



AARHUS UNIVERSITY



# Coversheet

---

**This is the accepted manuscript (post-print version) of the article.**

Contentwise, the post-print version is identical to the final published version, but there may be differences in typography and layout.

**How to cite this publication**

Please cite the final published version:

Bro, L. L., Andersen, L. B., & Bøllingtoft, A. (2017). Low-hanging fruit: Leadership, perceived prosocial impact and employee motivation. *International Journal of Public Administration*, 40(9), 717-729.  
<https://doi.org/10.1080/01900692.2016.1187166>

## Publication metadata

**Title:** Low-hanging fruit: Leadership, perceived prosocial impact and employee motivation  
**Author(s):** Louise Ladegaard Bro, Lotte Bøgh Andersen, Anne Bøllingtoft  
**Journal:** *International Journal of Public Administration*, 40(9), 717-729  
**DOI/Link:** <https://doi.org/10.1080/01900692.2016.1187166>  
**Document version:** Accepted manuscript (post-print)

**General Rights**

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognize and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

# Low-hanging fruit: Leadership, perceived prosocial impact and employee motivation

## Abstract

Transformational leadership affects public service motivation, but little is known about the context dependency of this association. If citizen contact and, therefore, relative perceived impacts on others and society differ, the association between transformational leadership and motivation is also expected to differ. Analyzing public employees and their leaders from four organizational contexts, we find that employees have relatively higher perceived impact on others and are more user-oriented in contexts with high citizen contact. The association between transformational leadership and employee motivation also depends on employees' perceived impact, implying that some fruit hangs lower than other when leaders try to increase employee motivation.

Key Words: transformational leadership, public service motivation, user orientation, perceived impact

## Introduction

Public services can be understood as “services ordered and/or (partly) financed by government” (Kjeldsen 2012: 18), and a rapidly growing literature indicates that individual providers of these services tend to be motivated by serving the interests of other citizens and society (Ritz et al. 2016). Although this type of motivation has been a major focus of research in public administration during the last quarter of a century, our understanding of what this research means for management practices is still underdeveloped (Perry, 2014, pp. 34, 42). Public service motivation can be defined as “an individual’s orientation to delivering service to people with the purpose of doing good for others and society” (Hondeghem & Perry, 2009, p. 6), and several studies show that it can increase performance in public organizations (Bellé, 2013; Andersen et al., 2014). Especially transformational leadership is increasingly recognized as an important antecedence of public service motivation, and it seems to be a very promising way to increase performance, at least for some types of public

organizations (Wright et al., 2012; Vandenabeele, 2014; Rainey, 2009; Van Wart, 2013). However, the literature has neglected to consider differences in organizational settings when investigating the association between transformational leadership and employee motivation, and this article begins to fill this gap. Transformational leadership may, in other words, not motivate employees in all contexts.

The key theoretical argument is that transformational leaders motivate employees by infusing their tasks and roles with meaning and purpose (Wright et al., 2012, p. 208) but that this “infusing process” is not equally relevant in all organizational settings. Bellé (2014) argues that it is important for all public employees to make a positive difference for others and society, but it may not be equally necessary for leaders in all organizational settings to highlight these prosocial impacts. Some employees may already know that they are making a difference in their jobs because their tasks make it obvious that they are contributing to others and/or society. While transformational leadership may be needed in parts of the public sector where “employees are unable to see a clear connection between their outputs and larger organizational goals” (Scott and Pandey, 2005, p. 174), it may be less effective in organizational settings where employees are already aware of their contribution.

Defining perceived impact on others and society as the degree to which employees are aware that their actions affect others and society (Grant, 2007, p. 399), it is relevant to differentiate between being aware that one’s actions affect individual other people positively versus being aware of one’s more general societal contribution. The relative weight of these two types of perceived prosocial impact may very well depend on the organizational setting, especially on the level of direct citizen contact. Existing research thus finds that “objective opportunities for impact on beneficiaries leave an imprint on the subjective experiences of job incumbents ... the greater the magnitude, scope, and frequency of job impact on beneficiaries, the greater an employee’s perception of impact on these beneficiaries” (Grant, 2007, p. 399). The perceived impact on others relative to the perceived impact on society thus becomes relevant. Childcare center employees might for

example see very clearly how they can do good for the specific children, while it is relatively easier for tax employees to see how they do good for society.

Hondeghem and Perry's (2009, p. 6) definition of public service motivation also implicitly distinguishes between motivation to do good for others and motivation to do good for society. This distinction is captured in the literature by differentiating between classical public service motivation and user orientation (Andersen et al., 2013; Jensen & Andersen, 2015). We expect that employees who are aware of their contribution to specific other people will also be more motivated to do good for these recipients (i.e., have higher user orientation), while employees with higher relative perceived societal impact will be relatively more motivated to do good for society (i.e., have more classical public service motivation).

Both user orientation and public service motivation are relevant in all public service organizations where public employees create services or regulation aimed at specific citizens, but there may be important differences both in the perceived recipient of the employees' impact (specific others versus society) and in the relative weight of user orientation and public service motivation. We expect employees with higher citizen contact to be better able to see their impact on specific other people and consequently have high user orientation. Public service motivation and user orientation are not opposites, and it is seldom a zero-sum game, but it could be useful for leaders to know where to start in order to achieve the largest increases in motivation.

Our key argument is that transformational leadership is (1) more strongly associated with the motivation to do good for society when employees' initial perceived impact on society is lower and (2) more strongly associated with the motivation to do good for individual other people when employees' initial perceived impact on others is lower. The fruit might simply hang lower if the employees do not already see the perceived prosocial impact that is relevant for a given type of motivation.

To test this argument, we analyze the associations between transformational leadership, public service motivation and user orientation in four very different organizational contexts. Our test consists of three steps. First, we compare the employees' perceived impact on others and society between organizational settings, establishing whether employees with high citizen contact also have higher relative perceived impact on others. Second, we test whether the relative weights of user orientation and classical public service motivation differ as expected between organizational settings with different levels of citizen contact. Third, we test whether the associations between transformational leadership, public service motivation and user orientation depend on the levels of perceived impact on others and society. The research question is as follows:

*Do public employees' public service motivation, user orientation and perceived impacts on society and others differ between organizational settings with different citizen contact, and do the associations between transformational leadership, public service motivation and user orientation differ when the employees' perceived prosocial impact differs?*

We analyze this by combining survey answers from 374 leaders with their 4525 employees from four types of Danish public organizations; childcare, primary and lower secondary school, higher secondary school and tax sections. After a theoretical discussion and formulation of four hypotheses, we describe the research design and operationalizations. We then present the results, followed by a discussion and conclusion.

