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Doing good for others and/or for society? The relationships between public service motivation, user orientation and university grading

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Abstract

Public service motivation (PSM) is a pro-social motivation to serve the public good and shape the wellbeing of society. Although the key relevance of PSM is its potential effect on behavior, much of the evidence of the impact of PSMrelies on subjective measures of behavior. Additionally, the literature has not investigated whether PSM clashes with other types of pro-social motivation. This paper addresses these limitations by investigating how PSM and user orientation (pro-social motivation oriented towards the individual user) affect university teachers' grading behavior in two Danish political science departments. We find that individuals with high PSM behave in ways that can be interpreted as protecting the public good. In contrast, university teachers with high user orientation behave in ways that benefit the individual user. The effect of PSM is moderated by institutional rules and norms, and the results imply that different types of pro-social motivation can affect behavior differently, especially when institutions are weak.

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Introduction

For more than two decades, the concept of public service motivation (PSM) has been prominent in segments of public administration research. PSM is basically seen as a pro-social motivation to serve the public good and shape the wellbeing of society. A great deal of the scholarly debate has focused on the definition and dimensions of PSM (Perry, 1996; Vandenabeele, 2008; Kim, 2011). Another prominent theme in the literature is whether PSM is higher in the public sector than in the private sector (Perry & Hondeghem, 2008; Andersen et al., 2011; Steen 2008). From a broad public administration perspective, however, the key question is whether PSM actually affects behavior. This question is warranted because PSM is "socially desirable" (Kim & Kim 2012), and the literature tends to measure both PSM and actual behavior via questionnaires. In essence, it remains to be understood whether public employees really hold PSM or only report adherence to flattering, socially accepted norms. Only in the former instance should we expect PSM to have an impact on behavior. The positive connotation of PSM in conjunction with the preferred method of detecting both PSM and its consequences calls for an intense study of the objective behavioral impact of PSM. Such studies, however, are rare (see Brewer, 2008 and Petrovsky & Ritz,

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2010 for discussions of the existing literature). The first challenge, therefore, is to answer a fundamental question: does PSM really affect behavior when objectively measured?

Given that PSM is aimed specifically at the public good and the wellbeing of society, it is possible that there are other types of pro-social motivation that may also be important for behavior. The opposite of society is the individual, and the most prominent alternative is actually motivation to do good for individual users (e.g. Kjeldsen, 2012; Vandenabeele et al., 2006). Earlier research has investigated sector differences in PSM and user orientation (Andersen et al., 2011) and addressed whether both concepts are related to job satisfaction (Andersen & Kjeldsen, 2013), but the behavioral consequences of PSM when controlling for other types of pro-social motivation have not been studied. This is the second challenge: does PSM affect behavior when objectively measured and when control for another type of pro-social motivation is included?

This paper takes up these challenges by investigating how PSM and user orientation are related to grading behavior at Danish universities. We hypothesize that PSM and user orientation cause teachers to grade differently. User orientation, i.e. motivation to "do good" for the individual student, implies lowering the bar for passing exams and more frequently handing out high grades, while PSM, i.e. "doing right" for the public good, implies delivering reliable measures of students' qualifications through fair and tough grading. Following the recent institutional trend in the PSM literature (e.g. Vandenabeele, 2007), we include organizational institutions both as moderators of the relationship between PSM and behavior and as alternative determinants of behavior.

This paper starts by briefly outlining the concepts of PSM and user orientation, taking stock of research on the impact of PSM on individual behavior and briefly discussing the role of institutions. Second, we outline how we investigated PSM, user orientation, institutions and grading at Danish universities, and present the results of this investigation. The conclusion includes a summary of the empirical findings and a discussion of the theoretical implications for the relationship between PSM, user orientation, institutions and behavior.

Public service motivation vis-à-vis user orientation

The literature offers various definitions of public service motivation. Perry and Wise initially referred to PSM as "an individual's predisposition to respond to motives grounded primarily or uniquely in public institutions and organizations" (1990: 368). Whereas there is general agreement that altruism is part of the concept, the conceptual differences reflect one of the controversies in the literature: whether or not PSM is exclusively related to public institutions and public organizations. Recently, it has become a central point in the literature that PSM may be a matter of service rather than sector (Perry & Hondeghem, 2008; Steen, 2008; Kjeldsen, 2012). In a similar vein, Brewer and Selden (1998) point out that PSM represents a wish to serve the public that cuts across the public and private sectors, notably in not-for-profit voluntary organizations. Steinhaus and

Perry (1996) also find that industry explains the variation in PSM better than sector. Notwithstanding the discussion about whether PSM is solely found in the public sector or not, most definitions share the view that PSM is directed towards a collective entity beyond the individual. For example, Vandenabeele 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" (Vandenabeele, 2007: 547). Similarly, Rainey and Steinbauer see PSM as a "general, altruistic motivation to serve the interests of a community of people, a state, a nation or humankind" (1999: 20).

Providers of public services may not only be motivated by delivering services to people with the purpose of doing good for society; doing good for others in a more narrow sense may also play a role. Hondeghem and Perry (2009: 6) thus include "others" when they define PSM as "an individual's orientation to delivering service to people with the purpose of doing good for others and society," and this could be interpreted to mean other people in the collective sense (groups of others, still focusing on collectives), or individual other people. Whether PSM is directed exclusively to collective entities or towards societies and communities as well as individuals is not a trivial distinction. In essence, it poses the question of whether one may harm the collective by doing one's utmost in the best interest of an individual client. Because there is no general, clear-cut answer to this question—it is possible to find examples of both conflict and alignment of collective and individual interests—we suggest that the relevance of differentiating between doing good for collective and individual interests is circumstantial.

