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**TEAMING OVER TIME: TEAM AND TEAM
LEADERSHIP DEVELOPMENT THROUGH
DIFFERENT INTERVENTIONS**

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Teaming over time: team and team leadership development through different interventions

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To all the great teachers and companions whom have come my way.

ABSTRACT

Organizing work in groups or teams is becoming almost the norm in contemporary organizations (West, 2012; Wheelan, 2005). This has implications on leadership, team membership and the way organization are designed to favor teamwork. Organizational change and team building do not come effortlessly, but often out of necessity, a driver being the distribution of knowledge through digitalization. In 2016-2017 researchers at the consultancy firm Deloitte interviewed some 7.000 leaders worldwide on the most pressing corporate issues for the immediate future: adaptability to global competition and digitalization. The leaders stressed the necessity to move away from hierarchical organizational structures toward work in teams (Bersin et al., 2017). The team structure is preferable, since information is no longer hierarchically distributed. With knowledge comes responsibility. The new challenges consist of creating an engaged team environment, and organizations where the learning from the different teams is communicated and made use of.

Few workplaces have an abundance of resources, thus people at a workplace need to learn how to best manage scarce resources. In so doing, Elinor Ostrom (1990), concluded that people easily get caught in the Prisoners' dilemma (individually rational strategies lead to collectively irrational outcomes) unless they cooperate, and that learning how to cooperate can override the Prisoners' dilemma and create a base for collective action that benefits all. The aim of this thesis was to contribute with knowledge regarding the mechanisms influencing and resulting in team and team leadership development lasting over time, induced through interventions. The interventions were either on the individual level, trying to increase levels of team leadership skills for the individual manager. Or on the collective level including the whole team. This latter approach seems somewhat more unusual (Jackson & Parry 2011). The individual approach was to, for the first time, evaluate and compare the outcomes of two established Swedish leadership development programs: Developmental Leadership (UL) and Understanding group and leader (UGL). The DL- program with a strong focus on developmental leadership (Larsson et al., 2003), and the UGL-program with focus both on developmental leadership and on group development (Wheelan, 2005). The collective level approach was through a program developed for a specific context; academic leadership in a Medical University, including whole management teams.

The findings point toward some crucial factors for team development to happen. Communication was vital; how to, where, what and when to communicate. The interventions included both theory, and practice, the latter probably the most important. The intervention,

which included the whole team had an advantage in that the team practiced communicating their real communal problems. This could also start the process of co-creating leadership. Including the whole team bridges the gap between intervention and work-life, something lone participants in leadership interventions struggled with, especially since few organizations followed up on their learning. Of course participants were met with skepticism or enthusiasm had impact on their maintenance of new learning. Here the factor if the participants had gained an increase in their confidence in their role as leader, on the course or not had a large impact. Confidence could also be a factor in whether the participants claimed an opportunity to perform their new learnings or not, back at the work place.

This thesis has an explorative approach, since its focus is on lesser researched problems. The word 'problems' is used consciously. Using 'research gaps' would imply exact knowledge of where these are and in the field of team and leadership development that is not obvious, this is in line with Alvesson and Sandberg (2011). Little research has been done specifically on leadership teams in a medical academic setting, as was also the case with the longitudinal studies on UGL and DL courses.

LIST OF SCIENTIFIC PAPERS

- I. **Söderhjelm, T.**, Björklund, C., Sandahl, C. & Bolander Laksov, K. Academic leadership: management of groups or leadership of teams? A multiple-case study on designing and implementing a team-based programme for academic leadership. *Studies in Higher Education*, 2018, 43(2), 201-216. (Published on-line 30 Mar. 2016.)
- II. Larsson, G., Sandahl, C., **Söderhjelm, T.**, Sjøvold, E. & Zander, A. Leadership behavior changes following a theory-based development intervention: A longitudinal study of subordinates' and leaders' evaluations *Scandinavian Journal of Psychology*, 2017, 58(1), 62-68.
- III. **Söderhjelm, T.**, Larsson, G., Sandahl, C., Björklund, C. & Palm, K. The importance of confidence in leadership role: A qualitative study of the process following two Swedish leadership programmes. *Leadership & Organization Development Journal*, 2018, 39(1), 114-129.
- IV. **Söderhjelm, T.**, Nordling, T., Sandahl, C., Larsson, G., Björklund, C. & Palm, K. Transfer of Leadership training: Two routes to maintenance. (Manuscript, Aug. 2018.)

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LIST OF ABBREVIATIONS

GDQ	Group Development Questionnaire
DL	Developmental Leadership
UGL	Understanding Group and Leader

1 OUTLINE

This document consists of two parts. In part one the theoretical background of the thesis is presented as well as my understanding of this area of research and why I chose to follow certain scholars in the field. Part two concerns the studies included in the thesis. In this part I discuss methods used, ethical considerations, and study results.

2 BACKGROUND

2.1 PROLOGUE

My academic journey started with a Bachelor in journalism from the School of Journalism (Journalisthögskolan) at Gothenburg University and from University of Michigan, Ann Arbor. The education was geared towards social constructivism, with an inductive approach where the method could be described as a shifting of perspectives. Later I had the opportunity to pursue a Master's of Science in economics at the London School of Economics, learning how to formulate arguments in a mathematical form, which could be seen as a deductive approach in the positivistic tradition. My interest in the human factor, or animal spirits to borrow from Keynes (1936), made me pursue a Master's in psychology at the Karolinska Institute, followed by a position as a PhD-student. This was also a return to social constructivism and more inductive reasoning.

During both my academic training and my empirical experience, I had the pleasure of encountering and working in groups that functioned very well, and the displeasure of sometimes being in the opposite. I could also see the importance of teams, which functioned well when building a company. A company that I followed (Söderhjelm, 2011) where management invested in building functional teams, went from a turnover of 100 million kronor to 1 billion in 10 years, with satisfied employees and a profit margin of 25 %, whereas in companies where management did not invest in building good teams, a lot failed quite badly as did the well-being of the employees (Söderhjelm, 2011). Given my empirical experiences and formal education I realized that optimizing the human factor is of importance both for the persons involved as well as for the organization, even more so with the advent of digitalization and the thereby following non-hierarchical distribution of knowledge (cf. Bersin et al., 2017). It has also made me aware of the challenges that can be encountered on the road towards building and leading teams. That's why I find this research area interesting.

In this thesis, literature on what constitutes groups, vis-à-vis teams, team leadership and membership, adult learning, and group development has served as central input. Of interest has been to explore what interventions could lead to a positive development, and if the processes differ depending on if the whole team, or only the team-leader is subject to a development intervention, and what role the context and the organization play.

The research is undertaken at Medical Management Centre, Department of Learning, Informatics, Management and Ethics, Karolinska Institutet. The literature compiled derives

from searches made in the database PsycInfo, PubMed and additionally in Scopus and Web of Science as they provide interdisciplinary research including social sciences, humanities, health and medicine. Recommended literature from courses, conferences and seminars were reviewed to cover articles not indexed in the specified databases, and generic searches in Google Scholar were used.

2.2 INTRODUCTION

In this thesis project with the title *Teaming over time: team and team leadership development through different interventions*, the complex phenomenon of people in a work environment is studied with special emphasis on team development.

The research area on how to develop peoples' capacity in working together relates to several disciplines. This thesis work is set in a framework of systems theory (Bertalanffy, 1951) and field theory (Lewin, 1951). Systems theory can very shortly be described as; nothing happens in a vacuum. When analyzing an event through systems theory, it is viewed as a part of a larger whole. The whole constitutes of different parts, and it is the relationship between these parts and how they affect each other through different feedback loops, which decides how the whole system functions (Egidius, 2018). Field theory can be seen as adding to systems theory through aiming to map forces, which constitute the dynamics in the system (Egidius, 2018). The psychoanalyst Dr. Yvonne Agazarian merged the theories of Bertalanffy and Lewin in her theory of human systems as open living systems (Agazarian & Peters, 1981; Agazarian & Gantt, 2000). According to Agazarian's theory human systems can be influenced in a multiple of ways and at any given level, since they are open, and isomorphic, the parts are corresponding with the whole. The idea is that the interaction between the parts will produce a whole that is more than the sum of the parts. The movement is towards a chosen goal, and the final form is deterministic in that sense that it is governed by how the parts interact (Stacey & Mowles, 2016).

The thoughts of Agazarian have a parallel in chaos theory, where among others, Lorenz (1972) showed that small causes could have large effects on the system. Due to this sensitivity, numerical computations of such dynamic systems can result in very diverging outcomes. If one knew all the initial conditions the systems would predict the future perfectly, because they are deterministic, but that is the crux of the matter: some conditions, not computed for, might be crucial (Lorenz, 1972).

But can system theory or chaos theory be taken as mirroring the workings of the world? For some parts yes. Chaos theory was first applied in weather forecasting (Lorenz, 1963), but it has been found applicable to many other areas such as economics (Kyrtsov & Vorlow, 2005) and even road traffic (Safonov et al., 2002). Since road traffic involves human agents it would be tempting to apply chaos theory to organizations and even work teams. The problem is that chaos theory is deterministic and does not take into specific consideration the free will of the agents. Human organizations can be seen as heterogeneous complex adaptive systems, with nonlinear structures. An interesting point with such systems is that they evolve into self-organizing systems through an iterative process where interaction is the driving force, and they can evolve spontaneously, which the deterministic models cannot (Stacey & Mowles, 2016). This is interesting because it opens up the possibility of creativity and change; evolution without a blueprint, thus ruling out the possibility of control over the whole system. Even in a deterministic model, such as a chaos analyze of weather, it's hard to predict accurately more than a week ahead, theoretically it would be possible to predict weather for about two weeks ahead (Stacey & Mowles, 2016), and weather is not afflicted by a free will.

In 1990 Peter Senge published the book *The fifth discipline*. Senge is an engineer, who has studied philosophy and Buddhist meditation, in which seeing how living entities fit together is a central theme. He, in line with economists such as Phillips (1958: Phillip's related inflation rate to unemployment), adhered to a theory of system dynamics, aiming to analyze the system as a whole through mathematical models. Problem solving in this vein of thought means not naming one person or department as the problem, but rather looking at a larger number of interactions within the organization as well as in between organizations and the environment. The idea is that systems are self-regulating, self-correcting through feedback, both positive and negative. By using what Senge (1990) calls core disciplines such as mental models, shared vision and team learning the chances of avoiding unwanted effects and building a learning organization increase. Senge indirectly considers Newton's third law of motion: $F=-F$, i.e. when one body wields a force on a second body, the second body simultaneously wields a force equal in strength and opposite in direction on the first body. Translated to human systems there always exists a resistance to change. To overcome this resistance and make organizations quick to learn and adapt, Senge points to some necessary conditions: there must be a compelling case for change, there must be time to change, and help available during the process. When change occurs, some new barrier might show up. This is important to deal with, lest the change process comes to nothing. About the same time as Senge at the MIT Sloan School of Management presented his ideas on what organizations

need for a positive change to happen, Richard Hackman (1990) professor of psychology at Harvard University presented findings on what makes work groups successful. He stressed the team as an essential part of the whole with clear boundaries:

1. The work group needs to be a real team. A real team has a task that demands interactivity, members know who's in the team and who's not, and there is stability of group membership.
2. The real team needs to have a *Compelling direction*: which results from a clear, challenging, and logical goal. The compelling direction works as a constraint; a frame inside which the team members have freedom of action.
3. *Enabling structure*: this means that the team size, skills, social norms and behavior are attuned to the task and the people involved.
4. *Supportive context*: Hackman sees how the functioning of the team is directly dependent on the context in which it finds itself: a reward system that supports collective performance, the team has the resources needed to perform their task, as well as the mandate.
5. *Expert coaching*: Hackman underscores the importance of team coaching, a skill he saw as lacking in many team leaders. Hackman saw the role of the team leader as to create the conditions necessary for the team, to build the team, keep the direction compelling and coach the team to success. It is interesting to consider the topicality of Agazarian, Senge and Hackman, almost 30 years after they first presented their ideas. As they all stress, organizational change and team building do not come effortlessly, but often out of necessity. In 2016-2017 researchers at the consultancy firm Deloitte interviewed some 7.000 leaders worldwide on the most pressing corporate issues for the immediate future: adaptability to global competition and digitalization. Here the leaders stressed the necessity to move away from hierarchical organizational structures toward work in teams (Bersin et al., 2017). The team structure is preferable, according to the interviewed leaders, since information is no longer hierarchically distributed. The new challenge then consists of building teams that function well, as well as an organization where the learning from the different teams is communicated within the organization and made use of, i.e. building a learning organization. The jury is still out though, if this new structure of information makes deterministic models of organizations obsolete.

2.3 PROLOGUE: THE COMPLEXITY OF GROUPS AS OBJECTS OF RESEARCH

If one sees human groups as heterogeneous complex adaptive systems evolving through a responsive process it is interesting to take a historic view. There is a strong survival aspect for humans in belonging to groups. Humanity's survival, social and economic success can be attributed to the ability to work together in groups (Axelrod & Hamilton, 1981; Bowlby, 1969). A theory named the Social Brain theory addresses the consequences of primates

(including humans) having comparably larger brains to other mammals: a lot of brain activity is used to navigate the complex social world they and we live in (Brothers, 1990). Empirical evidence for the Social brain theory has been provided by measuring the relationship between the volume of the neocortex and social group size in primates (Dunbar, 1992; Barton, 1996) and further specifying the brain area to the frontal lobes of the neocortex (Dunbar, 2011), pointing toward the larger the volume the larger the social groups. If this can be seen as a biological propensity, why is it then of importance to undertake research in this area? One reason is that there is no innate ability to find and act constructively with others. Our basic nature is more like that of the other primates. Primates have a group behavior that is not adapted to human civilization, which is characterized by a culture with a developed and nuanced language. In order for nature and biology to not transcend human interaction, humans, as members of a developed society, need to learn how to collaborate in groups (Goodall, 1990). Another reason for undertaking research on teams is that conditions are changing rapidly: If our predecessors in the agrarian economy worked together, they probably knew each other, and worked together during an extensive time period, and progress induced by the outside world was slow except in times of war and technology leaps. At this day and age, we can be said to be in the middle of a technology leap (digitalization), this in combination with increased mobility raises new demands on teams working together (West, 2012).

Despite teamwork being such an essential contributor to human progress, the individual has been the main focus of research both in psychology (Jern, 2016) and economics (for example the influential assumption of the rational economic man; homo economicus (cf. Pareto, 1906; 2014). Why this is so, might be partly explained by the complexity of doing research on groups. Just an example: The more participants, the more links are possible, which can be computed by $n(n-1)/2$, where n is the number of people in the group. The number of possible links increases relatively steep (group size / possible relations): 3/3, 6/15, 20/190, 50/1225 (Bossard, 1944; Kephart, 1950). Add to that variables such as permeability of groups, subgroups, context, attitudes, values, emotions and norms and it becomes more and more understandable to take the less complex individual approach, be it a valuable proxy for most peoples' daily existence or not.

