

3 STATISTICALLY SIGNIFICANT INTERACTIONS IN FRACTIONAL REGRESSION - MODEL 2

In the two fractional regression models¹, we examined all possible two-way interactions in addition to the main effects. Below are details of interactions that appear significant, but shall not be considered as reliable due to low counts in some cells of cross-tabulation of the variables involved ($N_{cell} < 12$). Further research with sufficient per-cell representation is required to investigate, whether any of these interaction terms are indeed significant.

In order to examine the two-way interaction terms, they were added to Model 2 one at a time and Table 1 reports the details of significant interaction terms. Note, only the interaction term is represented, the main effects are omitted from the table in the interest of readability. The pseudo-R value in the last column is for the entire model including all the main effects and the respective interaction term. Table 2 shows the cross-tabulation of each pair of variables, for which an interaction term appears statistically significant.

Model 2 +	Coeff.	Robust SE	z	P>z	[95% conf. interval]	Pseudo R
Christianity*Green Party (all main effects incl.)	1.180	0.288	4.1	<0.001	0.616 1.745	0.022
Creative arts*Green Party (all main effects incl.)	-0.901	0.369	-2.44	0.015	-1.625 -0.177	0.020
Greative arts*Labour (all main effects incl.)	0.655	0.316	2.07	0.038	0.035 1.275	0.020
Medicine*Conservatives (all main effects incl.)	-0.520	0.221	-2.35	0.019	-0.953 -0.087	0.019
Psychology*Conservatives (all main effects incl.)	-1.006	0.248	-4.06	<0.001	-1.492 -0.520	0.019
Psychology*SNP (all main effects incl.)	1.270	0.334	3.8	<0.001	0.614 1.925	0.012
Psychology*Center (all main effects incl.)	-0.851	0.331	-2.57	0.01	-1.500 -0.201	0.020
Conservatives*Left (all main effects incl.)	-0.696	0.217	-3.2	0.001	-1.122 -0.270	0.019

Table 1. Details of two-way interaction terms added to Model 2. Only interaction terms with $p < .05$ are represented. Christianity is a category of religious affiliation; Creative arts, Medicine and Psychology are categories of subject of education; Green Party, Labour, Conservatives and SNP are categories of political party affiliation; Center and Left are categories of position on a political spectrum.

¹IV: socio-cultural factors and cognitive style (only model 2), DV: explanation preference (as explained)

	Green Party			Green Party	
Christianity	0	1	Creative arts	0	1
0	255	42	0	380	43
1	153	10	1	28	9

	Labour			Conservative	
Creative arts	0	1	Medicine	0	1
0	279	144	0	344	65
1	25	12	1	43	8

	Conservative			SNP	
Psychology	0	1	Psychology	0	1
0	363	71	0	409	25
1	24	2	1	23	3

	Centre			Left	
Psychology	0	1	Conservatives	0	1
0	287	147	0	191	196
1	19	7	1	68	5

Table 2. Cross-tabulation of independent variables that appear to interact on a statistically significant level in Model 2. This table shows low counts in some cells hence the interaction shall not be considered as reliable despite statistical significance. 0=no, 1=yes.