



Grey and Bland? Differences in innovativeness and creativeness between public and private sector employees in Europe.

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ABSTRACT

As the cliché goes, one should not look at the government for innovation and creativity. At the same time it is often assumed that public sector employees are very different from private sector employees. Research has found that the motivations for persons to work for either private or public organization differ greatly. This would lead one to believe that public sector employees would also end up being less creative and innovative by nature than their private sector counterparts. This paper investigates, based on European Social Survey (ESS) data, whether or not this is the case. It finds that, in fact, there are no great differences between the two groups with regards to the importance that the individuals attach to innovation and creativity. At the same time, this paper investigates whether there are differences on these issues between administrative regimes' employees. As the results show, there are in fact such differences. Although the results presented here are exploratory in nature, it shows that there might be differences between administrative regimes in their innovative potential.

Keywords: Public Sector Innovation; Creativity; Public-Private Cleavage; Innovative Behavior

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1. INTRODUCTION & THEORY

Successful organizations are successful at innovation (Martins & Terblanche, 2003; Patterson et al., 2009; Palangkaraya et al., 2012). This innovation, more often than not, is derived from the employees who work for those organizations. The (potential) amount of employee driven innovation present, is thus an important source for an organization's success (Carmeli et al., 2006; Sousa & Coelho, 2011). This is true for both the private, as well as the public sector (Rosenblatt, 2011; Arundel et al., 2015; Stewart-Weeks & Kastle, 2015). If an organization wants to be smart (and I'm going to assume that that's the case), it'll want employees who have the right determinants for individual innovation, as well as a culture, leadership and structure that promote this. In this paper I'll focus on the former: the amount to which personality traits found to be linked with innovative behavior are present in public organizations.

In short, I am looking for answers on the following two questions:

1. Are there differences between public servants and non-public servants in personality traits that are linked with innovative behavior?
2. Are there differences between administrative regimes in the makeup of their *corps administrative* in terms of personality traits that are linked with innovative behavior?

Difference between sectors - Public servants are assumed to be different from non-public servants on a number of issues. They're supposed to be more left-leaning on the political scale, for example (Jensen et al., 2009; Knutsen, 2005). They are also found to be more altruistic, less focused on extrinsic rewards and more focused on the common good (DeHart-Davis et al., 2006; Moynihan & Pandey, 2007; Lyons et al., 2012). There are also several differences in terms of work motivation (Buelens & Van den Broeck, 2007; Lyons et al., 2012). Little is known, however, on if public servants are more, less, or equally innovative as non-public servants (Rainey, 1999). A notable exception is a study by Bysted & Hansen (2015), who find that the innovative behavior is equal for public servants as it is for non-public servants.

Likewise, personality traits, linked with innovative behavior, hasn't been researched extensively for public servants (exceptions being Kittel & Tepe (2010) and Witteloostuijn et al. (2017)). Whether a 'bureaucratic' personality exists is thus still very much an open question. Since personality traits such as 'Openness to experience' (positively) and 'Conscientiousness' (negatively) are often linked to innovative behavior (Patterson et al., 2009; Yesil & Sozbilir, 2013), it would be interesting to see if

and how these differ between the public and private sector. I expect public servants to show lower levels of openness to experience, and higher levels of conscientiousness. Combining the public perception of the public sector as rigid, rule-bound and non-innovative, with the concept of 'person-organization fit', it can be expected that people who place high importance on being creative and innovative chose to go work in the private sector. Person-Organization fit can be defined as the occurrence "when employees believe that their values match the organization's values and the values of other employees in the organization" (Cable & DeRue, 2002, p. 876). This implies that public sector organizations would have less innovative potential, for the simple fact that they have limited possibilities in hiring people predisposed for innovation and creativity. These people would not look for the public sector as a sector of employment in the first place.