Whether we are rational or not, is however debated. In homo economicus emotions are not prevalent, and rather seen as an opposite of rationality. This view was contested by Damasio (1995), suggesting that emotions and feelings are essential for rational decisions. Damasio corroborates the theory by clinical observations of patients whose emotional processing was

impaired due to prefrontal brain damage. These patients have difficulties in making rational decisions. Research by Damasio leads to the conclusions that emotions and task activity are interlinked. Emotions in a work setting have been studied by Humphrey et al. (2015), Ashforth and Humphrey (1995), using the term emotional labor, coined by Hochschild (1983) defined as “management of feeling to create a publicly observable facial and bodily display” (p. 328). Humphrey et al. (2015) conclude that if a worker is expected to show positive emotions at work despite poor working conditions or a poor person-job fit, emotional labor can be harmful, but when emotions come naturally and genuinely they are positively related to performance, work- and customer satisfaction and commitment to the organization. For this to happen they identify authenticity, when the individuals can identify with their roles in a given context, as central (Humphrey et al., 2015). Fisk and Friesen (2012) demonstrated that leaders’ display of emotions influenced the quality of leader-member relations, where a lack of authenticity had a negative impact. Humphrey et al. (2015) conclude that exhibit of negative emotions can be contagious.

2.4 DRIVERS FOR RESEARCH ON HUMAN GROUPS

There is however a long tradition of research on groups, which started in earnest after the Second World War (Jern 2016). The atrocities committed during the WW II seem to have led to a different understanding from Allport’s (1924) that groups were just a collection of individuals. Seminal social-psychological experiments such as Asch’s (1951) conformity experiment, and Milgram’s (1963) obedience experiment were conducted, and made it quite obvious that there are social phenomena affecting the individual in a group setting. Asch wrote a book (1952) with the same title as Allport’s “Social psychology”, but with a very different message, indicating that groups exist in a psychological sense and can influence a person, as much as individual factors. One definition of a psychological group (Schein 1988) is a number of people interacting, conscious of each other, and viewing themselves as a group. There is a vagueness in this definition – how many are a number of people? Simmel (1955) looked at this by analyzing communication between two people (a dyad) and found that complexity in this setting was so much lower than that between three people (triad) that they can be viewed as different phenomena. Between two people there is a conversation, but when a third person enters, it becomes a group. (The number three is however not unanimously accepted in the research community, Salas et al. (1992) define a group as two or more people.) Many definitions of teams in a work context seem to build on Schein’s (1988) definition of a psychological group as a number of people interacting, conscious of each other, and viewing themselves as a group. For example, Salas et al. (1992) see a team as a discernible group of two or more people who interact, interdependent and adaptive towards a valued,

common goal (Salas et al., 1992). Hackman (1983; 1987; 2002) introduces, as mentioned previously, prerequisites for successful teams; such teams have a task that demands interaction and produces obvious results.

In Hackman's (1983; 1987; 2002) characterization of successful teams is included that they produce obvious results. This is an interesting part of the definition. One assumption for organizing work in groups is that it is more effective; $1+1>2$, this statement has however been seriously questioned. Already Ringelmann (1913) did research on tug-of-war and found that when group members worked together they might put less effort in the task than when acting alone, this due to either loss of motivation, or difficulties in coordinating the efforts. These results have been verified in later research (see Williams, 1981) on phenomena called social loafing or free riding, where group members can count on their fellows to put up the slack, or that a degree of uncertainty makes their efforts in aggregate less effective than if adding their contributions as individuals. Theorists and empirical researchers, such as Susan Wheelan (1994; 2005) have shown that teams that function well; characterized by having a clear goal, borders and engaged in verbal feedback about the work process, perform work more efficiently than more random work groups in the same context. Wheelan et al. (2003) showed for example a significant decrease in mortality rate among intensive care patients treated by teams that functioned well. Wheelan, as well as Hackman stresses the clear borders of the group. Lyubovnikova et al. (2015) have in empirical studies shown that a looser definition; people are aware of who's on the team, and if this team (which might fluctuate over time, but not on a specific task) engages in a short reflection after their communal task is done on how the work preceded, could be seen as working in authentic teams. These teams produced work with a significant decrease in expected mortality rate in patients at 147 acute hospitals in Britain. These results would point towards it being worth the effort to consciously build a team.

2.5 TRAINING THE ENTIRE TEAM OR ONLY THE LEADER?

A classical approach is to train the leader, as leadership is often seen as a process in which deliberate influence is wielded over others with the aim to lead, structure and facilitate activities and relations in a group or an organization (Yukl 2013).

To focus training to the leaders could be seen as rational, or as a residual from a more hierarchic way of organizing workplaces. Another approach is to train the whole team. For training to have an effect on work-performance, training should take place in the work environment (Wheelan, 2005; Hackman, 2002). Salas et al. (2008) showed in a meta-analysis that 20 % of variance in performance was explained by team training. But what if

responsibilities are distributed over the team, could then training a team-member have effect in co-creating leadership and thereby implementing team development? Both complexity theory and the concept of relational leadership, where leadership is viewed as a co-creation process between members and leader (Crevani et al., 2010) open up for new approaches to team development.

2.6 TEAMS À LA MODE

Organizing work in groups or teams is becoming almost the norm in contemporary organizations (West, 2012; Wheelan, 2005). Why is that, and does that infer that the whole organization is designed to favor teamwork? Let's digress into the field of microeconomics, and more specifically to the study of organizational models. The hierarchical model is a traditional model, made scientific by Frederick Taylor (1911) and Max Weber (1922). In Weber's expositions of the advantages with a bureaucracy, where everyone had a defined task to perform, and orders came from above in clearly defined lines of command, it was a way of organizing work suited for an assembly-line like way of production (Taylor, 1911). But the model has problems: where does democracy and co-determination fit? And what if knowledge is not distributed in the same way as order giving, i.e. knowledge does not necessarily sit at the top of the organization where the decisions are made? A way to solve these problems was a radically different way of organizing work – in a matrix organization (see Owens, 1988). The fundamental idea is that tasks and personnel are distributed according to the demands of the task, where leadership distributes the tasks and those working on the task, but the workgroup solves the task together. A problem with the matrix is that some people might get over-loaded with work, and others get too little, and workgroups are project based which might lead to a sense of insecurity (Granström, 2006). This is where the team-based organization steps in. Each team gets responsibility for solving a complex task, each member is on the same level of responsibility and work is done when the team has solved its task. (This was put in practice in the no-longer existing Volvo plant in Uddevalla (Sandberg, 1995)). The matrix and the team organization have been called organic ways of organizing work, as opposed to the hierarchical mechanical way (see Weisboard, 1991; Buchanan & Huczynski, 1997). Most organizations can be found on a gradient with elements from both organic and mechanical ways of organizing work (Granström, 2006). It can for example be a hierarchical organization where the daily work is organized in teams or project groups, (Arrow et al., 2000), with a difference between a team and a project group being the timeframe, with project groups having a definitive timeline. Arrow et al. (2000) also make a distinction between teams and crews; where a crew is a work group with members having specific roles, coming together for a short time to perform a specific task, whereas teams

work together for an extended period of time and therefore have the possibility of getting to know each other's strengths and weaknesses. Most organizations can be found on a gradient on how clear the organizations are regarding organizational structure, which is mirrored in responsibilities, resources, work-plans etc. The organizational form and clarity has impact on all levels; the leader in a hierarchical structure is extremely important (Granström, 2006). In a hierarchy the leader's prime task is to make decisions, decisions that through the chain of command is spread to the organization, which task it is to carry through the decisions in practice. In a matrix the leader's task is to allocate tasks and resources and designate project – or team leaders who in their work group carry out the task. In a team organization the leader's task is primarily to be a coordinator and facilitator. Hackman (2002) points to the importance of the team having enough resources both in material and knowledge to perform their task, and that the leader plays a vital part in obtaining these resources. A less prominent role for the leader; stressing the shared responsibilities of team-members and leader and the co-creation of leadership, is taken by Velten et al. (2017). They see the leader's most important task to set the goal for what should be accomplished together and to facilitate that the co-workers' competences and capacities come to the fore (Velten et al., 2017). This is best done through interaction, creating an environment safe enough to support differences and frictions.

There is a whole field of research concerning organizing work in projects. I have just lightly touched on it here and will not venture further. Instead I will try to look into how people perceive working in teams and under which condition they thrive.

2.7 PRODUCTIVITY

Which way of organizing work is the most productive? The classical way of measuring productivity is output compared to input, and efficiency as the value of output compared to the value of input. If productivity and efficiency is higher in any specific type of organization is debated. Some consistency seems to be found in the literature that which organizational form is the most efficient and productive depends on the goals and the organizational context. (Here it is interesting to recall Hackman's (2002) "real teams": that a real team has a task, which demands interdependence to be accomplished. If individuals can perform the task alone it is probably not the best basis for a team organization.) More urgency to this question has been risen lately, as the Deloitte report (2017) referred to above; how moving away from a hierarchical structure toward teams emphasize skills and learning as keys to performance; redesign how goals are set and people rewarded, thus profoundly changing the role of leaders.

It's not always easy to say which form of organization is the best, but the worst is a diffuse organization where rules, purpose, goals and resources are unclear (Granström, 2006). One possible explanation for this could be found in our brains. Humans seem to be the most intelligent species of the primates, a reason could be that our prefrontal cortex contains a larger volume of myelinated axons, so called white matter, than in other primates (Schoenemann et al., 2005). The myelinated axons speed up connectivity between neurons. This increases our intelligence, but it can also increase our propensity to worry (Coplan et al., 2012). Coplan et al. (2012) concluded that in healthy subjects there was a negative correlation between worry and intelligence, but in those with an anxiety disorder it was positive. Anxiety disorders have estimated lifetime prevalence among adults of over 28% (Calhoun & Tye, 2015), thus this might be of importance for leadership. Anxiety, a mental state of heightened responsiveness and caution, is essential for survival (Tovote et al., 2015; Craske & Stein, 2016). Anxiety-related behaviors come about through sensory stimuli via the amygdala circuitry (Babaev et al., 2018). The amygdala is a nucleus located medially in the temporal lobes and is part of the limbic system, and is involved in memory, decision making and emotional responses (Amunts et al., 2005). The response to adverse objects and situations can be conditioned, i.e. automatically pairing a neutral stimulus with an aversive one (Öhman & Mineka, 2001). Through evolution, threats to human survival rapidly mediate escape and avoidance (Öhman & Mineka, 2001). The survival instinct could be activated at work, if we find the surroundings threatening. When this happens, we have a tendency to try to find shelter with a wiser, calmer and stronger kinsman (Wennerberg, 2013). In a diffuse organization such a shelter can be hard to find. When the organization is unclear it becomes hard to take a functional role, be it as a leader or co-worker (Sundlin & Sundlin, 2014). A functional role can be defined as the intersection between the person's skills and traits, the purpose and the goals of the system in which the person finds him or herself, and the resources provided (Sandahl et al., 2017).

2.8 THEORETICAL FRAME

In this thesis project an important theoretical frame for group development is the work by Susan Wheelan (see 2005). She calls her model the integrated model of group development. Integrated from earlier group development researchers' theories such as Bion (1959), Schutz (1958), Bennis and Shepard (1956), and Tuckman (1965). All having in common that groups do develop over time, i.e. something happens, whether this something is a development in definable stages, and whether these stages occur in an invariant order is however not agreed upon. Wheelan has through empirical studies of groups discerned the following stages: I. Dependency and inclusion, II. Opposition and Conflict, III. Trust and structure, IV. Work

and productivity, V. Termination. Wheelan (2005) argues that one way of getting both leader and members to learn about and develop their own work group is by giving them the Group Development Questionnaire (Wheelan, 1994) thus reflecting group dynamics and understanding the participants own role in these. The questionnaire builds on Wheelan's Integrated model of group development. After numerous studies of therapy groups and work groups, Wheelan concluded that there are stages and some precede others, but groups can go back and forth in development, as a reaction to changes, such as change of leader, turnover rates, reassignments etc. The model was validated through content analysis and systematic observation method based on a scheme derived from results of literature reviews; the categories reflecting the behavioral characteristics most commonly associated with groups at the various stages of development defined by previous theoreticians and researchers. Wheelan derived characteristics used to identify groups at various stages of development in constructing GDQ, containing the four scales: I. Dependency and inclusion, II. Opposition and Conflict, III. Trust and structure, IV. Work and productivity. The integrated theory would predict that the number of dependency statements would be highest during the first two stages of a group's life, fight and counter pairing should peak during the second stage, and work statements should be most frequent during the third and fourth stage. Predictions were confirmed in most groups. Relationships between the GDQ scales were also investigated. Scales II and I were positively correlated, as were scales III and IV, thus supporting the theoretical underpinning of the instrument as well as its internal consistency. Leadership can support or hinder the group development. Wheelan stresses the necessity of a leader being clear and instructive in the first stage where the group depends on the leader for feelings of safety and reward. In stage two the leader's authority is challenged, and the leader has to stand firm without becoming vindictive, keeping the focus on goals and roles. In the third stage power is redistributed, the leader has to slacken the reins, finding a role as a facilitator and coordinator, for in the fourth stage to delegate even more to a self-leading team. Wheelan points out that to change the leadership behavior to accommodate the group development is not an easy, but vital task.

Wheelan (2005) sees a difference between a group and a team: a group becomes a team when shared goals and effective methods to accomplish those goals are in place. Her research shows that members of high performance teams feel involved, committed and valued and produce work of higher quality, than members of low performance teams. This is also important for the organization at large. Wheelan bases her research on Systems thinking and as mentioned before the basic idea is that systems are self-regulating, self-correcting through

feedback. Systems strive for equilibrium, thus groups within an organization become more and more alike with time. This makes it easier for groups to coordinate activities and work toward common goals. But if the organization is diffuse, this striving of the system gets confused.

2.9 THE IMPORTANCE OF COMMUNICATION

From the above can be concluded that clarity in purpose and goals as well as interaction and communication are vital for teamwork to be efficient. But would any kind of communication do? No, not according to a meta-study by Tannenbaum and Cerasoli (2013). They found that individual and team performance can improve by 20% to 25% by “properly conducted debriefs” (Tannenbaum & Cerasoli 2013, p.1), using Darling and Parry’s (2001) definition of debriefs as an iterative process where learning takes place through reflection and planning for improved performance. What do properly conducted debriefs contain? Tannenbaum and Cerasoli (2013) state four essential factors: 1. Active self-learning: as opposed to passively receiving feedback the learner has to actively reflect on and experiment with ideas and actions. 2. The debriefs have to have a developmental, not punitive, intent to foster an open and sharing environment. 3. Focus on specific events; general discussions don’t make a good foundation for laying specific plans for the future. 4. To make feedback credible during debriefing, information should best come from multiple sources, for example from more than one member of the team. The first factor – active learning, is a direct reference to Kolb’s (1984) learning cycle, which is a fundamental idea in the leadership development programs in study II, III and IV in this thesis project. How would an open and sharing environment contribute to learning? An interesting reason is put forward by Argyris (1991). He argues that highly skilled professionals who rarely experience failure don’t know how to learn from setbacks. Instead they become defensive and put the “blame” on anyone but himself or herself to avoid feelings of vulnerability, embarrassment or incompetence. This implies that the ability to learn shuts down at the moment when its needed the most.