For university grading, we would argue that there *is* a difference between doing good for the collective and doing good for the individual student. Doing good for each individual by inflating all grades to A's would be harmful to society's interests, given that a more differentiated grading system provides more objective information on a student's capabilities. Preservation of the reputation of the relevant academic institution by avoiding grade inflation is similarly good for all students collectively and for society. In contrast, allowing individual students to pass easily with high grades shows consideration for individual students and their future professional opportunities. The distinction basically concerns the perspective from which "doing good" is evaluated. From an individual student's perspective, getting higher grades will almost always be preferable to getting lower grades, but from a teacher's perspective, students will also benefit from a realistic assessment of their skills. When speaking generally about other students' grades, most (especially those who studied well and deserve good grades) probably agree that not all students should be given good grades. The diploma will, in the long run, lose its value if students of all effort and skill levels can earn it easily.

Empirically, it has been shown that the traditional PSM dimensions are different from user orientation (Andersen et al., 2011; Andersen & Kjeldsen, 2013; Vandenabeele et al., 2006). Still, altruists are not necessarily collectivists (Le

Grand, 2003: 29), and pro-social motivation can both be directed towards a collective entity (the society) and towards specific others (users or clients). In this study, we therefore differentiate between "classic" PSM, directed towards society in general, and user orientation, defined as the orientation to serve the specific users of public services. There may be other types of pro-social motivation, but we concentrate on these two types, because the existing literature suggests that they are most relevant (Vandenabeele 2007; Brewer 2008; Andersen & Kjeldsen 2013).

The impact of public service motivation vis-à-vis user orientation on behavior

As early as 1990, Perry and Wise hypothesized that PSM enhances individual performance, and existing studies also tend to find a positive relationship between PSM and performance (Perry et al., 2010). One example is Vandenabeele's (2009) study of Belgian civil servants. He finds that one of the dimensions of PSM (commitment to the public interest) is positively associated with civil servants' individual performance. Leisink and Steijn (2009) also report that higher scores on this dimension seem to increase individual performance, and Ritz (2009) finds a positive correlation between Swiss federal employees' PSM (again, commitment to the public interest) and the (perceived) internal efficiency of their organization. The merit of these studies is that the "taken-for-granted" impact of PSM on performance is empirically investigated. The drawback is that they are based on self-reported performance, and because PSM and (perhaps especially) performance have a positive connotation, it may be very problematic to rely on self-reported PSM and perceived performance. Perceived performance also tends to give an overall picture of performance, whereas Perry, Hondeghem and Wise (2010) call for research on the relationships between PSM and different types of performance. This is especially relevant because several contributions (Maesschalck et al., 2008; Steen and Rutgers, 2011; Gailmard, 2010) have argued that PSM can also inhibit some types of behavior. For example, Gailmard (2010) argues that public service-motivated employees may very well have a different vision of good public policy than elected officials and that behavior spurred by PSM may be counter to that intended by the legitimate decision-makers. This suggests that it is relevant to investigate a type of objectively measured behavior where there are potential value conflicts and where it is possible to formulate very specific expectations on the relationship between PSM and behavior.

In this study, we investigate university teachers' grading of students. Although grading is ideally an objective assessment of students' abilities, it involves an element of discretion, allowing both the teacher's individual traits and institutional mechanisms to influence the decision. This is perhaps especially true for social sciences, where assessment is often based on students' analytical abilities, rather than on exact answers. Thus, to some extent, grading behavior may be a matter of teachers' attitudes towards their students and grading as an

institution. PSM and user orientation may therefore have different effects on grading. Specifically, there is a choice between letting many students pass easily with high grades, showing consideration for individual students and their future professional opportunities, or preserving the informational value of the grading scale and the reputation of the institution's academic candidates as a group, which is ultimately good for society.

Accordingly, we expect that university teachers who are primarily motivated by the society-oriented PSM grade differently from university teachers who are primarily motivated by user orientation. We hypothesize that university teachers with high PSM tend to have lower average scores, lower pass rates and higher grade dispersion than teachers with high user orientation. The argument is that university teachers with high PSM are relatively more concerned with ensuring that grades reflect students' abilities in order to preserve the informational value of the grade system and societal trust in it. Therefore, we expect university teachers with high PSM will prefer to do "proper" grading in order to treat students fairly and equally and secure the informational value of the grades for society at large, while university teachers with a high level of user orientation are expected to favor "generous" grading of the individual student. Thus, teachers primarily motivated by society-oriented PSM are expected to use the "full scale" and to be "tougher" than user-oriented colleagues. In other words, because the target of their altruistic motivation differs (the general trustworthiness of the grade system versus the individual student), we expect teachers primarily motivated by user orientation to give higher grades and pass more students than traditionally public service-motivated university teachers. Some teachers may, of course, have both types of motivation, and the conflicting inclinations are then expected to cancel each other out and leave the teachers with average grading behavior. The fact that teachers can simultaneously have different types of prosocial motivation implies that it is important to include user orientation when looking at behavioral effects of PSM in settings where the implications of user orientation and PSM differ. Another important factor to consider are institutions, as discussed below.