## **Theory**

As noted 25 years ago by Perry and Wise (1990), the desire to serve the public interest can be seen as a normative foundation for public employment. When employees perceive their tasks as significant for a broader community, it makes them experience their jobs as more meaningful, which, in turn, motivates them to exert more effort (Bellé, 2014). This is relevant for all public employees given that society orders and normally also finances their services, but public employees do not necessarily see how they have an impact on specific other

people. Recent studies stress the importance of employees' tasks in this connection (see Kjeldsen, 2012, pp. 40-43 for an overview), and the degree of contact with citizens is expected to be especially relevant for public employees' perceived impact on others (Grant, 2007). Without citizen contact, public employees can find it difficult to know how their work is affecting specific other people, and it might therefore be difficult to maintain their motivation to do good for others. Contact with citizens can oppositely provide employees with access to feedback about their impact on specific individuals, especially if the citizens are direct beneficiaries of the services delivered by the public employees. More specifically, Grant (2007, pp. 400-401) expects that greater frequency, duration, physical proximity, depth and breadth of contact with beneficiaries on the job are associated with stronger employee perception of impact. He argues that broader contact with different groups of beneficiaries on the job increases employees' access to diverse evidence of opportunities to affect others. If all public employees can perceive that they have an impact on society, while citizen contact highlights employees' impact on specific other people, it implies that the perceived impact on others relative to the perceived impact on society is expected to be higher in organizational contexts with high levels of citizen contact, as expressed in Hypothesis 1.

**H1:** Employees' perceived impact on other people is higher *relative to* their perceived impact on society in organizational settings with higher levels of citizen contact

The relative perceived impact on others and society can be important for whether employees are primarily oriented to do good for individuals or primarily oriented to do good for society. In the mentioned definition of public service motivation formulated by Hondeghem and Perry (2009, p. 6), both orientations can be seen as public service motivation. In contrast, many of the other definitions focus on motivation to do good for collective entities. Perry and Wise thus define public service motivation as "an individual's predisposition to respond to motives grounded primarily or uniquely in public institutions and organizations" (1990, p. 368), and

Rainey and Steinbauer (1999, p. 20) associate the construct with altruism and mention different types of communities when they define public service motivation as a “general, altruistic motivation to serve the interests of a community of people, a state, a nation or humankind”. Vandenabeele (2007, p. 547) also sees public service motivation as directed towards collective recipients when he defines it as “the beliefs, values and attitudes that go beyond self-interest of a larger political entity and that motivate individuals to act accordingly whenever appropriate”. If there is alignment between societal and individual interests, motivation to serve society and motivation to serve specific individuals might be very similar because it is possible to serve society by serving individuals. Contributing to make children better readers, for example, contributes to the children individually and facilitates that they can better contribute to society. However, several studies have found examples of conflict between societal and individual interests (Andersen, et al. 2013; Jensen & Andersen, 2015). This is the reason for differentiating between classical public service motivation, directed towards society in general, and user orientation. User orientation is the orientation to serve specific users of public services. We recognize that there may be other types of pro-social motivation, but we concentrate on these two types as these are theoretically most relevant when we differentiate between organizational settings with different levels of citizen contact.

The difference between perceived impacts on others versus on society is very relevant for the distinction between public service motivation and user orientation because it relates to how employees see their task and thus the relevant difference they should make. As mentioned, Bellé (2014) argues that employees’ beliefs that they are making a positive difference increases motivation, and it might very well be that the perceived impact on others and user orientation are positively correlated and that perceived impact on society and public service motivation are positively correlated. If Hypothesis 1 is correct, this would imply that the relative weight of user orientation and public service motivation will also differ between organizational settings. Attraction, selection and socializing may increase these differences. Employees with high initial user orientation might, for example,

be attracted to organizations with high citizen contact, and leaders of such organizations might also select such employees. After the hiring process, employees can be socialized to increased user orientation during their work in organizational settings with high citizen contact. Because of these different mechanisms, the expectation is that user orientation is higher in organizational contexts with higher citizen contact. This implies that the level of user orientation relative to the level of public service motivation is higher in organizational settings with high levels of citizen contact (Hypothesis 2).

**H2:** Employees' user orientation is higher *relative to* their classical public service motivation in organizational settings with higher levels of citizen contact

Knowing how motivation varies between organizational settings can be useful for public managers, but the really interesting question is how leadership and motivation will be associated if the arguments presented above are correct. Our point of departure is transformational leadership (Bass, 1985; 1999) because of its increasing dominance both in generic leadership literature (Antonakis, 2012; Walumbwa & Wernsing, 2013; Dinh et al., 2014) and in public administration research (Park & Rainey, 2008; Trottier et al., 2008; Wright et al., 2012; Bellé, 2014). Wright and Pandey (2010) specifically argue that "transformational leadership [may be] particularly useful in public and nonprofit organizations given the service and community oriented nature of their missions". There are also strong indications that transformational leadership is highly relevant if leaders seek to increase public service motivation (Wright et al., 2012; Bellé, 2014).

Transformational leaders aim to direct and inspire individual efforts by transforming and motivating their employees by appealing to the importance of organizational outcomes (Bass, 1985; Antonakis et al., 2003). A core element of transformational leadership is thus the articulation of a clear and compelling vision. This has three aspects: The transformational leader develops a vision of the core goals of the organization in a clear manner, strives to share the vision with the employees, and makes an effort to sustain the shared vision also in

the long run. Sustaining the vision entails that the transformational leader strives to facilitate acceptance of and collaboration to achieve the vision as well as making an effort to generate continuous enthusiasm hereof. By continuously emphasizing why employees' work contributes to the organization and its vision, transformational leaders attempt to reinforce employees' perceptions of what they are contributing to in important ways (Wright et al., 2012). Knippenberg and Sitkin's (2013) recent critique of transformational leadership studies for confounding leadership with the effects of leadership highlights the importance of operationalizing transformational leadership as behavior, and our conceptualization has three aspects: The leader's attempts to develop a vision that reflects the core organizational goals, share the vision with the employees and sustain the employees' attention to the vision.

Existing literature states that public leaders can change their employees' motivation through transformational leadership by making them look beyond self-interest (Belle, 2014; Park & Rainey, 2008; Vandenabeele, 2014). In Paarlberg and Lavigna's words (2010, p. 710), transformational leadership is expected to change employee motivation towards "experiences and identities that are 'other regarding'". This means that the employees are expected to become "strongly motivated to make a significant difference in the lives of others or to influence a cause" (Paarlberg & Lavigna, 2010, p. 710), and both classical public service motivation and user orientation are thus included. Leaders who try to clarify a vision are expected to make the employees see what they are contributing to. But what happens if employees are already very aware of their impacts on society and/or others? Transformational leadership may then be less necessary, and the association between leadership and motivation may be weaker given that it is harder to motivate employees by showing them what they are contributing to if they already know it. The implication for public service motivation and user orientation is formulated in Hypotheses 3 and 4.

