

Review of Public Personnel Administration

Public Service Motivation or sector rewards? Two studies on the determinants of sector attraction

Journal:	<i>Review of Public Personnel Administration</i>
Manuscript ID	Draft
Manuscript Type:	Article
Keywords:	sector attraction, Public Service Motivation, rewards, Recruitment, HRM
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5 **Two studies on the determinants of sector attraction**
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10 **Abstract**
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13 Public sector organizations are competing with the private sector for high-qualified staff. But
14 the public sector lost attraction as an employer of choice. Public service motivation (PSM)
15 and different sector rewards have been identified as alternative drivers of sector attraction.
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17 However, it is still unclear to what extent PSM is associated with sector attraction, especially
18 when controlling for a comprehensive set of sector rewards. We investigate this sector
19 attraction puzzle through a meta-analysis (study 1) focusing on the relation between PSM and
20 sector attraction and primary data collected from 600 German final year students (study 2).
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22 The two studies aggregate the literature on PSM and sector attraction and produce unique
23 empirical evidence. Thus we extend the knowledge on the relationship between PSM and
24 sector attraction across different settings and in Germany which enables us to derive
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26 implications for public sector recruiters.
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INTRODUCTION

Public sector employers struggle to attract high-qualified recruits and tend to lose competition with private sector employers. Recent commercial Employer Branding Research (Universum Global, 2016) has found that in 2016 students did not perceive public sector employment as an attractive career path. For example, humanities and liberal arts students in the UK and the US repeatedly rank public sector employers at the bottom of such lists. A recent survey of US graduates reports that 60% lean towards private sector employment (NACE 2016).

Also research does not paint a more favorable picture. For example, a series of in depth interviews with students leads Chetkovich (2003, p. 670) to conclude “[p]ublic policy students, whose training is intended to produce managers, advocates, and analysts for public programs, are increasingly likely to enter private-sector employment upon graduation and less likely than their predecessors to plan long-term careers in government.” Similarly, according to Lee and Choi (2016), the public sector as an employer of choice has lost attractiveness, and Delfgaauw and Dur (2010) assert that too few of high-qualified people decide for careers in the public sector. Clearly, “[t]he attractiveness of the public sector as an employer is overall perceived as having rather deteriorated.” (Hammerschmid, Van de Walle, Andrews, Bezes, Görnitz, Oprisor, & Štimac, 2013, p. 33).

In contrast, German humanities students repeatedly ranked the Federal Foreign Office (i.e. equivalent to US Department of State) as their preferred employer, and German law students ranked three public sector employers on the top ranks (i.e. the Federal Criminal Police Office, the Federal Foreign Office and the United Nations; Universum Global, 2016). These observations indicate substantial differences in sector attraction across countries. They raise the question whether public sector employers are able to offer rewards that are likely to attract the desired candidates. Hence, it is important to distinguish between the contribution motivation makes and the contribution different rewards make to sector attraction.

1 An early attempt to solve the sector attraction puzzle was made by Perry and Wise
2 (1990). Invoking the concept of public service motivation (PSM) - defined as “an individual’s
3 predisposition to respond to motives grounded primarily or uniquely in public institutions or
4 organizations” (Perry & Wise, 1990, p. 368) - they hypothesized that high levels of PSM lead
5 to self-selection into the public sector. The latter is due to PSM’s nature as a prosocial
6 motivation that is linked to the individual need to serve the common good (Perry &
7 Hondeghem, 2008; Kim & Vandenabeele, 2010).
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16 To date, studies investigating the link between PSM and sector attraction yield mixed
17 results (Bullock, Stritch & Rainey 2015; Christensen & Wright, 2011; Hinna et al., 2016
18 Pedersen, 2013; Ritz & Waldner, 2011; Rose, 2012; Tschirhart, Reed, Freeman, & Anker,
19 2008 and Vandenabeele, 2008). Hence, it has remained unclear to what extent PSM is
20 associated with sector attraction, which is an important question with strong practical
21 implications for public sector recruitment.
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30 We investigate this issue by conducting two related studies: Study 1 presents a meta-
31 analysis of PSM and sector attraction studies, which is an attempt to identify if Perry and
32 Wise’s (1990) original proposition on the link between PSM and sector attraction holds
33 across studies. Ultimately, this approach allows us to study the role of contingent factors such
34 as national differences that cannot be investigated in single country studies.
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42 Study 2 presents an analysis of sector attraction of 600 German final year students
43 who qualify for entry into the highest grade of civil service careers. The aim of study 2 is to
44 investigate whether PSM is associated with sector attraction when controlling for a
45 comprehensive set of potentially confounding influences where previous studies only
46 controlled for those selectively (e.g., Rose, 2012). Thus, study 2 extends the analysis to a
47 comparison of different rewards that have not been included in previous studies and therefore
48 complements the meta-analysis in study 1.
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1 The two studies make three distinct contributions to the literature. First, investigating
2 the aggregated effect size across studies helps to consolidate empirical knowledge on PSM
3 and sector attraction while simultaneously serving as a test of the classic PSM-attraction
4 proposition (Perry & Wise, 1990). Second, moderation analyses also allow us to investigate
5 study level differences, in particular country group differences. Third, focusing on Germany
6 helps us to identify unique aspects of sector attraction in a country of the Weberian-legal
7 tradition. More specifically, we produce unique empirical evidence in an understudied
8 country about PSM, which allows us to advance knowledge on the relationship between PSM
9 and sector attraction in Germany and enables us to derive implications for public sector
10 recruiters.

21 **SECTOR ATTRACTION AND PSM**

22 A number of factors may generate sector attraction, especially perceived characteristics of a
23 specific employer. In this regard, Cable and Turban (2001, p. 126) developed the employer
24 knowledge model. Its key components distinguish between (a) employer information
25 dimension (i.e., objectively assessed criteria such as size, centralization, or organizational
26 values), (b) job information dimension (i.e., attributes of the job such as tasks, pay level or
27 career perspectives) and (c) people information dimension (i.e., a belief about the types of
28 future co-workers and supervisors). Ng and Gosset (2013) applied this model to study
29 preferences of millennials, which is similar to our research context. Therefore, we use the
30 employer knowledge model as a theoretical complement to the individual-level focus
31 generated by PSM theory.

32 In empirical studies, PSM has been analyzed either as a global construct or on
33 the basis of its four dimensions: First, the attraction to public service dimension (APS) is
34 based on instrumental motives and “focuses more on disposition to serve the public, to work
35 for the common good, and to participate in public policy processes“ (Kim et al., 2013, p. 90).
36 Second, the commitment to public values (CPV) is norm-based and “emphasizes an

1 individual's affective commitment to or concern for the needs of specific individuals and
2 groups.“ (Kim et al., 2013: 83). Third, the self-sacrifice dimension (SS), which reflects
3 affective motives, refers to „the willingness to substitute service to others for tangible
4 personal rewards“ (Perry, 1996: 7), and fourth, the compassion dimension (COM), also based
5 on affective motives, relates to “the degree to which individuals identify with the needs and
6 suffering of others“ (Kim et al., 2013, p. 83)
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14 Public service motivated individuals are likely to evaluate the potential future
15 employer with respect to how well the job satisfies their other-oriented needs, which reflects
16 Turban and Cable’s (2001) job information dimension. As Wright and Pandey (2008, p.
17 503f.) state, PSM can be seen as work-related values, and the construct of PSM overlaps with
18 public values (PV) (Andersen, Jørgensen, Kjeldsen, Pedersen, & Vrangbæk, 2013). The
19 employer knowledge model also integrates such value fit approaches, i.e., the idea of
20 congruence between an individual’s values and organizational values, which describes the
21 person-organization fit (PO) (Kristof, 1996; Kristof-Brown, Zimmerman, & Johnson, 2005).
22 Following this line of thought, people are rather attracted to organizations promoting values
23 they share. Regarding Schneider’s (1987) Attraction-Selection-Attrition model (ASA), which
24 describes the single stages of the recruitment process, PO fit plays a prominent role at the
25 first stage of attraction. In this phase, the potential employee evaluates whether the
26 organization or the job fits. Hence, the fit concept constitutes the underlying mechanism of
27 organizational attraction (Leisink & Steijn, 2008). In other words, sector attraction is linked
28 to such value fit approaches that are included in the employer knowledge model. The
29 employer information dimension (Cable & Turban, 2001) reflects such a reasoning as values
30 are a key element here. This is particularly relevant for PSM studies since they often draw on
31 fit approaches (Vandenabeele, 2008; Christensen & Wright, 2011) to explain theoretically
32 why higher levels of PSM will lead individuals to seek public sector employment. Steijn,
33 (2008) even created a specific PSM-fit measure reflecting a subjective fit assessment of the
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1 individual and the organization or job. As Christensen and Wright (2011, p. 724) state, “(...)
2 PSM’s effects may be a function of the degree to which an organization shares the
3 individual’s public service values or provides opportunities for the employee to
4 operationalize/satisfy these values (...)”.

