

## ENGAGE - USING CONTACT INTERVENTIONS TO PROMOTE ENGAGEMENT



## Meta-analytical and secondary data analysis evidence on the connection of intergroup contact and anti-Gypsyism in Europe

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### Executive summary

- Both a meta-analysis and the secondary data analysis, based on Eurobarometer and European Social Survey data, confirmed that **intergroup contact is associated with more positive attitudes** towards the Roma.
- Contact with Roma people is related to lower anti-Gypsyism, **especially positive contact**.
- Lower contact with Roma people is strongly related to **more prejudiced feelings** towards them.
- The connection is **stronger in countries with deeper anti-Roma public sentiments**, but the positive effect of intergroup contact is not influenced by cultural values.

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## Aims and Objectives

One of the most widely researched prejudice-reduction methods is **positive intergroup contact**. In this part of the project, we examine with a meta-analytical approach and by analysing data from a large international survey whether contact with Roma people works as with other minority groups and whether different types of contact relate differently to prejudice.

Meta-analysis is a research method enabling the analysis of different research outcomes while considering the specific features of the analysed datasets. In our meta-analysis, we re-examined the relationship between contact and anti-Gypsyism in a more detailed manner, examining different types of contact and prejudices towards Roma.

The main objective of the secondary data analysis was twofold. First, we aimed to test the general validity of the intergroup contact hypothesis (Allport, 1954) in the case of the Roma - majority population intergroup relation across Europe, based on multinational survey data. Furthermore, we also aimed to test whether certain cultural characteristics influence the effectiveness of intergroup contact in reducing anti-Gypsyism.

Regarding the second objective, the moderating role of two main cultural characteristics were tested: the role of **cultural values** (Schwartz, 2006) and the country-level embeddedness of **anti-Gypsyism**. Research shows that while egalitarian cultural values tend to reduce intergroup prejudice, conservative values are more likely to enhance it (Davidov et al., 2014). Furthermore, there is also empirical evidence indicating that intergroup contact reduces anti-immigrant prejudice to a larger extent in more egalitarian cultures (Kende et al., 2018).

Country-level prevalence of anti-Gypsyism might also influence the effectiveness of intergroup contact, because most people tend to maintain social views that are widely shared within their ingroups, which tendency is often referred to as a 'desire for shared reality' (Higgins, 2019). Nonetheless, people tend to maintain negative views about the Roma purely because these are normative in their country. In that case, intergroup contact might more easily overwrite these negative views in such countries compared to others, where, due to the lack of prevalent negative views, there is nothing to be overwritten by contact.

## Methods

We used the Comprehensive Meta-Analysis program for the analysis, relying on correlation coefficient and sample size as effect size indications. We used random effect models to calculate the summary effect and confidence intervals (Lipsey & Wilson, 2001; Raudenbush, 2009). See the description of the method in Appendix 1.

Although we ran all analyses on the combination of different types of attitude measures, we also distinguished between them based on the different attitude components: (a) comprehensive prejudice measure if it included cognitive, affective,

and behavioural intentions; (b) affective; and (c) behavioural. We ran the meta-analysis of the connection between the variables with all measures combined but checked whether the results changed when tested against only one attitude component. We also distinguished our data based on the type of contact that was measured: (a) quantity of contact or (b) positive quality contact, and we ran all analyses separately for these two types of contact. Results related to the specific analyses are presented in appendix 3.

Studies conducted in the same research labs are relatively high, limiting the effects' diversity. This is somewhat compensated by the fact that the total number of respondents and the average number of respondents per effect included in the meta-analysis is clearly higher, and the samples are more diverse than the typical psychological studies included in a similar meta-analysis.

