

LEAP LEDELSESADFÆRD OG PERFORMANCE

LEADERSHIP AND PERFORMANCE

Project description and status, October 2015

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1 Abstract

Leadership is seen as fundamentally important for improving public sector performance, but the existing literature has severe endogeneity problems. Using a field experiment with 672 Danish leaders and their 20.000 employees, this project will contribute to overcome these problems. Analysing the effects of leadership training and leadership strategies on organizational performance, we will contribute to the international literature on leadership and the domestic debate on public sector steering and performance.

2 Research question: Relevance and contributions

How can government continually improve performance so as to earn the respect of citizens who pay for it and whose lives are affected by its activities? The literature (Wright & Pandey 2010; Buelens et al. 2006) indicates that leadership and leadership training are important parts of the answer, and this project therefore asks how leadership training affects leadership strategies, and how these strategies affect organizational performance. We also investigate whether performance information use and psychological working environment mediate part of the effect of leadership strategy on organizational performance.

We primarily focus on public sector leadership, but we include private organizations to test whether public sector leadership differs from private sector leadership. We distinguish between transactional leadership based on exchange of rewards for effort and transformational leadership where leaders are focused on changing their followers' motivation and values.

2.1 Societal relevance

Leadership has become a mantra, although it is often unclear what is meant by leadership in the public debate, and what effects the decision-makers expect it to have (Mac & Hagedorn-Rasmussen 2008). More knowledge about what constitutes good leadership is needed, and the economic crisis makes it even more important to find ways to combine low cost and high performance. Additionally, systematic leadership training (Personalestyrelsen 2009) could be even more beneficial if we knew more about the effect of different types of leadership training. This could enable us to decrease absenteeism (Flatau et al. 2004), increase performance (Park & Rainey 2008) and attract more motivated employees to the public sector (Andersen et al. 2012).

To improve the Danish public sector, we need research on public sector leadership in Denmark, because the impact of leadership depends on context factors (Lim & Ployhard 2004; Wofford et

al. 2001; Avolio et al. 2009). We have a strong Public Management community in Denmark (e.g. Calmar Andersen & Winter 2011; Greve 2011), but Danish studies have not included the distinction between transformational and transactional leadership. In this project, political scientists, public administration researchers, psychologists, economists and leadership scholars join forces to find ways to improve organizational performance in Denmark and elsewhere. Doing this, we will also contribute to the knowledge about the effects of leadership training. International research strongly indicates that transformational leadership training has the expected effect (Dvir et al. 2002; Hassan et al. 2010; Kelloway et al. 2000), indicating that it is possible to induce leadership strategy experimentally and test the effect on performance.

2.2 Scientific relevance

Finding new ways to improve public sector performance is one of the key objectives of research in Public Management (Nasi 2011), and the project intends to contribute to this rapidly developing research field (O'Toole & Meier 2011; Walker, Boyne & Brewer 2010). Although the project is primarily focused on public organizations, it is also relevant for mainstream leadership literature and includes insights from this literature (Van Wart 2011).

The key theoretical contribution is that the project theoretically establishes a causal chain from leadership training to leadership strategy (self-reported and perceived by employees) to organizational performance (Avolio et al. 2009). It also contributes by investigating to very important potential mediators (performance information use and psychological working environment), and we explicitly theorizes about potential differences between public and private organizations, enabling us to understand the special characteristics (if any) of public sector leadership (Allison 1992; Boyne 2002; Delfgaauw & Dur 2010; Andrews et al. 2011).

In recent years the literature on leadership has focused on transactional and transformational leadership. Although the latter is being championed by international policy makers (Coggins 2009; Inamori Foundation 2001), scientific research on the topic is lagging far behind because of common source bias and endogeneity problems (Lynn, Heinrich & Hill 2000; Meier & O'Toole 2010a & b). Leadership strategies are often chosen in response to existing problems, organizations with specific profiles attract and select specific types of leaders, and self-reported performance data are biased. In this project, we will advance the state of knowledge and contribute to the literature methodologically by performing a field experiment and by using

both subjective and objective performance data to assess the impact of various leadership strategies. Compared to existing studies (Jung & Avolio 2000; Dvir et al. 2002) our treatments are stronger and include more leaders (n=670) and more employees (n=20,000).