Yet a rationale for teamwork is the concept of transactive memory (Wegner, 1995; Wegner et al., 1985). Transactive memory refers to a shared storage of memory, and a transactive memory system to the encoding, storage and retrieval of said memory, a kind of group-mind. This group-mind develops through communication and interaction and could be especially useful in groups where interdependence is high; the task requires contribution from highly specialized members, where accuracy of information and coordination is of importance (Lewis & Herndon, 2011). If such a group uses a transactive memory system each member can utilize his or her expertise without losing the connection with the team task. This could

be seen as using Ricardo's (1817) theory of comparative advantages on a micro-system, or as in Price and Van Vugt (2014) noting that leadership in small scale societies often have different leaders in different areas, since leadership here demands expertise. This could also be seen as the concept of distributed leadership (Gronn, 2002) in a team setting. In Wheelan's empirical studies communication in the group is at first centered around personal items, and when work runs more smoothly communication is more and more task oriented. It is then easy to jump to the conclusion that the important communication for increased productivity would be to limit the subject to work related issues. In a field study of a group of !Kung Bushmen, Weissner (2014) recorded the topics of conversation in daytime and at night around the campfire. The daytime conversations were mostly functional and task oriented, whereas at night the communication centered around stories; stories providing cultural knowledge and a framework for holding the community together, both sets of communication being of equal importance for the groups existence.

Studying the communication via the flow of blood in the brain could point to emergence of a group leader. Using both observations focusing on leadership, competence and communication skills and fNIRS hyperscanning, which measures changes in the regional cerebral blood flow by quantifying the changes in oxyhemoglobin concentration, Jiang et al (2015) wanted to investigate interbrain neural synchronization (INS) during face-to-face communication. INS can be seen as a measure for neural mechanisms of human interpersonal interaction. Leaderless groups of three were studied when they were asked to discuss a topic for five minutes. INS was significantly higher in groups with a clear emerging leader, communication frequency was higher, but it was not the leader who talked most, it was rather the deemed quality of what the emergent leader said which was important. Jiang et al. (2015) argue that leaders emerge when they say the right thing at the right time. This could be seen as a physiological indication for what Northouse (2010) indicates as important for emergent leadership, showing positive communication behaviors.

2.10 CONTEXT

Empirical studies have shown that the team is dependent on its context for goal-setting and resources (Hackman, 1983, 1987, 1990, 2002; Wheelan, 1994, 2005, 2010), and in Systems theory the team is viewed as a part of an open system (Agazarian & Gantt, 2000). Where the driver of the feedback system from the team to the organization and vice versa is communication. If the communication is stalled, the system closes its borders and does not develop (Agazarian & Gantt, 2000).

As stated above Hackman (1983, 1987, 1990, 2002), points to the necessity of stable team-membership for the team to be at its most productive. Wheelan concludes that if half the members of a team are switched or the leader exchanged, the team falls back in development. This opens up for a problem in many teams where membership is not stable (Dibble & Gibson, 2017), and a questioning of an assumption in Systems theory of the importance of systems having a boundary, or the concept of isomorphy where the parts mirror the whole. In practice meaning that influencing one level of the system has repercussions on the whole (Mowles et al., 2008).

In this thesis projects it has therefore been of interest to notice if implementations geared at learning and reflecting on team leadership and membership can be of importance for daily work, even though one might consider team development from different theoretical viewpoints.

2.11 TEAM LEADERSHIP

Leadership in this thesis projects is defined according to Yukl (2002); as a process of influence between the leader and the led. Are there specific features characterizing the leadership of teams? For Hackman the team leader's prime function is to ensure that the five prerequisites for a successful team is in place, i.e. being a real team, having a compelling direction, enabling structure, supportive context and access to team coaching. These points can all have their difficulties, but in an interview with Harvard Business Review (Coutu, 2009) he points to some leadership basics: a leader needs to know how to get the work going by getting team-members oriented and engaged with the task at hand; help the team in correcting the performance strategy by reviewing what works and what does not; and to reflect on the finished result, which can help members make use of their experience the next time around (Coutu, 2009). Hackman continues to explain the essence of team coaching; it's about developing task related teamwork, not about improving members' social interactions. The challenge for a leader is to find a balance between autonomy for the individual and actions of the collective. Hackman stresses that if the team becomes too controlling it can become destructive since the individuals' opinions and learnings are lost (Coutu, 2009).

Wheelan's view on team-leadership is that it has to take the group development into close consideration, where the leadership style needs to adapt to accommodate to the group. If this doesn't happen the leader can become a hindrance for the team's development (Wheelan, 2016). Much like Hackman, Wheelan sees the leader's initial task to be setting the direction of the team task, securing the roles, the clarity and relative stability of membership, and acting

as a connection between the team's internal work and the surrounding organization. Keeping the team focused on goals and roles is the leader's most vital task in the two first developmental stages, according to Wheelan. Doing so will give the best possibility for the team's ability to build trust and structure, thus moving towards stage three. When the team is there, the team leader can become less hands-on, giving the team members more and more responsibilities. The leader still needs to keep an eye on the team structure, but maybe work more on keeping the team on track with the rest of the organization. In the fourth phase the team becomes more or less self-governed, and the leader can work as a member of the group, for in the fifth phase final, again take a more active role, leading the team in conclusions about knowledge acquired during the team's time together. In both Wheelan's and Hackman's models there are a vital interplay between the leader and the lead; without the team-members active participation the team will not develop (c.f Wheelan, 2010; Hackman, 1992).

In this thesis project the first study built on Wheelan's model for group- and leadership development. The other studies built on both Wheelan's model for group-development and the developmental leadership model formed at the Swedish Defence University by Larsson et al. (2003). The developmental leadership model stresses the interplay between leader and surrounding, where the development of the group is an important factor. The developmental leadership model (DLM) can be characterized as a refined and adapted version of Bass's (1998; 1999) transformational leadership into a Scandinavian context. Transformational Leadership (Bass 1998) is one of few leadership styles, which in empirical studies has been shown to deliver a positive impact in general on organizations (Avolio et al. 2009; Bass 1998). According to the DLM, leadership styles are built on the interaction between leader characteristics and contextual characteristics. Leadership styles are viewed in a hierarchy going from the undesirable laissez-faire leadership, through conventional leadership including control and the more positive demand and reward styles, to the most desired style: developmental leadership. The leader acting as an exemplary model characterizes the developmental leadership, showing consideration for the individual and being a role-model for inspiration and motivation (Larsson et al., 2003).

The Developmental Leadership model was chosen as a focus of study due to its theoretical foundation (Larsson et al., 2003) and due to it deemed by the author of this thesis project as interesting from an evolutionary psychological background. Tooby and Cosmides (1992, 2005) theorize that voluntary social relationships develop when they give fitness benefits, i.e.

reproduction and survival benefits, to all partners. They called this theory of leadership for service-for-prestige. This view might be appropriate when analyzing leader-follower relationships (Price & Van Vugt, 2014), where the simplest way to get a high status for a leader is by providing followers with benefits, in a modern society benefits could be seen as social and material resources. This propensity could explain why if group members can choose their own leader they choose someone who's shown to be both willing and able to benefit the group, but also aspects of evolutionary leader-follower relations, which in a modern society might be sub-optimal. This could be seen in our propensity to view physical formidability as a desired leadership trait, even when this might not be necessary for the task (Price & Van Vugt, 2014; Egolf & Corder, 1991), whereas traits such as intelligence and communications skills seem to have weathered better. The importance of intelligence and communication skills for leadership is also reflected in the works of Ralph Stacey (2010, 2012), who started out as adhering to Systems theory, but later saw organizations as iterative patterns of human interaction, never reaching equilibrium. Leadership is manifested by ability to articulate and communicate emerging patterns, and habitual reactions of self and group, and by enduring the anxiety of uncertainty (Stacey, 2010, 2012). In 2004 the Global Leadership and Organizational Behavior Effectiveness (GLOBE) research program at Wharton School of Business published a study on leader effectiveness based on answers from 17 300 middle managers from 951 different organizations and 62 different cultures (societies) (House et al., 2004). Leadership is contextual, was the major finding, even though some leader characteristic were universal such as being trustworthy, communicative, just, honest, intelligent and encouraging. Leaders that were universally shunned were loners, non-cooperative, ruthless and dictatorial. The Nordic countries preferred leaders who were performance and team oriented, participative, humane, focused on safety and security of the individual and the group, and had an independent, individualistic approach to leadership (House et al., 2004). The rationale for using Developmental Leadership in this research is that this model of leadership stresses these preferred leader characteristics, and it would therefore be interesting to see if these can be trained and developed through an intervention.

2.12 AN ILLUSTRATION OF A TEAM

During this thesis work the following illustration, inspired by the systems and field theory thinking of Agazarian and Peters (1981), Agazarian and Gantt (2000), Lewin (1951), Wheelan (2010), and Sundlin and Sundlin (2014), has been a guide both in the interventions and in the analysis of data. It illustrates the process when persons with different ideas, emotions, traits and skills move into a system, in this case a team as a part of a larger organization. The persons need to filter among their skills, traits and ideas to take a functional

role: a role where the behaviors lead to attaining the goal. The goal is set to fill some needs in the surrounding environment. The role of the leader is on the border of the team-system; both looking inwards towards the workings of the team, and outwards ensuring that the team has what is needed to attain the goal, and is on target towards the goal. Wheelan's first phase of group development can be seen as going from left in the picture: from person to role. In the second phase the persons have entered into their roles, but are as yet unsure of how to reach the goal, to in the third and fourth phase being in the right side of the picture; sure about their different roles, the goal and how to reach it in relation to the surrounding.

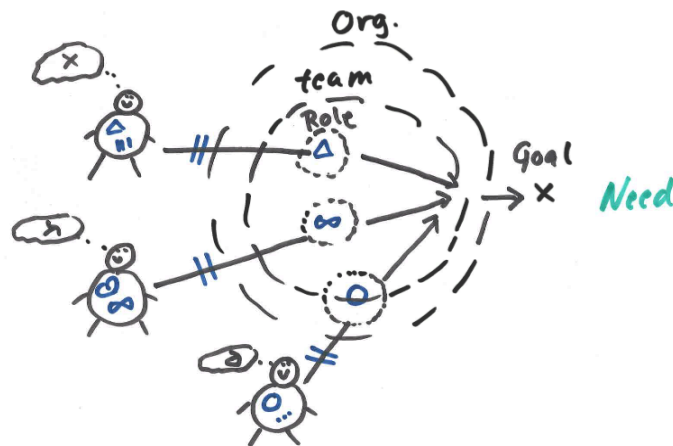


Figure 1 An example of how systems theory can be used to illustrate the relationship between person, role, goal and context.

2.13 TEAM DEVELOPMENT

Development is characterized by change over time (Day & Sin, 2011), this could be viewed as a developmental trajectory (Nagin & Odgers, 2010), portraying a continuous process (cf. Day et al., 2009), where development can occur if there is continuous learning (Day, 2010). Day et al. (2009) describe leadership development as a spiral of leader identity, where a person in a leadership situation experienced as positive, strengthens his/her leader identity, but if experienced as negative the opposite spiral can occur. Vast amounts of resources are devoted to leadership training programs, but there is comparably little research that evaluates these efforts (Avolio et al., 2009), including the eventual effects (Ready & Conger, 2003; Salas et al., 2012; Day et al., 2014), and how these effects evolve (Avolio et al., 2009). The relatively less research on leadership development depends, according to Day and Sin (2011), on the complexity in studying the two indistinct constructs of leadership and development. Development is characterized by change over time, leading to a demand for longitudinal studies (Day, 2010).

3 AIM OF THIS THESIS

Few workplaces have an abundance of resources, thus people at a workplace need to learn how to best manage scarce resources. In so doing, Elinor Ostrom (1990), concluded that people easily get caught in the Prisoners' dilemma (individually rational strategies lead to collectively irrational outcomes) unless they cooperate, and that learning how to cooperate can override the Prisoners' dilemma and create a base for collective action that benefits all. The aim of this thesis was to contribute with knowledge regarding the mechanisms influencing and resulting in lasting team and team leadership development, induced through interventions. The interventions were either on the individual level, trying to increase levels of team leadership skills for the individual manager. Or on the collective level including the whole team. This latter approach seems somewhat more unusual (Jackson & Parry, 2011). The individual approach was to, for the first time, evaluate and compare the outcomes of two established Swedish leadership development programs: Developmental Leadership (UL) and Understanding group and leader (UGL). The DL- program with a strong focus on developmental leadership (Larsson et al., 2003), and the UGL-program with focus both on developmental leadership and on group development (Wheelan, 2005). The collective level approach was through a program developed for a specific context; academic leadership in a Medical University, including whole management teams. These approaches were chosen with the lesser researched learning about mechanisms of lasting development, i.e. over time, in mind.

4 PART TWO

Part two concerns the studies included in the thesis. In this part methods used, ethical considerations, and study results are discussed. The presentations mirror the progress of the studies: the first three studies are published, and the fourth is submitted. I have been involved in each step of the research process: design, data gathering and analysis, as well as in writing the manuscripts.

4.1 METHODS AND OVERVIEW OF THE STUDIES

To carry out the research aim, the general approach was to apply both quantitative and qualitative methods to analyze the data, thus data could be triangulated. Table 1 shows an overview of the approaches applied in the four studies.

Table 1. Overview of the different studies

	Study I	Study II	Study III	Study IV
Case & Title	“Academic leadership: management of groups or leadership of teams? A multiple-case study on designing and implementing a team-based development program for academic leadership”	DL-participants: “Leadership behavior changes following a theory-based leadership development intervention. A longitudinal study of subordinates’ and leaders’ evaluations”	DL- & UGL participants and their work-groups: “The importance of confidence in leadership role: A qualitative study of the process following two Swedish leadership programs”	DL- & UGL participants: “Transfer of Leadership training: Two routes to maintenance”
Focus of analysis	Development and implementation of a team training intervention in academic leadership at a departmental level, to understand what forms of leadership training are associated with effectiveness of academic leadership teams.	To evaluate effects of leadership courses based on the developmental leadership model on leaders and team.	To understand the influence of leadership programs on leaders and their teams, as well as which mechanisms are involved in the process.	To examine the process of transfer of new skills and knowledge from a course setting to everyday work with their teams over time.
Design	Multiple-case study design on 4 different leadership teams with in all 43 individuals.	A longitudinal design; assessments before, one and six months after the courses. 59 leaders made self-ratings and were rated by at least three of their team members. Leadership behaviors measured with Developmental Leadership Questionnaire (DLQ).	An analysis was done into 431 free-text answers to questionnaires given to 120 participants in two different leadership programs and their teams six months after the courses.	6 participants in DL and 6 participants in UGL were interviewed two years post-training.
Analysis/Methodology approach	Data separated into content, context, process, and outcome of the training program, analyzed through observations, interviews, GDQ, and questionnaires.	Multivariate analysis of variance, repeated measures design, and cluster analysis using SPSS.	A grounded theory inspired approach.	Thematic analysis.