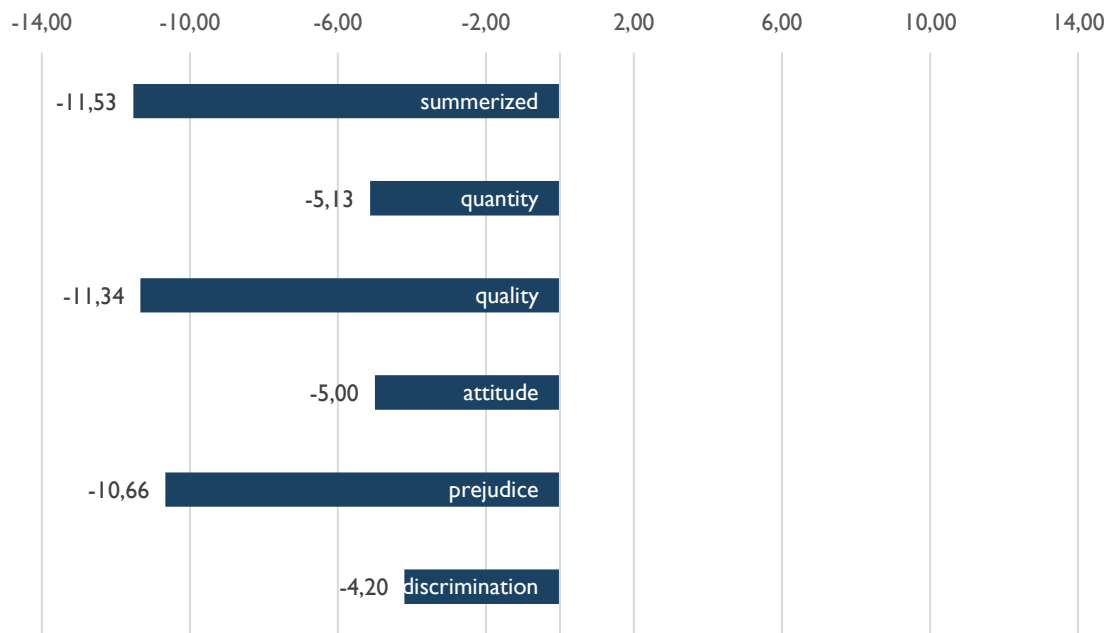
For the secondary data analysis, we applied data from the 2019 *“Special Eurobarometer 91.4: Discrimination in the European Union”* dataset, which contains variables related to both personal contacts with Roma people (having Roma friends/acquaintances), and personal attitudes towards the Roma (social distance items measuring into the direction of positive attitudes).

Country-level cultural values were taken from the 9<sup>th</sup> round of the European Social Survey (2019). Country-level mean scores were computed for the four main value orientations defined by Schwartz: *Conservation, Openness, Self-Enhancement, and Self-Transcendence*. These country-level scores were merged with the individual-level Eurobarometer data.

To test our assumptions, multilevel models were set up to predict individual-level attitudes towards the Roma. The predictors were intergroup contact, demographics (gender, age, education level, size of residency, political orientation), and cross-level interaction term between intergroup contact and the above-mentioned cultural characteristics.

## Data and results

Based on 199 effect sizes from 18 countries, we found a connection between contact and anti-Gypsyism in the way that those who have more contact with Roma people have lower anti-Gypsyism ( $z = -11.53$   $p < 0.001$  see Appendix 3). Also, breaking down the data to the type of contact, we found that both higher quantity contact ( $z = -5.13$   $p < 0.001$ , e.g. meeting with a Roma person on the bus) and quality contact ( $z = -11.34$   $p < 0.001$ , e.g. friendship) is related to lower anti-Gypsyism. Also, this relation is stronger between quality contact and anti-Gypsyism than quantity contact. Examining the type of anti-Gypsyism we found that lower contact is related to higher (a) comprehensive types of prejudice ( $z = -5.00$   $p < 0.001$ ), (b) affective ( $z = -10.66$   $p < 0.001$ ), and (c) behavioural prejudice ( $z = -4.20$   $p < 0.001$ , see Appendix 3).



Note Relationship between anti-Roma attitudes and contact with Roma people (Z-values)

The main results of our secondary data analysis are presented below in Table 1. These results show that intergroup contact predicts a more positive personal attitude towards the Roma ( $\beta = .18$ ;  $p < .001$ ), as expected. The cross-level interactions indicate that cultural values do not moderate the relationship between contact and attitudes towards the Roma (conservation:  $\beta = -.26$ ;  $p = .366$ ; openness:  $\beta = -.44$ ;  $p = .150$ ; self-enhancement:  $\beta = -.16$ ;  $p = .670$ ; self-transcendence:  $\beta = -.29$ ;  $p = .458$ ). Nonetheless, the significant negative interaction between contact and country-level Roma attitude ( $\beta = -.66$ ;  $p = .022$ ) indicates that contact has a stronger effect on attitudes towards the Roma in countries with more negative aggregated views about the Roma.

Table 1

Multilevel model predicting individual (within level) attitudes towards the Roma with cross-level interactions

Estimates (Fixed effects)	Standardized (SD)	95% CI	p
Contact	.181 (.007)	[.168; .194]	< .001
Gender	.026 (.006)	[.014; .037]	< .001
Age	-.131 (.006)	[-.144; -.119]	< .001

Education	.081 (.006)	[.069; .093]	< .001
Size of residence	.050 (.006)	[.038; .061]	< .001
Lef-right ideology	-.125 (.007)	[-.138; -.112]	< .001
Contact X Country-level Roma-attitude	-.659 (.211)	[-.920; -.113]	.022
Contact X Conservation	-.256 (.246)	[-.602; .361]	.366
Contact X Openness	-.438 (.236)	[-.737; .189]	.150
Contact X Self-enhancement	-.163 (.335)	[-.594; .618]	.670
Contact X Self-transcendence	-.293 (.304)	[-.666; .463]	.458
R2 (within)		.079	

Note. Reported estimates are the median points of the Bayesian posterior distributions. SD = Posterior standard deviation; 95% CI = Upper and lower bounds of the 95% Bayesian credibility interval.