The impact of institutions on behavior

As noted, discretion (that is, the power to act according to one's own judgment) is a key element in an argument that expects grading to depend on individual motivation, and room for discretion may vary. Specifically, the organizational context may limit teachers' grading discretion, and when we assess the impact of PSM on grading practices, it may be relevant to take formal and informal institutions into account. So far, the PSM literature has primarily seen institutions (societal and organizational) as antecedents of PSM (Perry, 1997, 2000; Perry & Vandenabeele, 2008; Moynihan & Pandey, 2007; Vandenabeele, 2007). Others have discussed how organizational institutions foster PSM (Moynihan & Pandey, 2007), shape "the basic attitudes" of public servants (Moynihan & Pandey, 2007: 41), and transmit a "public institutional logic" (Brewer, 2008: 149), argu-

ing that organizational institutions may strengthen PSM, because they act as mediators of the societal institutions causing PSM. Institutions may also directly affect behavior by defining which actions are required, prohibited or permitted in a specific situation (Ostrom, 1986: 5). In addition, by influencing individual discretion, institutions may determine how individual motivation can affect behavior. In the former case, formal as well as informal institutions affect behavior by prescribing what type of actions are appropriate (March & Olsen, 1989) or forbidden (Ostrom, 1986: 6) in a given situation. In the latter case, institutions either strengthen or weaken the impact of individual characteristics, such as motivation, on individual behavior. Therefore, just as institutions may both enable and constrain behavior in a direct way (Scott & Meyer, 1994: 5), they may also either constrain or reinforce an individual's predisposition to choose a certain behavior. Institutions may be designed or may evolve in order to generate both types of effects on individual characteristics. In the present case, the institutions, both formal and informal, are designed to reduce the impact of individual predispositions in order to ensure that all students are given grades according to the same criteria. Hence the institutional rules and norms reduce the effect of individual inclinations to give either relatively high grades, due to a high degree of user orientation, or lower and more highly dispersed grades, due to a high degree of PSM.

In this study, we include organizational institutions both as alternative determinants of behavior and as moderators of the effect of PSM in our analysis of grading behavior. The main interest, however, is to identify whether the institutions reduce the impact of university teachers' motivation.

Grading at universities is subject to both formal and informal institutional regulation. Some institutions are present at the university and departmental level; others are confined to subsections within each department. In general, behavior may be affected by formal rules, which regulate and prescribe expedient behavior, as well as by informal rules, which reflect appropriate behavior (Ostrom, 1986; Scott, 2001: 52). To account for different rules and norms at the departmental level, our analysis includes two Danish university departments. As noted by Selznick (1949; 1957), organizations *per se* become institutionalized entities reflecting their own distinct values and institutional rules and norms.

However, the impact of these organizational institutional rules and norms on grading are more or less circumscribed by the formal institution of using external examiners. External examiners are expected to act as guardians of the common interest in preserving a trustworthy and legitimate grading system, which means that the same grading level is maintained across different universities. An external examiner may therefore expectedly reduce the impact of internal examiners' individual motivation on grades. At Danish universities approximately half of exams are jointly graded by a university teacher from the department and an external examiner. The other half are graded solely by different teachers at the home department.

Furthermore, we measure the informal rules regarding how to perform grading, which evolve from colleagues' exchange of their criteria for grading (col-

league institutions). These informal norms and standards of grading evolve when colleagues meet, discuss and exchange views before and/or after grading in formal and informal meetings, but they may also develop during more unstructured, regular discussions. Such discussions institutionalize common criteria for performing grading as, over time, peers develop common and professional standards regarding what constitutes a good or a bad student performance, which in turn reduces the impact individual characteristics have on this behavior.

In addition to investigating the formal institution of using external examiners and formal and informal colleague institutions, we also measure the degree to which rules and norms concerning grading are institutionalized. Institutions may be so firmly established and taken for granted that they are neither questioned nor subject to discussion. What constitutes a good or bad student performance and what grade this performance reflects can become a part of the tacit knowledge repertoire, which is seldom subject to disagreement or questioning. A high level of such general institutionalization means that university teachers are seldom in doubt when they grade by themselves and tend to agree when they grade jointly. In sum, formal and informal institutions may effectively squeeze out the impact of different individual motivations, e.g. PSM and user orientation, on grading behavior.

Research Design, Data and Methods

This section discusses the research design, our measures of the different variables and finally the regression models.

We investigate grading decisions at two political science departments in Denmark. This enables us to compare grading behavior across two rather similar organizational contexts, as both departments are responsible for political science education and research. The similarities reduce generalizability, but ensure comparability and if the results apply to both departments still indicates that the findings are not due to ideographic factors at the departments. As argued, the departments may *per se*, as organizations, represent institutions that may affect the measured institutional variables and the level of PSM and user orientation. To ensure that differences in grading are not only caused by random differences between departments, all final analyses include a dummy variable measuring the department to which the relevant university teacher belongs. The choice of investigated departments means that the results cannot be generalized statistically, but still serve as a guideline in terms of the potential for analyzing grading behavior in other educational organizations and—more generally—in terms of the potential for finding empirical associations between PSM, user orientation, institutions, behavior and performance.

We analyze university teachers' grading decisions for bachelor-level courses between 2004 and 2010. If a teacher evaluates two bachelor courses in one term (which few do), it counts as two observations. In total, there were 497 combinations of courses and teachers in the period. A web-based questionnaire was sent out to all university teachers at the two investigated university departments. This

survey (which took place in February 2010) had a response rate of 89% (78 out of 88 possible respondents). The answers from this survey were matched with register information from the universities on the grade distribution for each university teacher in each course in a given term. Most of the 78 respondents had graded more than one course between 2004 and 2010, leaving us with 381 observations with survey information. Not all respondents answered all questions, meaning that the number of respondents in the analyses varies slightly. It does not change the results substantially if the analyses are restricted to include only respondents with valid answers on all relevant questions.

All the investigated institutional variables are related to the course that is being evaluated. Given that we only investigate bachelor courses, the teacher normally has no personal relationship with students (the teaching mostly consists of lectures with up to 300 students). Most of the investigated courses (75% of the observations) are blind (the teacher does not know who the student is).

