professional and social skills into the technical curriculum through such supportive syllabi as language and communications education.

As the starting point, modern higher engineering education ought to support both **theoretical** and more hands-on, **practical** skilling. In addition to traditional **lecturing**, abstract conceptualization can be bolstered by means of **analogies**, **model building**, **theory construction** and **questioning**. **Reflective observation** supports creative **problem-solving**, personal **journals**, **discussion groups**, **brainstorming**, **reflective papers**, and observationally oriented classroom activities. For a more concrete learning experience, learners need to be subjected to practical exercises, **simulations**, **games**, **personal stories**, and **role playing**. What is more, instructors are expected to function as coaches and motivators. In sum, as proposed by the behavioristic and experiential learning theories, education ought to expose the student to stimuli that allow to strengthen correct reactions in the learner as part of a process stemming from human problem-solving activities. (Cagiltay:2008; Ericsson et al.:2007; Karjalainen et al.:2006)

The following sub-sections propose classroom methodology based on a literature review, empirical research, and the researcher's own experiences from classroom activities.

6.4.1 Classroom Management Strategies

Said a student: "We enter the tube and come out, all looking and acting alike". To secure the emergence of heterogeneous teams in industry, skilling needs to foster diversity and differentiation. The institutional culture should therefore be upgraded by questioning the traditional role of the teacher, the formality of the classroom, and the teacher-centred lecturing style. (Lu:1997)

Instead, student rights of personal autonomy and choice should be promoted by providing students with independence, freedom, self-reliance, and self-actualization. Unfortunately, such individualistic ideals seem at least ostensibly to contradict with the demands for collectivism, cooperation and in-group interdependence, the very concepts highlighted in this study as the essence of social competence and success in working life. (Cagiltay:2008) Individualistic student needs cannot be ignored, though, as student characteristics and learner orientations account for unique variance in learner empowerment and subsequently in learning outcomes. (Houser et al.:2009)

Individualism could be promoted by taking into account the diverse learning styles. This leads to the question of a match between students' learning preferences and the teaching styles offered. To secure compatibility between the two interfaces, Cagiltay (2008) suggests the deployment of learning style assessment to identify individual learning styles. According to learning style theory, four types of learners can be found among student groups: 1) **divergers**

observe rather than take action, thriving when generating ideas and brainstorming; 2) **convergers** excel at finding practical uses for ideas and theories, prospering in hypothetical-deductive reasoning; 3) **assimilators** prefer inductive reasoning and show an interest in abstract ideas and concepts; 4) **accommodators** learn from hands-on experiences and act on gut feeling rather than logical analysis. Ideally, university education ought to address all these approaches to promote effective learning.

However, in pursuit of effective pedagogy, current university education relies heavily on the tradition of classroom compliance. Much research and student education focuses on reducing resistance and refusal in the classroom (Lee et al.:1997) Moving away from compliance-driven towards diversity-oriented teaching necessitates an enlargement of teacher repertoires of classroom management techniques. This cannot be achieved by authoritarian or modelling teacher roles but instead the student should be placed at the centre to facilitate self-directed learning. (Lu:1997)

Such student-centred learning can materialize through peer assistance, support, and mentoring, which have been identified as means of encouraging students to take responsibilities extending beyond their specific fields. Research also proposes electronic systems, such as email, discussion boards and chat for facilitating communication skills, as well as electronic submission of project reports, weekly team reports and individual portfolios. These promote active rather than reactive learning. (Brodie et al.:2008)

As behavior alteration techniques the teacher could consider methods that reward positive conducts instead of punishing negative ones. E.g. a positive teacher-student relationship and personal student responsibility are known to yield positive outcomes in the classroom. Similarly, immediate or deferred reward from the teacher and the others, as well as peer modelling will entail positive outcomes through a more collaborative classroom atmosphere. These prove particularly feasible in communication education where the subject matter is so contextual that student responses can rarely be judged as completely wrong. Finally, bolstering of positive self-esteem has a way of reinforcing positive student performance. (Lu:1997; Kearney et al:1985)

6.4.2 Integrated Courses

As a means of promoting language education for professional purposes, Huhta (2010) proposes integrated education or content-based syllabi where language functions merely as a by-product in learning. Exposure to non-technical and non-engineering subjects accustoms engineering graduates to operating at the intersection of technical and non-technical attributes and promotes curiosity about the greater, societal landscape. (Akay:2008) Similarly, research indicates that teaching within the context of a subject area and using case studies drawing from real-world phenomena is the most effective way of enhancing critical thinking, insight, knowledge and creativity through experience-based learning. In addition, analyses of such authentic cases that mirror reality encourage students to apply their knowledge of theory to practice. (Garside:1996; Kreps et al.:1985) Application of real-life cases is also a means of securing the relevance of the study material in a way that meets a student's personal and career needs and goals, which is known to be a factor increasing student motivation and empowerment. (Frymier et al.:1996) Finally, students require practice in the real world in order to be prepared for a real-world work environment. (Fernandez et al.:2009) Case studies,

in addition to offering models of situations students are likely to face in their professional lives, also help them develop both short-range strategies for solving organizational problems and long-range strategies for preventing such problems from reoccurring. (Kreps et al.:1985)

Integrated courses offer a wider spectrum of assignment potential and thereby also opportunities for student freedom in being creative. Traditionally, creative people are rarely rewarded for demonstrating their abilities. Therefore, course assignments in the researcher's experiment were rated not merely for their language proficiency and communicational value but also for novelty, creative integration of disparate elements, and perceived effort. Aesthetic value cannot be overlooked, either, the assignment allowing such an element. (Sternberg:1997)

One advantage of integrated teaching presents itself in student concentration. As their focus is directed to formulating contents for their messages, they more frequently neglect to build up tension about performing in public and oral delivery. Students recognize the challenges related to having to concentrate on two dimensions simultaneously, but they also acknowledge the benefits entailed in relation to their oral skills. (Lappalainen:2010) Therefore, oral communication in the classroom has been reported to serve two aims: it broadens the students' communication competence and the learning of course content. (Garside:1996) In the researcher's experiment the students' self-reports corroborated that integrating subject matters, social competence, and English language studies bolsters the two aims.

This methodology places heavy demands on the teacher, in addition to substantive expertise. More specifically, five teaching skills are required of the lecturer especially in the debriefing of case analyses. First, tolerance for ambiguity allows for in-depth learning from the different interpretations and unpredictable analysis outcomes produced by the students. Second, formulation of relevant questions forces students to probe their thinking and stimulates them to articulate their own understanding. Third, the ability to explore student answers to questions is a way of guiding students to develop a sense of what constitutes a good, complete answer. Fourth, the teacher needs to be skilled in the selection of appropriate directive/nondirective postures in order to facilitate learning. In other words, the teacher must be sensitive to student learning styles to know who need pushing and who need more indirect postures. Finally, teachers are to demonstrate a sense of timing and judgement to know when and how to guide, allow multiple interpretations, and direct student thinking towards preferred outcomes. To sum up, the teacher acts more as a facilitator, resource and discussion leader than as a judge. (Kreps et al.:1985)

6.4.3 Problem-Based Learning (PBL)

Lifelong learning is crucial in knowledge-intensive work. (Keltikangas:2009) University education is subsequently instrumental in helping students acquire, not only contents but also meaningful, deep and elaborative learning strategies. As learning results from a combination of social factors materializing in student's communicative interaction, problem-solving offers a natural avenue for learning in technical education. Besides expanding conceptual understanding and the ability to apply meta-cognitive and reasoning strategies, PBL enhances teamwork skills. (Sanchez et al.:2008) It also offers a way of visualizing how theory relates to problem solving, bridging the gap between knowledge and skills. (Kreps et al.:1985)

Similarly, it facilitates adaptation and participation in change, creative and critical thought, appreciation of competing viewpoints, identification of learning weaknesses and strengths, self-directed learning, leadership skills and utilization of relevant and varied sources (de Graaff et al:2007).

Unfortunately, of all the inductive teaching methods, PBL is the most difficult to implement. Certain principles can be favoured, though, such as inclusion of content integrative. The content integrative problem is most beneficial when addressed through a series of smaller sub-problems and when it is contextualised, interesting and meaningful to the students. Questions outside the original problem should be encouraged during the process to allow students to apply the lessons learned in contexts beyond the given one (Sanchez et al.:2008), or the so-called knowledge transfer (Hakkarainen et al.:1999).

Problem solving poses a challenge even before the actual solving process begins – the solvers need to be able to define the problem. Problem definition is important in industry and therefore it should be taught at the university level. In its entirety, the problem solving process serves as a knowledge acquisition method resulting in selective comparison ability, allowing the individual to build on past experience to solve problems in the present. A dimension of PBL to be stressed is the harmful effect of overusing or misusing selective comparison, which helps form insights through a connection between acquired knowledge and experience: when contexts differ, a solution that proved helpful in one environment may not be successful at all in another. (Sternberg:1997)

As a teamwork experience, PBL emulates authentic working life situations. Such collaborative exercises offer a way of bridging the disconnection between real-world industrial life and higher engineering education. (Borges et al.:2009) Similarly, Huhta also argues for the authenticity of material and activity.

Exposure to collaboration can also be offered through problem-based learning to train students in teamwork, conflict resolutions, problem-solving, sharing of knowledge, self-learning and reflection, communication, task allocation, seeking of supportive resources outside the course, and determination of a communication and meeting strategy for the group. Role-playing in teamwork allows students to view their own performance through the eyes of others and potentially to rid themselves of prejudices and biases, learning to accept differing views. (Kreps et al.:1985) Research indicates that learning, retention of knowledge and appreciation of problem solving increase through PBL. Furthermore, it is argued that PBL also promotes creative thinking. (Borges et al.:2009)

As a solution, Aalto University experimented with a real-life project to respond to today's industrial competence needs, in particular in terms of social competence: the Development Cooperation Project was conducted at Aalto University to create new types of learning contents and educational practices. Instead of teaching grammar, the English and communications course in question strove to build an integrated learning environment that allowed students to activate and apply their language and communication skills in a real-life context. Such an approach was chosen to promote project management skills, sustainability, self-leadership, ethical integrity, networking, social competence, and global and social responsibility, while engaging the students in goodwork to aid some local community in a

developing country. In return for their efforts in this degree-fulfilling course, the students were granted 2 ECTS credits.

The 29 (20 international and 9 Finnish) students participating in the course operated in cross-disciplinary teams to supplement the expertise their group held. Together they brainstormed ways of benefiting some third-world community in a sustainable and socially responsible way. The students were offered plenty of latitude in designing their solutions in order to welcome ideas ranging from knowledge transfer to more concrete products or services or even fund raising. The aim was to encourage students to invest their substantive knowledge and personal abilities in the development of a community in need, in alliance with any already operating non-profit organization.

In the Project in question the students competed in 5 groups for the most feasible third-world development cooperation idea. The evaluation criteria constituted 1) attendance in lectures, which covered topics on cross-cultural skills, innovative engineering, environmental accountability, goodwork, and future success factors in work communities; 2) contribution to an academic article produced in a small group, to be published in a book to be released in connection with the Project; 3) oral and written progress reporting conducted in small groups, with mid-term and final status deliverables; and 4) a final presentation, where the students presented their competition ideas to a jury and an audience. The winning group delivered the idea of assisting Egyptian NGO operations by designing ICT-platforms. The prize constituted a trip to their target location to implement the idea.

The written and oral deliverables of the Development Cooperation Project were not merely rated for language proficiency but rather for communicational aptitude, that is, audience focus, assertion, coherence, and overall message delivery. Student products were also rated for the novelty and creativity of brainstorming outcomes, as well as perceived effort and concrete project feasibility.
The project thereby not only served as a language and communications course but offered a contextual platform for an educational paradigm shift: instead of content gathering, the students rehearsed their skills in information literacy, networking, ideation, brainstorming, innovation, critical thinking, reflective learning, teamwork, and collaboration. Furthermore, they subjected themselves to themes such as ethics, corporate social responsibility, social responsibility, environmental accountability, cultural awareness, and global responsibility. (Lappalainen:2011a)

Students found this method of studying extremely rewarding and motivating, which was evidenced by the low student turnover: out of the 30 students who attended the first lecture, only one dropped out. As one of them articulated, “It was exciting to be part of a project where we had so much at stake.”

The Development Cooperation Project pursued to tackle the marginally met challenge of community inclusion in development cooperation. Such a noble cause is a means of promoting ethical integrity through university education, while providing a real-life context for language and communications studies at Aalto University. (Lucena et al. 2008)

On the surface, the Project served outcomes pertinent to university language education: students earned study credits, enhanced their language proficiency, and activated their

communications skills. Additionally, thanks to the nature of the course, they established contacts with industrial stakeholders, built networks, and developed project management skills - all of these desired by-products of the university curriculum.

But ultimately, there were motivations and lessons learned that extended beyond study credits and formal learning outcomes: the affective rewards outweighed by far the more concrete gains. The opportunity for goodwork not only opened the students' eyes to the channels available for societal impact, but it also pushed the university staff to pursue self-renewal and more up-to-date, relevant, and topical education. (Lappalainen:2011d)

6.4.4 Self-Management Techniques

Self-theories impact largely how students view their intelligence, bearing a subsequent effect on their motivation, performance, and ability to cope with challenges. Self-theories draw from self-beliefs which determine whether the individual is inclined to operate toward a fixed mindset or a growth one. In the former the student is strongly outcome-oriented in his pursuit of appearing smart, seeing errors as a defeat reflecting his ability and performance. He therefore avoids challenges, rejects criticism and finds other people's success a threat.

Students with a growth mindset, on the contrary, see errors as a challenge, accepting mistakes as an integral part of the learning process, which as such provides the ultimate motive. They willingly accept feedback and find inspiration in the accomplishments of others. A study among English language students indicates that this type represents individuals who are more likely to take remedial action following feedback on poor performance. As they are less competitive, they harbour more positive beliefs about teamwork. (Simon et al.:2008)

Since fixed mindsets are harmful in terms of learning, university pedagogy ought to deploy attitude change techniques. Simon et al. (2008) propose intervention techniques such as 'saying is believing' where students internalize their intelligence development capacity through written pep talks they engage in, targeted to junior students as encouragement. They also advocate the reduction of stereotype threat where negative self-perceptions result in underperformance, by intervention coaching students to believe that intelligence is expandable.

Furthermore, self awareness can be raised through self- and peer assessments, which are known to assist students in developing pertinent professional skills such as reflection and critical thinking. As a by-product, the knowledge of subjecting one's work to peer assessment causes social pressure which encourages students to put more effort to their assignments. (Willey et al.:2010) Also, passing judgments about peer outcomes can lead to a mega-cognitive realization where the student becomes more conscious of the qualities he is aspiring to, which is crucial in developing one's craft. Finally, reflective exercises offer the teacher a way of discovering how students think and reason. (Chinn et al.:2008)

As an exercise bringing together all these benefits, the researcher experimented with a two-part Personal Values assignment, where students were asked to write down two or three personal values that serve as guidelines in their daily lives, providing evidence backing up their authenticity. They then challenged each other to defend their values in a job interview simulation. Despite the level of difficulty for young adults with no previous experience in

values thinking, the students merited this exercise among those in their communications studies with the highest value and relevance to their future careers. They credited the benefits to being forced to identify what truly mattered to them, which deepened their self-knowledge, and to articulating, justifying and defending their values out loud in a group, which gave self-assurance in terms of future job interviews.

The reflective practice can be encouraged by requesting students to engage in a reflective portfolio to follow up their learning. Journals also serve the purpose of reducing stress as the mere process of writing down any negative issues impacting one's state of mind tends to unburden the human mind and to increase self-awareness. Leveraged self-awareness, then, supports mood regulation and helps turn the individual into a more balanced, optimistic, extroverted and confident personality that finds it easier to interact with others in the classroom. (Brodie et al.:2008)

The researcher experimented with journal writing in her courses during 2010. Altogether 71 students reported their sentiments six times during an integrated course. The course "Organizational Communications" represented an advanced English and communications course offered at the university, enhancing both the students' English proficiency level and oral and written communication skills while focusing on industrial communications topics. (Lappalainen:2010) In their journals the students were asked to reflect on their own performance, individual learning outcomes and emotions during the treatment of the five course themes covering industrial communications through strategy, finance, leadership, corporate communications function, and ethics. They were not given specific guidelines except for the advice to be honest; they could even choose either English or their mother tongue as their instrument for writing, and they did not have to use full sentences, as it was emphasized that this time it was their emotions that played the central role. However, all students resorted to English.

Originally the researcher engaged in journal writing to monitor student reactions since integrated courses had not been widely arranged at the Language Centre before. However, more thorough contents analysis of the journals helped realize this medium served also learning purposes as it allowed the researcher to detect signs of positive learner processes that were likely to promote learning.

First, students' products revealed that they **appreciated being listened to**. The mere process of being asked to express their opinions seemed to elicit positive student perceptions of the learning contents, although this may also have resulted from the students writing under their own names and possibly being concerned about teacher reactions, despite teacher reassurance.

Second, student **confidence grew** as the course progressed. In the beginning, the students tended to view their own performance overly critically, but their disclosures grew more confident and positive towards the end of the course. They merited this to feeling more secure and confident among their peers, which affected their impressions in overall. Journal writing also mediated self-awareness and self-reflection, both promoting reflective learning.

Third, the **journals served as a thread binding together the different topics** covered. As this course was particularly challenging in that it comprised ostensibly new and isolated topics for the students, it was rewarding to find comments unveiling understanding of the

overall course logic and the connection between the substantive areas in their writings. Analytically some admitted that they would not have chosen e.g. 'finance' as a course but now understood that as future supervisors they needed to master at least the key specialist discourse related to organizational finance. Interestingly, the students unanimously valued the sessions on strategy trends and industrial strategy talk, even though many confessed that they had no prior knowledge in the area and therefore had been terrified having to discuss it in class. The most positive feedback was allotted to learning experiences under 'corporate communications function' although the lecturer herself undermined its attractiveness as it expected more student participation and output than the other topics.

Finally, the researcher made sure to react to journal contents immediately upon student delivery. That way the students felt the **journals also served as a feedback channel** between the teacher and the students, and that the teacher was genuinely interested in their opinions. This discussion forum resulted in one ad hoc adjustment to the lecture series: the students complained about the workload in comparison to other courses offering the same amount of credits, and as this discrepancy was confirmed through faculty consultation, the lecturer promptly modified upcoming assignments to decrease the load.

6.4.5 Student Empowerment

Regardless of which of the above-mentioned approaches are applied, they must be built on the platform of empowerment in order to foster a learning environment that kindles the desire to learn. The shift from the conventional depowering education that essentially allowed the student merely to receive, file and store teacher deposits for memorization and repetition does not support intrinsic motivation to learn and perform. (Frymier et al.:1996) As a solution, empowering educational strategies enhance individuals' ownership and control, and increase personal responsibility and accountability for outcomes. An empowering classroom culture promotes self-knowledge by liberating students to explore themselves as learners. (Brunson et al.:1996)

The cornerstones of empowering educational philosophies constitute trust, communication and participation, which elicit commitment. More concretely, verbal persuasion serves as the means of communicating to students the teacher's faith in their ability and competence to perform the given tasks. Such interaction not solely redistributes power in the classroom but allows students to actively create their power. Such verbal communication is multileveled, honest, constructive, and places emphasis on active listening and reception of student feedback. (Ibid.) A permissive or free environment also rids students of fear of judgment and rejection, allowing them to feel free to put forth ideas and questions, knowing that the lecturer will not react through rejection, derision, blame or authoritarian injunctions. It is of the essence that the teacher models behavior that is non-judgemental, cooperative, empathetic, and spontaneous (Kreps et al.:1985), thereby reducing communication apprehension and making students feel more competent and motivated to perform classroom tasks (Houser et al.:2009).

Most importantly, empowering classroom strategies extend beyond traditionally dominant pedagogies that are scientifically, empirically and rationalistically oriented. Instead of valuing coolness and an image of strength, empowering techniques welcome the acknowledgement and expression of one's feelings and the acceptance of those of others'. However, this holistic

stance of moving away from the relegation and disparagement of feelings towards appreciation and exploration of personal feelings does not preclude the more rational dimensions of learning. (Brunson et al.:1996)

Active experimentation and experiential education facilitate learner progression to empowerment. The process from the concrete classroom experience to reflected observation all the way to abstract conceptualization helps the learners formulate their own conceptions about the meaning and relevance of the data available. (Ibid.)

Furthermore, the type of feedback provided, and more specifically, the choice between direct and indirect feedback in instruction, impacts the extent of student empowerment. Direct feedback refers to the provision of the correct answer, whereas in indirect feedback the teacher signals, e.g. by means of an underline, circle or other mark that an error has been made. Research indicates that in general, indirect feedback is preferable as it forces the learner to engage in guided learning and problem-solving. Such reflective learning processes help build skills as an independent self-corrector. (Ferris:2006) However, feedback that is too ambiguous may confuse learners who require more imperative and explicit commentaries in order to achieve substantive revision to their work. (Sugita:2006)

Finally, empowered students are granted the privilege of choice. Instead of following the syllabus precisely, students should be provided with freedom to exercise choice in applying assignment specifications and operational classroom rules. Such freedom seems particularly important for those already holding jobs as they are keen on experimenting with the expertise they have gained at work. (Frymier et al.:1996)

A strong relationship has been identified between teacher immediacy behaviors and learner empowerment, with teacher communicating in ways that gain attention, stimulate arousal, and intensify student engagement. (Houser et al.:2009) Teacher immediacy will be discussed in more detail further down.

6.4.6 Cooperative Learning

Verbal interaction and overt discussion in groups are effective methods of acquiring new knowledge through elaboration, rehearsal, restructuring and personalization of information. Interactive learning also improves verbal and written communicative ability, which serve as pertinent working-life skills as participation in groups is increasingly prevalent among today's professionals. As an example, the absence of critical thinking in the group decision-making process will result in inferior and regrettable decisions or groupthink (Korhonen-Yrjänheikki et al.:2011). Shared and cooperative learning allows students to develop their line of thought and to respond to those developed by others in the group. Discussion in groups activates prior knowledge, mobilizes existing knowledge and helps create new relations between concepts, and allows students to become aware of their own beliefs and perspectives. Verbalizing an idea helps to fix it in the memory and integrate it into existing knowledge, and repeating and explaining it will promote longer-term retention of the information. (Garside:1996; Lamont et al.:2010)

One form of verbal interaction, arguing, in particular, sets a challenge to Finnish university students. University education should therefore allow graduates to assume new approaches to

argumentation and controversial situations which they easily find awkward and uncomfortable. Social pressure to conform to general politeness standards and to meet expectations on collaborative image discourages students from advocating positions in debate. However, in industry arguing is known to generate such favourable outcomes as evolution of ideas, greater creativity, and problem solving. This necessitates students to adopt strategies motivating them to respect dissent and preparing them for arguments and for responding positively to the argumentative behavior of their interlocutors. (Rancer et al.:1985)

Especially Finnish graduates need to learn away from overtly complying argumentation mechanics toward stronger positioning. The subsequent inclusion of agendas impacting student attitudes and predispositions is justified. University education needs to address the beliefs students associate with argumentation, as they largely impact the nature of student predispositions. For that, educators need to understand how student interpretations of argumentation vary.

For low and moderate argumentatives, arguing is a means of increasing conflict or dissonance, and they oftentimes see argument as unfavourable and hostile. High argumentatives, in contrast, perceive arguing as a means of reducing tension and conflict.

Unfortunately, beliefs colouring argument as anti-social communication inhibit performance in situations requiring communication. As a remedy, educators could dedicate part of the lecturing time to address different student beliefs about arguing. Students could be helped to understand the benefits of argument by depicting arguing merely as a mode of social interaction, as a means of establishing and enforcing power, as an element impacting participant self-concept, as a way of conveying information, and, naturally, as a indicant of one's verbal and rhetorical skills. (Rancer et al.:1985)

To allow students to move from passivity to participation and emotional engagement, teachers need to move away from didactic modes to more discursive and argumentative modes of teaching. This will encourage students to elaborate, defend and extend their positions and opinions, thereby fostering critical thinking and purposeful learning, not just mere memorization. For this to materialize, the pedagogue needs to create a nonthreatening climate, emphasize genuine communication, and associate learning with actual, productive uses. This way the students will feel free to risk, challenge and question.

6.4.7 Teacher Immediacy and Perceived Caring

The qualification of university units is often research-oriented, the excellence of the faculty being measured by the number of scientific articles and other publications. Fortunately, the shift in focus towards learning, resulting from the Bologna declaration, is increasingly placing didactic and pedagogical competences at the kernel. (Kurz:2007) More specifically, scholars of instructional communication have recently called attention to such teacher communication behaviors that positively impact learning outcomes. Such verbal and nonverbal immediacy behaviors that lead to student perception of closeness, directness and connectedness, positively alter student perception of the student-teacher relationship. (King et al.:2009)

Without controversy, face-to-face instructional classroom methods make a difference in student outputs, measured both as perceived and performed or cognitive learning, as learning

and short-term information recall become intensified when their teacher communicates positive regard to the students. (Garside:1996) Moreover, students have been reported to learn most from teachers who are warm, friendly, immediate, approachable, affiliative, and able to foster close personal relationships[16], at least when measured in perceived learning which correlates significantly with nonverbal immediacy. In brief, a curvilinear relationship exists between teacher immediacy and students' cognitive, affective and behavioral learning, implying that moderate amounts of immediacy induce the best learning outcomes. (King et al.:2009; Comstock et al.:1995; Neuliper:1995) The question still remains what is meant by the "best" learning outcomes – retention of facts is beginning to lose importance compared to less trivial educational objectives encouraging students to develop continuing motivation and lifelong learning, and an attitude fostering long-term retention of key concepts. (King et al.:2009)

The mechanisms facilitating the results remain in question, but what is apparent on the basis of emotional intelligence models is that teachers communicating emotional states to their students influence their emotions to the extent that they catch the teacher's emotional state. Resultatively, positive moods elicit better performance. (Wang et al.:2010)

Consequently, one of the pivotal pedagogic qualifications for any teacher promoting more effective learning outcomes in the classroom is communication, serving, among others, as a means of bolstering student certainty through application of so-called powerful language. Certain forms of language generate inferences impacting impression formation, resulting in judgments regarding the pedagogue's competence and intellect. Speech devoid of hedges, intensifiers, deictic phrases and hesitations clearly add to teacher credibility and positively affect classroom climate and learning. (Haleta:1996)

Further, immediacy behaviors reduce the perceived psychological distance between the instructor and the students and help build positive and meaningful relationships. Teacher immediacy, whether verbal or nonverbal, promotes overall sensory stimulation, liking and closeness with students. It is also linked with student willingness to comply with teacher requests, perceptions of teacher credibility and learning motivation, associated with both affective and cognitive learning. (King et al.:2009) Teachers can largely benefit from nonverbal immediacy behaviors, for relational messages are best conveyed nonverbally or implicitly, which leaves the verbal channel available for messaging content explicitly. Such nonverbal behaviors include proxemics (distance, e.g. moving around the classroom while teaching), haptics (touch), vocalic (vocal expressiveness), kinesics (facial and body movement, e.g. smiling), eye contact, chronemics (time spent with students), physical appearance and attire. (Wang et al.:2010; Comstock et al.:1995; King et al.:2009)

Similarly, a teacher's communication variables play a role in leveraging empowerment in the classroom. Relational communication variables such as active listening, openness, constructive feedback, trustworthiness, credibility and immediacy influence students' task motivation and personal involvement. They also promote the alignment and adoption of common values in the classroom, reducing feelings of powerlessness and intimidation while fostering feelings of qualification, meaningfulness and self-confidence, which are

[16] Contrastive views have been presented, as well, claiming that indications of such relationship are resultative of the presence of the halo effect. (King et al.:2009)

preconditions in education subjecting students to vulnerability through public presentations and oral delivery of their own products. (Frymier et al.:1996)

Interestingly, teacher communication correlates also directly with perceived learning. A strong, causal association between the teacher immediacy and student learning has been identified. The link between nonverbal immediacy and affective learning outcomes has already previously been established through student self-reports of cognitive gains, which have been found indicative of results acquired through more direct forms of assessment, because students commonly have a good sense of what they have learned. (Ibid.)

However, McCroskey et al. (1996) found in their comparative study of different cultures that in highly immediate cultures the expectations for immediate teacher conduct are high and consequently the violation of those expectations by less immediate conduct may be detrimental to cognitive learning. What is more, in less immediate cultures where expectations for immediacy are low, more immediate teacher behavior, although violating the expectations, may have strong positive effects on cognitive learning. This bears significant relevance to Finland with a low-expressive and non-immediate culture where teachers have been reported to be less immediate than in any other culture. The inclusion of individual nonverbal immediacy through e.g. movement, gestures, facial expression, and in particular vocal variety, eye contact and smile in Finnish teacher training might entail clear benefits for university students.

Such immediacy is critical in modelling social competence in the classroom. To become accustomed to expressing themselves, students need to be subjected to classroom interaction regularly - the only way to learn to communicate is by communicating. (Hazelton et al.:2009) To perform voluntarily and willingly in front of others, students should feel secure in the group, which is one of the key challenges for the pedagogue. For this, teachers ought to understand that human interaction is motivated on the individual level by the avoidance of shame and pursuit of appreciation. (Saarinen et al.:2003)

As another immediacy-derived solution nurturing a safe atmosphere allowing students to move away from self-protection, research proposes perceived caring on the part of the lecturer. The construct of perceived caring draws from three factors in teacher behavior: empathy, understanding, and responsiveness. Empathy manifests itself as concern for student well-being; understanding implies the teacher's ability to comprehend and respect student views, and responsiveness refers to the teacher being attentive and listening to the students and reacting to student needs and problems promptly. (Teven et al.: 1997; Moore et al.:1996)

Perceived caring on the part of the teacher, also labelled as good will or positive intent toward students, entails benefits in terms of positive learning outcomes. Teacher behavior that signals a positive attitude towards students' well-being and their best interest influences learning both on the affective and cognitive levels. Nonverbal immediacy, a concept describing positive evaluation of or affect to students, results in a higher rate of class attendance and recall of information, decrease in learning loss, improved motivation and more attentive listening. (Ibid; Frymier et al.:1996; McCroskey et al.:1996)

Interestingly, teacher immediacy also tends to decrease student likeliness to generate compliance resistance strategies and predicts strongly classroom interaction and

communication. (Lee et al:1997) Teacher's caring also impacts student ratings of overall instruction quality, which is an important consideration especially when regarding students as consumers of education. (McMillan et al:1996)

These findings may cause anxiety in those having realized in their daily teaching routines how unrealistic it is to demand teachers to feel positive affects toward all their students at all times. For them it will be comforting to know that it is not the caring as such that counts, rather it is the perception of caring that is critical. (Teven et al.: 1997)

7 DISCUSSION OF THE RESEARCH RESULTS

This chapter reviews the empirical results, in dialogue with findings from earlier literature in the field, appreciating any contradictions and contrastive data between the present and previous studies. As earlier research has already proven, the most effective organizations are characterized by well-functioning collaboration and communication, a good amount of social capital in the form of internal and external networks, as well as empowering leadership. (Virolainen:2010). This section focuses, in particular, on findings related to managerial communication.