Subsequent simple slope analyses confirmed this latter result, since the relationship between intergroup contact and Roma-attitudes turned out to be significant only at a low level (-1 SD) of country-level Roma-attitudes ( $b = 2.88$ ;  $p < .001$ ), but not at a high level (+1 SD) of it ( $b = -.29$ ;  $p = .340$ ).

## Conclusions

We conducted our meta-analysis in 17 European countries where Roma people are a significant minority. Even though Roma are one of the most significant minorities in Europe, during our search, we found that the topic is severely underresearched and we mostly found studies conducted by the same laboratories. This emphasises the importance of our project.

Based on our meta-analytical results, we found that **contact with Roma people is indeed related to lower anti-Gypsyism**. However, this relationship is more robust in case of quality contact and case of affective prejudice.

Our secondary data analysis, based on Eurobarometer and European Social Survey data, indicates that the **beneficial effect of intergroup contact on attitudes towards the Roma partly depends on cultural characteristics**.

While we could not confirm that either egalitarian or conservative cultural values influence the effectiveness of intergroup contact, we found that the prevalence of anti-Gypsyism in a given country can have such an effect. Specifically, our results indicate

that close contact with Roma people prevents individual-level prejudice to a greater extent in countries with a deeper embeddedness of anti-Roma sentiments.

It is possible that citizens of more prejudiced countries develop their negative attitudes to create a shared construction of reality with their ingroup members, but personal contact with Roma people prevents this process. Consequently, in these countries, there might be a larger gap in terms of Roma-attitudes between people with Roma friends or acquaintances compared to others without such contacts.

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## Appendix

### Appendix 1. Method of the meta-analysis

This model considers the variation between studies because of different designs, participants, and measurements, and it does not require the assumption of true effect size. To establish the heterogeneity of the effect size, we used Q statistics. A significant Q value indicated heterogeneity; that is, the variability of the studies was greater than it may be expected from the sampling error only on the subject level (Lipsey & Wilson, 2001). We used the visual examination of the funnel plot to identify publication bias (Borenstein, Hedges, Higgins, & Rothstein 2009). However, we did not expect a publication bias, considering that most unpublished work we identified was not prepared for publication (research papers or theses) or were very recent. The classic fail-safe N suggests the confidence of the effect. This number shows how many studies should be included for the identified significant relationship to become nonsignificant. The result is robust if the fail-safe N is above  $5k+10$  ( $k$  = number of studies in the meta-analysis; Rosenthal, 1979).

We identified the relevant researches by personal contacts and by online search in the relevant databases, using the equivalents of the following keywords in every local languages: (a) Romaphobia, anti-Roma/gypsy attitude, anti-Roma/gypsy stereotype, anti-Roma/gypsy prejudice, anti-Roma/gypsy discrimination, antigypsyism, AND (b) Intergroup contact, intergroup friendship, intergroup relations, contact.

However, there were 3 countries where we did not find any research examining the connection between contact and anti-Roma attitudes.

## Appendix 2.

List of countries where data was collected:

Albania  
 Bosnia-Herzegovina  
 Bulgaria  
 Croatia  
 Czech Republic  
 France  
 Greece  
 Hungary  
 Italy  
 Kosovo  
 Macedonia  
 Montenegro  
 Moldova  
 Poland  
 Portugal  
 Romania  
 Serbia  
 Slovakia  
 Slovenia  
 Spain  
 Turkey