The dependent variable is grading behavior, and we investigate three operationalizations of this concept: (1) each teacher's grade point average for a given course in a given year, (2) the corresponding grading pass rate and (3) the grade dispersion (the standard deviation in grading for a given course in a given year). In September 2007, the Danish grading scale was changed to an internationally convertible scale (see Table 1). To be able to use observations from the whole period, we transformed the old scale, using the official transformation of grade point averages. Concerning each teacher's grade dispersion, we standardized each distribution of grade dispersion before and after the change (mean=0, std. dev. =1) before we combined data from the two periods. The pass rate could easily be compared by taking the proportions of passed examinations relative to the total number of graded examinations. For grade point average and grade dispersion, we only included teachers who graded at least five students in the given exam (to avoid extreme observations due to small n aggregations). Table 1 shows the Danish grading scales and the corresponding international grades. We include a dummy variable for grading scale (old or new) and separate time variables before and after the change in grading scale.

PSM was measured using Likert format questions inspired by Perry (1996) and Vandenabeele (2008). Appendix A shows how we measured the dimensions "commitment to the public interest" (Table A1), "compassion" (Table A2) and "self-sacrifice" (Table A3) (we did not include "attraction to policy making," because the answer to that question has an obvious skew among political science professors). The three dimensions are combined in a simple formative sum index for PSM (we see PSM as a first order reflective and second order formative construct; see Kim, 2011 for a discussion of this). As shown in Table A4, we also used Likert format questions to measure user orientation. In these questions, we focus on motivation to do good for the individual student, while the PSM questions focus on doing good for society as a whole and other people in a generalized (and plural) sense. For all four reflective motivational indexes, we calculated Cronbach's alpha, and it was above 0.6 for all (see Appendix for exact statistics).

Table 1: Grading scales

Old Danish Scale	New Danish scale	International ECTS scale	US Grades	Definition (ECTS and Danish)
13 11	12	A	A	EXCELLENT – outstanding performance with only minor errors
10	10	B	B+	VERY GOOD – above the average standard but with some errors
9 8	7	C	B	GOOD – generally sound work with a number of notable errors
7	4	D	C	SATISFACTORY – fair but with significant shortcomings
6	2	E	D	SUFFICIENT – performance meets the minimum criteria
5 3	0	Fx	F	FAIL – more work required before the credit can be awarded
0	-3	F	F	FAIL – considerable further work is required

Note: The new grading scale took effect from September 1, 2007.

The factors used to measure the institutional variables can also be seen in Appendix A (general institutionalization in Table A5 and colleague institutions in Table A6). The former measure is a reflective construct, and the appendix also reports factor loadings and Cronbach's alpha values, which are generally unproblematic. The formal institution reflected by the presence of an external examiner is measured simply as whether there is such an examiner or not. General institutionalization is measured using questions which tap in to the tacit knowledge concerning grading. This includes questions on the degree to which grading is subject to disagreement or doubt. The colleague institutions are measured by whether there exist formal and/or informal meetings and discussions between colleagues when giving grades.

The analyses are a series of random effects panel regressions and tobit panel regressions. The tobit model is relevant for pass rate, because this variable can be seen as observed only over a certain interval (between 0 and 1). It is impossible to let more than 100 percent of students pass (no pass rate above 1), and it is also not possible to let more than 100 percent fail (i.e. the pass rate cannot go below 0). The sample is, in other words, censored, and the estimations will be biased if the analysis does not take account of this by using tobit regression (Cameron & Trivedi, 2009: 521-524). In principle, pass rate is both right- and left-censored, but there are no right-censored observations (no teacher has a 0 percent pass rate). Tobit regression estimates the latent variable above the upper limit and below the lower limit, and coefficients can be interpreted similar to OLS coefficients (extrapolation above the upper limit or below the lower limit should, however, be avoided). In principle, both GPA and standard deviation in grades are also censored (because the grading scale is limited at both the top and bottom), but none of the teachers come close to either the maximum or minimum, making tobit regression unnecessary here. For pass rate, several teachers have a pass rate=1.

We include models with crossproduct interaction terms between the motivational variables (PSM and user orientation) and the institutional variables. The general finding is that user orientation affects grading regardless of the institutions while institutions do moderate the effect of PSM, and we accordingly include the interaction term between PSM and the institutional variables. Crossproduct interaction terms may be highly correlated with the corresponding independent variables in the regression equation, creating problems with assessing the relative importance of main effects and interaction effects (due to multicollinearity). To address this, we tested whether the interaction terms significantly improved the models and constructed Excel charts to show the substantial importance of the interaction terms. Finally, since gender and age may affect both behavior and PSM (Pandey & Stazyk, 2008; Andersen & Serritzlew, 2010), these variables are included in the analyses to avoid spuriousness. Vandenabeele (2010: 101) argues that "neglecting control for these variables will almost certainly render biased results" in PSM research.

Results

This section presents the analyses of how PSM, user orientation and institutions affect grading behavior in the following order: pass rate, grade point average and grade dispersion.