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10 Since the seminal paper of Perry and Wise (1990), subsequent studies investigated the
11 link between PSM, its individual dimensions and sector attraction (Christensen & Wright,
12 2011; Lewis & Frank, 2002; Steijn, 2008; Vandenabeele, 2008) producing inconsistent
13 findings (Ritz, Brewer, & Neumann, 2016). The variations in the findings might be due to the
14 cultural differences in the countries in which the studies were set. Most of the studies analyze
15 data from either the US (see e.g., Christensen & Wright, 2011; Clerkin & Cogburn, 2012;
16 Rose, 2012) or from Europe (see e.g., Kjeldsen & Jacobsen, 2013; Vandenabeele, 2008;
17 Winter & Thaler, 2016). Both differ in their values and socialization as do the different
18 European countries, especially regarding public values and patriotism. Comparative studies
19 (Vandenabeele, Scheepers, & Hondeghem, 2006) such differences in values and degrees in
20 perceptions of PSM. Another reason of the variations in the findings might be the different
21 samples. For example, Steijn (2008) offers supporting evidence for the PSM-sector attraction
22 link in a sample of Dutch workers, whereas Bright (2011) finds that PSM is not a predictor of
23 occupation choices in a sample of employees in US public sector organizations. However,
24 such sample characteristics may become less influential in longitudinal datasets. While
25 previous studies investigating the PSM-attraction hypothesis mainly use cross-sectional data
26 (see e.g., Carpenter et al., 2012; Rose, 2012), longitudinal data is more suited to reduce the
27 biasing influence of sample specifics (Rindfleisch, Malter, Ganesan, & Moorman, 2008). But,
28 to date, only a few studies (Choi, 2016; Wright, Hassan, & Christensen, 2017) have
29 investigated the PSM-attraction hypothesis on the basis of panel data.
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1 However, other authors pointed to the biasing effect of organizational socialization
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3 when studying working population samples. According to this argument, a clearer isolation of
4
5 the link between PSM and sector attraction would be provided by student samples (Clerkin &
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7 Cogburn, 2012), especially by samples of students in their final year since these individuals
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9 actively search for entry level jobs and have not been subject to any organizational
10
11 socialization in the workplace before.
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14 A series of studies relied on such ‘pure’ student samples. For example, Pedersen
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16 (2013) analyzed data from students enrolled in economics, political science and law degrees.
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18 His results highlight the sensitivity of the PSM-sector attraction link to individual PSM
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20 dimensions as the study shows a positive significant association between PSM’s commitment
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22 to public interest dimension and sector attraction. In contrast, the relation does not hold for
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24 PSM’s compassion dimension. Similarly, Rose (2012) finds significant results for the
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26 attraction to policy making dimension but not for other PSM dimensions in a sample of US
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28 undergraduate students. Other studies find clear supporting evidence that PSM is associated
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30 with sector attraction. For example, in a sample of Belgian final year Master students,
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32 Vandenaabeele (2008) finds a positive association between PSM and public sector job
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34 preferences.
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38 In contrast, Kjeldsen and Jacobsen (2012) cannot replicate a similar effect in a sample
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40 of Danish physiotherapy students. Similarly, Choi (2016) in a longitudinal study on actual job
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42 choice and PSM cannot confirm the PSM-sector attraction hypothesis. Additionally, some
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44 studies provide only weak support for the PSM-attraction hypothesis as only some
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46 dimensions of PSM are identified as significant predictors of sector preference (Clerkin &
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48 Cogburn, 2012). To summarize, the evidence is far from being conclusive. Hence, an
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50 aggregation of empirical evidence using meta-analytic techniques is suitable for identifying
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52 the overall association between PSM and sector attraction. Following the original proposition
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54 outlined by Perry and Wise (1990) we hypothesize:
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3 *H₁: PSM is positively associated with the perceived public sector attraction at the pre-job-*
4 *entry level.*
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9 **STUDY 1: A META-ANALYSIS OF PSM AND SECTOR ATTRACTION**

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11 Recently, meta-analyses in public management became more popular. In particular the field
12 of PSM is almost saturated with a number of published meta-analyses. First, Warren and
13 Chen (2013) studied the PSM and performance link, concluding that the effect is rather small
14 for both objective and subjective performance measures. Homberg, McCarthy and Tabvuma
15 (2015) meta-analytically investigated the PSM-job satisfaction relationship providing
16 evidence for a positive aggregated effect. Homberg and Vogel (2016) took a meta-analytic
17 glimpse at PSM and HRM practices. Harari, Herst, Parola and Carmona (2016) studied a
18 more comprehensive nomological network of PSM using meta-analysis. Their main findings
19 highlight that effects are sensitive to national variation. However, not even in their
20 comprehensive set of PSM correlates (e.g., OCB, commitment, career success, tenure) did
21 they include sector attraction, which is why we address this issue in our study.
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35 Meta-analysis is a method that aggregates empirical findings produced in original
36 works (i.e., primary studies). Ringquist (2013, p. 3) defines it as “a systematic, quantitative,
37 replicable process of synthesizing numerous and sometimes conflicting results (...)”. A meta-
38 analysis therefore represents an ‘acid test’ of the presence of one construct’s relation to an
39 outcome of interest – in our case PSM and sector attraction.
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46 Meta-analysis relies on the computation of a standardized effect size that makes
47 results of primary studies comparable. Studying the aggregate effect sizes can increase
48 explanatory power and theoretical understanding (Stanley, 2001). Meta-analysis is
49 particularly useful for generating evidence-based insights and advice for researchers,
50 managers, and policy makers (see e.g., Ringquist, 2013, p. 4). It is further a very suitable
51 approach for synthesizing a literature consisting primarily of quantitative analyses that
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1 produced conflicting findings as is the case with the PSM-sector attraction literature. Meta-
2 analysis follows a prescribed sequence of steps, i.e., (i) study identification, (ii) coding, (iii)
3 analysis of main effects, and (iv) analysis of moderators. These steps are described in the
4 subsequent paragraphs.
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8 **Study identification**

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10 To be included in our analysis, a primary study must (a) be quantitative, (b) investigate the
11 relation between PSM and sector attraction, and (c) report statistics that allow us to compute
12 effect sizes. We conducted a keyword search on Web of Science and Google Scholar using
13 “public service motivation” and “sector attraction” and their variants (i.e., “PSM”,
14 “attractiveness”, “occupational choice”). We also reviewed reference lists of retrieved studies
15 manually. In order to identify unpublished working papers, we checked conference programs
16 of the past three years (2014-2016) of *AoM*, *EURAM*, and *EGPA 2016, 2015, 2014*. We also
17 searched conference programs of IRSPM, PMR, and ASPA (2015-2017). In total, this search
18 generated 42 studies that appeared to qualify for inclusion in the meta-analysis. Qualitative
19 studies had to be excluded. Also, upon closer scrutiny, other studies were excluded due to
20 data limitations, i.e., they did not allow us to compute an appropriate effect size or they did
21 not use relevant measures. The remaining set of 22 usable studies generated 65 different
22 effect estimates from 42 independent samples. In particular, we want to mention the two
23 studies by Jin (2013a) and Jin (2013b), which use large international survey data (ISSP). As
24 these data are separately collected within each country, we treat them as independent
25 samples, which increases the number of estimates we are able to include into the meta-
26 analyses. Nonetheless, we want to point out that these two studies account for 19 of the 65
27 effect sizes.
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50 **Coding**

51 We coded the statistics provided in the tables of the main results of the identified primary
52 studies. These included correlations, regression coefficients, and their standard errors. In
53 many cases, this was an odds ratio as the sector preference variable is often dichotomous or
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1 categorical. In some cases, the standard error was not reported, and we had to compute the
2 standard error based on the information provided in the output tables (e.g. significance
3 categories indicated by asterisks). We used the software Comprehensive Meta-analysis
4 (CMA, Borenstein, Hedges, Higgins, & Rothstein, 2009) to compute standardized effect
5 sizes. This is a suitable choice as CMA allows for conversion of different effect sizes. The
6 main effect size used in this study is the odds ratio.
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13 Additionally, we coded one study level moderator to assess country differences.
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15 Harari et al. (2016) suggest that fine-grained taxonomies, such as the Globe study culture
16 cluster scheme (House et al., 2004), are particularly useful for identifying such effects.
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18 According to the Globe study, these country clusters are Anglo, Germanic Europe, Eastern
19 Europe, Latin Europe, Confucian Asia, and Nordic countries. As Harari et al. (2016, p. 4)
20 argue, this is a useful approach because it creates a focus on “similarities in their cultures,
21 administrative traditions and (...) geography”. One particularly useful aspect of this
22 classification for our study is the congruence between the Globe categories and the
23 taxonomies of administrative traditions. According to Peters (2008, p. 118), administrative
24 traditions are “a historically based set of values, structures and relationships with other
25 institutions that define the nature of appropriate public administration within society”. Such
26 coding is in line with Perry and Vandenaabeele’s (2008) argument that PSM and its
27 dimensions are heavily rooted in traditional public service values. Hence, using the Globe
28 categories as moderators allows us to generate insights about the impact of administrative
29 traditions on the PSM-sector attraction relationship.
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46 We also coded a number of study level characteristics that potentially account for
47 variation in results and that are included in a subsequent meta-regression analysis. For
48 example, we dummy coded as to whether the study was published or a working paper (1= not
49 published), whether respondents had work experience (1= yes, 0= no), whether the study
50 used self-collected data or an existing large survey dataset (1=survey, 0= self-collected), and
51 we included a dummy for special occupations such as doctors, firefighters or soldiers (1=
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special occupation, 0= otherwise). Ultimately, we also included a continuous variable: the OECD (2015) trust in government index¹.

Analysis

CMA was primarily used for effect size conversion. We transferred the data to STATA and computed random effects models that allow for effect size variation across studies (as compared to fixed effect models that assume identical effect sizes across studies). Ringquist (2013) even argues it is the most appropriate choice for all public management and policy applications of meta-analysis. Especially when considering national variation, it is unlikely that effect sizes are identical. Therefore, we take Ringquist's approach and compute random effect models for all analyses.

Results

Table 1a displays the results of the meta-analytically derived aggregated effect sizes, which are displayed as odds ratios. Subgroups account for what dimension of PSM was measured, and for short one and two item measures of PSM (often found in larger survey datasets).

Aggregate PSM is positively and significantly associated with sector attraction across studies. The CPI dimension exhibits the largest effect size. The average effect size across all included estimates is OR=1.44 and significant. The only dimension not exhibiting a significant relationship with sector attraction is CD. We also did a robustness check removing three effect size estimates that appeared to be extreme outliers. Removing these three estimates reduces the effect size for CPI to 1.52 ($z=1.94$, $p=0.052$) and the effect size for PSM to 1.10 ($z=3.03$, $p = 0.002$). Overall, our results are consistent with Perry and Wise's (1990) original proposition although we note that effects are rather small.