During the research process, the subordinates in the population voluntarily offered articulate descriptions of successful managers to complement their numerical responses. According to them, competent managers: "serve as a moral example", "have internalized the organizational vision and rules of the game"[17], "recognize their own weaknesses and failures", and "are self-confident and charismatic".

The majority of the comments revolved, however, around interpersonal traits and communication skills: "they guide and coach", "are genuinely interested in their subordinates", "are visible, accessible and present", "provide feedback constructively and honestly", "listen attentively", "inspire, motivate and spread energy", "are trustworthy and don't reveal confidential information".

These comments draw attention to the fact that employees long for managers who are *whole* and can manage, besides their organization, also their own selves and lives. They do not expect their superiors to be super-people but accept them with their weaknesses, if only the superiors themselves sustain a realistic self-image.

Subordinates also commented that availability through as short as 5-minute encounters with the supervisor suffice if the manager is focused 100% on the employee. Time to chat informally with the subordinates, being there for them, and being visible were seen as ways of serving the employees. As Senge et al. (2005) claim, true presence draws from deep listening and openness beyond one's preconceptions and conventional ways of making sense. In connection with the need for informal encounters, some respondents also raised the issue of humor, claiming that managers cultivating humor help build a relaxed working culture where trial is encouraged and failure tolerated instead of stigmatizing individuals as losers.

In addition to humor, some employees expressed their appreciation of managers who had little inhibitions about showing their grief, sadness or frustration, although only in case of tragedies and dramatic events. One respondent felt relieved that her supervisor had openly cried when a colleague had died. She claimed this incident allowed them to mourn openly and also united the team in a new way. Another respondent stressed, however, that managerial expressions of emotions are desired only as demonstrations of compassion, that is, when they involve the distress of other people. Having to eye-witness managers lose their temper or reveal anxiety

[17] The respondent pointed out "moral example" and "rules of the game" as allusions to the executive-level illegalities that had taken place and become publicized in the media prior to the interviews, but admitted that naturally ethics and values bear significance, although in a less accentuated form, also in times of business as usual.

over minor obstacles or hardships they have been subjected to, is not likely to increase managerial credibility.

Similarly, feedback provision was regarded as extremely important, and in particular, employees called for more constructive feedback to guide their development. Especially with increased distance between superiors and subordinates, virtual work with distributed teams is known to entail problems in the form of decreased employee motivation, turning feedback provision even more crucial. (Virolainen:2010)

One important issue raised in several interviews was the treatment of low performers; the respondents were frustrated with the way management overlooked the poor performance and e.g. the endless smoking breaks of some less motivated employees.

What came out strongly in the discussions was the role of managerial ethics and values. The consistent communication and demonstration of one's values through action is of utmost importance for subordinates and translates into a concrete manifestation of serving as an example. And vice versa, materialization of questionable values and conduct not in line with company ethics was the fastest way of eating up employee commitment.

The data reveal that the managers in the population possess several assets viewed as beneficial in supervisor-subordinate interaction but also some handicaps. Managers perceived as socially competent by their subordinates emphasized open communication in their daily work. They highlighted the importance of delivering also negative news promptly and directly and of welcoming and constructively receiving negative information from others. They accentuated their readiness to tolerate even negatively or grossly formulated feedback from subordinates, as long as they could be sure to be aware of subordinate emotions. As one of them stated, "Unless my subordinates share their honest feelings, I will continue to live in an illusion".

The socially competent supervisors took pride in being available and accessible to their staff and went to great lengths to make sure the channel between them and their subordinates was open. If they could not make themselves available in person, then they benefitted from their commuting time and took contact over the phone while travelling. Some even organized seating so as to secure continuous interaction. Surprisingly, this seemed to elicit criticism, as well, as some recognized that the manager being seated among his or her team created a threshold that made it difficult to approach the manager when everyone else was listening. Also the managers themselves complained that in situations requiring sensitivity it took additional effort to find a quiet space. Lack of privacy and an opportunity to speak in confidence may prove to be the flipside of shared space, which was, however, generally valued.

Openness, then, touches on transparency and trust, which were also repeatedly raised in the interviews. The socially competent managers valued openness to the extent that they at times worried about communicating too much information and even risking confidentiality in their efforts to communicate openly with their employees so as to allow them to grow and learn and feel empowered.

And yet, employees often complained about not receiving adequate information from their immediate managers and expressed concern over managers hiding or barring information from them. When asked to specify what type of information they were missing, they could not elaborate but explained that it was just a common, vague feeling.

The sample managers also scored low in items which addressed management of well-being, conveying an alarming message about managerial priorities. Managers are expected to serve as examples also in overall life management, including management of one's physical and mental well-being. And yet many scored high in *Risk of burnout* and *A-typicality*. A worrying share of the managers had been on a sick leave because of burnout symptoms and a few revealed they were likely to face a sick leave in the near future as they were struggling with sleeplessness or high blood pressure. One of the sample managers put it bluntly: "I'm well aware that if I wanted to stay healthy, I would have to leave the company."

Below the reader will find a more in-depth analysis of the key findings that help answer the research questions framing the present study. The data that contribute to educational objectives by revealing information helping plan and implement university courses and corporate training will be treated in Chapter 8.

7.1 The ECS within the Context of Leadership as a Whole

After having – at least tentatively - established the construct of the ECS with its division into the sub-components of assertion (clear and frank communication), emotional availability, and inspiration of other people, the next task was to study its position within the total matrix of leadership behavior. Obviously, leadership of people is not merely about emotive communication but rather, emotive communication can be appreciated and harnessed as an instrument serving, facilitating and optimizing leadership of people and organizations. The ECS could be thought of as being meshed with all leadership or supervisory behaviors or, perhaps ECS touches on leadership functions that involve interpersonal contact or exchange. The decision was made to map out or position ECS against a wider context of leadership as a whole.

Multi-appraisal instruments of leadership behavior, commonly termed as 360-grade appraisals claim to perform a comprehensive, if not exhaustive inventory of managerial or supervisory behaviors (the term 360 denotes that in its most comprehensive form, appraisals are collected from observers all around the target manager: superiors, colleagues, subordinates and even clients). The particular 360 instrument used in the present study, WOPI360 has ten sub-scales that indicate managers' competent or *good* behaviors: 1) Focused and 2) efficient independent action, 3) directing, 4) motivating and 5) resourcing the staff and the work unit, cooperative 6)communication, 7) advising, and 8) listening scales, and finally 9) operative and 10) creative planning and problem solving.

Given that external observer evaluations of their manager's perceived behavior obviously provide a valid or credible index of the managers' emotive communication ability, correlations were first computed between ECS scores from subordinate appraisals and the averaged sub-scale scores of the 360 instrument. The three highest correlations of the total ECS score are to communicating with others (r=0.70), motivating others (r=0.66) and

resourcing the staff and work unit (r=0.64). These figures seem intuitive because these are functions that involve interpersonal, if not *caring* conduct from the part of the manager.

The picture gets enriched by looking at the relation of the ECS sub-components to the comprehensive 360 map. The highest correlations of the first component, assertion or clear and frank communication, are on efficient independent action of the manager (r=0.81), directing behavior towards the subordinates (0.76) and operative, practical planning and problem solving (r=0.76). While these managerial behaviors concern less interpersonal or convivial acts from the part of the manager, they anyhow seem to be connected with the ECS. The correlational profile of the second component, emotional availability, addresses communicating with others (r=0.66), advising others (r=0.58) and listening to others (r=0.57). This coincides well with what might be expected of emotional availability. Finally, the third ECS component, inspiration, seems to be connected most strongly with creative problem solving (r=0.57), communicating with others (r=0.50) and efficient independent action by the manager (r=0.48).

Overall, it seems that the ECS is not only about interpersonal behavior of the manager but includes also efficiency emphases and even determined directing acts towards subordinates or the staff. While perhaps less credible than evaluation of ECS as observed behavior, it was worthwhile to look at the managers' self-reported ECS scores and their relation to the other-reported scores. While the self-reported and other-reported Emotive Communication Scales show considerable convergence, it makes sense to examine their independent effects. Here, the top three correlations are clearly lower in magnitude but show essential overlap with results from the external observations. The total score of self-reported ECS correlates most highly with motivating others (r=0.38) followed by resourcing subordinates (r=0.37) and creative planning and problem solving (r=0.36), all of which correlations also appear under the observed behavior conditions. Self-reported assertion (clear and frank communication) reaches only one significant correlation with observed behavior: managers' efficient independent action (r=0.23) and another edging on significance: creative planning and problem solving (r=0.20). Self-reported emotional availability coincides well with findings under the behavioral conditions as their highest correlations are: motivating others (r=0.40), listening to others (r=0.40) and resourcing the subordinates and the work unit (r=0.39).

The considerable overlap between the two conditions, self-reported and other-observed, clearly support the validity and generalizability of the three-component ECS construct. In sum, the ECS instrument is most directly associated with the motivational and resourcing functions in supervisory tasks, both of which build on effective communication skills. However, it should not go unnoticed that the findings also highlight the importance of effective and assertive managerial conduct that serves as foundation for overall organizational effectiveness.

7.2 Self- vs. Other-reports

Research abounds in the correspondence of self-reports with other-reports. One of the concerns has been the self-report biases that push study objects to overestimate their emotional abilities. (Goldenberg et al.:2006). The present research complements extant literature documenting the association of EI self-perceptions with peer relations. (Mavroveli et al.:2007) by confirming the correspondence of self-reported and other-reported EI: the self-

reported emotive communication ability at the target of this study correlates at a significant level ($p<0.01$) with control question 21 and all the 4 subordinate scores, 1) the ECS other-report sum average ($r=0.598$), 2) the ECS sub-scale 1 ($r=0.318$), 2) the ECS sub-scale 2 ($r=0.460$), and 3) the ECS sub-scale 3 ($r=0.360$). This confirms the utility and feasibility of the self-report in question in the assessment of an individual's EI-based skills.

7.3 Multi-Source appraisal and ECS question item 21

All the 45 question items in the multi-source appraisal (360°) correlated strongly with subordinate evaluations, providing evidence of the utility and centrality of the dimensions in managerial work. When comparing the multi-source appraisal item averages and total score averages with respondent scores for ECS item 21, a strong correlation emerges ($r=0.90$ and $r=0.88$, respectively).

Interestingly, this translates into a strong argument in favor of the ECS control question 21; instead of investing resources in time-consuming surveys, outcomes in alignment could be obtained by resorting to this simple question: 'Overall, how good is he or she as a supervisor?' However, such a quick tool could only be used as a thermometer providing overall indication of managerial success; in terms of specifying development needs or improvement measures, it would be useless.

7.4 Age

Age was recorded as one of the managerial variables in pursuit of factors explaining for variance in supervisor performance. Bar-On (2006) found differences in individuals' EI scores: older people scored higher than younger on most of the EI scales, sparking an interest in the present work to examine how age attributes to other variables.

Three findings of statistical significance in terms of age surfaced in the present study. The older the participant[18], the lower his or her performance in Raven's logical ability scale ($r=-0.25$). This tendency is confirmed by Bar-On (2006), whose findings indicate that cognitive intelligence augments until late adolescence and then starts to moderately decline.

Also other correlations emerged from the sample in terms of age: emotional availability tends to increase with age ($r=0.24$), while sociability decreases ($r=-0.31$). At first glance this may seem contradictory, as emotional availability is commonly associated with sociable behavior. However, sociability is more of an indicator of the *quantity* of relationships, where emotional availability could be assumed to represent a characteristic of the *quality* of relationships. Conclusively, as individuals grow older, their capacity to sustain a large amount of interpersonal relationships diminishes but on the other hand, the bonds they have tied become deeper and more meaningful, allowing genuine exchange.

Age affects also some of the personality dispositions as measured with WOPI. Both leadership ($r=-0.33$) and competition (($r=-0.26$) motivations decline with age, as does also optimism ($r=-0.25$).

[18] In the present study sample the youngest participant was 28 years old.

In contrast, the intuitive thinking style (r=0.26) tends to become stronger with age, insinuating that the older people grow, the more creatively they seek solutions to problems and rely on their *gut instinct*. However, as WOPI measures work-related performance, it could also be speculated that with age, respondents have acquired more hands-on experience, which may equip them with positive confidence and security speeding up decision-making. Such instinctive and rapid decision-making may be confused with intuition.

Luthans et al. (2001) claim that EI tends to develop with age and maturity, but the only supporting evidence that surfaced in the present research was the positive correlation between age and self-reported ECS sub-scale 2 (r=0.24).

7.5 Interaction Motivation

Finns and especially Finnish engineers harness a reputation as intraverts and the pressure for outspokenness and higher-level presentation skills is largely recognized. However, based on the present research, employees do not expect their supervisors to be confident and highly extraverted individuals with superstar charisma and motivation for inspiring and leading others. However, there is a connection between managerial sociability and overall subordinate perceptions on their manager's emotive communication ability (r=0.26), but none with any of the scales or items measuring overall leader success.

This is a finding to be recognized and considered in communication education, recruitment and career planning. Sociability has become overrated, perhaps due to lack of evidence countering expectations and unfair requirements related to extraversion. This research serves as a reminder that interaction can be built equally much on individuals' learnable social skills and attitude towards others than on their innate interaction motivation. What is missing on the motive side (sociability), can be compensated for on the skills side.

7.6 Empathy

Empathy has recently been treated with such passion and force in the Finnish media that it has turned into a buzzword self-evidently listed among the desirable leader traits. The public debate may possibly have contributed to the frequency in which empathy was brought up by the sample managers in the semi-structured interviews, even though its role has not yet been solidly established.

Fisher et al. (2000) suggest boundaries need to be pushed further in the study of emotional displays at the workplace. Specifically, organizational requirements for open expression of emotions have not been sufficiently investigated, which inspired the present study to examine how subordinates view their supervisor's emotive utterances, especially in terms of empathy. The study set out to scrutinize empathy as articulate displays of compassion, based on the premise that open emotive signalling galvanizes organizational action, and that inhibited emotive expression dysfunctions it. The motivation for examining empathy stems from a conception that it can, for instance, help individuals navigate with fewer misunderstandings in cross-cultural situations, and in general with people from different backgrounds. It is important to recognize that empathetic leaders do not try to please everyone around them but rather consider thoughtfully others' feelings to make intelligent decisions. (Luthans et al.:2001)

The results yielded no correlation between self-reported empathy and the multi-source appraisal or question 21. In contrast, self-reported empathy correlated negatively with self-reported assertion (r=-0.22), which most likely reflects cultural orientations and public gender-biased views that have sharply polarized the discussion on leadership ideals. On the one, the warm and considerate extreme of the continuum can be found empathy among other soft behaviors that are at the same criticized as feminine, ineffective, and signals of weakness. On the other end of the continuum exists the strong, forceful and masculine leader ideal with assertive qualities. Managers themselves are lured into thinking they have to decide between the two.

However, it is an important observation that other-reports for assertion did not confirm this trade-off, which could be interpreted as indication of assertion and empathy not being alternatives but rather, they coexist peacefully side by side. Figuratively speaking, assertion and empathy can both be found, side by side, like a hammer and a screwdriver in the toolbox of an effective workman, to be taken out and used when the context so requires.

Self-reported empathy also showed a negative correlation with self-reported leadership motivation (r=-0.44), tolerance for ambiguity (r=-0.44) as well as optimism (r=-0.43) but no correlation with these three dimensions emerged in the other-reports. The negative correlation between self-reported empathy and leadership motivation is intuitive, as many view today's managerial positions as entailing hard, cold decision-making.

Examination of the Emotional Availability scale items separately reveals that three out of the five items that addressed perspective taking correlated strongly with subordinate perceptions. These items had to do with managerial agreeableness and approachability, especially in matters of private nature. The two items that did not correlate addressed touching and physical displays of compassion, signalling that in our culture, physical demonstrations of affection are not tolerated, let alone appreciated.

The present research results related to emotional displays were elaborated on in the discussions with the participating organizations' supervisors and subordinates. A logical explanation was consistently argued for in all the sample organizations: in the managerial role, it is not the open display of compassion, empathy or sympathy that matters in difficult situations, as such signals do not change the reality or circumstances in any way. Rather, subordinates value higher their supervisor's assertive stance and determined attitude -even when ostensibly cold or expressionless- that leads to taking concrete measures in support of the subordinate. Actions do speak louder than words, and in case of empathetic managerial conduct, subordinates regard the type of empathy genuine and real that leads to decisions and action.

7.7 Mathematical-Logical Intelligence

The results obtained from Raven's logical intelligence scale indicate that those scoring high on IQ tend to be younger (r=-0.25) and have a high leadership motive (r=0.29). The correlation between the traditional intelligence results and abstract (vs concrete) perception is also strong (r=0.33).

What is of the most relevance in this context is the finding that logical intelligence did not correlate with *any* of the 45 WOPI360 items. Logically, it can be induced that a high level of intelligence does not ensure positive subordinate ratings, which is an important message to recruiters, signalling that intelligence tests should not be used as entry criteria for managerial positions.

7.8 Decision-Making

Speedy decision-making correlates negatively with empathy (r=-0.44). Naturally, not allowing other people's views to intervene in the decision-making process speeds up the process when the *gut feeling* tells the individual what to do. However, this may jeopardize organizational democracy, and indeed, decision-making did not correlate with positive subordinate perceptions, but not with negative ones, either.

Self-reported decision-making tempo is also strongly correlated with leadership motivation (r=0.30) but negatively with focused achievement (r=-0.36), the latter being logical as focus on detail may prevent the individual from taking a step back to examine the problem requiring solving from a bird's eye view, which would facilitate a quicker, intuitive grasp of the problem. The link between leadership motivation and decision-making tempo can be speculated to stem from decisiveness and determination.

According to the present research results, there is also a strong correlation between intuition (r=0.30) and decision-making. A fast *gut-feeling* supports managerial decisiveness, although there was no statistical indication of this being an asset in managerial tasks. However, the subordinates in the sample assigned this finding to the fact that it is more frustrating for followers to have a leader who is indecisive than to have one who makes impulsive but wrong decisions that can be tuned along the way.

7.9 Leadership Motivation

In this research population, leadership motivation declines with age (r=-0.33) This seems logical - university students frequently articulate their ambition and appetite for managerial positions that would allow them to prove themselves. When older, the likelihood of having reached one's personal goals increases, but also life experiences seem to affect the level of ambition and turn individuals away from material symbols and rewards toward more intangible motivators.

The sample population induced no correlation between the targets' leadership motivation and subordinate perceptions. This poses a challenge for corporate career planning, which is often striven by individuals' preferences and ambitions: those that are most ambitious to climb up the corporate ladder may not be the ones with most leadership potential. And the other way round: if the ones with the strongest leader abilities do not step up, how can organizations identify the best leadership material?

Several of the top female leaders interviewed in this study claimed they never planned to become managers but had been asked or persuaded to take on managerial duties. This clearly signifies a challenge for in-house recruitment and career path planning, implying the necessity of personal assessment not only when recruiting new talent from outside the company but also

as part of organizational HR systems helping employees identify their own potential and strengths.

Self-reported leadership motivation was one of the few dispositions that showed no correlation with WOPI360 other-reports. One plausible explanation could be that a high leadership motivation level may be perceived by those around as overly ambitious, a feature of a social climber or even an exhibitionist for whom the power, the title, the position and the attention override the true mission of leadership.

High leadership motivation correlated strongly with competition motivation. Instinctively people tend to associate these two motives with each other, and perhaps for this reason it was speculated in several interviews whether those with high scores on leadership motivation would be better suited for project management duties with typically shorter lifecycles and those with lower scores better fit for line management tasks with longer time spans.

7.10 Reliance

Prior research has suggested that employee empowerment in terms of being able to contribute to decision-making and feeling part of the information flow are crucial in terms of organizational efficiency, (Virolainen:2010) which would imply a strong correlation between reliance (esp. listening) and subordinate views. Self-reported reliance yielded a positive correlation with self-reported inspirational skill, but no correlation between ECS other-reports, question 21, or *any* of the WOPI360 items. The results may be accounted for by cultural orientations, as the assertive, determined and forceful leadership style has traditionally been the ideal in Finnish industries.

7.11 Optimism

In literature, optimism has traditionally been linked with such positive outcomes as good mood, morale, perseverance, popularity and occupational success. In contrast, pessimism is known to lead to passivity, failure, social estrangement, depression and even mortality. Optimism was earlier viewed as a mood or an attitude, whereas today it is treated as an individual difference, a dispositional and rather fixed trait-like component. Variance in optimism-pessimism impacts an individual's explanatory style: optimists attribute problems and failures to external, unstable or situational causes. Pessimists, then, would associate problems with internal, permanent and global causes. (Luthans et al.:2001)

There is a positive relationship between hope [19]and outcomes, and as optimism is more likely to result in achievement, it becomes pivotal especially in times of crises – optimistic leaders are more capable of motivating others.[20] Ideally leaders are realistic optimists, relying on leniency of the past, appreciation for the present and opportunity-seeking for the future. Some argue for learned optimism, though, as there is evidence of pessimists and neutrals learning to become optimists through self-reflection and diagnosis of self-defeating beliefs. (Ibid.)

[19] For Luthans et al. (2001), hope is both *willpower* and *waypower*.
[20] Overoptimistic leaders with their false optimism, however, may create false expectations for themselves and others, causing disappointment and frustration.

Some respondent reactions to their low scores on optimisms reveal how socially desirable it is in today's society to be positive and optimistic: most of them strongly opposed to being pessimistic but asserted, instead, that they were only being realistic.

In this research, optimism yielded many correlations with both self-ratings and other-reports, but also with age (r=-0.25), the negative correlation indicating that individuals' level of optimism decreased with age. Negative life experiences can be speculated to induce realism, but on the other hand, it should be pointed out that the qualitative narratives in this research underscored the potential positive outcomes of personal hardships through so-called posttraumatic growth.

Optimistic leaders rated themselves positively in terms of overall emotive communication ability (r=0.27). Interestingly, they also viewed both their assertive (ECS sub-scale 1) and inspirational skills (ECS sub-scale 3) positively, but no correlation emerged with sub-scale 2, emotional availability. These findings were not corroborated by any of the other-reports.

Optimism was also connected with leadership motivation (r=0.39) and competition motivation (r=0.46), logically, as individuals find it easier to subject themselves to competition when they have faith in their own abilities. They also described themselves as motivated to inspire others (r=0.52), sociable (r=0.42), fast decision-makers (r=0.37) and tolerant for ambiguity (r=0.37). The connection between sociability and optimism is easy to understand through mood contagion; positive thinking is found attractive and pleasant by others. The ability to tolerate ambiguity and change is also propped up by optimistic thinking which allows the individual to believe in positive outcomes at the face of uncertainty.

Curiously, optimism induced a negative correlation with empathy (r=-0.43). Perhaps the explanation lies in optimistic individuals' determination and choice to think positively and mentally follow the visions they have framed in their minds; awareness of others' differing, possibly negative insights encourages them to avoid perspective-taking and persistently protect their own views.

7.12 Self-Reflection

A manager's self-image, self-reflection and self-confidence have traditionally been linked with the ideal managerial profile characterized by assertiveness and decisiveness. Projection of self-confidence arouses self-confidence in the followers and helps establish trust between the leader and the follower. An intervening factor may be found in emotional stability, which allows leaders with self-efficacy to manage impressions owing to their ability to play down negative emotions. (Kirkpatrick et al.:1991)

Some propose that the strong positive impact of self-image on work-related performance derives from the power of self-convictions in determining how well an individual executes action: unless leaders believe they can induce targeted outcomes and avoid undesired ones, they have no incentive to act. (Luthans et al.:2001)

The present research, however, could establish no positive correlation between managerial self-reflection and subordinate perceptions. The finding is accompanied by a recent study published by Feinberg et al. (2011) who claim that embarrassment and blushing, which tend

to be missing in behavior characterized by self-efficacy, serve vital social functions. Instead of being signs of social disorder or weakness, these emotional displays provide critical information about the communicator's intentions and trigger in observers responses that help evoke trust and cooperation. Their study further revealed that the observer responses could not be attributed to observer compassion or perception of vulnerability; rather, embarrassment simply elicits trust in others because it is a signal of the communicator's prosocial intention.

This finding is encouraging and shows mercy to all those who find themselves feeling insecure at the face of public performance and at the centre of attention. Hopefully it also helps move the focus of presentation skills education away from self-confidence to tolerance of different personal styles that are genuine and authentic, if not always charismatic and confident.

In contrast, self-reflection correlated with self-reported assertion (r=0.34) and inspirational ability (r=0.25). It could be argued that both these sub-scales address interaction skills that can be learned through systematic training based on self-observation and feedback from others, providing the individual with increased awareness and a resultative feeling of progress and development.

The correlation between self-reflection and optimism (r=0.26) is also logical: self-reflective action increases awareness, awareness increases feeling of control, and feeling of control opens up possibilities that the individual would not know or appreciate without self-reflection.

7.13 Gender Differences

According to expectations states theory, individuals are evaluated on the basis of the categories they belong to, turning the issue of gender or sex relevant to this study. (Violanti et al.:2011) Gender differences are typically assigned to male and female personal skills: females are believed to possess stronger interpersonal skills, making them more aware of emotions and more empathetic and socially responsible than males. Males appear to have better intrapersonal capacity, adaptability and emotional management being their strengths. (Bar-On:2006) Gender differences are definitely worth investigating, since, despite women's earnest efforts to pursue careers and break into upper management in the corporate world, the glass ceiling seems to remain intact. (Barrett et al.:2006)

University enrolment figures confirm that it is not the lack of academic qualifications that keep women out of boardrooms and leader positions. The alternative explanation germane to the role of gendered communication style having not been sufficiently examined before, this research set out to study differences in the perception of male and female leadership and social competence. Earlier studies have produced conflicting findings, some proposing that masculine communication is ideal in task-oriented situations and feminine in relationship-oriented contexts; others found that the feminine communication style is generally more preferred in leader roles.[21] (Violanti et al.:2011) Kuusela (2010) claims that men and women exercise power in different ways.

[21] Male communication is typically described as assertive, loud, low-pitched and more inflected, whereas women's communication is regarded as highly pitched and hesitant.

Furthermore, prior research has produced controversial results regarding gender differences in terms of EI. Some have indicated that women tend to have greater social-emotional skills than men (Groves:2005), others have identified gender differences in many emotional abilities, e.g. emotion regulation was found to be related to social functioning for boys but not for girls; high MSCEIT scores have been reported to predict social deviance for men but not for women. (Brackett et al.:2006) Yet others claim that constructs of EI do not reveal significant mean differences or those differences emerge at the sub-scale level: males tend to obtain higher scores for assertiveness while females are higher on emotion expression. (Mavroveli et al.:2007; Bar-On:2006)

The underlying reasons behind gender differences have been argued to stem from parents talking about emotions more with their daughters than with their sons. Or, it has been proposed that other people's behaviors are interpreted on the basis of their genders. This is supported by findings that parents' categorization of children's social behavior is determined by their gender, implying that social functioning may be defined differently for men and women, which is in alignment of the expectations states theory. (Violanti et al.:2011; Brackett et al.:2006)

In the present population, the female and male respondents acquired almost identical results, be they for logical ability, emotive communication skills, personality dispositions, or managerial conduct. However, two major differences emerged, one in terms of focused achievement motivation, and another in relation to empathy.

In the male respondent group, focused achievement correlated negatively (r=-0.31) with the perceived, overall emotive communication ability, whereas in the female sample, no correlation emerged. The proposed explanation offered here relates to gender stereotypes: men are not typically considered apt at multitasking, and potentially in their case, focused conduct eats away capacity from other activities such as interaction with subordinates.

This speculation is supported by a consistent finding with regard to the correlation between focused achievement and ECS sub-scale 2, Emotional availability: the two dimensions correlated negatively (r=-0.33) for men, while there was no correlation for women. Obviously the two dimensions compete for male resources, and cannot easily be found to coexist in male conduct, whereas for women they are not alternatives but rather typify individual differences.

Empathy was the second variable to produce differing results for the two genders. With male respondents, empathy in the self-report WOPI scale correlated with the other-reported ECS sub-scale 1, Assertion, (r=0.24), while there was no correlation between the female sample's other-reported sub-scale 1 scores and their self-reported empathy. The explanation may derive from gender expectations and biases; it could be speculated that for men, empathy adds value to their communication style by turning forcefulness into positively assertive and direct messaging, while it makes no difference for women, as they are expected to be empathetic, to begin with.

Third, self-reported male optimism produced two negative correlations: one with the overall leadership index or question 21 (r=0.25) and another with other-reported ECS sub-scale 1, Assertion (r=-0.23). This implies that for men, a pessimistic or realistic life philosophy induces positive subordinate evaluations, whereas optimistic signals corrode credibility.

7.14 Predictors of Socially Competent Managerial Behavior

It was already confirmed earlier in this study that logical intelligence yielded no correlation or predictive value with socially competent behavior. In contrast, certain dimensions of personality and communication style produced correlations that can be interpreted as indicators of predictive value in terms of social competence.

The identification of personality factors predicting socially competent leadership can be approached from two angles: social competence as a set of observed behaviors or as reported by the manager him- or herself. Correlations emerged between the WOPI personality scales and emotive communication as behaviors observed by the subordinates. The sociability dimension in WOPI correlated (r=0.26) with the total sum score of observed ECS; in other words, managers' motive to form contacts and pursue communication with other people serves as a predictor of emotively intelligent communication. Similarly, correlations arose also between personality scales and the sub-scales of observed communication style. Managers' motive to inspire others, their focused, concrete way of perceiving issues, and tendency to make quick decisions appear to predict emotive communication ability as observed externally.

Although less convincing as an index of emotive communication than observed behavior patterns, it is worthwhile to examine also the ECS scores reported by the managers themselves. Despite the expressed reservation concerning self-reports, the occurrence of relations between personality dimensions and self-reported ECS lends clear support for the personality-predictive factors. In addition, personality factors showed generally higher levels of correlation to self-reported than externally observed ECS. Here again, sociability (r=0.39) and inspiration (r=0.38), that is, motives to cherish contacts and communicate with other people, as well as the motive to inspire others, show correlations of distinctive magnitude to the total sum-score of self-reported ECS. The third replicating personality predictor was managers' quick decision-making style (r=0.25) as a predictor of emotive communication ability.

On the whole, numerous personality predictors appeared for managers' self-reported ECS total score as well as its sub-scale scores. With regard to the strength of correlation, WOPI personality predictors worth noting included at least the managerial competitive motive, his or her intuitive thinking style, and his or her optimistic attitude. The substantially greater number of inter-correlations between WOPI and self-reported ECS may partly be explained by the shared method, both drawing upon self-reporting. But, managerial sociability, inspiration motive, and quick decision-making style lend convincing evidence of personality predictors of managers' socially competent behavior, whether observed by subordinates or reported by the managers themselves.

7.15 Compilation of the Empirical Findings

This research departed from several disciplines and addressed four research questions in its efforts to examine socially competent leadership, and, in particular, its predictors, impacts and skilling methodology. To help the reader grasp the most critical findings of this work, the table below compiles the key answers to the four research questions.