Empirically, we will make a major contribution to the literature on public sector leadership if we show that leadership training significantly affects leadership strategy and ultimately objectively measured performance. Even a null finding on either the relationship between leadership training and leadership strategy or between leadership strategy and performance is highly relevant because the international literature strongly expects positive effects (Bass 1999; Avolio et al. 2009; Dvir et al. 2002). If we find no effect of the investigated leadership strategies, it suggests that the investigated types of leadership may not be a feasible way to improve performance. If our leadership treatments do not affect the participants' leadership strategies, although the treatments are stronger than existing treatments in the literature, which had a strong effect (e.g. Hassan 2010; Dvir et al. 2002), this finding would also contribute to our understanding of how we should (not) design leadership training. Regardless of the results, the project will contribute by being the first Danish experimental study of public sector leadership impact. After this project, we will continue the investigation of leadership and performance in a comparative study via an application for an ERC Advanced Grant.

3 Theory and expectations

3.1 Transformational and transactional leadership

The basic distinction between “hard” leadership based on stick or carrot and “soft” leadership based on increasing the employees' motivation to achieve organizational goals has been known a long time and has been conceptualized in many different ways. For example, McGregor (1960) developed Theory X and Theory Y, where Theory X assumes employees are inherently lazy and will avoid work if they can and therefore need to be closely supervised, while Theory Y assumes that employees are self-motivated. In line with modern leadership literature (Avolio et al. 2009), we capture this basic distinction with the concepts of transformational and transactional leadership.

First conceptualized by political scientist James Burns (1978), transformational leadership has become one of the most prominent leadership theories (Northouse 2010; Antonakis et al. 2003). To direct and inspire individual effort, transformational leaders try to transform (and motivate)

their followers by raising their awareness of the importance of organizational values. This leadership strategy does, in other words, aim at affecting performance indirectly through the employees' motivation and values. In contrast, transactional leadership is based on transactions of pecuniary and non-pecuniary character (Bass 1985; Antonakis et al. 2003; Avolio 2004). Transactional leaders reward employees for doing what the leaders want them to do or sanction them if their work effort is unsatisfactory (Bass 1985). Transformational and transactional leadership strategies were originally posited as contrasts (Burns 1978), but they do not necessarily conflict (Waldman et al. 1990), and the two leadership strategies are therefore seen as different continua. Given that especially the transformational leadership concept has been severely criticized lately (Knippenberg & Sitkin 2013), we have developed our conceptualization to meet these critics.

3.2 Leadership training and leadership strategy

The literature strongly suggests that leadership strategy can be affected through systematic leadership training. Transformational leadership training (see Dvir et al. 2002 for an example) is thus expected to increase leaders' ability to foster acceptance of group goals and their attention to employees' motivation and values, while transactional leadership training is expected to increase the leaders' use of conditional rewards and sanctions (Barling et al. 1996; Kelloway, Barling and Helleur 2000; Poppo et al. 1992, Hardy et al. 2010; Hassan et al. 2010). Our expectations are:

H1: Leaders, who have received training in transformational leadership is expected to have a more transformational leadership strategy.

H2: Leaders, who have received training in transactional leadership is expected to have a more transactional leadership strategy.

H3: Leaders, who have received training in both transactional and transformational leadership is expected to have a combined transformational and transactional leadership strategy.

3.3 Leadership and performance

Performance is defined as achievement of the objectives formulated by elected politicians in public organizations and by owners in private organizations. Given that especially public organizations tend to have multiple goals, we will develop a typology of performance dimensions with explicit discussion of the distinctions between different dimensions. Existing

research has consistently found that transformational leadership is positively associated with employee performance both generally (Bass 1999; Lowe et al. 1996; Bass & Riggio 2006; Avolio et al. 2009) and in the public sector (Dvir et al. 2002; Trottier et al. 2008; Wofford et al. 2001). Transformational leadership is expected to clarify organizational goals and increase the congruence between organizational and employee values and thereby positively affect motivation (Paarlberg & Lavigna 2010; Ritz 2009; Bass & Riggio 2006). This is expected to lead to lower absenteeism and higher performance (Lee et al. 2011; Kuoppala et al. 2008):

H4: Absenteeism in organizations where the leaders use transformational leadership is lower than in corresponding organizations where the leaders do not use transformational leadership.

