

University of Twente

Master of Science Thesis

Business Administration: Innovation & Entrepreneurship

Leadership behaviors and values for effective leadership

*What is the measurable effect of coaching on the behaviors
demonstrated by leaders during weekly staff meetings?*

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*Tell me, and I will forget.
Show me, and I may remember.
Involve me, and I will understand.*

Confucius (450 BC)

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Abstract

This study aims to explore the measurable effects of coaching on leadership behaviors , through the use of video observations in a pre- and post-coaching session. This study first addresses the underlying theories of leadership, coaching and scientific video observation studies, after which I report on the empirical field research on three leaders in a private sector organization, undergoing a coaching intervention. This study is of an exploratory nature, providing solid support for scholars to further explore the effects of leadership coaching interventions, including its perceived effectiveness and performance effects.

Results of studying coaching literature revealed that only a coaching intervention is less effective in achieving (sustainable) personal and behavioral change. The best combination of tools for achieving sustainable change is a mix of “360° feedback” surveys, coaching sessions and follow-up (sessions) with stakeholders (Tach 2002).

When combining the results from literature with the results from the conducted field study, we can conclude that one coaching session has a moderate effect on the identified leadership behaviors, leading to improvements or changes in behavior of leaders and therewith resulting in more effective leadership. Already after one coaching session, results of the effects of coaching are noticeable in the meetings, although these results were not reflected yet in significantly changed behaviors. After the coaching intervention there was a heightened sense of self-awareness. This result is a solid basis for subsequent coaching video-taped and analyzed leadership behaviors. While we may assume significant behavioral improvements to have taken place.

Keywords: Filming leader behavior; transformational leadership; executive coaching; coaching intervention; leadership effectiveness; effects of coaching.

1 | Introduction

Already for many decades scholars discuss the behaviors that lead to, and result in, effective leadership. Although several thousands of articles are written about (effective) leadership, still little empirical research exists on the real demonstrated behaviors of effective leaders. What is it that makes them effective, what do they do?

Authors like Bass (1987) made definitions of leadership, based on perceived leadership behaviors. His transformational versus transactional leadership style definition is probably one of the most quoted definitions of the last decade. Other definitions like charismatic leadership (House, 1976) and inspirational leadership (Den Hartog, 1997) are also well known and often referred to.

In evaluating leadership effectiveness either leader performance or leadership styles are being assessed. Rarely any study focuses particularly on the demonstrated behaviors of the leader. Therefore, the real question remains: 'Which behaviors are demonstrated by effective leaders, and on which behaviors do effective leaders differ from less effective ones'. The focus within this study is on the measurable effects of coaching on leadership behaviors in relation to the openness of change value of the leader. Does coaching have effect on leaders (behavior)? Do leaders behave differently after a coaching session, making them more effective?

The main research question of this study therefore is:

What is the measurable effect of coaching on the behaviors demonstrated by leaders during weekly staff meetings?

Merely due to the exploratory nature of this study one can, in advance, conclude that any statistical analysis cannot be used as trusted evidence in this case to reject or accept any kind of hypotheses. Therefore in this study propositions are used, suggesting possible relations between the conducted variables. Any research conducted later on, based on this pilot study, could bring in significant data to proof or reject the stated propositions or state them as hypotheses.

2 | Leadership styles

Transformational leadership

Transformational leadership occurs (Bass 1990, page 21) “when leaders broaden and elevate the interests of their employees, when they generate awareness and acceptance of the purposes and mission of the group, and when they steer their employees to look beyond their own self-interest for the good of the group.” Transformational leaders are truly involved with the well being of their employees and try to influence them on emotional and intellectual grounds. Transformational leaders are capable of stimulating awareness among their employees about the consequences of one’s own actions. Leaders who use transformational leadership skills will stimulate and challenge their employees to get involved in the process, and share their opinion about the problem currently faced.

Bass operationalized this leadership style by assigning distinctive behaviors to transformational leadership. A transformational leader will be charismatic and an *inspiring motivator* to its employees, communicating vision in an enthusiastic and inspiring way.

The second characteristic of transformational leaders is that they try to meet the emotional needs of their employees, they are *individually considerate*. They care about their employees, pay close attention to their differences and acts like a coach or mentor to help them grow and develop. Developing is merely done by intellectually stimulating them to go for new heights, see problems as challenges, and bring new ways of looking to old problems.

Transactional leadership

Transactional leaders, on the other hand, behave differently. They are busy with engaging in transactions, also with their employees. They explain to their employees what they expect from them, and what they will get in return for the effort made. This way of exchanging or making transactions is “promising a reward for a good performance and discipline for poor performance” (Bass 1990, page 20), and actually characterize effective leadership: Getting done what should be done (Bass 1990). Transactional leaders mostly make a deal/exchange with their employees. Getting the job done will lead to a reward; not getting the job done will lead to punishment. They just watch and look for deviations in behavior or output and take corrective action upon that. They do not empower employees or look at their different needs; they simply apply the style of “this way or the high way”. In other words, do as I say or find another organization to work for. This of course tends on the long run to get counterproductive, and they are mostly not perceived charismatic or visionary by their employees.

Transformational versus Transactional leadership

Although both styles of leadership could be more or less effective in certain situations, research of Bass (1990) shows that employees and colleague are more likely to see leaders with a transformational leadership style as satisfying and effective leaders, opposed to leaders with a more transactional leadership style. Besides those responses of perceived leadership by employees and colleagues, various types of performance measures have shown clear correlations between transformational behavior and leaders that are rated highly effective. “Managers tagged as high performers by their supervisors were also rated, in a separate evaluation by their employees, as more transformational than transactional” (Bass 1990, page22).

It seems that leaders who show more transformational leadership behaviors are not only perceived more effective by their employees, but also will have a higher performance output than their more transactional colleagues. Transformational leaders are able to frequently raise standards and set new goals, and at the same time get others to join this new vision by encouraging and positively stimulating them. This leads to less resistance, quick responses and a positive “We can do it” atmosphere within the organization.

A leadership style does not only have influence on performance, transformational leaders have better relationships with their supervisors and employees, and employees are more likely to “exert a lot of extra effort on behalf of managers who are transformational” (Bass 1990, page22). Bass, in the same study, also concluded that employees do not only do a better job when they perceive their supervisors as transformational, they also show much more job satisfaction and are “more satisfied with the organization’s appraisal system” (page 25).

Just applying transformational leadership behaviors is not enough. Bass also mentioned that “Transformational leadership is not a panacea” (1990, page 30). Studies have been conducted about this phenomenon. What do effective leaders do in all these different situations? It results in the conclusions that a combination of both transformational and transactional leadership behaviors make a leader most effective. This is called the augmentation effect (E.g. Jung & Avolio, 1999). It means leaders can become more effective if they are able to apply different leadership styles (transactional and transformational) at the moment these styles are most needed. Leaders face different situations every day, which all require different approaches and leadership styles.

3 | Effective leadership behaviors

For a leader to be perceived effective, a lot of different skills need to be mastered. Many personal aspects will interact to determine the actions of a person in a leadership role. Perceptions, attitudes, motivations, personality, skills, knowledge, experience, confidence, and commitment are a few of the variables which are important for understanding the behavior of people. Effective leadership is a delicate mix of leadership style and behavior, developed and stimulated by the personal values, experiences and cognitive abilities of the leader (Bruno & Lay, 2008, page 678).

All these different values, behaviors, experiences and skills already underline the importance of professional help in leadership development. Developing as a leader is not as easily said as done. Becoming a more effective leader might require certain skills, or need personal changes in behavior. A leader's behavior, his or her values and experiences play a role in the skills and styles developed in their professional carrier. To be able to change that, and therewith, hopefully, become more effective as a leader, requires some close attention. Literature shows that both transformational and transactional leadership styles result in effective leadership (Yukl 2002; Bass 1990), actually an effective leader needs a combination of both in order to be most effective. Nevertheless, as proposed by Bruno and Lay (2008), the effectiveness of the leaders depends merely on how appropriate their leadership style is to the situation in which they operate. It still leaves the question open what actually is perceived as *effective* leadership? What makes a leader effective? In other words: What behaviors can be identified to predict (effective) leadership?

Already for some years now research is being conducted on leadership effectiveness by the use of video observations (e.g. Wilderom & Van der Weide 2006; Van der Weide 2007; Wilderom *et al* 2010; Nijhuis 2009 *et al*; Hoogeboom 2011). This resulted in a list (Wilderom & Van der Weide, 2006) of 19 leadership behaviors, which later is reduced to a list of 12 exclusive behaviors, divided into 3 main behavioral categories:

Steering, Supporting and Self-Oriented (Van der Elst & van Brummen, 2011 and Nijhuis (2011, Paper in progress). The selected behaviors used for coding are: Showing disinterest; Defending one's own position; Providing negative feedback; Delegating/Directing; Delegating/Correcting; Verifying; Structuring the conversation; Informing; Visioning; Professional challenging; Giving positive attention and Active listening (Van der Elst & van Brummen 2011 and Nijhuis 2011, Paper in progress). These behaviors are believed to be demonstrated in certain “amounts” by leaders, making them more or less effective by the time and amount of behaviors demonstrated.

By conducting more research in the field of the behaviors of effective leaders, a database is being filled (and still is) with the demonstrated behaviors of leaders in different (private and public) organizations throughout The Netherlands. For this study we have summarized all this data into one table, showing the 12 coded behaviors and the percentages the leaders spend on (in seconds) executing these behaviors during their weekly meetings. From this table we can conclude a general and widely applicable “Effective leadership behavior standard”.

Table 1: Overview of videotaped behaviors (in seconds) of effective leaders

| Frequency scores of effective managers | Educational organizations ** | Bank ** | Health care organization ** | Private organization *** | Private organizations *** | Public organizations *** | Average | Standard Deviation: |
|--|---------------------------------|-----------------|--------------------------------|-----------------------------|------------------------------|-----------------------------|---------------|---------------------|
| | (2009) n = 12 | (2010) n = 4 | (2011) n=1 | (2008) n = 2 | (2007) n = 14 | (2007) n = 11 | | |
| Correcting * | | | 2,20% | | 2,75% | 2,96% | 2,64% | 0,39% |
| Directing * | 6,4% | 2,92% | 1,75% | 6,63% | 0,72% | 0,84% | 3,21% | 2,68% |
| Delegating | 6,40% | 2,92% | 3,95% | 6,63% | 3,47% | 3,80% | 4,53% | 1,58% |
| Defending one's own position | 0,3% | 0,30% | 0,68% | 0,25% | 5,52% | 5,55% | 2,10% | 2,67% |
| Informing | 16,6% | 22,27% | 13,94% | 11,25% | 6,06% | 7,18% | 12,88% | 6,08% |
| Active listening | 33,9% | 36,30% | 35,98% | 36,86% | 37,44% | 38,29% | 36,46% | 1,50% |
| Providing negative feedback | 0,8% | 0,17% | 0,48% | 1,74% | 4,09% | 3,30% | 1,76% | 1,61% |
| Showing disinterest | 1,3% | 0,86% | 0,87% | 0,14% | 1,76% | 0,95% | 0,98% | 0,54% |
| Structuring the conversation | 7,9% | 8,25% | 7,22% | 11,82% | 7,50% | 6,98% | 8,28% | 1,79% |
| Giving positive attention | 8,2% | 12,10% | 10,35% | 5,92% | 1,53% | 1,27% | 6,56% | 4,50% |
| Professional challenging | 6,5% | 3,50% | 4,18% | 1,38% | 8,44% | 6,49% | 5,08% | 2,54% |
| Visioning | 6,6% | 7,80% | 14,64% | 9,70% | 15,55% | 18,45% | 12,12% | 4,76% |
| Verifying | 11,5% | 5,53% | 7,71% | 14,31% | 8,67% | 7,74% | 9,24% | 3,15% |
| | 100,00% | 100,00% | 100,00% | 100,00% | 100,00% | 100,00% | | |

* Over time the general point of view on the behavior “Delegating” has changed. The delegating behavior was divided into Delegating/correcting and Delegating/directing. Not all studies have taken this division into account. Therefore both options are shown.

