Examining the Effects of Political Orientation on Noun Preference: A Replication of**Cichocka et al. (2016)**

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REPLICATION OF CICHOCKA ET AL. (2016)

Abstract

In three studies, Cichocka et al. (2016) report evidence that conservatism (specifically social conservatism) is associated with noun preference, and that needs for structure and order accounted for this relationship. We conducted a conceptual replication of Study 1 and found that whereas we could replicate the relationship between social conservatism and noun preference, PNS was not associated with noun preference. Our observed effect size for the relationship between social conservatism and noun preference is quite similar to those reported in Cichocka et al. (2016). However, at least based on the present replication, the mechanism behind this relationship is unclear.

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Cichocka et al. (2016) hypothesized that conservatism would be associated with a preference for nouns, under the presumption that nouns better satisfy epistemic needs (Bryan, Walton, Rogers, & Dweck, 2011), and conservatives tend to be higher in needs for epistemic closure (e.g., Jost et al., 2003). Using a Polish student sample, Study 1 found that conservatism (specifically social conservatism) predicted greater noun preference, and that personal need for structure (PNS) accounted for this relationship. Study 2, which was conducted in Lebanon (in Arabic), replicated the conservatism-noun preference relationship (PNS, however, did not form a reliable scale in this sample). Study 3 found that among speeches of US politicians, noun use was higher among Republicans than Democrats, and the relationship between partisanship and noun preference was accounted for by the speech's integrative complexity.

We decided to conduct a conceptual replication of Cichocka et al.'s (2016) Study 1. We identified three potential concerns with the data reported in Study 1. First, the effect sizes were small, although reliable. Second, several of the reported p-values hovered around .05. Third, social conservatism was operationalized with measures of symbolic social ideology identification and operational social policy issues consistent with prior work (e.g., Malka et al., 2014), yet these measures were combined with a general measure of conservative identification, which is not common. In our replication, we sought to replicate their study using their operationalization, but also to explore alternative operationalizations that did not include general conservatism. The replication was pre-registered on the OSF (<https://osf.io/qam7r/>).

Method

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Participants

Cichocka et al. (2016) recruited 200 undergraduate students within the social sciences and humanities department at the University of Warsaw in Poland. Following Simonsohn's (2015) recommendation for replication sample sizes, we aimed to recruit at least 2.5 times the original sample size ($n = 505$). American participants were recruited through MechanicalTurk and were compensated \$0.65 for their participation. Cichocka et al. (2016) excluded data from the participants who were not native Polish speakers. We excluded 10 participants who were not born in the United States, making our final sample $n = 495$. Our sample included 44% women and 56% men with an average age of 38. This differs from Cichocka et al. (2016), as their sample came from undergraduate students with an average age of 22. Their sample was 61% female and 28% male, and 21 participants failed to report their gender (Cichocka et al., 2016).

Materials and Procedures

Noun preference. Cichocka et al. (2016) used a grammatical preference measure in which they evaluated participants' preference for nouns. Although it was not specified whether or not these measures were completed online or manually, ours were conducted online. The participants were presented with ten incomplete sentences and asked to choose a phrase made up of either a noun or a verb/adverb to complete each sentence. We followed the same procedure. We used the Polish to English translation provided in their supplementary materials, which we edited for relevance to the American context. For example, "Piotr was smacking loudly during family dinner. Piotr...is a churl; acted churlishly," was changed to "Peter was chewing loudly during his family dinner. Peter...is an annoyance; acted annoyingly." Each of the 10 items were randomly presented to the participants, and answer choices for each question were also

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randomized. The index of noun preference was computed as the sum of each noun selection and ranged from 0-10 (0 = non-noun; 1 = noun).