**H3:** The association between transformational leadership and employees' public service motivation is weaker when the employees' perceived impact on society is high

**H4:** The association between transformational leadership and employees' user orientation is weaker when the employees' perceived impact on others is high

### **Research design**

To test the four hypotheses, we have designed a quantitative, multi-level study with survey data from leaders and their employees in four organizational settings (within the Danish public sector) with systematic variation in the citizen contact: Childcare centers, primary and lower secondary schools, higher secondary schools and tax sections. Childcare employees have the highest level of citizen contact followed by primary and lower secondary school teachers and then higher secondary school teachers, while tax employees have the lowest level of citizen contact. The level of citizen contact for the three first mentioned sectors can be relatively easily ranked because preschool teachers have less preparation time (away from citizen contact) than primary and lower secondary school teachers, who, again, have less preparation time than teachers in higher secondary schools (Glavind & Pade, 2015, p. 53; Dalsgaard et al., 2014, p. 20; Bæk, 2014; Ministry of Finance, 2013). Given that tax collection has been digitalized, there is not much direct citizen contact in this organizational setting (although it varies a little between different functions).

We know that there are many other differences between tax employees and the three types of teachers, but we have three strategies for handling this issue. First, we also compare perceived impact and motivation internally between childcare, primary and lower secondary schools and higher secondary schools when we analyze Hypotheses 1 and 2. Second, our data allows us to compare tax employees' perceived impact and motivation with private sector employees with a similar task (financial services) and higher citizen contact, namely bank employees. Given that there are many other differences between public and private employees,

this comparison is not given too much weight. Third, we use the employees' actual perceived impact on others/society to investigate Hypotheses 3 and 4, directly targeting our theoretical claim that the relevant type of perceived impact has a negative influence on the association between leadership and motivation.

The research design has its limitations, and the implications of these limitations for the results will be discussed in more detail in the conclusion. Most importantly, perceived impact and motivation are measured using the same data source (an employee survey), meaning that it is difficult to draw conclusions on the association between these concepts because of the potential bias created by common method variance. We show the empirically identified associations, but it is not possible to precisely identify how much of the correlation can be explained by common method variance. For the same reason, we did not formulate hypotheses relating to these associations. Common method variance is not nearly as problematic for the associations between leadership and motivation, because we measure leadership by asking the leaders about their behavior, while we ask employees about perceived impact and motivation. However, endogeneity is still possible because the data is cross-sectional, and we therefore only talk about associations between leadership and motivation (rather than effects). Fortunately, Jakobsen and Jensen's (2015) study indicates that it is relatively unproblematic to investigate how the association between leadership and motivation is moderated by perceived impact on others/society. Their results suggest that "common method variance does not create (false) observed interaction effects" and that "when examined on datasets with true interaction effects, common method variance tends to attenuate the interaction effects" (Jakobsen & Jensen, 2015, p. 16).

The data collection was the first wave of an experimental leadership project. The selected organizations might not be representative of the investigated four types of public organizations, because the leaders volunteered to be part of the project. This is, however, the case for all the organizations, and the bias is therefore expected to be constant, making the comparisons relatively valid. For the leaders, data was collected in April-May 2014,

while the employee data was collected in August-September 2014. Surveys were only sent to employees of participating leaders. The number of invited leaders, replies and sign-ups for leaders as well as employee response rate can be seen in Table 1. 374 leaders and 4525 employees answered the relevant questions and are included in the multilevel analyses. Additionally, 586 bank employees are used to make an extra comparison with tax employees in the descriptive analyses of perceived impact and motivation in different organizational contexts.

[INSERT TABLE 1 AROUND HERE]

### **Operationalizations**

The measures of all variables are based on existing studies, and we use five-point Likert response scales except for leader and employee tenure, gender and age. The wordings of the items measuring public service motivation, user orientation and transformational leadership are shown in the Appendix, which also contains confirmative factor analyses and Cronbach alpha values. For each of the three constructs, we created sum indexes, and these were rescaled to go from 0 (minimum possible level) to 100 (maximum possible level). Each index will be explained separately below. As can be seen in Table A1, the measure of public service motivation builds on Perry (1996). The translated items were, for example, used in Jensen and Andersen (2015) and Andersen et al., (2014). The confirmative factor analysis provides significant loadings for each item on its expected latent variable and high convergent validity – ranging from 0.6 to 0.9 – for the analyses both with and without bank employees. Fit indicators for both analyses show a reasonable fit with data; for the analysis without bank employees,  $\chi^2(38)=268.151$ ,  $p>0.0005$ , CFI=0.949, RMSEA=0.031 (lower bound 0.028, upper bound 0.034) and SRMR=0.046 and for the analysis with bank-employees,  $\chi^2(38) =290.655$ ,  $p>0.0005$ , CFI=0.948, RMSEA=0.031 (lower bound 0.028, upper bound 0.035) and SRMR=0.045. Furthermore, measures of reliability for both analyses display high internal consistency with Cronbach's alpha ranging from 0.70 to 0.81

and Jöreskog's rho ranging from 0.71 to 0.81. The two unweighted formative indexes (one with and one without bank employees) consist of reflective indexes measuring the four dimensions specified by Perry (1996).

User orientation is measured based on Jensen and Andersen (2015), and the wording and statistics can be seen in Table A2. All items converge on the latent variable in analyses both with and without bank employees. One item ("If the user/customer is satisfied, the job is done") falls just short of the lower threshold for construct validity of 0.5. As this item captures an important aspect of user orientation in regards to a feeling of succeeding in the work, the item is retained. Cronbach's alpha is below the threshold of 0.7 for the indexes both with and without bank employees, but the alternative Jöreskog rho is 0.56 for both indexes.

In order to reduce bias from common method variance, our measure of transformational leadership is leader reported. Wordings, loadings and Cronbach's alpha are satisfactory, as can be seen in Table A3. Again, the confirmative factor analysis displays adequate convergent validity with significant factor loadings ranging from 0.6 to 0.8 and acceptable fit to our data:  $\chi^2(2)=0.840$ ,  $p < 0.0005$ ; CFI=1.000, RMSEA=0.00 (90 % CI, lower bound 0.000, upper bound 0.078) SRMR= 0.078. Reliability is acceptable with Cronbach's alpha=0.74.

The statements measuring perceived impact on society and others are: "My job is useful to society" (Steijn, 2008) and "In my job I can help other people" (Taylor, 2008). As can be seen in Table 2 (which contains descriptive statistics for all investigated variables), there is limited variation in these two variables (the mean is 4.4 and 4.3, respectively, on a scale from 1 to 5). The limited range of a variable may limit the generality of the conclusion and make it more difficult to reach significant results, but it does not introduce bias (King et al., 1994, p. 137).

[INSERT TABLE 2 AROUND HERE]

Leader and employee gender is a dummy variable (1=man), while leader job tenure is interval-scaled and log-transformed because the same relative difference in leader tenure is expected to be associated with the same absolute change in leader behavior and employee motivation. One additional year of tenure is thus expected to mean more for leaders with short tenures, implying that the association will be linear after the logarithmic transformation of tenure.

