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**Leadership Promotion of Public Values:
Public Service Motivation as a Leadership Strategy in the Public
Sector**

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Abstract

Both leadership and public service motivation are important issues in contemporary public administration. By connecting these issues, the aim of this paper is to assess the impact of transformational leadership behaviour (promoting public values) on public service motivation development. Two hypotheses were tested with a dataset of 3507 state civil servants in Belgium. The analysis shows that a positive relation exists, and that it is moderated by a set of basic psychological needs (security, autonomy, competence and relatedness).

1. Introduction

The topic of motivation of public servants and of public service motivation (PSM) in particular, has been named one of the big questions of public administration and public management (Behn 1995). Until the mid of the nineties, research has been “ongoing, but somewhat sporadic (Crewson 1997 : 500)”, after the topic had been formally introduced by Rainey (1982) and Perry and Wise (1990). At present Public Administration has now reached a point where a critical mass of PSM research has been developed and the research now lives up to its status of being a ‘big question’, as well in academic circles as with practitioners (Pattakos 2004). As a consequence, PSM has been related to performance (Naff and Crum 1999; Lewis and Alonso 2001), to sectoral preference (Lewis and Frank 2002), decreased turnover and increased job satisfaction (Naff and Crum 1999), incentive preferences (Rainey 1982; Houston 2000) and whistle-blowing (Brewer and Selden 1998). However, little research has been devoted to exploring the origins of PSM (with the exception of Moynihan and Pandey 2007).

This paper would like to fill this gap by investigating the relationship between PSM and an even more studied phenomenon in the broader field of management sciences, as , according to Burns (1978 : 1), ‘leadership is the most studied and least understood topic in the social sciences’. Although there has been substantially less attention for leadership in the public sector (Terry 2003), it nevertheless is an important issue, both with academics and practitioners (Van Wart 2003).

First, some theoretical issues concerning leadership and public service motivation are reviewed. Second, the data and methodology are further discussed. Third, the results of the analyses are presented. Finally, the paper ends with a discussion of the results, before formulating some general conclusions.

2. Theoretical framework

The theoretical framework provides an overview of the literature concerning the important concepts for this paper. First, various types of leadership are discussed and they are assessed on their motivational merits. Second, the subject of PSM is examined and an explanatory framework is further laid out. In the end, both literatures are integrated into and a two hypotheses are stated in order to enable testing.

2.1. Leadership and transformational leadership in the public sector

In current management research, leadership has many guises. Until the late 1970's, leadership was primarily focused on transactional leadership (Rainey 1997). This type of research was 'transactional' in the sense that "leaders approach followers with an eye to exchanging (Burns 1978 : 4). Afterwards, the focus shifted more towards transformational leadership (Conger and Hunt 1999). This type of leadership research aimed at a different kind of leaders. Transformational leadership results in "shifts in the beliefs, the needs, and the values of followers (Kuhnert and Lewis 1987 : 648). This type resulted in three sub-schools of research, transformational leadership focus on organizational change, entrepreneurial leadership and charismatic leadership, focused on the influential processes and entrepreneurial, borrowing from the two former (Van Wart 2003). Both types of leadership are commonly said to operate on different levels. Where transactional leaders are mainly presented as small group, 'direct supervisor'-style leaders, transformational leaders are often conceived as higher up the hierarchy, 'top executive' style leaders (Van Wart 2003).

In this article, the analysis will be limited to transformational leadership, as the aim is to investigate the impact of leadership on a value-laden concept as PSM. In an organizational context, this is one the aims of transformational or charismatic leadership. By influencing the self-concept of organizational members through leader behavior, the goal is to obtain social

identification and to internalize certain values within the organizational members (Shamir, House and Arthur 1993). Transformational leadership also strengthens moral behavior of institutional members (Dvir et al 2002), which demonstrates its particular aptitude for PSM related research.