## Appendix 3.

Summarised results of the meta-analysis

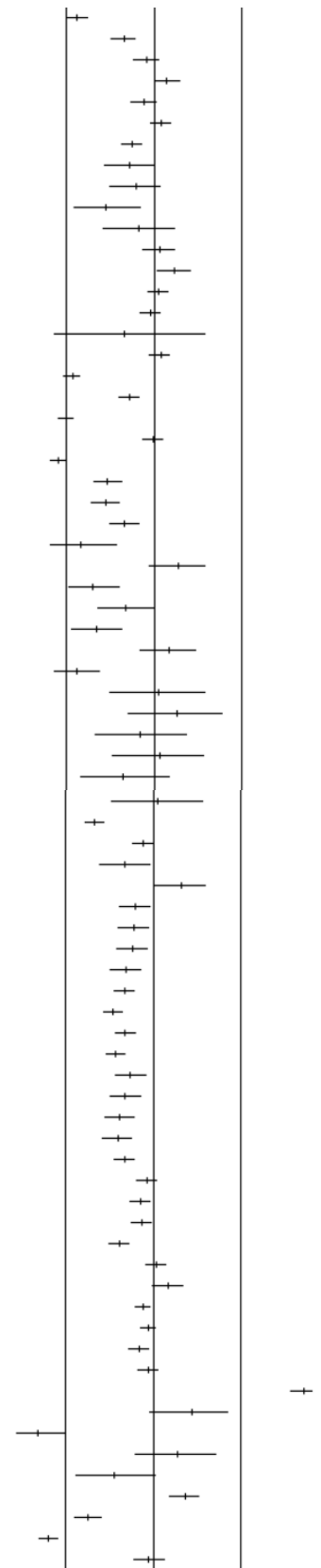
	Model	N Studies	Point estimate	Lower limit	Upper Limit	Z-value	P-value	Q-value	df(Q)	P-value	I-squared	Tau-squared	Standard error
Summerized	Fixed	198	-0,18	-0,19	-0,18	-59,28	<0,001	4232,93	197	<0,001	95,35	<0,001	0,20
	Random effects	198	-0,17	-0,20	-0,14	-11,53	<0,001						
Quantity of contact	Fixed	73	-0,08	-0,09	-0,07	-14,33	<0,001	815,09	72	<0,001	91,17	<0,001	0,15
	Random effects	73	-0,10	-0,14	-0,06	-5,13	<0,001						
Quality of contact	Fixed	125	-0,23	-0,23	-0,22	-61,72	<0,001	2916,48	124	<0,001	95,75	<0,001	0,20

	Random effects	125	-0,21	-0,24	-0,17	-11,34	<0,001						
Comprehensive types of prejudice	Fixed	55	-0,11	-0,12	-0,10	-10,56	<0,001	882,69	54	<0,001	93,88	<0,001	0,17
	Random	55	-0,12	-0,17	-0,07	-4,99	<0,001						
Affective	Fixed	89	-0,23	-0,24	-0,23	-54,95	<0,001	1868,68	88	<0,001	95,29	<0,001	0,18
	Random	89	-0,22	-0,26	-0,18	-10,65	<0,001						
Behavioural	Fixed	54	-0,15	-0,16	-0,13	-21,49	<0,001	1135,963	53	<0,001	95,33	<0,001	0,23
	Random	54	-0,14	-0,20	-0,75	-4,20	<0,001						

