How Pro-social Motivation Affects Job Satisfaction:

A Question of Employment Sector?

ABSTRACT

Public service motivation (PSM) has been shown to be positively related to job satisfaction in the public sector if there is a fit between person and job. However, there are two gaps in this literature. First, not only PSM but also pro-social motivation to help specific others (called user orientation) may affect job satisfaction. Second, the relationship between job satisfaction and the two types of pro-social motivation may also be found in the private sector. This study tests whether job satisfaction is associated with both PSM and user orientation, and whether these relationships differ between public and private employees. Using data from the cross-national 2005 ISSP survey (32 countries, n=21,547) and another survey of Danish employees (n=2,811), positive relationships between the two types of pro-social motivation and job satisfaction are confirmed. The user orientation/job satisfaction relationship is generally stronger for public employees, but in some countries it is actually strongest for private sector employees (exemplified by Denmark), indicating that sector differences in the relationships may depend on the institutional context. In accordance with previous studies, job satisfaction is only higher for pro-socially motivated individuals when there is a fit between their job and their pro-social motivation (PSM and/or user orientation).

Introduction

Finding ways to improve performance in public organisations is vital, and the HRM literature argues that the way forward is to get a better understanding of employee motivation, commitment and satisfaction. This is because these factors are positively related to individual performance which in turn affects organisational performance (Den Hartog et al. 2004, 562). Previous studies have shown that especially job satisfaction is positively related to individual performance (Kim 2005; Judge et al. 2001; Petty et al. 1984), and it is therefore highly relevant to investigate the causes of job satisfaction. With respect to this, pro-social motivation may be a key factor. Broadly, it can be defined as the desire to have a positive impact on other people, groups, organisations and society, and Le Grand (2003, 27-28) argues that individuals can derive satisfaction from activities motivated by this pro-social purpose even though it does not necessarily affect their own material welfare. When this happens in the job, it is a potential source of job satisfaction which is not yet entirely recognised, because we still do not fully understand the relationships.

The literature on public service motivation (PSM) has already shown that a positive relationship exists between public employees' motivation to contribute to society and job satisfaction (Naff & Crum 1999; Steijn 2008; Taylor 2008). But individuals may not only be orientated to delivering service to people with the purpose of doing good for society; doing good for others may also play a role (Hondeghem & Perry 2009, 6). In other words, 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). As there is a gap in the literature concerning the relationship between the motivation to do good for specific others and job satisfaction, this article therefore differentiates between two types of pro-social motivation in service delivery: individual's orientation to delivering service to people with the purpose of doing good for society (that is, traditional public service motivation) and the corresponding orientation to delivering service with the purpose of doing good for specific others (in this article called user orientation).

However, Steijn (2008, 14) and Bright (2008, 151) argues that this direct link between PSM and positive outcome variables such as job satisfaction is questionable and that a positive association between pro-social motivation and job satisfaction requires a fit between the relevant person and his workplace. Drawing on Person-Environment Fit Theory (Kristof-Brown et al. 2005), pro-social motivation only leads to job satisfaction if the employees experience that they are actually able to contribute to society in their current jobs

and organisations. Within the PSM literature, this has led scholars to assume that the positive relationship between PSM and job satisfaction primarily exists for public employees (e.g., Bright 2008; Steijn 2008), but whether or not the relationship differs between the public and private sectors has yet to be tested as most studies only rely on samples consisting of public sector employees. Individuals with high PSM may be better able to act on their motivation in the public sector if this environment is perceived as offering better opportunities for serving the public and if public employees feel as though they can "donate" effort more directly to "the public" rather than to a private residual claimant. Likewise, the public sector may also offer better opportunities to help specific other persons – at least in some countries/institutional contexts. Therefore, PSM and user orientation may only be positively associated with job satisfaction in the public sector (and not in the private sector). The ownership status of an organisation may, in other words, affect the person-environment fit concerning PSM and user orientation.

The key questions in this article are thus *how PSM and user orientation are related to job satisfaction, and whether these relationships are different for private and public employees?* The answers to these questions are important because knowledge about the relationships between job satisfaction and PSM and user orientation may enable managers to act more proactively in terms of ensuring that their employees have the possibility to do good for others and society and thereby become more satisfied and ultimately perform better. Combined with the distinction between sectors, this allows policy-makers to make more informed decisions about, for example, outsourcing to the private sector. Does private provision have a downside in terms of decoupling pro-social motivation from job satisfaction, or will the positive relationships identified in the public sector also prevail in the private sector?

This research question is investigated in different institutional and cultural settings by relying on two different types of data. First, it is examined using the cross-national 2005 ISSP survey of work orientations among public and private sector employees in 32 countries. This analysis includes variables measuring the fit (a) between the individuals' PSM and their perception of their job in terms of usefulness for society and (b) between the individuals' user orientation and their perception of whether their job allows them to help other people. Second, we also investigate the relationships between user orientation, PSM and job satisfaction using a sample of Danish employees. This survey is more recent (from 2009) and allows for a better measurement of PSM and user orientation as well as the inclusion of more control variables.

The article proceeds as follows. First, we present the theoretical framework, discussing the relationships between PSM and job satisfaction and between user orientation and job satisfaction and arguing why these relationships may depend on employment sector. Second, we introduce the data and methods followed (third) by a section with results and (fourth) a discussion of the results. Finally, the conclusion relates the findings to the research questions and discusses the limitations and implications of the study.

Theoretical framework

We basically expect pro-social motivation and job satisfaction to be positively associated because achievement of objectives increases job satisfaction due to the psychological need for achievement. This article focuses solely on pro-social objectives, i.e. contributing to society and helping others, but pro-social motivation is of course not the only factor of relevance for job satisfaction. Other factors include outside constraints (e.g., time, financial resources, organisational requirements), work conditions (e.g., good relationships with co-workers/ supervisors and promotion opportunities), and individual skills and abilities (Rainey 1997; Wright 2001). This section outlines the theoretical framework for expecting a positive relationship between PSM, user orientation and job satisfaction and for expecting these relationships to differ between employment sectors, while the section on data and methods discusses the control variables included to account for the other factors which potentially affect job satisfaction.

Job satisfaction can be defined as "a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences" (Locke 1976) cited in Vandenabeele 2009, 14). Based on McClelland's needs theory (1951), one's job will lead to this state if it allows fulfilment of the psychological needs for achievement, power, and affiliation. Especially relevant in the present context is the need for achievement, which refers to an individual's desire for significant accomplishments and mastering high standards (Murray 1938, 164). The kind of achievement an individual craves differs (from blowing smoke rings to discovering a new planet, as Murray writes), but for pro-socially motivated individuals, the conception of the "ideal successful self" (Murray 1938, 164) is assumed to be closely linked to producing public services for the benefit of other people and society. If given this opportunity, these individuals tap a unique source of job satisfaction linked to a sense of achievement, because they make a difference. But why do some employees have more or less of this type of emotional state? What makes individuals appreciate their jobs and job experiences? This has been discussed widely in the public service motivation literature.

Public service motivation and job satisfaction

Public service motivation (PSM) denotes a collectively oriented motivation to contribute to society through the delivery of public services. More specifically, it can be defined as "the belief, values and attitudes that go beyond self-interest and organisational interest, that concern the interest of a larger political entity and that motivate individuals to act accordingly whenever appropriate" (Vandenabeele 2007, 547). The collective orientation in this definition can be seen from the fact that it "concerns the interests of a larger political entity".

Until recently, the PSM literature was primarily based on American research, but the concept has spread to the rest of the world in the last five years. In the US, an article by Perry & Wise (1990) sparked the trend. They defined PSM as "an individual's predisposition to respond to motives grounded primarily or uniquely in public institutions and organisations" (Perry & Wise 1990, 368). As this definition indicates, the concept was originally closely related to organisations in the public sector; in other words, the expectation that this type of motivation is most prevalent among public employees was almost built into the definition. However, it was quickly removed by simply dropping the last two words (Perry 1996, 6), and the definitions of the concept have generally shifted from a sector focus towards a service focus. Thus, PSM is by no means synonymous with "public sector motivation".