** These studies are part of the PhD study of J.H.E. Nijhuis on effective leadership behavior.

*** These studies are part of Master and PhD studies on effective leadership.

As one can see the table shows a collection of 6 studies, the results of this study are not included in the table because they need to be compared with the table and not included in the overall percentages, all based on the principle of video filming the behaviors of leaders. Although there are differences in demonstrated behaviors, a certain pattern can be found in the applied behaviors. Behaviors like Informing, Active listening, Visioning and Verifying are demonstrated most of the time during the videotaped meetings in almost every study. A honest remark should be made about the standard deviations of the behavior informing and visioning, these standard deviations are quite large compared to the percentage of applied behavior. This means the leaders among the compared studies do differ quite a lot on these behaviors, this can be (partly) dedicated to the different organizations these studies are conducted in. Some studies are conducted in private, other in public organizations. The branches in which the organizations operate also differ (as can be seen in the table). Another final explanation can be the hierarchical level of the leaders (executive, middle management, or supervisory management). These influences cannot be ruled out completely, so caution needs to be taken when generalizing these outcomes.

Although there are differences to be found, the four behaviors that really stand out, do stand out in all studies. Due to the relatively unimportance of the “Active listening” behavior in this study, we further do not focus on this behavior. Table 1 shows that effective leaders, as researched in the mentioned studies, do show more Informing, Visioning and Verifying behaviors than the other analyzed behaviors. It seems that an effective leader will adopt a certain pattern of informing employees, visioning the ideas and goals of the organization and verify the made agreements with his or her employees.

More research needs to be conducted in the future on this topic, gathering data to fill the database. With a larger data set one is better able to empirically prove the made suggestions. Nevertheless a clear pattern can be seen from the above mentioned table.

The demonstrated pattern at least gives some ground for suggesting that effective leaders inform, carry out their vision and verify more than they show other behaviors. In other words, leaders should be trained on these three behaviors in order to become more effective. Nevertheless, effective leadership will always remain merely dependent on the situation.

Hogan, Curphy and Hogan (1994) defined leadership as “persuading other people to set aside for a period of time their individual concerns and to pursue a common goal that is important for the responsibilities and welfare of a group” (page 3), therewith endorse the fact that leadership is all about the employees and people around the leader. In the leadership literature it is no exception that especially these direct peers, employees, colleagues and bosses rate the leader on its effectiveness. Hogan, Curphy and Hogan (1994), in line with that finding, found that leaders who were involved in multi rated appraisal systems received significantly higher mean effectiveness ratings than those who received no subordinate feedback. This suggests that feedback from direct peers and colleagues will make the leader more effective in their eyes who, in the end, will rate him/her on effectiveness again by filling out a 360° feedback form or other type of survey.

Already for many years now management development programs are having great success within a lot of organizations worldwide. Unfortunately still a lot of executives think that leadership is something “one needs to be born with” (Bass 1990, page 25). They believe that leadership is determined by a solid pack of skills that one has or has not. Not much can be done to change that.

In fact much can be done to improve leadership skills. In the paper of Bono & Judge (2004) one can read that there truly is “empirical evidence that transformational leadership behavior can be learned (Barling et al., 1996; Dvir, Eden, Avolio, & Shamir, 2002)” (page 906). Behavior and skills can be learned, trained and changed. True enough, many leader needs professional help in order to be able to handle the process, for example via coaching.

4 | Effect of coaching on leadership

“It is remarkable how many smart, highly motivated, and apparently responsible people rarely pause to contemplate their own behaviors. Often more inclined to move on than to reflect deeply, executives may reach the top ranks without addressing their limitations. Coaching gets them to slow down, gain awareness, and notice the effects of their words and actions. That enables coaches to perceive choices rather than simply react to events; ultimately, coaching can empower them to assume responsibility for their impact on the world” (Sherman & Freas, 2004, page 85).

Over the last decades coaching has become a “hot topic”, particularly in the private sector where executive coaching is an established practice (Bloom, Castagna and Warren, 2003). The use of coaches and coaching programs within organizations, for purposes of leadership development, has increased tremendously and it has even become “trendy” (Tach, 2002). Nevertheless having a personal coach is not just something to brag about it in the coffee corner. Leaders nowadays feel the pressures placed upon them. “High-achieving executives are eager to accommodate competencies, skills, and experiences to present-day realities. They know that without continuous learning and development, they will be left behind in our ever changing global environment” (de Vries, 2005, page 5). Organizations are always looking for new talent, you might be the best today, but replaced by a younger and more talented leader tomorrow. Leaders recognize the potential benefits of getting the opportunity of working with a personal coach to continue their personal development and learning. Off course, coaches benefit of this trend. Goldsmith and Morgan (page 71) note that a human resources consultancy organization reported that half of the 150 companies they surveyed in 2002 said that they had increased their use of executive coaching, and 16 percent reported using coaches for the first time. Coaching is booming!

The application of coaching as a concept and set of techniques to the art and practice of management has been growing rapidly through the last decades (Kilburg 1996) and is a response to the demands of the “market” (Joo, 2005). In 2006 it was estimated that, globally, there were about 30 000 professional coaches (International Coach Federation, ICF, 2006 quoted in Hodgkinson & Ford 2010), a number that when calculated today will be way higher. The last years leadership coaching programs have grown greatly to meet the demands from the market, therewith also the number of publications in academic and popular literature on (the effects and effectiveness of) coaching have significantly grown along (Hooijberg & Lane 2009). Between 2000 and May 2009 Hodgkinson & Ford (2010) report that a total of 425 papers were published on the topic of coaching. In the 62 years previous to that (1937-1999) only 93 papers were published (page 133). *Still the topic of coaching can be considered an academically immature yet emerging discipline.* Although the coaching discipline is emerging rapidly, it needs, as with all emerging areas of expertise, the establishment of a sound theoretical and empirical foundation (Hodgkinson & Ford, 2010). This takes time and a lot of effort. There has been worked hard the last couple of years to establish coaching within the existing professional disciplines. In 2008 leaders of coaching bodies around the world met (in the Global Convention of Coaching, GCC) to discuss the establishment of common frameworks, education, research and practice. Although growing rapidly coaching practice today is still largely disconnected from the peer reviewed literature, and more research is needed to establish a sound support for coaching as a professional discipline.

Hodgkinson & Ford (2010, page 133) note that most of the empirical literature to date is about “contextual or survey-based research about the characteristics of coaches and coachees (...) rather than outcome research examining the efficacy of coaching as a methodology for creating individual or organizational change”. Little empirical (scientific) research is present on how to evaluate this unique leadership development practice (Ely *et al*, 2010), as well as evaluating the outcome (Wasylyshyn, 2003) and impact of coaching on leadership effectiveness and payback to the

organization (Tach, 2002; Kilburg, 2000). “Whether or not it does what it proposes remains unknown due to the lack of empirical evidence for what happens, why it happens, and what makes it effective or ineffective” (Joo 2005, page 463). While the main objective of (executive) coaching mostly is inducing behavioral change, most of the articles on coaching published today are devoted to assessing coaching activities and skills needed for coaching to be successful. As argued by Kilburg (1996) none of these studies report on the direct effects of coaches working with leaders, nonetheless these studies do (broadly) suggest that coaching (in various types) is successful in “improving various aspects of the performance of individuals in administrative positions” (page 135).

Literature on coaching and behavioral change is suggesting that not only providing the multisource 360°-feedback to leaders can improve their effectiveness, also the use of a (personal) coach can potentially elaborate on the intended behavioral changes (e.g. Wasylshyn, 2003; Hooijberg & Lane, 2009; Smither *et al*, 2005; Tach, 2002; Kilburg, 1996). Hooijberg and Lane (2009) use the research of Hernez-Broome (2002) to underpin this potential increase of effectiveness by the use of a coach. Their research showed that “even a minimal coaching program (one phone conversation a month for a period of three months, so in total only three coaching conversations by phone) offers significant benefits in reinforcing the developmental experience and producing on-the-job behavioral changes” (page 483). Now (extended) empirical proof is needed to support these suggestions and outcomes. In the research of Joo (2005) only *one* (of the 78 articles selected on executive coaching) study was found that was based on a correlational study, using inferential statistics (among six quantitative studies). This further confirms that there is little empirical study on the practice and effects of coaching, even not by HRD scholars (Joo, 2005). More research should be done on the topic of coaching because “coaching has the very real potential to make significant contributions to the further development of evidence-based approaches to the enhancement of individual and organizational well-being and performance” (Hodgkinson & Ford, 2010, page 159).

Definition of coaching

“Leadership coaching is broadly defined in terms of a relationship between a client and a coach that facilitates the client becoming a more effective leader” (Ely *et al* 2010, page 585). One of the most elaborated definitions of executive coaching can be found in the paper of Kilburg (1996). Executive coaching, as defined by Kilburg (1996, page 142) is “helping relationship formed between a client who has managerial authority and responsibility in an organization and a consultant who uses a wide variety of behavioral techniques and methods to help the client achieve a mutually identified set of goals to improve his or her professional performance and personal satisfaction and, consequently, to improve the effectiveness of the client's organization within a formally defined coaching agreement.”

It is important to understand that coaching in the perspective of this study is certainly not training. “Training conveys a particular curriculum, while coaching addresses the needs of the individual” (Bloom, Castagna and Warren 2003, page 4). Leadership coaching differs greatly from other (more traditional) leadership training and development tools. Coaching (by definition) differs, according to Ely *et al* (2010), in four distinct ways: a) Leadership coaching focuses on the needs of the individual client as well as the client's organization and the unique characteristics each brings; b) Leadership coaching requires coaches to have unique skill sets; c) Leadership coaching places a premium on the client–coach relationship and d) Leadership coaching demands process flexibility to achieve desired results. These four items (client, coach, client–coach relationship, and coaching process) provide a solid foundation for “understanding the unique nature of leadership coaching and implications for its evaluation” (Ely *et al* 2010, page 586). Coaching is regarded as one of the most valuable development tools for both the leader/coachee and the organization which employs the leader/coachee.

Types of coaching

Coaching can mainly be divided into three main categories (Hodgkinson & Ford, 2010): skills coaching, performance coaching and developmental coaching (Witherspoon and White, 1996). Other authors (e.g. Tach 2002; Koonce, 1994) distinguish only two types of coaching: The first one being performance based coaching, the second one in-depth coaching. Performance based coaching is focused on the more practical and specific business issues a leader has to handle (Tach, 2002), while in-depth coaching is “more psychoanalytical in approach, attempting to get at deep-seated issues and often exploring personal values, motivations, and even family issues” (Tach 2002, page 205). Within this study we mainly focus on developmental coaching. This type of coaching “takes a broader strategic approach and deals with the individuals personal and professional development” (Hodgkinson & Ford, 2010, page 127).

A second difference in type of coaching is the focus of the coaches. Some focus more on self-awareness (counseling), whereas others on learning (consulting). Those who use the counseling approach tend to emphasize self-awareness and self-reflection in leadership coaching, using the metaphor of a window and mirror (Sherman & Freas, 2004) to provide them with a look into the mirror instead of a look through the window (Joo 2005, page 481). The consulting approach tends to train participants on new or specific skills to be learned. Regardless of the type of coaching used, the main goal of coaching is to help the coachee to achieve the goals which help the personal development of the coachee (the leader involved in the coaching intervention) as well as the organizational development. In this study a combination of both types of coaching was used to fully involve the leaders receiving the coaching intervention (from this point on called: Coachee) in the process and make the impact as large as possible.

Requirements for coaching

Reaching the set goals for coaching is not as easy as it might seem. Coaches can do more harm than good if they do not have the right skills, possess the right knowledge or apply the correct technique. Authors like Wasylyshyn (2003) do also critically ask questions like: What are the key credential and experience factors in selecting a coach? Which of the tools used by coaches do leaders prefer? And seen from the other perspective: will coaching be effective on all leaders? Which leaders are most likely to benefit from coaching? (Wasylyshyn, 2003, page 94).

A lot of questions remain in the light of effective coaching, it seems all to depend on that one very specific winning combination of key variables. Suggested key variables for successful coaching include the coachability of the coachee, coachee responsibility, coaches' skills, collaboration, commitment, trust and confidentiality (Ely *et al* 2010, page 587). Even more authors refer to the coach/coachee chemistry (Hooijberg & Lane 2009, page 484), "good fit" (Hall *et al*, 1999) or "strong connection" (Wasylyshyn, 2003) between the coach and coachee as key and most important variable for successful coaching.