RQ1: **What predicts and explains socially competent leadership?**	1) Managers who are assertive, emotionally available and inspiring receive higher overall scores for their general management and leadership skills. This implies that emotionally intelligent managers are also seen as more effective and productive. 2) Mathematical-logical intelligence does not predict positive subordinate perceptions of a manager's leadership ability. 3) A manager's self-reported emotive communication ability correlates strongly with subordinate perceptions of the manager's emotive communication ability. 4) Strong leadership motivation does not correlates with subordinate perceptions of leadership competence. 5) Such personality dimensions as sociability and optimistic attitude correlate positively with subordinate perceptions. 6) Empathetic behavior and overall emotional availability are linked with positive subordinate perceptions. 7) A manager's assertiveness predicts positive subordinate perceptions and helps efficient behavior in the managerial role. 8) Older age is connected with better emotional availability. 9) Managers scoring high in logical ability have a stronger leadership motivation, but leadership motivation does not predict higher subordinate scores.
RQ2: **What types of leader or communication styles are perceived as most socially competent by subordinates?**	1) Successful leaders participate in daily operations and let others participate. 2) They focus on face-to-face communication and deal with negative issues frankly and directly, without fear of confrontation. 3) They are emotionally present and available at the workplace, appreciating the power of emotions as a reservoir that should not be underestimated or suppressed. 4) Successful leaders are passionate about their work and their ability to inspire others stems from their own enthusiasm, dedication, and they signal determination and willingness to learn and constantly develop. 5) Successful leaders are not necessarily sociable or extraverted but are often excellent listeners who take concrete measures based on what they learn in

	dialogue with their subordinates. They also acknowledge the importance of interaction skills and put effort to improving them. 6) Successful leaders earn their subordinates' respect through mastery of the subject matter. 7) They are assertive even in difficult situations, finding it manageable to face difficult situations and people. 8) They rarely lose their temper, not because they put extensive effort to controlling their anger but because they have a perspective to life that allows them to deal with work as work, nothing more. 9) Successful leaders do not cover up their weaknesses but openly reveal their handicaps and also their plans to tackle the challenges. 10) They benefit from their life history and especially tragedies in a way that allows them to appreciate other human beings. Many of them accentuate that hardships had made them more understanding; they did not judge other people as easily as before and felt their ability for empathy had grown.
RQ3: **How do socially competence leaders develop their communication style and social competence?**	1) They have often undergone massive tragedies in their past and believe these have served as critical incidents instigating a change in their character and personal development. 2) They take responsibility for their personal development and do not justify under-performance with past hardships. 3) They are aware of the impact of their interaction skills and consciously focus on improving them. 4) They read psychology literature and actively educate themselves. 5) They are humble, appreciating the handicaps in their characters and skills. 6) They appreciate criticism as information they can learn from. As they do not have illusions about themselves or their capabilities, criticism is not difficult for them to accept and they seem almost grateful for it.
RQ4: **How can social competence be learned, developed and taught in universities and organizations?**	1) Self-management techniques allow individuals to become self-aware of their strengths and development targets. The identification of one's weaknesses and strengths offers a platform for self-development. 2) Collaborative learning allows individuals to rehearse their interpersonal skills in real-life situations imitating working life (as in university education) or

	drawing from real-life workplace challenges and situations (as in corporate training or learning-on-the-job). 3) Empowering learning encourages responsibility and questioning of one's own ways, beliefs, mindsets and conduct. 4) Integrative learning offers a venue for learning social skills as a by-product of substantive learning. It also offers an unnoticeable way of learning that directs focus away from self-consciousness. 5) Teacher immediacy as a pedagogy draws from the teacher's emotional reservoir as a source of constructive interaction, contagiously infecting the classroom with motivation to reach out and impact others also on the emotional level. Also, teacher immediacy is a way for students to positively model after and learn from an example.

Table 13. A summary of the key findings of the present research.

To visually map out the key findings of the present work, the figure below compiles the essential concepts contributing to managerial communication and pertinent phenomena impacting leader success into a model that peals managerial interaction into its sub-layers.

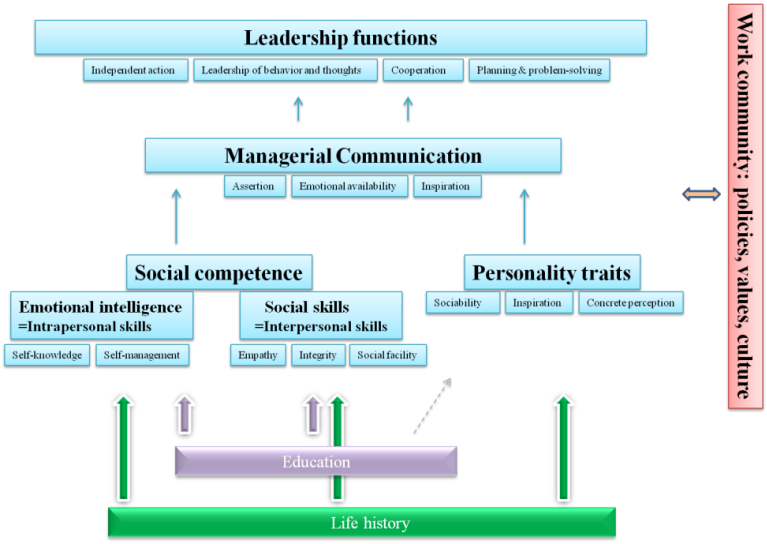

Figure 8. The inter-relations of the concepts pertinent to managerial interaction.

8 PRACTICAL IMPLICATIONS OF THE PRESENT RESEARCH

8.1 Education of Socially Competent Engineers

To date, studies conducted in work psychology, organizational communications, emotional intelligence, communibiology, neurology, and social psychology have industriously striven to examine the elements, underlying mechanisms and impacts of social competence in working life. Yet, much of the knowledge helping communities develop the related skills is still to be uncovered. The findings from the present study provide implications for executive selection, career development, and education practices in higher engineering education and development measures in corporate in-house training.

The main contribution of this research lies in the evidence it gathered to support previous studies indicating that in workplace interaction, traditional intelligence does not suffice to provide the individual with preparedness and aptitude to deal with daily human encounters in a way that elicits passion in employees, inspires them to more productive practices and, ultimately, has a positive impact on company turnover, profits and quality. In fact, the empirical data in this study demonstrated the correlation between IQ and managerial performance to be insignificant, whereas personality traits related to social skills such as assertion, empathy and inspiration seem stronger predictors of successful leadership.

This work employed human communication as the lens guiding the research process. Much hope was placed on the identification of methodology for the development of workplace communication skills. Communication literature is replete with pedagogy of high utility value but the methodology proposed earlier is mostly focused on the effective transmission of verbalized information.

Having lent support to those researchers who have identified the related benefits and impacts of communication training on the general level, the next challenge was to identify methodology to learn, develop and teach emotionally intelligent communication to meet workplace demands. Based on the literature review and empirical findings presented earlier in this work, this final section compiles the related knowledge into a pedagogical effort, following the conceptualization presented below. The illustration aims at demonstrating the diversity of competence needs that are to be tackled in engineering education and training.

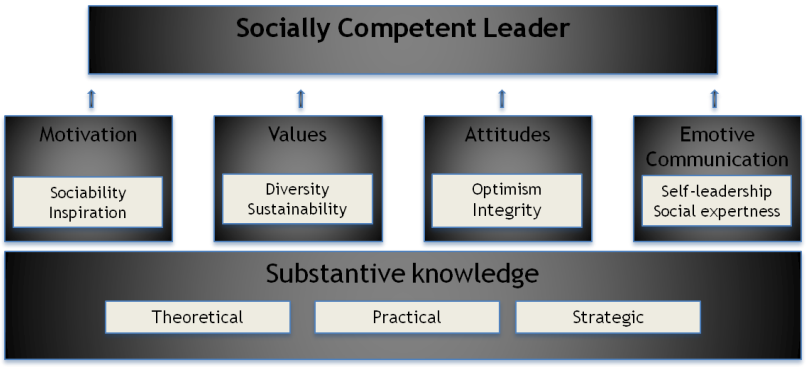

Figure 9. The competence needs identified for engineering curriculum development.

Engineers' substantive knowledge is secured through the solid tradition of engineering education in Finland. However, to support graduates' development also in terms of motivation, values, attitudes, overall professional conduct and emotive communication, this research proposes an education model that offers, parallel with optional studies, a module on working-life skills. Ideally, the completion of the module would lead to the acquisition of a certificate evidencing ability in professional skills. An engineering degree comprising of both engineering studies and professional skills could be structured as follows:

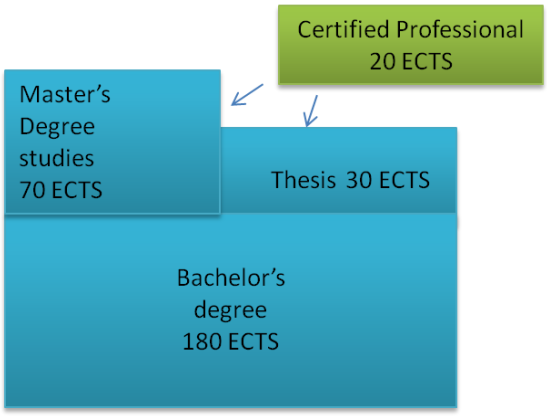

Figure 10. Proposal for a degree structure that also formally incorporates professional skills.

The studies within the 20-ECTS program that aims at the Certified Professional Certificate can be divided into mandatory studies worth of 12 ECTS credits, and a choice of 4 optional courses that yield a total of 8 ECTS credits. The figure below proposes course contents for the Certified Professional program.

Figure 11. Content proposal for the Certified Professional program.

8.2 Socially Competent Teachership

The quantitative findings produced in this research interweave the fields of pedagogy and leadership together, signalling that the roles and challenges of university pedagogues and industrial managers are not that different. The demands for pedagogic leadership represent qualifications similar to corporate leadership, placing expectations, in particular, on social competence.

Nederström et al. (2010) claim leadership in organizations can be divided into leadership of other people's **behavior** and leadership of other people's **thoughts**, or inspiration as they name it. In teachership, both types of leadership manifest themselves; despite the focus on measuring and grading performance and concrete outcomes, teachership ultimately draws from a calling that addresses all the three dimensions of learning: the content dimensions of what is being learned, the incentive dimensions of learner motivation and mental energy, and the interaction dimensions drawing from the processes between the learner and his or her social environment. (Korpelainen:2011)

Further proof of the similarities between classroom leader and organizational leader roles is provided by McShane et al. (2000): (pedagogic) leader success is built on vision, communication and ability to build commitment – all equally crucial when leading classroom situations. This is evidenced by the seven essential competences of effective organizational leaders: **drive, leadership motivation, integrity, self-confidence, intelligence, knowledge of the business, and emotional intelligence** – it is hard to imagine a teacher operating with any one of these qualifications missing.

Teachers and leaders alike are faced with demands for emotional abilities. They should be aware that in contrast to neutral content, individuals internalize and remember with less effort information that is associated with strong emotional reactions. (Vuori:2011) Social-emotional learning takes place most effectively in environments where students feel valued and respected and can experience feelings of belonging, fulfilment and responsibility. Such caring and supportive classrooms are characterized by open interaction, free dialogue, critical thinking, high standards of behavior, safety, collaborative problem-solving activities, equity, fairness, respect for diversity, and positive learning experiences. Students' emotional needs for friendship, acceptance and love require reflective rather than reactive practice of educators as well as justified action in the classroom based on well-conceived frameworks and research findings. (Elias et al.:1997)

Subsequently the teacher's capacity to understand and relate well with others becomes accentuated; it is of the essence that the teacher e.g. can read her students profoundly enough to form a conception of student self-views, as they impact feedback provision. This is particularly critical in case of students with negative self-views who do not allow objective feedback to alter their self-estimated task performance, calling for more persistent effort on the part of the teacher. (Critcher et al.:2009) It is also important for the teacher to recognize that individuals tend to behave in ways that are consistent with their self-perceptions (Dai et al.:2007) but also with the expectations others have about them (Carney et al.:2005).

Smile and paravocal cues have proven instrumental in feedback provision. Socially intelligent teachers recognize that the extent to which feedback will be accepted and received depends on

the delivery: negative performance feedback that is accompanied by positive emotional signals will leave the recipient feeling encouraged and empowered. On the other hand, positive performance feedback that is delivered critically with frowns and narrowed eyes, privy of nods and smiles, will be interpreted in a demotivating way. (Goleman et al.:2008)

Also, a teacher's social competence becomes manifested through her ability to create relational space in the classroom. He or she needs to invest all his or her **personality** and **expertise** in building up a communication zone that facilitates the establishment of social bonds and identities through discourse interactions. Such discourse behaviors is characterized by **accountability for misunderstandings** in the classroom interaction, **acknowledgement** of student contribution, willingness to be **flexible** with practicalities, expressions conveying desire to contribute to interpersonal collaboration and relational motivation, positive **affirmation** of and constructive **feedback** on student progress, but also candid **concern** for potential student setbacks, feedback and information solicitation, and finally, by **information sharing**. Last but not least, communication that signals **enthusiasm** and **passion** is an effective way of building trust and motivation in the classroom. (McNair et al.:2010)

One final dimension could be added to both teacher and leader qualifications – the use of **humor**. Research findings related to the impact of humor in general on student learning seem somewhat conflicting and equivocal, but when examining the quality and role of the humor used, the results get more consistent. When used in a prosocial and positive manner to relate to others, humor can facilitate learning. Conversely, when used in an offensive and other-disparaging way to demean others, it correlates negatively with student learning. (Wanzer et al.:2010) Again one can detect a contextual similarity to leadership – top-performing leaders elicit laughter from their followers three times as often as do the less effective managers. Being approachable, playful and good-natured makes the audience feel better – and perform better. (Goleman et al.:2008)

Teacher **assertion** should be underscored, as well. As one of its building blocks, **clarity** correlates with learner empowerment and learning outcomes but also predicts student-perceived meaningfulness. Teachers that are clear use **previews** and **summaries** to refer back and forth, they stress the essential points, use **visual aids,** and assist students in preparing for assignments. In brief, they help students understand. (Houser et al.:2009)

In sum, teachers need to meet requirements on **caring**, **immediacy** and **credibility**, on top of **substantive expertise**, reflecting the paradigm shift from teachers as knowledge transmitters to coaches. Unsentimental coaches who know how to challenge students at the right pace and point in time drive the learners to higher performance levels. Gradually such teachers help students become more and more independent self-coaches. (Ericsson et al.:2007) Like with managers, such an ability to empower stems from a socialized power orientation where the teacher uses her position to benefit others. (Eubanks et al.:2010)

For socially competent teachers to invade classrooms, up-to-date and innovate teacher training and pedagogic development measures are needed. In order to pass on constructive, inspiring and socially intelligent practices in the classroom, teachers need support in their own, personal development. For this, the present work pays homage to the late Mrs Mirja Tolsa, who courageously and innovatively introduced the so-called *communicative language*

teaching method to the Finnish schooling system and implemented it in her own teacher trainee education.

8.2.1 Experiences from the Proposed Pedagogy

Encouraged by her research findings and theoretical assumptions corroborating the benefits of social competence as a factor enhancing the quality of study, work and life in general, the researcher experimented with the pedagogy treated above. She addressed new types of student-empowering classroom management strategies promoting self-management, problem-based and integrated collaborative learning methods, as well as teachership drawing from social competence to create relational space and perceived teacher immediacy. To try out the approaches delineated in this research in practice, the researcher designed a course that allowed students to learn and develop their social competence. The most systematic efforts were put to teaching interpersonal skills and emotive communication, in particular, as integrated into an English and communications course called Organizational Communications.

The communicational elements addressed during the course embraced the interpersonal skills within the Emotive Communication Model devised during this research process: assertion, inspiration and empathy. Since the development of self-regulation requires a longer process and psychology competence on the part of the teacher, it was merely discussed in class to raise awareness but the actual assessment focused on the other three skills.

The course centred on classroom interaction that addressed several facets of student-to-student- communication: groupwork allowed students to rehearse **negotiation** skills, **critical thinking** and **brainstorming**; pairwork offered a venue for more intensive **dialogue**, **ideation** and **interaction** on more intimate grounds; individual presentations accustomed the students to facing, **persuading** and convincing an audience and to **receiving feedback** on their oral and presentation skills; role play in groups facilitated **experiential learning**; **argumentation** and **debate** enhanced student skills in **assertion** and **credibility** build-up; video-taped meetings helped the participants examine their own interaction skills through the eyes of others; feedback provision taught them **perspective-taking** and **empathy**.

The teacher's role was more one of a coach than a lecturer. Teacher immediacy was strongly pursued to promote student empowerment, and the teacher also went to great lengths to secure educational content relevance by only resorting to authentic cases that reflected today's industrial context. (Houser et al.:2009) Time allowing, the teacher strove to provide the students with as much one-on-one time and presence as possible, providing face-to-face feedback on their oral and written skills, constantly trying to observe student feelings and self-perceived learning progress.

Some students articulated their need for more student-to-teacher time, an important indication of student needs that must be considered in future courses. This may prove to be the communication sphere where teachers may exercise their power to empower and influence student growth and development – having faith in student ability and signalling positive expectations may be the most effective way of eliciting and encouraging contribution and dialogue (Carney et al.:2005).

Typically for experiments with new and potentially advantageous pedagogy, it was important to monitor student reactions and learning. Teacher observations offered only a one-sided view of learning outcomes, and therefore, part of the classroom time was allotted to student learner logs, to be used as a database for analyzing learner reactions and emotions. A content analysis of 71 student journals was conducted to examine student reflections on two themes:

> 1) How do I feel so far about what we have accomplished during the course?
> 2) What have I learned?

Instead of focusing on cognitive learning measurement, the teacher specifically chose to monitor affective learning (King et al.:2009) and personal growth.

The students were asked to respond to these questions five times during the 36-hour course. The students were given wide latitude in approaching their learner logs; they were not instructed in more detail as to their writing contents, length, form, or even language (both Finnish and English were allowed; however, only one student resorted to Finnish), with the aim of not limiting or guiding their thinking excessively.

On average, the students produced two hand-written A4-papers with their reflections of the success of the course and their learning. The researcher picked all student comments that were allusions to three areas of interest that the teacher had embraced in course design, in particular:

> 1) feedback on the course atmosphere, methodology, exercises or any general dimension of the course that the student felt encouraged or motivated him or her to interact with others,
> 2) identification of any improvement in their oral skills (presentation, interaction, confidence)
> 3) student self-awareness, that is, recognition of difficulty in and discomfort of expressing themselves in public.

Screening for the three areas produced a total of 185 student reactions to the selected items. (For full listing of the respective comments, see Appendix 24). Out of the 71 students, five did not address these dimensions at all but instead wrote about course practicalities, lecture times, classroom facilities, and their studies in general. This meant the lecturer was left with a total of 66 papers for scrutiny.

The data contained 116 references to dimensions regarding the atmosphere and the course in overall that encouraged interaction. 54 references were made to self-perceived learning outcomes related to interaction skills, and 15 references to the difficulty to perform in public or awkwardness felt during presentations.

The great number of allusions to social skills evidenced the raised level of awareness in terms of the pivotal role of emotional intelligence and social competence, signaling that the learning objective related to the acknowledgement of the role of social-emotional skills in working life was met. Additionally, content analysis of student writings verified self-perceived recognition of improvement in many dimensions of interaction and communication but also

acknowledgement of discomfort at the face of audience and the utility of frequent subjecting of oneself to these situations.

Unfortunately, learner logs produce only subjective traces of learning outcomes, with the question of objective monitoring and evaluation of students' social skills development still remaining. In order to reliably survey student progress, a more formalized diagnostic instrument would be required prior to taking the course. The chapter below discusses some of the related challenges and attempts to propose a methodology for the objective assessment of student performance that is more process-oriented than content-focused.

8.3 Methodology for Assessing Social Competence

It is challenging to determine and evaluate the effectiveness of communication education (Rouhiainen-Neunhäuserer:2009), but one important milestone on the way to systematic and productive education with a positive impact is the set-up of an effective and targeted assessment method. Despite high expectations and ideals, rating methods are also subject to several pitfalls. Prior research has recognized the insignificance of the rating instrument as a source of error in the oral communication rating process. Instead of the instrument used, it is the rater that is the major source of error, or more specifically, the rater's judgment that can be the source of unreliability. Rater objectivity in communications education is a challenge that teachers face without much support from the rubrics utilized in content education. The careful and objective judgment of oral student outcomes assumes the existence of an absolute standard or model of excellence against which the student product is compared. It also assumes that the judgment is numerical, based on an interval scale. . (Bohn et al.:1985)

Unfortunately, human judgment is always fallible, and the evaluation of oral communication is vulnerable and prone to errors primarily in two respects. First, leniency drives the rater to be either too easy or too hard on the student mass. Second, the halo effect results in the teacher being too easy or too hard on a specific student. (Ibid.) This is either a direct or a mediated result of the teacher's affective response to student behavior, evidencing the well-documented sensitivity of interpersonal encounters to subjective interpersonal processes allowing e.g. for manipulation and reducing rating accuracy. By resorting to such competences as empathy, self-presentation and tactical use of non-verbal expression, students will make the evaluator sympathize with and feel positive about them. In a similar vein, student ability of self-induction and maintenance of one's good mood is likely to facilitate classroom performance through certain cognitive behaviors associated with innovative problem-solving and creativity: the retrieval of a more extensive set of data from memory, more inclusive categorization, and more extraordinary associations to neutral words. Further, mood regulation is likely to facilitate self-enhancement, projection of confidence and competence, and adeptness at dealing creatively with unexpected situations. (Fox et al.:2000)

Finally, although causing considerably less error variance, the trait error occurs when the lecturer is too easy or hard on a specific trait or category addressed in the evaluation scale, regardless of the student. (Bohn et al.:1985) Recognition of human factors undermining the systemacy and consistency of assessment calls for a comprehensive rubric of evaluation criteria to add reliability and credibility to a process otherwise so vulnerable to judgmental behavior. As a result, the researcher proposes the application of three criteria in the assessment of social skills in an English communications course:

First, **audience focus** constitutes perceived effort in adjusting one's informational content to respond to audience needs and to get the message across unaltered. Further, it calls for an appropriate tone that invites the audience to react positively to the message but also to the organization of information by means of cohesive elements in a way that facilitates comprehension.

Second, language **proficiency** refers to fundamental language skills, including the choice of appropriate lexicon, application of grammar in terms of paragraph, sentence and clause structure, and appreciation for coherence in a way that supports the overall task accomplishment. Pronunciation, accentuation and intonation to support phrasing are equally important for effective delivery, as is also the ability to inspire, motivate and persuade.

Third, **professionalism** is built on an individual value system that allows the student to communicate with those around with facility, sincerity and effectiveness. It necessitates frequency of initiative as well as active, reactive and proactive contribution to dialogue, and also a positive attitude towards others and one's own development. Attitudinal factors embrace tolerance of opposing views, respect for diversity, and empathy demonstrated in peer interaction, amounting to high-quality interaction skills that elicit willingness to collaborate constructively with peers.

Together, the three aspects, when in place, facilitate effective information transmission that is supported by a purposeful social-emotional impact. The criteria are applicable to all elements of emotive communication and constantly present in the assessment of a student's self-regulation, assertion, empathy and inspiration skills.

8.4 Management Coaching and Training

In addition to university classrooms, the methodology proposed in the present work could be applied to the corporate settings, as well, as it is never too late to instigate one's journey towards a better self. However, several challenges have been reported in relation to long-term impacts instigated by corporate communication training: learning is rarely applied in practice, and effects on the work community's culture or ways of working are not automatic. Therefore, to ensure more effective learning outcomes and organizational impacts, the learning methodology should be intensely tied to the work processes. (Lemminkäinen:2010)

In fact, the work environment provides certain advantages compared to all-around university syllabi, thanks to the immediate access to the real-life context, and awareness and knowledge of the specific competence gaps and related training needs. On the other hand, individuals may find it challenging to reveal and open up about their handicaps in the competitive company of peers. Despite the challenges, learning-on-the-job that is characterized by contextuality and communality, has potential for effectiveness when the organization lacks competitiveness and is high on sharing and openness, which support not just individual learning but the entire organization's capability and a cultural change. (Juholin:2010)

In alignment with intentional change theory and the related quest for a more comprehensive understanding of the self, the findings of this research corroborate that organizational advantages can be promoted by accessing the real self of the individuals. The real self is made

up of two types of knowledge: 1) self-knowledge or what the person accurately knows about himself; and 2) the correct assessment of a person's competence as reported by others in contexts where the person operates. (Taylor:2006)

The findings in this study suggest that management training could address more widely what is presently known about organizations' emotional economy. Managers would benefit from the evidence corroborating the impact of emotional arousal in triggering a change in their subordinates' mental models. Such intrapersonal change facilitates e.g. organizational change. As tactics typifying managerial communication that helps followers abandon old ways of thinking, management training could address e.g. symbolism, narratives, and framing language. (Vuori:2011)

8.5 Avenues for Future Research

This work, although ambitious in its mission to discover new knowledge about managerial social competence, is only a humble search for measures helping identify and develop effective, productive and humane leaders for future organizations. Despite its efforts to comprehensively unveil the predictors, impacts and skilling methods of socially competent leadership, the empirical data collected in this research are quantitatively rather limited (n=80 superiors and 354 subordinates) and therefore more extensive data collection would be needed to solidly corroborate the findings.

Additionally to more extensive validation of the instruments utilized in this research, the theoretical advancements of this research will hopefully trigger studies also in the close vicinity. This work centred on subordinate perceptions as the criterion determining successful leadership and did not take interest in such actual performance indicators as key financial figures. Including objective and transparent determinants that are immune to subjective bias would be needed to validate subordinate views as assessment criteria.

Also, the dimensions selected for the ECS self-report and other-report tools were rather limited, the scope of this research having been narrowed down to certain elements of EI. Further research could be steered to shed light on personality dispositions such as impulsivity. Similarly, concepts such as prosocial behavior, personal warmth and affiliative relationships would deserve a finer-grained inspection. (Niitamo:1999a)

The focus of this work was on leader abilities and the perceived impact of leader behavior. This should not be interpreted as a categorical removal of responsibility from subordinates in matters relating to organizational performance, atmosphere, and outcomes.

Rather, it is acknowledged that the role of followers and employeeship play a pivotal role, which creates a research challenge for a more in-depth understanding of how leadership and employeeship interplay. Also, little is known about the role followers play in charismatic leadership. (Groves:2005) Moller et al. (2000) address 11 employeeship factors: 1) commitment, 2) responsibility, 3) loyalty, 4) initiative, 5) productivity, 6) relations, 7) quality, 8) professional competence, 9) flexibility, 10) implementation, and 11) energy. This battery of factors could furnish an interested party with a stepping stone for the examination of similarities between leadership and followership. (Moller et al.:2000)

Furthermore, the topics treated here breed several research gaps in the sphere of social competence. The emerging research on systems intelligence addresses several phenomena intensely linked with emotional intelligence, inviting an interest in the similarities and dissimilarities between the two concepts. (Rauthmann:2010a) They both share a focus on interconnectivity and interrelatedness as well as dimensions helping the individual adaptively take productive action with respect to systems; they are both focused on the potential of intrapersonal/interpersonal abilities, and on communication between individuals.

Moreover, these two fields struggle with a general definition problem related to their object – opinions vary whether emotional intelligence and systems intelligence (SI), alike, are reckoned as styles (manners of mental processes), abilities (forms of performance), or traits (stable characteristics). (Rauthmann:2010a; Saarinen et al.:2010) In light of this research, there is an intriguing gap that remains to be filled.

Finally, systems intelligence has been said to offer a promising area to be applied to organizational management (Kilkki:2010), and the similarities and differences between SI and EI stand out as an interesting area for future inquiry. Similarly, the field of communication hosts uncharted territories of interest for leadership studies. E.g. the emotive role of silence in listening beyond expression of consent (e.g. as an expression of intimacy) falls within the sphere of nonverbal communication. Also the significance of silence in contrast to speech as a social parameter would deserve more investigation in supervisor-subordinate interaction. (Ephratt:2008)

9 CONCLUSION

The aim of this study was to determine whether EI-based social competence predicts unique variance in managerial success beyond that explained by personality and traditional intelligence. Although the relatively small sample of the present study limits the strength of the findings discussed earlier, they replicate and support the fundamental conclusion that **leader characteristics have an impact on subordinates** and organizational culture.

Recent approaches to leadership style concentrate on looking into how leader personality affects the followers and the organizational mindset by identifying, articulating, and modelling values, by influencing the culture, and by building commitment to missions, objectives and strategies. Leaders who elicit a positive impact on their subordinates possess personal (achievement motivation, self-confidence, energy, and personal effectiveness), social (influence and empathy), and cognitive (conceptual thinking and bird's eye view) competences. (Kets de Vries:2001)

Admittedly, organizational success cannot be assigned to heroic leaders alone but instead, effective leadership materializes in a wider context, that of employees, industry and the larger social environment. (Kets de Vries:2001) However, as a phenomenon largely affecting organizational productivity, maximum leadership effectiveness should be targeted, and it can only be reached when the leader is highly concerned for both production and people, meeting the human and task requirements of the job simultaneously. (Pöllänen:2008) This built-in requirement for the emotional dimension forces managers to engage in emotional labour as, on top of employees' minds, today's managers need to be able to appeal also to their hearts and sentiments, as well as to meet their social needs (Åberg:1993; Näsi et al.:2006). Employees are known to work harder for and with leaders they value and like, and liking is in direct proportion to how these leaders make the subordinates feel. The inclusion of emotive abilities in the managerial skill requirement set is therefore justified.

The higher the employee's position in the organization, the more important the EI skills. Some even claim that people get hired for their technical skills and fired for their lack of emotional abilities (Saarinen:2007). Similarly, Kets de Vries (2001) states employees are hired thanks to their technical skills, but the success of their career depends on their emotional intelligence. Empathy and self-awareness have also in the present work proven to be major career-advancing factors.

In order to understand why individuals choose to act in certain ways towards another person, research should not only be interested in the limits of his or her socio-cognitive understanding but also his or her beliefs and motivations, rooted in the personal history, should be appreciated. (de Rosnay et al.:2006) We are always products of our past, a developmental outcome of our early environment modified by the genetic endowment. (Kets de Vries:2001) This was certainly corroborated in this research, as a large share of the successful leaders carried quite some mental load in their back sack, memories of past losses and tragedies.

And even for those whose behavior is not impacted by past experiences, it is never too late to change, if not for the good of our organizations, then for the good of ourselves. We can all develop these (self-)leadership qualities if only we allow ourselves to get exposed to

appropriate career experiences and training in the relevant skills and possess the humbleness to want to learn. (Whittington:2001)

Social capital has emerged as the last resort for modern organizations searching for new sources of competitive edge and struggling with efficacy targets. Luckily for organizations, intellectual or human capital is not in short supply to be fought over merely in the markets – it can be uncovered and discovered in each and every one of us in the form of emotional intelligence and socially competent (self-)leadership. These are known to bring added value: by means of EI we can build stronger interpersonal relationships, be better at motivating others and ourselves, be more proactive and innovative, lead more effectively, function better under pressure, cope with agility in change, and be more at peace with ourselves.