Deciding whether a student should pass or fail an exam is the most fundamental decision in grading. We investigated this dimension of grading behavior by analyzing the proportion of passed student exams for each teacher in the investigated terms, and Table 2 shows tobit panel regressions of the university teachers' pass rates. It shows that teachers' user orientation, as expected, seems to increase the pass rates. PSM does not, however, affect the pass rates significantly. Older teachers have lower pass rates (Models 2-1 and 2-2), but age seems to be mediated by institutional variables in Models 2-3, 2-4 and 2-5. There is no gender difference in pass rates. As could be expected there is a difference between the two departments. There was a negative time trend before the grading scale was changed, but the introduction of the new scale counteracted this. The new scale also increased the pass rate significantly (see Salomonsen & Andersen, 2011 for further discussion of the effects related to the grading scale). In this connection, the most interesting finding is the positive effect of user orientation on university teachers' pass rates. The empirical variation in user orientation is 10 points, and the standard deviation is 2.5 (Table A7). Given that the coefficient for pass rate is 0.02 (2 percent points), the very user-oriented teachers are estimated to let 20% more students pass than the completely non-user-oriented teachers. Given that the average pass rate is 0.94, this essentially means that user-oriented teachers are estimated to let all students pass in contrast to the non-user-oriented teachers. One standard deviation on user orientation (2.5 points) is estimated to mean a difference of 5 percentage points in pass rate.

Table 2: Tobit panel regressions of university teachers' pass rates. Unstandardized regression coefficient (p-values in parentheses). 2004-2010

	Model 2.1	Model 2.2	Model 2.3	Model 2.4	Model 2.5
Age	-0.002*	-0.003*	-0.001	-0.001	-0.001
	(0.03)	(0.04)	(0.50)	(0.55)	(0.53)
Gender	0.014	-0.016	-0.049	-0.054	-0.042
(1=female)	(0.62)	(0.64)	(0.19)	(0.15)	(0.25)
Year	-0.029**	-0.036**	-0.032*	-0.033*	-0.033*
	(0.01)	(0.01)	(0.03)	(0.03)	(0.03)
Interaction between	0.017	0.029	0.019	0.020	0.019
year * new scale	(0.34)	(0.17)	(0.46)	(0.44)	(0.47)
New grading scale	0.136***	0.146***	0.145**	0.146**	0.143**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Department	-0.149***	-0.142***	-0.097*	-0.103**	-0.114**
	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)
External examiner	-0.038	-0.059*	-0.054	-0.056	-0.064*
	(0.07)	(0.02)	(0.06)	(0.05)	(0.03)
Public service motiva-		0.000	-0.004	-0.021	-0.033
tion		(0.96)	(0.17)	(0.17)	(0.17)
User orientation		0.010	0.018*	0.017*	0.021**
		(0.06)	(0.01)	(0.02)	(0.01)
Colleague institutions			0.014	-0.084	0.014
			(0.07)	(0.33)	(0.06)
General institutionaliza-			-0.011	-0.010	-0.137
tion			(0.28)	(0.32)	(0.18)
PSM* col. inst.				0.002	
				(0.25)	
PSM*gen. inst					0.002
					(0.22)
Constant	1.098***	0.951***	0.991***	1.910*	2.534*
	(0.00)	(0.00)	(0.00)	(0.02)	(0.05)
N	380	279	205	205	205

Table 3 shows random effect regressions of university teachers' grade point averages (GPA). It shows that user orientation, as expected, consistently leads to higher grades (this is also true if we calculate the grade point average for passed examinations alone, analyses not shown). Similar to pass rate, the association between user orientation and GPA is substantial. The coefficient is 0.19, meaning that the difference between the least user-oriented and the most user-oriented teachers is almost two GPA points on the grade scale (which goes from -3 to 12), and this is in fact a large difference. Still, there are few teachers with extreme scores on user orientation, and teachers who differ one standard deviation on user orientation are estimated to differ only 0.48 GPA points.

The association between PSM and grade point average is only statistically significant when we include an interaction term between colleague institutions and PSM (Model 3-4). Figure 1 below illustrates this interaction effect: for researchers experiencing a minimal level of colleague institutions, PSM and grade point average are negatively associated (higher PSM, lower grades), but for a more ordinary level of colleague institutions, PSM has no effect on grade point average. The figure also illustrates that there is a substantially interesting difference between minimum observed PSM (which is 39) and maximum observed PSM (which is 64). The same interaction effect (although not as strong and not

statistically significant) can be seen for general institutionalization in Model 3-5. One interpretation might be that if individuals are not constrained by institutions, individuals with high PSM try to uphold the grading scale due to societal considerations, while other types of motivation (such as user orientation) prevail for individuals with low PSM.

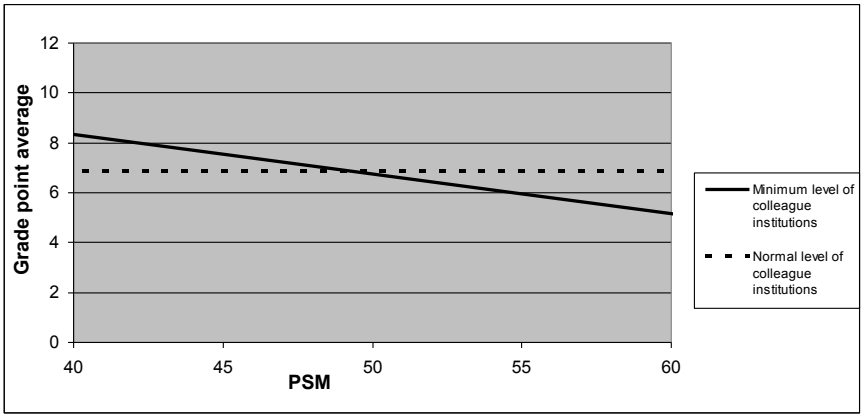
Table 3: Random effects regressions of university teachers' grade point average. Unstandardized regression coefficient (p-values). 2004-2010