The skills of the coaches refer to the core competencies coaches must possess (according to coaching literature) to be effective in a coaching role. Of all skills listed in literature, Hooijberg and Lane (2009) picked the four that appeared in the work of almost all authors: listening, asking questions, identifying gaps, and identifying skills. As they refer: "Listening and asking questions are seen as the key skills to guide clients to arrive at their own insights and to commit to the process and their goals. Identifying skills and gaps focuses more on the formulation of specific action steps" (page 485). Especially for "developmental coaching" the coach needs very specific skills such as "greater competence in the intra- and interpersonal domains, superior active listening and reflection skills and the ability to help coachees explore more personal aspects of their work or personal life (Hodgkinson & Ford, 2010, page 128). Coaching abilities and skills need to be very precise and complete. Wasylyshyn (2001) already noted: "Coaches who have not had training in psychology or in a related

behavior science are less likely to be successful in handling referrals where a leader must change a deeply entrenched and dysfunctional behavior pattern” (page 17). Berglas (2002) at the other hand stated, referring to non-psychologist coaches: “By dint of their backgrounds and biases, they downplay or simply ignore deep-seated psychological problems they don’t understand. Even more concerning, when an executive’s problems stem from undetected or ignored psychological difficulties, coaching can actually make a bad situation worse” (cited from Wasylyshyn, 2003, page 97).

Earlier research (Wasylyshyn, 2003) resulted in a top three of personal characteristics that make (as perceived by the coachees) a coach effective (page 98), being: 1 The ability to form a strong “connection” with the leader (86%); 2 Professionalism (82%); 3 Use of a clear and sound coaching methodology (See Wasylyshyn 2003 for the full research and results). The results of Wasylyshyn also showed that all participants (100%) scored a positive response in favor of external coaches (page 99), the primary factors for that being: trust and confidentiality. Although all participants were likely to prefer external coaches, results of the research also showed a positive response of 70% on internal coaches. Fair to remark is that not only certain requirement for a coach need to be stated in order to have an effective coaching intervention, the coachee has some requirements as well. First off all the coachee of course need to make time free to spend on the intervention, and has really dedicated him or her to the coaching program. Nevertheless, above and beyond all the coachees openness to feedback and openness to change (Bacon 2003) really makes the coaching intervention succeed or not. If the coachee is not open for any feedback or change, the coaching sessions will have no impact. Results of a study conducted by IJsseldijk & Mulders (2010), as master thesis graduation study, showed results indicating that similarity in values concerning 'openness to change' significantly related to high leader effectiveness (Brown & Treviño, 2009). This suggests that combining transformational leadership with the value openness to change might result in more effective leadership due to more success in the coaching session.

I therefore propose:

1| Transformational leadership (assessed by the leaders themselves and by their employees) is positively related to openness to change (assessed by the leaders themselves and by their employees).

2 | Leaders who score themselves higher on “openness to change” show more positive changes in behaviors (after the coaching session) compared to their colleagues who score themselves lower.

In short, a good fit between coach and coachee, trust, confidentiality and coach availability are key ingredients in a strong coaching alliance (Wasylyshyn, 2003). Over and above the fact that the coachee needs to be open for coaching and feedback.

Internal versus external coach

Not only skills and abilities define whether or not a coaching intervention will be successful. An often remarked question within organizations is: do we enable an internal or external coach? Pros and cons are to be reported on both types (Hall *et al*, 1999), “externals are usually more costly, but are perceived by executives as being more objective; whereas internal coaches usually cost less and understand the organizational culture, but are perceived as a confidentiality risk” (in Tach 2002, page 206).

In coaching literature there are advocates and opponents for both types of coaches, internal and external. Both types have specific pros and cons at the same time yet the key issues remains selecting a coach (and coaching intervention) should be closely related to, and align with, the organizational strategy and expected results of the intervention (Tach 2002). Another possible and cost effective option as suggested by Wasylyshyn (2003) could be to introduce CPO's: chief psychology officers.

These CPO's are fully designated on working on leadership and personal development of staff members, not having anything to do with a value judgment on job performance (as a HR manager would have) or limited time or "costly hours" as an external coach could have. An interdisciplinary network of internal coaches could be set up among organizations providing each other with feedback and coaches. These professionals then could, as suggested by Wasylshyn (2003, page 95) "be trained and supported by consulting psychologists". Although this research is not focused on the discussion of internal versus external coaches, the statement of Hall *et al* (1999) is in the light of this research very acceptable. Hall *et al* (1999) remarks that there are strong beliefs and suggestions that external coaches are most appropriate under conditions requiring extreme confidentiality, when the varied business experience of the coach is beneficial, or when speaking the unspeakable is necessary. For any other situation an internal coach could be as effective as an external coach. Literature also show the tendency for organizations to mix the use of internal and external coaches. Hodgkinson & Ford (2010) quote the study of Kubicek (2002) which found that "51% of UK organizations used external coaches, 41% trained their own internal coaches and 79% used managers to coach employees" (page 129).

Within this study there is made use of an internal coach (Executive coaching the leaders). This decision was made due to time constraints, as well as bearing in mind that an internal coach for this intervention might be more suitable due to the already present trust relationship between the coach and coachee. The final effectiveness will probably mainly rely on the strategy developed on this issue by the organization. One should realize that coaching is not just an "extra task" of a HR-manager. "Effective leadership coaches are attuned to the unconscious life of organizations. They realize that there is more to human behavior that meets the eye" (De Vries, 2005, page 30). To be able to coach people and help them develop themselves, a profound study or preparation should be done.

Methods for coaching

Coaches all use their own intervention tools and techniques, all appointing different skills, behaviors and values. Very important to that issue when using coaching interventions is narrowing the list of development actions (Tach, 2002). When a leader needs to work on too many items at a time, focus is lost and impact is lower. Even so important is the follow up. During the research of Tach (2002) the leaders got instructed on how to follow-up with their manager, peers, and direct reports to thank them for the 360° feedback and seek their assistance in identifying specific actions to resolve the one to three identified development items (Tach 2002, page 208). If needed the leaders modified their action plan, and again sought for interaction with their peers, direct reports, and leaders. Tach (2002) argues that this type of informal follow-up with 360° feedback raters “assists in validating the improvement efforts of the executive as perceived by the raters” (page 208).

Tach (2002) argues that only providing 360° feedback is not enough for a compelling coaching intervention. The 360° feedback has a lack of clear implementation purposes within the organization, as well as empirical data on results. Another issue is the potential bias of raters biasing the results by filling out the survey with in mind the idea that the data will be used for evaluative purposes. In other cases they become overwhelmed with the extra work 360° processes can generate and cynical of any real improvements (Tach 2002, page 207).

Since the use of 360° feedback as a single development tool does not provide us with the desired empirical data needed to successfully evaluate the effect of coaching on the overall perceived effectiveness of leaders / executives, video observations are used in this study. Like Perkins (2009) this study investigates leader behavior during regular staff meetings. We dare to suggest that the leadership behaviors demonstrated by the leader during the meeting are the general leadership behaviors he/she will apply during his entire work day, and also in other work situations. Perkins (2009) found strong “anecdotal evidence which suggests that a leader's ability to lead meetings defines how team members perceive his or her effectiveness as a leader” (2009, page 298-299).

In line with this we can conclude that specific leadership behaviors are resulting in a behavioral repertoire, which finally is perceived as effective or not. Remarkable though, is that not much studies have been conducted to explore what these behaviors are, or should be in order to finally become an effective leader. Literature is written already for decades on which styles are perceived as effective, or not. Nevertheless the question remains which behaviors a leader should execute, in which dimensions, to be able to really result in an effective leadership style. And if one does not have a perfect behavioral repertoire, can coaching be of any help in changing the behaviors of this leader into a more effective leader?

Kiel, Rimmer, Williams, and Doyle (1996, page 68, in Perkins 2009 page 299) made the observation that “the majority of weaknesses in leadership effectiveness are the result of required skills that have never been learned”. Which means leaders should be trained and learned which behaviors will make them more effective, therewith suggesting that the use of coaching to help them reflecting, learning and applying this new knowledge could be very useful. Leadership coaching is defined by authors as a process of “equipping leaders with the tools, knowledge, and opportunities they need to develop themselves and become more effective” (D. B. Peterson & Hicks, 1996, page 14, in Perkins 2009, page 307).

Earlier research provides this study with a fairly stable ground of which behaviors are most likely to positively or negatively influence effective leadership Perkins (2009, page 298) conducted “expert leader” observations during meetings and with that collected data, the author hypothesized that “effective meeting leaders ask questions, summarize, and test for consensus more frequently, and they disagree, attack, and give information less frequently” (Perkins 2009, page 299). Several other leadership behavioral studies (e.g. Wilderom & van der Weide 2006; Hoogeboom 2011; Nijhuis *et al* 2009) found similar results, only than based on an earlier shown leadership behavior list, of 12 independent behaviors.

Based on the results and outcomes of these studies the conclusion was drawn that the behaviors Verifying, Self-defending and Showing disinterest needed to be demonstrated *less* to become more effective, while the behaviors Professional challenging, Visioning and Giving positive attention need to be demonstrated *more* to become more effective. Therefore the propositions that will be examined empirically by this study are:

3 | Due to the coaching session there will be a significant decrease in demonstrating the behaviors: Verifying, Self-defending or Showing disinterest.

4 | Due to the coaching session there will be a significant increase in demonstrating the behaviors: Professional challenging, Visioning or Giving positive attention.

Perkins observed (2009, page 300) that leaders “who gave their own opinions too frequently or too aggressively or who disagreed directly or attacked others’ opinions chaired less successful meetings.” Perkins concluded that it seemed that demonstrating a lot of behaviors such as giving information and disagreeing/attacking tends to reduce team member engagement, decrease satisfaction, and lower decision quality (2009, page 300). Another clear and sound observation of Perkins was that “expert leaders gave far less information during their meetings, yet their teams developed better solutions.” “Over time, it became clear that expert leaders asked more questions, especially questions intended to deepen and broaden team discussions” (2009, page 306). Which seem to support the findings of Kepner and Tregoe who wrote (1981, page 59) “Managers need not have all the right answers. What is required is the willingness to ask the right questions.”

Effects of coaching

Of all outcomes within the context of leadership coaching, the two most relevant ones are self-awareness and cognitive flexibility (Ely *et al*, 2010). After being in a coaching intervention the minimum outcome should be that a leader or participant gains some knowledge about himself or herself (i.e.: self-awareness). Self-awareness is one of the most frequently cited outcomes of leadership coaching (e.g. Schlosser *et al*, 2006; Ely *et al*, 2010; Tach, 2002; Kilburg, 1996; Joo, 2005). Nevertheless not only the leader him/herself should become aware of behavior that should be changed, and act accordingly, also the so-called internal collaborators (Wasylyshyn, 2003) must play a major role within and throughout the entire coaching process. HR professionals and direct bosses should also engage themselves in the coaching process by providing feedback on the progress being made (to both the coach and coachee) and championing the coaching program, therewith positively influencing the perception of other employees on the coaching program and, hopefully, changed behavior of the leader. Next to the championing towards other employees the leader undergoing the coaching should feel him/herself also supported by the HR professionals and its leaders. Positively championing the program spreads a positive atmosphere in the organization stimulating more openness to change attitudes.

It is not only the method of the coaching or the good fit which are important for the effects of coaching. Clearly (Wasylyshyn, 2003) frequency and face-to-face contact are essential parts of the coaching program to make it successful, “especially when sustained behavior change is the desired outcome” (page 102). Still the key factor for coaching interventions to be successful is the coachees openness to feedback and change (Bacon & Spear, 2003 in Joo 2005, page 478), also called their feedback orientation (Smither, London, and Reilly 2005). If the coachee is not willing to change or do anything with the feedback received, the organization is wasting money, while the coach is wasting his or her time.

Clearly, leaders who lack pro activity are not good coaching candidates, because no matter how much quality coaching they receive, they are unlikely to change (Bacon & Spear, 2003 in Joo 2005, page 478).

Another key factor in effectiveness of coaching, and therewith increasing personal leadership effectiveness is defined by a study of Goldsmith and Morgan (page 72) who concluded that “Increased effectiveness” is mainly due to one specific variable central to the achievement of positive long-term change: the participants’ ongoing interaction and follow-up with colleagues. Leaders who discussed their own improvement priorities with their co-workers, and then regularly followed up with these co-workers, showed striking improvement. In most of the coaching intervention situations the feedback of the organization on the coaching process is that it is very helpful that the coaching forces the leader to take time to reflect on aspects of his or her performance (Kilburg 1996, page 140). The value of leaders reflecting on their own behavior and effectiveness as well as the organizational effectiveness should not be underestimated. Obviously the process of leader coaching needs to be adjusted to any organization in detail, taking into account all the constraints, influences and organizational cultures to fit the organizational strategy and goals, nevertheless it appears that a package of 360° feedback; coaching; and follow-up with stakeholders is a winning combination (Tach 2002, page 213).