H5: Organizational performance in organizations where the leaders use transformational leadership is higher than in corresponding organizations where the leaders do not use transformational leadership.

Transactional leadership is expected to have a positive price/disciplining effect on performance, while the direction of the motivation crowding effect depends on the perception of the relevant reward/command systems as either commanding or supportive (Frey 1997; Frey & Jegen 2001; Weibel et al. 2010, Andersen & Pallesen 2008; Jacobsen & Andersen 2011, Georgellis et al. 2011). Importantly, existing studies indicate that transformational leadership plays a key role in shaping this perception (Egger-Peitler et al. 2007; Gabris & Ihrke 2000), suggesting that the effect of transactional leadership depends on the level of transformational leadership. In line with this, Waldman et al. (1990) argue that the best leadership is both transformational and transactional, because transformational behaviours reinforce the positive effect of contingent reward behaviours and lead to greater levels of subordinate effort and performance. The existing few studies of the combined effect of the leadership strategies (Rowold 2011; Hargis et al. 2011; O'Shea et al. 2009; Bass et al. 2003) also suggest that combined transactional/transformational leadership leads to even higher performance than any of the leadership strategies separately.

H6: If leaders combine transactional and transformational leadership, their employees perform better compared to employees with leaders who use one (or none) of the leadership strategies.

3.4 Public sector leadership versus private sector leadership

Originally, transformational leaders were expected to be less effective and less common in public organizations compared to private organizations, because public organizations were thought to

rely more on bureaucratic control mechanisms than private organizations (Bass & Riggio 2006). Employee efficacy (the employee's ability to affect the desired outcome, see Miller & Whitford 2007) is also low in many public sector jobs, and this may weaken the relationship between leadership and organizational performance. Contrary to these expectations, Dumdum et al. (2002) found that transformational leadership is at least as common and effective in public organizations as in private organizations, and Wright & Pandey (2010) found that bureaucratic characteristics in the public sector had little, if any, adverse effect on the prevalence or practice of transformational leadership. This is consistent with Grant's (2012) quasi-experimental study of the impact of transformational leadership on performance. He finds that transformational leadership is most effective in motivating employees when they interact with the beneficiaries of their work. This is often the case in public organizations, but can also happen in the private sector (Andersen & Jakobsen 2011). We therefore do not expect substantial differences in leadership impact between public and private organizations, but the literature's ambiguity makes it relevant to test it.

H7: There is a positive relationship between transformational leadership and organizational performance for both public and private organizations.

H8: The positive effect on performance of having leaders with combined transactional and transformational leadership holds in both public and private organizations.

In addition to testing the hypotheses below, we also plan to go into depth with the context-dependency of leadership, exploring differences in the effects of leadership between different organizations. In this part of the project, a more inductive approach will be applied to capture that leadership can be situational (e.g. Papworth et al. 2009).

3.5 Leadership and psychological working environment

Bullying is an especially relevant aspect of the psychological working environment in a study of leadership and performance. Observed consequences of bullying are amongst others social isolation, low self-esteem, sleep problems, concentration difficulties, anger, psychological distress and post-traumatic-stress disorder (Nielsen and Einarsen, 2012; Finne et al., 2011, Zapf et al., 1996; Mikkelsen & Einarsen, 2002). Leadership has long been seen as a major antecedent of workplace bullying (Samnani & Singh, 2012). The definition of bullying highlights the imbalance in the power structure between the target and perpetrator of bullying. This imbalance is imposed between employees and managers, and it is therefore important how managers use

their power to reach the goals of the organization. Both the abuse of power and a passive leadership strategy can lead to increased levels of bullying, either because targets are directly abused by the manager, or because passive leaders tend to avoid conflict, thereby creating a working environment where bullying is allowed to thrive (Ashfort, 1994; Strandmark & Hallberg, 2007).