	Model 3.1	Model 3.2	Model 3.3	Model 3.4	Model 3.5
Age	-0.006	-0.013	-0.005	-0.002	-0.004
	(0.48)	(0.21)	(0.71)	(0.87)	(0.74)
Gender	0.045	-0.118	-0.402	-0.370	-0.351
(1=female)	(0.83)	(0.65)	(0.20)	(0.23)	(0.25)
Year	-0.073	-0.151	-0.184*	-0.188*	-0.188*
	(0.25)	(0.05)	(0.05)	(0.04)	(0.04)
Interaction between	0.129	0.252*	0.280*	0.270	0.274
year * new scale	(0.18)	(0.03)	(0.05)	(0.06)	(0.05)
New grading scale	0.879***	0.968***	1.065***	1.057***	1.044***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Department	-0.725***	-0.809**	-0.403	-0.514	-0.508
	(0.00)	(0.00)	(0.21)	(0.11)	(0.12)
External examiner	-0.236	-0.344*	-0.549**	-0.549**	-0.585**
	(0.05)	(0.02)	(0.00)	(0.00)	(0.00)
Public service motiva-		0.026	0.002	-0.230*	-0.239
tion		(0.13)	(0.92)	(0.05)	(0.12)
User orientation		0.111**	0.170**	0.145*	0.190**
		(0.01)	(0.00)	(0.01)	(0.00)
Colleague institutions			0.100	-1.190	0.109
			(0.11)	(0.06)	(0.08)
General institutionaliza-			-0.072	-0.061	-1.126
tion			(0.33)	(0.40)	(0.10)
PSM* col. inst.				0.024*	
				(0.04)	
PSM*gen. inst					0.019
					(0.12)
Constant	6.263***	3.374**	3.337*	15.824*	16.019
	(0.00)	(0.00)	(0.02)	(0.01)	(0.05)
R^2 overall	0.239	0.307	0.379	0.406	0.393
N	366	269	197	197	197

Grade dispersion was, as mentioned, standardized with mean=0, and std.dev.=1 for the new and old grading scales, respectively, in order to be able to include data for both periods. In Table 4, we analyze the effects of PSM, user orientation and institutions on university teachers' grade dispersion, and it shows (as expected) that user orientation seems to lead to lower dispersion, and that PSM may lead to higher dispersion in the absence of strong institutions. The coefficients are, however, only statistically significant in Model 4-5, which include an interaction term between PSM and general institutionalization. Figure 2 illustrates the interaction effect in Model 4-5, showing, as expected, that PSM primarily has an effect if firm institutions are absent. Dispersion is negative due to the standardization and because the findings are illustrated for the first year of the new grading scale (grade dispersion increased over time). In Models 4-1 and

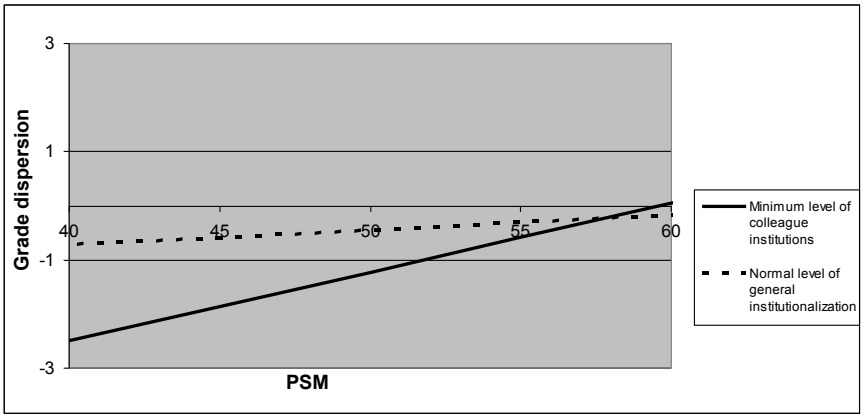
4-2, higher age is associated with higher grade dispersion, but this becomes insignificant when we control for the institutional variables. There is no gender difference in the grade dispersion.

Figure 1: How colleague institutions moderate the effect of PSM on grade point average



Note: The figure illustrates the interaction effect in Model 3-4. The regression lines are shown for examinations without an external examiner in 2008, with a 43-year-old male teacher with average levels of user orientation and general institutionalization. The empirical variation in PSM is between 39 and 64, but the estimates are not robust for very low and very high values of PSM. The illustrations are for colleague institutions 3 (empirical minimum) and 9.56 (average).

Figure 2: How general institutionalization moderates the effect of PSM on grade dispersion (st.d.)



Note: The figure illustrates the interaction effect in Model 4-5. The regression lines are shown for examinations without an external examiner in 2008, with a 43-year-old male teacher with average levels of user orientation and general institutionalization. The empirical variation in PSM is between 39 and 64, but the estimates are not robust for very low and very high values of PSM. The illustrations are for general institutionalization=7 (empirical minimum) and 12.2 (average).

Table 4: Random effects regressions of university teachers' grade dispersion. Unstandardized regression coefficient (p-values). 2004-2010