However, public administration theory on leadership did not follow these developments towards transformational leadership. Instead, it set out its own course with the main focus of the debate on the “constraints and unique environment of administrative leaders (Van Wart 2003 : 224)”. Moreover, some voiced their doubts on whether transformational leadership is at all suited for the public sector. Certain conditions influence both the emergence and the effectiveness of transformational leadership (Shamir and Howell 1999), and these conditions are not always fit a public environment, dramatically decreasing the emergence of charismatic leadership in a bureaucracy. The impact of charismatic or transformational leadership in a public sector environment therefore remains to be discussed (Javidan and Waldman 2003). Some also state that, as the organizational features of a public sector organization substitute for leadership (Kerr and Jermier 1978), leadership is less influential (or needed) in public sector environment (see for an overview Hooijber and Choi 2001). Nevertheless, some still urge their colleagues to refer to transformational leadership as a means to establish a value-based management in the public sector (Denhardt and Campbell 2006).

2.2. Public service motivation

Public service motivation (PSM) refers to the motivation people have to perform public service and to contribute to society. Although related empirical concepts have been studied before (Rainey 1982), PSM was formally defined by Perry and Wise as ‘an individual’s predisposition to respond to motives grounded primarily or uniquely in public institutions’

(Perry and Wise 1990 : 368). Later, other authors have provided other definitions, focusing on particular aspects. Brewer and Selden (1998) have defined PSM as ‘the motivating force that makes individuals deliver significant public service’. Rainey and Steinbauer (1999), who see PSM as an important determinant of organizational performance, define PSM as a ‘general altruistic motivation to serve the interests of a community of people, a state, a nation or humanity’. Vandenabeele (2007-forthcoming) defines PSM as ‘the belief, values and attitudes that go beyond self-interest and organizational interest, that concern the interest of a larger political entity and that motivate individuals to act accordingly whenever appropriate’. This definition tries to encompass not only previous definitions of PSM, but also related concepts as ‘public service ethos’ (Pratchett and Wingfield 1996; Vandenabeele and Horton 2007 – forthcoming).

On an operational level, PSM consists of various related dimensions. Perry (1996) distinguishes between four dimensions, ‘politics and policies’, ‘public interest’, ‘compassion’ and ‘self-sacrifice’, although initially, he started off with six dimensions. Some researchers claim redundancy of at least one of these dimensions, while Vandenabeele (2006) found an additional dimension ‘democratic governance’.

Most studies to date treated PSM as an independent variable, contributing to various types of behavior. As an independent variable, PSM has been successfully linked to performance, on both individual level (Naff and Crum 1999; Lewis and Alonso 2001) and organizational level (Rainey and Steinbauer 1999; Kim 2005). Also, PSM has been related to sectoral preference (Lewis and Frank 2002), decreased turnover and increased job satisfaction (Naff and Crum 1999), incentive preferences (Houston 2000) and whistle-blowing (Brewer and Selden 1998). Few researchers have sought to explain individual PSM. In formulating theoretical frameworks, institutional approaches are used to explain the incidence of PSM

(Perry 2000; Vandenaabeele 2007 forthcoming). This approach has been corroborated by some studies (Perry 1997; Moynihan and Pandey 2007).

Vandenaabeele (2007, forthcoming) states that PSM can be explained by integrating institutional and psychological theories. He assumes the existence of different institutions in which individuals operate. Defining an institution as ‘a formal or informal, structural, societal or political phenomenon that transcends the individual level, that is based on more or less common values, has a certain degree of stability and influences behavior (Peters 2000 : x)’, this definition matches the organizational environment within which public servants operate. This institution has two essential components regarding the explanation of socialization of institutional values. First, it embraces, up to a certain extent, public service values. Second, the institution responds to the basic psychological needs located within each individual (Ryan and Deci 2004). These basic needs are the need for autonomy, the need for relatedness and the need for competence. They are assumed to be present within each individual and they are considered to be the base for individuals’ growth oriented movement and the process of internalization. Next to these, another psychological need, insecurity reduction, is added to this set. It has been promoted as a basic need for psychological functioning (Herzberg 1966; Maslow 1954; Kasser 2002). To the degree that these institutions’ responsiveness is better, the public service values will be better internalized within the individual’s public service identity, resulting in a higher degree of public service motivation.