Transformational leadership is unambiguously expected to decrease bullying, because transformational leaders strive to create an environment of trust, admiration, loyalty and respect, and they are also involved in the work process and focus on helping all individuals in the workplace to succeed (Nielsen, 2013a).

Transactional leaders operate under a carrot or stick approach, rewarding employees if they reach the goals and punish them if they do not (Podsakoff et al. 2006). The clear power structure in this type of leadership could potentially give rise to increased bullying, but when rewards and punishment are administered on the basis of clear performance standards they are more welcomed and satisfying to employees than when delivered arbitrarily (e.g. Peng and Peterson, 1998). This suggests that transactional leadership reduces bullying, although we expect transformational leadership to have a larger effect.

H9: Transformational and transactional leadership reduces bullying in the workplace.

H10: Transformational leadership reduces bullying to a larger extent than transactional leadership.

Another important aspect of the psychological working environment is stress. According to the Job Demand-Control model, employees become stressed if they work under heavy job demands and low decision latitude (Karasek, 1979). Thus, having no control or overview over job tasks is likely to produce a more stressful working environment. As both leadership strategies focus on goals, using different ways of motivating employees to achieve these goals, we expect both strategies to increase planning and structure and give employees a sense of control. This will reduce stress, because they become more aware of which goals they have to reach.

H11: Transformational and transactional leadership reduce stress in the workplace.

Bullying has been shown to increase absenteeism (Hoel & Cooper, 2000; Kivimaki et al., 2000), and stress is believed to negatively affect individuals' health, again leading to increased

absenteeism (see e.g. North et al., 1996). Absenteeism will increase the use of substitutes, decreasing continuity in the planned activities and curriculum, and our expectation is therefore:

H12: Organizations with a low level of bullying and stress have lower absenteeism and higher organizational performance.

3.6 Leadership and performance information use

Leadership may contribute to performance improvements through increased performance information use and better decisions. Transformational leadership is expected to increase the use of performance information in organizational decision-making by creating greater goal clarity and fostering a developmental organizational culture (Moynihan et al. 2012). Transactional leadership may also affect performance information use, because the contingent rewards and sanctions can be administrated based on this information. We will test this, but existing evidence does not suggest that there is an association (Moynihan et al. 2010). Hypothesis 13 therefore focuses on transformational leadership.

H13: In organizations with transformational leaders, the level of performance information use is higher than in other corresponding organizations

Performance information use is expected to improve performance, because it creates a stronger focus on results and outcomes (Moynihan 2008; Nielsen 2013b) and facilitates organizational learning by identifying performance problems and potentials for improvement (Moynihan & Landuyt 2009; Nielsen forthcoming). Furthermore, this positive effect is expected to be stronger for organisations with transformational leaders. If employees perceive performance management as controlling, it reduces employee motivation (Jacobsen et al. 2013) and such reactions are detrimental to organizational performance. Transformational leadership is expected to make employees more appreciative of the potential usefulness of performance information by increasing employee awareness of organizational values and goals (Moynihan et al. 2012).

H14: Organizations with a high level of performance information use have higher organizational performance, and the association is strongest for organizations with transformational leadership

4 Research design and methods

4.1 The experimental design

Our choice of research design is closely related to the literature's two key challenges: Endogeneity and common source bias. After our discussion of endogeneity in this section, section 4.2 explains how we avoid common source bias. Endogeneity is a very relevant problem, because leadership strategy will often be correlated with the error term, since the dependent variable (performance) often has an effect on leadership strategy or unobserved variables are correlated with both dependent and independent variable. Wright & Pandey (2010) therefore argue that future research should establish the causal sequence by using experimental designs.

Only few experiments have investigated the effect of transformational and transactional leadership in the public sector, and participants have primarily been students working under transformational and transactional leadership conditions (e.g. Jung & Avolio 2000). Inspired by Dvir et al. (2002), we have chosen to experimentally induce different leadership strategies by giving different leadership training to real public and private leaders, and our key challenges therefore relate to selection of participants and content and strength of the treatments.

Self-selection of participants in a field experiment is unavoidable, and our control group therefore also consists of leaders who have self-selected into the project. In other words, the public leaders will voluntarily select to be part of the project and then have an equal chance to have treatments which the literature unambiguously considers to be advantageous. All leaders receive the pre-treatment survey, which presents the opportunity to be part of the experiment, explicating that this means that they have 75% chance of receiving one year leadership training, corresponding to a master level course.