Difference between regimes - Whether there is such a thing as a national innovation culture, let alone a national public sector innovation culture, is unknown. Extensive research to public sector reforms (differentiated from, but linked to, public sector innovation) has shown that there are striking differences between groups of countries (Hammerschmid et al., 2016; Pollitt & Bouckaert, 2011). This might, *might* indicate that the same countries who have implemented public sector reforms more rapidly than others in the past, are also more favorable to innovation at large. This, in turn, could change the view of the public into how innovative the public sector is. It also implies that the public servants in these more innovation-prone countries are more inclined to innovate. Anglo-Saxon and Nordic countries are assumed to be more inclined towards reforms and innovation, whilst Germanic and Southern countries are thought to often lag behind (Bonsón et al., 2012; Torres, 2004). I therefor expect the public servants in Anglo-Saxon and Nordic countries to show higher levels of openness to experience, and lower levels of conscientiousness than in Germanic and Southern countries.

2. DATA & METHODS

The data for this investigation are retrieved from the European Social Survey. More specifically: round 7 (2014/2015)¹. The data from this round were limited for this research to Austria, Belgium, Denmark, France, Germany, Ireland, the Netherlands, Norway, Sweden, Switzerland, and the UK. I've chosen to focus on Northwestern-European

¹ The data, the questionnaire and the methodology of the ESS can be consulted at www.europeansocialsurvey.org or ESS (2014a).

countries in order to justify the comparisons between cases. This left me with 23,160 cases, divided between the eleven countries as follows:

Table 1: Respondents per country

Country	Respondents	Country	Respondents
Austria	1795	The Netherlands	1,919
Belgium	1769	Norway	1,436
Denmark	1,502	Sweden	1,791
France	1,917	Switzerland	1,532
Germany	3,045	United Kingdom	2,264
Ireland	2,390		

The differences between the number of cases between countries, between the populations of the countries, and the differences within countries of gathering respondents from certain remote regions, it is essential to use weights in the use of ESS data (ESS, 2014b). Population size weights were used for cross-country comparisons. The research design used here draws heavily on Van de Walle and Lahat (2016). Following Torres (2004), Austria, Germany and Switzerland are coded as Germanic regimes, Belgium and France as Southern, Sweden, Norway, Denmark and the Netherlands as Nordic, and, finally, the UK and Ireland are regarded as Anglo-Saxon regimes.

The sector of employment was measured through the question: 'Which of the types of organization on this card do/did you work for?'

- a. Central or local government
- b. Other public sector (such as education and health)
- c. A state-owned enterprise
- d. A private firm
- e. Self-employed
- f. Other

Answers a, b and c were computed to constitute public servants, d, e and f were as non-public servants. 0, the reference category, is coded as the non-public servants. Openness to experience and conscientiousness were factored with four questions from the ESS. All respondents were asked to indicate how much certain values were like them, on a scale from 1 (not at all like me) to 6 (very much like me).

- Important to think new ideas and being creative (Openness)
- Important to try new and different things in life (Openness)
- Important to do what is told and follow rules (Conscientiousness)
- Important to behave properly (Conscientiousness)

Both factors were confirmed in a factor analysis with eigenvalues of respectively 1.38 (34.6 % of variance explained) and 1.33 (33.13 % of variance explained).

Table 2: Factor loadings

Variable	Openness	Conscientiousness
New ideas and being creative	0.8138	
Try new and different things	0.8139	
Do what is told		0.8316
Behave properly		0.8313

Scores from both set of questions were added together and divided by two. This resulted in a continuous scale of openness and conscientiousness varying between 1 and 6.

As control variables I use age (in years at the time of the survey), education, positioning on the left-right scale (between 1 (left) and 10 (right)), and net annual income. 'Education' is considered an ordinal scale variable, consisting of the following possibilities:

1. Less than lower secondary
2. Lower secondary
3. Lower tier upper secondary
4. Upper tier upper secondary
5. Advanced vocational, sub-degree
6. Lower tertiary education, BA level
7. Higher tertiary education, MA level

'Income', finally, is a ten-step scale, interpreted as a continuous variable. The scale is formed around the national median yearly net income in the local currency, and thus differs per country. This makes the relative income per person easier to compare between countries.