Since one of the main variables of interest is measured at the organizational level (transformational leadership as reported by the leader), we conducted random effect analyses. This type of analysis assumes that the random intercept is uncorrelated with any of the covariates (Rabe-Hesketh & Skrondal, 2008, pp. 122-123). Hausman tests comparing fixed effect and random effects models do, however, show evidence of misspecification for models with user orientation as a dependent variable. Following the suggestion of Rabe-Hesketh and Skrondal (2008, p. 123), we therefore tested these models with the inclusion of mean-organizational significant covariates (means of perceived impact on others and perceived impact on society and gender), and this corrected the misspecification. Results from the regression models including mean variables are not shown, because they generally give the same results. In the analysis, the only small difference will be mentioned.

## **Analysis**

This section tests the four hypotheses by first comparing employees' perceived impact on others and society and then their motivations between organizational settings. This is followed by analyses of whether the associations between transformational leadership, public service motivation and user orientation depend on the levels of perceived impact on others and society.

Hypothesis 1 expects that employees working in organizational settings with higher levels of citizen contact will experience that they have a relatively higher impact on other people relative to their perceived impact on

society. For the selected types of public organizations, citizen contact is highest in childcare, followed by primary and lower secondary schools, higher secondary schools and finally tax. Hypothesis 1 therefore implies that the relative user orientation should be highest for childcare employees and lowest for employees in the tax sections, with primary school teachers and secondary school teachers in-between in the listed order. Table 3 confirms these expectations. Although both perceived impact on society and perceived impact on others are highest in absolute numbers in childcare centers, we can see a strong trend towards higher relative perceived impact on others when we go from tax (clearly higher perceived impact on society than on others) to higher secondary schools (a little more perceived impact on society than on users) to primary and lower secondary schools (approximately the same perceived impact on others and society) to childcare centers (higher perceived impact on others and on society). This is also reflected in the fact that the ratio between perceived impacts on others versus society is higher for organizational settings with higher citizen contact.

As mentioned, many other differences can be seen between tax employees and the three types of teachers, but two additional observations from Table 3 indicate that the findings are robust. First, the internal ranking of relative perceived impact on others between higher secondary schools, lower secondary and primary schools and childcare centers is based on their relative citizen contact, as expected. Second, bank employees have higher perceived impact on others than tax employees, and the ratio between impacts on others versus society is also higher for bank employees. Although this should be carefully interpreted because of the ownership difference between tax and banks, it is consistent with the expectation in Hypothesis 1 because bank employees have more citizen contact than tax employees.

In sum, Table 3 shows that employees tend to have higher perceived impact on other people relative to their perceived impact on society when they work in organizational settings with higher levels of citizen contact. We cannot say anything about causality because employees may select organizational contexts based on their

perception of the possibilities to have an impact on society and others, while there are also arguments saying that the actual possibilities to have an impact affects with the perceived impact. However, the important point is that the relative perceptions of impacts are different in different organizational contexts, and this can be important for leadership, as discussed in relation to Hypotheses 3 and 4 below.

[INSERT TABLE 3 AROUND HERE]

The expectation in Hypothesis 2 is that employees working in organizational settings with higher levels of citizen contact have relatively higher user orientation compared to their level of classical public service motivation. This implies that the ratio between user orientation and public service motivation should be highest in childcare centers, followed by primary and lower secondary schools, higher secondary schools and finally tax sections. This is exactly what we see in Table 4, and it is also noteworthy that the absolute difference in user orientation between organizational settings is much greater than the difference in public service motivation. This suggests that citizen contact is more important for user orientation than for public service motivation. The internal ranking in the average ratio between user orientation and public service motivation between the three types of teachers is also as suggested by Hypothesis 2, and the comparison between tax and bank employees also points towards higher user orientation relative to classical public service motivation in organizational settings with higher levels of citizen contact. Bank employees thus have substantially higher user orientation than tax employees and slightly lower public service motivation. Again, this comparison should be carefully interpreted given that private ownership can in itself mean higher user orientation and lower classical public service motivation. Still, Table 4 suggests that Hypothesis 2 was correct in expecting that the relative user orientation (compared to public service motivation) is higher in settings with high citizen contact.

[INSERT TABLE 4 AROUND HERE]

A relevant question based on Tables 3 and 4 is whether the higher relative user orientation in organizational settings with high citizen contact is a result of the higher relative perceived impact on others (relative to impact on society). It is not possible to fully answer this question with the available data, but multi-level regressions with user orientation and public service motivation as dependent variables and organizational setting and the two types of perceived impact as independent variables can give some indications. Table 5 shows a high correlation between perceived impact on others and user orientation and between perceived impact on society and public service motivation (controlled for organizational setting), and the differences between the organizational settings are substantially reduced when control for employee perceived prosocial impact are introduced (compared to Table 4). While the correlation between perceived impact on others and public service motivation is positive, it is not as strong as the two abovementioned correlations, and the correlation between perceived impact on society and user orientation is negative when controlled for organizational setting and perceived impact on others. All in all, Table 5 can be seen as an indication that perceived impact on others and user orientations are actually positively correlated and that perceived impact on society and public service motivation are similarly correlated, but the potential bias because of common method variance means that no final conclusions can be drawn.

[INSERT TABLE 5 AROUND HERE]

Given that we found the expected differences between organizational contexts for relative perceived impact on others (compared to impact on society) and for relative user orientation (compared to public service motivation), it is time to investigate whether the perceived impacts on others and society make a difference for the association between transformational leadership and motivation.

Hypothesis 3 expects the association between transformational leadership and public service motivation to be weaker for employees with higher perceived impact on society, and models PSM2 and PSM3 in Table 6 suggest

that this is correct. The interaction between transformational leadership and perceived impact on society is negative, both when it is introduced without the corresponding interaction between transformational leadership and perceived impact on others in model PSM2 and when this interaction is included in model PSM3. In model PSM2, the interaction is not statistically significant ( $p=0.104$ ), but when the interaction between transformational leadership and perceived impact on others is introduced in model PSM3, it is borderline significant ( $p<0.1$ ). Figure 1 illustrates the interaction graphically.

The key finding is that the association between transformational leadership and public service motivation is more positive for employees who do not agree that their jobs are useful to society. Figure 1 does not show the entire scales for the variables, because the relevant empirical variation is limited, but it still illustrates that there is substantial variation between the associations (the slope of the lines) between employees with varying levels of perceived societal impact. Popularly speaking, if causality actually goes from leadership to public service motivation, employees with low perceived societal impact are “the lowest hanging fruit” for transformational leaders. Another tentative observation from Figure 1 is that transformational leadership and public service motivation do not seem to be correlated if the employees already know that their jobs are useful to society. This would imply that it is not “low hanging fruit” to try to increase public service motivation through transformational leadership for these employees, but the size of the associations should again be carefully interpreted because of common method variance. Still, given that this does not tend to bias interaction effects (Jakobsen & Jensen, 2015), the analysis can be said to support Hypothesis 3. The association between transformational leadership and public service motivation does seem to be weaker for employees with higher perceived impact on society.