The leaders who agree to participate in the experiment are randomly assigned to one of four groups:

- Control group
- Transformational treatment
- Transactional treatment
- Combined transactional and transformational treatment

It is a key priority to ensure that the treatments are strong enough to enable us to contribute to the literature regardless of what our results show. All treatments have one year duration and consist of 28 sessions of leadership training headed by a researcher with extensive teaching experience combined with a 600 pages curriculum and coursework between meetings. The training corresponds to 1 month full-time work for the leaders. The training is done in 21 teams (7 for each type of treatment) consisting of 20 leaders in the same geographical area to allow active participation from the leaders.

Compared to the existing studies (Barling et al. 1996; Kelloway, Barling and Helleur 2000; Dvir et al. 2002; Poppo et al. 1992, Hardy et al. 2010; Hassan et al. 2010), our treatments are very intense. Dvir et al. (2002) have the strongest treatment with a three-day leadership workshop for 54 military leaders. Barling et al. (1996) assigned 20 leaders randomly to training and control groups to test the effect of transformational leadership on performance. Their training programme included a 1-day group-based training session and four short individual sessions, and they found that the training significantly affected both subordinates' perceptions of leaders' transformational leadership and performance. The strength of our treatment is further increased by the fact that it is done by researchers who strongly believe in the treatments and have extensive teaching experience. This double role of the researchers is not problematic, because we use objective performance data (which the researchers can only affect through the leadership training), and because all participants are taught by researchers who are specialized in the leadership training they are responsible for. Still, a field experiment always presents multiple ethical dilemmas such as how much the participants should know about the treatments, and we will draw upon the experience from the medical scientific committee system to help solve these dilemmas. Specifically concerning the information to the participants, we plan to inform them fully about the concrete elements in their training, while we will not tell them about our theoretical hypotheses. It is important to stress we will do our utmost to insure that none of the participants will be worse off by the experiment (all parts of the training programmes have for example been used before on leadership courses with satisfactory results in terms of exam scores and student ratings).

There will be seven teams with 20 participants for each treatment group. To control for potential teacher effects, the assignment of the four teachers (Lotte Bøgh Andersen, Christian Bøtcher Jacobsen, Niels Westergaard-Nielsen and Anne Bøllingtoft) is random. All teaching

materials will be developed by all four teachers/researchers in cooperation with Ann-Louise Holten from Department of Psychology, University of Copenhagen. Nothing except the identity of the teacher will not vary between teams within a given treatment group, and we calibrate the teaching before each of the four sessions to make sure of that (we have a class of 20 students who get both a full transactional treatment day and a full transformational treatment day for each of the four training sessions).

4.2 Investigated organizations and data sources

Apart from endogeneity, the other key problem in relevant literature is common source bias. Leaders tend to respond to surveys in ways that reflect favourably on themselves in terms of organizational performance and adoption of current managerial practices, leading to spurious results (Meier & O'Toole 2010a & b). Our experimental design helps avoid this, because the investigated variation in leadership strategy is experimentally induced. We have also chosen five types of organizations where performance can be objectively measured: Secondary schools (high schools), tax sections, bank branches (parts of two banks, Jyske Bank and Bank Nordik), primary schools and day care centers. We plan to use multiple performance measures to increase the robustness of our results. Examples are grades and pass rates for secondary schools, proportion of correct tax assessments and collection of arrears for tax sections, and revenue and profit for bank branches. Performance and absenteeism are measured with register data before and after the treatment.

In addition to availability of objective performance data, we also wanted to investigate comparable private and public organisations with different types of tasks. We differentiate between financial operations and welfare provisions. While tax organizations and bank branches are focused on finances and have very similar employees and tasks (Jensen 2004: 113), they differ in public versus private ownership. For welfare provision, we focus on education of children of all ages. There is ownership variation between public and private schools and between public and private day care centers (see table 1).

Table 1. Included sectors.