	Model 4.1	Model 4.2	Model 4.3	Model 4.4	Model 4.5
Age	0.017**	0.019**	0.012	0.012	0.012
	(0.00)	(0.01)	(0.26)	(0.28)	(0.26)
Gender	-0.099	0.049	0.186	0.180	0.138
(1=female)	(0.52)	(0.80)	(0.47)	(0.48)	(0.58)
Year	0.087	0.180**	0.184*	0.185*	0.187**
	(0.11)	(0.00)	(0.01)	(0.01)	(0.01)
Interaction between	-0.035	-0.094	-0.040	-0.038	-0.034
year * new scale	(0.67)	(0.31)	(0.71)	(0.73)	(0.76)
New grading scale	-0.240	-0.436*	-0.498*	-0.497*	-0.478*
	(0.12)	(0.01)	(0.01)	(0.01)	(0.02)
Department	0.665***	0.637***	0.475	0.494	0.572*
	(0.00)	(0.00)	(0.07)	(0.07)	(0.03)
External examiner	0.088	0.214	0.149	0.149	0.179
	(0.38)	(0.06)	(0.30)	(0.30)	(0.21)
Public service motivation		-0.008	0.021	0.061	0.260*
		(0.52)	(0.27)	(0.54)	(0.04)
User orientation		-0.054	-0.082	-0.078	-0.102*
		(0.09)	(0.08)	(0.11)	(0.03)
Colleague institutions			-0.079	0.143	-0.087
			(0.12)	(0.79)	(0.08)
General institutionalization			0.054	0.052	1.099*
			(0.37)	(0.39)	(0.04)
PSM* col. inst.				-0.004	
				(0.68)	
PSM*gen. inst					-0.019*
					(0.05)
Constant	-0.873**	0.344	-0.353	-2.503	-12.943
	(0.00)	(0.69)	(0.77)	(0.64)	(0.05)
R^2 overall	0.186	0.237	0.302	0.301	0.315
N	366	269	197	197	197

Note: To be able to compare grade dispersion before and after the change of grading scale, the variable was standardized to mean=0 and standard deviation=1 in each period.

In sum, high public service motivation seems to lower the grade point average and increase grade dispersion if firm colleague institutions are absent. User orientation has the opposite effect: it increases the grade point average and pass rates and decreases grade dispersion. Motivation thus affects grading, but institutions do moderate this effect.

Conclusion

The main ambition of this paper was to shed light on the effects of PSM and user orientation on behavior in public organizations. Existing studies using objective information about behavior when analyzing the PSM-behavior relationship are scarce, and the existing literature does not include types of pro-social motivation other than PSM when investigating behavior. We therefore investigated how PSM and user orientation affect the grading behavior of Danish university teachers, because this enables us to use an objective behavioral measure and to include user orientation, which in this case has different behavioral implications than PSM. We hypothesized that university teachers with a high level of PSM

tend to grade students differently than teachers with higher user orientation. Our main finding was that both user orientation and PSM seemingly *do* affect behavior. In the absence of firm institutions, higher levels of society-oriented PSM seem to lead to lower grades and higher grade dispersion, while the individual-oriented user orientation has the opposite effect. Teachers with high user orientation thus have higher pass rates, higher grade point averages and less variation in grades. None of the institutional variables significantly affect pass rate or grade variation, but they moderate the effect of PSM on grading. A high degree of general institutionalization thus reduces the effect of PSM on grade dispersion, and informal colleague institutions constrain the impact of PSM on the grade point average.

Although the generalizability of the specific results is limited, we believe that they have significant implications for future research. Most importantly, they suggest that it is fruitful to discuss different types of pro-social motivation among public employees. Traditional PSM, building on ideas of common good and other related public values, can have different behavioral implications than user orientation, which takes the user (or even customer) as the point of departure. The argument is not that any of these types of pro-social motivation or the behaviors that follow are "bad," but rather that they are of different kinds. This has already been discussed theoretically in the values literature (e.g. van der Wal et al., 2011; Stensöta Olofsdotter, 2010), and the findings in this paper suggest that it is also a fruitful avenue for empirical research. This is especially the case in situations where there are several potentially conflicting values held by relevant actors (Gailmard, 2010; Maesschalck et al., 2008; Steen & Rutgers, 2011), meaning that both PSM and user orientation can have drawbacks for some behavioral dimensions. Are higher grades, less dispersion and higher pass rates a benefit or a drawback? That depends, as mentioned, on the perspective from which "doing good" is evaluated.

While the most important reason for including types of pro-social motivation other than the traditional understanding of PSM is thus that different types of motivations may lead to different behavior, another could be that the PSM literature could be inspired by other theoretical perspectives on motivation, for example the economic literature on pro-social motivation (Benabou & Tirole, 2003; 2006), and thus gain a broader understanding of motivation and behavior. This literature discusses all types of other-regarding preferences (not only altruism linked to public service production for the good of a collective entity).

The relationship between PSM and institutions has already been a theme in the literature, and our results suggest that both PSM and organizational institutions may contribute to explaining behavior. Even if these institutions have no independent impact, they may moderate the impact of motivation and are, for this reason, relevant to include in future analyses of motivation and behavior in public organizations.

Importantly, this study addresses the rarely investigated question of whether PSM actually affects behavior even when objectively measured. The question is especially warranted because PSM has a positive social connotation and the

literature tends to detect both PSM and performance by asking public employees to self-evaluate. In essence, this begs the question of whether public employees really have PSM, in the sense that it has behavioral consequences, or whether they only report adherence to flattering and socially accepted norms without exhibiting correspondent behavioral consequences. This paper indicates that PSM can have behavioral consequences, but further study is still required.

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Appendix. Principal component analyses

Table A1: Items in the reflective index measuring "commitment to the public interest" (CPI). Principal component analysis

English version	Danish version	Loadings
It is important for me to contribute to the common good	Det er vigtigt for mig at bidrage til det fælles bedste	0.738
I would prefer seeing public officials do what is best for the whole community, even if it harmed my interests	Jeg ser helst, at offentligt ansatte gør det, der er bedst for samfundet som helhed, selvom det skulle gå ud over mine egne interesser	0.736
Serving the public interest is more important than helping one individual	Det er vigtigere at bidrage til samfundet som helhed end at hjælpe den enkelte	0.698
It is important to me that public service benefits society as a whole	Det er vigtigt for mig, at offentlige ydelser gavner samfundet som helhed	0.678

Cronbach's alpha: 0.67.

