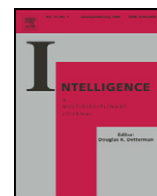


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## Intelligence

Revisiting the link between low verbal intelligence and ideology<sup>☆</sup>Peter Leeson, Patrick C.L. Heaven<sup>\*</sup>, Joseph Ciarrochi

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## ABSTRACT

We address a series of criticisms, raised by Woodley (2011), of our paper “Cognitive ability, right-wing authoritarianism, and social dominance orientation: A five-year longitudinal study amongst adolescents” (Heaven, Ciarrochi, & Leeson, 2011). We argue that, while Woodley (2011) presents some interesting points, his criticisms do not alter our initial interpretation that verbal intelligence influences the individual's ideological perspective. We also argue that the use of RWA and SDO in our paper is not problematic given that these variables are treated as ideological constructs and not measures of personality. We further challenge the assumption that our reported relationship between low IQ and conservative ideology reflects the greater flexibility of intelligent participants in endorsing liberal norms. Finally, as suggested by Woodley, we re-analysed our data using a General Factor of Personality (GFP). The results indicated that in predicting ideology, GFP did not uniquely account for variance above and beyond that of intelligence, thus failing to support one of the central hypotheses of the cultural-mediation model.

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## 1. Introduction

In his article “Problematic constructs and cultural-mediation: A comment on Heaven, Ciarrochi, and Leeson (2011)”, Woodley (2011) challenged the conclusion that an individual's verbal ability influences their ideological perspective. In contrast, he argued that the cultural mediation model may best explain the findings. We challenge each of those arguments here.

## 2. Right-wing authoritarianism and social dominance orientation

Woodley (2011) suggests that the use of RWA is problematic because of the assumption, inherent to its construction, that authoritarianism is unique to the right. Echoing the

arguments of Eysenck (1954) and Rokeach (1960), he argues that authoritarianism is equally prevalent amongst those with leftist political views. While we do not ignore the importance of this debate, our article is largely agnostic on this point and it is difficult to see how this would alter the interpretation of its central findings. Hence, while it is clear that the RWA scale is designed to measure a form of conservative ideology, we do not argue that authoritarianism is unique to the right, nor do we claim that all conservatives will necessarily endorse an authoritarian ideology. Rather, we sought to investigate an ideological dimension that has been shown to be predictive of intergroup prejudice and hostility.

Woodley (2011), citing Ray (2003), also claims that the use of SDO is problematic because of the mistaken belief that it measures personality. We agree with this view, as do some other authors. For instance, Duckitt, Wagner, du Plessis, and Birum (2002) argued that SDO and RWA should be considered measures of ideological values. We, too, have made similar points indicating that SDO is an individual difference indicator of group-based prejudice (Heaven, Organ, Supavadeeprasis, & Leeson, 2006). Indeed, the Heaven et al. (2011) article is based on the premise that both RWA and SDO are measures of ideology, not personality.

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### 3. Intelligence and voting behaviour

Heaven et al. (2011) are criticised for failing to cite several important studies that have illustrated alternative relationships between IQ and political orientation. Woodley cites Eysenck (1954) and also Deary, Batty, and Gale (2008) who found that education and IQ were not related to supporting parties of the left but, in fact, those from the right. Woodley (2011) argues that these findings are important, because showing that scores on RWA and SDO are predictive of voting behaviours would lend weight to the conclusion that they are not merely artefacts, reflecting the tendency to respond in a socially desirable manner. It should be pointed out, however, that while the Deary et al. (2008) article found that IQ was an important predictor of voting intentions, other variables such as social class also played a role. This finding is in line with a good deal of research which suggests that factors such as vested interest (Young, Borgida, Sullivan, & Aldrich, 1987) and ethnicity (Heath, Fisher, Sanders, & Sobolewska, 2011) have an important influence on voting behaviour. Therefore, the absence of any relationship between voting intention and both RWA and SDO (Altemeyer, 1998) may not imply that egalitarian leftists are paradoxically just as likely as non-egalitarian rightists to be high SDO scorers, but rather that ideology fails to account for significant variance in an individual's voting intentions. If this is the case, it might suggest that voting behaviour is a problematic proxy for ideology, thus justifying our decision in not reviewing literature from this area.

### 4. The cultural mediation model

At the core of Woodley's (2011) critique is the idea that our findings might best be explained using the cultural mediation model. We interpreted the observed relationship between verbal intelligence and ideology as indicative of the narrative nature of ideology. We argued that, because ideologies are essentially narrative and because the narrative complexity of ideologies differ, verbal intelligence should influence the ideology an individual endorses. Woodley (2010) interprets this relationship quite differently, arguing that there is genetic variation in social attitudes. Drawing from the work of Macdonald (2009), Woodley states that groups impose social controls on members, that is, restrictions on what is deemed acceptable behaviour. Given the genetic predisposition to endorse a particular ideological orientation, it is likely that while some individuals may endorse social attitudes consistent with the prevailing norms of their group, others may not. Nonetheless, Woodley maintains that an individual who explicitly endorses the ideological values espoused by a society is likely to receive a broad range of social benefits.