Data collected	May 2013 – May 2015.	October 2013 - May 2016.	October 2013 - May 2016.	January - March 2017.
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4.2 STUDY I

4.2.1 Background

In 2012 the results of the work environment questionnaire at a Swedish Medical University raised concerns from the vice-chancellor's office. The results relating to the risks of stress-related ill health were troubling. The University was above the stated reference values for all indexes of sleeping difficulties. About 11% of respondents reported signals of fatigue; nearly half stated work-related sleeping difficulties, and 16 % that their working situation included high demands and low autonomy. Exposure to bullying and harassment had increased from previous measurements, but the indexes for work satisfaction and work motivation were high (Internal report, 2012). A research group, led by Christer Sandahl and where the thesis author was included, was appointed by the vice-chancellor to investigate possible steps to address the problems. The research group made a pilot study by interviewing in all 83 persons on different organizational levels, from doctoral students to Department Heads, at two different departments of the Medical University. The interview protocol addressed the informants' perception of conditions at work, focusing on psychosocial aspects such as leadership and organizational climate. A key finding was that the informants were motivated and satisfied with the work they did, but saw deficient leadership defined as vague, imperceptible or authoritarian creating feelings of uncertainty and worry, as a hindrance (Söderhjelm, 2013). This finding resulted in a pilot study intended on testing implementations for developing academic leadership targeting academic departments' management groups (ledningsgrupper). This is the topic of Study I.

4.2.2 The intervention

The intervention consisted of four seminars lasting in all 4.5 days spread out on a timeframe of 6 to 10 months. A professional organizational psychologist together with the research team, where the thesis author was a part, designed and implemented the intervention. The intervention was based on systems-centered theory (Agazarian & Gantt, 2000; 2005), in which the starting point is to obtain a professional role through an active process guided by the individuals' perception of the purpose of the system (Sandahl et al., 2017). By stimulating functional role-taking and clarification of the goals of the system an increase in the efficiency of teamwork is assumed to take place (Wheelan, 2010). The development program was done separately for the four management groups. The first group started in May 2013 and the last

group ended in December 2014. Before the onset of the intervention, the research consultant and the research team met with the Head of Department (HOD) for each group and discussed the content of the program and if the HOD had specific areas he or she wanted to focus on. The initial seminar was being held off campus for 1.5 days with a sleep-over, the subsequent seminars were on campus and within normal office hours. All but one of the groups chose to have the first seminar off-campus. At each seminar, the participants were seated in a circle, and the consultant (a licensed organizational psychologist) running the session outlined issues relevant to the daily tasks of the participants. The intention with the first seminar was to establish a common ground. This was done by outlining the concepts of role and goal in relation to context, and what it can imply to take a functional role in different settings. The second seminar discussed group dynamics from the starting point of the teams' results on baseline GDQ. At the third seminar the topic was the teams' communication and transfer of information. The teams did a second GDQ between the third and the fourth seminar. At the fourth and last seminar, the results and development shown in the GDQs were discussed, and remaining questions explored. To maintain forward momentum all the teams developed action plans. Between seminars, the research group met with the HOD to discuss observations and questions. An observation had been that it seemed like it was not always obvious for the HODs that because they occupied the position as Head of Department this entailed a leader position, as well as an administrative concern. At these meetings, it was underlined that it was the participating HODs, not the monitoring consultants, who occupied the leader position in the development groups.

The realization of the intervention was also inspired by action-research (Greenwood & Levin, 2007; McIntyre, 2008), since the researchers participated in the program as active observers and conveyed their observations to the teams.



Figure 2. The basic intervention process

4.2.3 Methods for data gathering

Collection and presentation of the data were done based on the model of strategic change outlined by Pettigrew and Whipp (1991). Methods used were the GDQ-instrument (Wheelan & Hochberger, 1996), interviews, observations, and a questionnaire constructed by the research team assessing how the participants valued the intervention.

4.2.3.1 *GDQ (Group Development Questionnaire)*

Development stages of the groups were measured using the Swedish translation of the Group development questionnaire, GDQ (SE3). The questionnaire was given twice to each group, the first time before the intervention, the second time after the third seminar. This instrument has 60 items on four scales corresponding to the four stages of group development. Each scale has 15 items with a Likert response format with scores ranging from 1 (never true of this group) to 5 (always true of this group), and minimum and maximum scores are 15 and 75, respectively, for each scale. A group's overall stage is determined by the mean scores of the four scales: in stage 1 of group development, the mean score is highest on the GDQ scale 1 and is relatively low on the other three scales, and so on for the other group development stages (Wheelan et al., 2003). In this study the Swedish translation of the GDQ (SE3) was used. It had the following psychometric properties (Cronbach's alpha): 0.77, 0.90, 0.81, and 0.87 for scales 1–4, respectively. Norm data for GDQ SE3 are based on 357 Swedish work groups (Jacobsson & Persson, 2011) and cut-off values provided by Wheelan (1994).

4.2.3.2 *Questionnaire assessing how the participants valued the intervention*

The research team developed a questionnaire based on Kirkpatrick's evaluation model (Kirkpatrick & Kirkpatrick, 2006): the first level assessed to what degree participants reacted positively to the training; the second assessed to what degree participants obtained determined knowledge; level three assessed to what degree the learning was applied; and level four assessed to what degree intended outcomes occurred thanks to the training. The questionnaire was developed by the research team and given after each full-day seminar. It focused on Kirkpatrick's levels 1–3, with a Likert scale 1 to 6 (doesn't agree at all, to agree completely). The questions were: *I have gained new knowledge about: the organization, our roles, functional meeting routines, group processes, and the communication in our team. The knowledge and insights I have received will be useful in my work in the leadership team. The seminar met my expectations. The models and tools presented have been useful for me in my work. The models and tools presented have been useful for the work in the leadership team. The development program has been useful for me in my work. The development program has been useful for our work in the leadership team.*

4.2.3.3 *Observations*

At each full-day seminar at least one member of the research team observed the implementation, specifically focusing on themes, which the different leadership groups brought up. The observer(s) took notes. The notes were transcribed after each seminar and compared at the end of the intervention by the thesis author (who observed most of the seminars, if not leading them) together with the other observers from the research team. The

comparisons were guided by content analysis, and coded with the goal of establishing a set of categories, and how they were applied in concrete activities (Weber, 1990; Silverman, 2006).

4.2.3.4 Interviews

Four months after the final seminar for each group, semi-structured interviews were conducted with the participating Heads of Departments by the thesis author. The interviews were recorded and transcribed verbatim. The interviews addressed the experience of participating in the program, the experience of involving the whole group, and if the intervention had led to improvements in leadership and team work. The transcriptions of the interviews were analyzed using content analysis, coding to establish a set of categories, to explain those categories and how they were applied in concrete activities (Weber, 1990; Silverman, 2006).

4.3 STUDIES II TO IV

4.3.1 Background for data collection; shared population for studies II-IV

Studies II-IV were set within the framework of copyright leadership development courses Developmental Leadership (DL) and Understanding Group and Leader (UGL), copyrighted by the Swedish Defence University (SDU). The population was leaders with at least six directly reporting co-workers in their team. The leaders took part in either UGL or DL. Both the SDU and a number of private enterprises licensed by the SDU, arrange the courses. Selection of informants started by the research group, consisting of representatives from both the Karolinska Institute (Professor Sandahl and the thesis author) and SDU, giving course-facilitators information about the study. The information was sent out via e-mail, and additionally in face-to-face meetings by the KI-representatives to the larger course-facilitators (Core Code International AB, Gällöfsta Perlan Ledarutveckling AB). The course facilitators showed interest in participating and agreed to inform course participants meeting the criteria (having at least six direct reports, taking part in either UGL or DL, and under the data collection timeframe (Oct 2013 to (extended) May 2016). The information provided was written by the SDU and given around one month before course participation. Irresolute participants were also given the opportunity to call the KI research group members. Those willing to attend then received a 360-evaluation of their developmental leadership (Developmental Leadership Questionnaire, see below for explanation). For the DL participants this is standard procedure since it is part of the course, but for the UGL participants this was done as part of the research project. Study participants were then asked to select raters, the instruction was to choose their direct reports (6-10) and their immediate

manager. The raters received written information provided by the SDU about the course, the research project and how to do the rating. Course participants and their raters were informed that participation in the study was voluntary and anonymous, and they could leave the study at any time, the simplest way to do so was by not responding to the attached web link rating the course participant pre-course. The ratings made at this time were the first assessment occasion (T1). Second measurement (T2) was done around one month after course participation, and third measure (T3) about six months later. For most participants T3 occurred about ten months after T1.

For UGL 118 course participants and 680 raters answered the questionnaire at T1, for DL 97 leaders and 777 raters. Response rates deteriorated over time, the immediate managers' so much that they were not included in the final sample. Included were course participants with at least three responding direct reports on each measurement occasion. These constituted of 61 course participants and 318 raters for UGL, 59 and 361 respectively for DL. A majority of leaders and direct report raters were women, aged 30 years or more, with a university education, holding middle manager positions in government administration, industrial production, service professions or schools and health care.

4.3.2 The interventions

4.3.2.1 Course in developmental leadership (DL)

The theory base of the DL course is the Developmental leadership model, which is influenced by the transformational leadership theories and the full range of leadership model (Avolio, 1999; Bass, 1998; Larsson et. al, 2003). Developmental leadership is transformational leadership translated to Swedish conditions with less emphasis on charisma, which is culturally negative associated with elitism (Larsson & Kallenberg, 2006). The Developmental leadership model includes three main leadership styles: developmental leadership, conventional leadership positive and negative facets, and non-leadership (*laissez faire*) (Larsson et. al, 2003). The model describes leadership as an interaction between individual characteristics and contextual factors (Larsson et al., 2003). At the individual level, there are basic prerequisites and desirable competencies, of which a successful combination is necessary for a good leadership, but not a guarantee for it. The environment plays a vital role via external factors, organizational factors and factors at a group level. The individual and contextual factors influence which of the leader styles that an individual leader will be able to develop. The most effective leader style varies depending on the context.

The Developmental leadership course aim is for the participants to increase behaviors that are associated with the developmental leadership style. This style has three characteristics (Larsson & Kallenberg, 2006): 1.) The leader is a role model for mindset and behavior. The leader takes responsibility for the organization, its rules and the wellbeing of employees. 2.) The leader gives both practical and emotional support to the employees, shows interest for the employees and is clear, honest and constructive when giving corrective feedback. 3.) The leader encourages the employees to participate in the work and to be creative. One other goal for the Developmental leadership course is for the leaders to decrease the behaviors that are related to negative facets of leadership. After a course a participant might be less over controlling and less avoidant of responsibilities. The DL course consists of a pre- 360-degree assessment, based on the Developmental Leadership Questionnaire, DLQ (Larsson, 2006), and a two-three-day course with 10–15 participants. Based on the 360-feedback, a detailed analysis of strengths and weaknesses is performed, and a one-day follow-up session two-three months later.

4.3.2.2 Course in understanding group and leader (UGL)

UGL builds on group development (e.g. Wheelan, 2005; Schutz 1958; Bion 1959; Tuckman & Jensen, 1977) as well as on the Developmental Leadership model (Larsson et al., 2003). The objective of UGL is for the participants to become more effective as team members and leaders. Learning occurs through experience of situations reflecting group dynamics, team development and understanding the participants' own role in these situations or dynamics through an experiential (experience-based) learning model (Kolb, 1984). The leadership model Developmental Leadership (Larsson et al., 2003) is introduced during the course related to the development of the group, and what style of leadership promotes both task solving and team development. An important part of the course is peer learning and learning to handle differences. The group is therefore composed of people from different work places and backgrounds, professions, age and gender. A course group generally consists of eight to twelve (initial) strangers who interact during five days in an off-work location (Swedish Defense University, 2017a). The training is intense and different group processes that are triggered during the course are part of an experiential learning process, based on Kolb's theories (2015).

The courses DL and UGL have partly different and partly overlapping learning goals. They also have a different design, which is of interest when studying their effects, since different factors might be important, depending on the design, and they can therefore be regarded as

each other's control group. The Swedish Defence University has copyright of both DL and UGL and certifies the trainers.

4.3.3 Instruments used for data collection

4.3.3.1 Developmental Leadership Questionnaire (DLQ); analyzed in Study II

The Development Leadership Questionnaire (DLQ; Larsson, 2006) was used to assess leadership behaviors. It consists of four dimensions: 1. Developmental leadership with 21 items measuring the facets: Exemplary model, Individualized consideration and Inspiration and motivation. Example of item: "Acts in accordance with the opinions he or she expresses". 2. Conventional-positive leadership with six items for facets Demand and reward – seek agreements, and Control – take necessary measures. Example of item: "Aims to reach agreements on what must be done". 3. Conventional-negative leadership with six items, measuring facets: Demand and reward – if, but only if, reward and Control – over-control respectively. Example of item: "Keeps a log of other people's mistakes". 4. Non-leadership dimension measures Laissez-faire leadership with three items. Example of item: "Avoids making necessary decisions". The respondents are asked to evaluate how frequently the person they are rating engages in the behavior described by each item, using a nine-point Likert scale. The scale goes from Never, or almost never (1) to Always, or almost always (9). Scale scores are computed by adding the raw scores of the items representing the scale and dividing the sum by the number of items.

4.3.3.2 Free-text question and statement; analyzed in Study III

The course participants and their raters were asked at T2 and T3 to fill in answers and complete statements. The course participants in both UGL and DL answered the free-text questions: *What from the course has thus far been of most value for you?* Their co-workers were asked to reflect on the following statements: *"I have noticed the following change in my leader since the course [...] and this change has influenced me in the following way [...]"*. The questions were formulated from the research team's idea that both the course participants and their co-workers should have an opportunity beside the questionnaires to more freely express their thoughts on the (possible) impact of the courses.

4.3.3.3 Systematizing Person-Group Relations (SPGR)

To evaluate the development of the course participants' home team SPGR was used (Sjøvold, 1995, 2002, 2006, 2007, 2008, 2014). SPGR is an instrument based on all members of a team assessing each other and themselves through a 25-item questionnaire. The instrument is based on the theory that group dynamics is the constantly changing polarization between different views, attitudes, capabilities and roles within a group (Sjøvold, 2008, s. 13 & 159). Roles

defined in SPGR are: "Care": generosity and expression of feelings. "Loyalty": diligence, trust and acceptance. "Control": problem-solving, rationality, correctness and task focus. "Opposition": impatience, critical views, and aggressiveness. The study based on the SPGR results is not yet submitted and therefore not part of this thesis project, but the questionnaire consisted of a major part of the workload for the study participants and is therefore mentioned here.

4.3.3.4 Statistical analysis; in Study II

In Study II the results of the DLQ were analyzed using the statistical program IBM SPSS Version 23.0. Multivariate analysis of variance, repeated measures design for the three measurement occasions was done, and t-tests between each pair of assessment times were done for within-group comparisons. Between-group comparisons were made using one-way analysis of variance followed by Scheffé tests for Type I errors, or with t-tests (independent groups) when only two independent groups were compared. The Scheffé test is used to compare all possible simple and complex pairs of means.