[TABLE 6 AND FIGURE 1 ABOUT HERE]

Corresponding to the findings for public service motivation, Table 6 supports the claim in Hypothesis 4 about the association between transformational leadership and user orientation. As expected, this association is weaker for employees with high perceived impact on others. This can be seen from the negative interaction between transformational leadership and perceived impact on others in Table 6. Please note that these interactions are only borderline significant when mean organizational covariates are included (not shown), but the substantial results are still the same. The association between transformational leadership and user orientation is more positive for employees who do not already agree that they can help other people in their jobs. If this is given a causal interpretation, it would mean that transformational leaders are better able to change the motivation to do good for others for employees who are not already aware of (and therefore motivated by) their own impact on specific other people. If a leader wanted to increase user orientation among his employees, the ones with the lowest perceived impact on others would be “the lowest hanging fruit”. If we also add the findings related to Hypothesis 1, it suggests that transformational leadership will have the greatest potential to increase user orientation in organizational settings with little citizen contact. In such contexts, employees tend to perceive that they have less impact on other people, implying that it would be easier for transformational leaders to increase their motivation through behavior that aims to develop a vision that reflects the core organizational goals and to share and sustain this vision. Whether such causal interpretations are reasonable is discussed in more depth below.

## **Discussion and conclusion**

We first asked whether public employees’ public service motivation, user orientation and perceived impacts on society and others differ between organizational contexts with different citizen contact. Analyzing four settings with different citizen contact, we find that both user orientation relative to public service motivation and perceived impact on others relative to perceived impact on society are higher in organizational settings with high citizen contact. The second part of the research question concerns differences in the associations between

transformational leadership, public service motivation and user orientation between employees with different perceived impact on others and society. The associations both between transformational leadership and public service motivation and between transformational leadership and user orientation are stronger for employees with lower levels of the relevant type of perceived prosocial impact. If this is given a causal interpretation, it implies that it is easier for leaders to increase employee motivation if the employees are not already aware that they have the relevant prosocial impact in their job. In this interpretation, employees who cannot see their impact are “low hanging fruit”. Similarly, the results suggest that transformational leadership is not equally well-suited to motivate employees in all contexts: Not all fruit seem to be low-hanging.

There are arguments both in favor of and against giving the findings a causal interpretation. The arguments in favor are mainly theoretical. As discussed above, the literature presents several arguments for transformational leadership to have a causal effect on employee motivation, and one of the mechanisms is seen as increased perceived prosocial impact. The arguments against a causal interpretation are linked to the limitations in the article’s research design. First, the fact that perceived impact and employee motivation is measured in the same survey is a serious argument against drawing any conclusions about the associations between these concepts. However, the potential bias from common method variance is not nearly as problematic for interaction analysis, increasing our confidence in this part of the analysis. If anything, common method variance should make the test conservative (i.e., less efficient), and given that we actually find a significant coefficient, it strengthens our confidence in the conclusion that perceived impact is relevant for the association between leadership and motivation for the investigated employees. Second, leadership is measured using the leaders’ assessment of their leadership (another source than for motivation). Although it limits common method variance for the association between leadership and employee motivation, it may introduce a new potential source of bias, namely social desirability bias. Leaders can thus feel induced to present their behavior as more active and “socially desirable” than it actually is (Meier & O’Toole, 2013), and

existing studies have shown that employee reports of leadership behavior are much more strongly correlated with objective performance measures than leader reports (Jacobsen & Andersen, 2015). The reason for this could be that leader behavior must be perceived by the employees to have an effect on their effort and, thus, on performance. The same argument applies to employee motivation, and it is therefore important to stress that we investigated leadership as seen from the leader's perspective of their actual behavior (and not the reception of this behavior by the employees). Third, the most important limitation in terms of drawing causal conclusions is the fact that the design is cross-sectional. It is not possible to empirically determine whether motivation affects perceived impact and leadership or the other way around. Although theoretical considerations suggest that leadership affects motivation, moderated by perceived impact, any causal interpretations should therefore be made very carefully. Future panel studies and experimental designs will hopefully improve our ability to draw causal conclusions.

Generalizability is also an aspect that could be improved in future studies. Statistical generalizations (even to the investigated types of organizations) should be made carefully because data collection was the first wave of a major experimental leadership project with leaders who had volunteered, but the findings are analytically relevant to a broader context.

Although we cannot make recommendations to public leaders based on one study with questionable potential for causal interpretation, it is worth noting that if future research can confirm the results with research designs suited to make causal inference and generalize more broadly, public leaders can use the results to optimize their transformational leadership. To achieve the best results with the available resources, it is often a good idea to pick the low-hanging fruit, and this research is a first step towards finding out how leaders use knowledge about their organizational setting to become better at motivating employees.

## References

- Andersen, L. B., Heinesen, E., & Pedersen, L. H. (2014). How Does Public Service Motivation Among Teachers Affect Student Performance in Schools? *Journal of Public Administration Research and Theory*, 24(3), 651–671.
- Andersen, L. B., Pallesen, T., & Salomonsen, H. H. (2013). Doing good for others and/or for society? The relationships between public service motivation, user orientation and university grading. *Scandinavian Journal of Public Administration* 17(3), 23–44.
- Antonakis, J. (2012). Transformational and Charismatic Leadership. In D. V. Day, & J. Antonakis (Eds.), *The Nature of Leadership*, Second Edition ed. (pp. 256–288). Los Angeles: SAGE.
- Antonakis, J., Avolio, B. J., & Sivasubramaniam, N. (2003). Context and leadership: an examination of the nine-factor full-range leadership theory using the Multifactor Leadership Questionnaire. *The Leadership Quarterly*, 14, 261–295.
- Bass, B. M. (1985). *Leadership and performance beyond expectations*. New York: Basic Books.
- Bass, B. M. (1999). Two Decades of Research and Development in Transformational Leadership. *European Journal of Work and Organizational Psychology*, 8(1), 9–32.
- Bellé, N. (2013). Experimental evidence on the relationship between public service motivation and job performance. *Public Administration Review*, 73, 143–153.
- Bellé, N. (2014). Leading to Make a Difference: A Field Experiment on the Performance Effects of Transformational Leadership, Perceived Social Impact, and Public Service Motivation. *Journal of Public Administration Research and Theory*, 24(1), 109–136.
- Boye, S.; Christensen, J.; Jensen, U.T.; Bro, L.L.; Bøllingtoft, A.; Eriksen, T.; Jacobsen, C.B.; Ladenburg, J.; Nielsen, P.A.; Salomonsen, H.H.; Westergaard-Nielsen, N. & Andersen, L.B. (2015). *Technical report. Survey of leaders and employees, pre-treatment. Spring-summer 2014*. <http://ps.au.dk/en/research/research->

[projects/leap-leadership-and-performance/publications-and-papers/](#) (accessed May 2016).