2.3. Hypotheses

When integrating the literature on leadership and PSM, they mesh rather well into a set of hypotheses concerning the impact of leadership on the degree of individual PSM (figure 1).

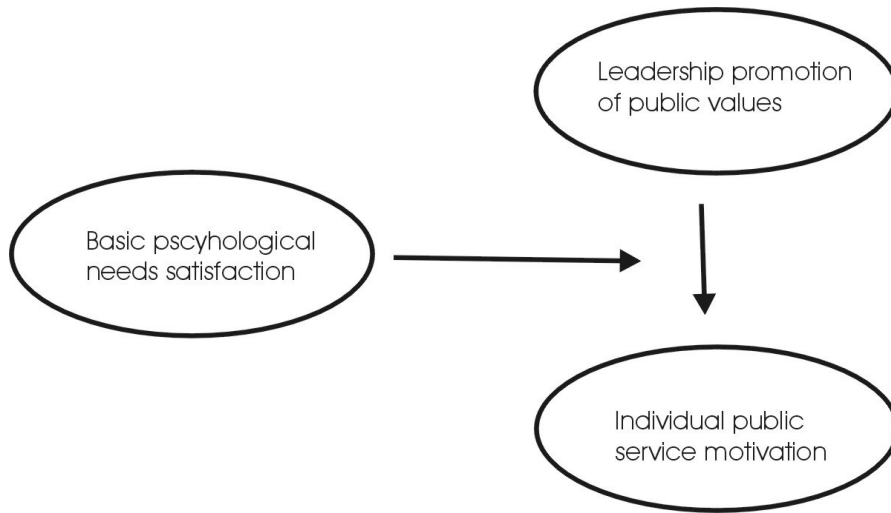


Figure 1 : Theoretical framework

First, transformational leadership can be considered as a way to promote and socialize institutional values. Therefore H1 states :

H1 : Promotion of institutional public service values by supervisors is positively correlated with the individual level of public service motivation

This hypothesis is further refined in H2, which adds a conditional element, integrating the theory. H2 is thus formulated as follows :

H2 : The correlation between the leadership promotion of public service values and PSM is positively moderated by the institutional satisfaction of individual basic needs.

3. Methods

The data upon which the analysis in this paper is based, are of a quantitative nature.

Therefore, a short description of the data gathering and the sample, as well as a discussion of the measurement instruments and the statistical techniques are provided.

3.1. Sample and data

The data upon which this paper is based were collected in a survey among Flemish state civil servants of the central ministries and some associated agencies. It was an internet-based e-mail survey in which potential respondents received an e-mail in which they were asked to participate in the survey. Clicking an URL, they accessed the survey located on a website. The data were automatically written to a database after the survey was completed. Thereupon, suspicious entries (doubles, inconsistent or monotonous response patterns) were deleted and 3507 usable responses were retained. Response rates varied from 21 % to as much as 90 %. However, as table 1 shows, the bulk of the data were collected with civil servants of the core ministries (which were at the time the largest group of civil servants in our surveyed population).

Power analysis with SAS 9.1 PROC POWER © demonstrated that the minimum sample size for testing for small effects (part correlation of .1) is 1039 respondents. Both the general sample (N=3507), used for testing hypothesis H1, as well as the mean-split samples (minimal N=1321), used for testing hypothesis H2, satisfy this criterion. This results in the generally accepted power level of .8 (Cohen 1988), for an alpha-level of .1 and for 5 predictors. As a consequence, population effects have more than 80% probability of being detected.