Table A2: Items in the reflective index measuring compassion (COM). Principal component analysis

English version	Danish version	Loadings
It affects me emotionally when I see people in distress	Jeg bliver følelsesmæssigt berørt, når jeg ser mennesker i nød.	0.831
I feel sympathetic to the plight of the underprivileged	Jeg føler sympati over mindre privilegerede menneskers problemer	0.846
I empathize with the difficulties others are facing	Jeg indlever mig i de vanskeligheder, andre står overfor	0.667
I get very upset when I see other people being treated unfairly	Jeg bliver meget berørt, når jeg ser andre mennesker blive behandlet uretfærdigt	0.830
Considering the welfare of others is very important	For mig er hensyntagen til andres velfærd meget vigtig	0.708

Cronbach's alpha: 0.84.

Table A3: Items in the reflective index measuring self-sacrifice (SS). Principal component analysis

English version	Danish version	Loadings
Making a difference in society means more to me than personal achievements	Det er vigtigere for mig at gøre en forskel i forhold til samfundet end at opnå personlig vinding.	0.858
I am prepared to make sacrifices for the good of society	Jeg er klar til at lide afsavn for samfundets skyld	0.857
I believe in putting civic duty before myself	Jeg sætter samfundsmæssige forpligtigelser over hensynet til mig selv.	0.655
I am willing to risk personal loss to help society	Jeg er villig til at risikere at skulle tilsidesætte mine personlige behov for samfundets skyld.	0.891

Cronbach's alpha: 0.84.

Table A4: Items in the reflective index measuring user orientation. Principal component analysis

English version	Danish version	Loadings
The individual student is more important than formal rules	Hensynet til den enkelte studerende er for mig altid vigtigere end hensynet til de formelle regler	0.702
It gives me energy to know that I helped each student learn	Det giver mig energi at vide, at jeg har medvirket til, at den enkelte studerende lærer noget	0.579
It is important to make the student the central focus	Det er vigtigt at sætte den enkelte studerende i centrum	0.797
Student satisfaction is very important for whether I feel that I have performed my job tasks well	De studerendes tilfredshed er meget vigtig for, om jeg anser opgaven for at være løst på en god måde	0.605

Cronbach's alpha: 0.60.

Table A5: Items in the reflective index measuring general institutionalization. Principal component analysis

English version	Danish version	Loadings
I am seldom in doubt about how to grade a paper	Jeg er sjældent i tvivl om, hvilken karakter jeg skal give en besvarelse	0.696
I seldom disagree with the other examiners on how to grade a paper	Jeg er sjældent uenig med censor om, hvilken karakter vi skal give en besvarelse	0.818
My colleagues generally agree on what characterizes a good paper	Der er stor enighed blandt mine kollegaer om, hvad der kendetegner en god besvarelse	0.842

Cronbach's alpha 0.68.

Table A6: Items in the formative index measuring colleague institutions.

	English	**Full Danish version**	**Number of points**
Formal *ex ante* colleague discussions	Discussion where the markers have read one or more papers	Der er forcensur, hvor bedømmerne har læst den eller de samme besvarelser	4
	Discussion without having read the same papers	Der er forcensur, hvor bedømmerne diskuterer besvarelserne uden at have læst de samme besvarelser	3
	Another type of *ex ante* censorship	Der er en anden form for forcensur (skriv hvilken)	2
	No *ex ante* censorship	Ingen forcensur	1
Formal *ex post* colleague discussions	As a meeting	Der er eftercensur i form af et møde (evt. efter forudgående e-mail korrespondance)	4
	Mail correspondence (e.g. on the level of grades, the share of failed papers, the distribution of grades, etc.)	Der er eftercensur alene i form af e-mail korrespondance om bedømmelserne (fx karakterniveau, andel af dumpede, spredning mv.)	3
	Another type of *ex post* censorship	Der er en anden form for eftercensur (skriv hvilken)	2
	No *ex post* censorship	Der er ikke eftercensur	1
Informal discussions with colleagues	I discuss the papers with colleagues from the course regularly when grading	Jeg diskuterer løbende besvarelserne med undervisere fra kurset i forbindelse med min bedømmelse af besvarelserne.	1-5 depending on level of agreement (5= agree)

Table A7: Descriptive statistics for the investigated variables

Variable name	Variable description	N	Mean	Std. Dev.	Min	Max
GPA	Sum of grade scores divided by students	473	6.149	1.276	1.8	10.21
Pass rate	Proportion of stu-dents who pass exam	493	0.941	0.107	0.286	1
Grade disper-sion	Standard deviation	473	-0.024	0.996	-2.181	4.002
Age	Age of relevant university teacher in the given year	381	43.412	11.46	25	68
Gender	Gender of relevant university teacher	497	0.203	0.403	0 male	1 female
Year (2008=0)	Years since change of grading scale (negative before change)	494	-0.618	1.956	-4	2.5
New grading scale	Examination used the new grading scale	494	0.498	0.501	0	1
Department	Organization in which university teacher works	496	0.331	0.471	0	1
External examiner	Was there an external examiner in addition to the university teacher?	496	0.488	0.500	0	1
Public service motivation	Motivation to serve society. Formative index of the dimen-sions CPI, SS and COM	302	53.318	6.169	39	64
User orient.	Motivation to serve specific service users	377	15.008	2.517	9	19
Colleague inst.	Informal colleagues norms and standards concerning grading	338	9.562	2.064	3	13
General insti.	Tacit rules concerning grading	317	12.208	2.019	7	15