- Bæk, T.A. (2014). *Kommunernes økonomiske implementering af folkeskolereformen. Afrapportering på spørgeskemaundersøgelse*. <http://www.kora.dk/udgivelser/udgivelse/i9603/Kommunernes-oekonomiske-implementering-af-folkeskolereformen>. (Accessed 21/08/2015).
- Dalsgaard, C., Nøhr, K., & Jordan, A. L. T. (2014). *Personale og børn i kommunernes dagtilbud: En undersøgelse af perioden 2007-2012*, Copenhagen: KORA.
- Dinh, J. E., Lord, R. G., Gardner, W. L., Meuser, J. D., Liden, R. C., & Hu, J. (2014). Leadership theory and research in the new millennium: Current theoretical trends and changing perspectives. *The Leadership Quarterly*, 14(1), 36–62.
- Glavind, N., & Pade, S. (2015). *Daginstitutionernes hverdag 2015*. Værløse: Bureau 2000.
- Grant A. M. (2007). Relational job design and the motivation to make a prosocial difference. *Academy of Management Review*, 32(2), 393–417.
- Hondeghem, A., & Perry, J. L. (2009). EGPA symposium on public service motivation and performance: Introduction. *International Review of Administrative Sciences*, 75, 5–9.
- Jacobsen, C. B., & Andersen, L. B. (2015). Is Leadership in the Eye of the Beholder? A Study of Intended and Perceived Leadership Practices and Organizational Performance. *Public Administration Review*, 75(6), 829–841.
- Jakobsen, M., & Jensen, R. (2015). Common Method Bias in Public Management Studies. *International Public Management Journal*, 18(1), 3–30.
- Jensen, U. T., & Andersen, L. B. (2015). Doing Good for Society or for the Individual User: Public Service Motivation, User Orientation and Prescription Behavior. *Public Administration*, 93(3), 753–768.
- King, G., Keohane, R. O., & Verba, S. (1994). *Designing Social Inquiry: Scientific Inference in Qualitative Research*. Princeton, NJ: Princeton University Press.

- Kjeldsen, A. M. (2012). *Dynamics of Public Service Motivation*. Aarhus: Politica.
- Knippenberg, D. V., & Sitkin, S. B. (2013). A Critical Assessment of Charismatic-Transformational Leadership Research: Back to the Drawing Board? *The Academy of Management Annals*, 7(1), 1–60.
- Leisink, P., & Steijn, B. (2008). Recruitment, Attraction and Selection. In J. L. Perry and A. Hondeghem (eds.) *Motivation in Public Management: The Call of Public Service* (pp. 118–135). Oxford: Oxford University Press.
- Meier K. J., & O'Toole L. J. (2013). Subjective Organizational Performance and Measurement Error: Common Source Bias and Spurious Relationships. *Journal of Public Administration Research and Theory*, 23(2), 429–456.
- Ministry of Finance. (2013). *Faktaark* <http://www.modst.dk/ServiceMenu/Nyheder-og-presse/Nyhedsarkiv/OEkonomistyrelsen/~media/OK13/Faktaark.ashx> (Accessed 16/07/2015).
- Paarlberg, L. E., & Lavigna, B. (2010). Transformational Leadership and Public Service Motivation: Driving Individual and Organizational Performance. *Public Administration Review*. September/October: 710–718.
- Park, S. M., & Rainey, H. G. (2008). Leadership and Public Service Motivation in U.S. Federal Agencies. *International Public Management Journal*, 11(1), 109–142.
- Perry, J. L. (1996). Measuring public service motivation: An assessment of construct reliability and validity. *Journal of Public Administration Research and Theory*, 6(1), 5–24.
- Perry J. L. (2014). The motivational bases of public service: foundations for a third wave of research. *Asia Pacific Journal of Public Administration*, 36(1), 34–47.
- Perry, J. L., & Wise, L. R. (1990). The Motivational Bases of Public Service. *Public Administration Review*, 50, 367–373.
- Rabe-Hesketh, S., & Skrondal, A. (2008). *Multilevel and longitudinal modeling using Stata*. STATA press. Rainey,

- H. G. (2009). Understanding and managing public organizations. San Francisco: Jossey Bass.
- Rainey, H. G., & Steinbauer, P. (1999). Galloping Elephants: Developing Elements of a Theory of Effective Government Organizations. *Journal of Public Administration Research and Theory*, 9(1), 1–32.
- Ritz, A., Brewer, G. A. & Neumann, O. (2016), Public Service Motivation: A Systematic Literature Review and Outlook. *Public Administration Review*. (early view).
- Scott, P. G., & Pandey, S. K. (2005). Red Tape and Public Service Motivation: Findings from a National Survey of Managers in State Health and Human Service Agencies. *Review of Public Personnel Administration*, 25(2), 155–180.
- Steijn, B. (2008). Person-Environment Fit and Public Service Motivation. *International Public Management Journal*, 11 (1), 13-21.
- Taylor, J. (2008). Organizational Influences, Public Service Motivation and Work Outcomes: An Australian Study. *International Public Management Journal*, 11 (1), 67-88.
- Trottier, T., Van Wart, M., & Wang, X. (2008). Examining the Nature and Significance of Leadership in Government Organizations. *Public Administration Review*, 68(2), 319–333.
- Van Wart, M. (2013). Administrative Leadership Theory: A Reassessment after 10 years. *Public Administration*, 91(3), 521–543.
- Vandenabeele, W. (2007). Toward a Public Administration Theory of Public Service Motivation. An Institutional Approach. *Public Management Review*, 9(4), 545–556.
- Vandenabeele, W. (2014). Explaining public service motivation: the role of leadership and basic needs satisfaction. *Review of Public Personnel Administration*, 34(2), 153–173.
- Walumbwa, F. O., & Wernsing, T. (2013). From Transactional and Transformational Leadership to Authentic Leadership. In M. G. Rumsey (Ed.), *The Oxford Handbook of Leadership* (pp. 392-400). New York: Oxford University Press.

Wright, B. E., Moynihan, D. P., & Pandey, S. K. (2012). Pulling the levers. Transformational Leadership, Public Service Motivation, and Mission Valence. *Public Administration Review*, 72(2), 206–215.

Wright, B. E., & Pandey, S. K. (2010). Transformational Leadership in the Public Sector: Does Structure Matter? *Journal of Public Administration Research and Theory*, 20(1), 75–89.

**Table 1.** Response rates and numbers of respondents, separate for different organizational contexts and for leaders/employees

Organizational setting	No. of invited leaders	No. of replies from leaders (% of invited)	No. of signups (% of replies)	Total no. of employees	No. of employees with some or completed answers (% of total)
Childcare	2424	643 (26.5 %)	133 (20.7 %)	1830	1092 (59.7 %)
Primary and lower secondary Schools	784	348 (44.3 %)	119 (34.2 %)	7320	3001 (40.1 %)
Higher secondary schools	300	185 (61.6 %)	41 (22.2 %)	2278	1435 (63 %)
Tax	153	150 (98.0 %)	144 (96.0 %)	2595	2057 (79.3 %)
Total	3661	1326 (36.2 %)	437 (33.0 %)	14023	7585 (54.1 %)

Note: More details can be seen in Boye et al. 2015.