Methods of evaluating coaching

“With the increased prevalence of leadership coaching in organizations – and the substantial time and costs associated with formal leadership coaching – evaluation becomes imperative for both assessing the outcomes of the leadership development intervention and also for improving program development and implementation in order to empirically advance coaching practices” (Ely et. Al. 2010 page 585). When coaching is evaluated on the level of skill or behavioral change (as an outcome of coaching) coaches and organizations are most likely to use the multisource (360°) feedback reports. This entails direct feedback (by survey) to the coachee from his peers, supervisors and leaders. According to Hooijberg & Lane (2009) 360° feedback as well as the four evaluation levels of Kirkpatrick (1996) are a suitable evaluation tool for this kind of coaching evaluation, being: Reaction, learning, behavior and results. The first level concerns the participants’ reactions to, and opinions about, the intervention, and what they plan to do with the material are evaluated. The second level of the model captures what the participants in the coaching have learned from the process. These learning outcomes are noted (Ely *et al* 2010) to be multidimensional, which means it might result in changes in cognitive, affective, or skill capacities. The third level, behavior, is referring to the extent to which a training or coaching intervention can have influence on leadership related behaviors. The fourth level, off course, evaluates the final results of the intervention.

In coaching literature there are quite some outcome case studies known. Unfortunately most of these case studies are “purely descriptive, tending to emphasize practice-related issues rather than presenting rigorous evaluations of the coaching intervention” (Hodgkinson & Ford, 2010, page 134). Literature on coaching now is in an excessive need for empirical proof of the effectiveness of coaching, by the use of measurable variables and constructs.

Effectiveness of coaching interventions, does it really work?

Although research has been done on the outcomes of leadership coaching, empirical proof of effectiveness of coaching interventions is seldom. Many authors, such as Schlosser *et. al.* (2006), struggle with developing and finding a way of measuring the impact and/or effectiveness of coaching. Does coaching really add value to the organization, and to whom? Different stakeholders will have different perspectives on the kind of value that is created through leadership coaching. Not even to talk about the possible aspects of the organization which could be influenced by coaching. Schlosser *et. al.* (2006) describes 4 possible aspects which coaching could influence in changing results (Operating financial Results; Business Results; Strategic Results; Human Capital Development and Organizational Effectiveness Improvements, page 5). Within this study I focus on the possible effectiveness of coaching: does coaching indeed add value to the organization by changing the leaders' behaviors, making them more effective?

One of the significant outcomes of research done by Wasylyshyn (2003) is that leaders were "significantly positive, over 75%" on working with a coach (page 95). Which suggest that at least the participants feel the coaching intervention is adding value to their functioning. Hooijberg & Lane (2009) found strong empirical support for their proposition that "Executive education participants that will have identified specific goals to work on and demonstrate a high commitment to these goals, and will have changed their behavior and made improvements back in their businesses" (page 486). This suggests that it is very important for a coach to stimulate the coachee to work on and form specific and personal goals. Hooijberg & Lane (2009, page 490) found that "after multisource feedback coaching the participants in their study both intended to and were committed to change, in addition, when returning to their regular jobs after the executive development program, most of them persevered and changed" which of course is the final goal for starting the feedback and coaching sessions.

Although coaching nowadays is an accepted professional development tool within organizations. For the coaching to be effective (organizational wise) it still needs inside “sponsors”, such as the boss and HR professionals, to be explicit about what the coaching entails and on which factors it should bring value into the organization (Wasylyshyn, 2003). The program should not start before the top management is enthusiastic about it, especially the CEO. “Because coaching, by its nature, brings uncomfortable subjects to light, these programs need an active champion with the power (including staying power) to protect them” (Sherman & Freas, 2004, page 89). When top management and the CEO of an organization serve as role models and champions of the coaching program, the program will gain traction and credibility within the organization.

Furthermore, literature suggests to start with the end in mind, make clear intentions about how coaching will foster important goals, and design systems to support coaching and its intentions (Sherman & Freas 2004) to ensure a successful coaching intervention. Within the triangular relationship of coaching (Sherman & Freas 2004) the coach, the coachee, and the organization can all contribute to the failure of the coaching intervention. They are all equally important to the (potential) success of the coaching intervention.

In a research with about 86,000 mini-survey responses Goldsmith & Morgan (2004) gathered a huge data base which gave them the opportunity to explore the points of commonality and distinction among different leadership development efforts (page 73). The main and overall conclusion of analyzing all their data was the personal contact between the leader and his or her direct colleagues about the ongoing improvements, mattered, and mattered greatly. Leaders who followed up (their improvements and behaviors to work on) were viewed by their colleagues as far more effective than the leaders who did not. In the companies that measured the degree of follow-up, leaders who had “frequent” or “periodic/consistent” interaction with their direct colleagues were reliably seen as having improved their effectiveness far more than leaders who had “little” or “no” interaction

with co-workers (page 74). Goldsmith & Morgan (2004) also concluded that it seems that the method of coaching is less important, one type is not more effective than another. Even more important is the continual contact leaders have with colleagues during the coaching intervention regarding development issues. This contact is so effective it can succeed even without a large, formal program (page 79). Actually saying that being aware of behavior that needs to change, much improvement can be seen when awareness is made to the colleagues and then following up with them. Therefore an intervention by a formal program would not necessarily be needed.

The research of McGovern *et al* (2001) showed that 84% of the participants in their study identified the quality of the relationship between leader and coach as critical to the success of the coaching (page 4). De Vries (2005) also states that “the most important factor in making leadership coaching successful is the quality of the coach-client working alliance” (page 12).

The study of McGovern *et al* (2001) further produced strong evidence of the effectiveness of executive coaching. They also developed a 4 step action plan for implementing coaching as a leadership development tool (2001, page 9):

- 1 Select coaches with care: the relationship between participant and coach is of paramount importance. Participants and stakeholders are well advised to pay close attention to the matching of coaches to executives
- 2 Provide strong organizational support: we found evidence that organizational support, in particular that of the participant’s manager, was very important to the success of coaching
- 3 Measure and communicate the impact: Participating served to heighten the sensitivity to the multiple ways in which their skills and behavior had impact throughout the organization. This increased self-awareness can be highly motivating and energizing.

4 Make coaching more widely available: Our results indicate that for all participants, including women and ethnic minorities, leadership coaching was effective and provided significant return on investment (page 10).

In short, leadership coaching (as a part of increasing leadership effectiveness) can only be effective if a) the coachee is open for feedback and change, b) there is a lot of informal sharing of thoughts and feedback among leaders and colleagues, c) bosses and HR professionals champion the coaching interventions and fully support the coachees in the changing process, d) coaching is not used as a sort of assessment on performance, or any other way job performance measuring based and e) there is a good fit between the coach and coachee (no matter internal or external coach)

Tach's research data (2002) show results that illustrate a positive correlation between follow-up frequency and percentage increase of leadership effectiveness. This could lead to the conclusion that within a coaching program, leaders should always follow-up their goals and behaviors with direct peers and supervisors to receive additional feedback. In the same research Tach (2002) also cautiously states that "completing three to five coaching sessions appears to have a much more positive impact on self-reported percentage increases in leadership effectiveness than only one or two coaching sessions" (page 210). De Vries (2005) supports this vision: "a follow-up process was essential for successful change" (page 17). The study of Smither *et al* (2003) found a clear and understandable outcome of leaders who worked with coaches (compared to those who did not) that set more specific goals, were more likely to share their feedback and solicit ideas from supervisors, and had improved performance ratings (based on multisource feedback) (in Joo 2005, page 482). Basically, during coaching, nobody is learning anything they didn't already know. The difference is that by having a coaching intervention and confronted with their behaviors, they start to act on it. The result is the most profound, incredible change (Sherman & Freas, 2004).

In summary, typical and widely used leadership development interventions (such as training, assessment centers and books) present broad concepts directed at diverse audiences. “Coaching, on the other hand, can address a range of very individualized issues from understanding the need for and learning about new skills to application of those skills to a very specific work situation and organizational context” (Ely *et al*, 2010, page 587). With active coaching interventions the greatest challenge of all is being attacked. As stated by Goldsmith and Morgan (2004) “the greatest challenge is not understanding the practice of leadership: It is practicing their understanding of leadership” (page 75).

To be able to understand leadership and critically assess and evaluate it, coaching can be a great intervention. Unfortunately there still is a lack of empirical research done on the possible outcome and the effectiveness of coaching on effective leadership, therefore collecting (behavioral) data is important.

In the past years, the body of research on the topic of coaching is growing slowly. Levenson (2008) noted that, quite recent, more authors have begun measuring the impact of coaching on leadership (e.g. Kampa-Kokesch, 2001; Evers, Brouwers and Tomic, 2006; and Orenstein, 2006), but all in their own way.

Allen *et. al.* (2006) concluded that “although our results require replication prior to providing firm recommendations for formal mentoring programs, the results have potential practical implications” (page 576). This means research done so far on the topics of leadership development, and the use of coaches, does provide prosperous insights, but more data should be gathered to support these suggestions. Collecting this data is for the benefit of all stakeholders of the coaching process, while this data can show the profits for all parties involved. Organizations profit by receiving feedback on the effort made to put their leaders in leadership coaching, and thus see if the effort, time and money was well spend. Coaches can use the obtained data as feedback on the success of their coaching intervention and the coachees of course have clear data on the results of their efforts.

“Leadership coaching is by definition about improving leaders' performance. As such, the degree to which clients change their behaviors after being coached is one of the most important aspects of a summative coaching evaluation” (Ely Et. Al., 2010, page 590). Although anyone would agree on the importance (and benefits) of capturing behavioral change after a coaching intervention (and thus be able to conclude whether the intervention was successful) there are more authors (e.g. Ely *et al*, 2010, Joo, 2005) who recognize the difficulty of capturing behavioral change. The last proposition of this study, completely dedicated to the effect of coaching, therefore is:

5 | The identified leadership behaviors can be changed though one coaching session, directly leading to improvements or changes in the behavior of leaders, resulting in more effective leadership.

5 | Methodology

Return On Investment is often used as the most important indicator of success in organizational coaching (Hodgkinson & Ford, 2010). Although ROI can provide some indications of the impact of the coaching interventions, I agree with Hodgkinson & Ford (2010) that ROI as an impact measurement indicator has serious limitations. “Reducing the benefits of coaching to a single monetary figure may give a sense of comfort and some reassurance to the purchasers of coaching services, but does it truly measure the impact of coaching?” (page 143). I as well do not think so.

Therefore, in this study we aim at capturing behavioral change as a measure of coaching effectiveness and its final impact. This slightly unconventional way of measuring the impact of coaching I think might provide the organization and the leaders with a much more trustworthy and clear overview of the attained changes (within a leadership style) due to the coaching intervention. The impact of coaching in organizations goes well beyond investments, profit or examining ROI of coaching programs. “Coaching interventions affect a wide range of variables including workplace well-being, organizational performance, intrapersonal communication styles and organizational culture” (Hodgkinson & Ford, 2010, page 151). When the coaching intervention results in behavioral change of the leaders, it will impact the entire organization. When leaders become more effective, and work more effective that in itself will turn into a Return On Investment on the long run.

Prior research have shown that leaders are found most effective when they show a certain combination of behaviors (Wilderom & Van der Weide 2006; Van der Weide 2007; Wilderom *et al* 2010; Nijhuis 2009 *et al*; Hoogeboom 2011), see table one. I therefore use a mixed design of research methods in this study, both qualitative and quantitative, in order to capture values, behavior and behavioral change.

In this research four distinct types of data were collected: 1) Leader’s self-survey’s on their own perception of their behaviors, effectiveness, coachability and values;

2) Employee surveys on their perceptions of the leaders behaviors, leadership styles, and effectiveness of their leaders as well as their own work values; 3) Expert ratings of leadership effectiveness and 4) Video observations of staff meetings chaired by the leaders.

Sample

The sample of leaders in this research consists of three (one middle and two supervisory) managers in a commercial organization in the eastern part of The Netherlands, obtained by the personal network of one of the authors. After a personal conversation with the managing director, all three leaders agreed to participate in this study. Although one might argue that a sample size of only three leaders is very small and fragile, and therefore threatening the validity of the study and outcome, the units of analysis have shown a great deal of interest and motivation within this study. Due to the personal contacts response rates are high and there was full cooperation within the organization and leaders during the entire research period. The agreement was settled that all three leaders will receive a benchmark feedback report on their own behavior upon the end of the research, showing their own analyzed behavior compared to the overall behavior of all three leaders, and a comparison with another comparable (profit) organization.

