

Supplement to Deppe et al. (2015)

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Abstract

The original article by Deppe et al. published recently in this journal did not report full analysis of all the data concerning the correlation between the Cognitive Reflection Test (CRT) and political attitudes. This was the editor’s oversight, so he is now reporting the missing data. Although the full analyses agree with those reported concerning the negative correlation of CRT with moral conservatism and punitiveness, economic conservatism shows a significant positive correlation with CRT in Study 2 (the sample from Time-sharing Experiments for the Social Sciences).

In my decision to publish the article by Deppe et al. (2015), I missed an important omission, which was called to my attention by a reader. The article had two purposes. One was to examine the effects of priming on the Cognitive Reflection Test (CRT) and political attitudes. Priming, in contrast to earlier studies, had no effects. The other was to examine correlations between the CRT and liberal/conservative political attitudes. The article reported that conservatism was correlated with lower CRT scores, although this effect was limited to moral conservatism and punitiveness in three of the four studies.

The omission was this. Each of the four studies had one or two priming conditions (reflective and intuitive) and a control condition without priming in either direction. The reported correlational data were based only on the control conditions. The directed priming conditions were excluded. Given that the priming had no effect, it would be reasonable to ask what happens when all the data are included in the analysis of individual differences. The answer is that the results are somewhat different. Because I should have noticed this and asked the authors to report it, I am now writing this brief supplement.

1 Results

Table 1 shows the results. I use the three sub-scales of political attitudes used by Deppe et al.: moral, punishment, and economic, and the full sample. I include the full sample for completeness of presentation. But note that the economic scale in Study 2 has a relatively strong positive correlation with CRT. In Study 2 at least, the correlation of CRT with the total scale will depend on the proportion of economic items that it contains. With many such items, the overall correlation may switch from negative to positive.

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Table 1: Correlations between CRT and political sub-scales, with two-tailed p-values (* .05; ** .01; *** .001). No subjects are excluded.

	Moral	Punishment	Economic	All
Correlations in control condition				
Study 1	-.330***	-.224**	-.200**	-.374***
Study 2	-.160*	-.268***	.063	-.171*
Study 3	-.118**	-.223***	-.084	-.205**
Study 4	-.230*	-.006	.039	-.170
Correlations in full sample				
Study 1	-.286***	-.168**	-.066	-.282***
Study 2	-.085*	-.115**	.161***	-.024
Study 3	-.180***	-.140***	-.092*	-.182***
Study 4	-.178**	.001	.040	-.115

Thus, the question of how “conservatism” correlates with the CRT is difficult to answer in general, as it depends on the composition of the measure.

To summarize the results, we can say that the moral scale has a consistent negative correlation with CRT. This result is consistent with other results, such as those of Baron, Scott, Fincher and Metz (2015). The punishment scale also correlates negatively with the CRT.¹ The economic scale is inconsistent. In the study with the largest effect, the correlation is positive.

¹In Study 2, the punishment scale interacts with the priming condition at $p = .012$. The separate correlations are $-.268$ for the control condition, $-.094$ for the intuitive prime, and $.033$ for the reflective prime. I cannot explain this interaction and suspect that it is a fluke. No other interactions, of the 12 possible ones (3 scales, 4 studies), were significant.

2 Comment

The four studies used three different populations. Study 2, in which the economic correlation is positive, is arguably the most representative of the U.S. population (Time-sharing Experiments for the Social Sciences, TESS). It is not fully representative, however, since its representativeness is achieved only through easily measured variables such as age and racial identity, and subjects do not opt into it unless they are interested in doing studies for pay. And they can opt out of any study, including this one.

One might argue, however, that correlational results like these can be of interest even if they do not represent any particular national population. A correlation indicates that some causal factor affects both variables. Our concern is that this causal factor is not just the experimenter's sampling procedure. I cannot think of anything in the sampling procedure of any of the four studies that could plausibly induce any of these correlations, positive or negative.

This argument cuts both ways. If we admit that some psychological or social factor affects CRT and social conservatism in opposite directions, then we must also admit that some other factor affects CRT and economic conservatism in the same direction, as shown in Study 2. Readers familiar with the U.S. political scene can probably imagine various group stereotypes that, if the stereotypes were accurate and the groups were large enough, could cause both of these correlations. In thinking about the CRT, we should remember that it consists of three mathematics problems. Other measures of thinking dispositions might yield different results (Baron et al., 2015).

References

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