Appendix 4.  
Funnel plot of the results

Study name	Statistics for each study					Correlation and 95% CI				
	Correlation	Lower limit	Upper limit	Z-Value	p-Value	-1.00	-0.50	0.00	0.50	1.00
Andrascikova Lasticova 2019 1_1	-0.276	-0.420	-0.118	-3.376	0.001					
Andrascikova Lasticova 2019 1_3	-0.312	-0.584	0.024	-1.826	0.068					
Andrascikova Lasticova 2019 2_1	-0.282	-0.425	-0.126	-3.478	0.001					
Andrascikova Lasticova 2019 2_3	-0.312	-0.457	-0.151	-3.708	0.000					
Asimakopoulou2018a1a_1	-0.160	-0.303	-0.010	-2.086	0.037					
Asimakopoulou2018a1b_1	-0.200	-0.340	-0.051	-2.620	0.009					
Bădescu et al 2007 1_1	0.222	0.168	0.275	7.860	0.000					
Bădescu et al 2007 1_2	0.146	0.091	0.201	5.119	0.000					
Belan 2022 1_1	-0.304	-0.385	-0.218	-6.674	0.000					
Belan 2022 2_1	-0.259	-0.343	-0.171	-5.635	0.000					
Bracic_2020_1_1	-0.336	-0.477	-0.177	-4.025	0.000					
Bracic_2020_1_2	-0.267	-0.416	-0.103	-3.149	0.002					
Dvořáková Graf 2015 2_1	-0.340	-0.421	-0.253	-7.300	0.000					
Dvořáková Graf 2015 2_3	-0.420	-0.495	-0.339	-9.229	0.000					
Dvořáková Graf 2015 3_1	-0.280	-0.365	-0.190	-5.931	0.000					
Dvořáková Graf 2015 3_3	-0.340	-0.421	-0.253	-7.300	0.000					
Dvořáková Graf 2015 3_4	-0.590	-0.649	-0.525	-13.970	0.000					
ENGAGE experiment HU 2022a 2_1	-0.240	-0.330	-0.145	-4.877	0.000					
ENGAGE experiment HU 2022a 2_2	-0.580	-0.642	-0.511	-13.199	0.000					
Eurobarometer 2012_1	-0.052	-0.114	0.010	-1.637	0.102					
Eurobarometer 2012_10	-0.208	-0.274	-0.140	-5.910	0.000					
Eurobarometer 2012_2	-0.096	-0.158	-0.034	-3.010	0.003					
Eurobarometer 2012_3	-0.273	-0.332	-0.212	-8.431	0.000					
Eurobarometer 2012_4	-0.310	-0.366	-0.252	-9.958	0.000					
Eurobarometer 2012_5	-0.332	-0.388	-0.273	-10.484	0.000					
Eurobarometer 2012_6	-0.122	-0.185	-0.058	-3.745	0.000					
Eurobarometer 2012_7	-0.257	-0.314	-0.198	-8.309	0.000					
Eurobarometer 2012_8	-0.130	-0.191	-0.068	-4.114	0.000					
Eurobarometer 2012_9	-0.366	-0.423	-0.306	-11.050	0.000					
Eurobarometer 2012a1_12	-0.167	-0.227	-0.106	-5.315	0.000					
Eurobarometer 2015_1	-0.257	-0.316	-0.196	-7.983	0.000					
Eurobarometer 2015_10	-0.327	-0.384	-0.268	-10.201	0.000					
Eurobarometer 2015_11	-0.236	-0.296	-0.174	-7.296	0.000					
Eurobarometer 2015_2	-0.176	-0.236	-0.115	-5.596	0.000					
Eurobarometer 2015_3	-0.191	-0.253	-0.128	-5.824	0.000					
Eurobarometer 2015_4	-0.366	-0.420	-0.310	-11.860	0.000					
Eurobarometer 2015_5	-0.351	-0.406	-0.293	-11.185	0.000					