	E-mails sent	Respondents	Response rate
Core ministries	9492	3096	0,33
Agency on educational infrastructure	72	26	0,36
Agency on Flemish tourism	205	44	0,21
Agency on public collection and processing of waste	393	210	0,53
Agency on regulating the energy market	20	18	0,90
Institute for scientific and technological development	141	47	0,33
Institute for agricultural research	Unknown number	66	Unknown

Table 1 : Response rate of the survey

3.2. Independent and dependent variables

As stated before, public service motivation consists of a number of dimensions. However, in order to limit the analyses, this paper only considers an aggregate instrument of PSM. This instrument involves averaging the score on a the set of PSM items, scored from 1 to 5 (1. ‘I Totally disagree’ to 5. ‘I totally agree’). Although this measure provides less information on the individual dimensions of PSM, an aggregate approach has been frequently applied in PSM research (Brewer and Selden 2000; Naff and Crum 1999; Kim 2005; Lewis and Frank 2002). In total, 18 items, relating to five dimensions of PSM, are averaged (table 2). These items are the same items that are used in the measurement scale by Vandenabeele (2006).

<p>Politics I do not care about politicians ‘Politics’ is a dirty word</p>
<p>Public interest To me, before anything, good civilians should think of society Serving the public interest is an important drive in my daily life (at work or outside work) I voluntary and unselfishly contribute to my community To me, serving the public interest is more important than helping individual persons</p>
<p>Self-sacrifice Much of what I do is for a cause bigger than myself I am prepared to make enormous sacrifices for the good of society I feel people should give back to society more than they get from it Making a difference in society means more to me than personal achievements</p>
<p>Compassion To me, helping people who are in trouble is very important I seldom think about the welfare of other people whom I don’t know personally Without solidarity, our society is doomed to fall apart Fighting poverty is an important duty of government To me, patriotism includes seeing to the welfare of the others</p>
<p>Democratic governance Everybody is entitled to a good service, even if it costs a lot of money Even in the case of major disasters, public service should be maintained It is important that public servants account for all the costs they make</p>

Table 2 : Public service motivation items

In order to measure leadership promotion of public service values, respondents were asked to what extent they discussed a set of public service values with their direct supervisors.

These values correspond with the five dimensions distinguished in the PSM construct

‘politics’ (‘suppol’), ‘public interest’ (‘suppub’), ‘compassion’ (‘supcomp’), ‘self-sacrifice’

(‘supsacr’) and ‘democratic governance’ (‘supgov’). Again, these are measured on a five-point scale (1. ‘I Totally disagree’ to 5. ‘I totally agree’).

Politics My direct supervisor reminds me in our discussions about the political sensitivity of our job My direct supervisor reminds me in our discussions about the influence we exert on public policy
Public interest My direct supervisor reminds me in our discussions about our contribution to the public interest
Compassion My direct supervisor reminds me in our discussions about the importance of compassion to fellow citizens who have a hard time
Self-sacrifice My direct supervisor reminds me in our discussions about the necessity to forgo my own interests
Democratic governance My direct supervisor reminds me in our discussions about the importance of equal treatment My direct supervisor expects me to account for my actions My direct supervisor reminds me in our discussions about the importance of honesty and trustworthiness

Table 3 : Leadership promotion of public service values

The final construct which is measured in this paper is basic needs satisfaction. The basis for the measurement instrument is the ‘Basic Psychological Needs at Work Scale’ (Baard, Deci and Ryan 2004). This is a 21 item scale, measuring three of the four assessed basic needs (‘competence’, ‘autonomy’ and ‘relatedness’). Another six items, measuring ‘security’, were added to this scale.

A four-dimensional measurement model was developed by doing a confirmatory factor analysis on these 27 items. To this end, the dataset was randomly split, resulting in one calibration dataset and one validation dataset. This enabled us to cross-validate the results (Anderson-Butcher and Conroy 2002; Homburg 1991), preventing capitalization on chance (MacCallum et al 1992) when respecifying the measurement model. This procedure resulted in four-dimensional model with 17 items (table 4), which provided reasonable fit indices (Schumacker and Lomax 2004).