Where self-awareness and self-leadership are beneficial in bringing balance and happiness to one's life, their appropriate and purposeful application in a way critical for the entire organization takes place through motivational and inspirational leader conduct, active listening skills, and exemplary ethical conduct that bolsters the fundamental legitimacy of the organization.

The transformation of socially competent leadership into human capital value calls for rather simple measures. The efficacy targeted in modern workplaces poses heavy requirements on modern leaders. They are expected, on the one hand, to apply their knowledge of science and modern technology, and on the other, to integrate emotional, mental, physical and spiritual growth and inject wisdom into their everyday conduct and performance.

This research suggests that managerial recruitment should not rely on too specifically defined templates, as the possession of certain types of traits does not guarantee leadership success. A trait promoting fitness in one context may prove to be counterproductive when situations change. Instead, organizations need different plethora of personality traits – and genders. The results of the present research advocate the entrance of women in managerial ranks, but due to the evidently less competitive nature of female employees also proposes the use of the results as business-case arguments for nation- and organization-wide policy initiatives to support women's advancement.

However, more decisive than gender or innate traits is dedication to lifelong learning and personal growth. Believing that successful leaders are born, not made, would do profound disservice to those with potential for effective leadership with the right type of education, training and mentoring. Instead of accentuating cognitive abilities and permanent traits and talents in managerial screening, the education, recruitment and career planning functions should focus on individuals with motivation and drive for personal growth and development. Fostering an environment supporting such personal pursuits would eventually benefit the organization: emotionally and socially competent leadership offers means of turning workplaces into venues of human exchange, not only of information, but of emotions, attitudes, presence and caring. After all, as pointed out by Senge et al. (2005), "When all is said and done, the only change that will make a difference is the transformation of the human heart".

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INTERVIEW

Kahlos, Maijastina, Docent, Helsinki University, 23.9.2008.

Appendix 1 **Affective Communication Test (ACT)**

1.	When I hear good dance music, I can hardly keep still.	-4 -3 -2 -1 0 +1 +2 +3 +4
2.	My laugh is soft and subdued.	-4 -3 -2 -1 0 +1 +2 +3 +4
3.	I can easily express emotion over the telephone.	-4 -3 -2 -1 0 +1 +2 +3 +4
4.	I often touch friends during conversations.	-4 -3 -2 -1 0 +1 +2 +3 +4
5.	I dislike being watched by a large group of people.	-4 -3 -2 -1 0 +1 +2 +3 +4
6.	I usually have a neutral facial expression.	-4 -3 -2 -1 0 +1 +2 +3 +4
7.	People tell me that I would make a good actor or actress.	-4 -3 -2 -1 0 +1 +2 +3 +4
8.	I like to remain unnoticed in a crowd.	-4 -3 -2 -1 0 +1 +2 +3 +4
9.	I am shy among strangers.	-4 -3 -2 -1 0 +1 +2 +3 +4
10.	I am able to give a seductive glance if I want to.	-4 -3 -2 -1 0 +1 +2 +3 +4
11.	I am terrible at pantomime as in games like charades.	-4 -3 -2 -1 0 +1 +2 +3 +4
12.	At small parties I am the center of attention.	-4 -3 -2 -1 0 +1 +2 +3 +4
13.	I show that I like someone by hugging or touching that person.	-4 -3 -2 -1 0 +1 +2 +3 +4

Appendix 2.

Emotive Communication Scale (ECS), in Finnish
Self-report / pilot version

Esimieheni nimi: _____

ei koskaan---joskus---usein---aina

1-----2-----3-----4-----5-----6-----7

1. Saan alaisiltani palautetta esimiestyöstäni. 1-----2-----3-----4-----5-----6-----7
2. Tulen viestiessäni väärinymmärretyksi. 1-----2-----3-----4-----5-----6-----7
3. Alaiseni kertovat minulle henkilökohtaisia asioitaan. 1-----2-----3-----4-----5-----6-----7
4. Tunnen myötätuntoa alaisteni henkilökohtaisissa vastoinkäymisissä. 1-----2-----3-----4-----5-----6-----7
5. Puhun alaisteni kanssa muustakin kuin työstä. 1-----2-----3-----4-----5-----6-----7
6. Vaikeissakin tilanteissa osaan ilmaista itseäni selkeästi. 1-----2-----3-----4-----5-----6-----7
7. Ilmaisen tunteitani työpaikalla muiden läsnä ollessa. 1-----2-----3-----4-----5-----6-----7
8. Tunnen oloni epämukavaksi antaessani palautetta. 1-----2-----3-----4-----5-----6-----7
9. Jännitän esiintymistä työpaikalla. 1-----2-----3-----4-----5-----6-----7
10. Tunnen oloni epämukavaksi joutuessani huomion keskipisteeksi. 1-----2-----3-----4-----5-----6-----7
11. Halaan tai kosketan alaisiani suuren ilon tai surun hetkellä. 1-----2-----3-----4-----5-----6-----7
12. Koen olevani vastuussa työpaikkamme ilmapiiristä. 1-----2-----3-----4-----5-----6-----7
13. Provosoidun keskustellessani alaisteni kanssa. 1-----2-----3-----4-----5-----6-----7
14. En uskalla suoraan ilmaista mielipiteitäni alaisilleni. 1-----2-----3-----4-----5-----6-----7
15. Vältän tilanteita, jotka voivat herättää muissa tunnereaktioita. 1-----2-----3-----4-----5-----6-----7
16. Joudun katumaan sanomisiani. 1-----2-----3-----4-----5-----6-----7
17. Alaiseni ilmaisevat minulle negatiivisia tunteitaan. 1-----2-----3-----4-----5-----6-----7
18. Viestin ikävät asiat mieluummin sähköpostitse kuin kasvotusten. 1-----2-----3-----4-----5-----6-----7
19. Näen vaivaa varmistaakseni viestieni perillemenon. 1-----2-----3-----4-----5-----6-----7
20. Tiedustelen alaisiltani heidän tunnelmiaan tavatessamme. 1-----2-----3-----4-----5-----6-----7

Appendix 3. **Emotive Communication Scale (ECS), in Finnish**
Self-report / revised version

Esimieheni nimi: _____

ei koskaan---joskus---usein---aina

1---2---3---4---5---6-—7

		arviosi
1.	Saan alaisiltani palautetta esimiestyöstäni.	
2.	Tulen viestiessäni väärinymmärretyksi.	
3.	Alaiseni kertovat minulle henkilökohtaisia asioitaan.	
4.	Tunnen myötätuntoa alaisteni henkilökohtaisissa vastoinkäymisissä.	
5.	Puhun alaisteni kanssa muustakin kuin työstä.	
6.	Vaikeissakin tilanteissa osaan ilmaista itseäni selkeästi.	
7.	Ilmaisen tunteitani työpaikalla muiden läsnä ollessa.	
8.	Tunnen oloni epämukavaksi antaessani palautetta.	
9.	Esiintymistilanteet ovat innostavia ja saan niistä virtaa.	
10.	Minulla on kyky inspiroida ja motivoida muita.	
11.	Halaan tai kosketan alaisiani suuren ilon tai surun hetkellä.	
12.	Koen olevani vastuussa työpaikkamme ilmapiiristä.	
13.	Provosoidun keskustellessani alaisteni kanssa.	
14.	En uskalla suoraan ilmaista mielipiteitäni alaisilleni.	
15.	Vältän tilanteita, jotka voivat herättää muissa tunnereaktioita.	
16.	Innostun uusista ideoista ja muutoksista.	
17.	Alaiseni ilmaisevat minulle negatiivisia tunteitaan.	
18.	Viestin ikävätkin asiat mieluummin kasvokkain kuin sähköisesti.	
19.	Näen vaivaa varmistaakseni viestieni perillemenon.	
20.	Tiedustelen alaisiltani heidän tunnelmiaan tavatessamme.	

Appendix 4.

Emotive Communication Scale (ECS), in English
Self-report / pilot version

Supervisor: _____

never--at times--often--all the time

1---2---3---4---5---6—7

1.	My subordinates give me feedback.	1----2----3----4----5----6---7
2.	My messages are misinterpreted.	1----2----3----4----5----6---7
3.	My subordinates reveal their personal matters to me.	1----2----3----4----5----6---7
4.	I feel empathetic when hearing about my subordinates' sorrows.	1----2----3----4----5----6---7
5.	I discuss issues outside work with my subordinates.	1----2----3----4----5----6---7
6.	I can express myself clearly also in challenging situations.	1----2----3----4----5----6---7
7.	I express emotions at workplace in the presence of others.	1----2----3----4----5----6---7
8.	I feel uncomfortable when giving feedback.	1----2----3----4----5----6---7
9.	I get nervous about performing in public.	1----2----3----4----5----6---7
10.	I feel uncomfortable at the centre of attention.	1----2----3----4----5----6---7
11.	I hug or touch my subordinates at the moment of great joy or sorrow.	1----2----3----4----5----6---7
12.	I feel responsible for our organizational climate.	1----2----3----4----5----6---7
13.	I get provoked when discussing with my subordinates.	1----2----3----4----5----6---7
14.	I'm afraid of expressing my opinions directly to my subordinates.	1----2----3----4----5----6---7
15.	I avoid situations that may raise emotions in others.	1----2----3----4----5----6---7
16.	I have regrets for what I have said.	1----2----3----4----5----6---7
17.	My subordinates express negative emotions to me.	1----2----3----4----5----6---7
18.	I communicate difficult matters by email rather than face-to-face.	1----2----3----4----5----6---7
19.	I put effort to monitoring how my messages are received.	1----2----3----4----5----6---7
20.	When seeing my subordinates, I ask how they are doing.	1----2----3----4----5----6---7

Appendix 5.

Emotive Communication Scale (ECS), in English
Self-report / revised version

Supervisor: _____

never--at times--often--all the time

1---2---3---4---5---6—7

		your score
1.	My subordinates give me feedback.	
2.	My messages are misinterpreted.	
3.	My subordinates reveal their personal matters to me.	
4.	I feel empathetic when hearing about my subordinates' sorrows.	
5.	I discuss issues outside work with my subordinates.	
6.	I can express myself clearly also in challenging situations.	
7.	I express emotions at workplace in the presence of others.	
8.	I feel uncomfortable when giving feedback.	
9.	I get inspired and energetic when performing in public.	
10.	I know how to inspire and motivate others.	
11.	I hug or touch my subordinates at the moment of great joy or sorrow.	
12.	I feel responsible for our organizational climate.	
13.	I get provoked when discussing with my subordinates.	
14.	I'm afraid of expressing my opinions directly to my subordinates.	
15.	I avoid situations that may raise emotions in others.	
16.	I get inspired by new ideas and change.	
17.	My subordinates express negative emotions to me.	
18.	I communicate difficult matters by email rather than face-to-face.	
19.	I put effort to monitoring how my messages are received.	
20.	When seeing my subordinates, I ask how they are doing.	

Appendix 6.

Emotive Communication Scale (ECS), in Finnish
Other-report / pilot version

Esimieheni nimi: _____ ei koskaan---joskus---usein---aina

1.	Annan esimiehelleni palautetta hänen toiminnastaan.	1-----2-----3-----4-----5-----6-----7
2.	Esimieheni viestit ymmärretään väärin.	1-----2-----3-----4-----5-----6-----7
3.	Kerron henkilökohtaisia asioitani esimiehelleni.	1-----2-----3-----4-----5-----6-----7
4.	Esimieheni osoittaa myötätuntoa henkilökohtaisissa vaikeuksissani.	1-----2-----3-----4-----5-----6-----7
5.	Esimieheni puhuu kanssani muustakin kuin työstä.	1-----2-----3-----4-----5-----6-----7
6.	Esimieheni ilmaisee itseään selkeästi vaikeissakin tilanteissa.	1-----2-----3-----4-----5-----6-----7
7.	Esimieheni ilmaisee tunteitaan muiden läsnä ollessa.	1-----2-----3-----4-----5-----6-----7
8.	Esimieheni on vaivautunut antaessaan palautetta.	1-----2-----3-----4-----5-----6-----7
9.	Esimieheni jännittää esiintymistä työpaikalla.	1-----2-----3-----4-----5-----6-----7
10.	Esimieheni tuntee olonsa epämukavaksi joutuessaan huomion keskipisteeksi.	1-----2-----3-----4-----5-----6-----7
11.	Esimieheni halaa tai koskettaa alaisiaan suuren ilon tai surun hetkellä.	1-----2-----3-----4-----5-----6-----7
12.	Esimieheni tuntee olevansa vastuussa työpaikkamme ilmapiiristä.	1-----2-----3-----4-----5-----6-----7
13.	Esimieheni provosoituu keskustellessaan alaistensa kanssa.	1-----2-----3-----4-----5-----6-----7
14.	Esimieheni ei uskalla suoraan ilmaista mielipiteitään alaisilleen.	1-----2-----3-----4-----5-----6-----7
15.	Esimieheni välttää tilanteita, jotka voivat herättää muissa tunnereaktioita.	1-----2-----3-----4-----5-----6-----7
16.	Esimieheni joutuu katumaan sanomisiaan.	1-----2-----3-----4-----5-----6-----7
17.	Ilmaisen negatiivisia tunteita esimiehelleni.	1-----2-----3-----4-----5-----6-----7
18.	Esimieheni viestii negatiiviset asiat mieluummin sähköpostitse kuin kasvotusten.	1-----2-----3-----4-----5-----6-----7
19.	Esimieheni näkee vaivaa varmistaakseen viestien perillemenon.	1-----2-----3-----4-----5-----6-----7
20.	Esimieheni tiedustelee tunnelmiani tavatessamme.	1-----2-----3-----4-----5-----6-----7

heikko---keskinkertainen---loistava

21.	Kaiken kaikkiaan, miten hyvä hän on esimiehenä?	1-----2-----3-----4-----5-----6-----7

Appendix 7. **Emotive Communication Scale (ECS), in Finnish**
Other-report / revised version

Esimiehen nimi: _____

ei koskaan---joskus---usein---aina
1---2---3---4---5---6—7

	arvosanasi
1. Annan esimiehelleni palautetta hänen työstään.	
2. Esimieheni viestit ymmärretään väärin.	
3. Kerron henkilökohtaisia asioitani esimiehelleni.	
4. Esimieheni osoittaa myötätuntoa henkilökohtaisissa vaikeuksissani.	
5. Esimieheni puhuu kanssani muustakin kuin työstä.	
6. Esimieheni ilmaisee itseään selkeästi vaikeissakin tilanteissa.	
7. Esimieheni ilmaisee tunteitaan muiden läsnä ollessa.	
8. Esimieheni on vaivautunut antaessaan palautetta.	
9. Esiintymistilanteet innostavat esimiestäni ja hän saa niistä virtaa.	
10. Esimiehelläni on kyky inspiroida ja motivoida muita.	
11. Esimieheni halaa tai koskettaa alaisiaan suuren ilon tai surun hetkellä.	
12. Esimieheni tuntee olevansa vastuussa työpaikkamme ilmapiiristä.	
13. Esimieheni provosoituu keskustellessaan alaistensa kanssa.	
14. Esimieheni ei uskalla suoraan ilmaista mielipiteitään alaisilleen.	
15. Esimieheni välttää tilanteita, jotka voivat herättää muissa tunnereaktioita.	
16. Esimieheni innostuu uusista ideoista ja muutoksista.	
17. Ilmaisen negatiivisia tunteita esimiehelleni.	
18. Esimieheni viestii ikävätkin asiat mieluummin kasvokkain kuin sähköisesti.	
19. Esimieheni näkee vaivaa varmistaakseen viestien perillemenon.	
20. Esimieheni tiedustelee tunnelmiani tavatessamme.	
21. Kaiken kaikkiaan, miten hyvä hän on esimiehenä? heikko---keskinkertainen---loistava 1----2----3----4----5----6----7	

Appendix 8. **Emotive Communication Scale (ECS), in English**
Other-report / pilot version

Supervisor: _____ never--at times--often--all the time

1.	I give my supervisor feedback on his/her performance.	1-----2-----3-----4-----5-----6-----7
2.	My supervisor's messages get misunderstood.	1-----2-----3-----4-----5-----6-----7
3.	I reveal personal matters to my superior.	1-----2-----3-----4-----5-----6-----7
4.	My supervisor is empathetic in my personal hardships.	1-----2-----3-----4-----5-----6-----7
5.	My supervisor discusses also issues outside work with me.	1-----2-----3-----4-----5-----6-----7
6.	My supervisor communicates clearly even in difficult situation.	1-----2-----3-----4-----5-----6-----7
7.	My supervisor expresses emotions in front of others at workplace.	1-----2-----3-----4-----5-----6-----7
8.	My supervisor seems uncomfortable when giving feedback.	1-----2-----3-----4-----5-----6-----7
9.	My supervisor is nervous about performing in public at workplace.	1-----2-----3-----4-----5-----6-----7
10.	My supervisor feels uncomfortable at the centre of attention.	1-----2-----3-----4-----5-----6-----7
11.	My supervisor hugs or touches us in times of great joy or sorrow.	1-----2-----3-----4-----5-----6-----7
12.	My supervisor feels responsible for the atmosphere in our workplace.	1-----2-----3-----4-----5-----6-----7
13.	My supervisor gets provoked when talking with his/her subordinates.	1-----2-----3-----4-----5-----6-----7
14.	My supervisor is afraid of expressing his/her opinions to subordinates.	1-----2-----3-----4-----5-----6-----7
15.	My supervisor avoids situations that may raise emotional reactions in others.	1-----2-----3-----4-----5-----6-----7
16.	My supervisor has regrets for what he/she has said.	1-----2-----3-----4-----5-----6-----7
17.	I express negative emotions to my superior.	1-----2-----3-----4-----5-----6-----7
18.	My supervisor communicates negative issues by email rather than face-to-face.	1-----2-----3-----4-----5-----6-----7
19.	My supervisor diligently makes sure his/her messages are understood.	1-----2-----3-----4-----5-----6-----7
20.	Esimieheni tiedustelee tunnelmiani tavatessamme.	1-----2-----3-----4-----5-----6-----7
		poor -----mediocre----outstanding
21.	Overall, how good is he/she as a supervisor?	1-----2-----3-----4-----5-----6-----7

Appendix 9. **Emotive Communication Scale (ECS), in English**
Other-report / revised version

Supervisor: _____

never--at times--often--all the time
1-----2-----3-----4-----5-----6-----7

1. I give my supervisor feedback on his/her performance.	
2. My supervisor's messages get misunderstood.	
3. I reveal personal matters to my supervisor.	
4. My supervisor is empathetic when hearing about my personal hardships.	
5. My supervisor discusses also issues outside work with me.	
6. My supervisor communicates clearly even in difficult situations.	
7. My supervisor expresses emotions in front of others at workplace.	
8. My supervisor seems uncomfortable when giving feedback.	
9. My supervisor gets inspired and energetic when performing in public.	
10. My supervisor is capable of inspiring and motivating others.	
11. My supervisor hugs or touches us in times of great joy or sorrow.	
12. My supervisor feels responsible for the atmosphere in our workplace.	
13. My supervisor gets provoked when talking with his/her subordinates.	
14. My supervisor is afraid of expressing his/her opinions to subordinates.	
15. My supervisor avoids situations that may raise emotional reactions in others.	
16. My supervisor gets excited about new ideas and change.	
17. I express negative emotions to my supervisor.	
18. My supervisor communicates even negative issues F2F rather than electronically.	
19. My supervisor diligently makes sure his/her messages are understood.	
20. My supervisor asks how I'm feeling when we see each other.	
21. Overall, how good is he/she as a supervisor? poor –mediocre---outstanding 1-----2-----3-----4-----5-----6-----7	

Appendix 10. **Multi-source appraisal, in Finnish.**
Other-report / pilot version

Esimieheni: _____ ei koskaan---joskus---usein---aina

1.	Esimieheni kantaa vastuunsa innolla.	1-----2-----3-----4-----5-----6-----7
2.	Esimieheni panikoi kriisitilanteissa.	1-----2-----3-----4-----5-----6-----7
3.	Esimieheni pyrkii jatkuvasti kehittämään itseään ja toimintaansa.	1-----2-----3-----4-----5-----6-----7
4.	Esimieheni puolustaa arvojaan rohkeasti muiden kritiikistä välittämättä.	1-----2-----3-----4-----5-----6-----7
5.	Esimieheni suhtautuu avoimesti uusiin ideoihin ja ajattelee radikaalisti.	1-----2-----3-----4-----5-----6-----7
6.	Esimieheni on tavoitettavissa.	1-----2-----3-----4-----5-----6-----7
7.	Esimieheni informoi minua asioista, jotka voivat vaikuttaa työhöni.	1-----2-----3-----4-----5-----6-----7
8.	Esimieheni asettaa tavoitteet ja viestii ne minulle selkeästi.	1-----2-----3-----4-----5-----6-----7
9.	Esimieheni edesauttaa sitoutumistani työhöni.	1-----2-----3-----4-----5-----6-----7
10.	Esimieheni viestii asiansa selkeästi, ytimekkäästi ja ymmärrettävästi.	1-----2-----3-----4-----5-----6-----7
11.	Esimieheni huokuu positiivisuutta ja optimismia.	1-----2-----3-----4-----5-----6-----7
12.	Esimieheni herättää minussa luottamusta.	1-----2-----3-----4-----5-----6-----7
13.	Esimieheni osaa inspiroida ja motivoida minua.	1-----2-----3-----4-----5-----6-----7
14.	Esimieheni osaa vaalia ihmissuhteita hankalissakin tilanteissa.	1-----2-----3-----4-----5-----6-----7
15.	Esimieheni antaa palautetta työstäni ja toiminnastani.	1-----2-----3-----4-----5-----6-----7

Appendix 11. **Multi-source appraisal, in English.**
Other-report / pilot version.

Supervisor: _____ never--at times--often--all the time

1.	My supervisor is enthusiastic to take responsibility.	1-----2-----3-----4-----5-----6-----7
2.	My supervisor panics in a crisis.	1-----2-----3-----4-----5-----6-----7
3.	My supervisor is constantly seeking to improve his/her performance.	1-----2-----3-----4-----5-----6-----7
4.	My supervisor fights for his/her values even when others disagree with him/her.	1-----2-----3-----4-----5-----6-----7
5.	My supervisor is alert to new ideas and able to think radically.	1-----2-----3-----4-----5-----6-----7
6.	My superior is accessible.	1-----2-----3-----4-----5-----6-----7
7.	My supervisor keeps others fully informed of actions that could affect them.	1-----2-----3-----4-----5-----6-----7
8.	My supervisor sets and communicates clear objectives to the team.	1-----2-----3-----4-----5-----6-----7
9.	My supervisor generates commitment in others.	1-----2-----3-----4-----5-----6-----7
10.	My supervisor is clear; gets the message across in a few words.	1-----2-----3-----4-----5-----6-----7
11.	My supervisor projects positivity.	1-----2-----3-----4-----5-----6-----7
12.	My supervisor gains the trust of others.	1-----2-----3-----4-----5-----6-----7
13.	My supervisor is good at building, inspiring and motivating teams.	1-----2-----3-----4-----5-----6-----7
14.	My supervisor sustains productive relationships in difficult situations.	1-----2-----3-----4-----5-----6-----7
15.	My supervisor gives feedback on my performance and conduct.	1-----2-----3-----4-----5-----6-----7

Appendix 12. **Analysis of the ECS other-report results, pilot version.**

item	average	standard deviation	response range
1	3,18	**1,42**	1-6
2	2,74	**1,20**	1-6
3	4,18	**1,59**	1-7
4	4,63	**1,77**	1-7
5	5,03	**1,57**	1-7
6	4,66	**1,56**	1-7
7	3,82	**1,67**	1-7
8	2,49	**1,27**	1-6
9	2,20	**1,41**	1-7
10	1,99	**1,09**	1-6
11	3,27	**2,00**	1-7
12	4,24	**1,64**	1-7
13	2,90	**1,47**	1-7
14	2,31	**1,37**	1-7
15	2,69	**1,21**	1-6
16	2,16	**1,04**	1-5
17	3,58	**1,44**	1-7
18	2,14	**1,17**	1-5
19	4,16	**1,56**	1-7
20	4,43	**1,62**	1-7
21	4,69	**1,60**	1-7
22	2,04	**1,26**	1-7
23	4,71	**1,57**	2-7
24	5,01	**1,30**	2-7
25	4,89	**1,53**	1-7
26	5,18	**1,57**	2-7
27	5,05	**1,53**	2-7
28	4,68	**1,54**	1-7
29	4,64	**1,65**	1-7
30	4,70	**1,59**	1-7
31	4,45	**1,71**	1-7
32	5,18	**1,58**	1-7
33	4,36	**1,70**	1-7
34	4,42	**1,54**	2-7
35	4,58	**1,61**	1-7
36	4,92	**1,33**	1-7

Appendix 13. **Analysis of ECS self-report results, pilot version.**

item	average	standard deviation	response range
1	3,70	**1,49**	2-7
2	2,70	**0,66**	2-4
3	5,30	**0,80**	4-7
4	5,30	**0,98**	3-7
5	5,65	**0,93**	4-7
6	4,55	**1,23**	2-7
7	4,55	**1,47**	2-6
8	3,35	**0,88**	2-5
9	2,85	**1,31**	2-6
10	3,10	**1,59**	1-7
11	4,70	**1,56**	1-7
12	6,00	**1,12**	3-7
13	2,65	**1,14**	1-5
14	2,00	**0,92**	1-4
15	2,85	**0,99**	1-5
16	2,25	**0,64**	2-4
17	4,25	**1,07**	2-5
18	1,40	**0,50**	1-2
19	4,85	**0,75**	4-6
20	4,95	**0,89**	3-6

Appendix 14. Sample 1 – Other-report score averages per item (columns 1-20) and per supervisor (rows 1-22)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	M	1,8	5,2	3,2	3,2	4,6	5,4	2,2	4,8	5,6	5,4	2,2	3,2	5,4	5,4	5,0	5,8	2,6	5,2	3,8	4,6
2	F	3,5	5,7	4,3	5,0	5,3	5,3	5,7	5,0	6,0	6,0	6,3	6,7	5,3	6,0	5,7	6,0	4,3	6,7	4,0	4,7
3	F	4,0	4,5	3,0	2,0	3,7	3,0	2,7	5,3	6,3	6,0	1,3	3,0	3,3	5,7	4,3	5,0	3,3	4,7	2,7	3,0
4	F	3,0	6,7	5,0	6,3	6,3	5,3	5,0	5,3	6,3	6,7	6,3	6,0	4,0	6,0	5,0	6,3	3,3	6,7	5,7	6,3
5	F	3,0	5,0	5,3	5,3	6,0	4,3	6,0	4,3	5,3	6,0	3,3	4,0	4,0	6,0	5,7	5,3	5,0	4,7	4,7	6,0
6	F	4,0	6,5	6,0	6,5	6,5	6,0	4,0	6,5	3,0	6,0	6,5	6,0	6,0	5,0	4,0	7,0	5,5	6,5	6,5	6,5
7	F	4,6	6,0	4,8	5,2	5,6	4,6	4,4	6,0	6,4	6,4	5,0	5,0	5,8	6,4	5,8	6,2	4,4	6,4	3,8	4,2
8	M	5,0	6,0	4,0	5,0	5,0	6,0	6,0	6,0	6,0	6,0	4,0	5,0	6,0	6,0	6,0	6,0	5,0	6,0	5,0	6,0
9	M	3,2	6,0	5,3	5,7	6,0	5,3	4,7	5,3	6,2	6,5	3,2	5,0	5,2	6,7	5,6	5,7	2,7	6,5	5,7	5,2
10	F	3,3	5,3	5,3	5,7	6,3	5,0	4,3	4,7	4,7	4,3	3,7	4,7	3,7	5,7	5,3	5,7	3,0	5,7	5,0	4,3
11	F	2,7	4,1	2,9	4,0	3,1	2,7	1,9	5,4	5,1	5,4	3,1	3,3	5,1	6,1	4,7	5,0	2,6	5,7	4,1	2,9
12	F	2,7	5,3	4,0	3,3	5,0	3,7	3,0	4,0	6,0	5,7	1,0	4,0	5,3	3,0	3,3	6,3	4,3	4,0	2,3	3,3
13	F	4,3	5,0	4,7	5,7	5,3	4,7	3,7	6,7	4,7	5,0	4,3	4,3	4,7	4,7	6,0	6,7	4,3	6,7	5,0	4,0
14	M	4,0	6,0	5,0	6,0	6,0	5,3	4,7	6,7	6,7	7,0	3,3	5,0	6,0	7,0	6,7	6,7	4,0	7,0	4,3	5,3
15	F	3,2	5,4	3,0	4,2	3,6	4,2	3,0	5,4	4,8	4,8	1,6	3,4	5,2	4,6	5,0	5,0	4,2	5,6	3,2	4,4
16	M	2,5	6,0	5,5	6,5	6,0	6,5	3,5	6,0	7,0	7,0	4,0	5,5	7,0	5,0	6,0	7,0	4,0	6,5	3,5	4,0
17	F	2,4	3,7	3,9	4,3	4,1	3,9	3,1	5,0	5,6	5,8	3,0	3,0	5,3	5,0	4,8	6,0	3,1	4,6	3,6	3,9
18	M	2,3	6,0	4,0	3,7	6,7	6,3	4,7	5,3	6,7	6,0	2,3	4,3	6,3	6,3	5,3	6,0	3,3	6,7	3,3	4,7
19	F	2,5	5,5	3,0	3,0	5,0	5,5	4,5	6,0	6,5	6,5	2,5	3,5	5,5	6,0	6,0	6,0	2,5	6,0	3,5	2,5
20	M	3,5	5,5	6,0	6,5	6,5	5,0	4,5	6,0	5,5	5,5	3,5	4,5	7,0	6,5	5,0	6,5	4,0	7,0	5,5	6,0
21	F	4,0	6,0	5,0	4,0	5,0	5,0	5,0	5,0	6,0	6,0	2,0	3,0	4,0	5,0	5,0	5,0	5,0	4,0	3,0	5,0
22	M	3,3	4,7	2,3	2,3	3,7	4,3	3,0	6,7	6,7	6,7	1,3	5,0	2,7	6,3	6,3	5,3	2,7	6,3	3,3	3,7