Reliability (Cronbach's alpha) was computed on each dimension of the DLQ at each measurement occasion within the leader and subordinate rater groups respectively. The rationale behind Cronbach's alpha is that reliability of test scores can be expressed as the ratio of the true-score and total-score (error plus true score) variances. The value should be between 0 and 1, preferably as close to 1 as possible. To obtain groups of leaders with similar characteristics across the different dimensions of leadership behaviors cluster analysis was performed. The cluster analysis (nearest centroid sorting or k-means sorting, c.f. Anderberg, 1973) was based on the subordinate raters' evaluations of their respective leader (12 indicators; each of the four leadership behavior dimensions on each of the three assessment occasions). In *k*-means, clustering *n* observations are parted into *k* clusters in which each observation belongs to the cluster with the nearest mean, as a prototype of the cluster. Most *k*-means-type algorithms require the number of clusters, *k*, to be decided in advance (here three), which can be a drawback if this is not accurately mirroring the data. The algorithms also work best if the clusters are of approximately similar size, as they will always allocate an object to the nearest mean. This can lead to borders of clusters being cut incorrectly, because the algorithm optimizes cluster centers, not cluster borders. The algorithm uses an iterative process to estimate the cluster means and allocate each case to the nearest cluster (IBM SPSS Tutorial, 2018). To test the ratio between the between-clusters and the within-clusters, mean square analysis-of variance was used. To test the statistical significance of differences between the profiles concerning the rated leader's position and the length of time the rater

had known the leader, as well as the raters' age, sex, education and organizational level, chi-square tests were used. Statistical significance was assumed at $p < 0.05$.

4.3.3.5 Grounded theory approach; in Study III

Study III used the data set of 120 participants in DL or UGL, and their raters to explore the impact of leadership programs on leaders and team-members, as well as which mechanisms were involved in the process. The method used was to analyze the answers to free-text questions given to participants and their co-workers six months after course completion, in all 431 answers. A grounded theory inspired approach (Charmaz, 2006; Kempster & Parry, 2011; Starrin et al., 1997; Strauss & Corbin, 1998) was chosen to explore, identify and describe a conceptual model of course-participants' and co-workers' views on perceived effects of the leadership developments.

The method was labeled a grounded theory approach, since it violated the important factor in grounded theory: theoretical sampling, where information from one informant leads to questions asked to the next and so on. Here the data was given in two batches (depending on when data came in), the second used to validate the findings in the first, and there was no possibility for follow-up questions. Key beliefs in grounded theory such as that there was no attempt to "prove" a specific theory, and that the concepts were fine-tuned through constant comparison between raw data, codes and categories, and the keeping of memos, was however done. The rationale behind the memos is to develop a theoretical sensitivity, and capture ideas and thoughts during the process (cf. Kempster & Parry, 2011).

The first step in the coding process was to analyze the answers with open coding, in which the statements were labeled close to the data. This was done by the thesis author and the last author of the study. The thesis author had transferred all answers to the computer program NVivo, had printed them out and cut them up so each piece of paper contained one answer or statement. On the back of each piece of paper, invisible for the analyzers, was noted whether the words were written by a course-participant or a co-worker, and the gender of the course-participant (either answering him/herself or being rated). The data from UGL and DL were separated during coding. The two authors did the coding independently from each other. The open coding ceased when patterns started to evolve, indicating processes, leading the coding becoming more selective, finding concepts, which allowed the data to be grouped. The two authors compared their respective findings at this stage. Then they went back to the raw data and their respective memos, setting the open codes against this, to ensure that they had not left the foundation at their quest for codes. The next step was to create categories, setting the level of abstraction a bit higher. These categories were then used by the thesis

author to try to generate an empirically grounded theory. This took about 48 hours of “playing” with the puzzle, which resulted in a model checked by the other authors of Study III, and they found it believable. The model aimed to explain the basic social-psychological process (Charmaz, 1996), which occurs over time and explains changes in behavior.

4.3.3.6 Semi-structured interview, theory and data driven thematic analysis; in Study IV

Two years post course-participations, participants in the UGL and DL evaluation project described above were asked via the e-mail address provided by them from the initial study two years previously, to take part in an interview about learnings they had transferred and maintained from the courses. Six participants from UGL and six from UL volunteered. The participants were recommended by the interviewer, the second author, to choose a place for the interview where they could speak openly about their experiences. The places chosen were a mixture of their own offices, cafés, and the campus of the Karolinska Institute. Two chose to be interviewed by phone. The interviews were recorded on a mp3-recorder and transcribed verbatim by a professional transcription agency. The transcriptions were then compared to the recording by the authors, as recommended by Braun and Clarke (2006). The interviews were conducted in Swedish and consisted of open ended questions, semi-structured around pre-planned topics (Langemar, 2008). An interview guide was created beforehand by the first and second author of Study IV. The questions were as follows (translated from Swedish): What was your experience of the course? What, if anything, did you take with you from the course? Why? What, if anything, did you try to implement when back with your team? What happened? Which were the consequences? What have you continued doing and what not - try to describe a specific situation and the consequences and reactions in your team. How was the support from the rest of the organization, such as your own leader? Do you have anything to add, which we haven't discussed? During the interviews the interviewer, the second author, tried to follow the interviewees' stories, adding more specific questions when deemed appropriate, and giving short summaries or interpretations of what had been said. This to give the interviewee opportunity to add, comment approve or reject the interviewer's interpretations. The interviews lasted from 40 minutes to 80 minutes. The interviewer listened to the recording and took notes after each interview. The notes focused on specific areas of interest to the participants and the researchers, on need for complementary information in coming interviews, and on emerging patterns. The notes were helpful when determining the saturation of information.

To handle data in a structured way the program OpenCode version 4.03 for windows was used. The analysis was done in two parts: theory driven thematic analysis and data driven

thematic analysis, both following Braun and Clarke (2006). A theory driven analysis recommended when there is preexisting knowledge about the subject and based on previous research there were factors known to affect transfer. With this in mind and with the support of the interview guide a list of themes was constructed. The list included: Preparation activities before the course, Practice and feelings of mastery, Observational learning, through modeling, Relationship to the training group, Individualized action plan, Motivation to transfer, Opportunity to perform, Team support, Organizational follow up.

In the data-driven thematic analysis the first and second author read and reread the interview material. Notes were made independently of each other, then compared and resulting in a preliminary list of what was interesting in the data. The raters returned to the raw data, looking specifically for factors relating to the transfer process and suggested different codenames in relation to the transfer process via notes in the margin. The interviews were then summarized to create a better overview by the raters together, and preliminary codenames generated. To get an overview of commonalities/patterns the summaries were color-coded in relation to the preliminary codenames. Then, the raters worked out a plausible transfer process on a white board. Next, a list of preliminary overarching themes was created and the appropriate codenames were arranged within these themes. The raters then returned to the raw-data to read the information that related to the themes and judge whether they matched the data and were prevalent in the sample. Some of the themes were revised, and the first two authors reread all data to see if there were any missing themes in the interview material. Then the first two authors described the themes and their subthemes and analyzed them in relation to the research question. Finally, the themes were given descriptive labels. The labels were: Guiding feedback during the course, Active and committed course facilitators, Emotional breakthrough, Continuant reflection, Personal growth/Self Insight, Self-efficacy, Ability to adapt leader style to different situations, Social support. After the themes were generated, came the final step in thematic analysis: to interpret the pattern (Braun & Clarke, 2006). Since the research question related to assumed relationships between the included themes and the degree of maintenance of transfer, it was of special interest to classify participants with a high and low degree of maintenance respectively, to interpret patterns for each group. The two raters classified participants with a high and low degree of maintenance based on if learnings were still applied or not, to search for common themes within the groups that could possibly distinguish them. In this final stage, the theory of operant behavior was applied and used to suggest routes to maintenance over time.

4.4 ETHICAL CONSIDERATIONS

All participation was voluntary and the participants were informed about their right to withdraw from the study at any time. All four studies were approved by the Regional Ethics Committee of Stockholm.

My research project revolves around teams and team leadership in the context of work, by action-research in leadership teams (ledningsgrupper), as well as more traditional questionnaire-based data gathering. The latter in collaboration with the Swedish Defence University (SDU) studying their leadership development programs DL (Developmental Leadership) and UGL (Understanding group and leader). The success of these projects depends heavily on the participation of the informants. The informants give us as researchers, their time; time that could have been spent on other maybe more productive endeavors. In setting up the design of the studies it has therefore been of importance to ponder the question: what do the informants get out of participating? As a devoted group-developer it is easy to think that people would and even should welcome the opportunity to get a professional input, which could improve the effectiveness of their work, for free. Bought on the open market a similar exposure to organizational development would have been quite costly. But that's an arrogant standpoint. Many of the informants, especially in the first project on leadership teams, have not asked for organizational development. They have generously given of their time and their participation without demands. It is therefore of importance to consider how to feedback the results to them in a way that can be of value to them, and also in a way they consider representative of their way of work. An important first step has therefore been to compose adequate information on the research process, aim, and what the informants can expect by participating. Often in these more group-related projects some informants, often the team leader, is more interested in participating than others. This might lead to side effects affecting both the research data as well as the group dynamics in the informants work group. This is more evident the "heavier" the research intervention has been, such as in the project on academic leadership, where we as researchers have put together a group invention, and the teams have gone through the intervention and have both been evaluated as a team by the researchers, and have themselves evaluated the intervention, and during the whole process there has been a mutual process of feed-back between researchers and informants. Such an intervention might start both wanted and unwanted dynamics in the informants' groups.

Considering §17 in the World Medical Association (WMA) declaration of Helsinki - Ethical Principles for Medical Research Involving Human Subjects: "*All medical research involving*

human subjects must be preceded by careful assessment of predictable risks and burdens to the individuals and groups involved in the research in comparison with foreseeable benefits to them and to other individuals or groups affected by the condition under investigation. Measures to minimize the risks must be implemented. The risks must be continuously monitored, assessed and documented by the researcher.”

The last part: “continuously monitored...” was taken care of during the research project, but when data is gathered, article submitted, the informants’ teams are still working, and for some the participation in the research-project has started processes in the group which the group has a hard time to deal with. In our research group we are three psychologists and we have been able and willing to come back to the informants’ teams coaching and supporting in the process, something that has at times been asked for. Has this felt un-ethical? No, I don’t think so since we have provided professional follow up (in line with §34 in the Helsinki declaration). If we hadn’t, but had just left the teams, sometimes in disarray, after we’d gotten what we wanted in form of data, it would have been deeply unethical, and strictly against the intention of the Helsinki Declaration.

The second project with the SDU holds the ethical dilemma with there being economic interests involved. The courses DL and UGL are developed as not-for-profit by the SDU but provided by licensed for-profit consultancy firms. It could be in their interest to influence the outcome of the research. In § 27 of the Helsinki Declaration is written: *“When seeking informed consent for participation in a research study the physician must be particularly cautious if the potential subject is in a dependent relationship with the physician or may consent under duress. In such situations the informed consent must be sought by an appropriately qualified individual who is completely independent of this relationship.”* This was a dilemma since participating in the research was Gerry Larsson on who’s model of developmental leadership (Larsson et al., 2003) the DL and to some extent the UGL courses rest upon. As well as Christer Sandahl who has been involved in the redesign and development of the UGL course. This could be a dilemma especially if the results of the research showed positive effects of participating in the courses. If the results would be negative both Larsson and Sandahl took a risk in opening up for the scrutiny of the research process. This dilemma was addressed by applying for research funding in a competitive environment. The research was funded by AFA-insurance in competition with many other research proposals. As well the qualitative parts of the research were analyzed by the thesis author, the thesis author’s main supervisor, and a student at the Karolinska Institute psychology program, none of whom had any special interest in the research results turning

out positive or negative. For the participants in the study the same issue as in the first study was at hand in this case; that the informants and their teams gave freely of their time. To give them value for time spent, an extra feed-back both written and in a full day with SDU's team and leadership experts, were provided for the participants.

Three of the studies are done with qualitative research methods, the main aim thus not being generalizability, but rather suggesting a theoretical model. In explaining and writing the results of such studies this stresses the importance of being very clear that the results do not point to a general "truth". If the results can be generalized into other context is more for the reader to assess. As a researcher I must therefore be very careful in describing and specifying the study setting, without intruding on the confidentiality of the informants. If I write my results in a way that I tempt the reader to mix qualitative and quantitative results and make non-relevant generalization, it is questionable if my research contributes positively. Prior to data collection, the respondents in all studies were informed about their right not to participate and their right to withdraw participation at any time without specifying any reason, and about confidentiality. The purpose of the research was made clear, and in cases where there was a risk of identification the informants were offered to review the transcripts of the articles.

5 RESULTS

A summary of the results for each of the four studies is given below.

5.1 STUDY I

Title of paper: *Academic leadership: management of groups or leadership of teams? A multiple-case study on designing and implementing a team-based development programme for academic leadership.*

This intervention focused on the whole group (ledningsgrupp), aiming at fulfilling a need for research concerning leadership development at a collective level (Jackson & Parry, 2011).

5.1.1 Observations

The observations made by the research team focused on context, roles and goals. An issue raised by the participants was that management duties were not prioritized – they were often performed in the evenings or on weekends. As lack of time, there was also a lack of managerial skills. The HODs' (Heads of Departments) considered themselves as skilled researchers, but lacking managerial skills, yet they were set in the position of leading departments in size and scope comparable to a medium to large company. The risk of problems occurring was viewed as substantial. The departmental structures were considered to be unclear, resulting in informally made decisions and difficulties in spreading vital information within the organization. This led to questioning the impact of the departmental management.

A vital part of the program was for the participants to explore their roles and their work-related collective efforts. This was at first met with ambivalence, ranging from being perceived as utterly helpful to being regarded as limiting the perception of research as free and unrestrained, and giving free range for controlling administrators. Discussing the goals of the organization as a whole and how these interacted with the goals and roles at the department level revealed a gap between the official goals of the organization and how these were implemented. These discussions also evoked ambivalence as common goals were considered advantageous by some groups but suffocating by others. The concept of actively taking on professional roles was discussed at length, especially the hardship of working in a very competitive environment even competing for funding within the same department. This environment was perceived as detrimental for professional role-taking and encouraging to instead taking both setbacks and successes personally. An additional hindrance in taking on professional roles in this context was the implied difference in status between research and education, with the latter being regarded as less valuable. The discussions concerning role,

goal, and context did seem to give the groups a new view on their work in the management teams, increasing the teams' level of importance. The individualistic culture of research was seen as an obstacle to team efforts, since acting on personal interests was often more rewarding than acting for the team. This view was however redefined during the development process. That collaboration might be beneficial even to one's own research dawned on the participants, and changed the attitude of the team that was most hesitant to altering structures and procedures.

Communication patterns changed during the development from communication directed towards one individual who was seen as the person in charge (i.e. the HOD or sometimes the research consultant) to exhibiting a decentralized pattern with communication involving all members. The latter pattern of communication seemed beneficial for solving complex problems and increased participation as well as group coherence. At the onset communication was mostly between "high-status"-group members, but during the intervention the number of participants who voiced their opinions grew. This was particularly true in groups where the HOD showed enthusiasm for the intervention, where both attendance and energetic participation grew. In one group, with a more hesitant leader the pattern was different. Here successful researchers set the agenda, and the HOD became more and more invisible. Some of the more influential researchers even decided to 'vote with their feet' by not showing up. This, however, left the floor open to other members, who then went from being silent spectators to active participants. The dedication to the development program grew during the intervention. At the onset, one team stated that they had no need for development since they already functioned at the highest possible level, whereas others expressed a dire need for help. All teams came to a crossroad when they saw problems in a different light, such as the importance of clarity of roles, inducing activity when the knowledge of what to act on became clear. This changed participation from an initially tentative approach to more energetic participation.