	Model Needs	
	Loading	Factor reliability

Autonomy				.73
VAR97	I feel like I can make a lot of inputs to deciding how my job gets done.		.46	b
VAR106	I am free to express my ideas and opinions on the job.		.63	b
VAR113	My feelings are taken into consideration at work.		.64	b
VAR118	I feel like I can pretty much be myself at work.		.79	b
Relatedness				.84
VAR98	I really like the people I work with.		.83	b
VAR103	I get along with people at work.		.82	b
VAR104	I pretty much keep to myself when I am at work.	a	.43	b
VAR107	I consider the people I work with to be my friends.		.68	b
VAR115	People at work care about me.		.77	b
VAR122	People at work are pretty friendly towards me.		.54	b
Competence				.69
VAR101	People at work tell me I am good at what I do.		.51	b
VAR109	I have been able to learn interesting new skills on my job.		.69	b
VAR112	Most days I feel a sense of accomplishment from working.		.74	b
Security				.66
VAR105	In my job, it is very clear which tasks are mine		.49	b
VAR108	If I have a problem at work, I know precisely whom I should address		.68	b
VAR117	I know my co-workers will back me up		.65	b
VAR119	I am not very comfortable at work	a	.46	b

Table 4a : Basic psychological needs measurement model

	X ² (SB)	df	GFI	RMSEA	RMSEA-CI	Prob. RMSEA < .05	CFI	NFI
Model Needs-null	2676.65	318	.965	.0672	[.0649-.0696]	.0000	.934	.926
Model Needs	771.01	113	.989	.0596	[.0556-.0636]	.0000	.976	.972
Model Needsb (loose)	905.31	113	.988	.0654	[.0615-.0694]	.0000	.975	.971
Model Needsc (partial)	930.51	126	.987	.0624	[.0587-.0662]	.0000	.974	.970

Table 4b : Goodness of fit indicator for measurement model and cross-validation

Next to these variables, a number of control variables was also included in the analysis ('gender', 'statute' and 'grade'). Both 'gender' and 'statute' are dichotomous dummy variables, with males being the reference group (scoring '0') for gender and statutory employment (scoring '0') being the reference group for 'statute'. As 'grade' has four categories (A-level requiring master degree, B-level requiring bachelor degree, C-level requiring high school education and D-level requiring no education), grade D is excluded from the analysis and therefore the reference category (Hardy 1993).

3.3. Statistical techniques

Regression analysis is the most appropriate method for examining the relation between a set of independent variables and a single dependent variable. Multiple Ordinary Least Squares (OLS) regression is probably the most widely used variant of regression analysis. A number of points are of particular interest when interpreting OLS regression results. First, in the case of nominal independent variables, dummy variables are used. This entails the existence of a reference group, to which the other categories stand out (Hardy 1993). Second, it is important to consider the problem of multicollinearity. If two independent variables highly correlate, regression results become spurious (Fox 1991) and results are not clearly attributable anymore. The most widely used diagnostic for this problem is the Variance Inflation Factor statistic (VIF). The higher the VIF is, the greater the danger of multicollinearity is. The literature places the suggested cut-off for VIF at 10 (Hair et al 1995).

In order to test the hypotheses stated earlier in this paper, the analysis should be able to incorporate interactive effects. More specific, when testing H2, the analysis should be capable to assess the effect of promotion of public service values on PSM, for different levels of the moderator variables, in this case the four dimensions of basic needs satisfaction. An obvious methodology would be interactive or moderated regression (Moderated Multiple Regression; MMR) using cross-products of the independent and the moderator variables (Jaccard et al 1990). However, in comparison to experimental settings, MMR is often underachieving in detecting moderator variables, although compelling theoretical reason for such a relationship exist (for an overview, see McClelland and Judd 1993 or O'Connor 2006). As cross-products are highly correlated with both independent variables, the risk of multicollinearity is substantial. Even mean-centering, a strategy proposed for reducing multicollinearity (Jaccard et al 1990), does not alleviate these problems. Next to this problem, statistical power of MMR is also very low because of the joint variable distribution (O'Connor 2006).