Appendix 15. Sample 1 –Self-report score averages per item (columns 1-20) and per supervisor (rows 1-22)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	M	3,0	6,0	5,0	4,0	6,0	4,0	2,0	4,0	6,0	6,0	1,0	3,0	7,0	6,0	5,0	6,0	3,0	7,0	4,0	5,0
2	F	6,0	5,0	6,0	6,0	6,0	4,0	4,0	5,0	4,0	4,0	5,0	7,0	6,0	7,0	5,0	6,0	4,0	7,0	5,0	3,0
3	F	2,0	5,0	4,0	3,0	5,0	5,0	2,0	6,0	2,0	2,0	2,0	7,0	6,0	6,0	6,0	6,0	3,0	7,0	6,0	5,0
4	F	2,0	6,0	7,0	6,0	7,0	3,0	3,0	5,0	5,0	6,0	3,0	6,0	6,0	5,0	4,0	6,0	2,0	7,0	6,0	5,0
5	F	3,0	6,0	5,0	5,0	5,0	4,0	6,0	5,0	6,0	6,0	5,0	6,0	5,0	7,0	7,0	6,0	5,0	7,0	5,0	4,0
6	F	5,0	6,0	5,0	6,0	7,0	3,0	5,0	5,0	6,0	6,0	6,0	6,0	6,0	6,0	5,0	6,0	5,0	7,0	5,0	6,0
7	F	5,0	4,0	6,0	5,0	6,0	5,0	5,0	5,0	5,0	5,0	6,0	6,0	6,0	6,0	5,0	6,0	4,0	6,0	4,0	6,0
8	M	5,0	4,0	7,0	6,0	6,0	6,0	6,0	5,0	5,0	5,0	6,0	7,0	3,0	5,0	6,0	4,0	5,0	7,0	5,0	6,0
9	M	5,0	6,0	6,0	6,0	5,0	6,0	6,0	4,0	6,0	6,0	4,0	6,0	5,0	6,0	6,0	5,0	5,0	7,0	5,0	5,0
10	F	2,0	5,0	6,0	5,0	7,0	2,0	6,0	4,0	2,0	1,0	6,0	5,0	5,0	7,0	6,0	6,0	6,0	6,0	5,0	5,0
11	F	2,0	5,0	5,0	6,0	5,0	4,0	5,0	4,0	5,0	5,0	5,0	7,0	3,0	4,0	5,0	5,0	5,0	6,0	6,0	4,0
12	F	3,0	6,0	5,0	6,0	6,0	4,0	4,0	4,0	6,0	4,0	4,0	5,0	6,0	6,0	3,0	6,0	2,0	6,0	4,0	4,0
13	F	7,0	5,0	6,0	7,0	7,0	5,0	6,0	6,0	6,0	6,0	6,0	7,0	6,0	7,0	6,0	6,0	5,0	7,0	5,0	5,0
14	M	2,0	6,0	6,0	5,0	7,0	7,0	6,0	6,0	6,0	7,0	7,0	7,0	6,0	7,0	6,0	6,0	3,0	7,0	4,0	5,0
15	F	4,0	5,0	4,0	7,0	5,0	5,0	4,0	5,0	6,0	3,0	5,0	7,0	6,0	7,0	5,0	6,0	5,0	6,0	5,0	5,0
16	M	3,0	6,0	6,0	5,0	6,0	5,0	5,0	4,0	4,0	6,0	6,0	6,0	6,0	6,0	4,0	6,0	5,0	6,0	5,0	6,0
17	F	2,0	5,0	4,0	4,0	5,0	3,0	3,0	3,0	6,0	5,0	4,0	4,0	5,0	5,0	4,0	6,0	5,0	7,0	4,0	5,0
18	M	4,0	5,0	5,0	5,0	6,0	5,0	5,0	5,0	4,0	4,0	4,0	6,0	6,0	6,0	4,0	6,0	3,0	7,0	6,0	6,0
19	F	5,0	5,0	5,0	4,0	5,0	6,0	3,0	5,0	6,0	5,0	1,0	7,0	6,0	4,0	4,0	6,0	5,0	7,0	5,0	5,0
20	M	3,0	6,0	5,0	5,0	5,0	5,0	2,0	5,0	6,0	7,0	2,0	7,0	6,0	6,0	6,0	6,0	4,0	7,0	6,0	6,0
21	F	3,0	5,0	5,0	5,0	4,0	3,0	3,0	5,0	6,0	4,0	5,0	5,0	5,0	6,0	5,0	6,0	3,0	6,0	4,0	4,0
22	M	5,0	5,0	5,0	5,0	4,0	6,0	6,0	3,0	6,0	6,0	5,0	6,0	3,0	4,0	4,0	4,0	5,0	6,0	4,0	4,0
		0,37	0,20	0,43	0,45	0,56	0,15	0,28	0,28	0,14	0,53	0,33	0,29	0,33	-0,16	0,29	0,27	-0,05	0,27	0,32	0,28

Appendix 16. **The symbols used in the correlation matrices.**

The table below lists the abbreviations utilized in the correlation matrices. The symbols, following the order in which they appear in the tables, stand for:

Respondent data	G	Gender
	Age	Age
Ability scale	Rav	Raven's Progressive Matrices Test: The logical intelligence test
Self-report	ECSs	Emotive Communication Scale sum, self-report, pilot version
	ECSsrev	Emotive Communication Scale sum, self-report, revised version
	ss1self	ECS sub-scale 1: Assertion, self-report
	ss2self	ECS sub-scale 2: Emotional availability, self-report
	ss3self	ECS sub-scale 3: Inspiration, self-report
Other-reports	ECSo	Emotive Communication Scale sum average, other-report, pilot version
	ECSorev	Emotive Communication Scale sum average, other-report, revised version
	21	Control question 21: "Overall, how good is your supervisor?"
	ss1o	ECS sub-scale 1 sum average: Assertion, other-report
	ss2o	ECS sub-scale 2 sum average: Emotional availability, other-report
	ss3o	ECS sub-scale 3 sum average: Inspiration, other-report
WOPI Personality Inventory, self-report	fo	focus
	co	competition
	le	leadership
	is	inspiration
	so	sociability
	em	empathy
	re	reliance
	or	orientation
	pc	perception
	th	thinking
	dc	decision-making
	am	ambiguity
	op	optimism
	si	self-reflection
Multi-source appraisal WOPI360	w1 …. w45	45 statement items
WOPI 360 sub-scales	w_foc	focused independent action
	w_eff	efficient independent action
	w_dir	directing
	w_mot	motivating
	w_res	resourcing
	w_com	communicating
	w_adv	advising
	w_lis	listening
	w_ope	operative
	w_cre	creative

Appendix 17. **Quantitative results for the entire sample (N=80 + 354).**
(Symbols explained in Appendix 16)

	G	Age	Raven	ECSs	ECSsrev	ss1s	ss2s	ss3s	ECSo	ECSorev	Q21	ss1o	ss2o	ss3o	fo	co	le	is	so	re	em	ori	pc	th	dc	am	op	sr
1	0	49	20	104	93	5,5	5,4	4,3	87	78,0	5,3	5,5	3,8	3,6	3	2	10	8	7	5	8	4	2	11	11	10	7	8
2	0	39	23	85	75	4,5	4,1	3,8	96	86,0	5,8	5,8	4,4	4,0	4	5	6	5	7	3	11	3	3	8	10	1	6	7
3	0	36	18	83	78	3,5	5,1	4,0	76	65,0	4,5	4,7	3,2	2,9	3	3	8	4	11	9	13	6	1	12	9	2	5	3
4	0	37	16	97	86	5,5	4,8	3,8	103	90,0	6,5	5,8	4,8	4,4	2	1	6	3	9	12	12	2	0	9	8	6	9	13
5	1	50	24	117	107	6,5	5,8	5,5	101	91,0	6,2	5,6	4,8	4,9	4	10	8	8	10	13	7	6	4	7	11	9	13	10
6	1	47	21	96	86	5,2	4,3	5,3	80	71,0	5,4	4,8	3,2	4,0	7	6	12	9	7	4	4	4	11	3	13	8	11	12
7	1	33	17	93	81	5,2	3,6	5,3	85	74,0	3,8	5,0	3,2	4,7	13	15	15	12	13	2	6	3	12	2	7	7	15	8
8	1	43	21	96	89	4,7	5,0	5,3	106	74,0	5,0	5,3	3,0	5,5	3	10	11	11	10	10	7	8	8	4	12	13	13	11
9	0	47	29	90	78	5,8	3,9	3,0	74	66,0	3,7	4,1	2,8	5,0	4	5	14	6	5	7	2	4	9	3	10	9	11	11
10	0	43	11	100	90	5,3	4,9	4,8	110	103,0	6,3	5,9	5,6	5,6	3	4	6	5	11	15	7	5	1	9	13	7	15	12
11	0	44	22	108	96	5,7	5,1	5,3	99	90,0	4,7	4,8	5,1	4,9	4	3	11	6	10	6	8	5	1	8	9	11	7	5
12	0	28	20	112	101	5,3	5,8	5,8	112	105,0	6,5	6,2	5,9	5,0	7	8	10	10	12	14	11	4	3	7	11	13	13	7
13	0	52	22	106	95	5,0	5,5	5,3	107	95,0	5,3	5,5	4,8	5,9	3	6	14	8	8	9	3	9	4	12	14	12	13	6
14	1	45	17	109	100	5,3	6,1	4,8	110	98,0	6,0	5,8	5,0	5,8	4	13	14	16	13	11	6	2	5	10	16	14	13	8
15	1	37	20	110	99	5,7	5,4	5,5	105	95,0	5,5	6,2	5,6	5,6	11	14	15	16	13	6	7	5	8	5	9	8	11	7
16	0	45	20	97	86	4,8	5,8	2,8	96	87,0	5,7	5,2	4,7	4,5	7	2	9	1	6	4	4	6	4	11	14	9	9	7
17	0	48	18	96	81	4,3	4,9	4,0	101	70,0	3,2	4,7	2,9	4,6	10	2	12	6	9	6	11	4	2	3	5	7	4	10
18	0	54	14	94	85	5,0	4,5	4,8	80	71,0	3,7	3,7	3,5	5,2	6	10	9	9	12	14	10	12	9	8	7	8	10	11
19	0	43	16	121	111	6,0	6,3	6,3	80	90,0	6,0	5,4	4,5	5,2	15	15	15	15	12	12	7	10	6	8	12	6	13	9
20	0	42	21	105	94	5,5	5,1	5,0	100	95,0	6,0	5,4	5,3	5,1	13	12	9	5	13	14	13	2	2	3	7	4	9	14
21	1	36	21	116	104	6,2	5,8	5,3	113	100,0	5,0	6,1	4,9	6,1	6	13	15	14	13	9	6	9	8	6	12	12	13	8
22	0	48	24	105	87	5,0	4,9	4,5	104	74,0	4,0	5,0	4,9	4,5	8	13	15	4	5	12	8	10	7	10	14	4	4	8
23	1	49	22	106	96	5,3	5,6	4,8	109	96,0	6,0	5,6	4,9	5,9	7	15	12	10	10	2	7	3	5	5	12	8	12	6
24	0	46	9	89	80	4,5	4,3	4,8	81	72,0	4,1	4,3	3,7	5,0	7	4	13	8	7	9	7	3	3	9	6	4	12	9
25	1	58	6	102	92	5,7	5,0	4,5	100	89,0	6,0	5,7	4,2	5,3	3	6	5	10	8	2	5	4	1	5	8	10	7	6
26	0	42	19	99	91	5,5	4,5	5,5	92	81,0	4,5	5,4	3,3	5,4	4	12	10	13	5	8	10	6	8	8	11	8	8	9
27	1	44	18	105	93	5,8	4,5	5,5	110	98,0	5,5	5,9	5,2	5,3	5	15	14	12	7	3	3	8	5	10	16	12	14	9
28	0	42	17	92	82	4,8	4,3	4,8	92	83,0	5,0	4,5	4,5	3,8	10	14	14	4	6	5	3	8	7	10	15	11	10	6
29	1	52	14	117	107	6,0	6,0	5,8	100	90,0	5,6	4,7	5,2	5,1	3	12	13	14	12	16	6	13	7	14	16	14	11	4
30	1	44	18	101	91	6,0	4,6	4,5	89	74,0	4,4	5,2	4,1	4,3	5	11	14	8	5	7	7	2	2	5	12	7	10	20
31	0	44	21	78	73	3,5	4,4	4,3	95	85,0	6,0	4,9	4,5	4,8	12	3	14	9	4	10	11	7	12	6	3	6	7	6
32	1	39	21	112	100	5,7	5,5	5,5	96	89,0	5,0	2,6	2,0	2,2	8	12	11	11	16	10	4	2	9	10	8	8	11	11
33	1	31	22	104	93	5,3	5,4	4,5	110	92,0	5,5	6,0	4,8	4,8	6	12	13	12	13	3	7	4	10	7	13	8	11	5
34	1	48	19	95	87	4,8	5,3	5,0	86	77,0	5,6	5,0	3,9	4,0	7	12	12	11	9	6	11	6	10	13	11	7	9	6
35	0	47	13	112	102	5,2	6,1	5,5	93	82,0	4,8	5,5	4,4	3,4	7	4	5	8	13	5	12	6	2	12	9	5	10	13
36	0	45	17	112	99	5,7	5,3	5,8	84	75,0	6,0	4,4	4,1	4,1	9	12	12	12	10	5	10	11	10	5	11	11	13	11
37	0	40	19	84	76	3,7	4,4	4,8	70	62,0	3,0	4,7	4,4	4,8	6	5	8	8	6	10	7	7	4	12	11	12	9	7
38	1	45	14	90	80	5,5	4,4	3,0	97	85,0	5,7	5,3	4,2	4,8	4	8	11	7	7	4	10	1	3	11	5	3	5	11
39	1	50	28	111	100	5,5	5,5	5,8	88	80,0	5,3	5,1	3,8	4,6	11	12	15	13	12	9	8	7	7	11	12	12	11	13
40	0	35	23	113	101	5,5	5,8	5,5	102	92,0	5,8	5,3	5,3	4,6	6	12	12	14	15	9	12	5	6	6	10	10	12	7

41	1	38	16	92	79	5,8	3,9	3,3	76	64,0	3,8	4,7	2,8	3,4	7	7	12	7	9	10	7	4	7	8	13	12	10	9
42	1	34	16	112	101	6,2	5,4	5,3	93	81,0	5,7	5,2	4,1	4,3	6	9	14	10	8	6	11	4	6	5	8	12	9	9
43	1	55	13	94	84	5,5	4,3	4,3	83	66,0	4,2	4,7	2,9	3,5	14	4	7	6	4	15	13	3	2	5	1	2	6	13
44	1	42	17	95	84	5,0	4,9	3,8	76	63,0	4,3	4,8	2,7	3,2	7	10	13	13	11	6	6	4	4	10	15	9	11	9
45	1	34	19	97	85	5,5	4,0	5,0	100	83,0	5,9	5,5	4,2	4,1	6	8	13	6	10	6	8	2	4	2	4	8	12	13
46	1	31	30	102	92	5,8	4,6	5,0	88	86,0	7,0	5,8	3,6	5,8	15	16	16	15	11	3	2	7	15	4	6	5	9	9
47	1	49	17	95	85	5,2	4,6	4,3	98	88,0	6,8	6,0	4,4	4,1	5	12	14	13	9	14	7	3	2	11	12	11	9	2
48	1	41	18	98	86	5,8	3,6	5,5	73	65,0	4,5	4,3	2,6	4,4	13	14	10	10	9	11	5	12	15	9	13	15	14	11
49	1	55	17	95	85	4,3	5,1	4,5	78	80,0	5,3	5,3	3,6	4,8	5	7	7	12	5	8	8	12	9	11	8	7	3	4
50	1	30	15	99	86	5,8	3,9	5,0	91	82,0	4,7	5,5	3,6	5,1	12	12	15	14	10	5	9	7	6	6	12	2	13	8
51	1	46	19	96	84	5,2	3,9	5,5	89	78,0	5,2	4,8	3,4	4,2	5	7	14	9	10	11	7	10	12	6	13	9	10	8
52	0	55	17	93	88	4,0	5,8	4,5	91	80,0	4,8	4,9	4,4	4,0	9	12	12	5	11	15	4	15	6	14	14	14	8	12
53	0	34	25	108	98	5,8	5,3	5,3	107	96,0	6,4	6,4	4,5	5,6	8	14	15	15	15	13	8	4	10	6	11	10	12	6
54	0	44	21	100	88	5,3	4,9	4,3	95	83,0	6,0	5,3	4,1	4,6	2	3	7	5	7	11	8	14	8	10	13	12	5	4
55	0	33	23	95	82	5,2	4,5	3,8	102	84,0	6,0	5,1	3,8	3,5	8	5	4	4	11	9	7	2	2	7	6	3	11	9
56	0	40	23	105	93	5,5	5,3	4,5	103	92,0	5,8	6,2	4,6	4,1	7	2	13	7	6	4	6	8	13	4	4	14	6	8
57	0	51	19	98	90	4,8	5,8	3,8	106	99,0	6,3	5,6	5,3	4,3	7	2	13	10	6	0	5	0	4	0	0	0	7	6
58	1	34	22	98	89	5,2	4,9	4,8	78	69,0	5,5	5,3	2,7	3,9	14	8	9	6	10	13	14	14	12	12	3	10	4	7
59	1	50	26	102	92	5,5	4,6	5,5	91	79,0	5,5	5,7	3,5	4,1	6	11	11	11	13	9	9	6	13	3	7	12	12	12
60	0	39	17	112	101	5,7	5,6	5,5	111	100,0	6,0	6,1	5,1	5,5	5	7	13	10	10	8	7	1	4	4	12	8	14	7
61	0	35	12	104	93	5,2	5,4	4,8	103	96,0	5,5	6,0	5,1	4,9	7	13	13	14	12	10	7	8	11	7	7	13	9	10
62	1	62	14	100	90	5,0	5,4	4,3	95	83,0	6,5	6,2	3,2	5,1	6	4	6	5	10	12	12	6	4	9	9	8	6	7
63	1	44	21	87	75	5,8	2,9	4,3	80	69,0	4,6	5,6	2,8	3,3	14	12	15	8	4	4	8	4	5	3	3	5	10	8
64	1	32	17	91	80	5,2	4,6	3,0	81	71,0	5,0	4,7	3,6	3,6	10	5	7	2	6	1	11	3	2	8	1	5	6	7
65	1	37	18	97	86	6,3	3,6	4,8	81	70,0	4,5	3,2	1,8	2,4	10	13	13	14	12	7	1	6	9	6	11	6	16	13
66	1	50	22	114	104	5,5	5,8	6,3	95	84,0	6,0	5,1	4,5	4,3	10	7	5	13	14	16	11	12	13	15	7	11	13	15
67	0	53	11	117	104	5,7	5,9	5,8	104	92,0	6,0	6,1	4,8	4,3	5	0	4	5	8	8	8	5	2	10	7	11	10	12
68	1	42	14	86	76	4,7	4,1	3,8	82	72,0	4,6	5,2	3,3	3,6	12	9	11	9	10	13	6	4	8	5	9	14	9	8
69	0	38	20	110	98	6,0	4,9	5,8	98	88,0	5,0	5,9	4,2	4,6	13	10	16	12	6	11	6	9	15	13	11	14	15	14
70	1	47	23	106	93	5,5	4,8	5,5	93	84,0	6,0	5,4	4,1	4,9	4	5	14	13	9	13	1	11	5	9	15	15	15	7
71	0	53	22	97	87	4,8	5,1	4,3	96	86,0	6,3	5,4	4,8	3,8	15	9	8	8	4	10	9	4	8	7	1	6	9	9
72	0	52	10	110	104	5,3	6,4	5,3	118	105,0	6,5	6,4	5,4	5,9	11	7	6	6	10	15	14	6	4	11	7	4	4	11
73	1	34	19	107	96	6,2	4,9	5,0	99	89,0	6,0	5,8	4,3	4,7	5	14	14	9	9	11	8	2	6	6	15	5	12	12
74	1	35	20	79	69	4,8	3,5	3,0	94	84,0	5,1	5,2	4,3	4,6	9	15	15	13	13	5	13	7	4	10	10	11	12	1
75	0	34	23	93	82	5,3	4,6	3,3	100	92,0	6,0	5,7	4,9	4,8	6	3	9	3	10	12	8	4	4	8	12	3	3	7
76	1	36	23	93	82	5,5	3,8	4,8	86	77,0	5,6	5,4	3,4	4,5	7	12	15	11	13	10	5	2	0	0	12	13	15	14
77	1	42	28	91	80	4,7	4,4	4,3	81	70,0	5,0	5,1	3,1	3,7	8	3	10	7	9	9	11	8	6	7	0	12	11	9
78	0	33	20	105	93	5,7	5,1	4,5	107	95,0	6,7	6,4	4,6	5,1	10	7	14	8	9	16	7	8	10	6	13	9	8	9
79	1	53	22	104	94	5,5	4,9	5,5	103	91,0	6,0	5,8	4,7	4,8	2	7	6	13	9	12	11	5	5	9	8	10	8	11
80	1	33	21	97	87	4,3	5,3	4,8	84	75,0	4,8	4,9	3,6	4,2	1	13	13	13	14	8	8	3	10	5	10	10	13	8

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
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6,6	6,1	5,0	6,1	5,3	6,4	6,0	5,9	5,4	6,3	6,0	6,0	5,9	5,4	6,0	5,3	5,9	5,4	5,3	5,6	5,4	5,1	5,7
5,5	4,8	4,5	5,0	4,5	4,3	5,3	4,0	4,5	4,8	4,3	4,8	4,0	4,3	5,5	5,5	5,3	5,0	6,0	5,2	4,3	4,0	4,5
6,8	6,3	6,3	7,0	6,3	6,5	6,7	6,8	6,7	6,5	6,0	6,7	6,7	6,0	6,3	5,7	6,2	6,3	6,2	6,5	6,2	6,0	6,7
6,5	6,2	5,0	5,3	5,8	5,8	6,0	5,8	5,2	5,5	5,2	5,5	6,0	5,5	5,7	5,5	6,8	6,3	5,8	6,0	5,7	5,5	5,5
6,0	5,0	5,4	4,6	5,8	5,8	5,2	6,0	4,6	4,8	5,8	5,2	4,8	4,4	4,4	4,2	5,2	5,8	4,6	4,8	3,8	3,0	4,8

24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
5,3	5,3	5,0	5,3	5,0	5,3	5,0	5,0	5,0	5,0	3,8	5,0	5,3	5,5	5,8	5,8	5,5	4,5	5,3	5,0	5,0	5,8
6,3	5,0	6,5	6,3	5,8	6,5	6,5	6,5	6,0	6,0	5,8	5,8	6,3	5,5	6,0	5,8	5,5	5,5	5,0	5,3	5,3	5,8
5,5	4,0	5,5	5,5	5,0	5,5	5,5	5,5	6,0	5,5	5,0	5,0	5,0	5,0	5,0	5,0	5,0	4,5	4,5	4,5	5,0	5,0
6,5	6,0	7,0	7,0	7,0	7,0	6,5	7,0	6,5	7,0	6,0	5,0	5,5	6,5	6,5	6,5	6,5	6,5	6,5	6,5	6,5	6,5
6,0	4,0	6,8	6,6	6,4	5,8	5,2	5,8	5,8	5,4	3,8	6,4	5,0	6,0	5,4	5,0	4,6	6,6	6,2	5,8	5,4	5,2
3,8	4,4	6,2	5,4	4,8	5,6	5,4	5,4	4,8	5,4	4,6	5,2	5,4	5,4	5,4	5,6	5,2	5,6	5,4	5,4	4,6	5,0
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3,5	2,0	2,0	4,0	2,0	5,0	4,0	4,0	1,5	1,0	1,0	5,5	5,5	5,5	4,0	4,0	4,0	3,0	4,0	5,5	5,5	3,5
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7,0	6,0	7,0	6,0	6,3	6,7	6,7	7,0	6,7	6,3	6,3	5,0	6,7	6,0	6,7	5,7	6,7	7,0	5,3	6,7	5,3	6,0
4,0	4,5	6,5	6,5	6,5	6,5	5,5	6,0	6,0	6,5	6,0	4,0	5,5	5,0	6,0	6,0	6,0	5,5	6,0	6,5	6,0	6,0
4,7	5,0	6,3	6,0	6,3	6,0	6,0	5,7	6,0	5,0	5,0	4,3	5,7	5,3	5,7	5,7	5,7	6,3	5,0	6,0	5,3	5,0
4,3	4,7	6,0	5,7	6,7	5,7	5,0	5,3	5,3	5,7	5,3	6,0	6,0	6,0	6,0	5,7	6,0	6,0	6,0	5,7	5,7	6,0
7,0	6,0	7,0	6,0	6,0	6,0	6,0	7,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0
4,0	4,2	3,2	3,8	4,8	4,4	4,0	5,2	3,6	4,0	3,0	5,0	5,0	3,4	4,0	4,2	4,6	5,2	5,4	4,2	4,0	4,4
6,0	5,0	6,0	6,0	6,5	6,0	6,0	6,0	5,5	5,5	3,5	3,5	5,5	3,0	3,5	3,0	2,5	4,5	4,0	4,5	4,0	2,0
6,5	6,5	7,0	7,0	6,0	6,0	6,0	5,5	6,5	7,0	6,5	5,5	6,0	5,5	6,0	5,5	6,5	7,0	5,5	5,5	6,0	6,5
6,0	5,8	6,4	6,6	6,0	6,0	6,8	6,4	5,4	5,4	5,6	4,4	5,8	5,8	6,2	6,0	6,0	6,2	6,0	6,4	6,2	6,2
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4,7	5,7	7,0	6,0	6,3	6,3	5,7	6,0	5,7	5,7	5,7	6,0	6,3	5,3	5,7	6,0	6,3	5,7	5,0	5,7	5,0	5,0
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5,8	5,8	6,8	6,5	7,0	6,8	5,8	5,8	6,0	6,0	5,0	6,0	6,0	6,0	5,8	6,3	5,8	6,3	6,0	6,0	5,8	6,3
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4,8	5,0	6,5	6,2	6,5	5,7	5,3	5,5	5,8	5,7	5,3	5,5	6,2	6,3	6,0	5,7	5,3	6,2	5,8	6,0	5,5	5,7
4,3	4,0	6,3	6,0	6,3	6,0	5,0	5,0	5,3	4,7	4,0	4,3	5,0	5,3	5,3	5,3	4,3	6,0	5,3	4,0	4,0	5,3
3,0	4,8	5,2	5,5	5,7	5,0	4,2	3,8	4,5	4,5	3,5	3,3	5,0	5,5	5,7	5,7	4,3	6,0	5,2	5,7	4,8	5,8
4,6	4,0	6,8	6,4	6,4	6,4	5,2	6,0	5,2	6,2	4,8	4,6	4,4	4,6	4,4	4,2	4,4	6,0	5,6	5,0	5,2	5,4
6,2	5,7	6,8	6,3	6,2	6,2	6,0	6,2	6,3	6,7	5,2	5,2	6,0	6,3	6,0	6,2	5,8	6,5	6,2	6,0	6,2	5,8
6,8	6,3	6,5	6,5	5,8	6,8	6,0	6,8	6,5	6,0	5,5	5,3	6,3	6,3	6,0	5,8	6,3	6,5	5,8	6,0	6,3	6,3
5,9	5,6	5,9	5,7	4,9	5,6	5,3	5,9	5,1	5,0	4,2	4,6	5,0	4,9	5,3	5,1	5,3	4,2	4,5	4,4	4,9	5,2

6,0	6,0	7,0	6,5	6,8	6,8	5,8	6,8	7,0	6,8	5,0	4,3	6,0	6,3	5,8	6,3	6,3	5,8	5,8	6,3	5,0	6,8
6,7	6,0	6,7	6,0	6,3	6,7	6,3	7,0	6,7	6,7	6,3	5,7	5,3	6,0	6,0	6,3	5,0	5,7	5,3	5,3	5,3	6,0
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6,1	5,3	5,9	5,9	6,0	5,3	5,4	5,0	5,9	5,9	5,1	5,7	5,9	5,7	5,9	5,4	5,4	5,6	5,7	5,7	5,1	5,7
6,3	6,0	6,7	6,0	6,0	6,0	5,7	6,0	5,3	6,0	5,7	5,7	5,3	5,7	5,7	5,3	5,3	6,3	5,0	5,0	6,0	5,7
4,0	5,5	7,0	6,5	6,5	6,5	6,0	7,0	6,5	6,5	4,5	4,0	4,5	5,0	4,5	5,5	6,0	6,5	5,5	4,5	4,5	5,0
6,5	7,0	6,5	6,0	5,5	5,5	6,5	6,5	7,0	7,0	6,5	6,5	7,0	6,5	6,5	6,5	6,5	7,0	6,5	7,0	6,0	1,0
5,8	3,4	4,4	6,1	4,3	6,3	5,6	6,0	4,9	4,5	3,6	5,1	6,0	5,8	6,3	5,6	5,8	4,1	3,1	5,3	4,9	5,8
6,3	3,3	6,7	6,3	4,7	6,0	6,7	6,0	5,7	5,0	4,0	4,0	5,0	4,0	5,0	5,3	6,0	3,7	3,3	3,7	3,3	4,0
4,0	3,5	6,0	5,5	6,0	5,0	4,0	4,5	5,5	4,5	3,5	5,5	5,0	4,5	3,0	3,0	2,5	6,0	5,5	5,0	3,0	2,5
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6,2	6,4	6,4	5,8	5,8	6,0	6,0	6,0	6,4	6,4	6,2	5,6	5,8	5,6	5,6	5,8	5,6	6,2	5,2	5,0	5,4	6,2
3,8	3,4	5,2	4,8	3,8	4,0	4,8	4,6	4,8	4,4	4,0	4,8	3,8	3,4	3,8	3,4	4,6	4,8	4,0	3,4	3,4	3,6
5,3	6,2	4,3	5,8	5,7	5,7	4,8	5,0	5,0	4,3	3,5	4,5	6,5	6,0	5,8	5,2	5,0	5,5	4,7	6,2	5,0	6,3
6,0	5,5	6,3	6,3	5,3	6,8	6,3	6,8	5,5	6,3	5,0	3,8	5,8	5,8	6,0	6,0	6,3	5,0	5,0	5,5	6,0	6,0
5,4	5,4	6,4	5,4	6,8	5,8	5,2	6,0	5,8	5,6	5,2	5,6	5,4	6,0	5,8	5,6	5,4	6,4	5,8	6,2	6,0	5,6
7,0	6,0	7,0	7,0	7,0	6,5	6,5	6,5	7,0	7,0	7,0	6,0	5,5	6,5	6,5	7,0	5,5	6,5	7,0	6,5	6,0	5,0
5,0	5,2	6,4	6,4	6,0	5,6	5,4	5,6	5,8	5,6	5,0	4,4	5,6	5,4	5,4	5,6	5,0	5,4	5,6	5,6	5,4	5,4
3,0	5,4	5,9	5,3	6,6	5,9	4,7	5,7	5,0	5,7	4,6	3,7	5,4	5,7	6,0	5,3	4,8	6,1	5,8	5,3	5,1	5,7
6,5	6,0	7,0	6,5	6,5	7,0	7,0	7,0	6,5	6,5	4,5	4,0	7,0	5,5	6,5	6,0	6,0	6,0	4,5	4,0	6,0	6,0
5,6	4,6	5,9	5,7	5,7	5,7	5,4	5,6	6,0	5,6	4,6	4,7	5,9	5,9	5,6	5,9	5,6	5,7	4,9	5,3	5,7	5,9
5,2	5,2	5,2	4,8	4,7	4,7	4,5	5,2	5,8	5,0	4,0	5,2	5,3	5,2	4,7	5,0	5,0	5,7	4,0	4,2	3,8	3,8
6,8	6,0	6,8	6,2	6,0	6,5	6,3	7,0	6,8	6,7	6,2	5,5	6,0	6,3	6,5	6,5	6,7	5,3	6,3	6,2	6,0	5,8
6,2	5,2	6,7	6,0	6,5	5,8	6,2	6,3	5,8	5,8	5,5	6,0	4,8	5,3	5,5	5,7	5,2	5,8	5,2	5,3	5,5	5,7
4,2	4,4	5,2	5,2	5,8	5,4	5,0	5,2	5,0	4,8	4,8	4,8	5,6	5,4	4,6	4,8	5,0	5,2	4,8	5,6	4,8	4,0

w_foc	w_eff	w_dir	w_mot	w_res	w_com	w_adv	w_lis	w_ope	w_cre
5,16	5,84	5,08	5,02	5,48	5,1	5,1	4,7	5,58	5,12
6,22	5,8	5,18	4,96	5,46	6,2	6,5	5,9	5,82	5,38
4,7	4,4	5	5	4,8	5,33	5,5	5,38	5	4,7
6,7	6,6	6,9	6	6,5	7	6,83	6,13	6,3	6,5
5,12	5,64	5,48	5,6	5,24	6,6	5,6	5,35	5,2	5,84
5,24	5,12	5,4	4,68	4,8	5,47	5,47	5	5,4	5,2
5,76	5,44	6,14	4,48	5	5,1	5,67	4	5,26	4,6
5,3	5,5	5,1	5,8	5,4	5,67	5,17	3,75	5	5,7
4,3	4,4	3,2	1,9	2,2	2,67	4,33	2,25	4,6	4,3
6,3	6,1	6,1	6,3	5,9	6,83	6,5	6,25	6,1	6,1
6,2	6,1	5,8	6	5,7	6,17	6	5,38	5,8	6
5,68	6,34	5,98	6	6,28	6,43	6,8	6,08	6,36	6,06
6,1	5,6	5,3	6	5,2	6,5	6	5,63	5,7	6
5,72	5,52	5,8	5,4	4,94	6,2	5,9	5,08	5,62	5,52
5,4	5,48	5,52	5,22	4,92	6,13	5,33	5,58	5,94	5,88
6,2	5,8	5,6	6,2	6,2	6,33	6,33	6	6	6
5,16	4,56	3,68	3,64	4,08	3,93	4,53	3,9	4,24	4,64
4,7	3,3	3,2	4,8	4,9	6,17	6	4,5	3,5	3,8
6,5	6,1	6,2	6	6,2	6,67	5,83	6,38	5,9	6,1
5,96	5,8	5,76	5,84	5,76	6,33	6,4	5,2	5,96	6,2
5,98	6,12	6,32	5,54	5,8	6,27	6,1	5,9	6,04	6,22
4	4,5	4,3	3,6	3,3	4,5	3,33	4,5	4,5	3,5
5,4	5,4	5,6	5,4	5,9	6,83	6,17	5,88	5,2	5,9
6,02	5,54	6,2	5,74	5,66	5,77	6,2	5,9	5,74	5,4
6	6,1	5,9	6,1	6	6,5	6	6	6,4	6,1
5,9	5,5	5	4,8	4,5	5,67	5	5,25	5,5	6,2
6,16	5,98	5,88	6,08	6,02	6,67	6,1	6,28	5,74	5,68
5,64	5,08	3,98	4,08	4,26	4,3	5,5	4,15	5,18	5,44
5,22	5,5	5,48	6,22	5,18	6,67	5,97	5,83	5,24	6,22
5,64	5,6	5,6	4,84	4,6	5,33	5,73	4,9	5,52	5,24
6,18	5,64	5,88	5,52	5,46	6,1	6,13	5,23	5,56	5,38
3,08	2,8	2,94	2,76	2,74	3,07	3,03	2,6	2,8	2,68
4,9	5,5	5,3	6,2	6,1	6,83	6,17	5,88	5,1	5,8
5,48	5,56	5,4	5,68	5,28	6,07	5,27	4,85	5,52	5,48
5,54	5,56	5,72	5,4	5,66	6,03	5,9	5,48	5,44	5,08
3,82	4,44	3,74	4,16	3,98	4,37	3,5	3,95	4,12	3,9
4,48	4,14	3,94	2,86	3,34	4,1	3,53	3,5	4,06	4,12
6,12	5,62	5,66	6,2	5,3	6,43	6	5,78	5,92	5,28
5,96	5,56	5,08	5,04	5,02	5,47	5,23	4	5,08	5,46
6,1	5,68	5,78	5,78	5,98	6,77	6,13	5,75	5,98	6,08
5,38	5,52	4,98	4,36	4,58	4,27	4,77	4,85	5,08	4,88
6,2	5,96	6	5,86	6,14	5,33	5,33	5,33	5,54	5,4