While recognising that PSM is certainly not the only source of job satisfaction, it is expected to supplement the other sources. Following the achievement logic presented above, a high level of this motivation is therefore expected to increase job satisfaction if, and only if, the job allows the individual to excel in this area. In other words, job satisfaction is expected to depend on the discrepancy between what one wants in a job concerning the delivery of public services and what one has in one's current job. So which jobs allow an individual to succeed in contributing to society? Drawing on the insights from a similar line of argument within the Person-Environment Fit Theory (Kristof-Brown et al. 2005), PSM researchers have already to some extent looked into this question. Bright (2008) focuses on the fit between person and organisation among public sector employees and finds that PSM is positively associated with the perception that the organisation's values are similar to one's own which in turn increases job satisfaction. This result is partly replicated in a recent study by Wright and Pandey (2010) who confirms a positive relationship between PSM and job satisfaction mediated by public employees perceived mission valence of the organisation. Taylor (2008) and Steijn (2008) specifically introduce a PSM-fit variable defined as "the comparability between the needs of individuals to serve the public interest and the environmental conditions in their organisation which affect the fulfilment of these altruistic motives" (Taylor 2008, 71-

2). Both studies find that PSM positively affects job satisfaction if the PSM fit is high, meaning that employees feel they are able to "use" their PSM in the job that they have.

There is thus evidence that the PSM/job satisfaction relationship is mediated by the perception that one's work environment actually fulfils needs related to the delivery of public services. On the other hand, there is mixed findings with regards to a direct, positive relationship between PSM and job satisfaction where some studies support the existence of this relationship (Brewer & Selden 1998; Kim 2005; Naff & Crum 1999; Taylor 2008) and others do not (Bright 2008; Wright & Pandey 2010). Hypothesis 1 expresses the expectation concerning the direct association between PSM and job satisfaction while hypothesis 2 tries to shed some more light on the relevance of the concept ''PSM fit'' (Steijn 2008: 17). The hypotheses should be viewed as supplementary and not competing; it is possible that there is a general association, but that job satisfaction is even higher if the PSM fit is high.

H1: PSM is positively associated with job satisfaction.

H2: Employees who have high PSM and think that their job is useful to society have higher job satisfaction than other employees.

Most of the existing studies only investigate the PSM/job satisfaction relationship using samples of public sector employees. Thus, we do not know whether public sector jobs and organisations are more likely to facilitate this positive relationship between PSM and job satisfaction let alone due to the public sector context. The literature assumes that PSM is primarily associated with job satisfaction in the public sector (e.g., Bright 2008; Kim 2005; Steijn 2008; Taylor 2008), but this is not necessarily true. Especially after the introduction of New Public Management during the past two decades, which in many countries has meant that public services are often produced by private organisations, it is possible to have a job in the private sector which contributes to society. In this article, we differentiate between the public and private sector based on ownership. Rainey & Bozeman (2000), Perry and Rainey (1988), Bozeman (1987), and Rainey et al. (1976) list a number of criteria for distinguishing between public and private sector organisations including ownership, source of finance, and degree of political control with organisational activities adding up to an organisations' degree of publicness (Bozeman 1987, 5). These additional criteria are also highly relevant, but they are very difficult to assess across organisations in different countries. We therefore categorise organisations as public if they are owned by the government, whereas private organisations

are owned by private investors and thus can go bankrupt; the owner is then the residual claimant. The public sector may therefore offer better opportunities for serving the public, regardless of the type of job being performed, because public employees may feel that they are better able to "donate" effort to "the public" rather than to a private residual claimant. This implies that the PSM fit is higher in the public sector (hypothesis 3), and that the positive relationship between PSM and job satisfaction is stronger for public employees (hypothesis 4).

H3: Public employees are more inclined to think that their job is useful to society than private employees.

H4: The positive relationship between PSM and job satisfaction is stronger for public employees as compared to private employees.

User orientation and job satisfaction

As mentioned, the motivation to deliver public services can also be linked to an orientation to help specific other people. The pro-social motivation linked to individual users or customers has already been discussed in the PSM literature (Vandenabeele 2008a; Andersen et al. 2011; Brewer et al. 2000), and these studies indicate that it is possible to be pro-socially motivated to produce public services based on motivation linked to a specific recipient as well as based on motivation linked to a generalised recipient (society). Further theoretical and empirical underpinning of this is provided by Grant (2007, 2008) who investigates the role of physical contact with beneficiaries of the services for employee motivation to make a pro-social difference. Drawing on Hackman & Oldham's theory on job design (1976) and Deci & Ryan's (2000) notion of individuals needing to feel a sense of relatedness to be motivated, Grant stresses how interactions with service recipients contributes to employees' experience of task significance and make them feel that their work is meaningful. Motivation to help the individual users may thus be as powerful (and as important for job satisfaction) as classical PSM. This is in line with Brewer et al. (2000) who argue that targets of pro-social public service delivery can differ between one-to-one interactions to local, national and global concerns.

As argued in the introduction, only looking at PSM with its focus on contributing to society as a source of job satisfaction could mean that an important part of the relationship between pro-social motivation and job satisfaction is missed. Therefore, this article includes

user orientation as another type of pro-social motivation connected to service delivery. In contrast to the studies by Vandenabeele (2008a) and Andersen et al. (2011), we conceptualise user orientation and PSM as separate concepts, because there may be different dynamics between job satisfaction and motivation to help society on the one hand and specific users on the other. Following the same achievement-logic as for PSM, we expect user orientation to be positively associated with job satisfaction, and we also expect the person-environment-fit arguments to apply to user orientation. Parallel to the concept of PSM fit, it is also relevant to include a "user-orientation fit" understood as the comparability between the needs of individuals to help individual users and the environmental conditions in their organisations/jobs which affect the fulfilment of these altruistic motives. This importance of being able to actually serve specific users/clients in one's job has to some extent already been investigated by Christensen & Wright (2011) who show that the "service orientation" of a job plays a crucial role for a pro-socially motivated individual's likelihood to accept this job. Hypothesis 5 thus expresses the expectation of a positive relationship between user orientation and job satisfaction, while hypothesis 6 expects that job satisfaction is highest for employees with high user orientation combined with jobs which allow them to help other people (that is, user-orientation fit).

*H5***:** User orientation is positively associated with job satisfaction.

H6: Employees who have high user orientation and think that their job allows them to help other people have higher job satisfaction than other employees.

However, it is more questionable whether the association between user orientation and job satisfaction can be expected to differ between employment sectors. One could argue that the public sector as the main provider of public services serves the individual users of these services and ensure their well-being. Therefore, user oriented individuals might find the institutional settings of the public sector suitable for actualising this motivation resulting in a higher user-orientation fit and a stronger association between user orientation and job satisfaction in the public sector. In contrast, profit is often seen as the ultimate goal in the private sector implying that costs should be minimised, and this could (together with the bankruptcy constraint) make it more difficult for private employees to do good for the users.

On the other hand, one could also argue that a hairdresser could be motivated to do good for the users, and that the relationship may even be stronger in the private sector,

because private employees only need to consider the individual user (as opposed to society as a whole). Moreover, private employees in general may also have better opportunities for doing good for the individual users because they have fewer principals to consider (Andersen et al. 2011). According to Rainey & Bozeman (2000), Boyne (2002) and other general research into the differences between the public and private sectors, the many different stakeholders in the public sector (varying from citizens to politicians and interest organisations) can imply multiple and conflicting goals which create an environment in which employees can experience difficulty in actualising their motivation. Furthermore, public sector red tape and public bureaucrats' lacking discretion in the implementation of welfare services may add more fuel to this fire and create "a more tense relationship with service recipients that likely reduces the satisfaction a public employee derives from the work" (Houston 2011, 6-7).