Eurobarometer 2015_6	-0.057	-0.121	0.007	-1.745	0.081					
Eurobarometer 2015_7	-0.227	-0.287	-0.165	-7.004	0.000					
Eurobarometer 2015_8	-0.267	-0.327	-0.205	-8.117	0.000					
Eurobarometer 2015_9	-0.413	-0.464	-0.360	-13.757	0.000					
Eurobarometer 2019_1	-0.218	-0.277	-0.157	-6.915	0.000					
Eurobarometer 2019_10	-0.343	-0.397	-0.287	-11.180	0.000					
Eurobarometer 2019_11	-0.264	-0.321	-0.205	-8.521	0.000					
Eurobarometer 2019_12	-0.317	-0.372	-0.260	-10.293	0.000					
Eurobarometer 2019_2	-0.267	-0.323	-0.209	-8.675	0.000					
Eurobarometer 2019_3	-0.299	-0.355	-0.241	-9.694	0.000					
Eurobarometer 2019_4	0.332	0.275	0.387	10.720	0.000					
Eurobarometer 2019_5	-0.326	-0.381	-0.269	-10.559	0.000					
Eurobarometer 2019_6	-0.301	-0.357	-0.243	-9.689	0.000					
Eurobarometer 2019_7	-0.033	-0.096	0.030	-1.025	0.305					
Eurobarometer 2019_8	-0.353	-0.406	-0.298	-11.659	0.000					
Eurobarometer 2019_9	-0.194	-0.253	-0.133	-6.176	0.000					
Eurobarometer_2008	-0.332	-0.386	-0.276	-10.896	0.000					
Eurobarometer_2015	-0.293	-0.347	-0.237	-9.772	0.000					
Eurobarometer2015a1_12	-0.172	-0.233	-0.110	-5.386	0.000					
Eurobarometer2019a1_12	-0.198	-0.258	-0.137	-6.259	0.000					
Findor et al 2020 6_1	-0.203	-0.305	-0.096	-3.688	0.000					
Gómez-Berrocal&Moya 1999_a1_1	0.130	0.015	0.242	2.215	0.027					
Gómez-Berrocal&Navas 2000_a1_1	-0.450	-0.537	-0.353	-8.211	0.000					
Gómez-Berrocal&Navas 2000_a2_1	-0.240	-0.346	-0.128	-4.147	0.000					
Gómez-Berrocal&Navas 2000_a3_1	-0.480	-0.564	-0.386	-8.860	0.000					
Gómez-Berrocal&Navas 2000_a4_1	0.360	0.255	0.456	6.385	0.000					
Gómez-Berrocal&Navas 2000_a5_2	0.130	0.015	0.242	2.215	0.027					
Gregor_2005	-0.128	-0.188	-0.067	-4.092	0.000					
Groyecka et al 2019 1_1_1	0.020	-0.191	0.230	0.183	0.855					
Hrdinova Olhova 2021 1_1	0.041	-0.129	0.209	0.470	0.639					
Hrdinova Olhova 2021 1_3	-0.110	-0.274	0.061	-1.264	0.206					
Hrdinova Olhova 2021 2_1	0.003	-0.167	0.173	0.034	0.973					
Hrdinova Olhova 2021 2_3	-0.061	-0.228	0.110	-0.699	0.485					
Hrdinova Olhova 2021 3_1	0.026	-0.144	0.195	0.298	0.766					
Hrdinova Olhova 2021 3_3	-0.200	-0.357	-0.031	-2.320	0.020					
Institute of Sociology 2013 1_1	-0.142	-0.201	-0.082	-4.624	0.000					
Institute of Sociology 2013 1_2	0.042	-0.019	0.102	1.359	0.174					
Ives et al 2012 1_1_1	0.780	0.584	0.890	5.432	0.000					
Kamberi et al_2017_1_1	-0.417	-0.480	-0.350	-11.092	0.000					