Therefore, other ways for detecting interactions should be explored. One of these possible approaches is the comparison of subgroups (Subgroup Correlation Comparison; SCC). Although the statistical power of SCC is lower than MMR (Stone-Romero and Anderson 1994), it suffers less from multicollinearity. In order to compare subgroups, the null-hypothesis of equal correlations needs to be rejected by means of the Q-statistic. This statistic, based upon the Fisher's Z-scores of the correlations of the different subgroups, and which is approximately distributed as a chi-square with k-1 degrees of freedom (Jaccard et al 1990).

4. Analysis

First, hypothesis H1 is tested by means of multiple regression analysis. This renders a significant model (table 5), corroborating H1. The explained variance is rather low (.1173). The perception importance of four out of five of the values incorporated in the analysis demonstrates a significant influence. Discussion of the importance of politics, the importance of the public interest, the importance of compassion and the importance of democratic governance all positively contribute to the level of individual PSM. Inspection of the standardized regression coefficients shows that the effects are, although significant, rather small. Discussion of the public interest seems to be the most important influence(.12), while the other three significant variables show a slightly lower influence (.08 or .09). The discussion of the importance of self-sacrifice does not contribute to a higher level of PSM. Analysis of the VIF statistic revealed that no danger for multicollinearity exists, as the values are well below the threshold of 10 (Hair et al 1995).

Next to the variables in the analysis, individual PSM is also influence by gender and grade. Concerning gender, female respondents display a higher level of PSM compared to male respondents. Concerning grade, compared to the reference group of grade D employees,

employees in all the other grades show a significant higher level of PSM. Statutory employment does not seem to exert a significant influence.

	β	STB	VIF
Suppol	0,028 ***	0,082	1,297
Suppub	0,048 ***	0,127	2,078
Supcomp	0,035 ***	0,093	1,486
Supsacr	-0,006	-0,018	1,544
Supgov	0,047 ***	0,091	2,310
Gender	-0,111 ***	-0,121	1,030
Grade_A	0,174 ***	0,186	3,351
Grade_B	0,069 *	0,061	2,424
Grade_C	0,084 **	0,082	2,748
Statute	-0,021	-0,019	1,027
* p < .1; ** p <.01; *** p <.001			
Model F = 46.86 ; p < .0001			
Adj. R ² = .1173			
N = 3451			

Table 5 : Regression analysis H1

Testing hypothesis H2 promises to be more complex. In order to test the interaction effect for a variable, the sample has to be divided into two subsamples. Normally, this split should be based upon the median, to obtain equal sample sizes (increasing the power).

However, in this case, this would mean a substantial loss of data as many variables score exact on the median. Therefore, the split will be based upon the mean, losing fewer respondents. This split will be done for each of the predicted moderator variables, resulting in four sets of two subsamples.

The analysis testing H2 is shown in table 6. For each of these subsamples, a regression model calculated the explained variance of the five independent variables on PSM (Adj. R²), which was then converted to a corrected multiple correlation coefficient R. For each of the individual variables, the semi-partial or part correlation with PSM is calculated, which provides the unique effect of that variable on the individual PSM level. Upon Fisher's Z transformations of these statistics (part and R), the Q-statistic, which tests the equality of correlations, is calculated for both the entire model and the individual variables. This can be

treated as a chi-square with one degree of freedom, as it is a pairwise comparison. Therefore, the critical values of the statistic are 2.705 ($p < .10$), 6.635 ($p < .01$) and 10.828 ($p < .001$).

However, because SCC methods tend to have lower statistical power than other techniques, it might also be worthwhile to look at the results more intuitively if the expected results do show up. A difference in Adj. R² and a difference in the number of significant part correlations may also point out the existence of interaction effects.