There are several possible explanations for the slower progress shown by one group: The leader showed reluctance in fully embracing the development program and stepping up to a leadership position. It was also the only group dominated by men who were well-known researchers. They voiced their resistance through nearly the entire development program, up until the final session when a concrete action plan was formulated. The concrete action inspired an interest in continuing the development.

The development process inspired changes in the teams. Some HODs re-organized their team, and the structure and agenda of regular management group meetings. Also, administrative tasks such as next year's operational plan, which had previously been ignored until the last minute, were now viewed as a useful tool for strategic planning. Communication seemed to flow more freely after some tools for communication were introduced. Especially a matrix on how the human mind can jump in time from the past, to the future to the present, and interpret incidents either from a factual or more fantasy angle (Sundlin & Sundlin, 2014). Here the participants learned to differ between fantasy and facts and how past and future can be interpreted to give bases for decisions in the present, and how one might unwittingly express one's misconceptions. The participants returned to this model frequently when catching themselves or others unbeknownst airing a fantasy.

For the observers it appeared that by analyzing role, goal, and context, and getting some tools for communication the HODs and their teams dared to communicate more openly, and this led to them starting to become functional teams.

5.1.2 Group dynamics

The observations mirrored what happened in the GDQ questionnaire. The GDQ was given twice (at baseline before the program and after the third seminar). The results suggested that the intervention had triggered some mechanisms increasing team efficiency. The baseline GDQ showed groups scattered over stages 1 and 3–4, with very few stage 2 issues raised, indicating that the groups were not entering the opposition and conflict phase.

An explanation to the results could be how the teams were composed. Some members had worked together for a long time (stages 3–4), albeit not always in the same function, whereas others were new to each other (stage 1). After the third seminar, all four teams had moved further towards stages 3 and 4 and were less dispersed. A simple t-test showed significant changes in stages 1, 3, and 4. This finding should be interpreted with caution since the statistical power was limited due to the low number of participants. And there was no control group, since that was deemed impossible to provide in the organizational context. Interesting to note that stage 2 was below the norm even at the onset of the development and sinking after the development. This in an environment, which the participants characterized as very competitive and fraught with conflicts.

Table 2. The collective movements of the groups in the intervention. Mean values for Swedish norms based on 357 groups in parenthesis (Jacobsson & Persson, 2011).

I Dependency & Inclusion	II Opposition & Conflict	III Trust & Structure	IV Work & Productivity
1 st measure: 37.5	30.7	51.1	53.0
(Mean Swedish norms (Jacobsson, 2011): 37.2)	(34.7)	(53.5)	(55.3)
2 nd measure: 35.2	29.1	54.4	56.1

5.1.3 Questionnaire

After each seminar the participants were given a questionnaire on the first three levels of Kirkpatrick's model: participants' reaction to the implementation, learning, and use of new knowledge. On a 6-point Likert scale, the results were as follows (mean values over all four sessions and all teams):

- I have gained new knowledge about the organization, our roles, meeting routines, group processes, and communication in our group. 4.5
- The knowledge I have acquired will be useful in my work in the management group. 5.1
- The seminars met my expectations. 5.0
- The models and tools presented have been useful to me in my work both within and outside the management group. 4.6
- The models and tools presented have been useful in the work in the group. 5.0
- The development program has been useful to me in my work both within and outside the management group. 4.75
- The development program has been useful for the work done in the management group. 5.1

Indicated by the answers the participants reacted favorably to the training, they acquired the intended knowledge, and had to some extent applied what they learned (Kirkpatrick's level 3). This can be seen as a transfer of knowledge from the intervention to a work context, a conclusion that is corroborated by alteration done by the HODs of the structure of the management teams during the process.

5.1.4 Interviews

The HODs were interviewed four months after the last seminar. Questions focused on their experiences of the program. One issue raised was the advantage of involving the entire management team, not only the leader, in the process for maintaining the knowledge and insights gained during the program. The HODs were surprised by the efficiency of the program in gaining more effective and structured teamwork. The time in the program was

deemed as well spent. However, the increase in knowledge also transformed rather passive management groups into more opinionated and dynamic teams. Power structures became more visible, and defined goals were not always mutual. Team members started to speak up, this made them more prepared to act but also harder to control, raising new demands on the leader.

5.2 STUDY II

Title of paper: *Leadership behavior changes following a theory-based leadership development intervention. A longitudinal study of subordinates' and leaders' evaluations.*

Since the intervention was a course in Developmental leadership hypotheses concerning leadership behaviors taught at the course were explored. These were that participants would increase behaviors categorized as developmental and conventional-positive leadership, decrease conventional negative and laissez-faire leadership. At the start of the course participants had different leadership styles, but regardless of this a hypotheses was that they would all, over time, show an increase in advantageous leadership styles.

5.2.1 Findings

A significant reduction of unfavorable leadership behaviors and a limited increase of favorable leadership behaviors were found. This was most evident in the subordinates' ratings. To explore the last hypotheses, that all regardless of leadership style at the start, would show a positive development was explored through a cluster analysis. This gave three leader profiles: I. Leaders with advantageous behavior scales on all occasions of measurement (n = 32). II. Leaders in between the best and the worst (n = 21). III. Leaders with the feeblest scores on all the advantageous behavior scales (n = 6).

Within-profile group comparisons across time (T1, T2 and T3) was done. This showed weak improvements for the leaders in profile I (only without Bonferroni correction, i.e. incorrectly rejecting the null-hypothesis). The "in-betweeners" in profile II showed a significant reduction of conventional-negative and laissez-faire leadership. The leaders in profile III showed weak improvements on all scales across time, and statistically significant improvement on the laissez-faire leadership scale (i.e. this behavior was significantly reduced).

Subgroup comparisons were done within the leader group and the subordinate group respectively, on the variables sex, age, education, the level of the leader's position and the length of time the subordinate had known the leader. The statistically significant difference found was: between male and female leaders (self-ratings by the leaders themselves as well as ratings by their subordinates) on the one scale: conventional-negative leadership at the

second measurement occasion (T2). In both groups of raters (leaders and team members), men received higher (less advantageous) scorers on this scale ($p < 0.001$). No other significant differences were found between the subgroups. Conventional-negative leadership can simplified be explained as stick-and carrot leadership, and over control.

Among the course-participants, all Cronbach's alpha coefficients were higher than 0.74 except on conventional-negative leadership T1 (0.64) and conventional-negative leadership T3 (0.71). Among the raters, all coefficients were 0.89 or higher, indicating reliability.

5.3 STUDY III

Title of paper: *The importance of confidence in leadership role: A qualitative study of the process following two Swedish leadership programmes.*

Study III used data from the same sample as study II, 59 participants in the program Developmental Leadership, DL, and their co-workers, plus data from 61 participants in the program Understanding group and leader, UGL, and their co-workers. The study used the participants' answers to the following question: *What from the course has thus far been of most value for you?* And their raters' answers to the statements: *"I have noticed the following change in my leader since the course [...] and this change has influenced me in the following way [...]"*.

5.3.1 Findings

The final result was a model, which through a process linked external behavioral and internal psychological aspects. The effects of UGL and DL can be seen as a process beginning with leaders returning to the work place. Driving the process was if leaders gained more confidence in their leadership role or not.

From the written answers to the question and statements codes and categories were created. A hypothesis before coding and categorizing was that there would be a difference in wording dependent on whether the course participant was male or female, but no such systematic differences showed. Another hypothesis was that it would be obvious that the participant had taken part in UGL or DL, but the same categories applied to both courses. During coding the answers and statements from UGL and DL were separated, but not whether the writing derived from a course-participant or a co-worker.

The codes created for the responses concerning UGL-participants were: Leaders' confidence in own role increases; Ambiguity/weak confidence in leadership role; Intentionally implementing leadership models; Increased clarity in leadership role sparks employees'

participation; Empowering by participation raises employees' satisfaction with group and work; Leadership tries but fails; Employees' work motivation diminishes. Codes created from responses concerning DL-participants: Leaders' confidence in own role increases; Ambiguity/weak confidence in leadership role; Intentionally implementing leadership models; Increased clarity in leadership role sparks employees' participation; Empowering by participation and clarity raises employees' joy and commitment; Leadership tries but fails; Employees' work motivation diminishes. The codes were clustered into categories: Overt behavioral aspects; Inner aspects; Inner aspects not aligned with overt behavioral aspects. According to the authors these categories could be applied to both the UGL and the DL codes.

Looking closer at the different categories, starting with Overt behavioral aspects. This category was underpinned by the code "Intentionally implementing leadership models" where the informants described the course participants' conscious efforts to implement new ways of leading (57 answers). These new ideas could be traced to learnings at the course leading further to the code "Increased clarity in leadership role sparks employees' participation" (25 answers). For UGL-participants the emphasis was on the role of the team, and for DL-participants on the interplay of leadership, group and individual. The leaders' more active attitude influenced their co-workers and the team in a similar way, leading to the codes "Empowering by participation raises employees' satisfaction with group and work" in UGL, and a slightly different version in DL: "Empowering by participation and clarity raises employees' joy and commitment". These codes indicated that visible behavioral changes in the leader engendered changes in the co-workers. The category was consequently called Overt behavioral aspects.

The category Inner aspects was underpinned by the code "Leaders' confidence in own role increases". Both participants and co-workers from UGL and DL wrote about the increased confidence the leaders felt themselves (68 answers, easily deciphered since written in first person singular) and experienced by the co-workers (73 answers). This increased confidence seemed to make the leader calmer, more open to feedback, discussions, and problem solving instead of fault-finding. The other code underpinning the same category was "Ambiguity/weak confidence in leadership role". This code was formed from raters apprehending the course-participant returning from the course a bit unsettled.

The third category "Inner aspects not aligned with overt behavioral aspects" was formed from two codes: "Leadership tries but fails" and "Employees' work motivation diminishes". Some

raters described that the leader came back from the course with new ideas, but somehow did not keep them up and fell back to old routines, or that the new leadership style did not feel genuine. The two codes are interrelated since the leader trying but failing, invoked a disappointment in employees.

The process starting at the course was from the data perceived as taking one of two routes, where the divide was the category Inner aspects of the leaders, i.e. either increased confidence or ambiguity towards own leadership role. The participants in UGL traced the increase in confidence from the experience and reflections on, at the course, of being a member of a group, and how they are affected by and can influence the group. When this experience was applied in the “home team” the co-workers described a leader inviting participation by being more present and willing to listen. Cooperation went smoother, trust increased, as did work satisfaction, and stress-levels decreased. The DL-participants traced the increase in confidence to the 360-feedback on their leadership-role they got at the beginning of the course; from reflection with other course participants on the results, and new knowledge acquired. Back at the “home team” the co-workers perceived the leaders as more structured and more open to discussions about goals with the work, and more decisive. This created a feeling of joy and commitment. Some co-workers noted that the leader was more withdrawn, giving rise to speculations if the 360-feedback had been interpreted by the leader as critique.

The data was interpreted in a model: starting with the leaders returning to work with new ideas on leadership; an overt behavioral aspect. If this implicated a positive or more ambiguous inner aspect, seemed to depend on the leaders’ relationship towards confidence in own role. When the new leadership behaviors met the reality of the work place, confidence could increase or decrease. What happens seemed to depend on how the team interpreted the changes; if the changes were seen as superficial or grounded in the leader or not. When changes were met with positive reactions from the team the new leadership behavior seemed to strengthen and increase in work satisfaction followed. But when attempts were met with disinterest or negative reactions from the team this resulted in less engagement, even withdrawal by both the leader and the co-workers.

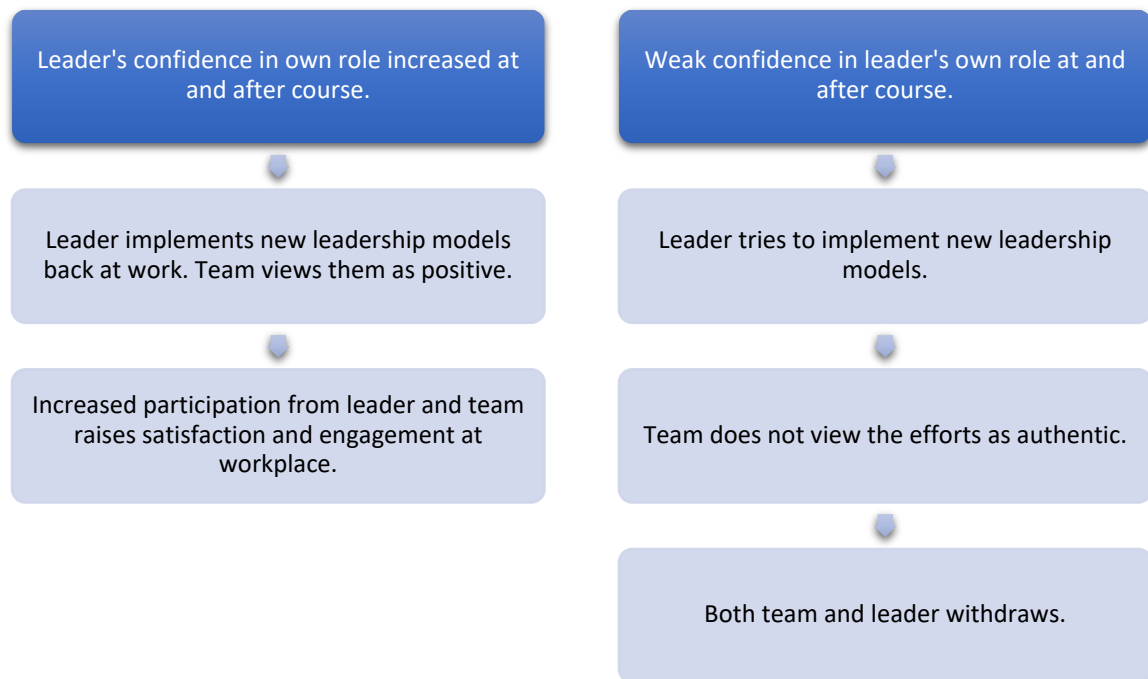


Figure 3. A simplified model of the impact of a leader's confidence in own role on the team.

5.4 STUDY IV

Title of manuscript: *Transfer of leadership training: Two routes to maintenance.*

This study used the same sample as study III, participants in the DL- and the UGL-programs. Six participants from each course were interviewed two years post training to examine the process of transfer of new skills and knowledge from a course setting to everyday work over time, in relation to whether the participants maintained their behavior or not.