**Table 2.** Descriptive statistics for investigated public employees and leaders

Variables	Observations	Mean	Std. dev.	Min.	Max.
<i>Employee variables</i>					
Public service motivation	6740	63.30	11.72	0	100
User orientation	6180	70.18	16.97	0	100
Perceived impact on society	6499	4.39	0.69	1	5
Perceived impact on others	6492	4.31	0.74	1	5
Employee gender (1=man)	5370	0.27	0.45	0	1
Employee age	5144	47.39	10.01	15	72
<i>Leader variables</i>					
Transformational leadership	398	83.80	12.80	31.25	100
Leader tenure	398	6.23	5.81	0	30
LN of leader tenure	3903	1.39	1.05	-2.30	3.40
Leader gender (1=man)	396	0.47	0.50	0	1

**Table 3.** Average and relative levels of perceived impact on society and others. Means and differences between tax and the other organizational contexts

	Perceived impact on others (PIO)		Perceived impact on society (PIS)		Average ratio between perceived impacts on others (PIO) and perceived impact on society (PIS)	
	Mean PIO	Difference in mean PIO from tax	Mean PIS	Difference in mean PIS from tax	Ratio PIO and PIS	Difference in ratio form tax
<b>Tax</b>	3.84		4.15		0.954	
<b>Higher secondary schools</b>	4.40	0.57***	4.46	0.31***	0.998	0.044***
<b>Primary and lower secondary schools</b>	4.50	0.67***	4.47	0.33***	1.020	0.066***
<b>Childcare centers</b>	4.61	0.78***	4.55	0.41***	1.032	0.078***
<b>Bank (private sector comparison to tax)</b>	4.03	0.20***	3.61	-0.54***	1.156	0.202***

Notes: Both perceived impact on others and perceived impact on society are scaled from 1 (low) to 5 (high). In addition to the public employees presented in Tables 1 and 2, a comparison with 589 private bank employees is also included.

**Table 4.** Average and relative levels of user orientation and public service motivation. Means and differences between tax and the other organizational contexts.

	User orientation (UO)		Public service motivation (PSM)		Average ratio between user orientation and public service motivation	
	Mean UO	Difference in mean UO from tax	Mean PSM	Difference in mean PSM from tax	Ratio UO/PSM	Difference in ratio from tax
<b>Tax</b>	61.54	-	60.21	-	1.05	-
<b>Higher secondary schools</b>	69.86	8.32***	65.19	4.98***	1.11	0.054***
<b>Primary and lower secondary schools</b>	73.10	11.57***	64.17	3.96***	1.18	0.12***
<b>Childcare centers</b>	81.30	19.77***	64.56	4.34***	1.30	0.24***
<b>Banks</b>	73.54	12.00***	59.53	-0.68	1.28	0.23***

Notes: Both user orientation and public service motivation are scaled from 0 (low) to 100 (high). In addition to the public employees presented in Tables 1 and 2, a comparison with 589 private bank employees is also included.

**Table 5.** Multi-level regression of user orientation and public service motivation (unstandardized regression coefficients, standard errors in parenthesis)

	User orientation	Public service motivation
Higher secondary schools	6.32*** (0.90)	4.72*** (0.60)
Primary and lower secondary schools	8.76*** (0.77)	3.12*** (0.52)
Childcare centers	16.26*** (0.92)	3.34*** (0.64)
Perceived impact on society	-0.92* (0.41)	2.75*** (0.28)
Perceived impact on others	5.20*** (0.41)	2.42*** (0.29)
Leader tenure	-0.16 (0.25)	-0.26 (0.17)
Leader gender (1=male)	-0.45 (0.60)	-0.59 (0.39)
Employee age	0.07** (0.02)	0.17*** (0.02)
Employee gender (1=man)	-2.36*** (0.54)	-1.58*** (0.38)
Constant	42.67*** (2.14)	31.05*** (1.49)
Sigma	2.22 (0.45)	0.99 (0.33)
Sigma	14.65 (0.17)	10.84 (0.12)
Rho	0.02 (0.01)	0.01 (0.01)
N individual level	4121	4525
N organizational level	372	374

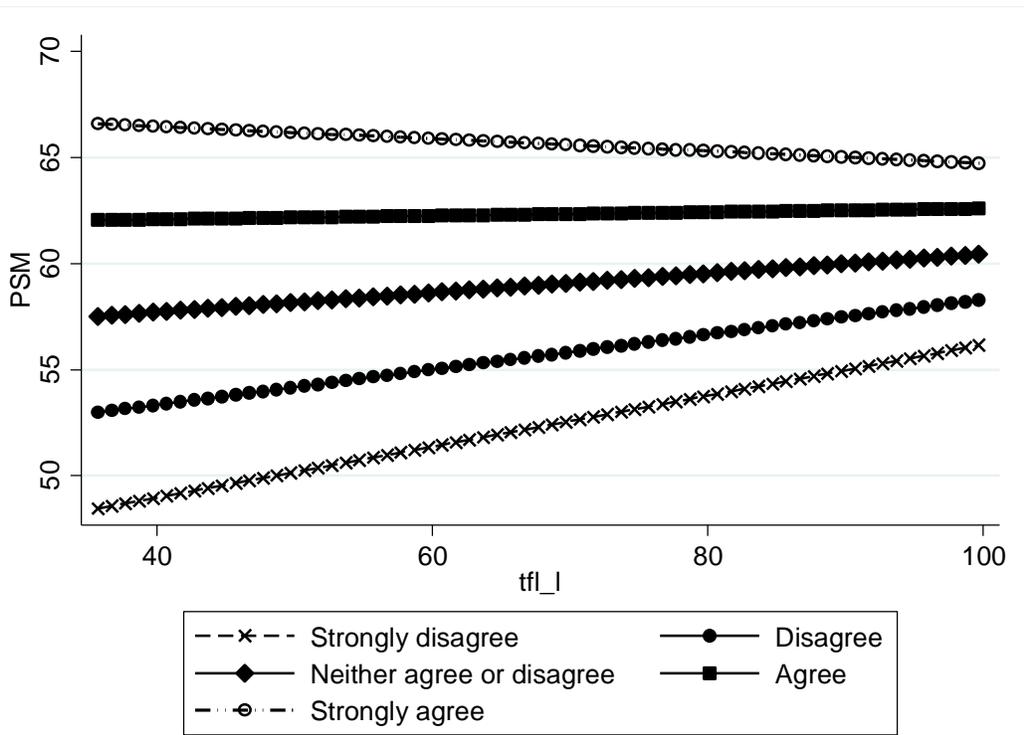
Note: Reference category: Tax employees with female leaders. \*\*\* p<0.001, \*\* p<0.01, \* p<0.05, † p< 0.100.