In sum, there are arguments both for and against a stronger positive association between job satisfaction and user orientation in the public sector compared to the private sector. Given that the relationship has not yet been studied in the literature, we must formulate our expectations based on how important we think that the different arguments are. This probably depends on the specific institutional context in a given country, indicating that it is important to look at more than one country. Across countries, we still expect that the user-orientation fit is higher in the public sector (hypothesis 7), implying the association between user orientation and job satisfaction is generally stronger in the public sector compared to the private sector (hypothesis 8).

H7: Public employees are more inclined to think that their job allows them to help other people than private employees.

*H8***:** The positive relationship between user orientation and job satisfaction is stronger for public employees as compared to private employees.

Data and methods

To test the stated hypotheses, data from two different surveys were used. As the use of international comparative data has been sparse in public service motivation research with limited generalisation of results as a consequence (Kim & Vandenabeele 2010; Vandenabeele & Van de Walle 2008), we first use data from the 2005 International Social Survey Program

(ISSP) Work Orientation Module. This module contains a number of questions on job characteristics, subjective experience of job, outcome of work, work-life balance, and work values which have been coordinated and added to existing national surveys running in 2005 (www.issp.org). In each of the participating countries, the ISSP is based on nationally representative samples of the adult population (including both public and private sector employees), and for this particular study we use data from the following 32 countries: Australia, Germany (West), Germany (East), Great Britain, United States, Hungary, Ireland, Norway, Sweden, Czech Republic, Slovenia, Bulgaria, Russia, New Zealand, Canada, the Philippines, Israel, Japan, Spain, Latvia, France, Cyprus, Portugal, Denmark, Switzerland, Flanders (Belgium), Finland, Mexico, Taiwan, South Africa, South Korea, and the Dominican Republic – a total of 43,440 respondents, where 21,547 could be categorised as public or private employees and had answered the questions about motivation validly. As a result of the ISSP incorporation in existing national surveys, the methods of data collection (written questionnaires, telephone interviews etc.), however, vary between countries. Furthermore, when we study concepts such as public service motivation, this can also have different meanings and reflect different social settings across countries (Horton 2008; Rutgers 2004; Vandenabeele & Van de Walle 2008). These are unavoidable problems when using cross-national data and thus should not prevent us from trying to reach the further insights these data can give us; however, cross-cultural and institutional differences should be kept in mind when interpreting the analysis.

Second, the analyses rely on a more recent sample of Danish employees to allow for a more thorough analysis of the PSM/user orientation/job satisfaction relationship which includes additional control variables and better measures for the main variables (see below – how the two datasets more specifically supplement each other will be explained during the analysis). These data were collected in a web-based survey in June 2009 using a web-panel hosted by a private consultancy firm, Zapera. 15,000 invitations were sent out by e-mail, and the target number of respondents was 3,000. We therefore closed the survey when 3,364 Danish employees between the ages of 25 and 64 had answered the questionnaire. 2,811 of these answered the questions about motivation validly and could be categorised as either private or public employees (employees in non-profit organisations are not included in the analysis). The closure of the survey might introduce some bias given that the most interested respondents answered first. Although the representativeness of web-panels can be questioned (due to unobservable selection), this is not considered an important problem in the present

context, as we are interested in testing correlations rather than obtaining a full picture of the Danish population.

Measurement of main variables

In both datasets, the dependent variable, job satisfaction, was measured using a single question asking the respondents to indicate their general satisfaction with their current jobs – in the ISSP sample on a scale from 1-7 ranging from "completely dissatisfied" to "completely satisfied", and in the Danish sample on a scale from 0-10 ranging from "very dissatisfied" to "very satisfied". This is a common measure of job satisfaction used by many of the previous studies of the PSM/job satisfaction relationship (Bright 2008; Taylor 2008; Vandenabeele 2009), although some studies supplement this general measure with more items creating a reflective index of job satisfaction. Constructs formulated from multiple items are typically preferred; however, in line with Taylor (2008) (referring to a study by Scarpello and Campbell 1983), we argue that a global rating of overall job satisfaction can be assessed as a more inclusive measure. In both datasets, job satisfaction is skewed to the left (see table A1 and A2 in the appendix), and relatively many respondents have the highest possible level of job satisfaction. This is handled by using tobit regressions which account for the fact that for some of the respondents, job satisfaction could (latently) have been higher if the measurement scale had included more categories.

To measure the employees' PSM, the cross-national analysis based on the ISSP data used the question "How personally important do you find it to have a job that is useful to society?" (assessed on a five-point Likert scale from 1=not important at all to 5=very important). This is one of the most frequently used questions to measure PSM in large scale surveys, where space is limited (for an overview of the numerous studies using this item, see Wright 2008, 82). In the Danish sample there are, however, several questions available to measure PSM, which in line with the methodological recommendations for measuring the concept (Kim & Vandenabeele 2010; Perry 1996; Wright 2008), allows for a more valid operationalisation. For the analysis based on this sample, we thus used an abbreviated version of Perry's (1996) multi-dimensional measurement instrument validated by Coursey & Pandey (2007) and Wright & Christensen (2009) who distinguishes between three dimensions of PSM: public interest, compassion, and attraction to policy making. This reflects how the wish to contribute to society can rest on normative, affective, and rational/instrumental grounds of human behaviour, respectively (Perry 1996; Perry & Wise 1990). An individual can thus be motivated to serve the general public based on normative values and duty, based on affective

identification and empathy with underprivileged groups in society, and based on a rational/instrumental wish to improve the decision-making concerning public services. In line with Kim & Vandenabeele's (2010) notion of PSM being a first-order reflective and second-order formative construct, these three dimensions were added up to a single measure of PSM (scale from 0-100), meaning that "if any one of these dimensions increases, PSM increases; conversely, if a person's PSM increases, this is not necessarily accompanied by an increase in all dimensions" (Kim & Vandenabeele 2010, 706). Table A2 shows the used items and the Cronbach's alpha values for the dimensions.

In a similar vein, the second independent variable, user orientation, was measured in the Danish sample using a multi-item scale consisting of three questions reflecting the motivation to serve the specific users of the services (e.g., in contrast to complying with formal rules). These items were partly inspired by Vandenabeele's (2008a) "customer orientation" dimension, and they have previously proved successful in creating a consistent scale in the Danish context (Andersen et al. 2011). In contrast, the ISSP sample only allowed for at measurement of user orientation using a single question: "How personally important do you find it to have a job that allows someone to help other people?" (a five-point Likert scale from 1=not important at all to 5=very important). Table A1 and A2 in the appendix show descriptive statistics for the measurement of user orientation in the two samples along with reliability measures for the multi-item scale used in the Danish case.

Regarding the measurement of the opportunities to actually help others in one's current job and the job's perceived usefulness for society (as well as the corresponding measures of PSM fit and user-orientation fit), these variables are only possible to include in the analysis using the ISSP sample. Both the job's perceived usefulness to society and possibility to help other people are measured on five-point Likert scales from 5=strongly agree that one's job is useful to society/allows to help other people to 1=strongly disagree. Following Taylor (2008) and Steijn (2008) the PSM-fit variable is measured as a combination of this "job is useful to society" variable and the PSM variable by creating an interaction term between the two. Likewise, the user orientation-fit variable is measured as a combination of the "job allows to help other people" variable and the user orientation variable. As such, these variables measure the subjective fit as opposed to a more objective measure involving an assessment of motivation and environment from two different sources (Kristof-Brown et al. 2005, 291). Furthermore, the fit is only measured with respect to one's job (person-job fit) and not the organisational environment. As someone with high PSM who experience a person-job misfit potentially resulting in a lower job satisfaction might at the same time

experience that the organisation at large contributes to the public good, PSM fit ideally includes both an organisation and job perspective (Leisink & Steijn 2008, 126; Steijn 2008, 19). However, the present analysis' focus on a moderating effect of sector as organisational public/private ownership enables us to take the organisational environment into account even though we do not have questions asking about a specific person-organisation fit.