 Insert Table 1a about here

. Table 1b shows the results of the influence of administrative traditions. In order to compute moderation analyses and to compare studies meta-analytically, we require at least

1 two studies in each group. Yet, not all primary studies always consider the same PSM
2 dimensions, which generates low numbers for such comparisons (i.e., one single study in
3 some comparison groups). Hence the results displayed in Table 1b do not include all
4 traditions for all dimensions of PSM.
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9 When examined closely, the results support the idea that administrative traditions
10 shape the PSM-sector attraction relationship to some extent. For example, we find strong
11 positive effects in the Germanic (i.e., Weberian) tradition across ATP, Compassion and CPI.
12 In contrast, the Confucian tradition does not produce significant effects in SS and CPI,
13 neither does the Anglo Saxon tradition in the compassion dimension. In summary, the results
14 support the PSM-sector attraction hypothesis (*hypothesis 1*) but also imply that more research
15 is needed with regard to PSM dimensions and different administrative traditions.
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28 Insert Table 1b about here
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35 Next we investigate the effects of study level variables in a meta-regression. In line with
36 Ringquist (2013), we manually programmed a weighted least squares random effects meta-
37 regression that allows for the computation of cluster-robust standard errors. In the meta-
38 regression, we have transformed the effect sizes to Fisher's z since Ringquist (2013) suggests
39 the use of r-based effect sizes. We included publication status, trust in government, survey
40 data, work experience, and special occupation as predictors. Model 1 uses the full sample,
41 model 2 excludes studies based on the use of large existing datasets, model 3 uses the same
42 sample as model 2 but further excludes studies focusing on special occupations. Finally,
43 model 4 includes only published studies using self-collected data. Results are displayed in
44 Table 1c.
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Insert Table 1c about here

Only models 3 and 4 yield significant predictors. In both models, work experience of respondents exhibits a significant negative association with the sector attraction effect size. In contrast, the special occupation variable in model 4 exhibits a positive significant association with the sector attraction effect size.

A final concern in meta-analysis is publication bias. Publication bias refers to the issue of studies being published because they present significant findings whereas studies with non-findings are less likely to be part of the public sphere (also sometimes labelled the 'file drawer problem'). Rost and Ehrmann (2017) provide a comprehensive account of the causes of publication bias, but this is beyond the scope of this paper. Nonetheless, we acknowledge that all parties involved in the publication process play a role, i.e., both reviewers/editors with preferences for significant results and authors not submitting (meaningful) non-findings. One way to investigate the presence of publication bias is to examine a funnel plot. This graph plots the effect size measure against a measure of precision (here: the inverse of the standard error). In the absence of publication bias the plot is symmetrical. Figure 1 displays the funnel plot of our data. There is evidence for asymmetry since less precise studies that generate positive results appear to be overrepresented in the lower right hand side of the figure. A statistical Egger test for asymmetry confirms this interpretation of the funnel plot with a positive significant constant of $c=2.34$ ($t=4.38$, $p<0.00$). Hence, there is some evidence for publication bias in this branch of the literature.

Insert Figure 1 about here

STUDY 2: SECTOR ATTRACTION AND SECTOR REWARDS

Many studies focusing on the difference between private and public sector attraction relate their arguments to differences in reward preferences (see e.g., Lyons, Duxbury, & Higgins,

1 2006; Buelens & van den Broeck, 2007; Ng & Gossett, 2013; van der Wal & Oosterbaan,
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3 2013). The employer knowledge model (Cable & Turban, 2001) locates such considerations
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5 in the job information dimension. Consequently, potential applicants will assess sector
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7 attraction based on attributes such as pay, security, and working conditions. In this line of
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9 thought, public sector employment is often associated with higher job security but lower
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11 monetary gains and less performance rewards (Crewson, 1997; Lewis & Frank, 2002).
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13 “Popular conceptions envision government employees bogged down in red tape but
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15 comfortable in secure employment, (...), and business employees earning high pay but
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17 working in a soulless environment of bottom-line pressures.” (Tschirhart et al., 2008, p. 669).
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20 Sector attraction may also be influenced by changing values of the incoming cohort of
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22 applicants (Hamidullah, 2015; Ng & Gossett, 2013) who assess work-related aspects, such as
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24 work-life balance, incentives, salary, and job security, differently than previous cohorts. But
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26 there is no agreement in previous studies on the set of potentially influential factors driving
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28 public sector employment, which makes comparison across studies difficult.
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30 Ng and Gossett (2013) have shown for Millennials that especially high ethical
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32 standards, social responsibility, progressive working environment and work-life balance are
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34 important factors contributing to a high attraction of the public sector. Focusing on PSM,
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36 Pedersen (2013, p. 367) only controlled for work-family balance and job security as potential
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38 sector reward preferences and argued that pay preferences were held constant by providing an
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40 instruction to respondents declaring equal pay for the jobs they were considering. In the work
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42 conducted by Pedersen (2013), work-family balance had a positive impact on the attraction to
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44 the public sector (in comparison to the attraction to the private sector) whereas job security
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46 had a negative effect. Vandenabeele (2008) controlled for retirement pay, work-family
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48 balance, job security, fair wage, and promotion. Except for promotion, which had a
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50 significant negative effect on the choice of employment in the public sector, all other reward
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52 variable effects were positive and significant. As mentioned earlier, some studies (e.g., Rose,
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54 2012 and Christensen & Wright, 2011) show that individual dimensions of PSM have an
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1 impact on sector attraction. However, this may change when further rewards are added.
2 Hence, it is valuable to analyze whether PSM makes a contribution to sector attraction
3 beyond reward preferences. Thus, in contrast to previous studies, we examine whether PSM
4 and its dimensions are stronger predictors for sector attraction than a comprehensive set of
5 sector rewards. In contrast to PSM, we consider the term *sector rewards* to include outside
6 perceptions of manifest aspects of work such as pay, career advancement, and personal
7 development opportunities. Applicants can be assumed to build their own perceptions
8 (correctly or incorrectly) of the size and importance of such manifest sector rewards. Early
9 work on reward preferences suggests that public sector employees put higher values on
10 intrinsic rewards (for a brief recent summary see Wright et al., 2017). If the latter holds true
11 for current job market entrants, and if serving the public is considered a higher level need, we
12 should expect that PSM makes a larger contribution to sector attraction than any other
13 extrinsically oriented reward. Considering the aforementioned reasons and the evidence for a
14 positive relation between PSM and sector attraction as shown in study 1, we hypothesize:
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33 *H₂: PSM is a stronger predictor of public sector attraction than more manifest sector*
34 *rewards such as pay, career advancement, and personal development opportunities.*

37 **Method**

38 The data was collected in June 2016. The sample consists of 600 German final-year students
39 (master or *Staatsexamen*) studying the following subjects: law, medicine, engineering,
40 business sciences, social science, and geography. Table 2 shows the sample description of the
41 non-latent variables used (see Appendix A.3a and A.3b for the sample description of the
42 latent variables; appendices are provided upon request by the authors).
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Research context

The German context is particularly suitable to this research for a number of reasons. We know relatively little about PSM in Germany and even less about the link between PSM and sector attraction among German students. To date, two studies have addressed this question using German data: First, Ritz and Waldner (2011) have studied students of the German Federal Armed Forces. In addition to PSM, they investigated a series of other work motives (e.g., career and promotion opportunities and challenging work), which they aggregated to common factors (e.g., safe future, social responsibility, and development opportunities). They show significant effects for the two PSM dimensions ‘attraction to public policy making’ and ‘community orientation’, a variant of CPI. Their models also show significant effects for all work motive factors except for corporate social responsibility.

However, one should consider that the majority of these students are already locked into the military occupation, have undergone basic military training, and have already agreed to serve for a number of years after their graduation. Hence, these results could be positively biased towards public sector preference. Respondents could also be affected by post-rationalization dynamics, and they are not free from socialization effects since they have already experienced military life during basic training before entering their degree programs.

Second, Winter and Thaler (2016) studied hospital ownership preferences among German medical students. Their results show support for the PSM-sector attraction link with regard to the ‘Commitment to Public Interest’ (CPI) dimension. They further showed that research and prestige aspirations affect preferences for public hospitals. However, it has to be noted that in Germany only a very small fraction of students is allowed to enroll into medical degrees due to high entry score requirements.