4,98	4,4	4,56	4,1	3,98	4,2	3,93	3,8	4,6	4,52
4,88	4,78	4,88	3,9	4,3	4,17	4,1	3,9	4,76	4,58
6,2	5,86	6,3	6,04	5,5	6,5	6,3	6,08	6,34	6,02
6,3	6,7	6,5	6,1	6,4	6,67	6,33	6,25	6,7	6,7
6,56	6,18	6,32	6,26	5,92	6,67	6,37	5,98	6,22	6,24
4,6	4,1	4,1	4	3,5	4,83	4,5	3,75	5	5,3
6,04	5,8	5,44	5,8	5,06	6,4	5,5	5,58	5,9	5,84
6,12	5,92	5	4,8	4,66	6,2	5,33	4,58	5,04	4,92
5,36	5,04	5,26	5,24	4,36	5,47	4,33	3,95	5,24	5,5
4,92	4,68	4,44	5,16	4,32	6,53	5,87	5,2	4,4	5,44
6,2	5,8	6,12	5,98	5,94	6,43	6,13	5,85	6,06	6,14
6,22	6,04	5,82	5,58	6,24	6,27	6,53	5,83	6,14	6,18
5,34	5,08	5,3	4,94	5,58	5,5	5,6	4,73	5,12	4,64
6,22	6,18	5,98	5,92	6	6,77	6,47	5,78	6,14	5,94
5,94	5,8	5,86	5,86	6,06	6,33	6,67	6,35	5,72	5,52
5,1	5,7	4,5	4,9	4,2	4,83	5,5	6,38	5,8	5,9
5,66	5,6	6,14	5,68	5,72	5,93	5,23	5,65	5,66	5,56
5,86	6,4	6,28	6,02	5,54	6,23	5,9	5,68	5,46	5,6
5,5	4,9	5,5	5,3	4,9	6,67	6,5	5,38	5,1	5,2
6,8	6,8	6,3	5,7	6,2	6	6,17	6,75	6,6	5,5
6,14	5,96	5,22	3,9	5,08	4,93	5,97	4,53	5,9	4,64
5,66	4,66	5,54	4,4	5,04	5,9	6,23	4,68	5,06	3,6
3,8	3,2	3,1	5,3	4,1	5,83	4,5	4,75	3,6	4,4
5,7	5,3	4,9	4,8	4,5	5,67	5,67	5	4,9	4,9
6	6,28	6	6	5,96	6	6	6,15	5,68	5,6
4,16	3,68	4,08	4,04	3,8	4,6	4,47	4,5	3,8	3,84
6,18	6,06	5,52	5,16	5,3	5,27	5,17	4,33	5,7	5,54
5,96	5,42	6,02	5,58	5,86	5,97	6,63	5,15	5,98	5,5
5,72	5,76	5,72	5,72	5,44	6,2	5,67	5,55	5,64	6
6,5	6,2	6,4	6,7	6,7	7	6,5	6,75	6,2	6,2
5,52	5,92	5,8	5,12	5,08	6,27	5,53	5,2	5,4	5,48
5,66	5,56	5,18	5,68	4,18	5,93	5,43	4,75	5,44	5,6
6,4	6,6	5,4	5	5,5	6,67	7	5,38	6,2	5,3
5,82	6	5,86	5,5	5,28	5,77	5,57	5,23	5,78	5,5
4,86	4,58	4,58	5,4	4,64	4,9	4,8	5	5,04	4,3
6,54	6,64	6,34	6,18	6,34	6,33	6,6	6,3	6,4	5,92
5,76	5,66	5,58	6,08	5,62	6,4	6,1	5,78	5,3	5,5
5,36	5,28	4,92	4,92	4,04	5,4	5,2	4,85	5,08	4,88

Appendix 18 **WOPI scale definitions** (WOPI Technical Manual:2011)

(fo) Focused achievement — Less focused --- Very focused, quality-oriented
High scorers strive for quality and perfection even in minor projects. They sustain their focus and want to reach full completion before moving on to new things. Low scorers are not up-giving but not willing to stretch themselves "too much", either. They move on to other things while the high scorers persist in their focus.

(co) Competitive achievement — Less competitive --- Very competitive, results-oriented
High scorers strive for results and winning even at the cost of other things. They want to win, not just participate. They are willing to sacrifice much to be successful. Low scorers are not lazy or yielding but are satisfied with less competitive goals. They set more easily attainable,"realistic" goals

(le) Leadership
Not leading of others --- Strongly leading of others
High scorers want to lead others by direct means, by giving instructions and getting things going. They prefer to lead others and show the way rather than comply to the will of others. Low scorers are not necessarily meek or yielding but prefer to leave the initiative and decisions to others and not to take responsibility over other people.

(is) Inspiration
Reserved, unassuming --- Presentational, inspiring of others
High scorers want to lead others indirectly, inspire and persuade them with ideas and presentations. They want to be centres of attention, become seen and heard. Low scorers are uninspiring,"technical", conventional and task-oriented. They show lack of "spirit" and enthusiasm, but not weak or bad leadership as such.

(so) Sociability
Solitary, withdrawing --- Seeks contacts, communicates
High scorers want to spend much time and do things with others rather than alone. They seek and maintain contacts, communicate with others. Low scorers are comfortable alone and don't actively seek company. They maintain neutral detachment to others and like quieter social events.

(em) Empathy
Distant, remote --- Supports, advises others
High scorers want to support and advise others, particularly those who are in need. They are often unselfish and empathetic, protecting and responsible. Low scorers are more selective in giving sympathy and are unaware of others' feelings.

(re) Reliance
Autonomous, self-sufficient --- Relies on, listens to others
High scorers want to rely on, and serve others rather than try to do things by themselves. They want to be helped and rely often on stronger, more competent individuals. Low scorers are autonomous and self-sufficient. They are self-directed and less interested in cooperation."Thick-skinned" and fearless.

(or) Orientation
Pursues facts --- Pursues ideas
High scorers approach things by seeking new ideas which strengthens creative planning & problem solving. Low scorers approach things by emphasizing facts which strengthens operative planning & problem solving.

(pc) Perception
Concrete perception --- Abstract perception
High scorers define things as complex wholes which strengthens creative planning & problem solving. Low scorers define things in a focused, concrete manner which strengthens operative planning & problem solving.

(th) Thinking
Analytical, logical thinking --- Intuitive, instinctive thinking
High scorers come up with situation-sensitive solutions which strengthens creative planning & problem solving. Low scorers come up with standardized solutions which strengthens operative planning & problem solving.

(dc) Decision making — Cautious, controlled decisions --- Quick, risk-taking decisions
High scorers implement operative-practical/creative plans & problem solutions in a quick, risk-taking manner. Low scorers implement operative-practical/creative plans & problem solutions slower, with greater caution.

(am) Ambiguity-Change — Prefers clarity, stability --- Prefers novelty, change
High scorers (novelty-seekers) prefer to work in mobile work environments offering variety and change. Low scorers (clarity-seekers) prefer to work in stable work environments which remain unchanged.

(op) Optimism — Less optimism --- Much optimism
High scorers have a strong belief in their personal success. Low scorers have less belief in their personal success.

(sr) Self-reflection — Much self-reflection --- Less self-reflection
High scorers reflect less upon deeper, ethical bases of their behavior and may generally miss less visible problems. Low scorers reflect more upon deeper, ethical bases of behavior but may overemphasize problems.

Appendix 19. **Correlations based on the empirical data. Entire sample.**
(Symbols explained in Appendix 16)

The matrix constituting the correlations calculated on the basis of the empirical data is provided in the following tables. **N=80 superiors, 354 subordinates**

1-1

	Gender	Age	Raven	ECSs	ECSsrev	ss1s	ss2s	ss3s	ECSo	ECSorev	Q21	ss1o	ss2o	ss3o	fo	co	le	is	so	re	em	or	pc	th	dc	am	op	sr
Gender	1	-,017	,058	-,033	,044	,272*	-,272*	,071	,209	-,243*	-,034	-,089	-,397**	-,110	,036	,401**	,200	,404**	,189	-,133	-,116	-,054	,177	-,116	,040	,171	,240	,050
Age	-,017	1	-,245*	,073	,119	-,143	,240*	,072	-,029	-,046	-,007	-,076	-,016	,067	-,155	-,257*	-,327**	-,128	-,311**	,157	-,004	,215	-,155	,258*	-,048	,049	-,248*	,077
Raven	,058	-,245*	1	,004	-,035	,049	-,096	,009	-,029	-,045	,088	,009	-,077	-,018	,007	,074	,141	,291**	,094	,074	-,065	-,148	,057	-,191	-,001	,111	,095	-,034
ECSs	-,033	,073	,004	1	,977**	,645**	,721**	,705**	,498**	,570**	,390**	,300**	,432**	,329**	-,061	,210	,043	,356**	,378**	,198	-,076	,141	,078	,093	,267*	,261*	,290**	,206
ECSsrev	-,044	,119	-,035	,977**	1	,569**	,792**	,722**	,497**	,598**	,435**	,318**	,460**	,360**	-,074	,209	,003	,378**	,394**	,236*	-,036	,155	,077	,143	,250*	,252*	,269*	,195
ss1s	,272*	-,143	,049	,645**	,569**	1	,054	,358**	,222*	,290**	,249*	,165	,046	,142	,047	,317**	,314**	,294**	,175	,026	-,220*	-,083	,086	-,196	,192	,134	,382**	,340**
ss2s	-,272*	,240*	-,096	,721**	,792**	,054	1	,365**	,509**	,576**	,425**	,327**	,561**	,305**	-,187	-,075	-,189	,115	,295**	,207	,126	,121	-,099	,323**	,141	,128	-,081	-,047
ss3s	,071	,072	,009	,705**	,729**	,358**	,365**	1	,202	,287**	,170	,104	,195	,271*	,075	,358**	,135	,525**	,369**	,262*	-,060	,318**	,313**	,060	,228*	,334**	,477**	,245*
ECSo	-,209	-,020	-,029	,498**	,497**	,222*	,509**	,202	1	,879**	,567**	,617**	,729**	,525**	-,245*	,011	-,017	,051	,197	,097	,032	-,188	-,187	-,040	,140	,025	,047	-,071
ECSorev	-,243*	-,046	-,045	,570**	,598**	,290**	,576**	,287**	,879**	1	,722**	,636**	,808**	,564**	-,165	,073	-,002	,173	,256*	,111	-,031	-,130	-,128	,020	,147	,027	,109	-,134
Q21	-,034	-,007	,088	,390**	,435**	,249*	,425**	,170	,567**	,722**	1	,609**	,529**	,289**	-,075	,017	,145	,089	,157	,147	,078	-,083	-,035	,009	,005	-,017	,003	-,113
ss1o	-,089	-,076	,009	,300**	,318**	,165	,327**	,104	,617**	,636**	,609**	1	,620**	,535**	-,095	,037	-,026	,084	-,001	,049	,175	-,124	-,123	-,079	,044	,050	-,069	-,125
ss2o	-,397**	,016	-,077	,432**	,460**	,046	,561**	,195	,729**	,808**	,529**	,620**	1	,561**	-,199	-,018	-,045	,008	,066	,117	,101	-,040	-,249*	,129	,168	,036	-,002	-,167
ss3o	-,110	,067	-,018	,329**	,360**	,142	,305**	,271*	,525**	,564**	,289**	,535**	,561**	1	-,154	,183	,171	,268*	,087	,125	-,064	,112	,020	-,075	,262*	,137	,131	-,131
fo	,036	-,155	,074	-,061	-,074	,047	-,187	,075	-,245*	-,165	-,075	-,095	-,199	-,154	1	,304**	,220*	,084	-,020	,025	,083	,120	-,356**	-,139	-,361**	-,174	,017	,157
co	,401**	-,257*	,141	,210	,209	,314**	-,075	,358**	,011	,073	-,017	-,038	-,018	,183	,304**	1	,577**	,640**	,407**	-,016	-,219	,110	,382**	-,092	,350**	,182	,461**	,029
le	,200	-,332**	,291**	,043	,003	,195	,189	,135	-,017	-,002	-,145	-,026	-,045	,171	,220*	,577**	1	,505**	,091	,178	,437**	,013	,354**	-,292**	,297**	,216	,385**	-,096
is	,404**	-,128	,094	,356**	,378**	,115	,525**	,051	,173	,089	,089	,084	,008	,268*	,084	,640**	,505**	1	,450**	-,019	-,223*	,108	,414**	-,087	,231*	,314**	,516**	-,072
so	,189	-,311**	,074	,378**	,394**	,175	,295**	,369**	,197	,256*	,157	-,066	,068	,087	-,020	,407**	,091	,450**	1	,227*	,058	,009	,101	-,005	,213	,203	,424**	,030
re	-,133	,157	-,065	,198	,236*	,026	,207	,262*	,097	,111	,147	,049	,117	,125	,025	-,016	-,178	-,019	,227*	1	,194	,349**	,042	,329**	,175	,238*	,022	,183
em	-,116	-,004	,148	,076	,036	-,220*	,079	,060	,032	-,031	,078	,175	,101	,064	,083	-,219	,437**	-,223*	,058	,194	1	,069	-,216	,130	,440**	-,315**	-,430**	,020
or	-,054	,215	,057	,141	,155	-,083	,121	,318**	-,180	-,130	-,083	-,124	-,040	,112	,120	,110	,013	,108	,009	,349**	-,069	1	,475**	,474**	,235*	,428**	-,039	-,124
pc	,177	-,155	,331**	,078	,077	,086	-,099	,313**	-,187	-,128	-,035	-,123	-,249*	,020	,356**	,382**	,354**	,414**	,104	,042	-,216	,475**	1	-,045	,010	,297**	,171	,029
th	-,116	,258*	-,191	,093	,143	-,196	,323**	,060	-,040	-,020	-,009	-,079	,129	-,075	-,139	-,092	-,292**	-,087	-,005	,329**	,130	,474**	-,045	1	,300**	,179	-,169	-,170
dc	,040	-,045	-,001	,267*	,250*	,192	,141	,228*	,147	,027	,005	,044	,168	,262*	-,361**	,350**	,297**	,231*	-,005	,175	,440**	,235*	,010	,300**	1	,386**	,372**	-,085
am	,171	,049	,111	,261*	,252*	,134	,128	,334**	-,025	,027	,017	-,069	,036	,137	-,174	,182	,216	,314**	,203	,238*	-,315**	-,428**	,297**	,179	,386**	1	,374**	-,032
op	,240	-,248*	,095	,290**	,269*	,382**	-,081	,477**	,047	,109	,003	-,069	-,002	,131	,017	,461**	,385**	,516**	,424**	,022	-,430**	-,039	,171	-,169	,372**	,374**	1	,259*
sr	,050	,077	-,034	,206	,195	,340**	-,047	,245*	-,071	-,134	-,113	-,125	-,167	-,131	,157	-,029	-,096	-,072	,030	,183	-,020	-,124	-,029	-,170	-,085	-,032	,259*	1

1-2

	w1	w2	w3	w4	w5	w6	w7	w8	w9	w10	w11	w12	w13	w14	w15	w16	w17	w18	w19	w20	w21	w22	w23
Gender	-,073	-,067	-,134	-,203	-,065	-,114	-,014	-,046	-,220	-,047	-,002	,062	-,050	-,083	,029	,016	-,059	-,030	-,060	,008	-,135	-,026	-,085
Age	-,058	-,033	,094	-,086	,030	-,109	,011	-,079	-,037	-,068	-,070	-,169	-,048	-,031	-,019	,149	-,045	,008	,063	,048	-,010	-,013	,018
Raven	-,003	,047	-,207	,010	-,183	,083	,149	-,031	-,041	-,109	,039	-,032	-,151	-,118	-,150	-,164	-,216	-,117	-,036	-,139	-,140	-,100	-,105
ECSs	,095	,139	-,075	,071	,237*	,185	,322**	,313**	,128	,203	,227*	,211	,161	,325**	,219	,300**	,243*	,319**	,299**	,242*	,237*	,286*	,341**
ECSsrev	,120	,144	-,058	,071	,297**	,187	,356**	,334**	,109	,217	,273*	,231*	,189	,343**	,248*	,389**	,311**	,378**	,343**	,275*	,289**	,326**	,368**
ss1s	,069	,154	-,019	,136	,100	,174	,285*	,182	,152	,201	,150	,120	,097	,261*	,150	,095	,059	,112	,198	,151	,091	,190	,211
ss2s	,119	,114	,005	,032	,295*	,156	,273	,331*	,096	,209	,247*	,236*	,192	,279*	,241*	,419**	,311**	,400**	,331**	,289*	,335**	,305**	,349**
ss3s	,045	,012	-,159	-,010	,178	,042	,176	,142	-,030	-,006	,157	,085	,083	,157	,081	,227*	,249*	,209	,131	,069	,113	,151	,166
ECSo	,358*	,366*	,201	,240*	,485**	,387**	,470**	,494**	,267*	,470**	,420**	,431**	,275*	,485**	,483**	,426**	,494**	,594**	,487**	,520**	,458**	,525**	,558**
ECSrev	,443**	,435**	,272*	,380**	,589**	,429**	,574**	,549**	,376**	,543**	,498**	,497**	,347**	,569**	,576**	,529**	,583**	,645**	,580**	,580**	,525**	,570**	,597**
Q21	,501**	,461**	,325**	,424**	,532**	,429**	,650**	,608**	,456**	,607**	,546**	,628**	,521**	,517**	,550**	,632**	,575**	,607**	,668**	,641**	,599**	,608**	,630**
ss1o	,649*	,695*	,355*	,663*	,551*	,720*	,714*	,713*	,649*	,737*	,715*	,709*	,625*	,625*	,576*	,460*	,622*	,536*	,538*	,564*	,570*	,614*	,656*
ss2o	,415**	,434**	,210	,376**	,502**	,461**	,463**	,482**	,402**	,508**	,408**	,500**	,339**	,502**	,578**	,439**	,493**	,586**	,490**	,486**	,466**	,466**	,506**
ss3o	,411*	,450*	,229*	,375*	,520*	,484*	,467*	,390*	,388*	,427*	,418*	,321*	,268*	,485*	,420*	,367*	,367*	,452*	,352*	,350*	,322*	,321*	,419*
fo	-,012	-,047	,029	-,061	-,183	-,145	-,136	-,059	-,067	-,156	-,048	-,105	-,005	-,220*	-,223*	-,235*	-,198	-,194	-,211	-,107	-,274*	-,042	-,066
co	-,133	-,120	-,326*	-,167	,036	-,086	-,044	-,074	-,217	-,164	-,014	-,093	-,132	-,123	-,044	-,069	-,081	,053	-,081	-,066	-,205	-,085	-,070
le	-,003	,028	-,119	,059	-,037	,062	,060	,009	-,045	-,063	,063	-,053	-,016	,011	,005	-,192	-,060	-,021	,010	-,063	-,169	-,026	-,083
is	,051	-,036	-,221*	-,023	,094	-,001	,119	,027	-,163	-,062	,080	,029	-,001	,111	,052	,118	,184	,110	,126	,046	,016	,077	-,010
so	-,086	-,171	-,172	-,191	,076	-,175	,016	,035	-,217	-,082	,014	,018	-,030	,082	,032	,125	,197	,220	,091	,091	,057	,035	,097
re	-,090	-,071	,033	-,087	,098	-,053	,017	,094	-,042	-,199	-,028	-,058	,013	,034	-,010	,129	,108	,121	,011	-,036	-,070	-,113	-,040
em	,187	,098	,161	,087	,145	,114	-,008	,238	,109	,184	,053	,135	,257*	,090	,019	,106	,200	,119	,021	,112	,108	,061	,132
or	-,029	-,146	-,152	-,150	-,022	-,134	-,103	-,051	-,076	-,255*	-,156	-,223*	-,183	-,242*	-,207	,098	-,069	-,025	,016	-,042	-,094	-,153	-,147
pc	-,054	-,197	-,252	-,122	-,180	-,135	-,075	-,157	-,160	-,272*	-,128	-,123	-,152	-,217	-,227*	-,130	-,174	-,165	-,059	-,161	-,247*	-,199	-,175
th	-,089	-,061	,063	-,115	,089	-,062	-,101	,044	,045	-,180	-,071	-,064	-,116	-,134	-,074	,197	,059	,090	-,030	-,055	-,050	-,064	-,122
dc	-,143	,059	-,221*	-,067	,136	,089	,136	,053	,033	-,074	,084	-,045	-,139	-,009	-,001	,041	-,041	,148	,026	-,118	,023	-,071	-,021
am	-,058	,003	-,253*	-,057	-,010	,058	,092	-,100	-,112	-,153	,027	-,080	-,111	-,066	-,036	,089	,008	-,011	,113	-,047	-,084	-,105	-,056
op	-,118	-,080	-,154	-,111	,006	-,103	,093	-,144	-,123	-,094	,081	-,021	-,100	,069	,066	,041	,046	,078	,087	-,077	-,067	,020	,045
sr	-,133	-,133	,009	-,108	-,164	-,127	-,093	-,142	-,082	-,165	-,080	-,118	-,050	-,041	-,177	-,113	-,178	-,110	-,134	-,170	-,146	-,125	-,086

1-3

	w24	w25	w26	w27	w28	w29	w30	w31	w32	w33	w34	w35	w36	w37	w38	w39	w40	w41	w42	w43	w44	w45
Gender	-,283**	-,162	-,067	-,116	-,046	-,130	-,220*	-,209	-,112	-,170	-,142	,015	-,010	-,002	-,072	-,121	-,130	,003	-,035	-,057	-,085	-,178
Age	-,039	,027	-,035	-,014	,052	-,121	-,020	-,061	-,070	-,001	,053	,158	-,039	-,030	-,050	-,038	-,133	,038	,111	,144	,023	-,189
Raven	-,013	-,106	-,131	-,093	-,114	-,039	-,137	-,047	-,154	-,200*	-,216*	-,029	,052	,077	,022	-,048	,013	-,093	-,075	,070	,060	,109
ECSs	,244**	,301**	,245**	,299**	,236**	,140	,101	,082	,203*	,248**	,272**	,209*	,082	,157	,144	,183	,136	,259**	,290**	,306**	,227**	,178
ECSsrev	,287**	,324**	,301**	,356**	,307**	,187	,155	,136	,239*	,303**	,336**	,248**	,070	,204	,171	,199	,135	,325**	,338**	,340**	,288**	,218
ss1s	,099	,152	,064	,220*	,056	,153	,019	-,030	,085	,054	-,003	,176	,176	,206*	,163	,143	,069	,113	,192	,250*	,179	,092
ss2s	,353**	,349**	,367**	,332**	,321**	,184	,231*	,293**	,299**	,384**	,441**	,262**	,022	,122	,146	,205*	,204	,293**	,312**	,255*	,265**	,178
ss3s	,042	,096	,098	,136	,202*	,002	-,022	-,130	,023	,087	,137	,006	-,052	,117	,028	,030	-,076	,237*	,151	,200	,123	,190
ECSo	,376**	,506**	,515**	,520**	,547**	,467**	,469**	,457**	,432**	,517**	,519**	,227*	,234*	,283**	,423**	,371**	,415**	,405**	,472**	,385**	,428**	,320**
ECSrev	,494**	,600**	,642**	,677**	,603**	,589**	,599**	,557**	,564**	,639**	,622**	,273**	,312**	,402**	,548**	,485**	,494**	,514**	,486**	,475**	,534**	,449**
Q21	,552**	,661**	,656**	,661**	,519**	,594**	,547**	,578**	,641**	,671**	,622**	,392**	,417**	,558**	,601**	,619**	,610**	,502**	,466**	,568**	,589**	,409**
ss1o	,538**	,623**	,571**	,607**	,535**	,544**	,546**	,644**	,587**	,656**	,632**	,483**	,529**	,639**	,725**	,712**	,726**	,552**	,519**	,536**	,587**	,522**
ss2o	,477**	,490**	,629**	,587**	,569**	,493**	,561**	,568**	,495**	,584**	,585**	,286**	,273**	,374**	,478**	,496**	,481**	,447**	,433**	,402**	,420**	,490**
ss3o	,303**	,405**	,413**	,422**	,534**	,411**	,393**	,396**	,268*	,371**	,418**	,275**	,422**	,439**	,433**	,364**	,363**	,523**	,517**	,468**	,529**	,318**
fo	-,117	-,125	-,183	-,179	-,191	-,150	-,176	-,161	-,080	-,185*	-,153	-,121	-,042	-,135	-,093	-,147	-,067	-,073	-,154	-,135	-,183	-,056
co	-,236*	-,183	,008	-,013	,115	-,063	-,201	-,237*	-,100	-,112	-,110	-,140	-,071	-,028	-,101	-,216*	-,215*	,091	,073	,042	,019	-,049
le	-,265**	-,084	-,111	-,080	-,073	,013	-,185	-,188	-,111	-,124	-,205*	-,220*	,042	,007	-,023	-,028	-,069	-,019	,001	,037	-,008	,106
is	-,138	,024	,075	,066	,217*	,009	-,166	-,126	-,033	,005	-,043	-,026	-,045	,091	-,050	-,042	-,142	,197	,087	,095	,068	,138
so	-,011	,091	,175	,153	,156	,070	,053	,010	,077	,138	,080	-,118	-,079	-,143	-,092	-,099	-,089	,121	,084	-,027	,076	-,070
re	-,036	,103	,036	,041	,079	-,097	,075	,034	,066	,076	,117	-,083	-,082	-,050	-,001	-,088	,013	,200	,143	,126	,054	-,102
em	,143	,144	,076	,082	,080	-,005	,120	,101	,174	,139	,206*	,102	,056	-,009	,166	,165	,116	,078	,003	,022	-,014	-,026
or	-,124	-,072	-,011	,002	,077	-,050	-,132	-,085	,023	,019	,012	-,117	-,060	-,035	-,093	-,176	-,122	,115	,113	,080	,014	-,043
pc	-,234*	-,140	-,158	-,146	-,068	-,092	-,268*	-,266*	-,124	-,192	-,217*	-,188	-,043	-,013	-,168	-,237*	-,208	-,058	-,039	,061	-,057	-,081
th	-,006	,004	,077	,003	,082	-,087	,006	,033	,049	,054	,178	-,060	-,120	-,086	,001	-,047	-,049	,062	,013	,023	-,009	-,014
dc	-,075	-,040	,045	,043	,101	-,025	-,054	-,103	-,108	-,009	,017	-,131	-,043	,072	,018	-,038	-,097	,134	,249*	,133	,145	,060
am	-,122	,017	-,127	-,084	,024	-,056	-,138	-,065	-,098	-,059	-,107	-,131	-,111	,058	-,086	-,087	-,008	,139	,137	,151	,054	,074
op	-,096	-,082	-,023	,040	,027	,035	-,103	-,161	-,165	-,114	-,156	-,151	-,088	,040	-,124	-,142	-,214*	,019	-,014	,061	,006	,036
sr	-,161	-,111	-,173	-,139	-,137	-,148	-,155	-,167	-,247*	-,217*	-,217*	-,017	-,143	-,129	-,264**	-,112	-,201	-,134	-,084	-,055	-,207*	-,176