Finally, in both samples, the respondents have been asked to indicate their current employment sector (1=public, 0=private/self-employed). To investigate the proposed hypotheses of sector moderating the relationships between PSM and job satisfaction and between user orientation and job satisfaction, we thus include a number of interaction terms in the multivariate tobit regression analyses between sector and PSM and sector and user orientation. If these interaction terms are (statistically and substantially) significant, it will indicate that the relationships between pro-social motivation and job satisfaction differ according to employment sector.

Control variables

In terms of control variables, we have focused on the variables which potentially affect both pro-social motivation (PSM and/or user orientation) and job satisfaction. First, we include the respondents' gender since the literature indicates that females have higher job satisfaction (Steijn 2008, 23) and perhaps also higher PSM (Bright 2005; Perry 1997). At any rate, women score higher on the compassion dimension of PSM (DeHart-Davis et al. 2006; Pandey & Stazyk 2008) and they also have higher user orientation (Andersen et al. 2011), which is why gender is included to ensure that the relationships between PSM, user orientation and job satisfaction are not spurious (for the exact questions and descriptive statistics of all control variables, see Table A1 and A2 in the appendix). Second, the respondents' age is also controlled for as some studies find (weak) positive associations between age and job satisfaction (Naff & Crum 1999; Steijn 2008), while others find a negative effect (Taylor 2008). More consistently, the effect of age on PSM is found to be positive (Steijn 2008, 21; Pandey & Stazyk 2008, 102). Given that Clark et al. (1996) have shown that the age/job satisfaction relationship can be U-shaped, we included age-squared. But as it turned out that age-squared had no significant effects using both datasets, we present the more parsimonious analyses without this variable. Third, education primarily appears to affect PSM (Steijn 2008, 21, 23; Pandey & Stazyk 2008, 103) and not job satisfaction. However, we have chosen to still include it as a control variable because some studies indicate that there may be a

relationship between job satisfaction and education (Bright 2008, 160; Naff and Crum 1999, 12).

Fourth, whereas both samples allow us to control for gender, age, and education, the Danish sample also allows us to control for the respondents' earnings in terms of monthly wages in DKK. The economic literature shows that wages have a direct positive impact on job satisfaction (Clark et al. 2009). As individuals need not be neither pure altruists nor pure egoists (Le Grand 2003), this is not seen as inconsistent with the hypotheses on PSM and user orientation. However, the individual respondent's wage is operationalised as the natural logarithm of the monthly wage in DKK given that we expect a lin-log association between wage and job satisfaction (Clark et al. 2009). We also tested whether the wage/job satisfaction relationship depended on employment sector by including interaction terms such as those for PSM and user orientation, but they are not included in the final analysis, as none of them proved to be statistically significant. Related to this, the analysis using the Danish sample also automatically controls for "supervisory position", because the sample only contains employees without leadership responsibility.

Finally, the analyses also include the respondents' occupation (coded from the International Standard Classification of Occupations, ISCO, in both samples – see appendix). This reflects the current debate in the PSM literature over whether PSM is more a matter of service than sector (Steen 2008; Christensen & Wright 2011). As public and private sector employees in some cases perform similar services and in other cases different services, the work task (occupation) might be important in determining the relationships between PSM, user orientation and various positive outcomes such as job satisfaction (Leisink & Steijn 2009, 47). To ensure that the moderating effect is related to the ownership status of the organisation (as opposed to the type of task), we therefore test the relationships between PSM and job satisfaction and user orientation and job satisfaction using subsamples of the two datasets (ISSP: n=2,024, Danish sample: n=914) which allow us to compare public and private employees with similar tasks (see table A3 in the appendix).

Results

In this section, we present the results of a series of tobit regressions which investigate the proposed relationships between PSM, user orientation, and job satisfaction combined with cross tables analysing public and private employees' perceptions of their jobs' usefulness to society and possibility to help other people. We first present the results from the analysis

using the 2005 ISSP data, and then we go into details with the results using data from the more recent Danish survey.

Hypothesis 1 and 5 expect PSM and user orientation, respectively, to have a direct positive association with job satisfaction. Table 1, model 1.1, supports both of these hypotheses. Across the 32 countries, employees with higher levels of PSM and higher levels of user orientation also have higher job satisfaction controlled for gender, age, and education, and the same is the case when controlling for the direct effect of employment sector (model 1.3). This indicates that independent of each other, the motivation to do good for society and the motivation to help other people contribute to job satisfaction. The results thus support hypothesis 1 and 5 and indicate that both types of pro-social motivation is positively related to job satisfaction.

Inspired by the Person-Environment Fit Theory, hypothesis 2 expected that employees who have high PSM and think that their job is useful to society have higher job satisfaction than other employees, while hypothesis 6 expected higher job satisfaction for employees who have high user orientation and think that their job allows them to help other people. Both hypotheses thus expected a fit between the employees' pro-social motivation and their job to be positively related to job satisfaction. Table 1, model 1.2 indicates that both hypotheses can be accepted. PSM and user orientation are stronger related to job satisfaction for the employees who value these two motives and at the same time experience that their jobs are actually useful to society and that they can help other people, respectively. Model 1.2 in table 1 also indicates that PSM and user orientation may be negatively related to job satisfaction when the PSM fit and user-orientation fit are very low. In other words, the level of PSM and user orientation may have a negative impact on job satisfaction if the job is not seen as useful to society and if the employees cannot help other people in their jobs. Figure 1 illustrates the estimated relationship between PSM and job satisfaction for jobs which are very useful for society and not useful for society, while figure 2 illustrates the corresponding relationship between user orientation and job satisfaction for jobs which perfectly allow and not allow the respondent to provide help to others. The results thus support hypothesis 2 and 6 and indicate that PSM is only positively associated with job satisfaction when there is a PSM fit, and user orientation only when there is a user-orientation fit. This indicates that it can be problematic for job satisfaction to be pro-socially motivated if the job does not allow this behaviour.

[TABLE 1 HERE]

[FIGURE 1 AND 2 HERE]

The next step is to include sector in terms of public/private ownership of the employees' workplaces more actively in the analyses. One of the reasons for expecting sector differences in the associations between PSM, user orientation and job satisfaction was, as mentioned, that more public employees than private employees are expected to think that their job is useful to society (hypothesis 3) and that their job allows them to help other people (hypothesis 7). Table 2 indicates that these expectations are correct. The percentage of public employees who strongly agree/agree that their job is useful for society is higher than for private employees, and the same is true for the percentage of public employees who strongly agree/agree that their job allows them to help other people. Given that hypothesis 3 and 7 are accepted, we can proceed to test whether the relationships between the two types of pro-social motivation and job satisfaction actually differ according to the ownership status of the employees' organisations.

[TABLE 2 HERE]

We did, as mentioned, expect stronger relationships between PSM and job satisfaction (hypothesis 4) and between user orientation and job satisfaction (hypothesis 8) for public employees as compared to private employees. To test this, model 1.4 in table 1 includes interaction terms between being employed in the public sector and each of the two motivational variables (PSM and user orientation). Contrary to what was expected from hypothesis 4, we see that the relationship between PSM and job satisfaction is *not* stronger for public sector employees. The interaction between public sector and PSM is actually negative (but very small and not statistically significant). On the other hand, we find that the relationship between user orientation and job satisfaction is significantly stronger for public employees (it is, however, still positive for private employees, who are reference category in model 1.4). If we include controls for occupational group to see whether the sector differences are due to differences in occupations (the occupations investigated in model 1.5 work with the same tasks in the public and the private sectors enabling us to compare the sectors while controlling for occupation), we find that user orientation is still significantly associated with job satisfaction for private employees and that the coefficient is still positive (however, no longer significant) for the interaction term between sector and user orientation. Controlling for occupation does not change the result concerning PSM, namely, that there is no significant

difference between sectors in the relationship between PSM and job satisfaction. In sum, the results support hypothesis 8, while hypothesis 4 is not supported.