Overall, the two German studies on PSM and sector attraction provide a glimpse into two very specific populations (i.e., members of the armed forces and hospital physicians)

1 whose work is not comparable to the majority of office-based public sector jobs. Therefore,
2 investigating a wider sample of the German student population is a worthwhile endeavor and
3 has the potential to generate useful insights concerning sector attraction and PSM.
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7 **Variables**

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10 The dependent variable is the dichotomous variable of sector attraction. We measured sector
11 attraction using a modified version of Highhouse, Lievens, and Sinar's (2003) four-item
12 scale. This is a 7-point Likert-type scale with anchors of 1 (disagree strongly) to 7 (agree
13 strongly). To generate the dependent variable, we first chose the two items that directly ask
14 for an employment in the public sector ("The public sector is attractive to me as a place for
15 employment" and "I would like to work in public service"). Second, we generated the
16 dummy "attraction" with 0 if respondents rather disagree that an employment in the public
17 sector is attractive (scaling points 1 to 5) and with 1 if respondents agree that the public
18 sector is an attractive employer (scaling points 6 and 7). This dichotomization of the variable
19 allows us to identify those respondents who clearly prefer public sector work.
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33 Our main independent variables are PSM and job choice criteria (see Appendix A.2).
34 We assess PSM with the international PSM scale (Kim, Vandenabeele, Wright, Andersen,
35 Cerase, Christensen, Desmarais, Koumenta, Leisnik, Liu, Palidauskaite, Pedersen, Perry,
36 Ritz, Taylor, & De Vivo, 2013; 16-items, 7-point Likert agreement scale). A confirmatory
37 factor analysis supported four dimensions (see Appendix A.5). These four dimensions are (1)
38 the attraction to public service (APS), (2) the self-sacrifice dimension (SS), (3) the
39 commitment to public values dimension (CPV), and (4) the compassion dimension (COM).
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49 In addition to PSM, we used 30 items of job choice criteria (Ruthus, 2013). In a first
50 step, we ran an explorative factor analysis because of the variety of items. Then, we excluded
51 items displaying small factor loadings (i.e., under 0.5). After a second explorative factor
52 analysis, we identified six factors in total: (1) the 'career' factor, which includes the
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1 opportunity to take on management or project responsibility; (2) the 'job design' factor,
2 which includes the opportunity to work independently and improve professional skills to take
3 on more challenging tasks; (3) the 'values' factor, which describes the importance of social
4 commitment of the potential employee; (4) the 'personal development' factor, which includes
5 the opportunity of training programs; (5) the 'extrinsic' factor, which consists of items such
6 as the importance of pay satisfaction; (6) the 'work-life balance' factor, which includes the
7 importance of different working hours models. These six factors reflect the different
8 dimensions of the employer knowledge model with particular emphasis on the job
9 information dimension. Control variables are gender, age, family socialization (i.e., if parents
10 worked in civil service), and the subject of study. Appendix A.4 displays the correlation of all
11 variables.
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25 Due to the cross-sectional nature of the data, common method bias (CMB) may be a
26 concern. In an attempt to delimit the influence of CMB, we followed recommendations by
27 Podsakoff, MacKenzie, Lee, & Podsakoff (2012) for procedural remedies. As the data
28 collection was part of a larger experimental study, measures were distributed in different
29 parts of the survey creating proximal distance. The experiment that was part of the survey
30 helped to vary scale properties. Since we used well-established scales, clarity of items can be
31 assumed. After data collection, we ran Harman's single factor test, which did not indicate a
32 factor accounting for a majority of the variance. Some authors have argued that CMB may
33 not be as severe as portrayed in parts of the literature (Conway & Lance, 2010). Taking into
34 account our procedural remedies, the statistical test, and established views in the literature,
35 we consider CMB to be unproblematic in this study.
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50 **Results**

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52 We used binary logistic regression models to analyze the data. We estimated the models as
53 follows: Model 1 shows the effects of sector reward variables on sector attraction. Model 2
54 includes the overall PSM variable. Model 3 shows the first PSM dimension, i.e., SS. Models
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1 4 and 5 include the remaining dimensions of PSM, i.e., APS and CPV. To evaluate the model
2 fit, we used McKelvey & Zavoina's R-Square and the BIC. Table 3 displays the results. For
3 ease of interpretation, coefficients are odds ratios.
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13 Model 1 shows the effects of sector reward variables on sector attraction. The extrinsic factor,
14 the career opportunities factor, the personal development factor, and the value factor display
15 significant effects on sector attraction. An increase in the importance of extrinsic rewards is
16 associated with the odds to experience high sector attraction which increase by 38.9 percent
17 (p<0.001). Provided that the importance of organizational values increases, the odds to
18 experience high sector attraction increase by 40.9 percent (p<0.001).
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27 Model 2 adds overall PSM as a predictor. It displays a highly significant effect of
28 PSM on sector attraction (2.094; p<0.001). In contrast to Model 1, Model 2 only shows
29 significant effects for the sector reward variables "extrinsic rewards" (1.317; p<0.01) and
30 "career opportunities" (1.236; p<0.05). These results lend further support for the hypothesis
31 that PSM is associated with public sector attraction in Germany.
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39 Model 3 includes the SS dimension of PSM. It has a significant effect (1.233; p<0.05)
40 on sector attraction. The sector rewards variables "extrinsic rewards" (1.410; p<0.001) and
41 "career opportunities" (1.248; p<0.05) are still significant. In contrast to Model 2, Model 3
42 also shows a significant effect for the values of the organization (1.267; p<0.05). Model 4
43 includes the APS dimension of PSM. It has a significant effect (1.549; p<0.01). In the next
44 analytical step, the CPV dimension is included (Model 5). It shows a significant effect
45 (1.621; p<0.01). In both models, the extrinsic rewards and the career opportunities are still
46 significant. In Model 5, the values of the organization also show a significant effect. Model 6
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1 includes the COM dimension. It shows a highly significant effect (1.602; $p < 0.001$). The
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3 extrinsic rewards and the career opportunities are still significant.
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6 There are similar results in Model 7, which includes the APS and the SS dimension of
7
8 PSM. The APS dimension shows a significant (1.472; $p < 0.01$), but the SS dimension loses
9
10 significance. In Model 8, the CPV dimension of PSM is included. In model 9, the COM
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12 dimension is included. Both models do not show significant for any dimension of PSM
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14 except for APS in Model 8 and COM in Model 9 at the 10 per cent level. The coefficients for
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16 extrinsic rewards and the career opportunities are significant.
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20 Comparing the model fit indices of the single models, Model 2 and Model 9 show the
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22 best McKelvey & Zavoina's R-squared (20.90 in Model 2 and 21.40 in Model 9) as well as
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24 the smallest BICs (-2683.223 in Model 2 and -2666.200 in Model 9). Since differences are
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26 marginal, we consider both models as equally significant. Model 2 includes less variables and
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28 is hence more parsimonious than Model 9.
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32 Although the ORs of PSM and its individual dimensions are higher than the ORs of
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34 the extrinsic rewards and the career opportunities, we test for the equality of coefficients in a
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36 final step. The test results, which are displayed in Table 4, imply that the coefficients of PSM
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38 and extrinsic rewards as well as the coefficients of PSM and career opportunities are
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40 statistically different from one another. With regard to the individual dimensions of PSM, the
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42 test shows equal coefficients. These findings partially support hypothesis H₂ as they show
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44 PSM's contribution to sector attraction in all dimensions.
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53 **DISCUSSION**

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1 This paper investigated the PSM-sector attraction link from two different perspectives. First,
2 we used a meta-analysis to establish whether the proposed association between PSM and
3 sector attraction holds across studies. This meta-analytic approach was important since
4 previous research has found conflicting results in this regard. Second, we focused on the
5 relationship between PSM and sector attraction in the German context, which has not been
6 studied in depth yet, with Germany being a country that exhibits traditional Weberian style
7 bureaucratic features. The study is particularly relevant as we control for a comprehensive set
8 of sector rewards and identify the contribution of PSM beyond other factors associated with
9 sector attraction.

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20 Study 1 provides strong support for the proposition that PSM is an important driver of
21 sector attraction. This claim holds for aggregate PSM as well as for its dimensions across a
22 number of studies. Therefore, the effect can be considered as empirically established. We also
23 find that administrative traditions play a role in upholding the PSM-sector attraction link,
24 which supports Vandenaabeele's (2008) institutional theory of PSM. Future research should
25 investigate the impact such institutions have on the shaping of PSM. Finally, a meta-
26 regression shows variations depending on the type of occupation in published studies using
27 self-collected data. The special occupations dummy exhibits a significant positive coefficient
28 in the meta-regression (Model 4).

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40 A further question may relate to the sizes of the effect sizes generated in Study 1.
41 However, instead of putting the effect sizes into Cohen's categories of 'small', 'medium', and
42 'large' (as these have been criticized to be quite arbitrary), we prefer to distinguish between
43 meaningful and non-meaningful effects. In our work, the primary focus is to establish
44 whether there is a visible effect of PSM on sector attraction, which becomes evident even
45 with small effect sizes. We also have some large effect sizes in our data (see e.g., Table 1b,
46 coefficient on Germanic traditions). Thus, overall, our results support the hypothesis that
47 PSM matters for sector attraction.