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	w1	w2	w3	w4	w5	w6	w7	w8	w9	w10	w11	w12	w13	w14	w15	w16	w17	w18	w19	w20	w21	w22	w23
w1	1	,679	,699	,698	,709	,636	,661	,677	,682	,735	,676	,686	,596	,643	,548	,547	,640	,569	,562	,651	,704	,706	,641
w2	,679	1	,486	,779	,506	,855	,766	,658	,672	,688	,821	,621	,627	,655	,417	,330	,482	,469	,378	,386	,417	,542	,619
w3	,699	,486	1	,535	,477	,375	,416	,493	,639	,505	,407	,479	,430	,557	,440	,298	,419	,389	,303	,461	,454	,522	,448
w4	,698	,779	,535	1	,498	,763	,700	,603	,791	,721	,707	,604	,723	,676	,466	,294	,517	,340	,401	,364	,464	,499	,583
w5	,709	,506	,477	,498	1	,492	,659	,656	,509	,686	,670	,547	,576	,631	,614	,734	,692	,760	,663	,689	,652	,654	,677
w6	,636	,855	,375	,763	,492	1	,744	,649	,688	,694	,801	,595	,569	,614	,354	,312	,481	,405	,369	,284	,406	,451	,531
w7	,661	,766	,416	,700	,659	,744	1	,759	,642	,752	,840	,617	,610	,696	,493	,544	,597	,624	,639	,524	,554	,579	,738
w8	,677	,658	,493	,603	,656	,649	,759	1	,677	,717	,745	,710	,681	,664	,480	,508	,669	,657	,532	,606	,594	,603	,714
w9	,682	,672	,639	,791	,509	,688	,642	,677	1	,755	,602	,598	,639	,633	,493	,300	,499	,460	,383	,421	,482	,493	,573
w10	,735	,688	,505	,721	,686	,694	,752	,717	,755	1	,702	,755	,742	,758	,699	,580	,708	,625	,616	,690	,684	,723	,778
w11	,676	,821	,407	,707	,670	,801	,840	,745	,602	,702	1	,652	,696	,658	,435	,509	,579	,591	,489	,442	,552	,623	,705
w12	,686	,621	,479	,604	,547	,595	,617	,710	,598	,755	,652	1	,712	,750	,737	,565	,695	,593	,560	,613	,678	,717	,689
w13	,596	,627	,430	,723	,576	,569	,610	,681	,639	,742	,696	,712	1	,699	,507	,464	,630	,463	,467	,534	,524	,559	,626
w14	,643	,655	,557	,676	,631	,614	,696	,664	,633	,758	,658	,750	,699	1	,738	,547	,734	,647	,539	,601	,654	,709	,725
w15	,548	,417	,440	,466	,614	,354	,493	,480	,493	,699	,435	,737	,507	,738	1	,578	,671	,677	,608	,696	,657	,736	,657
w16	,547	,330	,298	,294	,734	,312	,544	,508	,300	,580	,509	,565	,464	,547	,578	1	,719	,727	,770	,714	,668	,657	,659
w17	,640	,482	,419	,517	,692	,481	,597	,669	,499	,708	,579	,695	,630	,734	,671	,719	1	,768	,688	,712	,682	,710	,662
w18	,569	,469	,389	,340	,760	,405	,624	,657	,460	,625	,591	,593	,463	,647	,677	,727	,768	1	,751	,755	,626	,699	,751
w19	,562	,378	,303	,401	,663	,369	,639	,532	,383	,616	,489	,560	,467	,539	,608	,770	,688	,751	1	,752	,663	,671	,725
w20	,651	,386	,461	,364	,689	,284	,524	,606	,421	,690	,442	,613	,534	,601	,696	,714	,712	,755	,752	1	,741	,788	,717
w21	,704	,417	,454	,464	,652	,406	,554	,594	,482	,684	,552	,678	,524	,654	,657	,668	,682	,626	,663	,741	1	,815	,697
w22	,706	,542	,522	,499	,654	,451	,579	,603	,493	,723	,623	,717	,559	,709	,736	,657	,710	,699	,671	,788	,815	1	,769
w23	,641	,619	,448	,583	,677	,531	,738	,714	,573	,778	,705	,689	,626	,725	,657	,659	,662	,751	,725	,717	,697	,769	1

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	w24	w25	w26	w27	w28	w29	w30	w31	w32	w33	w34	w35	w36	w37	w38	w39	w40	w41	w42	w43	w44	w45
w1	,614**	,683**	,616**	,696**	,584**	,698**	,688**	,739**	,624**	,686**	,584**	,384**	,617**	,593**	,700**	,719**	,643**	,552**	,466**	,513**	,599**	,560**
w2	,449**	,554**	,350**	,522**	,429**	,596**	,525**	,511**	,318**	,411**	,405**	,357**	,601**	,740**	,749**	,760**	,699**	,477**	,482**	,583**	,634**	,619**
w3	,508**	,539**	,393**	,494**	,246*	,552**	,618**	,599**	,453**	,469**	,431**	,252*	,560**	,318**	,483**	,539**	,489**	,208	,166	,334**	,361**	,228*
w4	,501**	,592**	,344**	,480**	,275*	,537**	,578**	,551**	,404**	,473**	,463**	,377**	,625**	,692**	,736**	,811**	,753**	,334**	,341**	,522**	,622**	,563**
w5	,448**	,732**	,678**	,667**	,721**	,604**	,663**	,616**	,626**	,716**	,724**	,341**	,543**	,571**	,726**	,624**	,583**	,730**	,692**	,636**	,678**	,526**
w6	,373**	,492**	,327**	,438**	,360**	,496**	,441**	,507**	,311**	,364**	,406**	,368**	,590**	,766**	,706**	,731**	,678**	,454**	,477**	,582**	,642**	,610**
w7	,498**	,705**	,487**	,614**	,516**	,665**	,574**	,571**	,485**	,576**	,568**	,437**	,629**	,778**	,802**	,712**	,664**	,604**	,613**	,672**	,824**	,657**
w8	,556**	,711**	,549**	,572**	,502**	,556**	,563**	,577**	,619**	,661**	,678**	,393**	,577**	,619**	,761**	,708**	,706**	,568**	,512**	,544**	,646**	,545**
w9	,598**	,602**	,431**	,434**	,278*	,472**	,536**	,576**	,487**	,525**	,539**	,463**	,710**	,623**	,698**	,742**	,687**	,330**	,315**	,505**	,559**	,423**
w10	,616**	,688**	,660**	,651**	,536**	,654**	,667**	,673**	,676**	,714**	,721**	,487**	,662**	,690**	,816**	,799**	,733**	,535**	,532**	,592**	,657**	,563**
w11	,447**	,600**	,427**	,574**	,478**	,565**	,525**	,528**	,403**	,510**	,496**	,352**	,542**	,772**	,764**	,730**	,677**	,543**	,567**	,584**	,740**	,705**
w12	,611**	,670**	,706**	,614**	,479**	,591**	,616**	,648**	,657**	,683**	,685**	,360**	,517**	,633**	,698**	,761**	,732**	,469**	,396**	,477**	,512**	,524**
w13	,428**	,640**	,471**	,442**	,347**	,457**	,504**	,479**	,525**	,570**	,583**	,406**	,511**	,640**	,716**	,799**	,698**	,420**	,437**	,536**	,570**	,486**
w14	,596**	,731**	,632**	,659**	,475**	,639**	,668**	,627**	,574**	,652**	,591**	,386**	,565**	,611**	,685**	,741**	,661**	,484**	,475**	,551**	,634**	,516**
w15	,591**	,645**	,777**	,668**	,570**	,591**	,640**	,625**	,691**	,725**	,647**	,350**	,502**	,452**	,573**	,579**	,601**	,449**	,353**	,431**	,440**	,422**
w16	,475**	,661**	,709**	,663**	,755**	,563**	,498**	,568**	,655**	,742**	,728**	,466**	,310**	,576**	,538**	,557**	,427**	,746**	,733**	,606**	,590**	,448**
w17	,537**	,738**	,759**	,692**	,676**	,615**	,637**	,632**	,715**	,786**	,757**	,394**	,443**	,537**	,635**	,662**	,571**	,669**	,503**	,507**	,542**	,489**
w18	,523**	,748**	,740**	,692**	,751**	,613**	,585**	,538**	,596**	,697**	,680**	,362**	,490**	,524**	,585**	,557**	,489**	,622**	,603**	,555**	,595**	,459**
w19	,505**	,776**	,656**	,685**	,641**	,679**	,550**	,573**	,662**	,708**	,661**	,448**	,531**	,567**	,586**	,599**	,516**	,606**	,615**	,659**	,620**	,447**
w20	,573**	,712**	,788**	,768**	,699**	,714**	,675**	,655**	,748**	,821**	,714**	,394**	,486**	,404**	,626**	,589**	,573**	,557**	,522**	,506**	,556**	,395**
w21	,722**	,675**	,720**	,755**	,588**	,642**	,681**	,711**	,702**	,794**	,627**	,346**	,429**	,491**	,586**	,643**	,548**	,493**	,469**	,407**	,528**	,507**
w22	,637**	,657**	,712**	,765**	,586**	,673**	,639**	,650**	,636**	,728**	,623**	,370**	,476**	,495**	,609**	,655**	,620**	,441**	,477**	,490**	,534**	,540**
w23	,659**	,729**	,614**	,699**	,591**	,725**	,672**	,626**	,607**	,678**	,685**	,492**	,609**	,636**	,724**	,698**	,668**	,544**	,617**	,666**	,710**	,513**

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	w24	w25	w26	w27	w28	w29	w30	w31	w32	w33	w34	w35	w36	w37	w38	w39	w40	w41	w42	w43	w44	w45
w1	,614**	,683**	,616**	,696**	,584**	,698**	,688**	,739**	,624**	,686**	,584**	,384**	,617**	,593**	,700**	,719**	,643**	,552**	,466**	,513**	,599**	,560**
w2	,449**	,554**	,350**	,522**	,429**	,596**	,525**	,511**	,318**	,411**	,405**	,357**	,601**	,740**	,749**	,760**	,699**	,477**	,482**	,583**	,634**	,619**
w3	,508**	,539**	,393**	,494**	,246*	,552**	,618**	,599**	,453**	,469**	,431**	,252*	,560**	,318**	,483**	,539**	,489**	,208	,166	,334**	,361**	,228*
w4	,501**	,592**	,344**	,480**	,275*	,537**	,578**	,551**	,404**	,473**	,463**	,377**	,625**	,692**	,736**	,811**	,753**	,334**	,341**	,522**	,622**	,563**
w5	,448**	,732**	,678**	,667**	,721**	,604**	,663**	,616**	,626**	,716**	,724**	,341**	,543**	,571**	,726**	,624**	,583**	,730**	,692**	,636**	,678**	,526**
w6	,373**	,492**	,327**	,438**	,360**	,496**	,441**	,507**	,311**	,364**	,406**	,368**	,590**	,766**	,706**	,731**	,678**	,454**	,477**	,582**	,642**	,610**
w7	,498**	,705**	,487**	,614**	,516**	,665**	,574**	,571**	,485**	,576**	,568**	,437**	,629**	,778**	,802**	,712**	,664**	,604**	,613**	,672**	,824**	,657**
w8	,556**	,711**	,549**	,572**	,502**	,556**	,563**	,577**	,619**	,661**	,678**	,393**	,577**	,619**	,761**	,708**	,706**	,568**	,512**	,544**	,646**	,545**
w9	,598**	,602**	,431**	,434**	,278*	,472**	,536**	,576**	,487**	,525**	,539**	,463**	,710**	,623**	,698**	,742**	,687**	,330**	,315**	,505**	,559**	,423**
w10	,616**	,688**	,660**	,651**	,536**	,654**	,667**	,673**	,676**	,714**	,721**	,487**	,662**	,690**	,816**	,799**	,733**	,535**	,532**	,592**	,657**	,563**
w11	,447**	,600**	,427**	,574**	,478**	,565**	,525**	,528**	,403**	,510**	,496**	,352**	,542**	,772**	,764**	,730**	,677**	,543**	,567**	,584**	,740**	,705**
w12	,611**	,670**	,706**	,614**	,479**	,591**	,616**	,648**	,657**	,683**	,685**	,360**	,517**	,633**	,698**	,761**	,732**	,469**	,396**	,477**	,512**	,524**
w13	,428**	,640**	,471**	,442**	,347**	,457**	,504**	,479**	,525**	,570**	,583**	,406**	,511**	,640**	,716**	,799**	,698**	,420**	,437**	,536**	,570**	,486**
w14	,596**	,731**	,632**	,659**	,475**	,639**	,668**	,627**	,574**	,652**	,591**	,386**	,565**	,611**	,685**	,741**	,661**	,484**	,475**	,551**	,634**	,516**
w15	,591**	,645**	,777**	,668**	,570**	,591**	,640**	,625**	,691**	,725**	,647**	,350**	,502**	,452**	,573**	,579**	,601**	,449**	,353**	,431**	,440**	,422**
w16	,475**	,661**	,709**	,663**	,755**	,563**	,498**	,568**	,655**	,742**	,728**	,466**	,310**	,576**	,538**	,557**	,427**	,746**	,733**	,606**	,590**	,448**
w17	,537**	,738**	,759**	,692**	,676**	,615**	,637**	,632**	,715**	,786**	,757**	,394**	,443**	,537**	,635**	,662**	,571**	,669**	,503**	,507**	,542**	,489**
w18	,523**	,748**	,740**	,692**	,751**	,613**	,585**	,538**	,596**	,697**	,680**	,362**	,490**	,524**	,585**	,557**	,489**	,622**	,603**	,555**	,595**	,459**
w19	,505**	,776**	,656**	,685**	,641**	,679**	,550**	,573**	,662**	,708**	,661**	,448**	,531**	,567**	,586**	,599**	,516**	,606**	,615**	,659**	,620**	,447**
w20	,573**	,712**	,788**	,768**	,699**	,714**	,675**	,655**	,748**	,821**	,714**	,394**	,486**	,404**	,626**	,589**	,573**	,557**	,522**	,506**	,556**	,395**
w21	,722**	,675**	,720**	,755**	,588**	,642**	,681**	,711**	,702**	,794**	,627**	,346**	,429**	,491**	,586**	,643**	,548**	,493**	,469**	,407**	,528**	,507**
w22	,637**	,657**	,712**	,765**	,586**	,673**	,639**	,650**	,636**	,728**	,623**	,370**	,476**	,495**	,609**	,655**	,620**	,441**	,477**	,490**	,534**	,540**
w23	,659**	,729**	,614**	,699**	,591**	,725**	,672**	,626**	,607**	,678**	,685**	,492**	,609**	,636**	,724**	,698**	,668**	,544**	,617**	,666**	,710**	,513**

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	Gender	Age	Raven	ECSs	ECSsrev	ss1s	ss2s	ss3s	ECSso	ECSorev	Q21	ss1o	ss2o	ss3o	fo	co	le	is	so	re	rm	or	pc	th	dc	am	op	sr
w24	-,283*	-,039	-,013	,244*	,287**	,099	,353**	,042	,376**	,494**	,552**	,538**	,477**	,303**	-,117	-,236*	-,265**	-,138	,011	-,036	,143	-,124	-,234*	,006	-,075	-,122	,096	-,161
w25	-,162	,027	-,106	,301**	,324**	,152	,349**	,096	,506**	,600**	,661**	,623**	,490**	,405**	-,125	-,183	-,084	,024	,091	,103	,144	-,072	-,140	,004	-,040	,017	-,082	-,111
w26	-,067	-,035	-,131	,245*	,301**	,064	,367**	,098	,515**	,642**	,656**	,571**	,629**	,413**	-,183	,008	-,111	,075	,175	,036	,076	-,011	-,158	,077	,045	-,127	,023	-,173
w27	-,116	-,014	-,093	,299**	,356**	,220*	,332**	,136	,520**	,677**	,661**	,607**	,587**	,422**	-,179	-,013	-,080	,066	,153	,041	,082	,002	-,146	,003	,043	-,084	,040	-,139
w28	-,046	,052	-,114	,236*	,307**	,056	,321**	,202	,547**	,603**	,519**	,535**	,569**	,534**	-,191	,115	-,073	,217	,156	,079	,080	,077	-,068	,082	,101	,024	,027	-,137
w29	-,130	-,121	-,039	,140	,187	,153	,184	,002	,467**	,589**	,594**	,544**	,493**	,411**	-,150	-,063	,013	,009	,070	-,097	-,005	-,050	-,092	-,087	-,025	-,056	,035	-,148
w30	-,220*	-,020	-,137	,101	,155	,019	,231*	-,022	,469**	,599**	,547**	,546**	,561**	,393**	-,176	-,201	-,185	-,166	,053	,075	,120	-,132	-,268*	,006	-,054	-,138	-,103	-,155
w31	-,209	-,061	-,047	,082	,136	-,030	,293**	-,130	,457**	,557**	,578**	,644**	,568**	,396**	-,161	-,237*	-,188	-,126	,010	,034	,101	-,085	-,266*	,033	-,103	-,065	-,161	-,167
w32	-,112	-,070	-,154	,203	,239*	,085	,299**	,023	,432**	,564**	,641**	,587**	,495**	,268**	-,080	-,100	-,111	-,033	,077	,066	,174	,023	-,124	,049	-,108	-,098	,165	-,247*
w33	-,170	-,001	-,200	,248*	,303**	,054	,384**	,087	,517**	,639**	,671**	,656**	,584**	,371**	-,185	-,112	-,124	,005	,138	,076	,139	,019	-,192	,054	-,009	-,059	-,114	-,217
w34	-,142	,053	-,216	,272*	,336**	-,003	,441**	,137	,519**	,622**	,622**	,632**	,585**	,418**	-,153	-,110	-,205	-,043	,080	,117	,206	,012	-,217	,178	,017	-,107	-,156	-,217
w35	,015	,158	-,029	,209	,248*	,176	,262*	,006	,227*	,273*	,392**	,483**	,286**	,275**	-,121	-,140	-,220*	-,026	,118	-,083	,102	-,117	-,188	-,060	-,131	-,131	-,151	-,017
w36	-,010	-,039	,052	,082	,070	,176	,022	-,052	,234*	,312**	,417**	,529**	,273*	,422**	-,042	-,071	,042	-,045	,079	-,082	,056	-,060	-,043	-,120	-,043	-,111	-,088	-,143
w37	-,002	-,030	,077	,157	,204	,206	,122	,117	,283*	,402**	,558**	,639**	,374**	,439**	-,135	-,028	,007	,091	-,143	,050	-,009	,035	-,013	-,086	,072	,058	,040	-,129
w38	-,072	-,050	,022	,144	,171	,163	,146	,028	,423**	,548**	,601**	,725**	,478**	,433**	-,093	-,101	-,023	-,050	,092	-,001	,166	-,093	-,168	,001	,018	-,086	-,124	-,264*
w39	-,121	-,038	,048	,183	,199	,143	,205	,030	,371**	,485**	,619**	,712**	,496**	,364**	-,147	-,216	-,028	-,042	,099	-,088	,165	-,176	-,237*	,047	,038	,087	-,142	-,112
w40	-,130	-,133	,013	,136	,135	,069	,204	-,076	,415**	,494**	,610**	,726**	,481**	,363**	-,067	-,215*	-,069	-,142	-,089	,013	,116	-,122	-,208	-,049	,097	,008	-,214	-,201
w41	,003	,038	-,093	,259**	,325**	,113	,293**	,237*	,405**	,514**	,502**	,552**	,447**	,523**	-,073	,091	-,019	,197	,121	,200	,078	,115	-,058	,062	,134	,139	,019	-,134
w42	-,035	,111	-,075	,290**	,338**	,192	,312**	,151	,472**	,486**	,466**	,519**	,433**	,517**	-,154	,073	,001	,087	,084	,143	,003	,113	-,039	,013	,249*	,137	-,014	-,084
w43	-,057	,144	,070	,306**	,340**	,250*	,255*	,200	,385**	,475**	,568**	,536**	,402**	,468**	-,135	,042	,037	,095	-,027	,126	,022	,080	,061	,023	,133	,151	,061	-,055
w44	-,085	,023	,060	,227*	,288**	,179	,265*	,123	,428**	,534**	,589**	,587**	,420**	,529**	-,183	,019	-,008	,068	,076	,054	-,014	,014	-,057	-,009	,145	,054	,006	-,207
w45	-,178	-,189	,109	,178	,218	,092	,178	,190	,320**	,449**	,409**	,522**	,490**	,318**	-,056	-,049	,106	,138	-,070	-,102	-,026	-,043	-,081	-,014	,060	,074	,036	-,176

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	w1	w2	w3	w4	w5	w6	w7	w8	w9	w10	w11	w12	w13	w14	w15	w16	w17	w18	w19	w20	w21	w22	w23
w24	,614	,449	,508	,501	,448	,373	,498	,556	,598	,616	,447	,611	,428	,596	,591	,475	,537	,523	,505	,573	,722	,637	,659
w25	,683	,554	,539	,592	,732	,492	,705	,711	,602	,688	,600	,670	,640	,731	,645	,661	,738	,748	,776	,712	,675	,657	,729
w26	,616	,350	,393	,344	,678	,327	,487	,549	,431	,660	,427	,706	,471	,632	,777	,709	,759	,740	,656	,788	,720	,712	,614
w27	,696	,522	,494	,480	,667	,438	,614	,572	,434	,651	,574	,614	,442	,659	,668	,663	,692	,692	,685	,768	,755	,765	,699
w28	,584	,429	,246	,275	,721	,360	,516	,502	,278	,536	,478	,479	,347	,475	,570	,755	,676	,751	,641	,699	,588	,586	,591
w29	,698	,596	,552	,537	,604	,496	,665	,556	,472	,654	,565	,591	,457	,639	,591	,563	,615	,613	,679	,714	,642	,673	,725
w30	,688	,525	,618	,578	,663	,441	,574	,563	,536	,667	,525	,616	,504	,668	,640	,498	,637	,585	,550	,675	,681	,639	,672
w31	,739	,511	,599	,551	,616	,507	,571	,577	,576	,673	,528	,648	,479	,627	,625	,568	,632	,538	,573	,655	,711	,650	,626
w32	,624	,318	,453	,404	,626	,311	,485	,619	,487	,676	,403	,657	,525	,574	,691	,655	,715	,596	,662	,748	,702	,636	,607
w33	,686	,411	,469	,473	,716	,364	,576	,661	,525	,714	,510	,683	,570	,652	,725	,742	,786	,697	,708	,821	,794	,728	,678
w34	,584	,405	,431	,463	,724	,406	,568	,678	,539	,721	,496	,685	,583	,591	,647	,728	,757	,680	,661	,714	,627	,623	,685
w35	,384	,357	,252	,377	,341	,368	,437	,393	,463	,487	,352	,360	,406	,386	,350	,466	,394	,362	,448	,394	,346	,370	,492
w36	,617	,601	,560	,625	,543	,590	,629	,577	,710	,662	,542	,517	,511	,565	,502	,310	,443	,490	,531	,486	,429	,476	,609
w37	,593	,740	,318	,692	,571	,766	,778	,619	,623	,690	,772	,633	,640	,611	,452	,576	,537	,524	,567	,404	,491	,495	,636
w38	,700	,749	,483	,736	,726	,706	,802	,761	,698	,816	,764	,698	,716	,685	,573	,538	,635	,585	,586	,626	,586	,609	,724
w39	,719	,760	,539	,811	,624	,731	,712	,708	,742	,799	,730	,761	,799	,741	,579	,557	,662	,557	,599	,589	,643	,655	,698
w40	,643	,699	,489	,753	,583	,678	,664	,706	,687	,733	,677	,732	,698	,661	,601	,427	,571	,489	,516	,573	,548	,620	,668
w41	,552	,477	,208	,334	,730	,454	,604	,568	,330	,535	,543	,469	,420	,484	,449	,746	,669	,622	,606	,557	,493	,441	,544
w42	,466	,482	,166	,341	,692	,477	,613	,512	,315	,532	,567	,396	,437	,475	,353	,733	,503	,603	,615	,522	,469	,477	,617
w43	,513	,583	,334	,522	,636	,582	,672	,544	,505	,592	,584	,477	,536	,551	,431	,606	,507	,555	,659	,506	,407	,490	,666
w44	,599	,634	,361	,622	,678	,642	,824	,646	,559	,657	,740	,512	,570	,634	,440	,590	,542	,595	,620	,556	,528	,534	,710
w45	,560	,619	,228	,563	,526	,610	,657	,545	,423	,563	,705	,524	,486	,516	,422	,448	,489	,459	,447	,395	,507	,540	,513

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	w24	w25	w26	w27	w28	w29	w30	w31	w32	w33	w34	w35	w36	w37	w38	w39	w40	w41	w42	w43	w44	w45
w24	,614**	,449**	,508**	,501**	,448**	,373**	,498**	,556**	,598**	,616**	,447**	,611**	,428**	,596**	,591**	,475**	,537**	,523**	,505**	,573**	,722**	,637**
w25	,683**	,554**	,539**	,592**	,732**	,492**	,705**	,711**	,602**	,688**	,600**	,670**	,640**	,731**	,645**	,661**	,738**	,748**	,776**	,712**	,675**	,657**
w26	,616**	,350**	,393**	,344**	,678**	,327**	,487**	,549**	,431**	,660**	,427**	,706**	,471**	,632**	,777**	,709**	,759**	,740**	,656**	,788**	,720**	,712**
w27	,696**	,522**	,494**	,480**	,667**	,438**	,614**	,572**	,434**	,651**	,574**	,614**	,442**	,659**	,668**	,663**	,692**	,692**	,685**	,768**	,755**	,765**
w28	,584**	,429**	,246**	,275**	,721**	,360**	,516**	,502**	,278**	,536**	,478**	,479**	,347**	,475**	,570**	,755**	,676**	,751**	,641**	,699**	,588**	,586**
w29	,698**	,596**	,552**	,537**	,604**	,496**	,665**	,556**	,472**	,654**	,565**	,591**	,457**	,639**	,591**	,563**	,615**	,613**	,679**	,714**	,642**	,673**
w30	,688**	,525**	,618**	,578**	,663**	,441**	,574**	,563**	,536**	,667**	,525**	,616**	,504**	,668**	,640**	,498**	,637**	,585**	,550**	,675**	,681**	,639**
w31	,739**	,511**	,599**	,551**	,616**	,507**	,571**	,577**	,576**	,673**	,528**	,648**	,479**	,627**	,625**	,568**	,632**	,538**	,573**	,655**	,711**	,650**
w32	,624**	,318**	,453**	,404**	,626**	,311**	,485**	,619**	,487**	,676**	,403**	,657**	,525**	,574**	,691**	,655**	,715**	,596**	,662**	,748**	,702**	,636**
w33	,686**	,411**	,469**	,473**	,716**	,364**	,576**	,661**	,525**	,714**	,510**	,683**	,570**	,652**	,725**	,742**	,786**	,697**	,708**	,821**	,794**	,728**
w34	,584**	,405**	,431**	,463**	,724**	,406**	,568**	,678**	,539**	,721**	,496**	,685**	,583**	,591**	,647**	,728**	,757**	,680**	,661**	,714**	,627**	,623**
w35	,384**	,357**	,252**	,377**	,341**	,368**	,437**	,393**	,463**	,487**	,352**	,360**	,406**	,386**	,350**	,466**	,394**	,362**	,448**	,394**	,346**	,370**
w36	,617**	,601**	,560**	,625**	,543**	,590**	,629**	,577**	,710**	,662**	,542**	,517**	,511**	,565**	,502**	,310**	,443**	,490**	,531**	,486**	,429**	,476**
w37	,593**	,740**	,318**	,692**	,571**	,766**	,778**	,619**	,623**	,690**	,772**	,633**	,640**	,611**	,452**	,576**	,537**	,524**	,567**	,404**	,491**	,495**
w38	,700**	,749**	,483**	,736**	,726**	,706**	,802**	,761**	,698**	,816**	,764**	,698**	,716**	,685**	,573**	,538**	,635**	,585**	,586**	,626**	,586**	,609**
w39	,719**	,760**	,539**	,811**	,624**	,731**	,712**	,708**	,742**	,799**	,730**	,761**	,799**	,741**	,579**	,557**	,662**	,557**	,599**	,589**	,643**	,655**
w40	,643**	,699**	,489**	,753**	,583**	,678**	,664**	,706**	,687**	,733**	,677**	,732**	,698**	,661**	,601**	,427**	,571**	,489**	,516**	,573**	,548**	,620**
w41	,552**	,477**	,208	,334**	,730**	,454**	,604**	,568**	,330**	,535**	,543**	,469**	,420**	,484**	,449**	,746**	,669**	,622**	,606**	,557**	,493**	,441**
w42	,466**	,482**	,166	,341**	,692**	,477**	,613**	,512**	,315**	,532**	,567**	,396**	,437**	,475**	,353**	,733**	,503**	,603**	,615**	,522**	,469**	,477**
w43	,513**	,583**	,334**	,522**	,636**	,582**	,672**	,544**	,505**	,592**	,584**	,477**	,536**	,551**	,431**	,606**	,507**	,555**	,659**	,506**	,407**	,490**
w44	,599**	,634**	,361**	,622**	,678**	,642**	,824**	,646**	,559**	,657**	,740**	,512**	,570**	,634**	,440**	,590**	,542**	,595**	,620**	,556**	,528**	,534**
w45	,560**	,619**	,228**	,563**	,526**	,610**	,657**	,545**	,423**	,563**	,705**	,524**	,486**	,516**	,422**	,448**	,489**	,459**	,447**	,395**	,507**	,540**