Woodley (2010, 2011) argues that more intelligent people are better able, through effortful explicit processing, to formulate an ideological position consistent with these norms, even if this is at odds with their implicit ideological orientation. Thus, he argues that the negative relationship between verbal ability and RWA, for instance, reflects the fact that less intelligent participants are poorer at engaging in the explicit processing that would reconcile the differences between their implicit attitudes and the

post materialistic liberal ideology that characterises Australian society.

This interpretation rests on the assumption that participants in the Heaven et al. (2011) study grew up in a society characterised by liberal ideology. It is true that in 2009, when the final wave of data reported in our article was collected, the left-of-centre Labour Party was in power federally in Australia. Nonetheless, from 1996 to 2007, when the participants in our study were, on average, five to sixteen years old respectively, Australia had a conservative right-of-centre Federal government. This government was avowedly conservative, with its leader, John Howard, publicly espousing conservative values throughout his term as Prime Minister (Johnson, 2007) and strongly advocated sending military troops to Iraq in support of the U.S. Of course, we are not implying a causal role. Hence, we are not arguing that the ideological opinion of political leaders will inevitably permeate and influence the broader community. Rather, we are arguing that the popularity of a political party may be indicative of some overlap between the position they espouse and that of the political climate within the broader society. These arguments are consistent with the observation of Cahill (2004), who noted a shift to the political right within Australian society during this period.

Woodley has argued that these political influences are of little importance given that, since the 1960s, Australians, like those of many other western countries, have been schooled in post-material values generally associated with the political left. Woodley is drawing on a view of post-materialism most notably associated with Inglehart (1971), one who has not been without critics. For instance, Inglehart and Flanagan (1987) argued that it is a mistake to conflate post materialism with the political left and materialism with the political right. Rather, along with a materialism/post materialism dimension, it is claimed that values can be placed along a second libertarian/authoritarian dimension. Consistent with this is the idea that, as well as a post-materialism of the left there is also a post-materialism of the right. For example, an opposition to gay rights and abortion with its focus on particular values, cannot be defined strictly in material or economic terms and would hardly be described as leftist. Further, as Woodley himself admits, research (e.g., Charnock & Ellis, 2004) has indicated that, while post material values do play a role in Australian politics, the dimensions of right and left are still important for the Australian electorate when differentiating between the major political parties.

It is beyond the scope of this paper to argue the merits of particular views regarding post materialism. Thus, it would be premature, at least without some empirical evidence, to conclude that participants in the Heaven et al. (2011) study grew up in a society where liberal, left-leaning values were normative.

### 5. The general factor of personality (GFP)

Finally, Woodley (2011, p. 247) argues that the GFP may be the "primary source of personality flexibility" and that greater personality flexibility, like intelligence, will be associated with endorsing ideologies consistent with the prevailing norms of a society. There has been some

debate as to the value of the GFP (de Vries, 2011). Nonetheless, as Woodley notes, Bell, Schermer and Vernon (2010) reported a significant relationship between the GFP and a general interest in politics. Furthermore, there is support for the view that there may be a genetic underpinning to the Big Five domains which, in turn, predict important life outcomes such as well-being (Weiss, Bates, & Luciano, 2008).

In light of the growing body of research examining the GFP, and in response to the suggestions of Woodley (2011), we re-ran our analyses and substituted the GFP for the individual Big Five domain scores. Details of the study sample, measures, and procedure are described in the original Heaven et al. (2011) paper. Using the method outlined by Woodley (2011), we computed a GFP score for each participant. Pearson correlations revealed that the GFP was negatively related to SDO ( $r(465) = -.32, p < .05$ ), but unrelated to RWA ( $r(462) = -.04, ns$ ). In turn, there was a weak, albeit, significant relationship between the GFP and both verbal ability ( $r(360) = -.13, p < .05$ ) and  $g$  ( $r(356) = -.12, p < .05$ ).

As in Heaven et al. (2011), regression analyses were conducted to determine the best predictors of RWA and SDO. In the current analyses the GFP, rather than the individual Big Five personality domains, was included in the model as a covariate. We entered the ideological measures in the first block. When predicting RWA, this was SDO; when predicting SDO it was RWA. Religious values as well as the GFP were entered in the second block, whilst  $g$  was entered in the final block. As can be seen in Table 1, RWA was predicted by SDO, the GFP, religious values, and  $g$ . In turn, SDO was predicted by RWA, the GFP, religious values, but not  $g$ . These results replicate those of Heaven et al. (2011), and extend it by showing that GFP does not explain the relationship between  $g$  and RWA.