The sample consists of three male leaders being on average 39.7 years old ($SD = 4.5$). And working averagely 7.2 years within the organization ($SD = 5.8$). These leaders were observed during their regular (weekly) staff meetings in their normal work setting, having an average of 13.3 employees ($SD = 8.1$). In total 20 employees filled out the employee-survey, handed out directly after the filmed meeting, assessing behaviors, values and personal perceptions of the leader's effectiveness. The employees had an average age of 37.2 years ($SD = 12.5$) and working 7.3 years within the organization ($SD = 6.2$). 13 Male and 6 female employees completed the survey. One employee did not specify his/her gender.

Survey data

Among both the leaders and their employees, surveys were handed out directly after the first video observation. They were asked to fill out these surveys immediately and hand them over to the present researcher, to be able to guarantee confidentiality and a high response rate. The questions in the survey were both identical for the leaders and their employees except that the questions asked in the leader survey are asked in first person (“I...”) and the questions asked in the employee survey are asked in third person (“My leader...”). The scales used were previously validated in earlier studies, and seven-point Likert scales ranging from 1 (*totally disagree*) to 7 (*totally agree*) were used throughout the questionnaire. For this study we focused mainly on three scales measured in the survey: a) transformational leadership, b) openness to change, c) openness to coaching. I do need to remark that openness to change and openness to coaching are strongly alike within this study.

Transformational leadership style. Bass & Avolio (1995) developed four standard dimensions within the Multi Leadership Questionnaire, the most used method in identifying the behaviors belonging to different styles of leadership (Antonakis et al., 2003), as a part of the higher-order construct: transformational leadership. From these four dimensions, the standard items/questions from the MLQ are used, to be able to measure the degree to where the leader is perceived having a transformational leadership style (both by his/her perception and the perception of the employees). The overall Cronbach’s Alpha rating on the Transformational leadership style of the leaders own perception is .77. This is measured by five dimensions within the questionnaire, the Cronbach’s Alpha’s of these dimensions are: Idealized influence behavior (5 items, $\alpha = .76$ after one item deleted); Idealized influence attitude (4 items, $\alpha = .73$); Individual consideration (4 items, $\alpha = .63$ after one item deleted); Inspirational motivation (4 items, $\alpha = .90$) and Intellectual stimulation (4 items, $\alpha = .92$ after one item deleted).

The overall Cronbach's Alpha rating of the Transformational leadership style of the perception of the employees is .88. The Cronbach's Alpha's of the same dimensions are calculated. In order to be able to compare the Cronbach's Alpha ratings, the same items, as deleted from the leader survey, are deleted from the employees survey calculation:

Idealized influence behavior (5 items, $\alpha = .57$ after same item deleted); Idealized influence attitude (3 items, $\alpha = .60$ Nothing deleted but this construct has one item less than in the leader survey); Individual consideration (4 items, $\alpha = .89$ after same item deleted); Inspirational motivation (4 items, $\alpha = .81$) and Intellectual stimulation (4 items, $\alpha = .44$ after same item deleted).

The overall and dimension Cronbach's Alpha reliability scores are found acceptable (.77 and .88), although some Cronbach's Alpha's that are within the dimensions were not above the required .70 to be found reliable. This is mainly due to the low statistical power when using a sample size of only three. Fortunately the overall score is high and all the scales of these items are derived from the MLQ, developed and validated by Bass and Avolio (1995), therefore we do present them here, and use them within the statistical analysis.

Openness to change. Coaching can, according to Ely *et al* (2010), address a wide range of issues such as learning new skills, applying these skills or even very specific work situation skills. The key to these issues for a coachee is that he/she must be open for this extra input and be open to change their current behavior into new behavior to be able to become more effective. Therefore also "Openness to change" is measured in the survey, as part of the personal values of the leaders (by the use of eighteen items from the Values Congruence Questionnaire from Brown & Treviño, 2009). The leaders were also directly asked how they would rate themselves on the item "openness to change" during the coaching intervention ("To which extent would you consider yourself open to change"), together with three other items of measuring the work values openness to change. The Cronbach's Alpha reliability rating on the scale of "openness to change" in the leaders own perception is .91 (5 items).

Openness to coaching. For this study three extra questions (see appendix 1), specifically developed for this research, were added to the already existing survey in order to measure openness to coaching from both the leaders and employee's perspective. Within the survey questions were asked about how leaders see themselves, and score their own openness to coaching as well as how they see the potential gain from coaching interventions on their personal development (For example: "What is your vision according to the added value of a personal coach and coaching interventions?"). The Cronbach's Alpha reliability ratings of this measure is .81.

Expert rating measures of leader effectiveness

For each leader being the subject of research, three expert raters were selected which were asked to fill out an expert rating on the leaders effectiveness. All nine ratings were returned to the researcher. All expert raters were selected on their capability of judging the effectiveness of the leaders, based on their knowledge and experience. Mostly the expert raters were higher level leaders (HRM, Managing Director, CEO, Executive Controller) and therefore highly knowledgeable about the effectiveness of the leaders.

The expert raters scored the leaders (independently) on effectiveness via a one-page score card, with a raking differing from 1 (highly ineffective) till 10 (Highly effective). The rating forms were sent back directly from the expert rater to the researcher, meaning the leaders did not see how they are were rated. After receiving the expert rating, the Intraclass Correlation Coefficient, ICC (Shrout & Fleiss, 1979), was calculated in order to determine the consistency of the ratings. The final intraclass correlation coefficient scores of the overall effectiveness were 0.90 (ICC1, $p < .01$) and 0.97 (ICC2, $p < .01$). This indicates that the agreement amongst the raters about leaders effectiveness is high (high correlation between the indicated effectiveness among the raters), as with consequence that it is allowed for the researcher to aggregate his/her data (Brown & Treviño, 2006)

Video data

Humans can differ greatly in what they say, compared to what they actually do. This also has been a point of discussion in a lot of management behavior studies (See for example Yukl 2002 or Van der Weide & Wilderom 2004). Although the use of video observations as a measurement tool of managerial behavior is already issued by several authors, for example by Yukl (2002), “direct and painstakingly precise registrations of the actual minute to minute behaviors of highly effective leaders have hardly been made” (van der Weide & Wilderom 2004, page 4). By the use of employee surveys the behaviors of the leader were measured through the perceptions of his employees, not the objective actual behaviors, as were demonstrated. Other ways of capturing, measuring and analyzing managerial behavior should be accomplished to be able to come to a subjective behavioral pattern.

Although not widely used yet, videotaping leaders and then analyzing the captured data sentence by sentence is getting more popular and is nowadays validated in this kind of research by several studies (See for example van der Weide & Wilderom 2004; van der Weide 2007; Nijhuis *et al* 2009; IJsseldijk & Mulders 2010; Hooigeboom 2011). Video images can (and do) display the true behaviors of the leader, potentially showing those gaps between what people say and what they actually do (Jordan & Henderson, 1995). Perceived behavior (measured through surveys) can only be measured over a longer period of time. Employees will, after some time, define for themselves a general picture of their manager and his/her behaviors. Due to the fact that we want to measure the potential and direct impact of coaching on leadership behavior, the use of video observations is a must. Video observations, when analyzed properly, give the possibility to compare frequencies and durations of a set list of behaviors in detail. This provides the possibility to see and calculate if behavior can be changed in short times by the use of coaching sessions.

All leaders will be videotaped during one of their (regular) weekly meetings, while they chair the meeting. Before the meeting, the video camera was installed on a tri-pod and positioned on a fixed spot in the meeting room. The researcher stayed present during the meeting for any questions or technical issues with the camera. At one point during the study a meeting agenda was changed, due to some very specific and sensitive issues which needed to be discussed, but were not allowed to be video-taped. Previous studies (e.g. IJsseldijk & Mulders 2010; Hoogeboom 2011) have concluded that the presence of a camera is quickly forgotten by the leaders. After several minutes the camera is forgotten by the leader, barely being of any influence on the expressed behavior during the meeting. Our own experience is that leaders tend to start the meeting with humor in the presence of the camera, making everybody in the room at ease with its presence.

To be completely sure of the effect the camera has on the meeting, an additional question was added to the survey asking the extent to which the leader showed different behavior during the meeting. All employees are asked to rate the video-taped meeting as representative to a normal not video-taped meeting by the same leader. On a Likert scale from 1 (not representative) till 7 (highly representative) the leaders in this study scored an average of 5.6 (SD = 0.8), which means a representative score, meaning the leaders showed their normal / regular behavior during the meeting, and did not show any different behavior due to the presence of the camera. This is in line with similar studies making use of video observations (Nijhuis *et al* 2009; Van Der Weide 2007)

In total all three leaders were video-taped two times, one pre- and one post-coaching observation. After the first video-taped meeting the leaders received a DVD of this meeting to be able to see and look at their own behavior in advance, before going to the coach for the coaching session. The coach also received a DVD and thus being able to prepare the session in advance.

In addition the coach also received a complete guide on what to discuss during the session, as well as a form to be filled out by both the coach and coachee on what (behaviors and values) they agreed the coachee would try to improve on, in the coming weeks. These forms were handed back to the researcher, after which the second meeting was planned for the post-coaching measurement.

In total 6 hours, 32 minutes and 53 second of video data was collected, divided over 2 meetings per leader, 6 meetings in total. To be able to code and analyze the obtained video data the computer program "The Observer" (Noldus, Trienes, Hendriksen, Jansen, & Jansen, 2000) was used. All 6 meetings were coded by two researchers who, independently, coded the behaviors using a sentence or (if possible/needed) words as flexible units of analysis. Both researchers at least had a bachelor degrees, and were both working on obtaining their masters degree in Business Administration. Both researchers received training using "The observer" and had to study the behavioral coding scheme containing the 12 mutually exclusive (Nijhuis *et al* 2009) behaviors. The coding scheme contains all information, examples and reasoning off how to recognize the different types of behaviors. All behaviors were coded both on frequency (the amount of behaviors demonstrated) and duration (the calculated time each behavior was expressed during the meeting).

When both researchers finished their coding a (inter-rater) reliability analysis (Cohen's Kappa Coefficient, Cohen, 1968) was done on the frequency, type and duration of all coded behaviors to establish the percentage of agreements (and therewith also disagreements) between the researchers. When there were disagreements, that specific behavior/part of the meeting was viewed again and thoroughly discussed, finally resulting in discussed recoding and an inter-reliability of at least 93%, and an average reliability of 94.5%.

Coaching session

In our view, effective coaching is coaching that creates the right behavioral changes that lead to improvement in the client's ability to impact bottom-line business results (Bacon 2003).

After the first filmed session all the data were analyzed while the leader and the coach receive the DVD of the filmed meeting. Herewith they are able to prepare the coaching session and already see the filmed meeting and make notes of events that they would like to discuss during the coaching session. To be able to guide the coaching session, and make sure that within all three sessions the same items were discussed, a coaching manual was developed. This tool was very use full for both the coach and coachee, as well as it made sure the coaching sessions would provide the same sort of outcome, in order to be able to compare the results afterwards

Of course behavioral change is the desired and wished outcome of the coaching intervention, therefore the variables that could be changed “within” the leaders needed to be reported so the analysis after the second observation could focus on the variables (behaviors) that hopefully were changed due to the coaching intervention. A clear outline within the coaching manual provides the coach and coachee two categories with both three variables for behavioral change. These categories with their corresponding behaviors are:

- A) Behaviors that are proved to result in more effective leadership when demonstrated *more*: Professional challenging, Visioning and Giving positive attention (See e.g. Wilderom & van der Weide 2006; Nijhuis *et al* 2009; Van der Elst & van Brummen 2011).
- B) Behaviors that proved to result in more effective leadership when demonstrated *less*: Verifying, Self-defending and Showing disinterest. (See e.g. Nijhuis 2011, Paper in progress; Hoogeboom 2011; Wilderom & van der Weide 2006).

During the coaching session the coach and coachee selected *one* behavior of *both* categories on which they intend to work on, for the days and weeks after the coaching session. Herewith assuming that leaders who improve certain leadership behaviors (either by applying them more or applying them less) will therefore become more effective in their overall (perceived) leadership style.

There is deliberately chosen to focus on one behavior of both categories at a time, in order to keep the coaching/changing process clear and feasible for the leaders. De Vries (2005) also remarks that using a limited set of goals will provide better results. "Trying to do too many things at the same time carried the strong risk that *nothing* would get done" (page 16). A second reason for only providing the coach and coachee to choose from two times three behaviors instead of all twelve is that not all behaviors can be influenced that easily. Davis & Luthans (1980) quote Mintzberg (1973) saying "managers are adaptive information manipulators in an environment of stimulus-response" (page 65). Leaders have to respond on events that happen around them all the time. They cannot choose on which event they will or will not respond, therefore not all behaviors can always be changed or controlled. Within this study we focus on the behaviors that are proven to result in more or less effective leadership and are changeable with an reasonable amount of effort.