	Private organizations	Public organizations
Finance operators	Banks	Tax sections
Welfare providers	Private schools Private day care	Public high schools Public schools Public day care

Within welfare provision, we will also investigate organizations with different levels of organizational change. As noted by Bass (1990), a specific leadership strategy is not always superior in all situations, but should be considered in connection to context stability. Problems, rapid changes, and uncertainties in organizations call for transformational leaders who strive to make employees share in organizational goals (Bass, 1990). In such organizations “fostering transformational leadership through policies of recruitment, selection, promotion, training, and development is likely to pay off in the health, well-being, and effective performance of the organization” (Ibid., p. 31). In contrast, transactional strategies are optimally applied when organizations experience stability, because in these situations “things are likely to move along quite well with managers who simply promise and deliver rewards to employees for carrying out assignments” (ibid.). These suggestions are supported empirically in a recent study investigating how transformational and transactional leadership strategies influences employees evaluation of organizational change (Holten & Brenner, forthcoming). In this project, we get variation in the level of change by including high schools (which have experienced organizational change just before treatment), schools (which will be experiencing organizational change during treatment due to the school reform) and day care organisations (which are stable). Table 2 illustrates how the level of organizational change varies.

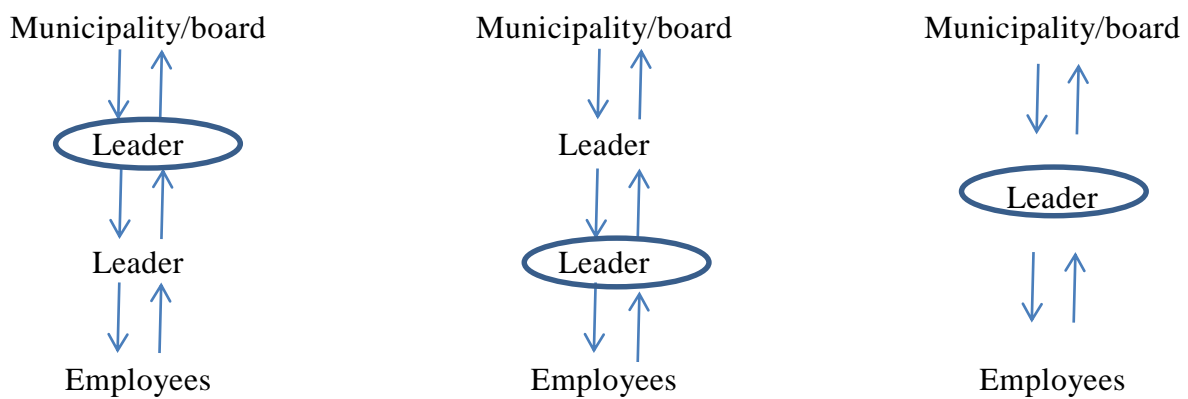
Table 2. Organizational change variation within welfare provision

Organizational change	Investigated organizations
Have just experienced	High schools
Will experience	Schools
Stable	Day care

Within one of the sectors (day care), it is also possible to differentiate between leaders (all with the same educational background) who are (1) leaders of other day care leaders, (2) leaders of employees with a leader between them and the central municipal administration and board, (3) leaders of employees without a leader between them and the central municipal administration and board. Private day care centers are always organized with a leader who is directly responsible to the board (that is, the last mentioned type). Figure 1 illustrates the distinction within the day care sector between different leader types.

Figure 1: Leader type variation within day care sector

Investigated types of leaders (circles mark the investigated leader)



We will survey leaders and their employees twice and the municipal executives one time. Survey 1, which measures initial leadership strategy and invites the leaders to participate in the experiment, is finished. Table 3 (next page) gives an overview of the web-based surveys.

To supplement the quantitative data and to capture the situational aspects of leadership, we conduct qualitative semi-structured interviews with school principals, daycare leaders and tax leaders.