Security								
Lower scoring group			Higher scoring group					
part	Adj. R ²	Z1	part	Adj. R ²	Z2	Z'	Q	
Model (a)	0,192	0,037	0,194	0,300	0,090	0,309	0,257	11,24 ***
Suppol	0,154 ***		0,156	0,196 ***		0,199	0,179	1,60 -
Suppub	0,115 *		0,116	0,194 ***		0,196	0,160	5,44 *
Supcomp	0,006 -		0,006	0,111 ***		0,111	0,063	9,32 **
Supsacr	0,018 -		0,018	0,028 -		0,028	0,023	0,07 -
Supgov	0,049 *		0,049	0,058 **		0,058	0,054	0,07 -
Sample size	1563					1864		
Autonomy								
Lower scoring group			Higher scoring group					
part	Adj. R ²	Z1	part	Adj. R ²	Z2	Z'	Q	
Model (a)	0,213	0,045	0,216	0,266	0,071	0,273	0,245	2,75 *
Suppol	0,168 ***		0,169	0,164 ***		0,166	0,168	0,01 -
Suppub	0,141 ***		0,142	0,164 -		0,166	0,154	0,49 -
Supcomp	0,003 -		0,003	0,112 ***		0,112	0,060	10,13 ***
Supsacr	0,000 -		0,000	0,019 -		0,019	0,010	0,30 -
Supgov	0,012 -		0,012	0,081 ***		0,081	0,048	4,08 *
Sample size	1640					1787		
Competence								
Lower scoring group			Higher scoring group					
part	Adj. R ²	Z1	part	Adj. R ²	Z2	Z'	Q	
Model (a)	0,187	0,035	0,190	0,236	0,056	0,241	0,221	2,10 -
Suppol	0,152 ***		0,153	0,155 ***		0,156	0,155	0,01 -
Suppub	0,124 ***		0,124	0,144 *		0,145	0,137	0,34 -
Supcomp	0,004 -		0,004	0,096 ***		0,096	0,061	6,79 **
Supsacr	0,014 -		0,014	0,020 -		0,020	0,018	0,02 -
Supgov	0,013 -		0,013	0,061 **		0,061	0,043	1,83 -
Sample size	1321					2106		
Relatedness								
Lower scoring group			Higher scoring group					
part	Adj. R ²	Z1	part	Adj. R ²	Z2	Z'	Q	
Model (a)	0,227	0,052	0,231	0,260	0,067	0,266	0,248	1,00 -
Suppol	0,178 ***		0,180	0,169 ***		0,171	0,175	0,06 -
Suppub	0,146 **		0,147	0,164 *		0,166	0,156	0,30 -
Supcomp	0,016 -		0,016	0,103 ***		0,104	0,059	6,61 *
Supsacr	0,016 -		0,016	0,000 -		0,000	0,008	0,22 -
Supgov	0,034 -		0,034	0,062 **		0,062	0,047	0,67 -
Sample size	1732					1695		

* $p < .1$; ** $p < .01$; *** $p < .001$

(a) For the entire model, the effect size is the multiple correlation coefficient R instead of part correlation

Table 6 : Subgroup correlation comparison for moderator variables

First, concerning the interaction effect of ‘security’, the statistical analysis reveal that there is a positive moderator effect on the relation between leadership promotion of public service values and PSM for the entire model. When looking at the individual variables, this effect is present for ‘suppub’ and ‘supcomp’. Second, the interaction effect of ‘autonomy’ is also statistically corroborated. For the individual variables, this effect is present for ‘supcomp’ and ‘supgov’. Third, the moderator effect for ‘competence’ does not demonstrate itself significantly, although there is a difference in Adj. R². However, when looking at the individual variables, ‘competence’ shows a significant moderator effect for the relation between ‘supcomp’ and PSM. Next to this, ‘supgov’ also shows a significant part with PSM for the higher scoring group, while the lower scoring group is shows no significant result. Finally, relatedness also does not show a significant Q for the entire model, despite the difference in Adj. R². However, for ‘supcomp’, the interaction effect in statistically significant. . Next to this, ‘supgov’ also renders a significant part for the higher scoring group, while the lower scoring group does not.