To be able to verify that both the coach and coachee have the same behaviors in mind that are discussed to be a topic of change for the coachee, they both filled out the questionnaire form of the coaching manual independently, at the end of the coaching session. This ensures that both the coach and coachee agree on the made agreements of the behavior that will be the topic of change for the coachee, giving the researcher the evidence of the discussed and agreed upon behavioral change. Collecting this data in the coaching manual is for purposes of the research only, due to the fact that the researchers need to know which behaviors are agreed upon, while they are not present at the coaching session.

Second video observation

The second meeting to be filmed is planned within four weeks after the coaching session, again during a regular weekly meeting. This meeting is also chaired by the same leader, who now has had the intervention of the coaching session. This meeting was also filmed and analyzed on the behaviors of the leader. At the end of this meeting, all participants of the meeting received a mini survey asking them three questions about the change of behavior of the leader. Herewith we gather data of the perceived changes of the leader. Direct colleagues will be able to notice and see difference in behavior during the daily operations of their leader; therefore they are asked if they noted any changes in behavior in general.

6 | Results

The results of this study seem to indicate that leadership behaviors identified and measured by means of video observation, can be influenced and/or changed by the use of a coaching intervention. Especially when one makes use of multiple sources of feedback such as feedback of the coach, the filmed meeting (video) and direct employees/colleagues.

As one can see in table 1 especially the behaviors Informing, Active listening and Visioning are behaviors that are displayed in order to be found effective, in this study we use the outcome of other studies to determine that Giving positive attention, Visioning and Professional challenging are behaviors that need to be demonstrated more in order to become more effective, and the behaviors Verifying, Defending one's own position and disinterest are behaviors that need to be demonstrated less in order to be more effective (Van der Elst & van Brummen 2011 and Nijhuis 2011, Paper in progress). The demonstrated mix of applying certain behaviors as shown in table 1 can be assumed to be a mix of behaviors which can result in perceptions of higher effectiveness.

For the statistical outcome of this study (nonparametric), statistical tests were used in the form of Multiple Wilcoxon Signed Rank-Sum test and Cohen's (1992) effect size calculations. The Multiple Wilcoxon Signed Rank-sum test revealed no statistically significant improvements in all of the 12 leadership behaviors measured, most likely due to the small sample size and only having a single coaching intervention.

Surprisingly the results of the effect (r) sizes (Cohen 1992) do show large effects, ranging from .50 to .78. These results are shown in table 2. By the use of the effect size r , a t-test was performed ($Df=1$, $P > 0.05$) resulting in no significant outcome. Conducting the Multiple and Multiple Partial correlation test (Cohen 1992) didn't reveal any other outcome. For the calculation of the effect sizes and correlations, Z-scores are used.

All frequencies of the demonstrated behaviors were converted into Z-scores. Z-scores are a “tool” to convert measurements into equal “size”. All three leaders demonstrated different amounts of behaviors, all in different time spans (none of the filmed meetings was equal in time). By converting the frequencies of the behaviors into Z-scores, all frequencies of the leaders are equal in values, ruling out the inconstancy of the time span in which the behaviors were demonstrated (normalized counts). This provides the possibility to truly compare both measurements (pre and post coaching measurements) without having to worry about the fact that none of the recorded meetings was the same time in length.

Table 2: Average outcomes in percentages of observed behaviors (in frequencies) of the three leaders before and after the coaching intervention.

| <i>Behaviors (Shown in % frequencies)</i> | PRE Coaching | | POST Coaching | | Effect size (r) | Required sample size for significance |
|---|--------------|-------|---------------|-------|--------------------|---|
| | M | SD | M | SD | | |
| Delegating / Directing | 2.15% | 0.69% | 2.13% | 1.10% | -.22 | 785 |
| Delegating / Correcting | 1.68% | 0.95% | 1.13% | 0.62% | -.25 | 612 |
| Defending one’s own position | 0.45% | 0.35% | 0.28% | 0.27% | -.53 | 102 |
| Informing | 8.31% | 0.43% | 10.60% | 3.63% | -.68 | 48 |
| Active listening | 37.57% | 0.51% | 39.58% | 0.79% | .72 | 38 |
| Providing negative feedback | 0% | 0% | 0% | 0% | 0 | - |
| Showing disinterest | 0.04% | 0.07% | 0.27% | 0.47% | .71 | 42 |
| Structuring the conversation | 9.23% | 0.67% | 9.37% | 1.42% | .25 | 595 |
| Giving positive attention | 13.33% | 2.13% | 10.19% | 0.21% | .67 | 51 |
| Professional challenging | 3.86% | 0.84% | 4.32% | 0.56% | -.73 | 36 |
| Visioning | 14.45% | 1.24% | 13.56% | 2.20% | .76 | 32 |
| Verifying | 8.84% | 2.98% | 8.51% | 3.09% | .40 | 212 |

Support is found for proposition one (Transformational leadership (assessed by the leaders themselves and by their employees) is positively related to openness to change (assessed by the leaders themselves and by their employees). The results indicate that there is a strong correlation (.94) between being open to change and having a more transformational type of leadership style, as can be seen in table 3.

Table 3: Correlation scores

| Variables | M | SD | 1 | 2 | 3 | 4 |
|---|------|------|-----|-----|-----|---|
| 1) Openness to change score (Leaders own perception) | 4.73 | 1.47 | - | | | |
| 2) Transformational Leadership Style (Leaders own perception) | 5.36 | 0.46 | .94 | - | | |
| 3) Openness to change score (Employees perception) | 4.90 | 0.52 | .67 | .88 | - | |
| 4) Transformational Leadership Style (Employees perception) | 4.43 | 0.19 | .97 | .99 | .82 | - |

Table 3: Correlation table openness to change and transformational leadership (n=3)¹

* Correlation is significant on level 0.05 (two-tailed). ** Correlation is significant on level 0.01 (two-tailed).

¹ Mean (M) and Standard deviation (SD) are based on the seven-point Likert scales used in the survey, ranging from 1 (totally disagree) to 7 (totally agree).

The relations between the variables in table 3 are not found to be significant, nevertheless the correlations can be considered strong. The outcome shows a variation ranging from .67 till .99 when both variables are compared on both the perceptions of the leaders themselves, as well as the perceptions of the employees on their leaders. The outcome indicate that a transformational leadership style (assessed by the leaders themselves and by their employees) strongly correlates with the scores of openness to change (assessed by the leaders themselves and by their employees). This means that a leader with a transformational leadership style scores higher on openness to change, therefore confirming proposition two.

The second proposition (“Leaders who score themselves higher on “openness to change ” show more positive changes in behaviors (after the coaching session) compared to their colleagues who score themselves lower.”) is tested by the use of the Mann-Whitney Test (Rank Sum). All three leaders showed different behaviors during the second meeting when looking at the behaviors that are proved to result in more effective leadership when applied *more*: Professional challenging, visioning and Giving positive attention (See e.g. Wilderom & van der Weide 2006; Nijhuis *et al* 2009; Van der Elst & van Brummen 2011).

During the coaching intervention the leaders were told about the effect of these behaviors when applied more. In order to test if the leaders who scored themselves higher on openness to change, indeed scored better results (= increasing frequencies on Professional challenging, visioning and Giving positive attention) than their colleagues, the gain z-scores of the behaviors were compared in rank (by the Mann-Whitney Test).

A gain Z-score is the difference in frequency between the first and the second meeting, on a particular behavior. I compared the leaders who scored themselves differently on openness to change (one higher than the other, leader one with two and three and two with three), but none of the results showed a significant outcome (Exact, one-tailed, significance test outcomes: .35, .40 and .50, see table 4). This means proposition two cannot be supported. Leaders who score themselves higher on openness to change do not significantly score more positive results compared to a colleague scoring themselves lower on openness to change.

A striking remark is that, when looking to the gain Z-scores, the opposite of the stated proposition can even be remarked within the subjects of this study. As can be seen in table 4 below, leaders two and three (who both scored themselves lower on openness to change than leader one) both scored more positive increases in the compared behaviors. Leader one scored on all three behaviors less frequency counts in the second meeting compared to the first meeting.

Table 4: Gain Z-Scores comparison on the subjects of research.

| Leaders: | 1 | 2 | 3 |
|-------------------------------|----------|----------|----------|
| Own Openness to change rating | 6 | 5 | 4 |
| <i>Gain Z-scores</i> | | | |
| Giving positive attention | -0,14 | -0,50 | -0,26 |
| Professional challenging | -0,05 | 0,17 | 0,06 |
| Visioning | -0,18 | 0,05 | -0,18 |

To be able to answer proposition three (“Due to the coaching session there will be a significant decrease in demonstrating the behaviors: Verifying, Self-defending or Showing disinterest”) and four (“Due to the coaching session there will be a significant increase in demonstrating the behaviors: Professional challenging, Visioning or Giving positive attention”), a more detailed look on the individual behaviors and level of the coaching is necessary. During the coaching session all leaders discussed one behavior with their coach which they will try to apply more, and they discussed one behavior which they discussed to apply less. Overall the behaviors established to make a leader more effective should increase and the behaviors established to make a leader less effective should decrease due to the coaching session. After comparing both the pre- and post coaching measures of the individual behaviors, the results are as follows. The percentages shown are the observed percentages of the leaders showing that particular behavior during the meeting.

Table 5: Behaviors the leader agreed on with the coach to apply more.

| | Behavior to increase | Pre measurement | Post measurement | Video-analyzed Results |
|----------|---------------------------|-----------------|------------------|------------------------|
| Leader 1 | Visioning | 15.37% | 13.62% | Decrease |
| Leader 2 | Visioning | 14.93% | 15.73% | Increase |
| Leader 3 | Giving positive attention | 12.59% | 9.96% | Decrease |

As one can see only one leader was able to increase the behavior he had discussed with the coach to demonstrate more. Both other leaders were not able to increase the discussed behavior in the very first meeting after the coaching session. The behaviors which the leaders intended to demonstrate less, to become more effective show a comparable pattern (see table 6).

Table 6: Behaviors the leader agreed on with the coach to apply less.

| | Behavior to decrease | Pre measurement | Post measurement | Video-analyzed Results |
|----------|----------------------|-----------------|------------------|------------------------|
| Leader 1 | Self-Defending | 0.35% | 0.54% | Increase |
| Leader 2 | Showing disinterest | 0% | 0% | No difference |
| Leader 3 | Showing disinterest | 0.13% | 0% | Decrease |

Also in applying an agreed behavior less, only one leader was able to succeed. On an individual level the results show only a moderate outcome. As one can see in general there seems to be a very small intention of changed demonstrated behaviors, while there are some minimal changes. This (minimal changed) outcome demonstrates that more measuring moments are needed (to create a more stable “average” of the demonstrated behaviors, while more coaching interventions could cause a bigger “standard deviation” from the “average” on certain behaviors once worked on changing them.

When looking to the entire group the outcome can be more generalized. There should be a decrease in the behaviors: Verifying, Self-defending and Showing disinterest, and an increase in the behaviors: Professional challenging, Visioning or Giving positive attention in order to find support for propositions three and four. The results of the change in effective and in-effective demonstrated behaviors can be seen in table 7.

Table 7: *Change in effective and in-effective behaviors demonstrated by the three leaders.*

| <i>Behaviors</i> | PRE Coaching | | POST Coaching | | Wished outcomes | Outcome |
|------------------------------|--------------|-------|---------------|-------|-----------------|----------|
| | M | SD | M | SD | | |
| Defending one’s own position | 0,45% | 0,35% | 0,28% | 0,27% | Decrease | Decrease |
| Showing disinterest | 0,04% | 0,07% | 0,27% | 0,47% | Decrease | Increase |
| Verifying | 8,84% | 2,98% | 8,51% | 3,09% | Decrease | Decrease |
| Giving positive attention | 13,33% | 2,13% | 10,19% | 0,21% | Increase | Decrease |
| Professional challenging | 3,86% | 0,84% | 4,32% | 0,56% | Increase | Increase |
| Visioning | 14,45% | 1,24% | 13,56% | 2,20% | Increase | Decrease |

As one can see, the general scores show two behaviors that indeed did decrease, and one behavior that indeed did increase as was intended. Proposition four and five therefore can only be partially supported by the outcome of this study, although there is a very strong possibility more continuing coaching sessions (even with a small sample size) will lead to better results. To be able to generate a significant outcome a larger sample with multiple coaching sessions is required, in order to safely support the propositions.