In the section concerning the theoretical framework, we indicated that sector differences in the relationship between user orientation and job satisfaction may depend on the institutional settings surrounding the public and private sectors. Therefore, we made the analysis in table 1 separately for all of the 32 countries in the sample. This shows that while the relationship between user orientation and job satisfaction is stronger for public employees compared to private employees in 24 countries, this is not the case for the remaining 8 countries (Hungary, Slovenia, Russia, Canada, Cyprus, Denmark, South Africa, and the Dominican Republic). To achieve further insights in the relationship between the two types of pro-social motivation and job satisfaction, a separate analysis of one of these countries, Denmark, has been carried out. As explained in the above section on data and methods, this analysis relies both on the ISSP data and on a dataset with better measures of PSM and user orientation.

[TABLE 3 HERE]

The analysis of Denmark shows a lot of similarities to the general ISSP picture. Table 3, which analyses the Danish ISSP data separately, thus shows positive relationships between the two types of motivation in model 3.1. Although the coefficients are no longer statistically significant, which may be due to the reduced sample size, they do, however, not differ much from the results in table 1 with regard to their size. Moreover, model 3.2 also finds that PSM is only positively related to job satisfaction when there is a PSM fit (and the same is the case for user orientation and user-orientation fit). Interestingly, model 3.2 shows that it is especially relevant for job satisfaction whether the job allows the employees to help others (as the PSM-fit variable unlike the user orientation-fit variable is not statistically significant). The Danish ISSP data have too few employees to include controls for occupation, and another issue is that the measurement of PSM and user orientation in the ISSP data is not optimal (each is measured by only a single Likert format question and is therefore actually on ordinal scale). To account for these weaknesses, a survey with 2,811 valid respondents from the private and public sectors in Denmark was conducted in 2009.

[TABLE 4 HERE]

Table 4 shows the analysis of the relationship between PSM, user orientation, and job satisfaction for the 2009 sample of Danish employees. As with the cross-country analysis, the first thing to be noted is that both PSM and user orientation have strong, positive associations with job satisfaction controlled for gender, age, education, employment sector, and now also income (model 4.1 and 4.2). This again supports hypothesis 1 and 5. In model 4.3 we see a significantly negative interaction term between employment sector and user orientation, indicating that the association between user orientation and job satisfaction is stronger for private sector employees (the association remains positive in the public sector, however, given that the coefficient for public employees is estimated to be 0.0239 minus 0.0119). Including occupational group as a control variable in model 4.4, this does not change these findings. Although hypothesis 8 was generally confirmed in the ISSP data, the results from Denmark (both ISSP data from Denmark and the 2009 survey) thus indicate that sector differences in the relationship between user orientation and job satisfaction may differ between countries. We will return to possible explanations for this in the discussion.

Based on the ISSP survey, it is hard to say why the relationship between user orientation and job satisfaction is stronger for public sector employees in some countries and not in other countries (the relationship may even be weaker for Danish public employees compared to Danish private employees). One possibility is that the relationships between the different types of pro-social motivation and job satisfaction differ between different occupations, and that the specific conditions for each occupation matters. The Danish sample may be used to illustrate this for nurses and school teachers. In 2009, Danish hospitals (both public and private) were very busy due to long waiting lists, and many nurses felt that it was difficult to take good enough care of each patient. Although their job surely allowed them to help other people, user oriented nurses might still be frustrated due to very limited time for each individual user. In contrast, the busy workdays in the hospitals in 2009 might be seen as contributing to society by decreasing the waiting lists. This may explain why job satisfaction is positively associated with PSM for nurses in model 4.5 in table 4 (they are reference category, so the coefficient is 0.0818, and it is statistically significant) and negatively associated with user orientation (although not significantly so). Oppositely, in 2009 Danish teachers were much criticised in the newspapers (among other things for bad PISA results), while user satisfaction surveys to a higher extent praised the teachers. In model 4.5, the teachers' job satisfaction is not associated with PSM at all (the significant negative coefficient for the interaction term is the same size as the first order terms for PSM), whereas there is a positive association between user orientation and job satisfaction for the Danish teachers.

While these observations are rather speculative and clearly require further research, the main results are more robust:

- Both PSM and user orientation are generally positively associated with job satisfaction (hypothesis 1 and 5 accepted)
- Both PSM fit and user orientation-fit are positively associated with job satisfaction (hypothesis 2 and 6 accepted)
- Public employees more often see their jobs as useful to society and as enabling the employees to help other people than private employees (hypothesis 3 and 7 accepted)
- The positive relationship between PSM and job satisfaction is *not* stronger for public employees as compared to private employees (hypothesis 4 rejected)
- The positive relationship between user orientation and job satisfaction is *in most countries* stronger for public employees as compared to private employees (hypothesis 8 partially accepted)

[TABLE 4 HERE]

Discussion

The finding that PSM and job satisfaction are positively associated is consistent with the literature (Naff and Crum 1999; Steijn 2008; Taylor 2008), and the positive associations between user orientation and job satisfaction indicate that the literature could fruitfully consider other types of pro-social motivation than PSM understood as motivation to contribute to society.

Our findings support the literature's modelling of the relationship between PSM and job satisfaction as being (partly) mediated by PSM fit. In line with Taylor (2008) and Steijn (2008), we show that PSM is only positively associated with job satisfaction as long as the employees find that their motivation fits the characteristics of the environment they work in. Furthermore, our findings show that the same goes for other types of pro-social motivation. The association between user orientation and job satisfaction is thus stronger when there is fit between user orientation and one's job providing an opportunity to exercise this motivation. These results suggest that it is worthwhile to incorporate elements of the Person-Environmental Fit Theory in future PSM research as argued by Steijn (2008).

In contrast, the results in this article question the (implicit or explicit) assumption in most of the existing studies of PSM and job satisfaction that the PSM/job satisfaction

relationship primarily unfolds within public sector organisations (e.g. Bright 2008; Naff & Crum 1999; Steijn 2008). Taylor (2008) showed how PSM fit is positively related to job satisfaction controlled for public/private employment sector, and this article goes a step further and investigates whether PSM and user orientation are related to job satisfaction in both the public and the private sector. A bit surprisingly, we find this relationship does not differ between the sectors for PSM, while the association between user orientation and job satisfaction is strongest in the public sector for most countries. There are, however, exceptions where the association seems to be stronger in the private sector, and the article goes into detail with Denmark as one of these exceptions.

Based on examples from Denmark (nurses and teachers), we discussed whether the relationships could be different for different occupations. The findings illustrated that although there are some general trends concerning pro-social motivation and job satisfaction, we should also focus on the specific condition for a given occupation in a given country. Individuals with high public service motivation and/or user orientation might for example experience a dramatic decline in job satisfaction if the budget of their organisations was cut back, because they would then be unable to provide services (to society or the individual user) of the quality they are accustomed to. As mentioned, we cannot test the validity of these explanations in this study, but we hope that future research will continue this discussion. Leisink & Steijn (2009, 47) argue that it is important to distinguish between employees performing different types of services within the sectors, and that the work task may affect the PSM fit. In line with this, a recent study by Christensen & Wright (2011) shows that the "service orientation" of a job plays a crucial role for pro-socially motivated individuals' likelihood to accept the job regardless of sector. All this indicates that it is important to remember that the public sector is not a single employer, "but rather a patchwork of organisations" (Vandenabeele 2008b, 1090).