Table 3: Surveys

	Purpose	Respondents	Timing	Status
1	Pre-treatment measure of leadership strategy etc.	Leaders	April-June 2014	Finished
2	Pre-treatment measure of psychological characteristics	Leaders	August/September 2014	Finished
3	Pre-treatment measure of leadership strategy etc.	Employees	August/September 2014	Finished
4	Goals and performance info use	Municipal executives	March 2015	Finished
5	Post-treatment measure of leadership strategy etc.	Leaders	August/September 2015	Finished
6	Post-treatment measure of leadership strategy etc.	Employees	August/September 2015	Finished

4.3 Methods of analysis

We investigate the impact of training on leadership strategy by D-i-D (H1-H3). To identify the derived effects in H4-H14, we apply an IV strategy where assignment into treatment is used as an instrument for leadership strategy. This requires that the first stage test of H1+H2 satisfies the Staiger-Stock rule of thumb, requiring an F-statistic above 10 (for arguments regarding the strength of the treatment see above). Should it happen that our first stage is too weak, the extensive data sources allow us to use other analytical tools which rely on conditional independence (e.g. matching, ordinary least squares, etc.). Although this will not address causality it will allow us to provide the literature with estimates which are superior to currently published results. To account for moderating effects of the employees' prior leadership experience and perceptions, we include interaction terms between these variables (measured before the treatment) and leadership strategy, and we also test whether leadership strategy produces uniform effects across different types of organizations. The analyses will include ownership sector as potential moderator if relevant.

5 Project status

The project is following the time schedule (next page) very nicely.

It was difficult to recruit bank leaders, and this is also reflected in a low number of bank leaders (we started out with 45). In the other sectors, we have met enthusiasm at all levels (the leaders themselves, their leaders, national and local decision-makers, trade-unions, academics etc.). The low number of secondary schools, private day-care centers and private primary schools reflects that the total number of these types of organizations is limited.

Concerning drop-out, the overall level is exactly as expected. 672 leaders started the project, 549 leaders were still in the project when we send out the post-treatment survey (81 %), and 460 leaders answered. Some of the 89 non-respondents were control group members who were no longer employed at their initial organization. 53 percent of the employees answered the post-treatment survey (7,690 individuals).

In some of the analyses, the number of organizations and employees will be much higher, because we can rely on register information. We have obtained personal identification numbers for almost all leaders and for most of the employees, allowing us to follow them over time. Unfortunately, the Tax Agency broke its promise to deliver personal identification number for the employees who had responded that this was okay. Consequently, we asked them about a number of personal characteristics in the post-treatment survey, but we will not be able to follow these employees over time. The same is true for the bank employees (the banks would not be part of the project if they employees should be asked about their personal identification numbers).

Right now (October 2015), we are focusing on (1) analysing the treatment effect on employees' perceptions of their leaders' use of transformational and transactional leadership, (2) making individual report for each participating leader (both control and treatment groups) and (3) planning and preparing for the second expert group meeting.

6 Time schedule

Year	Mile stones
2014:	January 1 st : Official start of project, home page (www.leap-project.dk launched) April-June: First survey to managers April: Paper presentations at IRSPM May-November: Interviews with 26 daycare leaders and 32 daycare employees June 1 st : Random assignment of participants to treatment and control groups finished June: First meeting of advisory panel August-September: Surveys to employees and leaders August: Paper presentation at NOPSA (focus on experimental design) August-September: First round of interviews with school principals. September: Paper presentation at EGPA September 15 st : Treatments start (leadership training) November: APPAM paper and two papers at PAR conference in China
2015:	January-June: Analysis of data from first wave of surveys and interviews March: Survey of municipal executives April: Paper presentations at IRSPM June: Paper presentations at Transatlantic Dialog Conference and PMRC June 1 st : Treatments are finished August: Presentation at EGPA August: Second survey to managers and employees October: Submission of three articles (presented as papers at EGPA, IRSPM and PMRC) September-December: Data analysis including two waves of survey data and absence November: Reports to leaders and paper presentation at APPAM
2016:	January: Second meeting of advisory panel February-July Project leader stays at University of Georgia March: Paper presentation at ASPA April: Paper presentation at IRSPM and June: Paper presentations at PMRC August: Paper presentation at AoM September: Paper presentation at EGPA November: Paper presentation at the APPAM conference
2017:	May: Last performance data for post treatment acquired June: Paper presentations at Public Management Research Conference June: Paper presentation at International Workshop on Applied Economics of Education November: Final communication to the public: One article and a public conference December: All journal articles are finished or under review

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