In order to provide valuable grip for future research the formula for the T-value was converted in to the calculation of n (sample size). The T-Value is the outcome of the *t*-test, otherwise called the Students T-test, first introduced by William Sealy Gosset (1908). This statistical hypothesis test is applied when the distribution follows a normal distribution (Student's *t* distribution). When the distribution seems to follow the normal path, the hypothesis can be accepted. By transforming this formula one is able to calculate the needed sample size dimension for that variable to be found significant at that certain t-level / Pearson's *r* correlation level. As one can see, in table 2, the needed sample sizes range from 32 till 785 subjects of research. This doesn't mean the sample has to be at least 785 subjects of research to be able to find all significant improvement. Increasing the sample size from 3 to 20 (for example) will most likely lead to an increase in effect size, thus an increase in *t*-value (resulting in significant outcomes). Therefore future research should contain a sample size big enough to supply at least the needed (stated by the concerning researcher) amount of significant outcome, 785 subjects of research will probably not be necessary.

The last proposition (five) states that "the identified leadership behaviors can be changed though one coaching session, directly leading to improvements or changes in behavior of leaders, resulting in more effective leadership". All above mentioned results on the other propositions show a mixed result, therefore not supporting nor rejecting this last proposition. A more detailed analysis of the data did reveal some interesting results concerning this last proposition. The data did show that after the coaching intervention the leaders tend to show a different, calmer, behavioral pattern, being more aware of their behaviors and influences of them during the meeting. One leader in particular showed significantly less behavioral "counts" (the amounts of a certain behavior shown) during his second meeting (548 observed behaviors), compared to his first meeting (782 observed behaviors). Even when all meetings were standardized on the shortest length of time, this particular leader showed 350 behavioral counts in his first meeting, compared to only 292 behavioral counts in the second meeting.

It's remarkable that this leader did not only tend to express less different behaviors, he also increased the time he spend expressing his behaviors. In short, the leader took more time to be more explicit in less demonstrated behaviors, instead of short interruptions all the time. This supports the suggestion that coaching first of all leads to self-awareness of their own behavior.

Although there are some positive results, no significant outcome was found on any of the performed tests. This can merely be devoted to the very small sample size of only three leaders as subject of this research. Some propositions find strong support, others a more moderate support. In general one can say that the results of the effects of coaching (after one session) are noticeable, but are more to be found in the direction of self-awareness and eagerness to learn and improve by the participating leaders, more than true significant difference in behavior. Therefore we can conclude that there are insufficient statistical results to be able to support proposition five.

7 | Conclusions

The literature used to support and ground this study provided a clear picture on coaching. Meanwhile it provided some very good conclusions and recommendations for coaching intervention. The results from the literature review are therefore also used in the main conclusions of this research, especially due to the fact that the conducted empirical study of this research is of a very small scale.

About coaching, a lot is written about the relationship between the coach and coachee for the coaching to be successful. McGovern *et al* (2001) showed that eighty-four percent of the participants in their study identified the quality of the relationship between leader and coach as critical to the success of the coaching (page 4). Numerous authors have written about this “fit” (Hall *et al*, 1999) between the coach and coachee. But not only is a good fit important, also trust, confidentiality and coach availability are key ingredients in a strong and effective coaching alliance (Wasylyshyn, 2003).

Wasylyshyn (2003) also concluded that frequency and face-to-face contact are essential parts of the coaching program, in line with that Goldsmith and Morgan (2004) concluded that not so much of the coaching method is important but the continual contact between the coachee and the coach. Even more important is the contact between leaders/coachees and their colleagues during the coaching intervention period regarding development issues (receiving feedback and discussing possible improvements). This contact is so effective it can succeed even without a formal program. Participants who followed up were viewed by their colleagues as far more effective than the leaders who did not (Goldsmith and Morgan 2004, page 79). The study and data of Tach (2002) shows similar results, illustrating a positive correlation between follow-up frequency and percent increase of leadership effectiveness.

Within this study no attention was paid to this remarkable finding, therefore the results might have been less expressive as been hoped.

For any future research this issue should be addressed for sure, pressing the importance of evaluating and discussing the development of the leader with colleagues during the period of receiving the coaching intervention.

When the coaching interventions take place it is very important to realize that coaches need to keep the list of development actions as narrow as possible (Tach 2002). Coaches should stimulate the coachee to form specific personal goals. Therefore we only focused on two behaviors to be changed by the leaders of this study, to keep the angle of the research narrow. Further literature suggests to start with the end in mind, make clear intentions about how coaching will foster important goals, and design systems to support coaching and its intentions (Sherman & Freas 2004), which is in line with the coaching manual made for this study. This manual clearly presents the steps to take and agreements to make in order to achieve the best possible results, and being able to trace and analyze them.

The success of the coaching interventions is not only relying on the coach and coachee, the organization itself is evenly important. Although there was full devotion and participation during this study, for coaching to be successful the organization always needs inside “sponsors”. Inside sponsors can be the a CEO or HR professionals (Wasylyshyn, 2003). The coaching program should not start before the top management is enthusiastic about it. Especially the CEO, “Because coaching, by its nature, brings uncomfortable subjects to light, these programs need an active champion with the power (including staying power) to protect them” (Sherman & Freas 2004, page 89). Happily this research had all needed executives on board, and experienced no resistance in any way.

Concluding about the duration of coaching, Hernez-Broome’s (2002) research showed that “even a minimal coaching program (one phone conversation a month for a period of 3 months) offers significant benefits in reinforcing the developmental experience and producing on-the-job behavioral

changes". While Tach (2002) cautiously concluded that "completing three to five coaching sessions appears to have a much more positive impact on self-reported percentage increases in leadership effectiveness than only one or two coaching sessions" (page 210). When comparing these suggestions to the conducted research one could conclude that only one coaching intervention session seems to not be enough to gain positive results and/or changes.

Concluding from the literature there are several aspects of coaching which are all important in order for coaching interventions to be successful. After reading all this literature and being active in conducting field research on this topic I have gained important insights in the process of effective coaching which, in my eyes, can be generalized over all coaching interventions. In order to be able to fully achieve personal and behavioral change it seems that the combination of 360° feedback surveys, coaching sessions and follow-up with stakeholders is a winning combination (Tach 2002).

I personally think that anyone involving in the process of coaching interventions should take the following aspects into account. Coaching is a very delicate development tool so one should be very carefully prepare the coaching interventions in order to secure the potential outcome. In general, when planning an coaching intervention, one should make sure:

- There is a relationship of trust and confidentiality between the coach and coachee.
- There is a lot of informal sharing of thoughts and feedback among leaders and colleagues.
- Bosses and HR professionals champion the coaching interventions and fully support the coachees in the changing process.
- Coaching is not used as a sort of assessment on performance, or any other way job performance measuring is based.
- There is a good fit between the coach and coachee (no matter if it is an internal or external coach).
- There are at least 3 till 5 face-to-face coaching sessions, although coaching sessions by phone can also be effective.

Statistical conclusions

Support was found for proposition one, which means that “the Transformational leadership style (assessed by the leaders themselves and by their employees) is positively related to openness to change (assessed by the leaders themselves and by their employees)”. Herewith saying that when a leader scores high on transformational leadership, he/she will be more likely to be open for change than colleagues that score lower on transformational leadership. This outcome is in line with the expectations. When having a closer look on the constructs of transformational leadership, one can conclude him/herself that leaders who have more transformational leadership skills will be more open for change due to their personal set of values and skills. I personally believe this outcome can be more or less generalized to all leaders having a transformational leadership style. Although results may vary per person I believe the outcomes will be the same if a larger sample size will be used, therewith even significantly proving the same hypothesis.

Unfortunately the results of this study do not support proposition two. Within this study there was no significant increase in positive demonstrated behaviors when a leader scored themselves higher on openness to change compared to his colleague. Although this study was not able to statistically support proposition two, literature does suggest that leaders who see themselves more open to change (and therefore are open to feedback and attitude change) will be more eager to adjust their behavior into a more effective behavioral pattern. When more (similar) empirical research will be done on this topic, studying the same propositions on a longer period of time (longitudinal study) or with a larger sample size, the outcome will be most likely positive significant.

Proposition three and four are not supported by the outcome of the statistical analysis of this study. No significant decrease was to be found on the percentage of the applied behaviors Verifying, Self-defending or Showing disinterest, as well as there was no significant increase found on the percentage of the demonstrated behaviors Professional challenging, Visioning or Giving positive attention after the coaching session. Although the results do show some changes in behavior, none of the changes was found significant.

When combining the results from literature with the results from the conducted field study, we can conclude that proposition five (The identified leadership behaviors can be changed though one coaching session, directly leading to improvements or changes in behavior of leaders, resulting in more effective leadership) is partially true. One coaching session has shown to have direct impact on the behaviors of leaders, although not significantly. The statistical results (table 2) show at least a (average) positive increase in professional challenging and informing, and a (average) positive decrease of verifying and defending one's own position, although these changes were not found significant.

More results can be found mainly on the part of self-awareness and seeking feedback with peers and colleagues. Unfortunately there was no *significant* statistical outcome for the measured behaviors of these leaders during the two meetings within the coaching intervention. We suggest more coaching sessions (in line with the findings of Hernez-Broome, 2002 and Tach, 2002) should be applied to have a greater and long lasting impact on the behaviors of the coachee in order to become more effective.

The main research question (What is the measurable effect of coaching on the behaviors demonstrated by leaders during weekly staff meetings?) can be best answered by combining the results from literature with the results from the conducted field study. We can conclude that one coaching session has a moderate effect on the demonstrated leadership behaviors,

leading to improvements or changes in behavior of leaders and therewith resulting in more effective leadership. Already after one coaching session, results of the effects of coaching are noticeable in the meetings, although these results were not reflected yet in significantly changed behaviors. After the coaching intervention there was a heightened sense of self-awareness. The real measurable effect therefore was not so much the small (not significant) changes in the proposed behaviors, but in the heightened sense of self-awareness. The process of change always needs to start with a sense of self-awareness. One should be aware of the fact that his/her current state of being might need some changes in order to become more effective. Although this study didn't reveal any significant proposition outcome, there are results!

All above mentioned conclusions need to be taken very seriously when planning on using coaching as an intervention tool for professional development of leaders. Literature shows very important aspects of coaching such as the fit between the coach and coachee and the level of trust needed for coaching to be successful. This study has added an empirical way of measuring the impact of coaching by leadership behaviors, and the final conclusion that leadership coaching can be effective, even after only one session but more sessions are recommended for a greater impact and sustainability of change.

Nevertheless, above and beyond all the key factors for coaching interventions to be successful are the *coachees openness to feedback and openness to change* (Bacon 2003). Without these factors present, all money, time and effort is lost in trying to change this person. Coaching is, in my opinion, one of the best professional development tools. In the end it all starts with the leader which needs to be changed or corrected in certain behaviors. When open for these changes they will have effect, when the leader is resistant to change, organizations might better search for alternatives.

8 | Practical implications

When looking to the organization in which this study is conducted, one can see the potential achievements when using personal coaching. Currently the leaders who are the subject of research didn't had any other personal coaching or mentoring on their professional behavior within the company before. The leaders within the company do have possibilities of using a personal coach, but coaching is not available for everybody in the company.

Due to eagerness to learn and develop professionally, all three leader participated within this study without a hassle. This shows a certain dedication to professional development and their determination and commitment to the company in order to become more effective for and within the company. This study does show some minor results on the propositions, but changes could be noticed spot on when talking to the leaders. The enthusiasm and dedication should certainly be used by the organization to further develop a mentoring or coaching program. Results can be seen and noticed when doing research, so I dare to assume that bigger and more tangible results will show when the coaching program is continued.

This study will provide the organization with some good insight in the possible gains that can be earned from using personal coaches. Therefore I would suggest to the organization to continue the coaching programs and taking the following items into account.

- Make use of the full potential of coaching! Use tools such as 360° feedback surveys, coaching sessions and follow-up session to take advantage of its possibilities.
- My advice would be to make use of an external coach to begin with. Especially do to the fact that, as far as I know, there are no certified coaches working in the organization currently. After a while the external coach might be able to start training leaders to be internal coaches, and involve more people into the coaching program.

- Involve the “entire” organization in the program. Make use of the valuable opinions of colleagues and executives about the leaders who participated in the program.
- Do not use coaching as a sort of assessment on performance. It should be fully focused on personal development.
- Make sure the coaching program becomes a solid part of the “daily routine”. Plan sessions at least every month to keep the development “alive”. Coaching sessions by phone can be evenly effective as meeting face to face.
- Do not intend to change too much at the same time, work on 1 or 2 “items” at a time, in order to be able to focus fully on them.
- Make sure that executives and direct leaders of the coachees always protect them, and are championing the program and participants.

