



IQ and political attitudes across British regions and local authorities

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ABSTRACT

This paper analyses data on average IQ and four measures of political attitudes at both the regional level ($n = 11$) and the local authority level in Britain ($n = 372$). At the regional level, average IQ is positively associated with right-wing economic attitudes and trust in experts, but is not significantly associated with liberal social attitudes or intention to vote Remain in the EU referendum. At the local authority level, average IQ is positively associated with all four measures of political attitudes, although the associations with right-wing economic attitudes and trust in experts are stronger than the associations with liberal social attitudes and intention to vote Remain in the EU referendum. In multivariate models, average SES is a better and more robust predictor of political attitudes than average IQ.

1. Introduction

There is now a large literature on the relationship between average IQ and socio-economic development at the regional (i.e., sub-national) level. Positive associations have been documented in many different countries: the UK, France, Italy,¹ Portugal, Spain, Germany, Finland, Japan, China, India, the US, Turkey, Brazil, Mexico, Colombia and Russia (Lynn, 1979; Carl, 2015a; Carl, 2016; Lynn, 1980; Lynn, 2010; Templer, 2012; Piffer & Lynn, 2014; Almeida, Lemos, & Lynn, 2011; Lynn, 2012; Roivainen, 2012; Dutton & Lynn, 2014; Kura, 2013; Lynn & Cheng, 2013; Lynn, Cheng, & Wang, 2016; Lynn & Yadav, 2015; McDaniel, 2006; Pesta, McDaniel, & Bertsch, 2010; Barnes, Beaver, & Boutwell, 2013; Boutwell et al., 2013; Lynn, Sakar, & Cheng, 2015; Fuerst & Kirkegaard, 2016; Lynn, Antonelli-Ponti, Mazzei, & Meisenberg, 2017; Grigoriev, Lapteva, & Lynn, 2016; and see Lynn, Fuerst, & Kirkegaard, 2018). By contrast, relatively few studies have examined the relationship between IQ and political attitudes at the regional level. Pesta and McDaniel (2014) documented a positive association between state IQ and Democrat vote share, but only when percentage black or Hispanic was also included in the model (and see Kemmelmeier, 2008).

Evidence from individual-level studies indicates that cognitive ability has a monotonically positive relation to socially liberal attitudes (Carl, 2014; Carl, 2015b, 2015c; Deary, Batty, & Gale, 2008; Heaven, Ciarrochi, & Leeson, 2011; Hodson & Busseri, 2012; Kanazawa, 2010;

Kemmelmeier, 2008; Ludeke, Rasmussen, & Deyoung, 2017; Meisenberg, 2015; Miles et al., 2000; Onraet et al., 2015; Schoon, Cheng, Gale, Batty, & Deary, 2010; Stankov, 2009) and some measures of economically right-wing attitudes, and that it has a non-monotonic positive relation to other measures of economically right-wing attitudes² (Caplan & Miller, 2010; Carl, 2014; Carl, 2015b, 2015c; Iyer, Koleva, Graham, Ditto, & Haidt, 2012; Karadja, Mollerstrom, & Seim, 2017; Miles et al., 2000; Mollerstrom & Seim, 2014; Morton, Tyrann, & Wengstrom, 2011; Oskarsson et al., 2015; Rindermann, Flores-Mendoza, & Woodley, 2012; Solon, 2014; Solon, 2015).

The purpose of the present study was to examine the relationship between average IQ and political attitudes at the regional and local authority levels in Britain.³ There are 11 regions in Britain: East of England, London, South East, South West, West Midlands, North West, North East, Yorkshire and the Humber, East Midlands, Scotland and Wales. Local authorities are administrative bodies in local government. There are nearly 400 in Britain, and they contain anywhere from tens of thousands to more than a million people. Local authorities are responsible for such functions as education, highways, social care, housing, planning applications, libraries, and sanitation (Local Government Information Unit, 2015). They have three main sources of funding: grants from central government, business rates (taxes on local companies), and council tax (taxes on local households).

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¹ For skeptical accounts of the relationship between average IQ and socio-economic development across the regions of Italy, see: Beraldo, 2010; Cornoldi, Belacchi, Giofrè, Martini, & Tressoldi, 2010; Cornoldi, Giofrè, & Martini, 2013; D'Amico, Cardaci, Di Nuovo, & Naglieri, 2012; Daniele & Malanima, 2011; Felice & Giugliano, 2011; Daniele, 2015.

² Cognitive ability's overall positive relation with some measures of economically right-wing beliefs appears to be characterized by an inverse-U shape, whereby individuals of highest cognitive ability are somewhat less economically right-wing than those of high cognitive ability.

³ Note that 'Britain' (or 'Great Britain') refers to just the island comprising England, Wales and Scotland, whereas 'the UK' refers to Britain and Northern Ireland together.

Table 1
Correlation matrix for average IQ and measures of political attitudes at the regional level.

	Average IQ	Right-wing economic att.	Liberal social attitudes	Trust in experts	Intention to vote Remain
Average IQ	1				
Right-wing economic att.	0.70*	1			
Liberal social attitudes	0.21	−0.26	1		
Trust in experts	0.63*	0.62*	0.44	1	
Intention to vote Remain	0.10	−0.43	0.94***	0.21	1

Notes: Entries are Pearson correlations. The unit is the British region ($n = 11$). Significance levels: * 5%, ** 1%, *** 0.1%.