Kamberi et al_2017_1_2	-0.440	-0.501	-0.375	-11.796	0,000	
Kende et al_2017_1_1	-0.170	-0.241	-0.097	-4.526	0,000	
Kende et al_2017_1_2	-0.040	-0.114	0,034	-1.055	0,291	
Kende, Hadarics, Lastikova_2017a	0,075	0,001	0,148	1,981	0,048	
Kende, Hadarics, Lastikova_2017b	-0.059	-0.133	0,015	-1.557	0,119	
Kende, Nyúl, Hadarics, Wessenauer,	0,042	-0,020	0,104	1,328	0,184	
Kende, Nyúl, Hadarics, Wessenauer,	-0.123	-0.184	-0.062	-3.905	0,000	
Kende, Tropp, Lantos_2017_Study1	-0.140	-0.284	0,010	-1.832	0,067	
Kende, Tropp, Lantos_2017_Study1b	-0.105	-0.251	0,045	-1.370	0,171	
Kende, Tropp, Lantos_2017_Study2	-0.272	-0.454	-0.069	-2.603	0,009	
Kende, Tropp, Lantos_2017_Study2b	-0.084	-0.286	0,125	-0.785	0,432	
Kende_2016a	0,031	-0,064	0,126	0,637	0,524	
Kende_2016b	0,119	0,022	0,214	2,391	0,017	
Keresztes-Takacs, Lendvai, Kende_2016a	0,029	-0,033	0,091	0,918	0,358	
Keresztes-Takacs, Lendvai, Kende_2016b	-0.019	-0.081	0,043	-0.602	0,548	
Kocisova Lasticova 2015 6_1	-0.166	-0.567	0,298	-0.691	0,490	
Lantos, Baráth, Nyúl, Kende_2016a	0,038	-0,024	0,100	1,205	0,228	
Lantos, Baráth, Nyúl, Kende_2016b	-0.464	-0.511	-0.414	-15.919	0,000	
Lantos, Baráth, Nyúl, Kende_2016c	-0.142	-0.202	-0.081	-4.530	0,000	
Lantos, Baráth, Nyúl, Kende_2016d	-0.500	-0.545	-0.452	-17.405	0,000	
Lantos, Baráth, Nyúl, Kende_2016e	-0.001	-0.063	0,061	-0.032	0,975	
Lantos, Baráth, Nyúl, Kende_2016f	-0.545	-0.587	-0.500	-19.368	0,000	
Lasticova et al 2018 1_1	-0.264	-0.345	-0.179	-5.918	0,000	
Lasticova et al 2018 2_1	-0.273	-0.354	-0.188	-6.130	0,000	
Lasticova et al 2018 3_1	-0.168	-0.254	-0.080	-3.712	0,000	
Monaci&Trentin2008a1_1	-0.420	-0.593	-0.210	-3.746	0,000	
Pányta et al. 2022a 1a_1	0,140	-0,025	0,297	1,667	0,095	
Pányta et al. 2022a 1a_2	-0.350	-0.486	-0.197	-4.324	0,000	
Pányta et al. 2022a 1b_1	-0.160	-0.316	0,004	-1.910	0,056	
Pányta et al. 2022a 1b_2	-0.330	-0.469	-0.175	-4.056	0,000	
Pányta et al. 2022a 1c_1	0,090	-0,075	0,250	1,068	0,286	
Pányta et al. 2022a 1c_2	-0.440	-0.563	-0.297	-5.588	0,000	
Pavlickova Lasticova 2017 1_1	0,023	-0,254	0,297	0,159	0,873	
Pavlickova Lasticova 2017 2_1	0,132	-0,149	0,393	0,920	0,358	
Petrikova Popper 2018 1_1	-0.076	-0.332	0,191	-0.554	0,579	
Petrikova Popper 2018 1_3	0,032	-0,233	0,292	0,233	0,816	
Petrikova Popper 2018 2_1	-0.177	-0.420	0,090	-1.302	0,193	
Petrikova Popper 2018 2_3	0,025	-0,239	0,286	0,182	0,856	
PoliticalCapital_2017a	-0.335	-0.390	-0.278	-10.791	0,000	
PoliticalCapital_2017b	-0.056	-0.119	0,007	-1.737	0,082	
Syridou2019a1a_1	-0.160	-0.303	-0.010	-2.092	0,036	
Syridou2019a1b_1	0,160	0,010	0,303	2,092	0,036	
Szekeres et al_a_1_1	-0.099	-0.189	-0.007	-2.119	0,034	
Szekeres et al_a_1_2	-0.109	-0.199	-0.018	-2.334	0,020	
Szekeres et al_a_3_1	-0.118	-0.207	-0.027	-2.529	0,011	
Szekeres et al_a_3_2	-0.154	-0.242	-0.063	-3.311	0,001	
Szekeres et al_b_1_1	-0.161	-0.219	-0.101	-5.243	0,000	
Szekeres et al_b_1_2	-0.228	-0.285	-0.170	-7.492	0,000	
Szekeres et al_b_3_1	-0.158	-0.217	-0.098	-5.143	0,000	
Szekeres et al_b_3_2	-0.211	-0.268	-0.152	-6.915	0,000	
Szekeres et al_c_1_1	-0.129	-0.217	-0.039	-2.794	0,005	
Szekeres et al_c_1_2	-0.159	-0.246	-0.069	-3.454	0,001	
Szekeres et al_c_3_1	-0.191	-0.277	-0.102	-4.165	0,000	
Szekeres et al_c_3_2	-0.201	-0.287	-0.112	-4.389	0,000	
TARKI_TDATAH01_2008a	-0.162	-0.221	-0.101	-5.186	0,000	
TARKI_TDATAH02_2008b	-0.035	-0.096	0,027	-1.111	0,267	
TARKI_TDATAH58_2011a	-0.072	-0.133	-0.010	-2.293	0,022	
TARKI_TDATAH58_2011b	-0.061	-0.122	0,001	-1.942	0,052	
TARKI_TDATAH60_2011a	-0.191	-0.250	-0.131	-6.146	0,000	
TARKI_TDATAH60_2011b	0,021	-0,041	0,082	0,667	0,504	
TDATA_F70p_2002	0,087	-0,005	0,178	1,844	0,065	
TDATA_F70s_2002_1	-0.056	-0.100	-0.011	-2.454	0,014	
TDATA_F70s_2002_2	-0.025	-0.070	0,020	-1.095	0,274	
TDATA_H02_2008_1	-0.079	-0.140	-0.017	-2.512	0,012	
TDATA_H02_2008_2	-0.025	-0.087	0,037	-0.793	0,427	
Trentin et al_2006_1_1	0,860	0,782	0,912	10,427	0,000	
Trentin et al_2006_2_a_1	0,224	-0,015	0,439	1,837	0,066	
Trentin et al_2006_2_b_1	-0.660	-0.776	-0.500	-6.392	0,000	
Trentin et al_2006_3_a_1	0,141	-0,101	0,367	1,144	0,252	
Trentin et al_2006_3_b_1	-0.220	-0.436	0,019	-1.803	0,071	
Uriola&Torres 2022_a1_1	0,183	0,095	0,268	4,038	0,000	
Uriola&Torres 2022_a1_2	-0.369	-0.444	-0.289	-8.449	0,000	
Uriola&Torres 2022_a1_3	-0.595	-0.650	-0.534	-14.953	0,000	
Uriola&Torres 2022_a1_4	-0.023	-0.112	0,067	-0.502	0,616	