Conclusion

The research question was how PSM and user orientation are related to job satisfaction, and whether these relationships are different for private and public employees. We found that both PSM and user orientation are positively associated with job satisfaction, but that this association demands a certain fit between individual motivation and job. Both PSM fit and user-orientation fit contribute positively to job satisfaction, and the association between user orientation and job satisfaction is stronger for public employees in most countries. Still, in Denmark the association is actually stronger for private employees, indicating that this

association may depend on the specific institutional context. There seems to be no consistent sector difference in the relationship between PSM and job satisfaction.

Before we discuss the contributions to the literature more generally, the limitations of the study need to be discussed. The first major limitation is that we had to assume a causal direction in order to perform the analyses, even though we only have cross-sectional data. This is always challenging in terms of determining the correct time order of the variables. The causal direction used in this paper is as specified in the literature, but job satisfaction might also affect PSM. However, this does not change the conclusions about the associations. Another challenge is that we cannot be sure whether we have included all relevant control variables. This could be addressed by undertaking an experiment, but we find it difficult to imagine how public service motivation could be induced in such a design. Still, we control for occupation and thereby take account of many potentially important factors which are constant within a given occupation. The last limitation concerns representativeness. The ISSP appears to be relatively representative (Scholz et al. 2008), while the Danish sample is part of a web-panel and therefore not representative – even for Danish employees.

Nonetheless, the research question concerns relationships between variables, and there is no reason to believe that the causal mechanisms differ between the sample and the Danish population. The Danish sample uses composite indexes to measure PSM and user orientation, leading to the same results as the Danish part of the ISSP survey which is limited in using only single-item questions to measure PSM and user orientation. While one of the surveys thus has limitations concerning generalisability, the other has limited measurement validity, and it is reassuring that they give the same results. Especially one result seems very robust across different context: The positive association between user orientation and job satisfaction. In terms of implications for future research, we therefore suggest that the motivation to help specific other persons is included in studies of pro-social motivation, and that the research agenda concerning person-job fit is continued.

The practical implication of our results is that managers could take pro-social motivation into account in at least three ways. First, they could consider hiring employees with high initial PSM for jobs which contribute to society and employees with high initial user orientation for jobs which concern helping other persons. This would be expected to lead to higher job satisfaction due to the high fit between person and job. Second, and still for the mentioned jobs, managers could try to nurture employees' PSM and user orientation and make sure that the pro-social motivation is not crowded out by other types of motivation and incentives. Third, whether a given job is seen as contributing to society or other people may

be changeable at the margin. Managers in public organisations could therefore consider the recommendation made by Pandey & Moynihan (2007, 40) and create an environment that allows employees to feel they are contributing to the public good and that they can help other people. Employee motivation and job satisfaction have elsewhere been shown to be positively related to individual performance which in turn affects organisational performance, and effort to improve job satisfaction can therefore ultimately improve the performance in public and private organisations.

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Table 1: Tobit regressions of PSM, user orientation and job satisfaction (ISSP data, 2005, unstandardised regression coefficients).

	Model 1.1	**Model 1.2**	**Model 1.3**	**Model 1.4**	**Model 1.5**
Female	-0.059**	-0.077***	-0.066***	-0.065***	-0.012
	(0.002)	(0.000)	(0.001)	(0.001)	(0.865)
Age	0.008***	0.006***	0.008***	0.008***	0.008**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)
Education	0.034***	0.002	0.031***	0.031***	-0.029
	(0.000)	(0.727)	(0.000)	(0.000)	(0.231)
PSM (1-5)	0.047**	-0.254***	0.046**	0.027	0.025
	(0.002)	(0.000)	(0.002)	(0.102)	(0.634)
User orientation (1-5)	0.148***	-0.144***	0.147***	0.149***	0.117*
	(0.000)	(0.001)	(0.000)	(0.000)	(0.035)
Job is useful for society (1-5)		-0.039			
		(0.361)			
Job allows help to others (1-5)		0.012			
		(0.780)			
PSM fit (PSM*job useful to society)		0.062***			
		(0.000)			
User-orientation fit (user orientation* job allows help to others)		0.055***			
		(0.000)			
Public sector (1=works for government, 0=private/self employed)			0.054*	-0.321*	-0.527
			(0.023)	(0.016)	(0.129)
Public sector*PSM				-0.009	0.034
				(0.820)	(0.726)
Public sector*User orientation				0.100**	0.095
				(0.009)	(0.339)
Health assistants					-0.068
					(0.687)
Teachers					0.146
					(0.279)
Administrators (MSc)					0.129
					(0.302)
Administrators (voc. training)					0.031
					(0.790)
IT-service					-0.032
					(0.815)
Lawyers/juridical work					0.226
					(0.102)
Engineers/architects					0.140
					(0.340)
Security/monitoring					-0.363*
					(0.011)
Constant	4.145***	5.017***	4.159***	4.228***	4.575***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Sigma	1.372***	1.322***	1.372***	1.371***	1.266***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Observations	21,547	21,547	21,547	21,547	2,024

Note: *p*-values in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Reference category is nurses.
Whether the models meet the assumptions of tobit regression have been tested. No serious violations were detected except from multicollinearity in the models with interaction terms (the fit-variables in model 1.2 and sector*PSM and sector*user orientation in model 1.4 and 1.5).

Table 2: Public and private employees according to perception of job being useful to society and allowing them to help others (ISSP data, 2005)

Jobs usefulness to society	**Private employees (n=** 17,238**)**	**Public employees (n=** 6,673**)**
Strongly agree that respondent's job useful to society	20.3 %	39.8 %
Agree that respondent's job useful to society	46.2 %	46.9 %
Neither agree nor disagree	21.4 %	9.2 %
Disagree that respondent's job useful to society	9.1 %	3.1 %
Strongly disagree that respondent's job useful to society	3.0 %	0.9 %
	100.0 %	100.0 %
Job allows to help other people		
Strongly agree that respondent can help other people in the job	19.8 %	35.3 %
Agree that respondent can help other people in the job	48.0 %	47.1 %
Neither agree nor disagree	18.2 %	11.0 %
Disagree that respondent can help other people in the job	10.2 %	4.9 %
Strongly disagree that respondent can help other people in the job	3.9 %	1.7 %
	100.0 %	100.0 %

Note: The gamma coefficient for the association between jobs usefulness to society and sector is -0.43, while the gamma coefficient for the association between whether jobs allow help to other people and sector is -0.33. Both are statistically significant ($p<0.001$).

Table 3: Tobit regressions of PSM, user orientation and job satisfaction (Danish employees in ISSP data, 2005, unstandardised regression coefficients)

	Model 3.1	**Model 3.2**	**Model 3.3**	**Model 3.4**
Female	-0.144	-0.196*	-0.083	-0.084
	(0.095)	(0.021)	(0.351)	(0.348)
Age	0.008*	0.006	0.008*	0.008*
	(0.030)	(0.104)	(0.019)	(0.019)
Education	0.019	-0.014	0.036	0.0379
	(0.680)	(0.758)	(0.445)	(0.423)
PSM (1-5)	0.091	-0.064	0.102	0.125
	(0.104)	(0.701)	(0.069)	(0.067)
User orientation (1-5)	0.094	-0.456*	0.119	0.103
	(0.118)	(0.013)	(0.051)	(0.159)
Job is useful for society (1-5)		-0.008		
		(0.956)		
Job allows help to others (1-5)		-0.142		
		(0.368)		
PSM fit (PSM*job useful to society)		0.022		
		(0.574)		
User-orientation fit (user orientation* job allows help to others)		0.106*		
		(0.015)		
Public sector (1=works for government, 0=private/self employed)			-0.232*	-0.169
			(0.014)	(0.726)
Public sector*PSM				0.0512
				(0.692)
Public sector*user orientation				-0.0705
				(0.549)
Constant	4.597***	6.075***	4.433***	4.401***
	(0.000)	(0.000)	(0.000)	(0.000)
Sigma	1.300***	1.270***	1.297***	1.297***
	(0.000)	(0.000)	(0.000)	(0.000)
Observations	1,011	1,011	1,011	1,011

Note: *p*-values in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. The regression diagnostics give the same results as for table 1.