A last and final recommendation of course would be to continue the measuring and researching on the personal development of the leaders as it is right now: by the use of dedicated Bachelor/Master students of the University of Twente. Continuing research will after a while show the results in the long run. The more data that’s gathered and the longer the program will run the more noticeable and tangible the results will be.

9 | Discussion & Limitations

As the study of Perkins (2009), this study advances the literature already present on executive and/or leadership coaching. This study demonstrates that this very popular leadership development tool can be very useful and can be optimized if paired with measurable behavioral (performance) output (measured by perceived leadership effectiveness behaviors). By making use of the developed leadership behaviors scheme (Wilderom & van der Weide 2006), I was able to capture the demonstrated behaviors of the leaders at work in their natural setting, and code the captured behaviors accordingly. The use of the video-method of data collection looks to be very useful and promising in the fields of behavioral (leadership) studies.

In order for the reader to see the results of this study in the right perspectives, and concluding whether or not results can be generalized, I feel obliged to mention that this is a pilot study researching the effectiveness leadership coaching by measuring the effects of a coaching intervention. As far as I have concluded at the startup of this study, no other research has been done yet on this topic, in this particular way. Due to the exploratory nature of this study I have made use of propositions instead of hypotheses. This study therefore needs to be seen as an exploratory research study to inspire future, more rigorous, research. One should therefore be very cautious in generalizing the (statistical) outcomes of this study.

A point of discussion within this study could be the chosen setting for the video observation moments. This study is focused on measuring the behaviors of effective leaders by filming them in a natural setting, and therefore showing their natural behavior. Due to the fact that in this particular situation it was not possible to film the leaders for an entire day, it was therefore decided to film them during staff meetings.

The advantage of filming them during a staff meeting is that the leaders are in their natural environment and with their regular staff. Besides that, a meeting is normally quite static which means the camera can be positioned in one position and can remain there for the entire meeting.

A well present limitation of this study is the small sample size ($n=3$). Although well aware of the low statistical power at the beginning of the study, the exploratory nature of this research offered a large array of possibilities within this topic, even with a small sample size. Not only the size but also the selected leaders themselves form a limitation. The group of leaders as the subject of research are all (White, Dutch) male middle or first line managers, working in a profit organization, with an average age of 39.7 years. This means that any conclusions drawn from this research can only be extrapolated to other leaders who are in the same category as the leaders in this study. One should be reasonable cautious when applying the results of this study to other samples/populations such as other types of management, private versus profit organizations, female instead of male leaders or other countries/cultures.

A second limitation to this study; is the limited time span for the involving of coaching sessions and subsequent measurement methods during the weekly meetings. Due to the limited time on hand, only one pre and post measurement on all three leaders was conducted. In other words, I was able to assess their behavior before and after one coaching session. Of course more coaching sessions and measurement points are needed to be able to see the ongoing progress of these leaders when continuing to receive coaching interventions.

A third limitation to this study is the limited availability of earlier research on this topic. A lot of research has been conducted on leadership, leadership development tools and coaching, but there are barely any studies on leadership behaviors and the influence and effect of coaching on the displayed behaviors. The study of Perkins (2009) is one of the few found studies providing a little

guidance on this topic. Perkins (2009) also conducted behavioral research but then by counting the behaviors directly during the meeting. This study used the technology of video-camera's to be able to capture and code the different behavior demonstrated by the leaders. The use of this technology could also be a good addition to the study of Perkins, therewith providing the possibility to have a second researcher coding the behaviors as well to have a certain inter-reliability score.

Another limitation when doing research on coaching is of ethical nature. Within this study all participant were very eager to learn and dedicated to participating. Nevertheless, in future research, especially when working with a larger sample, not all participants might be so committed. De Vries (2005) also mentions this limitation: "Sometimes clients participate in leadership coaching not because they believe in its value but because senior people in the organization have recommended it for career advancement. Declining such a "gift" isn't an option for anyone who wants to be promoted within the organization" (page 31). Especially when doing research on the topic of coaching, one should be very aware of this potential bias. If possible, make sure all participants are fully dedicated to participating in the study.

Another limitation of this study is the fact that there was no control group. There were no subjects of research not receiving a coaching intervention, and be measured two times to see changes in displayed behaviors. Due to the exploratory nature of this research, the effects of not having a control group will be marginal. Nevertheless it is very important for future research to be aware of the potential learning in absence of a coach. "In the absence of coaching, learning and behavioral change are likely to take place, albeit at potentially slower rates than in the presence of coaching. Thus studies that exclude a comparison group run the risk of over-attributing measured changes exclusively to coaching" (Levenson, 2008, page 7).

The last but certainly not least important limitation of this study is the issue biased research outcome. Podsakoff, MacKenzie, Lee, and Podsakoff (2003) warn for the common method variance: The “variance that is *attributable to the measurement method* rather than to *the constructs* the measures represent” (Podsakoff, 2003, page 879). In other words, the method of collecting the data creates a possibility to bias the results of the study. Within the data collection method of this study there are several points on which this discrepancy could influence the results of the study.

Within the study the researcher, conducting the research, was personally involved in coding the observed behaviors, developing the coaching program and system, digitalizing data and analyzing results. On all points, the personal theory and mindset of the researcher might influence the final results and findings.

Next to that a potential discrepancy is the survey the leaders and their employees had to fill out. They might keep in mind that the survey could be used for evaluating purposes. In addition to that, the employees might also be biased in filling out the survey on their manager by having the idea that it is an evaluation tool. Also the expert rater’s perceptions of effective leadership are subjective, rather than measured objectively.

Although the entire survey is validated by the use of validated questions, for example of the MLQ the impact and results of potential discrepancy will be very low. Of course the possibility of biased research results can not entirely be excluded from this research because a lot of different people are involved, all giving their personal perception of effectiveness and their leader.

Within the data collection method of this study a video camera was used to film the leaders during their staff meeting(s), after which their behavior was coded. Criticism is at hand about this type of research while the presence of the camera could potentially have influenced the behavior of the leaders being filmed. Continuously noticing the camera and therefore realizing that they are being filmed could influence their behavior, and therewith influence the end results of the study.

In order to avoid this biased research results several remedies are used:

- 1) First of all the video observations are done during regular staff meetings, which take place every week and which the leaders have chaired many times before. This makes them feel comfortable in their own known environment, showing their normal behavior, so the displayed behaviors could be indicated as representative.
- 2) Second of all the leaders are not told about the behaviors which the researchers are paying attention on, therefore they do not know which behavior they should show more or less if they would want to influence the results of the study.
- 3) Third is the first question on the survey the employees are filling out at the end of the first meeting. The question: "How representative did you think the leaders' behaviors were compared to all other attended meetings of this leader" is scored by employees anywhere between 1 (not representative at all) and 7 (very representative). The leaders in this study scored an average of 5.6 (SD = 0.8) on this scale, indicating that their behavior can be considered fairly representative for the other similar meetings they typically chair.

Previously done research with this same kind of video observations show an average score of 6 or 6.5 on the scale of 1 to 7 (e.g. Nijhuis *et al* 2009; IJsseldijk & Mulders 2010; van der Elst & van Brummen 2011). Comparing the results of this study with the results from these previous studies, one can conclude that the leaders in this study, generally, do not seem to show different behavior than they normally do without a camera.

10 | Future research

Not much research is done on the effects and impacts of coaching on leadership, especially not in an empirical way. Therefore I want to press the issue that more research needs to be done in this area.

This research is a pilot study on the effects of coaching on effective leadership, showing true potential on the method of measuring the effects of coaching on the behaviors of leaders.

Unfortunately due to several constraints this study was not able to significantly show the effects and prove its concepts. More (longitudinal) research needs to be done with several measurement points and coaching interventions, and a larger sample size. Hodgkinson & Ford (2010) already mention that there are very few longitudinal studies on coaching, but the studies that are conducted indicate that coaching can produce sustained change (page 139).

Next to extending the current research, future research can also contribute to the insights of cross cultural comparisons (Perkins 2009). This study was focused on Dutch leaders of a profit organization. More research could be done in profit and non-profit organizations, in the Netherlands, Europe or worldwide.

Research could also be extended into the directions of the correlation between leadership effectiveness and organizational performance. Does coaching leaders to become more effective, also lead to a better organizational performance in the long run? Coaching seems to have effect on several parts and dimensions of the organization. Not only leaders, also other employees and the performance of the organization can profit from coaching. More research is needed to investigate which aspects of leadership coaching can positively influence dimensions such as job satisfaction, organizational performance and effectiveness.

In short, future research on the effects of coaching on leadership effectiveness, based on this pilot study, should keep in mind the following. For future research it is needed to:

- Further define and find (more literature) support for the coaching manual and coaching method.
- Use one coach, internal or external, depending on the strategy of the organization.
- Coach on 1 or 2 measurable behaviors, as mentioned in the coding scheme, to avoid leaders becoming lost in all potentials of coaching.
- Apply more coaching interventions over a longer period of time (longitudinal study)
- Collect more data by filming the subjects of research after each coaching intervention.

When conducting more research on this topic in the future one might also think of making a side step on the work values of (effective) leaders. Are people able to change their personal values if that proves to make them more effective? If people are able to change their values, it could be worthwhile researching this topic further: which values do people allow to change? And what kind of support do they need to be able to change values? And a last question: is the change in values sustainable, or will people eventually fall back into the values they have been developing since their childhood (once they, for example, leave the workplace where they have had training on their personal values and leave to go to another company or country).

Another extra dimension to this study could be research in the direction of “emotions”. Bono & Ilies (2006) studied the different effects and dimensions of charismatic leadership, positive emotions and mood contagion. They found other research (by: Sy, Côté, & Saavedra, 2005) which shows “a link between leaders' moods, the moods of their work group members, affective tone of the group, and dimensions of group performance (page 318)”.

Although it seems in their study that positive leadership is related to more effective leadership Bono & Ilies (2006) are not “certain that a) effective leaders in work organizations actually do express more positive emotions than less effective leaders, and b) that positive emotions expressions—and not other leadership behaviors—affect follower moods”. Therewith suggesting the relationship, but empirical research should be done on this topic proofing the concept. If further research shows that leaders who are more positive indeed engage in more effective leadership behaviors, that might be a huge step forward in providing coaches handrails on how to coach leaders to become more effective.

A last and most important recommendation for future research is: find leaders who are eager to participate, and are willing to learn. Leaders who think they do not need to learn anything anymore, or who are not open for change are a waste of time and money when it comes to coaching interventions and research on this subject.

*Openness of the coachee on coaching and behavioral change
is the key factor in future research on coaching!*

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Appendixes

Appendix 1 | Leader Survey

This are the four extra added questions to the leaders survey to measure the leaders Openness to change. The other questions of this survey are merely not used for this study, but will be used for the PhD study of which this research is part of. Therefore we do not present the entire survey here.

2a Hoe scoort u, volgens uzelf, op de volgende items?

De mate waarin kunt u aangeven met een cijfer variërend van 1 t/m 7.

| | Gesloten | | Neutraal | | 5 | Zeer open | |
|-------------------------|----------|---|----------|---|---|-----------|---|
| | 1 | 2 | 3 | 4 | | 6 | 7 |
| Openstaan voor feedback | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| | Niet nodig | | Neutraal | | 5 | Zeer nodig | |
|---|------------|---|----------|---|---|------------|---|
| | 1 | 2 | 3 | 4 | | 6 | 7 |
| De noodzakelijkheid voor het gebruik van een coach voor het verbeteren van uw effectiviteit | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| | Niet waardevol | | Neutraal | | 5 | Zeer waardevol | |
|--|----------------|---|----------|---|---|----------------|---|
| | 1 | 2 | 3 | 4 | | 6 | 7 |
| Wat is uw visie op de toegevoegde waarde van het gebruik van een coach, en de uitkomsten van de gesprekken | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Appendix 2 | Employee Survey

This are the four extra added questions to the employees survey to measure the work values of the leader, as perceived by the employees. The other questions of this survey are merely not used for this study, but will be used for the PhD study of which this research is part of. Therefore we do not present the entire survey here.

9. Hoe beoordeelt u de volgende 4 items met betrekking tot uw leidinggevende?

De mate waarin kunt u aangeven met een cijfer variërend van 1 t/m 7.

| In welke mate is uw leidinggevende... | Laag | | Neutraal | | Hoog | | |
|--|------|---|----------|---|------|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Cooperatief / samenwerkend | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Individualistisch / op zichzelf | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Veranderingsgezind / Open voor verandering | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Behoudend / Betrouwbaar | 0 | 0 | 0 | 0 | 0 | 0 | 0 |