Humanization and policy support: A replication-extension on group-composition framing

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Abstract

Evaluations of beneficiary groups matter for individual levels of policy support. A variety of cues and heuristics shape evaluations. One particularly consequential heuristic concerns the beneficiary's perceived level of humanity. Recent work shows that individuals, individuals within groups (group compositions), and unitary groups evoke different levels of perceived humanity, and that these differences have downstream effects on sympathy and willingness to help. We replicate these findings, and then extend them to government policy support. We find that individuals and group compositions evoke higher levels of support than groups, and that perceived humanity explains this effect. We focus on the Roma, a tough, critical test given pervasive dehumanization and anti-Roma prejudice. Finally, we demonstrate the value of cross-disciplinary extension-replications.

Keywords: policy support, group composition, dehumanization, linguistic cues, Roma, replication, experiment

Individual support for welfare and redistributive policies depends on how individuals perceive beneficiaries, i.e., the target group. The social construction of beneficiaries -- the normative and evaluative depictions associated with groups like need, control of circumstances, or the reciprocation of assistance -- matter for support (Bell 2021; Gilens 1999; Lawrence, Stoker, and Wolman 2013; Petersen 2012; Schneider and Ingram 1993; van Oorschot 2006). One important evaluation concerns the target group's humanity -- essential human characteristics differentiating humans from machines or animals (Zebel et al. 2008, 196-198). When beneficiaries are dehumanized, support for redistributive transfers decreases (Sainz et al. 2020).

Recent work shows that subtle variations in the language used to describe target groups are consequential for how “human” a target group is perceived. Cooley et al. (2017) and a replication-extension by Hodson and Doucher (2020) show that substantive differences emerge in how people evaluate targets when they are described as either individuals, individuals within groups (group-composition), or groups. These subtle linguistic changes humanize the target -- i.e., they shift individual perceptions about the extent to which the target can have experiences and agency. In turn, these changes mediate sympathy for (Cooley et al. 2017), and willingness to help the target (Hodson and Doucher 2020).¹ Groups evoke the least sympathy and willingness to help, while individuals evoke the most. Yet, the linguistic shift of referencing individuals within a group leads to near-equivalent levels of sympathy and willingness to help as when individuals are mentioned. These findings have important implications for welfare policy support.

¹ Only changes in experience mediate willingness to help (Hodson and Doucher 2020, 1606).

Thus, in this research note, we conduct a pre-registered replication and extension of Cooley et al. (2017) and Hodson and Doucher (2020).² We make three contributions to political science literature. First, we show that linguistic shifts, through humanization, translate to differences in welfare policy support. Simply referring to beneficiaries as a collection of individuals, rather than as a unitary group, increases policy support for welfare programs. Second, we conduct the replication-extension with a nationally-representative sample of Slovaks and with the Roma as the target group. The substantive differences between samples (the previous studies employed American MTurkers), and the Roma target group render our analysis a tough test of external validity. Importantly, given the discrimination and prejudice against the Roma (Kende et al. 2020) and their blatant dehumanization (Kteily et al. 2015), the fact that variations in language improve welfare policy support means that these effects will likely manifest for other, less stigmatized groups as well. In other words, the Roma are a tough test, and we consider our findings a floor. Finally, this analysis contributes to the growing calls for, and shows the value of, replication-extensions across disciplines.

Explaining Welfare Policy Support

The political science literature explains support for redistributive welfare policies through group-centric models where individuals evaluate policies based on whom they perceive said policies to benefit, and evaluations associated with this beneficiary group (Schneider and Ingram 1993). Cues and heuristics inform individual evaluations. Examples include perceptions of a group's political power, deservingness (often further broken down into categories like need, control, and

² Anonymized pre-registration: https://aspredicted.org/COS_RQG (Study 1), https://aspredicted.org/ANS_XBG (Study 2)

reciprocity) (see Petersen 2012; van Oorschot 2006), or race, ethnicity, and immigration status (Gilens 1999; Soroka et al. 2016). Humanization -- the extent to which a group possesses “human” characteristics differentiating it from machines or animals -- also matters. The more “human” a target group is perceived to be, the higher the support for welfare transfers to said group (Sainz et al. 2020).

Ultimately, however, all of these explanations are predicated on beneficiaries being described as unitary groups -- e.g., the elderly (Lawrence et al. 2013) or low-income students (Bell 2021). Yet, beneficiaries can be described as individuals, or as individuals within a group (group composition). Cooley et al. (2017) and the associated replication by Hodson and Doucher (2020) show that these subtle linguistic differences have stark implications for the level of humanity individuals attribute to the target, and that these shifts have downstream consequences for sympathy towards and willingness to help the target group.

Specifically, individuals react differently to these labels because shifts from individual, to group composition, to group evoke different perceptions of the target’s capacity to experience (to sense and feel) and to have agency (to intentionally think and act), core elements of “humaneness”. Groups score lower than individuals or group compositions on these outcomes. Yet, respondents judge individuals and group compositions almost equivalently. Cooley et al. show that shifts in experience and agency mediate respondents’ sympathy for the target, and Hodson and Doucher show that shifts in capacity to experience mediate the extent to which an individual is willing to help the target. Respondents were less sympathetic towards, and less willing to help groups than individuals or people in groups.

We suggest that humanization through linguistic labels affects the level of policy support a target evokes. Thus, in our extension, we test whether individual support for welfare transfers

to individuals, group compositions, or groups differs, and whether humanization mediates these changes.