ECS vs WOPI360 sub-scales

	ECSs	ECSs rev	ss1s	ss2s	ss3s	ECSo	ECSo rev	ss1o	ss2o	ss3o	w_foc	w_eff	w_dir	w_mot	w_res	w_com	w_adv	w_lis	w_ope	w_cre
ECSs	1	,977**	,645**	,721**	,705**	,498**	,570**	,300**	,432**	,329**	,113	,271*	,268*	,317**	,322**	,283*	,116	,269*	,161	,303**
ECSs rev	,977**	1	,569**	,792**	,729**	,497**	,598**	,318**	,460**	,360**	,140	,285*	,301**	,384**	,365**	,351**	,171	,326**	,179	,363**
ss1s	,645**	,569**	1	,054	,358**	,222*	,290**	,165	,064	,149	,105	,230*	,182	,137	,169	,119	,051	,083	,169	,196
ss2s	,721**	,792**	,054	1	,365**	,509**	,576**	,327**	,561**	,305**	,140	,252*	,280*	,397**	,389**	,375**	,252*	,404**	,164	,314**
ss3s	,705**	,729**	,358**	,365**	1	,202	,287**	,104	,195	,271*	,015	,083	,131	,201	,129	,159	-,053	,077	,010	,220*
ECSo	,498**	,497**	,222*	,509**	,202	1	,879**	,617**	,729**	,525**	,401**	,483**	,493**	,567**	,554**	,579**	,499**	,498**	,399**	,487**
ECSo rev	,570**	,598**	,290**	,576**	,287**	,879**	1	,636**	,808**	,564**	,516**	,571**	,585**	,656**	,639**	,702**	,625**	,616**	,516**	,601**
ss1o	,300**	,318**	,165	,327**	,104	,617**	,636**	1	,620**	,535**	,698**	,807**	,762**	,610**	,688**	,626**	,619**	,682**	,763**	,665**
ss2o	,432**	,460**	,064	,561**	,195	,729**	,808**	,620**	1	,561**	,469**	,530**	,548**	,561**	,552**	,655**	,580**	,572**	,485**	,539**
ss3o	,329**	,360**	,149	,305**	,271*	,525**	,564**	,535**	,561**	1	,481**	,492**	,448**	,426**	,405**	,503**	,429**	,387**	,457**	,570**
w_foc	,113	,140	,105	,140	,015	,401**	,516**	,698**	,469**	,481**	1	,880**	,838**	,674**	,787**	,660**	,785**	,670**	,874**	,737**
w_eff	,271*	,285*	,230*	,252*	,083	,483**	,571**	,807**	,530**	,492**	,880**	1	,860**	,675**	,774**	,617**	,697**	,696**	,915**	,790**
w_dir	,268*	,301**	,182	,280*	,131	,493**	,585**	,762**	,548**	,448**	,838**	,860**	1	,766**	,849**	,717**	,731**	,743**	,866**	,731**
w_mot	,317**	,384**	,137	,397**	,201	,567**	,656**	,610**	,561**	,426**	,674**	,675**	,766**	1	,859**	,882**	,731**	,837**	,686**	,775**
w_res	,322**	,365**	,169	,389**	,129	,554**	,639**	,688**	,552**	,405**	,787**	,774**	,849**	,859**	1	,803**	,818**	,815**	,769**	,716**
w_com	,283*	,351**	,119	,375**	,159	,579**	,702**	,626**	,655**	,503**	,660**	,617**	,717**	,882**	,803**	1	,818**	,813**	,628**	,722**
w_adv	,116	,171	,051	,252*	-,053	,499**	,625**	,619**	,580**	,429**	,785**	,697**	,731**	,731**	,818**	,818**	1	,769**	,741**	,677**
w_lis	,269*	,326**	,083	,404**	,077	,498**	,616**	,682**	,572**	,387**	,670**	,696**	,743**	,837**	,815**	,813**	,769**	1	,736**	,711**
w_ope	,161	,179	,169	,164	,010	,399**	,516**	,763**	,485**	,457**	,874**	,915**	,866**	,686**	,769**	,628**	,741**	,736**	1	,816**
w_cre	,303**	,363**	,196	,314**	,220*	,487**	,601**	,665**	,539**	,570**	,737**	,790**	,731**	,775**	,716**	,722**	,677**	,711**	,816**	1

Appendix 20. **Correlations based on the empirical data. Female sample.**

(Symbols explained in Appendix 16)

	Age	Raven	ECSs	ECSsrev	ss1s	ss2s	ss3s	ECSo	ECSorev	Q21	ss1o	ss2o	ss3o	fo	co	le	is	so	re	em	or	pc	th	dc	am	op	sr
Age	1	-,251*	,029	,091	-,271*	,266*	,072	-,039	-,073	-,100	-,114	,001	-,004	-,023	-,258*	-,302*	-,170	,324*	,108	,015	,215	-,129	,264	-,152	-,007	-,249*	,145
Raven	-,251*	1	-,065	-,124	,076	-,203	-,075	-,082	-,089	,100	-,022	-,110	-,035	,035	,131	,286*	,135	,052	-,124	-,205	,037	,307**	-,234*	,009	,117	,071	-,172
ECSs	,029	-,065	1	,973**	,614**	,691**	,741**	,486**	,540**	,403**	,448**	,440**	,362**	,006	,101	,019	,312**	,306*	,166	,044	,086	,132	,040	,178	,236*	,272*	,299**
ECSsrev	,091	-,124	,973**	1	,518**	,778**	,766**	,489**	,585**	,442**	,468**	,484**	,398**	,024	,111	-,011	,328**	,330*	,213	,087	,107	,128	,097	,147	,212	,236*	,297**
ss1s	-,271*	,076	,614**	,518**	1	-,033	,363**	,203	,247*	,275*	,255*	-,012	,172	,092	,230*	,198	,289**	,156	,017	-,111	-,137	,180	-,226*	,159	,120	,378**	,342**
ss2s	,266*	-,203	,691**	,778**	-,033	1	,381**	,516**	,584**	,416**	,441**	,629**	,314**	-,088	-,159	-,204	,033	,220	,152	,171	,091	-,083	,233*	,014	,059	-,136	,056
ss3s	,072	-,075	,741**	,766**	,363**	,381**	1	,187	,272*	,156	,206	,211	,321**	,108	,316**	,116	,508**	,331**	,290**	,054	,277*	,287**	,102	,192	,356**	,472**	,340**
ECSo	-,039	-,082	,486**	,489**	,203	,516**	,187	1	,901**	,646**	,719**	,784**	,487**	-,147	-,160	-,081	-,073	,130	,160	,133	-,254*	-,151	-,101	-,009	-,111	-,073	-,003
ECSrev	-,073	-,089	,540**	,585**	,247*	,584**	,272*	,901**	1	,767**	,762**	,856**	,589**	-,104	-,066	-,027	,088	,183	,143	,053	-,200	-,072	-,093	,021	-,078	,012	-,053
Q21	-,100	,100	,403**	,442**	,275*	,416**	,156	,646**	,767**	1	,701**	,567**	,324**	-,011	-,051	-,126	,068	,166	,145	,095	-,156	,004	-,131	-,084	-,107	-,025	-,095
ss1o	-,114	-,022	,448**	,468**	,255*	,441**	,206	,719**	,762**	,701**	1	,586**	,463**	-,051	-,094	-,024	,076	,073	,169	,165	-,193	-,001	-,057	-,020	,035	-,113	-,065
ss2o	,001	-,110	,440**	,484**	-,012	,629**	,211	,784**	,856**	,567**	,586**	1	,493**	-,152	-,118	-,097	-,061	,092	,137	,131	-,142	-,190	,041	,027	-,049	-,074	-,093
ss3o	-,004	-,035	,362**	,398**	,172	,314**	,321**	,487**	,589**	,324**	,463**	,493**	1	-,096	,118	,167	,212	,148	,289**	,033	,052	,089	-,019	,226*	,029	,031	-,061
fo	-,023	,035	,006	,024	,092	-,088	,108	-,147	-,104	-,011	-,051	-,152	-,096	1	,378**	,206	,134	-,096	,116	,045	,138	,343**	-,055	-,302*	-,099	,059	,258*
co	-,258*	,131	,101	,111	,230*	-,159	,316**	-,160	-,066	-,051	-,094	-,118	,118	,378**	1	,543**	,620**	,410**	,156	-,117	,172	,388**	-,043	,306*	,197	,413**	,110
le	-,302*	,286*	,019	-,011	,198	-,204	,116	-,081	-,027	-,126	,024	,097	,167	,206	,543**	1	,528**	,055	-,152	-,446**	,037	,397**	-,323**	,258*	,254*	,353**	-,114
is	-,170	,135	,312**	,328**	,289**	,033	,508**	-,073	,088	,068	,076	-,061	,212	,134	,620**	,528**	1	,392**	-,006	-,127	,060	,437**	-,163	,118	,269*	,519**	,001
so	-,324*	,052	,306**	,330**	,156	,220	,331**	,130	,183	,166	,073	,092	,148	-,096	,410**	,055	,392**	1	,293**	,154	,012	-,020	-,020	,287*	,168	,376**	,124
re	,108	-,124	,166	,213	,017	,152	,290**	,160	,143	,145	,169	,137	,289**	,116	,156	-,152	-,006	,293**	1	,171	,347**	,106	,350**	,321**	,234*	,038	,232*
em	,015	-,205	,044	,087	-,111	,171	,054	,133	,053	,095	,165	,131	,033	,045	-,117	-,446**	-,127	,154	,171	1	-,124	-,241*	,108	-,357**	-,286*	-,356**	-,014
or	,215	,037	,086	,107	-,137	,091	,277*	-,254*	-,200	-,156	-,193	-,142	,052	,138	,172	,037	,060	,012	,347**	-,124	1	,528**	,528**	,308**	,499**	-,079	-,008
pc	-,129	,307**	,132	,128	,180	-,083	,287**	-,151	-,072	,004	-,001	-,190	,089	,343**	,388**	,397**	,437**	-,020	,106	-,241*	,528**	1	-,012	,021	,416**	,141	,102
th	,264*	-,234*	,040	,097	-,226*	,233*	,102	-,101	-,093	-,131	-,057	,041	-,019	-,055	-,043	-,323**	-,163	-,020	,350**	,108	,528**	-,012	1	,354**	,228*	-,124	,015
dc	-,152	,009	,178	,147	,159	,014	,192	-,009	,021	-,084	-,020	,027	,226*	-,302*	,306**	,258*	,118	,287*	,321**	-,357**	,308**	,021	,354**	1	,359**	,298*	-,068
am	-,007	,117	,236*	,212	,120	,059	,356**	-,111	-,078	-,107	,035	-,049	,029	-,099	,197	,254*	,269*	,168	,234*	-,286*	,499**	,416**	,228*	,359**	1	,346**	,068
op	-,249*	,071	,272*	,236*	,378**	-,136	,472**	-,073	,012	-,025	-,113	-,074	,031	,059	,413**	,353**	,519**	,376**	,038	-,356**	-,079	,141	-,124	,298*	,346**	1	,315**
sr	,145	-,172	,299**	,297**	,342**	,056	,340**	-,003	-,053	-,095	-,065	-,093	-,061	,258*	,110	-,114	,001	,124	,232*	-,014	-,008	,102	,015	-,068	,068	,315**	1

Appendix 21. Correlations based on the empirical data. Male sample.

(Symbols explained in Appendix 16)

	Age	Raven	ECSs	ECSs rev	ss1s	ss2s	ss3s	ECSo	ECSo rev	Q21	ss1o	ss2o	ss3o	fo	co	le	is	so	re	em	ori	pc	th	dc	am	op	sr
Age	1	-,253*	,156	,220*	-,228*	,341**	,170	,090	,101	,214*	,112	,135	,060	-,266**	,378**+	,506**+	-,101	,289**+	,318**	,119	,188	-,173*	,324**	-,009	,138	,297**+	-,002
Raven	-,253*	1	,045	,033	,031	-,071	,193*	-,076	-,038	,197*	,021	-,073	,013	,113	,144	,243*	,168	,231*	-,023	-,114	,124	,349**	-,171	-,129	,108	,232*	,110
ECSs	,156	,045	1	,985**	,525**	,718**	,743**	,562**	,593**	,415**	,248*	,465**	,426**	-,225*	-,007	-,087	,258*	,226*	,275**	-,146	,142	,188	,200	,257**	,156	,185	,272**
ECSs rev	,220*	,033	,985**	1	,445**	,790**	,728**	,581**	,610**	,448**	,264**	,493**	,453**	-,230*	,007	-,121	,254**	,238*	,307**	-,099	,153	,186	,236**	,237**	,152	,123	,266**
ss1s	-,228*	,031	,525**	,445**	1	-,102	,388**	,223*	,205	,096	,017	,051	,105	,117	,225**	,226**	,153	,010	-,014	-,262**	-,116	,030	-,158	,201	-,094	,362**	,367**
ss2s	,341**	-,071	,718**	,790**	-,102	1	,309**	,559**	,595**	,475**	,324**	,579**	,412**	,348**+	-,204*	,312**+	,059	,181	,275**	,123	,103	,013	,386**	,091	,107	-,238**	-,024
ss3s	,170*	,193	,743**	,728**	,388**	,309**	1	,249*	,264**	,184*	,062	,150	,291**	-,075	,171	,053	,409**	,285**	,322**	-,211*	,330**	,447**	,065	,262**	,304**	,437**	,406**
ECSo	,090	-,076	,562**	,581**	,223*	,559**	,249*	1	,925**	,602**	,591**	,810**	,608**	,367**+	-,022	,002	,103	,172	,092	,019	-,201	-,210*	-,004	,161	-,030	,033	,069
ECS rev	,101	-,038	,593**	,610**	,205	,595**	,264**	,925**	1	,691**	,604**	,851**	,665**	,310**+	,025	,034	,205	,157	,070	-,044	-,120	-,118	,060	,153	-,062	-,053	-,175
Q21	,214*	,197	,415**	,448**	,096	,475**	,184*	,602**	,691**	1	,597**	,573**	,511**	-,225*	-,165*	-,161	-,001	,032	,197*	,047	-,040	-,088	,077	-,036	-,070	-,250**	-,181
ss1o	,112	,021	,248*	,264**	,017	,324**	,062	,591**	,604**	,597**	1	,677**	,700**	-,138	-,102	,039	-,007	-,136	,057	,237*	-,089	-,146	-,107	-,014	,012	-,230*	-,203*
ss2o	,135*	-,073	,465**	,493**	,051	,579**	,150	,810**	,851**	,573**	,677**	1	,651**	,334**+	-,049	-,007	,102	-,002	,065	,101	-,081	-,207*	,122	,116	,030	-,103	-,175*
ss3o	,060	,013	,426**	,453**	,105	,412**	,291**	,608**	,665**	,511**	,700**	,651**	1	-,203*	,173*	,111	,282**	,119	,024	,019	,122	,027	-,004	,286**	,066	-,022	-,199*
fo	-,266**	,113	-,225*	-,230*	,117	,348**+	-,075	,367**+	,310**+	-,225*	-,138	,334**+	-,203*	1	,215*	,117	-,062	-,112	-,087	,067	,142	,328**	-,031	,387**+	-,228*	-,023	,116
co	,378**+	,144	-,007	,007	,225**	-,204*	,171	-,022	,025	-,165*	-,102	-,049	,173*	,215*	1	,628**	,624**	,433**	-,157*	-,277**	-,077	,253**	-,088	,388**	,071	,494**	,003
le	,506**+	,243*	-,087	-,121	,226**	,312**+	,053	,002	,034	-,161	,039	-,007	,111	,117	,628**	1	,505**	,207*	-,260**	,442**+	-,163	,135*	,361**+	,369**	,092	,492**	-,063
is	-,101	,168	,258*	,254*	,153	,059	,409**	,103	,205*	-,001	-,007	,102	,282**	-,062	,624**	,505**	1	,473**	-,026	,380**+	,072	,300**	,030	,421**	,219*	,518**	-,094
so	,289**+	,231*	,226**	,238*	,010	,181	,285**	,172	,157	,032	-,136	-,002	,119	-,112	,433**	,207*	,473**	1	,204*	-,095	,010	,226**	,034	,319**	,278**	,461**	,041
re	,318**	-,023	,275**	,307**	-,014	,275**	,322**	,092	,070	,197*	,057	,065	,024	-,087	-,157*	-,260**	-,026	,204*	1	,153	,400**	,098	,443**	,259**	,407**	-,041	,150
em	,119	-,114	-,146*	-,099	-,262**	,123	-,211*	,019	-,044	,047	,237**	,101	,019	,067	-,277**	,442**+	,380**+	-,095	,153	1	,025	-,148	,275**	,452**+	-,186	,476**+	-,139
ori	,188	,124	,142	,153	-,116	,103	,330**	-,201	-,120	-,040	-,089	-,081	,122	,142	-,077	-,163	,072	,010	,400**	,025	1	,519**	,551**	,135	,428**	-,113	-,117
pc	-,173*	,349**	,188	,186	,030	,013	,447**	-,210*	-,118	-,088	-,146	-,207*	,027	,328**	,253**	,135	,300**	,226**	,098	-,148	,519**	1	,097	,014	,226**	,112	,098
th	,324**	-,171	,200	,236**	-,158	,386**	,065	-,004	,060	,077	-,107	,122	-,004	-,031	-,088	,361**+	,030	,034	,443**	,275**	,551**	,097	1	,199	,230*	-,242**	-,178
dc	-,009	-,129	,257**	,237**	,201	,091	,262**	,161	,153	-,036	-,014	,116	,286**	,387**+	,388**	,369**	,421**	,319**	,259**	,452**+	,135	,014	,199	1	,350**	,420**	-,036
am	,138	,108	,156	,152	-,094	,107	,304**	-,030	-,062	-,070	,012	,030	,066	-,228*	,071	,092	,219*	,278**	,407**	-,186	,428**	,226**	,230*	,350**	1	,315**	,009
op	,297**+	,232*	,185*	,123	,362**	-,238**	,437**	,033	-,053	-,250**	-,230*	-,103	-,022	-,023	,494**	,492**	,518**	,461**	-,041	,476**+	-,113	,112	-,242**	,420**	,315**	1	,317**
sr	-,002	,110	,272**	,266**	,367**	-,024	,406**	-,069	-,175*	-,181*	-,203*	-,175*	-,199*	,116	-,003	-,063	-,094	,041	,150	-,139	-,117	,098	-,178*	-,036	,009	,317**	1

Appendix 22. **Question item 21, Multi-source appraisal (360°) item averages and multi-source appraisal (360°) total sum averages**

	question 21	360 item avrg	360 score avrg
1	3,8	4,1	235
2	5,0	4,4	196
3	3,7	3,6	162
4	6,3	6,1	274
5	4,7	4,6	208
6	6,5	6,8	309
7	5,3	5,2	246
8	6,0	5,8	261
9	5,5	5,6	262
10	5,7	5,5	249
11	3,2	3,6	162
12	3,7	3,7	166
13	6,0	5,6	251
14	6,0	5,9	265
15	5,0	5,7	260
16	4,0	3,9	174
17	6,0	5,5	248
18	4,1	4,0	173
19	6,0	5,9	267
20	4,5	4,4	200
21	5,5	5,9	264
22	5,0	4,6	222
23	6,2	5,5	249
24	5,4	5,2	232
25	5,3	5,2	235
26	5,8	5,7	255
27	4,5	4,9	222
28	6,5	6,5	294
29	5,6	5,6	256
30	4,4	5,3	238
31	6,0	5,7	255
32	5,0	5,7	258
33	5,5	5,7	257
34	4,8	5,5	250
35	5,6	5,5	245
36	6,0	5,3	249
37	3,0	3,5	172

38	5,7	5,8	261
39	5,3	5,2	234
40	5,9	5,6	252
41	5,8	5,9	267
42	3,8	4,7	219
43	4,3	4,5	201
44	5,7	5,7	259
45	7,0	6,4	290
46	3,9	4,3	195
47	6,4	6,0	272
48	4,8	4,7	225
49	4,7	5,2	236
50	6,8	6,2	281
51	5,3	5,7	257
52	5,2	5,0	225
53	4,5	4,2	188
54	4,5	4,4	196
55	6,0	6,0	272
56	4,6	5,2	234
57	5,5	5,4	243
58	6,0	5,9	265
59	6,0	5,9	265
60	5,5	5,3	237
61	6,5	6,0	283
62	6,3	6,0	268
63	5,0	5,0	225
64	5,8	6,0	271
65	6,0	5,7	257
66	6,0	5,1	229
67	6,0	6,0	268
68	4,6	5,1	230
69	6,5	6,5	292
70	6,4	6,4	284
71	6,0	5,5	248
72	5,0	5,5	246
73	6,0	5,6	256
74	6,3	5,8	259
75	5,5	5,7	256
76	5,1	5,3	239
77	5,6	5,6	253
78	5,0	4,8	216
79	4,8	4,9	220
80	6,0	5,7	258

Appendix 23. **Correlations between question 21, the multi-appraisal (360°) item average and the multi-appraisal (360°) total sum average.**

Correlations

	question 21	360 item avrg	360 sum avrg
question 21	1	0,902**	0,877**
360 item avrg	0,902**	1	0,978**
360 total score avrg	0,877**	0,978**	1

**. Correlation is significant at the 0.01 level (2-tailed).

Appendix 24. **Student learner log comments: general, learning outcomes, self-awareness.**

General feedback on course contents, atmosphere, exercises that encouraged and motivated for interaction.	1. The video meeting was a nice experience and today's conversation was also interesting.
	2. We enjoy talking.
	3. It's vital that the education process consists of both lecturing and letting us talk.
	4. The spoken exercise on feedback (employee-employee) was successful.
	5. I like the fact that there is a common belief in the course that emotional intelligence is important.
	6. I appreciate the feedback.
	7. The interesting exercises were the groupwork and presentations.
	8. The use of real scenarios and then comparing them to the ones which we had prepared was the best part.
	9. I think it's really easy to speak English during the lectures. At first I thought everyone would speak much better than me and that was a bit frightening but now I find it quite fun to speak English.
	10. The communication part was quite fun.
	11. Job interviews were useful.
	12. The interaction of the course is very nice and I think it's very useful especially at this school.
	13. The course seems interesting and a lot of the vocabulary is new to me. It's also nice to speak something in English.
	14. The most useful English course ever.
	15. The atmosphere in the class was safe enough to practice the always challenging speech situations.
	16. It's good to practice speaking English, even when the subject is sometimes challenging.
	17. It was good practice presenting the case study in English, because it was different from usual chatting.
	18. Thinking about your own ethics and company ethics prepares us well for job interviews and it was good to practice them too.
	19. Job interview was a good exercise.
	20. I really liked the positive spirit of the course.
	21. Activating our English and having the confidence to talk, even though we're not perfect, is the most important thing for us.
	22. I really enjoyed the meeting discussion videotaped in the classroom.
	23. The job interview was a lot of fun and I was happy to see how other people handle the situation.
	24. The conversations we had about profitability and growth were interesting.
	25. Real-life case examples are always good – they illustrate the issue in practice.
	26. Discussing leadership is always relevant, interesting and educative, so I really liked this part. You tend to learn about leadership just by discussing your different points of view with other people.
	27. Both written and oral skills are very important in the everyday business life, so the deserves more time: the course should last two periods.
	28. I really enjoyed the linguistic discussions.
	29. Nice real-life simulations.
	30. Nice atmosphere.
	31. I've enjoyed working in our group.
	32. I enjoy the discussions we have in class.
	33. The meeting was fun.
	34. After mathematics and physics classes it was quite a change to start communicating in class. The shock went past on the first lesson and I could actually start focusing on organizational communication.
	35. It was nice to get feedback on our presentation.
	36. The leadership style presentations were nice.
	37. This has been the best English course so far. It's been fun.
	38. It is always good to practice interviews, especially in English.

	39. More talking in lectures would be good.
	40. Good that we have also tasks and examples related to the real world.
	41. Job interview was very good task!
	42. This far, this English course has been the best I've participated in at TKK.
	43. I enjoyed doing the case study in groups, it was refreshing and our group worked well as a team.
	44. It has been nice to work with different people.
	45. Videomeeting was a new challenge to do, but it felt good to do it in our group where everybody had done preparing and was willing to practice the meeting before.
	46. I really like the fact that we are involved a lot, which makes the class lively and interesting.
	47. Presentations are very important.
	48. Working with the group was quite nice.
	49. The crisis meeting with my group was fun.
	50. It is good to activate vocabulary and improve readiness to speak English.
	51. It's easy to start conversations which is good for overall learning.
	52. Small group conversations encourage to speak more.
	53. Videomeeting idea was good, but more guidelines for the desired performance should be available.
	54. The interactive teaching is quite good.
	55. The classes are pretty much more interactive than I expected.
	56. I would definitely like to study further in such creative and personality building courses.
	57. The acted meeting was a great idea.
	58. I like how the lectures are interactive.
	59. I enjoy the teacher's teaching style. It's really energetic which helps me stay awake even though it's so early in the morning.
	60. The course was more enjoyable than I expected.
	61. The video-taped meeting could have been earlier in the course so that I could have learned from it earlier.
	62. Presenting was nice.
	63. Group exercise was fun.
	64. The reason for coming to this course is to develop my spoken communication skills in English.
	65. The course seems quite useful and applicable to real life working situations.
	66. Nice atmosphere in the lectures.
	67. Easy to open your mouth and speak in the course.
	68. Discussion is nice.
	69. Relaxed atmosphere.
	70. Good that there is a lot of teamwork.
	71. Teamworkíng is very useful.
	72. The last session (conference presentations) was very useful.
	73. Discussion was good.
	74. Feedback was good.
	75. The course has been really useful.
	76. Useful course.
	77. I got experience in presentations.
	78. Presentation rehearsal was good.
	79. Positive attitude and feedback was good.
	80. The presentations and speaking publicly in class is a good way of learning.
	81. Self-awareness was a good task.
	82. Video meetings were especially good.
	83. I really enjoyed presenting.
	84. I liked the self-reflection part.
	85. For me this was one of the best communications course I've ever taken.

	86. I like that the class atmosphere is free and everyone seems to want that the others succeed in their presentations and give constructive and also positive feedback.
	87. This is one of the most pleasant courses I have going on currently.
	88. Group exercises are fun.
	89. I still don't feel I've learned anything entirely new but using English in a more formal way than with my friends is good.
	90. This has been a fun and productive course.
	91. Interesting topics and conversations.
	92. I really liked the job interview!
	93. Nice atmosphere during lectures and very enthusiastic teaching.
	94. Group presentations were a very good thing.
	95. I liked the dynamic of the lectures.
	96. I find this teaching method better than others I've seen in my home university.
	97. The course has been useful and I improved my English.
	98. I liked the fact that conversations are informal.
	99. I like the fact that we are spending much time talking in smaller groups.
	100. I think the groupwork and the presentations have been good practice.
	101. I like the fact that we are encouraged to use English.
	102. Videos of ourselves making presentations were really good.
	103. I've gotten nice examples on good teaching methods.
	104. Job interview was nice but could be more prepared.
	105. Nice that the teaching was not traditional.
	106. Atmosphere was very motivating and students inspired.
	107. Self-evaluation was nice and useful.
	108. Atmosphere was good, people participated actively.
	109. Atmosphere was open and warm.
	110. I got some experience in speaking English in a smallgroup but not so much in a bigger one.
	111. Filming was good because you can then see how you really performed.
	112. Meeting was excellent idea to rehearse argumentation and it was nice to see myself in the video.
	113. Good rehearsal for oral argumentation.
	114. I think this course was for me about being in front of everyone and getting that presentation experience, so my goal was gained.
	115. I would like to learn more about oral communication but also by email or telephone.
	116. I would still like more discussion and teaching of oral communication in everyday work life.
Students' self-perceived learning outcomes	1. This course has really improved my presentation skills. Now I have the courage to open my mouth sometimes.
	2. The group video meeting was nice and it taught a lot.
	3. I like the video part, it allows you to see the things that you don't notice whilst presenting.
	4. Learning to express and receive different opinions is quite useful.
	5. I learned to be more assertive in my English in groupwork situations.
	6. Presentations helped keep up our presentation skills.
	7. I learned it was more important to open my mouth and say something than to be silent.
	8. I'm now a bit more familiar with speaking English.
	9. Small-scale interaction tasks in small groups have been really positive part of the course. They have improved my self-confidence when using English.
	10. Having to talk all the time and give feedback to others' exercises makes us participate more and feel more confident to make our own opinions and express ourselves.
	11. I have really enjoyed the course and after it I will have much more confidence to speak in front of an audience.
	12. I learned a lot about topic not just language.
	13. All the presentations really helped to improve some of my skills.
	14. I have learned to be more persuasive in presentations.

	15. The one-to-one acting situation of an executive and an employee was extremely educational -> more of these!
	16. Practising real-life work situations, such as the video meeting, has been truly good and educating.
	17. I have gained confidence in presentations and developed in teamwork.
	18. My English oral skills have developed.
	19. I liked the development of my presentations skills most.
	20. Presentations are a good possibility to improve communication skills.
	21. The simulated meeting felt a bit awkward but I think I can learn a lot from watching the video.
	22. This is helping me get over shyness. I think it will be an asset in my future career .
	23. The 'Dream Organization' task seemed a bit redundant but if the purpose was to teach teamwork and compromising, it may have done some good.
	24. Personal presentation skills are getting nicely polished.
	25. I can improve my presentation skills.
	26. It's good that we are "forced" to give many presentations since it does not feel so awful anymore.
	27. I'm now much more confident in front of an audience and I don't hate performing in English so much anymore.
	28. The oral presentation encouraged a lot my performance skills.
	29. I think my confidence in giving presentations is increasing.
	30. I think I have got some confidence in speaking English during the course.
	31. I have got some communication skills during the course.
	32. Enterprise cases were very good and I learnt a lot from them.
	33. Videomeeting was educative.
	34. The course is definitely challenging. I have not been using my language skills too often, thus this is very good practice.
	35. Communications skills are a bit better after this point in the course. I think this has been a useful activation for my English. I feel that I have challenged myself.
	36. It was very useful for me to practice a job interview first of all because it was a job interview and second of all, because it was in English.
	37. Video conference and crisis meeting were very educational, a definite confidence booster.
	38. I have learned a lot, especially my oral skills have developed.
	39. I have felt really bad speaking English publicly before. I have achieved to overcome my fears.
	40. It's only the third day of the course and I'm already much more confident of using my English.
	41. Preparing and presenting the formal speech was a good experience.
	42. My English is reactivated.
	43. I have enjoyed the course because of the interesting topics and the improvement of my English skills.
	44. It's good that there are conversations and groupwork, it makes the course more interesting and builds confidence and language skills.
	45. It's good that we talk so much, so speaking English becomes natural.
	46. I may have learned to become a speaker that is a bit more confident.
	47. It's nice to have many opportunities to speak to a crowd, so that you get used to it.
	48. Good oral training and the same time some organizational knowledge.
	49. I learned some new words and became confident.
	50. I feel like my interaction skills have improved due to this course.
	51. It's fine to find that together we usually can express ideas better than alone.
	52. Although I did not learn much content-wise in the Strategy lesson, it was fun to activate my English.
	53. I haven't given many presentations in English so I definitely think that I learn every time I give one.
	54. Effective course, best part is that we have to speak English, the best way to learn.

Recognition of personal weaknesses and difficulties in interaction	1. Difficult to open my mouth in a big group.
	2. It was difficult to perform in front of others.
	3. I get too stressed when I have to give a presentation but when we did this, it wasn't so bad.
	4. All oral assignments are good but still quite scary.
	5. I chose this course because I think I need more practice in my presentations so I'm glad that we do a lot of them.
	6. I am rather shy and I get very nervous when having to talk in front of an audience.
	7. It was a bit challenging to do some presentations and speak professionally.
	8. Oral presentations…I hate them! Next time I try to make it better.
	9. I am always terrified when it's presentation time!
	10. It was terrible to speak up in front of the class last time because somehow I was a bit absent-minded and didn't have much to say.
	11. I'm slightly worried about presentations and I don't feel comfortable at all in front of the class.
	12. I dislike talking in front of the class.
	13. I don't like talking much but I guess that's the whole point of this course.
	14. Discussions in groups are hard.
	15. I know presentations are my weakness so I'm glad to learn it although I feel uncomfortable.

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EPILOGUE

"He can't get along with people?
Then he's got a real problem, because that's all we've got around here.
No dogs, no apes – only people."

– Lee Iacocca