1 The findings of Study 2 provide various insights into the relationship between PSM
2 and sector attraction in the German context. We investigated the contribution of PSM to
3 sector attraction while controlling for a number of employer dimensions such as pay, career
4 opportunities, and work-life balance. In this regard, we provide a more comprehensive view
5 than previous studies have done. In our first analytical step, we have shown that several
6 sector rewards have a significant impact on sector attraction. Besides extrinsic rewards,
7 career opportunities and personal development, especially organizational values, show a
8 highly significant association with sector attraction.
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18 Yet, the inclusion of PSM to the statistical model negates the significance of personal
19 development rewards and value rewards. PSM is a stronger predictor than the importance of
20 organizational values such as ‘social commitment of the employer’ or ‘ecologically friendly
21 behavior of the employer and a responsible use of resources’. The test of equality shows that
22 PSM coefficients are different from the coefficient on extrinsic rewards and career
23 opportunities. These findings support hypotheses H₁ fully and H₂ partially.
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32 Besides extrinsic rewards and career opportunities, which are positive and significant
33 in all specifications, the other reward variables either do not have any effect on sector
34 attraction (e.g., intrinsic rewards and work-life balance) or lose their significance if PSM is
35 included (e.g., values of the organization and personal development). These results are in
36 contrast to recent findings by Breitsohl and Ruhle (2016) who do not discover any significant
37 effects for material aspects in their longitudinal analyses of German Millennials’ public
38 sector choice. In their study, PSM is a single important driver of attraction. These different
39 findings can be explained by the different research aims. Breitsohl and Ruhle (2016)
40 investigate the impact of PSM and material aspects on the particular job choice and not the
41 attractiveness of the public sector as an employer. Our results support previous findings by
42 Van de Walle, Steijn, and Jilke (2015) who underscored the importance of extrinsic rewards
43 for public sector attraction. The authors consider that “research should take into account the
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1 fact that people want to work in the public sector not only to serve the public good, but that
2 factors such as money or job security also play a role” (Van de Walle et al., 2015, p. 850).
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4 A surprising finding is the non-significance of the intrinsic rewards variable in all
5 specifications. This contrasts stylized facts emerging from the rewards preferences literature
6 (Crewson, 1997; Alonso & Lewis, 2000) supporting the view that public sector employees
7 value intrinsic rewards more than private sector employees. Yet, this might be due to the fact
8 that we focus on students who have not yet experienced the different types of incentive
9 mechanisms present in public organizations. Nonetheless, these findings support the claim
10 that the “respondents tend not to associate public sector work with being allowed to work
11 independently, choosing one’s own working times or having an interesting job” (van de
12 Walle et al., 2015, p. 848). The latter may also explain in part the perceived disinterest in
13 public sector employment among potential recruits. Hence, common (mis-)perceptions of the
14 presence of red tape in public sector organizations appear to be a relevant criterion for future
15 employees.
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30 In contrast to Rose (2012) and Pedersen (2013), who did not find an effect of the
31 ‘Compassion’ and ‘Commitment to Public Interest’ dimensions of PSM on sector attraction,
32 our models in Study 2 show that especially these dimensions have the strongest effect on
33 sector attraction. In his Danish sample, Pedersen (2013) highlights that the public interest
34 dimension of PSM is associated with increased public sector attraction, especially amongst
35 law and political science students. In contrast, business students show less preference for the
36 public sector. Our results support Pedersen’s (2013) findings. In our models, especially law
37 students are attracted to the public sector. Such findings may be grounded in the
38 administrative tradition of Germany. The German administration is “dominated by the typical
39 characteristics of a Weberian bureaucracy” (Jann, 2003, p. 95). The main features of German
40 administration (e.g., multilevel system and judicial control) have not changed in essence in
41 the recent past. Characteristics like continuity and stability are still of particular importance
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1 (Jann, 2003). In the classical Weberian bureaucracy, especially lawyers traditionally have
2 privileged access to public service positions.
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5 The results of the study by Ritz and Waldner (2011) show a positive association between the
6 APS dimension of PSM and sector attraction as well as a positive link between the
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8 'community orientation' dimension and sector attraction. Our study extends their results by
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10 identifying the strongest dimensional effects for the dimensions CPV and COM, for which
11 they did not control. Moreover, Model 2 shows the overall positive and significant effect of
12 PSM on sector attraction highlighting the importance of PSM in relation to sector attraction
13
14 in Germany in a more generalized setting compared to Ritz and Waldner (2011). The
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16 relationship between the four sub-dimensions of PSM and sector attraction cannot be fully
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18 explained theoretically. Especially the APS dimension mirrors the Weberian state
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20 characteristics since the bureaucratic tradition has a longer tradition in Germany than the
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22 democratic tradition (Vandenabeele, Scheepers & Hondeghem, 2006). This bureaucratic
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24 sentiment can be considered as anchored in the German collective mind. It is therefore a
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26 component of the individual socialization that influences the individual level of PSM
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28 (Moynihan & Pandey, 2007). In contrast, the effect of the SS dimension is unexpected
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30 because this dimension has a negative connotation in Germany (due to historical reasons)
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32 (Vandenabeele et al., 2006). The effects of compassion and commitment to public values are
33
34 surprising. As observed by Vandenabeele (2008), many young potential employees are not
35
36 sensitive to their CPV because they lack working experience in the public sector. Similar
37
38 concerns apply to the COM dimension (Vandenabeele et al., 2006). Interestingly, Model 2,
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40 which includes the overall PSM measure, shows significant effects whereas Model 9, which
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42 includes all four sub-dimensions of PSM, only shows a weakly significant effect at the 10%
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44 level for the compassion dimension. While it is insightful to disentangle the effects of the
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46 different PSM dimensions, it is more consistent with our study focus to emphasize the results
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1 of the aggregate PSM construct. Furthermore, the individual dimensions on their own do not
2 reflect the full range of PSM motives.
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4 **Limitations, implications and future research**

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8 As with all research, we need to flag some limitations. First, in Study 1 a wide range of
9 additional study level moderators could have been coded. The low number of subgroups in
10 each category, however, limits the number of viable analyses. Hence, we consider our
11 selection of moderators viable. Second, our sample in Study 2 only consists of students in
12 their final years of study. To extend the knowledge about the relationship between PSM and
13 sector rewards and its impact on sector attraction, further research should investigate different
14 subsamples, such as students, employees in the private sector and in the public and non-profit
15 sector. Third, the data used in Study 2 is cross-sectional in nature limiting our ability to make
16 causal claims. However, as others have argued (Clerkin & Cogburn, 2012; Pedersen, 2013),
17 there is little doubt about the directionality in our design because we chose students not
18 affected by organizational socialization. A pure student sample is ideal for the study of sector
19 preferences (taking into account that preferences do not necessarily translate into actual job
20 selection or desired behaviors). Nonetheless, we encourage researchers to explore the link
21 between PSM and sector attraction using designs that put more emphasis on isolating causal
22 effects taking into account socialization and other biasing effects.
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41 In addition, future research should acknowledge that the public sector is highly differentiated
42 and fragmented such that the impact of the broad categories of administrative traditions on
43 the link between PSM and sector attraction can only be a first step in research on this issue.
44 Especially in the German case, the administrative system mirrors a high degree of
45 organizational heterogeneity. Although Weberian traditions characterize the German public
46 sector, future research should unravel the Weberian administrative tradition to its various
47 components and explore the effects of PSM on sector attraction in the multilevel structure of
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1 local, federal, and national administration. Further research should elucidate the way in which
2 effective HRM can apply the knowledge about PSM to attract and recruit employees.
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5 *Implications for Public Sector Recruiters*

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8 Corroborating recent work on practice lessons for PSM (Christensen, Paarlberg &
9 Perry 2017), our findings have implications for the personnel marketing of public
10 organizations. An effective human resource management needs information about the
11 attributes of individuals and jobs that increase organizational attraction. Especially in the
12 German local and federal administrations, the personnel marketing struggles to attract highly
13 qualified candidates – unless the organization enjoys exceptionally high prestige (e.g., in
14 Germany the Federal Foreign Office is frequently mentioned as an employer of choice, local
15 government organizations are usually not).
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26 Our findings give insights into how public organizations can optimize their
27 recruitment practices. First, the main practical implication arising from Study 1 is that
28 (notwithstanding the small effect sizes) the PSM-sector attraction relationship holds across
29 studies. This finding supports Christensen et al.'s (2017) argument to 'screen in' highly
30 public service motivated candidates. Similarly, our results should encourage HR managers to
31 consider addressing PSM as an active recruitment tool. Job advertisements still represent one
32 of the most prominent recruitment instruments, but they mainly emphasize merits. Public
33 sector HR managers should also place emphasis on public service values to attract public
34 service motivated employees. One way to achieve this is to embed PSM-related messages in
35 job announcements (Asseburg et al. 2018), which allows public sector HR managers to align
36 their recruitment more effectively to desired target groups. In this regard, our results arising
37 from Study 2 suggest that it would be particularly effective to address such messages to the
38 'attraction to public service and compassion' dimensions as they display significant effects in
39 all specifications.
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1 Second, our empirical results imply that a combination of PSM-orientated and reward-
2 orientated measures is most promising for recruitment. Notwithstanding the positive effects
3 arising from PSM-focused recruitment (Esteve et al. 2016; Christensen et al. 2017), an
4 overemphasis towards PSM in recruitment activities is not advisable either since it could
5 produce undesired side effects. For example, highly qualified candidates who believe their
6 extrinsic needs not satisfied to a sufficient extent may be discouraged to apply at all. Hence,
7 public sector organizations should invest resources to identify and implement the bundle of
8 incentives that attract their most desired candidates.
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18 Third, our sample consists of Millennials. The millennial generation is often portrayed
19 as being less responsive to extrinsic rewards putting emphasis on ethical standards and social
20 responsibility instead (Taylor 2005; Ng & Gosset, 2013). In our study, however, the
21 Millennials put a meaningful emphasis on extrinsic rewards – even to such an extent that it
22 drives sector attraction. This is an important insight for HR managers in the public sector who
23 are well advised not to be misled by stereotypical representations of generational preferences
24 frequently found in the media.
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Endnotes

- 1) Not all countries covered in our studies are in the OECD which leads to variations in sample size. Additionally, values for China are included in the OECD (2015) mentioned above but in a separate report (<http://dx.doi.org/10.1787/888932940740>).

For Peer Review

Table 1a. Meta-analysis – Main results

Subgroup	k	ES	[95% Conf. Interval]	z	p-value	Sig.
CPI	6	2.33	1.11 4.92	2.23	0.03	**
ATP	6	1.67	1.23 2.28	3.26	0.00	***
COMP	9	1.58	1.14 2.21	2.72	0.01	**
PSM	11	1.16	1.08 1.25	3.94	0.00	***
CD	3	1.90	0.83 4.34	1.52	0.13	n.s.
SS	6	1.70	1.15 2.53	2.63	0.01	**
PSM (1 item)	5	1.14	1.03 1.27	2.59	0.01	**
PSM (2 item)	19	1.32	1.15 1.52	4.01	0.00	***
Overall	65	1.44	1.36 1.52	12.26	0.00	***

Notes: ES= DerSimonian & Laird pooled effect size, random effects model, ES displayed as odds ratio, k = estimates in subgroup Sample: all estimates, Overall $I^2 = 91.9\%$, $\tau^2 = 0.0289$; PSM: Public Service Motivation, ATP: Attraction to policy making, CD: Civic duty, COMP: Compassion, CPI: Commitment to the public interest, SS: Self-sacrifice. Removing three estimates that can be considered outliers reduces the effect size for CPI to 1.52 ($z=1.94$, $p=0.052$) and the effect size for PSM to 1.10 ($z=3.03$, $p = 0.002$).