5.4.1 Findings

For participants with high degree of maintenance two routes were suggested, one started from an individual initiative by the course-participant, which interacted with co-worker support. The other route went through role models in the organization. The most distinct route was what can be seen as a personal one, where the participant received a guiding feedback at the course and used this feedback and continuous reflection to direct future behavior. Guiding feedback was personal and clearly instructive feedback about the individual's potential areas of improvement and was associated with feelings of surprise, excitement and encouragement and vivid memories with rich verbal descriptions about the moment. It provided a new and wider picture of the participant as leader, an experience that was described as "reaching insight about myself" an "awakening", "I was not the person I thought I was" or "an AHA-moment". The feedback came from other participants in direct connection to observed behaviors or from the course instructor (UGL), and in DL it came from the coworkers 360

evaluation of the leader. For example, one participant expressed that he/she was insecure at the start and doubtful about taking the lead. He/she received the feedback that he/she should try. "The other participants encouraged me to dare to take the lead, when I did we managed to solve the task; everyone was both proud and happy". Another participant reported a similar experience: "The teacher asked me why I kept such a low profile; normally I prefer to observe rather than share my opinions. But when I did share my opinion everybody listened and considered what I had to say, it was an amazing feeling." That the feedback came from external peers and that these were independent from the work environment was regarded as useful, "I knew they were honest, it's harder for subordinate colleagues to be honest in this way", one participant explained.

One participant in the DL group described the surprise when he/she received the 360 feedback and the picture that emerged was so scattered. "At my main office I practiced developmental leadership, but at one office I scored high on laissez faire-leadership and on another conventional leadership, I wasn't aware of that, how could they experience me in such different ways?" The feedback in this case became guiding, since the participant could relate the feedback to specific behaviors in the three different contexts, which helped to see which behaviors to re-enforce, and which to weaken. When the team responded positively to this, these participants were encouraged to continue, even though the higher echelons of the organization might disapprove or seem uninterested in change.

A different route to maintenance went through role models back at the workplace. Here the participants left the course without having experienced guiding feedback, but through organizational support, where other leaders acted in line with the new values and became role models, inspired them to start a process of transfer.

Patterns for participants with low maintenance deviated from this. The first stage of transfer was in some cases information from the organization that a new leadership model was being implemented and that all leaders were going to work accordingly. This could send a signal to the leaders in the organization that attempts would be encouraged and rewarded. These participants reported positive expectations about the training and liking of the model. However, over time, some participants experienced the opposite, that despite their attempts to change their behavior in line with the presented expectations, the organization did not reward them, leaders with opposite leader styles were promoted and/or role models in the higher hierarchies were absent. These participants realized that changes in their leadership

could have adverse consequences. They also learnt that they were on their own with the responsibility to implement their new learnings in every day work. Over time, the attempts to use their new skills felt less rewarding. A crucial factor was the opportunity to perform their new skills, where some leaders reported a high workload, a shortage of staff, and too many other tasks, which allowed no space for systematic reflection, and inhibited both initial transfer and generalization of skills.

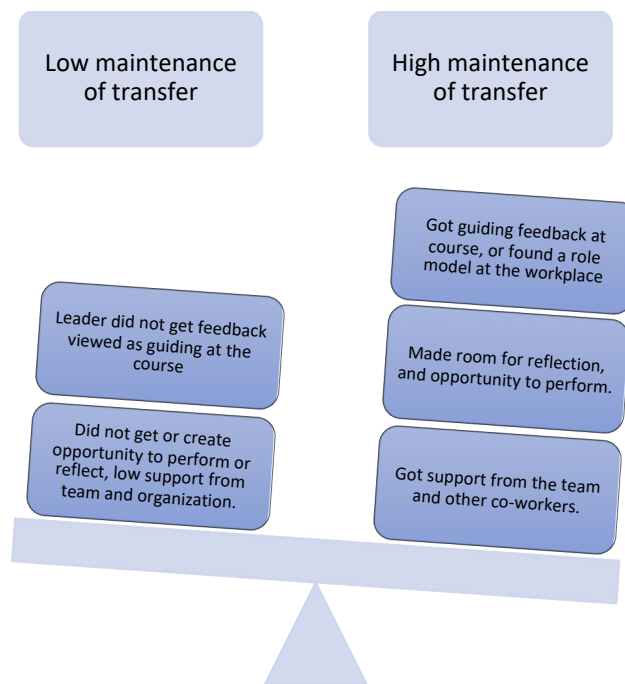


Figure 4. Simplified model of differences between high and low degrees of maintenance of learnings transferred from the course to the workplace.

6 DISCUSSION

The aim of this thesis was to contribute with knowledge regarding the mechanisms influencing and resulting in lasting team and team leadership development, induced through interventions, either on team or individual level. In this part the empirical findings will be discussed in relation to previous research, and some theoretical implications of the findings. The chapter ends with a discussion of methodological considerations of the research.

6.1 SUBJECTING WHOLE TEAM VS. ONLY THE LEADER

I'm glad that the whole team achieved this development together. That was important. If I had done it alone, I would have been extremely enthusiastic for a couple of weeks, but since I probably wouldn't have gotten the team on my side, I would have lost that enthusiasm and gone back to my usual routines again.

(Head of Department, Study I)

A finding in line with the co-creation of leadership (Crevani et al., 2010; Velten et al., 2017) was the results of subjecting the whole team to an intervention (Study I). According to the measurements applied all groups developed into better functioning teams, even those who showed hesitation at the onset. Coming together for a prolonged time, in all 4.5 days, reflecting on their communal work seemed to have been of importance. What strengthens this finding is the apprehension participants in the leader-only interventions (DL and UGL) felt when coming back to the work-place and the importance of the reception their new ideas got from their teams (Study III & IV). A positive reception started a positive spiral increasing motivation in both leader and co-workers; where as a negative reception could contribute to the opposite. This is in line with Day et al. (2009) describing leadership development as a spiral, where a person in a leadership situation that is experienced as positive, strengthens his/her leader identity, but if the experience is negative the opposite spiral can occur. The objective with UGL is to realize how one acts in a group, without the constraint of previous relationships. The freedom to experiment with one's perception of being a group member in a group of strangers and being part of a new group forming was much appreciated by the participants. It was however interesting to share the participants account of them trying to implement some of their findings in their own team. In doing this they perceived a gap they had to bridge, since the team had not been through the same experience as themselves. In lieu of team-members participating in the courses, the leaders found other leaders in their organization, who had been at the courses, to discuss with. Thereby experiencing that they had an easier time making the transfer from course to work, but maybe losing some of the co-creation of leadership that was evident in Study I.

6.2 THE IMPORTANCE OF COMMUNICATION

According to Systems theory the system develops through feedback (Agazarian & Gantt, 2000), yet at many workplaces there is a lack of feedback (Velten et al., 2017). A mediator in co-creation of leadership in the findings (Study III & IV) appears to be the increased use of feedback both given from leaders and co-workers, and an openness and encouragement to receive. This is supporting the findings of Maurer et al. (2002) of the trainees' attitude towards feedback influencing the learning process. The participants in UGL and DL practiced giving and receiving feedback, and this seemed to have been transferable to the workplace. Study IV showed that the most prominent course factor in relation to maintenance was when the participants received what they perceived as guiding feedback during the course. This was described as feedback that had a change-oriented focus; behaviors that other participants, the 360-raters or the course facilitators wanted to see more or less of. This gave guidance to the participants in changing their behavior. In the UGL-group feedback was given face to face in connection to learning oriented assignments. In the DL-group the 360-ratings from colleagues were guiding if the results pointed to discrepancies that were easy to understand and relate to own behavior. A high rating before the course seemed connected with a low degree of transfer, and could be interpreted as: Why change something when you are already doing it right? This process is interesting in comparison to the results in Study II where the cluster of leaders having the best ratings before the course were the only ones showing a (weak) significant increase in developmental leadership behaviors, and all three clusters showed a decrease in unwanted behaviors. Maybe one could be so brave as to re-name the course in Developmental Leadership a course in Risk reduction leadership, since it seemed like unfavorable ratings on the 360-feedback was a strong motivator for reducing detrimental leadership behaviors.

In an overview of feedback interventions in work life, Kluger and DeNisi (1996, 1998) found weak and inconsistent support for feedback as a tool, but the effectiveness of feedback might depend on the complexity of the task and what the feedback focuses on. When leaders view change as necessary, set goals related to the feedback and view feedback as positive, it seems more effective (Smither et al., 2005).

Just as individual goals (pre-course) should be learning oriented to be most effective (Aguinis & Kraiger, 2009), this might apply to feedback, which should be specific enough to guide behavior.

Another form of communication is reflection, both on own learning and experience and together with others after a communal activity. This was practiced in the implementation in

Study I and at the UGL and DL courses (Study II, III, IV). Reflection could be practiced both in solitude (through the writings of a journal), and together with peers. This seems to have increased learning and broadened the scope of possible action. This is in line with Argyris (1991), Kolb (1984, 2015) and Stacey and Mowles (2016). The latter point to communication as ongoing, laying the foundation for the strategy, as “strategies emerge in the interplay of many intentions” (Stacey & Mowles, 2016 p. 191).

In Study I it was observed that the content of the communication differed in a pattern much like what Weissner (2014) observed in the field study of a group of !Kung Bushmen. The daytime conversations were mostly functional and task oriented, whereas at night the communication centered on stories; stories providing cultural knowledge and a framework for what held the community together. The intervention in Study I started with 1.5 days including a sleep-over and a communal dinner. Interesting to register was that the group that had the hardest time through the intervention chose not to have the dinner nor the sleep-over, maybe thereby missing a vital part of the development.

Aside from getting a theoretical frame for the importance of communication, the findings point toward the importance of actually practicing how to communicate.

6.3 THE IMPORTANCE OF CONFIDENCE IN ROLE AS A LEADER

In general, the leaders gained more confidence in their leadership role, i.e. self-efficacy. Bandura (1982) defined self-efficacy as a personal judgment on one’s ability to take courses of action appropriate in future situations. This definition seems to be in line with what participants in Study I, III and IV meant with increased confidence in their role as leaders.

The implementation in Study I stressed the importance for clarifying what the team should accomplish together and which different roles they had in that work, as well as the importance of analyzing and perfecting how and where information was transferred to the system. This was met with different reactions, from:

I have kind of a hard time with this goal discussion. Everybody is supposed to be on the same train and go where? Nowhere? (Head of Department group 3)

To:

Whoa, stop! This is an ‘aha’ moment! I realize I haven’t been clear enough about defining the roles in the team. Of course people can’t be active if they don’t know what they’re supposed to act on! (Head of Department group 2)

Through quite a long period of reflection in the teams it seemed that the clarification of what a leader could accomplish together with the team, landed in a greater sense of self-efficacy:

Are we going to stop now, when we're finally getting somewhere? (Member of group 3, final session)

By clarifying context and goals it was easier for the participants to take functional roles. With a stronger foundation for the team members' role-taking, their power of action increased. This is in line with the theories that in a complex organization there is a need for a solid structure (Wheelan, 2005; Sandahl et al., 2017; Bolman & Gallos, 2011), as well as Humphrey et al. (2015) with work conditions being central for genuine emotions, positively related to performance, work- and customer satisfaction and commitment to the organization.

In Study III increased confidence appeared to come from the learning of theoretical models during the courses, supporting e.g. Avolio et al. (2009), Bass (1999), Hackman (2002) and Wheelan (2010), and from the opportunity to reflect on leadership and one's own role during the course. Participants could come to the course with a low sense of self-efficacy but build it during the course. If the participant left the course with increased confidence in their role as leader, this preceded a change in overt behaviors back at the work place, in line with Chan and Drasgow (2001), opening up to further training and continual development of leadership. Also in line with Palm et al. (2015) showing that an increase in the leaders confidence implied positive outcomes for the employees, as well as Fisk and Friesen (2012) showing that leaders' display of emotions influenced the quality of leader-member relations, where a lack of authenticity had a negative impact.

Study IV pointed towards an increase in self-efficacy after the course was related to a high degree of maintenance of learnings from the course. If the process goes as an increased self-efficacy leading to a higher degree of maintenance, or if a high degree of maintenance leads to self-efficacy is not clear, the data hypothesis that they are intertwined. Previous studies (Grossman & Salas, 2011) have focused on self-efficacy before training, indicating that high self-efficacy pre-training might demotivate change. The self-efficacy in the sample in Study IV concerns increase in self-efficacy after training, which was motivating for practice and behavior changes. In Study IV participants from the UGL-course indicated an increase in self-efficacy from the experiential learning during the course; how it felt to be part of a group, how they reacted to friction and uncertainty, and how they at times took leadership of the group, and the importance of talking to the other group-members about the experiences. This can be interpreted as in line with Romanowska et al. (2014), indicating the importance of using many senses and exposure to challenging situations in the learning process. This could increase the ability to contain friction and frustration.

In Study III team members wrote about perceiving their leader as calmer, and more willing to both give and receive feedback, which in turn instilled a sense of security in the team members. The leaders wrote about feeling more confident and calmer. This could be interpreted as a lessening in amygdala activity, as anxiety-related behaviors come about through sensory stimuli via the amygdala circuitry (Babaev et al., 2018). Anxiety has been shown to be contagious (c.f Sasaki & Vorauer, 2010; Humphrey et al., 2015), and so is happiness (Fowler & Christakis, 2008). It seemed as the course participants started to notice how their own behavior affected others, and this insight about interaction was a learning they could transfer to the workplace. The increase in feedback given and received instilled in the team members an increased sense of meaning and motivation for work. This is in line with Kilhammar (2011), who demonstrated that leaders, who assume that their co-workers are willing to take responsibilities and initiatives and provides the necessary conditions for this to happen, do create lasting changes.

The findings in Study III, and to some extent the findings in Study II pointing towards a significant lessening of the least desirable leadership styles, are also interesting from a complex theory view. Here the role of the leader is not the one in control pointing towards an unreachable vision, but as being equipped to bring groups, who might otherwise be separated, into communication with each other, and to equip the team members for unpredictable events in an unpredictable future (Stacey & Mowles, 2016). Velten et al. (2017) point to the importance of the leader keeping an ongoing discussion concerning goals, responsibilities and roles to keep the motivation, where passivity is a sure sign of a lack of such dialogues. Here it's interesting to remember the concept of transactive memory (Wegner, 1995; Wegner et al., 1985). A kind of group-mind develops through communication and interaction and could be especially useful in groups where interdependence is high and where the task requires contribution from highly specialized members and accuracy of information and coordination is of importance (Lewis & Herndon, 2011). If such a group uses a transactive memory system each member can utilize his or her expertise without losing the connection with the team task. This could be seen as using the Ricardo's (1817) theory of comparative advantages on a micro-system, or as in Price and Van Vugt (2014) noting that leadership in small scale societies often have different leaders in different areas, since leadership here demands expertise. This could be seen as the concept of distributed leadership (Gronn, 2002) in a team setting. Here it is also interesting to reflect on the findings by Jiang et al. (2015), suggesting that leaders emerge when they say the right thing at the right time.

6.4 WILLING AND ABLE TO CREATE THE OPPORTUNITY TO PERFORM

The above-mentioned importance of an ongoing discussion in the organization about the work, leads to creating the opportunity to perform. In Study IV leaders who showed low maintenance of course-learnings pointed to the fact that back at the work place they had been so engulfed in daily problems that they had no time for reflection or more insightful dialogue with their team. None of the informants in Study IV had received direct support from the organization, despite having been sent to and paid for going to the course. Notwithstanding this lack of back-up some found partners to discuss with, such as their closest manager, their team members, or just reflecting over learnings in solitude.