**Table 6.** Multilevel regression of user orientation and classical public service motivation (unstandardized regression coefficients, standard errors in parenthesis)

	User orientation			Public service motivation		
	Model US1	Model US2	Model US3	Model PSM1	Model PSM2	Model PSM3
Perceived impact on society	-0.91* (0.42)	-0.92* (0.42)	-6.60* (2.78)	2.76*** (0.28)	5.34** (1.61)	5.86** (1.90)
Perceived impact on others	5.19*** (0.43)	7.69** (1.77)	10.75*** (2.68)	2.41*** (0.29)	2.39*** (0.29)	1.45 (1.82)
Transformational leadership (TFL)	-0.01 (0.02)	0.12 (0.12)	-0.02 (0.14)	-0.01 (0.01)	0.13 (0.09)	0.12 (0.10)
TFL*Perceived impact on society			0.07* (0.03)		-0.03 (0.02)	-0.04† (0.02)
TFL*Perceived impact on others		-0.04 (0.03)	-0.08* (0.03)			0.01 (0.02)
Higher secondary schools	6.27*** (0.91)	6.27*** (0.91)	6.26*** (0.91)	4.68*** (0.61)	4.67*** (0.61)	4.68*** (0.60)
Primary and lower secondary schools	8.81*** (0.78)	8.82*** (0.78)	8.82*** (0.77)	3.15*** (0.52)	3.15*** (0.52)	3.15*** (0.52)
Childcare centers	16.32*** (0.93)	16.35*** (0.93)	16.36*** (0.93)	3.39*** (0.64)	3.40*** (0.64)	3.39*** (0.64)
Leader tenure	-0.18 (0.26)	-0.18 (0.26)	-0.19 (0.26)	-0.27 (0.17)	-0.27 (0.17)	-0.27 (0.17)
Leader gender (1=man)	-0.41 (0.60)	-0.42 (0.60)	-0.39 (0.60)	-0.56 (0.39)	-0.58 (0.39)	-0.58 (0.39)
Employee age	0.07** (0.02)	0.07** (0.02)	0.07** (0.02)	0.17*** (0.02)	0.17*** (0.02)	0.17*** (0.02)
Employee gender (1=man)	-2.36*** (0.54)	-2.34*** (0.54)	-2.30*** (0.54)	-1.58*** (0.38)	-1.58*** (0.38)	-1.59*** (0.38)
Constant	43.65*** (2.80)	32.84** (9.92)	44.71*** (11.46)	31.65*** (1.89)	20.31** (7.23)	22.09** (7.99)
Sigma_u	2.23 (0.45)	2.21 (0.45)	2.19 (0.45)	0.98 (0.34)	0.96 (0.34)	0.97 (0.34)
Sigma_e	14.66 (0.17)	14.66 (0.17)	14.66 (0.17)	10.84 (0.12)	10.84 (0.12)	10.84 (0.12)
Rho	0.02 (0.01)	0.02 (0.01)	0.05 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)
N Individual level	4113	4113	4113	4517	4517	4517
N organizational level	371	371	371	373	373	373

Notes: Reference category: Tax employees with female leaders. \*\*\* p<0.001, \*\* p<0.01, \* p<0.05, † p< 0.100.

**Figure 1.** Associations between transformational leadership and public service motivation illustrated for different levels of perceived impact on society



Note: The lines illustrate the estimated relationship for different answers to the question: “My job is useful to society”. Please be aware that the marginal effects should not be interpreted directly given the risk of bias because of common method variance. However, the interaction effect (the different slope of the lines) is more robust.

**Appendix**

**Table A1: Factor loadings from principal factor analysis of public service motivation items. Oblimin rotation**

	Item	Factor 1	Factor 2	Factor 3	Factor 4
SSE1	I believe in putting duty before self	0.0957	0.7086	0.0659	0.0171
SSE2	Making a difference in society means more to me than personal achievements	0.1815	0.6101	0.1182	-0.0053
SSE3	I feel people should give back to society more than they get from it	0.0800	0.5246	0.1396	0.0629
SSE4	I am willing to risk personal loss to help society	0.1158	0.7626	0.0541	0.0693
SSE5	I am prepared to make sacrifice for the good of society	0.0971	0.7447	0.0481	0.0716
COM1	It is difficult for me to contain my feelings when I see people in distress	0.7597	0.0642	0.0509	0.0013
COM2	For me, considering the welfare of others is one of the most important values	0.6779	0.1573	0.1437	-0.0150
COM3	I get very upset when I see other people being treated unfairly	0.7525	0.0640	0.0763	-0.0407
COM4	I feel sympathetic to the plight of the underprivileged	0.7226	0.1264	0.1014	-0.0016
COM5	I am often reminded by daily events about how dependent we are on one another	0.5235	0.1589	0.1719	-0.0033
CPI1	It is important to me to contribute to the common good	0.3747	0.2593	0.5796	0.0465
CPI2	I consider public service my civic duty	0.2755	0.3134	0.5627	0.0635
CPI3	It is important to me that public services contributes to the common good	0.2161	0.0879	0.5782	0.0050
CPI4	Meaningful public service is very important to me	0.3313	0.0609	0.5484	-0.0236
CPI5	I would prefer seeing public officials do what is best for the whole community even if it harmed my interests	0.0941	0.3679	0.4192	0.0727
ATP1	I generally associate politics with something positive	0.0325	0.1313	0.0832	0.6544
ATP2	The give and take of public policy making doesn't appeal to me (reversed)	-0.1009	0.0425	-0.0277	0.6829
ATP3	I don't care much for politicians (reversed)	0.0071	0.0781	0.0209	0.7357
N					6213

\*The factor analysis extracts three factors with eigenvalues higher than 1. The eigenvalue of the fourth factor is 0.85190. Cronbach's alpha is for factor 1 (interpreted as compassion) 0.8343, for factor 2 (self-sacrifice) 0.8232, for factor 3 (commitment to public interest) 0.7732, and for factor 4 (attraction to policy-making) 0.7686.

**Table A2: Factor loadings from principal factor analysis of user orientation items**

	Item	Factor 1
User1	The individual user is more important than formal rules	0.5023
User2	It gives me energy to know that I helped the user	0.5334
User3	If the user is satisfied, the job is done.	0.4450
N		6113

\*Questions were adjusted to the specific user group in each sector. For example, “user” in the daycare sector = “children”. Eigenvalue = 0.73483, Cronbach’s alpha = 0.5280.

**Table A3: Factor loadings for transformational leadership from principal factor analysis.**

	Item (As a leader I...)	Faktor 1
TFL1	Concretize a clear vision for the [ORGANIZATION TYPE]	0.7528
TFL2	Communicate my vision for the [ORGANIZATION TYPES] future	0.8052
TFL3	Have a clear sense of where I believe our [ORGANIZATION TYPE] should be in five years	0.6969
TFL4	Make continuous efforts to generate enthusiasm for the [ORGANIZATION TYPES] vision	0.4852
TFL5	Seek to make employees accept common goals for the [ORGANIZATION TYPE]	0.6006
TFL6	Strive to make the [ORGANIZATION TYPE] to work together in the direction of the vision	0.7148
TFL7	Strive to clarify for the employees how they can contribute to achieve the [ORGANIZATION TYPES] goals	0.5572
N		391

\*Factor analysis extracts only one factor with eigenvalue higher than 1 (eigenvalue = 3.11832). Cronbach’s alpha for factor = 0.8522. Questions were adjusted to the specific sector. In the daycare sector, “organization” was, for example, replaced with “daycare institution”.