Table 1b. Moderation effects of cultural tradition (Globe category)

PSM Dimension	Cultural Tradition	k	ES	[95% Conf. Interval]	z	p-value
ATP	Germanic	3	1.847	0.996 3.427	1.95	0.052
	Latin	2	1.751	1.267 2.42	3.4	0.001
CPI	Germanic	2	6.764	0.839 54.542	1.79	0.073
	Confucian	2	1.094	0.72 1.663	0.42	0.674
SS	Anglo	2	1.626	1.087 2.431	2.37	0.018
	Confucian	2	1.461	0.743 2.87	1.1	0.271
Comp	Germanic	3	2.664	2.155 3.294	9.06	0.000
	Anglo	2	1.214	0.806 1.828	0.93	0.354
	Latin	2	1.45	0.915 2.298	1.58	0.114
PSM	Anglo	8	1.079	1.005 1.159	2.11	0.035
PSM (1 item)	Anglo	2	1.125	0.693 1.826	0.48	0.634
	Confucian	3	1.105	1.021 1.196	2.47	0.013
PSM (2 item)	Germanic	2	1.956	1.023 3.738	2.03	0.042
	Anglo	5	1.232	1.085 1.399	3.21	0.001
	Confucian	5	1.096	0.769 1.563	0.51	0.612
	Eastern Europe	2	1.284	0.986 1.672	1.85	0.064
	Latin	2	1.565	0.775 3.161	1.25	0.211
	Scandinavian	2	2.082	1.287 3.369	2.99	0.003

Notes: ES= DerSimonian & Laird pooled effect size, random effects model, ES displayed as odds ratio, k = estimates in subgroup sample. PSM: Public Service Motivation, ATP: Attraction to policy making, CD: Civic duty, COMP: Compassion, CPI: Commitment to the public interest, SS: Self-sacrifice.

Table 1c. Meta-regression (ES= Fisher's Z)

VARIABLES	(1) Fisher's Z	(2) Fisher's Z	(3) Fisher's Z	(4) Fisher's Z
Not Published	-0.0603 (0.101)	-0.0549 (0.108)		
Trust in Gov.	0.556 0.0980 (0.0596)	0.616 0.0486 (0.0964)	-0.00992 (0.115)	-0.170 (0.126)
Survey	0.109 -0.0483 (0.0605)	0.620	0.933	0.198
Work Experience	0.429 -0.116 (0.0761)	-0.102 (0.0825)	-0.211* (0.105)	-0.221* (0.106)
Special Occupation	0.136 -0.0260 (0.0796)	0.231 0.0317 (0.115)	0.0618	0.0536 0.212*** (0.0445)
Constant	0.746 0.199* (0.105)	0.786 0.198* (0.111)	0.247* (0.119)	0.000208 0.249* (0.121)
Observations	0.0674	0.0892	0.0546	0.0559
Adjusted R-squared	62	43	28	28
Sample	0.523	0.520	0.538	0.559
	Full	Self- Collected Data	Special Occupation removed &2	Published & 2

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 2. Sample description of the used non-latent variables

Variable	Mean	SD	Min	Max
Attractiveness	0.4269	0.4950	0	1
Gender	0.7033	0.4571	0	1
Law	0.0883	0.2840	0	1
Social sciences	0.3183	0.4662	0	1
Business sciences	0.2950	0.4564	0	1
Socialization	0.3294	0.4703	0	1
Age	23.3383	4.0700	15	80

Notes: The sector rewards and (the dimensions of) PSM are not displayed, because we used factor scores in the statistical models.

Table 3. Logistic regression of PSM and sector rewards on sector attraction

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
	Exp(b)/se	Exp(b)/se	Exp(b)/se	Exp(b)/se	Exp(b)/e	Exp(b)/se	Exp(b)/se	Exp(b)/se	Exp(b)/se
Sector rewards:									
Extrinsic rewards	1.389*** (0.1376)	1.317** (0.1324)	1.410*** (0.1405)	1.319** (0.1328)	1.338** (0.1346)	1.316** (0.1325)	1.339** (0.1359)	1.325** (0.1353)	1.300* (0.1334)
Career opportunities	1.255* (0.1220)	1.236* (0.1221)	1.248* (0.1224)	1.263* (0.1243)	1.233* (0.1208)	1.240* (0.1222)	1.256* (0.1241)	1.241* (0.1230)	1.236* (0.1227)
Intrinsic rewards	1.052 (0.0997)	0.950 (0.0955)	1.054 (0.1008)	0.967 (0.0959)	0.964 (0.0972)	0.976 (0.0964)	0.977 (0.0977)	0.943 (0.0973)	0.934 (0.0969)
Org. Values	1.409*** (0.1438)	1.065 (0.1324)	1.267* (0.1439)	1.157 (0.1378)	1.254* (0.1364)	1.140 (0.1333)	1.110 (0.1375)	1.088 (0.1352)	1.052 (0.1325)
Personal development	1.209* (0.1145)	1.145 (0.1110)	1.175 (0.1129)	1.176 (0.1131)	1.183 (0.1132)	1.161 (0.1117)	1.159 (0.1125)	1.153 (0.1121)	1.145 (0.1116)
Work-life balance	1.070 (0.1008)	1.056 (0.1012)	1.052 (0.1004)	1.033 (0.0986)	1.074 (0.1018)	1.072 (0.1027)	1.027 (0.0986)	1.041 (0.1002)	1.053 (0.1021)
(Dimensions of) PSM:									
PSM		2.094*** (0.4057)							
SS			1.233* (0.1213)				1.137 (0.1176)	1.129 (0.1171)	1.064 (0.1169)
APS				1.549** (0.2139)			1.472** (0.2112)	1.323 ¹ (0.2068)	1.215 (0.1980)
CPV					1.621** (0.2772)			1.352 (0.2580)	1.223 (0.2446)
COM						1.602*** (0.2111)			1.325 ¹ (0.2179)
Control variables:									
Gender	0.916 (0.2016)	0.884 (0.1976)	0.949 (0.2100)	0.906 (0.2012)	0.904 (0.2004)	0.869 (0.1941)	0.928 (0.2070)	0.919 (0.2057)	0.884 (0.1996)
Age	1.045	1.055*	1.052*	1.061*	1.048	1.051	1.064*	1.061*	1.058*

Table 3 ctd.

	(0.0256)	(0.0270)	(0.0260)	(0.0260)	(0.0263)	(0.0268)	(0.0262)	(0.0266)	(0.0271)
Socialization	1.053	1.039	1.036	1.078	1.027	1.027	1.065	1.044	1.032
	(0.2082)	(0.2087)	(0.2062)	(0.2154)	(0.2046)	(0.2062)	(0.2136)	(0.2100)	(0.2086)
Business sciences	0.755	0.755	0.790	0.742	0.757	0.749	0.765	0.767	0.755
	(0.1892)	(0.1917)	(0.1993)	(0.1871)	(0.1912)	(0.1900)	(0.1941)	(0.1952)	(0.1931)
Social sciences	2.347***	2.264***	2.443***	2.194**	2.283***	2.288***	2.268***	2.267***	2.247***
	(0.5625)	(0.5501)	(0.5899)	(0.5327)	(0.5521)	(0.5548)	(0.5546)	(0.5556)	(0.5520)
Law	4.194***	4.194***	4.241***	4.248***	3.913***	4.241***	4.272***	4.093***	4.162***
	(1.5699)	(1.6000)	(1.5966)	(1.6127)	(1.4694)	(1.6157)	(1.6265)	(1.5569)	(1.5942)
Observations	544	544	544	544	544	544	544	544	544
Hosmer-Lemeshow (p-value)	0.9015	0.5811	0.4879	0.8271	0.6832	0.7633	0.6527	0.1670	0.6170
McKelvey & Zavoina's R-Quadrat	0.174	0.209	0.182	0.197	0.193	0.204	0.199	0.207	0.214
BIC	-2673.615	-2683.223	-2671.914	-2678.018	-2676.110	-2681.157	-2673.265	-2669.532	-2666.200

Notes: $p < 0.10$ * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Displayed coefficients are odds ratios. PSM= public service motivation, SS= self-sacrifice, APS= attraction to public service, CPV = commitment to public values, COM=compassion, BIC= Bayesian Information Criterion

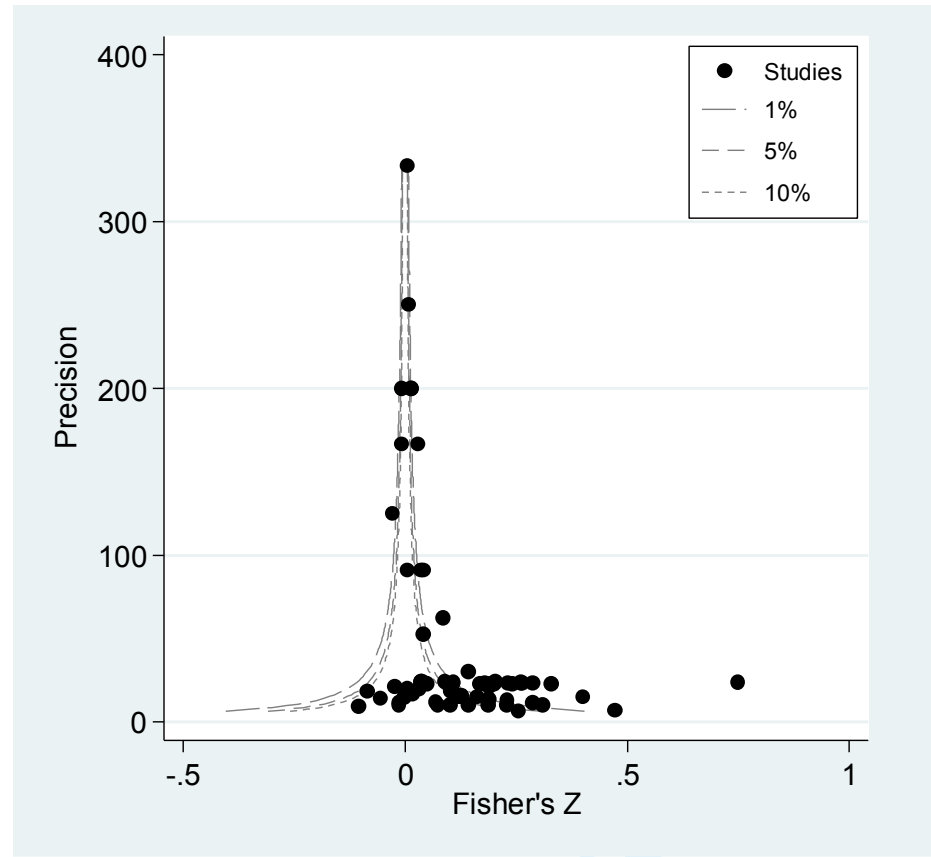
Table 4. Equality of coefficients

Model	Variable	Extrinsic rewards	Career opportunities	Values of the organization
Model 2	PSM	0.042	0.017	.
Model 3	SS	0.318	0.930	0.879
Model 4	APS	0.378	0.223	.
Model 5	CPV	0.354	0.176	0.270
Model 6	COM	0.263	0.125	.