2. Method

Following Carl (2015a, 2016), estimates of average IQ were computed using data from the third wave of Understanding Society (University of Essex, 2013). These data were collected via face-to-face interviews between January 2011 and April 2013. A general factor, g , was obtained by extracting the first principal component from a PCA on six separate measures of cognitive ability (Spearman, 1904): immediate word recall, delayed word recall, serial subtraction, number series, verbal fluency, and numeracy. 46% of the variance across the six measures was explained by this component, which was transformed onto the IQ scale (i.e., set to have a mean of 100 and a standard deviation of 15) prior to further analysis. Average IQ was calculated for the 11 regions of Britain, as well as each of local authorities represented in the dataset. For further details on the subtests, see Mcfall (2013).

A number of other measures were obtained from the same dataset, namely: average age, percentage male, percentage White, and average socio-economic status (SES). The latter was obtained by extracting the first principal component from a PCA on two variables: highest level of education (measured on a six-point scale, from “no qualification” to “degree”), and total monthly gross personal income (measured in deciles). This component explained 66% of the variance across the two variables. Note that an alternative would have been to obtain average age, percentage male etc. from the 2011 Census Tables (see Carl, 2016). However, since these measures are based on full population samples, rather than survey samples of tens or hundreds (in the case of local authorities), they would have had much lower measurement error than the IQ estimates. Consequently, their effects in multivariate analysis would have been subject to less attenuation bias than the effects of average IQ. Hence it would not have been possible to say whether their standardized effects⁴ were greater or lesser than those of average IQ when holding measurement error constant (or as close to constant as possible).

Measures of political attitudes were computed using data from Wave 7 of the British Election Study Internet Panel (Fieldhouse et al., 2015). These data were collected via online interviews between April and May 2016. Four separate measures were constructed. First, a dimension of right-wing economic attitudes was obtained by extracting the first principal component from a PCA on nine separate measures of left/right attitudes (e.g., ‘Government should redistribute incomes’). This component explained 53% of the variance across the nine measures. (See Appendix A for further details.) Second, a dimension of liberal social attitudes was obtained by extracting the first principal component from a PCA on nine separate measures of liberal/conservative attitudes (e.g., ‘People who break the law should be given stiffer sentences’). This component explained 48% of the variance across the nine measures. Third, agreement with the following statement was used as a measure of trust in experts: ‘I’d rather put my trust in ordinary people than in the opinions of experts’ (measured on a five-point scale from “strongly agree” to “strongly disagree”). Fourth, the respondent’s vote intention in the EU referendum (“Remain” versus

“Leave”) was saved. Averages on each of the four measures were then calculated for the 11 regions of Britain, as well as each local authority represented in the dataset. (Note that the British Election Study does not cover Northern Ireland.)

Cross-sectional sampling weights were applied when calculating all variables, in order to enhance representativeness. These correct for unequal probabilities of selection and non-response biases (see Knies, 2014). It was possible to match average IQ and political attitudes for a total of 372 local authorities. Weighted n ’s for IQ estimates ranged from 12 to 458, with a median of 84 and a mean of 100. Weighted n ’s for estimates of right-wing economic attitudes ranged from 3 to 350, with a median of 49 and a mean of 61. Weighted n ’s for estimates of the other measures of political attitudes were highly similar, but varied slightly depending on the number of people who answered each question in the original survey. Note that, although there are only 11 British regions in total, there is one key advantage of analyzing data at the regional level, namely that the estimates will have much lower measurement error than the estimates at the local authority level.

3. Results

3.1. Regional level

Table 1 displays a correlation matrix for average IQ and the four measures of political attitudes at the regional level. Average IQ has a strong positive association with right-wing economic attitudes ($r = 0.70$) and trust in experts ($r = 0.63$), but has non-significant associations with liberal social attitudes ($r = 0.21$) and intention to vote Remain ($r = 0.10$). Fig. 1 displays scatterplots of average IQ’s relationships with the four measures of political attitudes. Right-wing economic attitudes is largely orthogonal to liberal social attitudes ($r = -0.26$). Interestingly, liberal social attitudes is almost perfectly correlated with intention to vote Remain ($r = 0.94$).

3.2. Local authority level

Table 2 displays a correlation matrix for average IQ and the four measures of political attitudes at the local authority level. Average IQ has a moderate positive association with right-wing economic attitudes ($r = 0.33$) and trust in experts ($r = 0.29$), and has a weak positive association with liberal social attitudes ($r = 0.12$) and intention to vote Remain ($r = 0.11$). Note that all four of these associations are probably downward biased. The reason being that the n ’s for some local authorities were rather small, meaning that estimates of average IQ and average political attitudes will have been afflicted by sampling error. Fig. 2 displays scatterplots of average IQ’s relationships with the four measures of political attitudes.

Interestingly, right-wing economic attitudes is completely orthogonal to liberal social attitudes ($r = -0.01$). In addition, trust in experts has strong positive associations with right-wing economic attitudes ($r = 0.41$), liberal social attitudes ($r = 0.57$) and intention to vote Remain ($r = 0.45$).

Table 3 displays standardized betas from multiple linear regression models of political attitudes (Appendix B provides a correlation matrix for the covariates). When controlling for average age, percentage male,

⁴ Note that ‘standardized effect’ is used here in a purely statistical sense. It should not be taken to imply causality.

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