We also examined the effects of verbal and numerical ability scores separately. Variables were entered in the same order as the previous regression analyses, but we replaced  $g$  with verbal and numerical ability. As can be seen in Table 2, RWA was predicted by SDO, the GFP, religious

**Table 1**

Results of regression analyses involving Grade 7g predicting Grade 12 RWA and SDO, whilst controlling for GFP and religious values at Grade 12.

Variable	B	SEB	$\beta$	df	t	R <sup>2</sup>	$\Delta R^2$
<i>Dependent variable: Grade 12 right wing authoritarianism</i>							
Step 1: SDO	.15	.03	.27	1348	5.16***	.036	.036***
Step 2:				3346		.145	.109***
GFP	.11	.05	.11		2.05*		
Religious values	.11	.02	.29		5.77***		
Step 3: $g$ factor	-.12	.03	-.17	4345	-3.48***	.174	.029**
<i>Dependent variable: Grade 12 social dominance orientation</i>							
Step 1: RWA	.47	.09	.26	1348	5.15***	.036	.036***
Step 2:				3346		.212	.176***
GFP	-.62	.09	-.35		-7.20***		
Religious values	-.13	.03	-.20		-4.01***		
Step 3: $g$ factor	.03	.06	.03	4345	.49	.213	.001

\*  $p < .05$ .

\*\*  $p < .01$ .

\*\*\*  $p < .001$ .

**Table 2**

Results of regression analyses involving Grade 7 verbal and numerical ability predicting Grade 12 RWA and SDO, whilst controlling for GFP and religious values in Grade 12.

Variable	B	SEB	$\beta$	df	t	R <sup>2</sup>	$\Delta R^2$
<i>Dependent Variable: Grade 12 right wing authoritarianism</i>							
Step 1: SDO	.14	.03	.26	1349	4.74***	.036	.036***
Step 2:				3347		.146	.110***
GFP	.11	.05	.11		2.06*		
Religious values	.11	.02	.30		5.93***		
Step 3:				5345		.188	.042***
Verbal ability	-.02	.01	-.17		-2.54*		
Numerical ability	-.00	.01	-.06		-.85		
<i>Dependent variable: Grade 12 social dominance orientation</i>							
Step 1: RWA	.44	.09	.24	1349	4.75***	.036	.036***
Step 2:				3347		.212	.176***
GFP	-.60	.09	-.34		-7.04***		
Religious values	-.13	.03	-.20		-4.01***		
Step 3:				5345		.230	.018*
Verbal ability	-.04	.01	-.17		-2.65*		
Numerical ability	.03	.01	.16		2.48*		

\*  $p < .05$ .

\*\*\*  $p < .001$ .

values, and low verbal ability. Numerical ability was not a significant predictor. In turn, SDO was predicted by RWA, the GFP, religious values, low verbal ability, and high numerical ability. Once again, the results largely replicate that of Heaven et al. (2011) with the exception of numerical ability. In the Heaven et al. (2011) study numerical ability was only a marginal predictor of SDO whereas it is a significant predictor in the current analyses.

Woodley (2011) suggests that the GFP may reflect flexibility in adapting to societal norms and that it is the “ability to adapt to a diversity of cultural mediators (such as peer effects, authority effects, the influence of various media, etc.)” (Woodley, 2011, p. 247). This, coupled with Woodley’s claim that Australia is a post-materialistic liberal society, would lead one to expect a negative relationship between the GFP and both SDO and RWA. Whilst the GFP and SDO were negatively related, there was no significant relationship between RWA and the GFP, a finding that is hard to reconcile with the cultural mediation model. Furthermore, inclusion of the GFP within the regression analyses appeared, when compared to those of the Heaven et al. (2011) article, to have little influence on our original finding.

Having said this, it is important to note that, as Woodley states, the GFP is only one pathway by which the socially adaptive individual may come to endorse the normative values and beliefs of their society and that IQ may play an important role. We were unable to test this second hypothesis, and it is difficult to see how one might readily do this. Nonetheless, it was not the aim of the original article, nor of this reply, to mount a case either for the truth or falsity of the cultural-mediation hypothesis. This is something we leave to the proponents of the theory.

## 6. Conclusion

We thank Woodley (2011) for his thought-provoking comments which have led us to re-evaluate the results of our original analyses. The cultural mediation model certainly presents a novel perspective on the relationship between intelligence, personality, and ideology. It will be interesting to see whether future research, explicitly designed to test its central tenets, will offer greater support for this model. Based on our data, however, we cannot endorse Woodley's conclusion that the findings of Heaven et al. (2011) provide evidence of the accuracy of this model. Nor are we convinced that the GFP has an important role to play in elucidating the relationship between IQ and ideology.

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