Notes: Test of equality of coefficients, p-values displayed; p-values of 'values of the organization' are displayed for models, which show significant effects for 'values of the organization'

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Figure 1. Analysis of Publication Bias



Note: Funnel Plot displays asymmetry hence providing evidence for small study effects due to potential publication bias. A statistical Egger test for asymmetry confirms this with a positive significant constant of $c=2.34$ ($t=4.38, p<0.00$).

Online Appendix

Table A.1 Regression of PSM on sector attraction, average marginal effects displayed

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
	dy/dx (se)	dy/dx (se)	dy/dx (se)	dy/dx (se)	dy/dx (se)	dy/dx (se)	dy/dx (se)	dy/dx (se)	dy/dx (se)
Sector rewards:									
Extrinsic rewards	0.070*** (0.0205)	0.057** (0.0204)	0.073*** (0.0203)	0.058** (0.0206)	0.061** (0.0206)	0.057** (0.0205)	0.061** (0.0207)	0.059** (0.0207)	0.054** (0.0208)
Career opportunities	0.049* (0.0205)	0.044* (0.0202)	0.047* (0.0205)	0.049* (0.0203)	0.044* (0.0203)	0.045* (0.0202)	0.048* (0.0203)	0.045* (0.0203)	0.044* (0.0202)
Intrinsic rewards	0.011 (0.0203)	-0.011 (0.0209)	0.011 (0.0203)	-0.007 (0.0208)	-0.008 (0.0212)	-0.005 (0.0206)	-0.005 (0.0209)	-0.012 (0.0215)	-0.014 (0.0214)
Values of the organization	0.073*** (0.0211)	0.013 (0.0258)	0.050* (0.0238)	0.031 (0.0249)	0.048* (0.0226)	0.027 (0.0243)	0.022 (0.0258)	0.018 (0.0258)	0.010 (0.0261)
Personal development	0.041* (0.0200)	0.028 (0.0200)	0.034 (0.0202)	0.034 (0.0200)	0.035 (0.0199)	0.031 (0.0199)	0.031 (0.0201)	0.030 (0.0201)	0.028 (0.0200)
Work-life balance	0.014 (0.0202)	0.011 (0.0199)	0.011 (0.0202)	0.007 (0.0200)	0.015 (0.0199)	0.014 (0.0200)	0.006 (0.0201)	0.008 (0.0200)	0.011 (0.0201)
(Dimensions of) PSM:									
PSM		0.154*** (0.0384)							
SS			0.044* (0.0206)				0.027 (0.0215)	0.025 (0.0215)	0.013 (0.0227)
APS				0.092** (0.0280)			0.081** (0.0293)	0.058 [†] (0.0322)	0.040 (0.0336)
CPV					0.102** (0.0351)			0.063 (0.0394)	0.042 (0.0413)
COM						0.098*** (0.0263)			0.058 [†] (0.0337)
Control variables:									
Gender	-0.019	-0.026	-0.011	-0.021	-0.021	-0.029	-0.016	-0.018	-0.025

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	(0.0471)	(0.0464)	(0.0470)	(0.0466)	(0.0467)	(0.0465)	(0.0466)	(0.0466)	(0.0467)
Age	0.009	0.011*	0.011*	0.012*	0.010	0.010	0.013*	0.012*	0.012*
	(0.0052)	(0.0052)	(0.0052)	(0.0050)	(0.0052)	(0.0053)	(0.0051)	(0.0051)	(0.0052)
Socialization	0.011	0.008	0.007	0.016	0.006	0.006	0.013	0.009	0.007
	(0.0423)	(0.0417)	(0.0422)	(0.0419)	(0.0420)	(0.0419)	(0.0419)	(0.0419)	(0.0418)
Business sciences	-0.060	-0.058	-0.050	-0.063	-0.059	-0.060	-0.056	-0.055	-0.058
	(0.0535)	(0.0525)	(0.0534)	(0.0527)	(0.0530)	(0.0527)	(0.0529)	(0.0528)	(0.0527)
Social sciences	0.183***	0.170***	0.190***	0.165***	0.174***	0.173***	0.171***	0.170***	0.168***
	(0.0490)	(0.0485)	(0.0487)	(0.0490)	(0.0488)	(0.0485)	(0.0491)	(0.0490)	(0.0489)
Law	0.307***	0.298***	0.307***	0.303***	0.287***	0.301***	0.304***	0.293***	0.295***
	(0.0761)	(0.0755)	(0.0759)	(0.0757)	(0.0755)	(0.0756)	(0.0757)	(0.0755)	(0.0756)
Observations	544	544	544	544	544	544	544	544	544
Hosmer-Lemeshow (p-value)	0.9015	0.5811	0.4879	0.8271	0.6832	0.7633	0.6527	0.1670	0.6170
McKelvey & Zavoina's R-Quadrat	0.174	0.209	0.182	0.197	0.193	0.204	0.199	0.207	0.214
BIC	-2673.615	-2683.223	-2671.914	-2678.018	-2676.110	-2681.157	-2673.265	-2669.532	-2666.200

Notes: $p < 0.10$ * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Displayed coefficients are average marginal effects. PSM= public service motivation, SS= self-sacrifice, APS= attraction to public service, CPV = commitment to public values, COM=compassion, BIC= Bayesian Information Criterion

Table A.2. List of items

Variable	Item	Cronbach's Alpha
PSM Kim et al, 2013	APS I admire people who initiate or are involved in activities to aid my community <i>Ich bewundere Menschen, die meinem Umfeld helfen, indem sie entsprechende Projekte ins Leben rufen oder daran beteiligt sind.</i> It is important to contribute to activities that tackle social problems. <i>Es ist wichtig, zu Aktivitäten beizutragen, die soziale Probleme angehen.</i> Meaningful public service is very important to me. <i>Es ist mir wichtig, dass der öffentliche Sektor gesellschaftlich sinnvolle Dienstleistungen erbringt.</i> It is important for me to contribute to the common good. <i>Es ist mir wichtig, zum Gemeinwohl beizutragen.</i>	0.845
	CPV I think equal opportunities for citizens are very important. <i>Ich denke, es ist wichtig, dass alle Bürger gleiche Chancen haben.</i> It is important that citizens can rely on the continuous provision of public services. <i>Es ist wichtig, dass sich die Bürger darauf verlassen können, dass öffentliche Dienstleistungen zuverlässig erbracht werden.</i> It is fundamental that the interests of future generations are taken into account when developing public policies. <i>Es ist von grundlegender Bedeutung, dass die Interessen zukünftiger Generationen in die Entwicklung öffentlicher Leistungen einbezogen werden.</i> To act ethically is essential for public servants. <i>Es ist wichtig, dass Beschäftigte im öffentlichen Sektor ethisch handeln.</i>	0.881
	COM I feel sympathetic to the plight of the underprivileged. <i>Ich habe Mitleid gegenüber sozial Benachteiligten und der Not, in der sie sich befinden.</i> I empathize with other people who face difficulties. <i>Ich kann mich gut in Menschen einfühlen, die in Schwierigkeiten sind.</i> I get very upset when I see other people being treated unfairly. <i>Ich ärgere mich sehr, wenn ich sehe, dass andere Menschen unfair behandelt werden.</i> Considering the welfare of others is very important. <i>Es ist sehr wichtig, das Wohlergehen anderer zu berücksichtigen.</i>	0.814
	SS I am prepared to make sacrifices for the good of society. <i>Ich bin bereit einen persönlichen Nachteil in Kauf zu nehmen, sofern es dem Allgemeinwohl dient.</i> I believe in putting civic duty before self. <i>Ich glaube daran, dass die Pflichten als Bürger vor meinen eigenen Interessen stehen sollten.</i> I am willing to risk personal loss to help society. <i>Ich bin bereit einen persönlichen Verlust in Kauf zu nehmen, um der Gesellschaft als Ganzes zu helfen.</i> I would agree to a good plan to make a better life for the poor, even if it costs me money. <i>Eine gute Idee zur Verbesserung der Lebenssituation bedürftiger Menschen würde ich befürworten, auch wenn mich das Geld kosten würde.</i>	0.880