Table 4: Tobit regressions of job satisfaction (Danish dataset, 2009, unstandardised regression coefficients)

	Model 4.1	**Model 4.2**	**Model 4.3**	**Model 4.4**	**Model 4.5**
Female	0.228*	0.222*	0.229*	0.0343	0.0621
	(0.017)	(0.021)	(0.017)	(0.856)	(0.742)
Age	0.0125**	0.0120**	0.0121**	0.0207*	0.0221**
	(0.006)	(0.010)	(0.009)	(0.012)	(0.007)
Education	-0.0215	-0.0261	-0.0257	-0.0569	-0.0401
	(0.549)	(0.482)	(0.488)	(0.526)	(0.652)
Log_income	0.717***	0.739***	0.736***	0.230	0.222
	(0.000)	(0.000)	(0.000)	(0.497)	(0.511)
PSM (0-100)	0.0278***	0.0276***	0.0223***	0.0107	0.0818*
	(0.000)	(0.000)	(0.000)	(0.292)	(0.011)
User orientation (0-100)	0.0185***	0.0186***	0.0239***	0.0335***	-0.0226
	(0.000)	(0.000)	(0.000)	(0.000)	(0.292)
Public sector		0.0485	0.214	0.444	0.0843
		(0.631)	(0.725)	(0.672)	(0.943)
Public sector*PSM			0.0119	0.0212	0.0222
			(0.152)	(0.147)	(0.192)
Public sector*User orientation			-0.0119*	-0.0244**	-0.0211
			(0.027)	(0.010)	(0.055)
Health assistants				-0.295	-0.652
				(0.458)	(0.807)
Teachers				-0.0915	0.727
				(0.785)	(0.761)
Administrators (MSc)				-0.0243	-0.568
				(0.954)	(0.827)
Administrators (voc. training)				-0.0432	0.873
				(0.902)	(0.695)
IT-service				-0.0425	-0.435
				(0.910)	(0.851)
Lawyers/juridical work				0.261	-5.886
				(0.594)	(0.105)
Engineers/architects				-0.310	2.040
				(0.484)	(0.478)
Security/monitoring				-0.610	0.663
				(0.276)	(0.843)
Health assistants *PSM					-0.0681
					(0.078)
Teachers*PSM					-0.0886**
					(0.008)
Administrators (MSc)*PSM					-0.0362
					(0.344)
Administrators*PSM					-0.0787*
					(0.015)
IT-service*PSM					-0.0880*
					(0.011)
Lawyers/juridical work*PSM					0.0175
					(0.734)
Engineers/architects*PSM					-0.0794
					(0.069)
Security/monitoring*PSM					-0.0928
					(0.080)
Health assistants *User orient.					0.0597*
					(0.015)
Teachers*User orientation					0.0621**
					(0.006)
Administrators (MSc)*User orientation					0.0345
					(0.164)
Administrators*User orient.					0.0520*
					(0.013)
IT-service*User orientation					0.0767**
					(0.001)
Lawyers/juridical work*User orientation					0.0732**
					(0.008)
Engineers/architects*User orientation					0.0327
					(0.203)
Security/monitoring*User orientation					0.0591*
					(0.042)
Constant	-2.467	-2.657	-2.727	2.486	2.281
	(0.097)	(0.084)	(0.081)	(0.474)	(0.568)
Sigma	2.336***	2.336***	2.334***	2.300***	2.269***
Observations	2,811	2,811	2,811	914	914

Note: *p*-values in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Reference category is nurses. Regarding regression diagnostics, multicollinearity has been detected in model 4.3-4.5 (due to the interaction terms).

Table A1: Measurement and descriptive statistics of study variables in the ISSP 2005 sample

Variable	Definition/measurement	Mean	Min.	Max.	Std.dv	N
Job satisfaction	"How satisfied are you in your (main) job?" (1=completely dissatisfied 7=completely satisfied)	5.25	1	7	1.204	24,619
PSM	Overall level of general, altruistic motivation to serve the interests of society: "How personally important do you find it is to have a job that is useful to society? (5=very important, 1=not important at all)	4.02	1	5	0.848	42,277
User orientation	Motivation to serve the specific users of the service: "How personally important do you find it is to have a job that allows someone to help other people? (5=very important, 1=not important at all)	4.03	1	5	0.831	44,292
Public sector	Dummy variable indicating whether the respondent is employed in a public or private sector organisation (1=public)	0.21	0	1	0.406	31,447
Gender	Gender of respondent (1=female)	0.54	0	1	0.498	43,392
Age	Age of respondent (years)	45.76	15	98	17.058	43,224
Education	Respondents' educational level (0=no formal education, 1=lowest formal qualification, 2=above lowest qualification, 3=higher secondary completed, 4=above higher secondary level, 5=university degree completed)	2.55	0	5	1.605	42,997
Job is useful for society	For each of these statements about your (main) job, please tell me how much you agree or disagree with it as it applies to your job: My job is useful to society (5=strongly agree, 1=strongly disagree)	3.84	1	5	0.972	21,861
Job allows help to others	For each of these statements about your (main) job, please tell me how much you agree or disagree with it as it applies to your job: In my job I can help other people (5=strongly agree, 1=strongly disagree)	3.80	1	5	1.008	21,937
PSM fit	Combination of "job is useful for society" and importance of having a job that is useful to society (PSM)	15.62	1	25	5.718	21,645
User orientation fit	Combination of "job allows help to others" and importance of having a job where respondent can help other people (user orientation)	15.52	1	25	5.750	21,717
Occupation	Dummy variables for respondents' occupation/work task: teachers, lawyers/juridical work, IT service, engineering/architects, security/monitoring, nurses, health assistants, and administrators with a master's degree or vocational training (coded from the ISCO88 classification)	See Table A3 for the number of respondents in each category.				

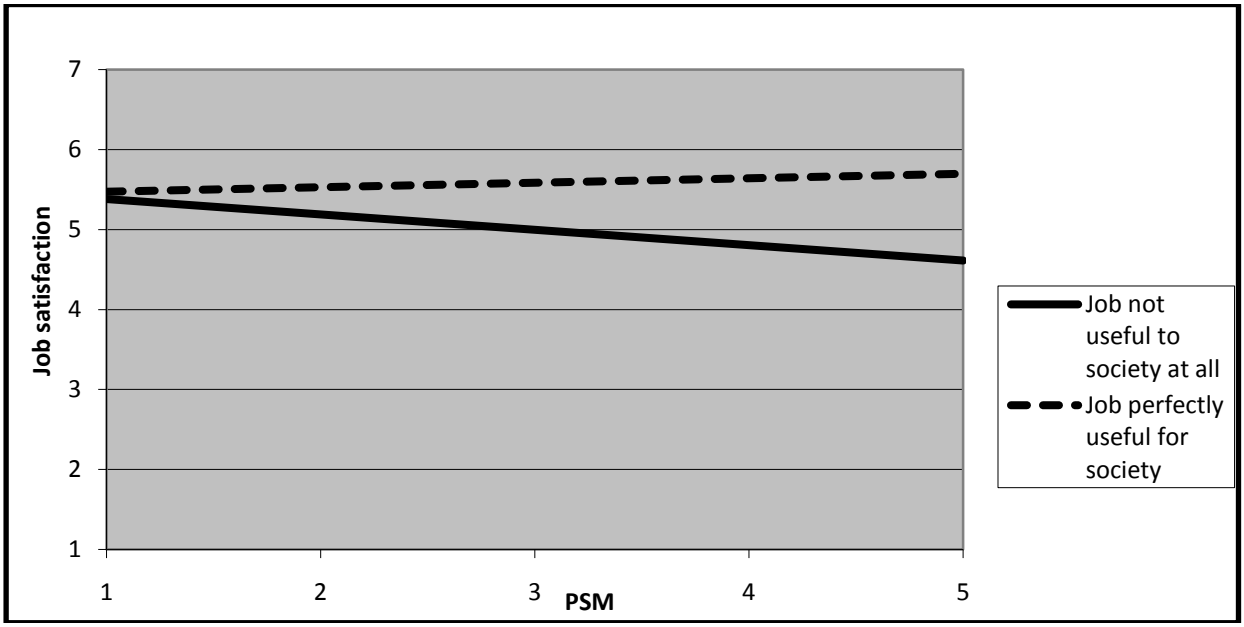
Table A2: Measurement and descriptive statistics of study variables in the Danish 2009 sample.