5. Discussion

Concerning H1, the data and the analysis corroborate hypothesis H1. All but one independent variables have a significant impact on the individual PSM level. Therefore, we can state that transformational leadership practices, the promotion of public service values in order to influence the identity and behaviour of employees (implicitly or explicitly), deliver results. This results also supports the general theoretical framework of public service motivation by Vandenberghe (forthcoming), which states that PSM finds its origins in institutionalized organizational values (in this case with direct supervisors as institutional

carriers). Only for one value, self-sacrifice, this statement does not hold, but the reason remains hidden. It could be due to the measurement of 'supsacr', which explicitly refers to sacrificing one's own interests, without stating why they should sacrifice these. If these deeds of sacrifice would have been linked society or the public interest, the result might have been otherwise. Another possible explanation could be that an appeal to perform self-sacrificing behaviour is not accepted within an employee-leadership relation. In this case, the transformational character of the leadership is somewhat softened by the broader environment. Nevertheless, this analysis shows that direct supervisors, which are in general middle and lower managers, can display transformational leadership behaviour, contrary to the general 'consensus' that existed in the literature concerning the divide between transformational-transactional leadership.

The analysis of the control variables demonstrates that grade has a significant effect in generating PSM. Higher level employees have less fragmented jobs, which result in higher levels of work motivation (Hackman and Oldham 1980). This could well be the case for PSM. However, this does not mean that PSM is only something for higher level employees. PSM can acquire PSM outside their work environment, as demonstrated by Perry (1997). Moreover, having high levels of PSM is one thing, another question is what the precise effect is of those levels. Vandenaabeele (2007) already showed that PSM has a higher impact on job satisfaction and organizational commitment for low level employees than it has for higher level employees.

The data analyzing hypothesis H2 are less straightforward interpretable. However, in general, the data corroborate H2. For every moderator variable statistical significant results support the expected positive direction of the interactive effect, while none are found for a negative interactive effect. Even where the general model did not deliver a moderator effect, at least one of the individual variables showed a significant effect. Therefore, one can state

that basic psychological needs satisfaction at work will have a positive influence on the impact of transformational leadership behaviour on the generation of individual PSM.

An interesting observation is that ‘supcomp’ is consistently moderated for all four moderators. Apparently, employees are more prone to socialization by their superiors when any of their basic psychological needs is satisfied. This might be due to the contrast between their own situation and their own psychological well-being (Deci and Ryan 2004), and the deprived situation of the other.

However, not every individual displayed such an effect. In the case of ‘suppub’ and ‘subgov’, the difference between the part correlation was not sufficient to obtain significant effects. This could be due to the lower statistical power that is associated with SCC tests. The consistently higher correlations for the higher scoring groups could indicate the possible presence of an interaction effect. In the case of ‘supsacr’ and ‘suppol’, no statistical moderator effects are detected and the differences between the higher scoring group and the lower scoring groups are not always in the expected direction. Therefore, one can conclude that, although leadership promotion has a positive effect on PSM (for ‘suppol’; no effect exists for ‘supsacr’), no interaction exists. An explanation for this observation is however not readily available.

6. Conclusion

This paper tried to assess the impact of transformational leadership practices on the development of individual PSM. First, corroborating H1, leadership promotion of public service values was shown to have a positive effect on PSM development. Second, corroborating H2, this process was positively moderated by satisfaction of basic psychological needs of security, autonomy, competence and relatedness in a work environment. These results support the alleged effect of transformational leadership in

changing the identities of the employees, even in the cases of middle and lower managers, and in a public sector environment. Next to this, these conclusions also support the an institutional approach in explaining PSM. Although this theory under various guises has been promoted in the literature, empirical support has been scarce up to now. Therefore, these results contribute also to the existing body of knowledge concerning PSM.

However, some limitations rest upon these results. First, a number issues remain unexplained. The lack of a direct effect of leadership promotion on PSM development for ‘self-sacrifice’ remains a puzzling observation, just as the lack of a moderating effect for ‘suppol’ is. However, every limitation opens up avenues for further research. Further research should firstly directed towards tackling these latter questions. Another avenue further research should consider is an experimental approach in order to investigate the effect the moderator variables more thoroughly. As survey research variables, which are normally distributed, render lower statistical power, experimental data, measuring the extremes, can provide more binding conclusions on the interaction effect of these variables.

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