In a first step, I investigate whether or not there are differences between the public and private sector through a regression analysis with both conscientiousness and openness as dependent variables. The same is then done to investigate differences between administrative regime. To properly investigate the differences between regimes the regression is run four times, with each of the four regimes as reference category.

3. RESULTS

3.1 Public Servants vs. Non-Public Servants

The first step in investigating differences between public servants and non-public servants is to select a random sample from the data. With over 20 thousand cases regression is bound to find an overflow of significant results. A random sample of 2000, narrowed down to 1501 after Stata checked for available data, is still more than sufficient for statistical analysis. The regression ran on the 1501 cases showed the following results:

Table 3: Regression differences employment sector

Conscientiousness		Coef.
Sector	Private	
	Public	-0,118
Controls		
Age		0,000
	Gender	0,103
Left-Right		-0,086***
Income		0,20
Education		0,68***
Constant		3,076***

N= 1501	* = $p \leq 0.05$
Prob > F = 0.0000	** = $p \leq 0.01$
R ² = 0.0439	*** = $p \leq 0.001$

Openness		Coef.
Sector	Private	
	Public	0,184*
Controls		
Age		-0,000
	Gender	0,114
Left-Right		0,024
Income		-0,012
Education		-0,091***
Constant		2,888***

N= 1501	* = $p \leq 0.05$
Prob > F = 0.0000	** = $p \leq 0.01$
R ² = 0.0402	*** = $p \leq 0.001$

These numbers show that there are essentially no differences between public and private sector workers when it comes to their score on conscientiousness. On openness to experience, however, contrary to the expectations, public servants score higher than private sector employees. At the same time, education plays an important role in predicting both issues: a higher education means a higher score on conscientiousness, and a lower score on openness to experience. Finally, someone's placing on the left-right scale seems to marginally -predict someone's score on conscientiousness. More precisely: the more left-leaning someone is, the more conscientiousness that person would be.

3.2 Differences Between Administrative Regimes

In order to investigate the differences between the administrative regimes regressions were run with openness and conscientiousness as the independent variables. In order to compare all four regimes, this regression had to be run four different times with each of the regimes as the reference categories. The results can be found in table \$.

Table 4: Regression differences regimes on openness

Openness		Coef.	Variable		Coef.
Regime			Regime		
	Germanic			Southern	
	Anglo-Saxon	0,118**		Germanic	-0,044
	Nordic	0,122***		Anglo-Saxon	0,075
	Southern	0,044		Nordic	0,078
	Anglo-Saxon		Controls	Age	0,002***
	Germanic	-0,118**		Gender	0,045
	Nordic	0,004		Left-Right	0,009
	Southern	-0,075		Income	-0,005
				Education	-0,053***
	Nordic				
	Germanic	-0,122***		Constant	2,802***
	Anglo-Saxon	-0,004			
	Southern	-0,078			

N= 5107

Prob > F = 0.0000

R² = 0.0168

* = $p \leq 0.05$

** = $p \leq 0.01$

*** = $p \leq 0.001$

In short, these number translate to the following:

- Germanic regimes score lower on openness to experience than Anglo-Saxon and Nordic regimes.
- Anglo-Saxon regimes score higher on openness to experience than Germanic regimes.
- Nordic regimes score higher on openness to experience than Germanic regimes.
- Southern regimes don't differ from Germanic, Anglo-Saxon and Nordic regimes in terms of openness to experience.