Variable	Definition and measurement	Mean	Min.	Max.	Std.dv	N
Job satisfaction	"Overall, on a scale from 0 to 10, how satisfied or unsatisfied are you with your current job?" (0=very unsatisfied, 10=very satisfied)	8.48	1	11	2.118	3089
Public interest	Motivation to serve the general public based on values and duty (reflective index consisting of 4 Likert-scale items: "I contribute to my community", "Meaningful public service is very important to me", "I would prefer seeing public officials do what is best for the whole community, even if it harmed my interests" and "I consider public service my civic duty", Cronbach's alpha: 0.715)	78.00	0.00	100.0	15.360	3274
Compassion	Emotionally based motivation serve the interests of society/societal groups based on identification and empathy (reflective index consisting of 4 "It is difficult for me to contain my feelings when I see people in distress", "To me, considering the welfare of others is one of the most important values", "I have little compassion for people in need who are unwilling to take the first step to help themselves (turned)", "I am often reminded by daily events about how dependent we are on one another". Likert-scale items, Cronbach's alpha: 0.609)	65.72	0.00	100.0	16.192	3235
Attraction to policy making	Motivation to improve decision-making concerning public services (reflective index consisting of 3 Likert-scale items – "I associate politics with something positive", "The give-and-take of public policy making doesn't appeal to me (turned)" and "I don't care much about politicians (turned)", Cronbach's alpha: 0.645)	43.16	0.00	100.0	19.660	3237
PSM	Overall level of general, altruistic motivation to serve the interests of society (formative index of the public interest, compassion, and attraction to policy making indexes, theoretical range: 0-100)	62.30	20.83	95.83	11.155	3129
User orientation	Motivation to serve the specific users of the service (reflective index consisting of 3 Likert-scale items: "The individual user is more important than formal rules", "It gives me energy to know that I helped the user", "If the user is satisfied, the job is done" Cronbach's alpha: 0.524).	77.24	0.00	100.0	16.975	3233
Public sector	Dummy variable indicating whether the respondent is employed in a public or private sector organisation (1=public)	0.43	0	1	0.495	3333
Gender	Gender of respondent (1=female)	0.51	0	1	0.500	3333
Age	Age of respondent (years)	43.42	25	64	10.133	3333
Education	Respondents' educational level (1=primary school, 2=middle school, 3=high school, 4=technical or trade examination, 5=vocational education, 6=Short upper vocational education, 7=bachelor's degree, 8=graduate degree, 9=PhD)	6.28	3	9	1.370	3333
Log_income	The natural logarithm of the respondent's monthly wage in DKK (amounts above DKK 100,000 are sorted out as faulty answers)	10.34	7.82	11.44	0.347	3308
Occupation	Dummy variables for respondents' occupation/work task: teachers, lawyers/juridical work, IT service, engineering/architects, security/monitoring, nurses, health assistants, and administrators with a master's degree or vocational training (coded from the DISCO88 classification)	See Table A3 for the number of respondents in each category				

Table A3: Investigated subsamples of employees according to their employment sector and occupation

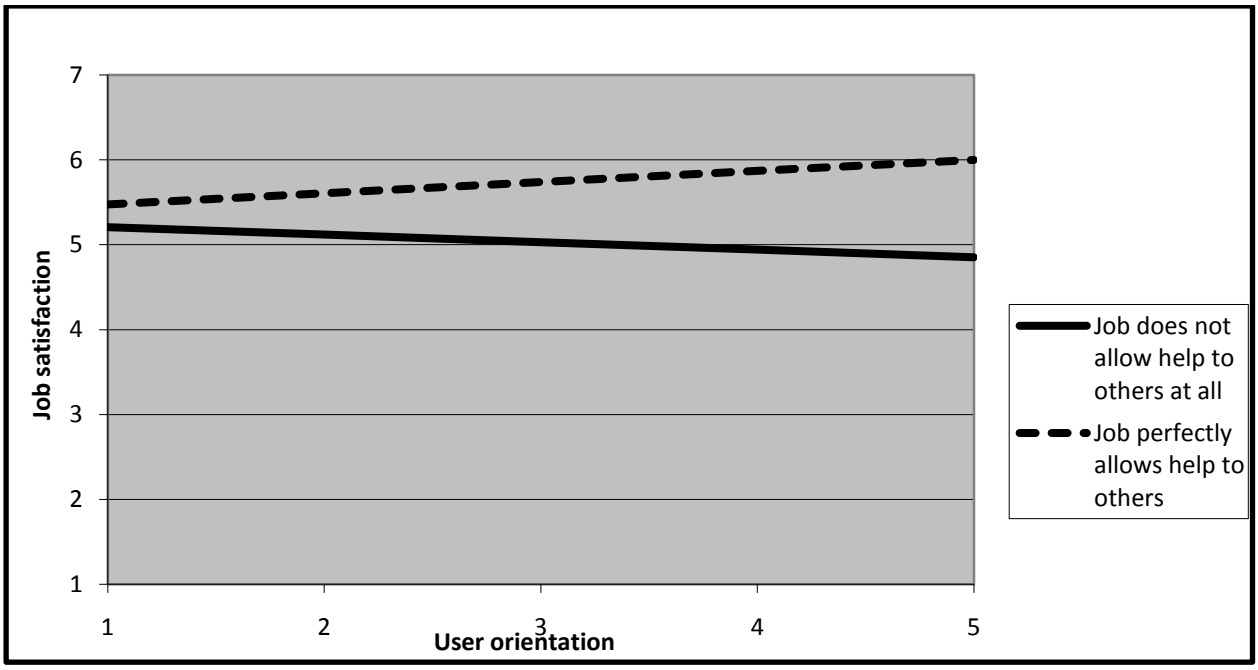
	ISSP data			**Danish data**		
	Employment sector			Employment sector		
Occupation	Private	Public	*Total*	Private	Public	*Total*
Nurses	61	106	167	9	58	67
Health assistants	65	25	90	15	81	96
Teachers (primary school)	29	160	189	21	144	165
Administrators (MSc)	263	76	339	51	25	76
Administrators (voc. training)	381	133	514	152	105	257
IT service	199	27	226	115	41	156
Lawyers/juridical work	103	34	137	21	10	31
Engineers/architects	136	31	167	56	11	67
Security/monitoring	128	67	195	15	13	28
Total	1,365	659	2,024	455	488	943

Figure 1: Illustration of estimated relationship between PSM and job satisfaction (model 1.2)



Note: Illustrated for men with average age, education and level of user orientation, and average "job allows to help others" and user-orientation fit.

Figure 2: Illustration of estimated relationship between user orientation and job satisfaction (model 1.2)



Note: Illustrated for men with average age, education and level of PSM, and average job usefulness to society and PSM fit.