Variable	Item	Cronbach's Alpha
Job choice Ruthus, 2013	Extrinsic Satisfied with remuneration <i>Zufriedenheit mit der Bezahlung</i> Pleasant working atmosphere <i>Angenehmes Arbeitsklima</i> Obtain comprehensive social benefits (e.g. retirement provisions, extensive medical care etc.) <i>Bezug von umfangreichen Sozialleistungen (z.B. betriebliche Altersvorsorge, umfangreiche ärztliche Betreuung etc.)</i> Provide extended benefits (e.g. company car, discounts in gyms etc.) <i>Bereitstellung umfangreicher Zusatzleistungen (z.B. Firmenwagen, Vergünstigungen im Fitnessstudio etc.)</i>	0.5627
	Intrinsic Challenging and interesting tasks <i>Möglichkeit zur Ausübung herausfordernder und interessanter Tätigkeiten</i> Regularly accept new responsibilities <i>Möglichkeit, immer wieder neue Aufgaben übernehmen zu können</i> Plan and decide independently <i>Möglichkeit, selbstständig planen und entscheiden zu können</i> Regularly acquire new knowledge and to improve one's professional skills and competences <i>Möglichkeit, sich kontinuierlich neues Wissen anzueignen und die eigenen Fachkenntnisse und beruflichen Kompetenzen zu verbessern</i>	0.8171
	Value Social commitment of the employer <i>Gesellschaftliches Engagement des Arbeitgebers</i> Ecologically friendly behavior of the employer and a responsible use of resources <i>Ökologisch verträgliches Handeln des Arbeitgebers sowie ein verantwortungsvoller Umgang mit Ressourcen</i> Balance work with individual values <i>Die berufliche Tätigkeit mit den eigenen Wertvorstellungen vereinbaren können</i> Personal identification of the employee with the goals of the employer <i>Persönliche Identifikation mit den Zielen des Arbeitgebers</i>	0.7606
	Personnel development Subsidization of further trainings / financing of studies <i>Bezuschussung von Weiterbildungen/ Studienfinanzierungen</i> Access to various learning opportunities (e.g. trade journals, data bases etc.) <i>Zugang zu verschiedenen Lernmöglichkeiten (z.B. Fachzeitschriften, Datenbanken etc.)</i> Promote master and PhD programs <i>Förderung von Master- oder Doktorandenprogrammen</i>	0.7181
	Career Create and track career and succession plans for all employees <i>Erstellung und Verfolgung von Karriere/ Laufbahn und Nachfolgeplänen für alle Mitarbeiter</i> Make use of coaching and mentoring programs <i>Möglichkeit zur Inanspruchnahme von Coaching & Mentoring Programmen</i> Track specialist and project careers in the organization / company <i>Möglichkeit zur Verfolgung von Fach- und Projektlaufbahnen im Unternehmen</i>	

	Assume responsibility for a project Möglichkeit zur Übernahme von Projektverantwortung	
	Assume managerial responsibility Möglichkeit zur Übernahme von Führungsverantwortung	0.8482
Work-life balance	Make use of flexible working time models (e.g. flextime, part time, job sharing) Möglichkeit zur Inanspruchnahme flexibler Arbeitszeitmodelle (z.B. Gleitzeit, Teilzeit, Job Sharing)	0.5628
	To take work home and in return to have the possibility to make some private matters during working hours Möglichkeit, sich Arbeit mit nach Hause zu nehmen sowie im Gegenzug die Möglichkeit zu haben, Privatangelegenheiten während der Arbeitszeit zu erledigen	

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Table A3a: Sample description of PSM

	M	SD
APS		
PSM1: I admire people who initiate or are involved in activities to aid my community.	5.575	1.343
PSM2: It is important to contribute to activities that tackle social problems.	5.761	1.184
PSM3: Meaningful public service is very important to me.	5.883	1.123
PSM4: It is important for me to contribute to the common good.	5.469	1.194
CPV		
PSM5: I think equal opportunities for citizens are very important.	6.105	1.151
PSM6: It is important that citizens can rely on the continuous provision of public services.	6.208	1.016
PSM7: It is fundamental that the interests of future generations are taken into account when developing public policies.	6.097	1.006
PSM8: To act ethically is essential for public servants.	5.983	1.111
COM		
PSM9: I feel sympathetic to the plight of the underprivileged.	5.531	1.299
PSM10: I empathize with other people who face difficulties.	5.453	1.281
PSM11: I get very upset when I see other people being treated unfairly.	5.931	1.180
PSM12: Considering the welfare of others is very important.	5.762	1.147
SS		
PSM13: I am prepared to make sacrifices for the good of society.	4.518	1.374
PSM14: I believe in putting civic duty before self.	4.166	1.329
PSM15: I am willing to risk personal loss to help society.	4.256	1.405
PSM16: I would agree to a good plan to make a better life for the poor, even if it costs me money.	4.684	1.458

Table A3b: Sample description of sector rewards

	M	SD
Extrinsic		
Satisfied with remuneration	5.794	0.968
Pleasant working atmosphere	6.448	0.804
Obtain comprehensive social benefits (e.g. retirement provisions; medical care etc.)	5.423	1.132
Provide extended benefits (e.g. company car, discounts in gyms etc.)	3.949	1.488
Intrinsic		
Challenging and interesting tasks	5.964	1.001
Regularly accept new responsibilities	5.825	1.063
Plan and decide independently	5.614	1.063
Regularly acquire new knowledge and to improve one's professional skills and competences	5.825	1.006
Value		
Social commitment of the employer	4.884	1.515
Ecologically friendly behavior of the employer and a responsible use of resources	4.958	1,324
Balance work with individual values	6.048	0.956
Personal identification of the employee with the goals of the employer	5.725	0.997
Personnel Development		
Subsidization of further trainings / financing of studies	5.635	1.146
Access to various learning opportunities (e.g. trade journals, data bases etc.)	5.025	1.341
Promote master and PhD programs	4.942	1.500
Career		
Create and track career and succession plans for all employees	5.006	1.352
Make use of coaching and mentoring programs	4.866	1.315
Track specialist and project careers in the organization	4.925	1.301
Assume responsibility for a project	5.354	1.250
Assume managerial responsibility	5.503	1.177

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Work-Life Balance

Make use of flexible working time models (e.g. flextime, part time, job sharing)	5.216	1.398
To take work home and in return to have the possibility to attend to some private matters during working hours	4.883	1.515

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Table A4: Correlation table

	Attrativeness	APS	SS	CPV	COM	PSM	Career	Intrinsic	Values	Person-al development	Extrinsic	Work-life balance	Age	Gender	Socialization	Law	Social sciences	Business sciences
Attractiveness	1.00																	
APS	0.25*	1.00																
SS	0.18*	0.45*	1.00															
CPV	0.23*	0.63*	0.32*	1.00														
COM	0.26*	0.67*	0.53*	0.62*	1.00													
PSM	0.28*	0.82*	0.63*	0.74*	0.95*	1.00												
Career	0.05	-0.01	0.03	0.03	0.01	0.01	1.00											
Intrinsic	0.03	0.24*	0.01	0.29*	0.19*	0.22*	0.00	1.00										
Values	0.19*	0.51*	0.44*	0.34*	0.50*	0.57*	0.00	0.00	1.00									
Personal development	0.10*	0.08	0.13*	0.05	0.09*	0.11*	0.00	-0.00	0.00	1.00								
Extrinsic	0.10*	0.13*	-0.06	0.12*	0.13*	0.11*	-0.00	0.00	-0.00	0.00	1.00							
Work-life balance	0.04	0.07	0.06	0.01	-0.01	0.03	-0.00	0.00	-0.00	-0.00	-0.00	1.00						
Age	0.09*	-0.12*	-0.05	0.03	-0.03	-0.05	-0.09	-0.07	0.05	0.04	-0.12*	0.07	1.00					
Gender	0.06	0.18*	0.01	0.14*	0.17*	0.17*	-0.02	0.17*	0.17*	-0.06	0.13*	-0.04	-0.22*	1.00				
Socialization	0.02	-0.03	0.05	0.02	0.01	0.01	-0.02	0.02	-0.02	-0.03	-0.05	0.05	-0.02	-0.02	1.00			
Law	0.16*	-0.03	0.01	0.05	-0.02	-0.01	0.05	0.06	-0.05	0.05	-0.02	0.08	0.00	0.09*	0.05	1.00		
Social sciences	0.19*	0.20*	0.07	0.12*	0.15*	0.18*	-0.16*	-0.02	0.26*	0.00	-0.09*	-0.03	0.05	0.11*	0.01	-0.21*	1.00	
Business sciences	-0.18*	-0.09*	-0.09	-0.09	-0.08	-0.10*	0.18*	-0.04	0.15*	-0.09*	0.06	0.07	-0.07	-0.02	-0.06	-0.20*	-0.44	1.00

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Appendix 5. Confirmatory factor analysis of PSM

Dimension and Items	SFL	RMSEA; SRMR; CFI;
APS		
PSM1: I admire people who initiate or are involved in activities to aid my community.	0.743	
PSM2: It is important to contribute to activities that tackle social problems.	0.873	0.000; 0.005; 1.000
PSM3: Meaningful public service is very important to me.	0.748	
PSM4: It is important for me to contribute to the common good.	0.713	
CPV		
PSM5: I think equal opportunities for citizens are very important.	0.683	
PSM6: It is important that citizens can rely on the continuous provision of public services.	0.772	0.022; 0.008; 0.999
PSM7: It is fundamental that the interests of future generations are taken into account when developing public policies.	0.774	
PSM8: To act ethically is essential for public servants.	0.676	
COM		
PSM9: I feel sympathetic to the plight of the underprivileged.	0.786	
PSM10: I empathize with other people who face difficulties.	0.663	0.058; 0.011; 0.996
PSM11: I get very upset when I see other people being treated unfairly.	0.823	
PSM12: Considering the welfare of others is very important.	0.836	
SS		
PSM13: I am prepared to make sacrifices for the good of society.	0.871	
PSM14: I believe in putting civic duty before self.	0.732	0.062; 0.010; 0.996
PSM15: I am willing to risk personal loss to help society.	0.862	
PSM16: I would agree to a good plan to make a better life for the poor, even if it costs me money.	0.762	

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