Table 5: Regression differences regimes on conscientiousness

Conscientiousness		Coef.	Variable		Coef.
Regime	Germanic		Regime	Southern	
	Anglo-Saxon	-0.086		Germanic	0.001
	Nordic	-0.162***		Anglo-Saxon	-0.085
	Southern	-0.001		Nordic	-0.161***
	Anglo-Saxon		Controls	Age	-0.002***
	Germanic	0.086		Gender	0.088**
	Nordic	-0.076		Left-Right	-0.086***
	Southern	0.085		Income	0.020**
				Education	0.043***
	Nordic				
	Germanic	0.162***		Constant	3.155***
	Anglo-Saxon	0.076			
	Southern	0.161***			

N= 5107

Prob > F = 0.0000

R² = 0.0444

* = $p \leq 0.05$

** = $p \leq 0.01$

*** = $p \leq 0.001$

These particular numbers imply that:

- Germanic regimes score higher on conscientiousness than Nordic regimes.
- Anglo-Saxon regimes don't differ from Germanic, Nordic and Southern regimes in terms of their score on conscientiousness.
- Nordic regimes score lower on conscientiousness than Germanic and Southern regimes.
- Southern regimes score higher on conscientiousness than Nordic regimes.

With regards to the control variables, education, again plays a significant role in predicting both independent variables. On the side of openness it has a negative effect, together with age, although the latter's influence is very marginal. With regards to conscientiousness, all dependent control variables have a significant influence. The effects are small, however. The more left-leaning someone is, the less conscientious s/he is. Income and education have a positive effect on conscientiousness. Age's influence can be neglected due to its small effect-size. Finally, woman are more conscientious than men.

4. CONCLUSION & DISCUSSION

In this paper I investigated two questions:

1. Are there differences between public servants and non-public servants in personality traits that are linked with innovative behavior?

Following the results from the regression analysis there are no significant differences between public servants and non-public servants on conscientiousness. This personality traits, negatively linked with innovative behavior, is thus not a reason to expect that public sectors would be less innovative than the private sector. At the same time, openness to experience seems to be more present among public servants when compared to their private sector counterparts. This would mean that in fact, contrary to expectations and the public image, the public sector might have a *corps administrative* that has more potential for innovation than the private sector. Of course, this is just the personality traits of public servants we are talking about. The red tape in the public sector, influence of the political environment and other factors are not measured here.

2. Are there differences between administrative regimes in the makeup of their *corps administrative*, in terms of personality traits that are linked with innovative behavior?

The picture following the regression results on the differences between regimes, is messy. There was no clear cut difference between one administrative regime and the rest on both concepts. However, overall, it does seem that Germanic regime public sectors are less well equipped for innovation than their Anglo-Saxon, and especially their Nordic counterparts. The countries with a Southern regime seem to hold a middle ground. This seems to be in line with the expectations from the literature, that Nordic and Anglo-Saxon regimes have an advantage when it comes to innovation and reforms.

The biggest limitation of this research is the manner in which conscientiousness and openness to experience are measured. Admittedly, this is done through the ESS data in a meager way. There is an elaborate literature about the measurement and effects of these personality traits. The famous Goldberg 100-item list measured the 'big five personality traits' (of which openness and conscientiousness are two) through, you guessed it, 100 items (Saucier, 1994). Gosling et al. (2003), however, successfully measure all five traits with a 10-item instrument. This leaves the fact that the questions used here were not designed to measure the five personality traits. Future research should therefore use items that have been tested and used before in research specifically designed to measure these concepts. For the purpose of this exploratory paper, however, I regard them of sufficient quality to investigate.

Future research is most certainly necessary before any final conclusions can be drawn on the issues at hand here. First and foremost, more elaborate and detailed investigations ought to take place into the innovative culture of countries' public

sectors. Comparative case-studies could be a worthwhile endeavor. The results in this paper suggest that there might in fact be differences (at least in the makeup of the public servants of a country), but that these might not be as straightforward as a typology of four. Beyond the question of the existence of differences, there is also still the questions of why and how such differences come to be. Furthermore, investigating differences in personality traits between the private and public sector requires the question how public service motivation might play a role in innovation and creativity processes. To the best of my knowledge, this has not been studied yet, and deserves further investigation.

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