In Study I the Heads of Department mostly concluded that heading the department was something one did in one's spare-time: *"Friday night or during the week-end, unless either we celebrate something or something disastrous happens"* (Head of Department 2). This is not the best context for development. Contextual factors have a decisive influence on work and cooperative processes in all types of organizations (Pettigrew & Whipp, 1991). It is tempting to conclude that development of leadership teams is a futile enterprise in such contexts. But the results in Study I contradict this. A possible mechanism was courage. Groups in Study I that developed the most, had leaders who showed enthusiasm and led the way. This is consistent with role-taking as an active process, directed by the individual's perception of the purpose of the system (Sandahl et al., 2017). Velten et al. (2017) conclude that a leader must combine decisiveness and humility, and to be able to do this demands courage and the taking of responsibility by both leader and team member. In Study I some said that they did not want to be a leader, since they saw leadership as an obstacle to creativity, in line with Vessey et al. (2014). In the group where this was an issue, it was hard to get the whole group to attend the seminars. Some researchers with high status: publishing in high ranking journals and with means to support their own research, voted with their feet. This can suggest that, depending on social status some thrive in less structured surroundings, or that a more fragmented system can provide more opportunities for self-determination (Souba, 2007). The problem is as Stacey and Mowles (2016) write that this legitimizes some actions, and the most powerful will have to respond to the responses they have induced in the organization.

6.5 NEW APPROACHES TO TRAINING TEAMS AND THEIR LEADERS?

The findings in Study I, II, III and IV indicate that there might be more efficient ways of training teams and their leaders than the present. The first thought to question is the deterministic model of development; whether anyone or anything could be in control of an organization. To perceive someone in control might be a naïve, or hopeful, view of leadership.

In our interrelated, complex world where information flows rather freely, it might be time to abandon that thought and instead start seeing human interaction as complex adaptive systems. This would imply that no one is in control and the system is not deterministic, i.e. the outcome is not set by previously existing causes. This does not mean anarchy, since such systems evolve in controlled manners, but the source of the control is not in one person's hands but in a pattern of conflicting constraints, which the agents in such a system expose each other to, these constraints can entail choice and spontaneity, leaving room for creativity (Stacey & Mowles, 2016). This would change the demands on the leader, from the one in control to the one seeing patterns and enabling co-workers to perform their best. The role of the leader would rather be to provide an environment where interaction is stimulated and supported. It would also take a factor into account, which the studies in this thesis have not done and that is power. Power is vital when focusing on constraints; power both to hinder and enable others to do and get what they want. How the power of the top leaders, interacting with many more people than the less powerful, is interpreted and responded to in the rest of the organization, what hinders and enables penetration in the organization. Seeing human interactions as complex adaptive systems would also give a new meaning to conflicts, from something to be shunned to something that could develop the system, since in a conflict the constraints people lay on each other are exposed. Seeing the conflict from an explorative viewpoint could lay the grounds for negotiations instead of fight. Introducing learnings from negotiating research and game theory would probably be of interest in both team and leadership training. Negotiations do not need to be a zero-sum game but can result in win-win situations (c.f. Butler, 1995; Ostrom, 1990). But to reach a win-win situation the agents involved need to develop skills and opportunity to negotiate (Ostrom, 1990), and seeing their interaction as an iterative process (Axelrod & Dion, 1988). This is also interesting from a field theory perspective (Lewin, 1951) focusing on the constraining forces.

The discussions on roles and goals were perceived as very fruitful by the participants in Studies I, III and IV. The discussions provided clarity and a basis for interaction. The team as a constant with clear borders was however experienced as far from many participants reality, where co-workers fluctuated. But focusing on roles and goals in different contexts was helpful.

The interventions in this thesis had quite a strong focus on communication; how, where and what is communicated. This was probably an important factor for enabling development, from which ever theoretical viewpoint one sees development. The focus on communication could also be an explanation to why all teams in Study I developed despite differences in

motivation, and it is probably a vital factor for transfer of learnings to the work place if only the leader is sent to a course. The transfer process is in the latter case probably something, which should be explored further during training.

6.6 METHODOLOGICAL CONSIDERATIONS

This thesis has an explorative approach, since its focus is on lesser researched problems. The word ‘problems’ is used consciously. Using ‘research gaps’ would imply exact knowledge of where these are and in the field of team and leadership development that is not obvious, this is in line with Alvesson and Sandberg (2011). Little research has been done specifically on leadership teams in a medical academic setting, as was also the case with the longitudinal studies on UGL and DL courses.

Study I was a multiple case study in a specific context. Multiple case studies would create more robust, confidence inspiring data than single case studies (Yin, 2012). Eisenhardt (1991) sees in multiple case studies a possibility for replication and extension to single cases; it would thereby be possible to create a theory based on the findings. Having pursued Study I, the thesis author is personally in doubt over the replicability, not of the intervention itself but of the same findings. I would therefore find support in Tsang and Kwan’s (1999) claim that a particular study cannot be repeated because time changes subjects as well as researcher. The GDQ (Wheelan & Hochberger, 1996) was used as an indicator of the groups’ development, and it can be debated if the instrument found the sore points in this specific context characterized by high levels of competition and conflicts. Despite this the instrument indicated the conflict phase as below the norm at baseline and going down further after the intervention. The question is if this mirrors the circumstances de facto or not.

Studies II and III are based on a large number of participants, this was possible since data-gathering was done through a web-based questionnaire. Participants leading at least six people taking part in either of two leadership courses during a time period of more than two years were included. This is a strength in the resulting studies (including Study IV), as well as participants coming from a broad spectrum of organizations. This could lend the results a possibility of being generalizable. Sampling was however not theoretical (neither in Study I) (Glaser & Strauss, 1967), i.e. not chosen to support or contradict findings in earlier cases. Sampling was rather than the researcher selecting the cases, “the cases selecting the researcher” (Dubois & Gadde, 2014, p. 1280). This was demonstrated in the number of drop-outs: 118 UGL participants and their teams (680 raters) did the baseline questionnaire, 61 participants and 318 raters completed all three-measurements, for the DL-course the numbers

were 97 participants and 777 raters at baseline, and 59 participants and 361 all three. The drop-out rates maybe a consequence of the web-based data gathering: long distance between the researchers and the participants, and no direct contact with the team members, a “questionnaire tiredness”, and maybe an inevitable loss of participants in longitudinal studies. The drop-outs were not analyzed systematically, only with spot-checks. These checks indicated lack of time, change of work, or lack of interest to answer the rather extended questionnaires as reasons for dropping out. This is cause for caution if generalizing the results. The findings in study III point to informants staying in the study were either very pleased with the results, or disappointed.

Different kinds of data were gathered in Study I; observations, interviews, questionnaires, and were analyzed with different methods. This can be seen as triangulation (Malterud, 2001; Marshall & Rossman, 2006). Triangulation can make findings transferable to other settings (Marshall & Rossman, 2006) and increases validity (Malterud, 2001). Study I did not include a control group since this was not deemed possible, whereas in the UGL and DL studies the different courses can be seen as being each other’s controls. Studies II, III and IV use the same original data set, and build on each other, where Study II – the only purely quantitative study, was used as a starting point: could statistically anything be seen as happening after interventions? The quantitative study did not give answers to how what happened occurred, the following studies attempted to investigate mechanisms in the process from course to work life through qualitative methods, as these are best suited to understand human behavior (House, 2018). Studies III and IV used the findings in Study II as a means for triangulation. A disappointment with the methods used was that the results from the questionnaire SPGR, demonstrating changes in group dynamics, were quite hard to use. The questionnaire is extensive since everyone in the team shall rate everyone else, if someone drops out this affects the results of the team. If the research should be continued on UGL and DL a suggestion is to shorten the amount of information the participants and their teams have to submit.

An abductive approach was used in analyzing the empirical data in Studies I, II, III and IV. van Maanen et al. (2007) describe abductive analyze as a “continuous interplay between concepts and data” (p. 1149). Dubois and Gadde (2002) see the abductive approach as valuable “if the researcher's objective is to discover new things [...] rather than confirmation of existing theories” (p. 559). In this thesis, theory was used as a stimulus for gaining better understanding of the empirical data (Alvesson & Sköldberg, 2008). Credibility in the

qualitative studies was gained by analyzes being done close to the data, and the theoretical framework well described. However the influence of the researchers cannot be neglected (Alvesson & Sköldbberg, 2008). To avoid cognitive bias (Haselton et al., 2005), or at least to disperse it, the research group analyzing and collecting data consisted of people with different scientific and professional backgrounds, all Swedes though, as well as the research being done in Sweden on Swedish data. To excuse this there seems to be a growing interest internationally for the Swedish way of leading and co-working (Velten et al., 2017), seeing the Swedish way as a possible solution for organizing the “knowledge”-industry (Velten et al., 2017). The results presented in this thesis might stimulate further research in other contexts.

6.7 THE THESIS AUTHOR’S ROLE

An important learning objective as a PhD-student is to show increasing independency in the researcher role. This could be seen as a dilemma since participating in the research on DL and UGL was Gerry Larsson on whose model of developmental leadership (Larsson et al., 2003) the DL and to some extent the UGL courses rest upon. As well as Christer Sandahl who has been involved in the redesign and development of the UGL course. This could be perceived as a problem; how to show independence under the tutelage of such influential persons? It is notable that during the process I have never viewed this as a problem, on the contrary. Professor Sandahl has been the keenest supervisor, following me closely on my first stumbling steps as a researcher to taking a more and more hands-off approach as I started to learn the ropes. He has encouraged me to early on present findings at international conferences, and has sent me on the courses, which could be useful for the different research projects we were involved in. My opinion has been valued in the design and execution of the different projects. In study IV I had graduate to be a tutor myself to a Master’s student in psychology. The analysis process has been performed by me, and my main supervisor Kristina Palm in Study III, and adding in Study IV Tone Nordling, then a psychology student. None of whom had any vested interests in neither UGL nor DL. Also, as noted above under ethics, the research on UGL and DL was funded, in competition with other projects, by AFA-insurance, and by subjecting the courses to the scrutiny of research both Larsson and Sandahl took a risk. Professor Larsson has demonstrated the same skills as Sandahl: always there to help when asked to do so, coming with great suggestions at the blink of an eye, but never unduly interfering. Having worked for over a decade as a political reporter I have known bosses who wanted me to instill their view of the world instead of reporting on my own findings. This has never occurred in my collaboration with professors Sandahl and Larsson. On the contrary, their deep knowledge of the subject matter has supported me in spreading

my own wings. During the thesis project I have taken the courses DL, UGL and the continuant of UGL called FUGL. I have been licensed as a chartered psychologist, and in the instruments GDQ and SPGR, and I have taken academic courses in subjects applicable to the studies, all in the aim of giving me enough knowledge to develop a mind of my own in regard to group- and organizational psychology. This has been of great value for me in the research process

7 CONCLUSIONS

7.1 SCIENTIFIC CONTRIBUTION

Interpreting the above heading as moving the frontiers of human knowledge forward, I can see that the contribution of these studies is to introduce more evidence-based practices in the work place. Having been on the receiving end of consultants, I have often suspected that the temptation to sell an approach to development to which they have earned an expensive license has taken the better of them. With teams and working in teams being a buzzword in today's work-life, and people experiencing both plusses and minuses with this way of organizing work, I find it crucial to develop practical uses of theory. I think these studies have contributed to this; especially the more longitudinal approach in study II, III and IV since longitudinal studies in this area are not very common. Staging and delivering of a thorough team development implies high entry costs for the serious consultant, such as a long and solid education. Despite this the supply of development "experts" seems endless, and it is hard for the consumer to know which concept to buy. Research has been a bit silent on the issue, for example no systematic research on two of the most popular development courses in Sweden UGL and DL, had been performed until the project in which studies II, III and IV are a part of, took place. Considering the time and money spent on work-related development I find this astonishing. Pursuing my research with qualitative methodology in a quantitative, positivistic research surrounding I have especially at the outset of my PhD-endeavor, been confronted with the statement that this is not research. Having come this far, I must disagree. In my view, we have systematically collected data, looked at them with inductive eyes and contributed something to increasing human knowledge.

The aim of this thesis project was to contribute with knowledge regarding the mechanisms influencing and resulting in lasting team and team leadership development, induced through interventions, either on team or individual level. The findings point toward some crucial factors for this to happen. Communication was vital; how to, where, and when. The interventions included both theory, and practice, the latter probably the most important. The intervention, which included the whole team had an advantage in that the team practiced communicating their real communal problems. This could also start the process of co-creating leadership. Including the whole team bridges the gap between intervention and work-life, something lone participants in leadership interventions struggled with, especially since few organizations followed up on their learnings. If course participants were met with skepticism or enthusiasm had impact on their maintenance of new learnings. Here the factor if the participants had gained an increase in their confidence in their role as leader, on the

course or not had a large impact. Confidence could also be a factor in whether the participants claimed an opportunity to perform their new learnings or not, back at the work place.

7.2 IMPLICATIONS FOR PRACTICE

Many workplaces claim that the work is organized in teams, but the question is if it is, and if the organization is equipped for a team-based way of working. How does the system for remuneration work? Communication? Dealing with conflicts of ideas and goals? Sending people to development courses is a big question, which cannot be reduced to either a punishment or a covered-up version of vacation. Participants might return to their workplaces with new agendas, colliding with the organizational culture. With all best intentions, they try to change the organization, but what is it that the leadership of the organization wants? These are important questions, not least for the wellbeing of the personnel. Starting to implement new ideas of how work should be organized, but without the support, energy and curiosity from the leadership of the organization to follow through, might discourage both leaders and teams. On the other hand, if the leadership of the organization is able and willing, change is possible.

7.3 IMPLICATIONS FOR FUTURE RESEARCH

More research is needed on theories underpinning team- and leadership interventions and how their focus would change if the systemic view is abandoned in favor of seeing human interaction as complex adaptive systems. This would imply that control lies in a pattern of mutual constraints. This would change the demands on the leader, to rather than take control provide an environment where interaction is stimulated and supported. Constraints puts the focus on conflicts and power; how is power executed within organizations, and conflicts resolved?

Discussions on roles and goals were perceived as fruitful by the participants, providing clarity and basis for interactions. The team as a constant with clear boundaries was however experienced as far from many participants reality, where membership fluctuated. This is an interesting research field; it's not about virtual teams, but teams where some members only stay a brief time: How can entry into a new team be eased, and how do the stable members perceive the newcomers, and how to lead such an instable group? Confidence in leadership role seems important for having positive outcomes of leadership, which also needs further research. Communication is also a vital factor; what constitutes efficient communication in an organization? And how should an implementation to strengthen communication be

designed? It would also be very interesting to do brain-imaging on whole teams, when they are trying to solve difficult situations; which brain circuits would be activated in whom?

When putting research focus on teams and team leadership there is a plethora of interesting topics. I have but named a few.

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To conclude: Utan snus försmäktar jag på denna ö (re-interpretation of Lindgren, 1946) and "strunt är strunt och snus är snus" (Fröding, 1894).

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