Urbiola&Torres 2022_a1_5	0.012	-0,078	0,101	0,262	0,793	
Urbiola&Torres 2022_a1_6	-0,202	-0,286	-0,114	-4,469	0,000	
Valenta Graf 2015 1_1	0,006	-0,076	0,088	0,144	0,886	
Valenta Graf 2015 1_6	-0,595	-0,645	-0,540	-16,406	0,000	
Valenta Graf 2015 1_9	-0,155	-0,234	-0,074	-3,740	0,000	
Valenta Graf 2015 2_1	-0,019	-0,101	0,063	-0,455	0,649	
Valenta Graf 2015 2_6	-0,496	-0,555	-0,432	-13,022	0,000	
Valenta Graf 2015 2_9	-0,161	-0,240	-0,080	-3,888	0,000	
Váradí et al_2020_1_1	0,120	0,055	0,184	3,593	0,000	
Varadi_2014	-0,261	-0,319	-0,201	-8,235	0,000	
Vašíčková 2006 1_1	-0,460	-0,574	-0,328	-6,231	0,000	
Vidova Petrik 2019 1_1	-0,341	-0,475	-0,192	-4,321	0,000	
Vidova Petrik 2019 1_2	-0,031	-0,190	0,129	-0,377	0,706	
Voca et al_a1	-0,010	-0,123	0,103	-0,173	0,863	
Voca et al_a2	-0,020	-0,133	0,093	-0,346	0,729	
Voca et al_a3	-0,130	-0,239	-0,017	-2,261	0,024	
Voca et al_a4	-0,150	-0,258	-0,038	-2,613	0,009	
Zezeľ et al_2015_1_1	-0,010	-0,263	0,245	-0,076	0,940	
Zezeľ et al_2015_1_2	-0,256	-0,479	-0,002	-1,977	0,048	
Zezeľ et al_2015_1_3	-0,262	-0,484	-0,009	-2,025	0,043	
Zezeľ et al_2015_1_4	-0,121	-0,364	0,137	-0,918	0,359	
Zezeľ et al_2015_2_1	0,252	-0,002	0,475	1,944	0,052	
Zezeľ et al_2015_2_2	-0,044	-0,295	0,212	-0,332	0,740	
Zezeľ et al_2015_2_3	-0,247	-0,471	0,007	-1,904	0,057	
Zezeľ et al_2015_2_4	0,306	0,056	0,520	2,387	0,017	
Zezeľ et al_2015_3_1	-0,280	-0,498	-0,028	-2,172	0,030	
Zezeľ et al_2015_3_2	-0,158	-0,396	0,100	-1,203	0,229	
Zezeľ et al_2015_3_3	0,075	-0,182	0,323	0,567	0,571	
Zezeľ et al_2015_3_4	-0,114	-0,358	0,144	-0,864	0,387	
Zezeľ et al_2020_1_1_1	-0,160	-0,291	-0,023	-2,282	0,022	
Zezeľ et al_2020_1_2_1	-0,040	-0,177	0,098	-0,566	0,571	
Zezeľ et al_2020_2_1_1	-0,390	-0,498	-0,270	-5,996	0,000	
Zezeľ et al_2020_2_2_1	-0,170	-0,297	-0,037	-2,500	0,012	
Zezeľ et al_2020_3_1_1	-0,300	-0,418	-0,172	-4,453	0,000	
Zezeľ et al_2020_3_2_1	-0,140	-0,270	-0,005	-2,028	0,043	
Zezeľ et al_2020_4_1_1	-0,173	-0,301	-0,039	-2,520	0,012	
Zezeľ et al_2020_4_2_1	-0,139	-0,269	-0,004	-2,018	0,044	
Zezeľ et al_2020_5_1_1	-0,200	-0,327	-0,065	-2,896	0,004	
Zezeľ et al_2015_2_2	-0,044	-0,295	0,212	-0,332	0,740	
Zezeľ et al_2015_2_3	-0,247	-0,471	0,007	-1,904	0,057	
Zezeľ et al_2015_2_4	0,306	0,056	0,520	2,387	0,017	
Zezeľ et al_2015_3_1	-0,280	-0,498	-0,028	-2,172	0,030	
Zezeľ et al_2015_3_2	-0,158	-0,396	0,100	-1,203	0,229	
Zezeľ et al_2015_3_3	0,075	-0,182	0,323	0,567	0,571	
Zezeľ et al_2015_3_4	-0,114	-0,358	0,144	-0,864	0,387	
Zezeľ et al_2020_1_1_1	-0,160	-0,291	-0,023	-2,282	0,022	
Zezeľ et al_2020_1_2_1	-0,040	-0,177	0,098	-0,566	0,571	
Zezeľ et al_2020_2_1_1	-0,390	-0,498	-0,270	-5,996	0,000	
Zezeľ et al_2020_2_2_1	-0,170	-0,297	-0,037	-2,500	0,012	
Zezeľ et al_2020_3_1_1	-0,300	-0,418	-0,172	-4,453	0,000	
Zezeľ et al_2020_3_2_1	-0,140	-0,270	-0,005	-2,028	0,043	
Zezeľ et al_2020_4_1_1	-0,173	-0,301	-0,039	-2,520	0,012	
Zezeľ et al_2020_4_2_1	-0,139	-0,269	-0,004	-2,018	0,044	
Zezeľ et al_2020_5_1_1	-0,200	-0,327	-0,065	-2,896	0,004	
Zezeľ et al_2020_5_2_1	-0,120	-0,252	0,017	-1,722	0,085	
Zimova Popper 2017 1_1	0,076	-0,250	0,386	0,450	0,652	
Zimova Popper 2017 1_3	-0,072	-0,383	0,254	-0,427	0,670	
Zimova Popper 2017 2_1	-0,278	-0,549	0,046	-1,689	0,091	
Zimova Popper 2017 2_3	-0,283	-0,553	0,040	-1,721	0,085	
Zimova Popper 2017 3_1	0,112	-0,215	0,417	0,665	0,506	
Zimova Popper 2017 3_3	0,089	-0,237	0,397	0,528	0,598	
Zingora & Graf_2019_1_1	-0,600	-0,677	-0,511	-10,489	0,000	
Zingora et al 2020 1_1	-0,600	-0,640	-0,556	-20,644	0,000	
Zingora Graf 2019	-0,670	-0,735	-0,592	-12,269	0,000	
Fixed	-0,181	-0,187	-0,175	-59,277	0,000	
Random	-0,170	-0,198	-0,141	-11,527	0,000	