Policy preference. In order to measure preference for public policies, Cichocka et al. (2016) chose a 16-item scale that was developed specifically to the Polish context. The measure asked participants to respond to how they personally felt on 8 social policies and 8 economic policies. They used a rating scale ranging from 1 to 7, in which higher scores would indicate more conservative preferences (Cichocka et al. 2016). We used a 10-item scale with separate measures of social and economic policy preferences (6 and 4 items, respectively) which has been used in other research in the American context (Crawford, Brandt, Inbar, & Chambers, 2017; Malka et al., 2014). Average social and economic policy preferences were computed, and were scaled from 0 to 1, with higher scores indicating more conservatism. As in the original study, we counterbalanced the noun preference scale and the policy preference scale

Need For Closure. Participants were then asked to complete the 32-item Need for Closure scale (1= *strongly disagree* to 6= *strongly agree*). Item order was randomized. The scale consists of five facets: preference for predictability, order, and intolerance of ambiguity (which collectively form the personal need for structure scale), decisiveness, and closed-mindedness. Cichocka et al. (2016) found that closed-mindedness did not form a reliable scale, which we also observed. Following Cichocka et al. (2016), we used separate indices of personal need for structure (PNS) and decisiveness.

Political Orientation. Cichocka et al. (2016) asked participants to respond to three items about their political orientation regarding general, social, and economic aspects of ideology. Each item ranged from 1 to 9, with higher scores indicating greater conservatism. We do not label our political orientations as “left” or “right”, or “socialist” to “capitalist” in the United

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States, therefore we changed it to “liberal” to “conservative”. Demographic data including gender, age, nationality, education, and political party were collected at the end of the survey.

Participants were debriefed following completion.

Results

In Study 1, Cichocka et al. (2016) found that social, but not economic conservatism, was associated with noun preferences, and that PNS accounted for this relationship (Cichocka et al. 2016). The researchers reported bivariate correlations among the key variables, and used structural equation modeling (SEM) to test for indirect effects.

Table 1 reports our bivariate correlations. Replicating the original study, social orientation was positively correlated with noun preference. The correlation between social policy preference and noun preference was in the expected direction but did not reach significance. However, a measure that averaged across these two was associated with noun preference (this data analytic approach was preregistered). Economic orientation had a small relationship with both PNS and noun preference, but economic policy preference was unrelated to either PNS or noun preference. Replicating both Cichocka et al. (2016) and other work (e.g., Jost et al., 2003), PNS was associated with social conservatism. However, inconsistent with Cichocka et al. (2016), PNS was not associated with noun preference. Therefore, we did not test for indirect effects.

Additionally, we regressed noun preferences onto social conservatism, $B = 1.51$, $SE = .57$, $t = 2.66$, $p = .008$, and economic conservatism, $B = -.54$, $SE = .59$, $t = -.91$, $p = .364$, showing differential effects of social and economic conservatism on noun preference. We also regressed PNS onto social conservatism, $B = .93$, $SE = .19$, $t = 4.90$, $p < .001$, and economic conservatism, $B = -.45$, $SE = .20$, $t = -2.33$, $p = .020$, again showing effects of social but not economic conservatism on PNS.

Discussion

Cichocka et al. (2016) Study 1 found that social, but not economic, conservatism is associated with noun preference, and that PNS accounted for this relationship. We were able to replicate the effects of social and not economic conservatism on both PNS and noun preference, but not the relationship between PNS and noun preference.

Because the relationship between noun preference and social conservatism is significant in both our study and Cichocka et al.'s (2016), it bodes well for the effect. Furthermore, our replication observed effect sizes that, while small, are quite consistent with those reported in the original study, despite the fact that our conceptual replication that used a completely different measure of ideology, an altered measure of noun preference, and a distinctly different population.

However, the present findings suggest that the exact mechanism behind the relationship between social conservatism and noun preference is unclear, as the hypothesized influence of PNS, derived from the theory of conservatism as motivated social cognition (Jost et al., 2003), was not supported. Cichocka et al. (2016) Study 3 observed a role for integrative complexity, in support of their overall thesis. Future research should consider greater scrutiny to the mechanism behind this clearly reliable and replicable relationship.

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Table 1. Zero-Order Correlation Between Indices of Political Ideology, Epistemic Motivation and Preference for Nouns

	1	2	3	4	5	6
1. Preference for nouns	-					
2. Social Orientation	.14**	-				
3. Economic Orientation	.10*	.85**	-			
4. Social Policy Preference	.08	.73**	.62**	-		
5. Economic Policy Preference	-.003	.49**	.53**	.46**	-	
6. Personal Need for Structure	-.04	.21**	.14**	.19**	-.04	-
7. Decisiveness	-.23**	-.16**	-.14**	-.06	.05	-.06