Study 1: Replicating Cooley et al. (2017, Study 3) and Hodson and Doucher (2020)

Cooley et al. 2017 (Study 3) and Hodson and Doucher (2020), using between-subject designs, randomly assigned participants to three conditions. In each condition, a vignette describes a target who had the same event befall them:

- *Individual*: Take a moment to imagine a man who was quite successful. Now imagine that, recently, the man's electronic security firewalls were breached, and his private accounts were hacked, and as a result he went bankrupt.
- *Group-Composition*: Take a moment and imagine 20 employees who compose a small company and who were quite successful. Now imagine that, recently, the 20 employees' electronic security firewalls were breached, and their private accounts were hacked, and as a result the company went bankrupt.
- *Group*: Take a moment to imagine a small company that was quite successful. Now imagine that, recently, the company's electronic security firewalls were breached, and its private accounts were hacked, and as a result the company went bankrupt.

After reading vignettes, participants rated the target's capacity for experience (pain and suffering) and agency (intentions and goals) on 0-100 scales.³ Then participants rated their sympathy for the target (0-100). In Hodson and Doucher, participants also indicated their willingness to help the target (0-100).

To replicate these studies, we recruited a nationally representative sample of Slovaks using an online panel. While Cooley et al. recruited 242 participants from MTurk, and Hodson and Doucher recruited 500 participants from the same platform, we recruited 1014 participants (M age = 44.5, SD age = 15.8, 52% female). Post-hoc analysis for global effects using G*Power

³ Questionnaires available at: https://osf.io/4wy2g/?view_only=eedd10f0fb1a460e8338cbb4659891eb

showed that a MANOVA with 1,014 participants across three groups would be sensitive to effects as small as $f^2 = 0.007$ with 80% power ($\alpha = .05$).

To analyse differences in outcomes across groups, we used a resampling-based MANOVA with 1000 iterations (see Friedrich, Konietzschke and Pauly 2019). To test the mediation hypotheses -- that shifts in perceptions of experience and agency explain sympathy and willingness to help -- we used the *mma* package for R (Yu, Li 2017) and estimated mediation models using Multiple Additive Regression Trees, a modelling method that considers nonlinear relationships. We defined experimental conditions as predictors, attributions of experience and agency as mediators, and sympathy for the target and willingness to help as outcomes. We used the default option of 50 bootstrap resamplings.

Results: Plotting the data (Figure 1) shows similar scores for the individual and group-composition frames, and lower scores in the group frame across all outcomes (Table 1 provides descriptive statistics). The results of the MANOVA analysis confirm an overall effect for the linguistic label manipulation on the outcome variables: $WTS(8) = 53.2$, resampled $p < .001$; $MATS = 86.2$, resampled $p = < .001$. Multivariate post-hoc comparisons with Tukey contrasts showed a significant difference between the group and individual conditions ($p = .004$, estimated summary effect = -19.5), as well as a significant difference between group and group composition ($p < .001$, estimated summary effect = -32.9) (see Table 2). Thus, individuals evaluated groups less favourably than individuals and group compositions.

Individual analyses of variance for each outcome variable showed a significant effect of linguistic label on experience ($F(2, 1011) = 7.87, p < .001, \omega^2 = 0.013$), agency ($F(2, 1011) = 8.93, p < .001, \omega^2 = 0.015$), sympathy ($F(2, 1011) = 9.53, p < .001, \omega^2 = 0.034$) and willingness

to help ($F(2, 1011) = 18.92, p < .001, \omega^2 = 0.013$. Post-hoc comparisons show significant differences between the individual and group frames in all outcomes, except sympathy; and between the group-composition and group frames across all four outcomes. Further details are reported in the Supplementary Material (SM) (Tables 4-7).⁴

Figure 1: Distributions, means, and 95% confidence intervals of outcomes across experimental conditions.

⁴ We re-estimate analyses excluding manipulation check failures. Results remain largely consistent. Post-hoc differences between individual and group summary effects become non-significant ($p=0.107$), and univariate comparisons show nonsignificant effects of target-group condition for experience or agency. Full results in SM, Tables 3-7.

Table 1: *Study 1 descriptive statistics across outcomes and experimental groups*

	<i>M</i>	<i>SD</i>	<i>CI</i>	<i>N</i>
<hr/> Experience <hr/>				
individual	78.9	21.9	2.35	337
composition	79.2	21.1	2.25	340
group	73.1	24.4	2.61	337
<hr/> Agency <hr/>				
individual	67	22.6	2.42	337
composition	69.9	22.8	2.43	340
group	62.6	22.5	2.41	337
<hr/> Sympathy <hr/>				
individual	64.6	21.3	2.28	337
composition	69	21.9	2.33	340
group	61.6	23.4	2.51	337
<hr/> Willingness to help <hr/>				
individual	64	23.5	2.52	337
composition	69.8	24.8	2.65	340
group	57.8	28.1	3.01	337

Table 2: *Differences between experimental conditions (summary effects)*

Contrast	Summary effect			<i>p</i>
	estimate	95% CI lower	95% CI upper	
composition - individual	13.4	-0.58	27.41	.064
group - individual	-19.5	-34.13	-4.78	.005
group - composition	-32.9	-47.62	-18.12	< .001

Note: Summary effects are averaged over all dimensions, confidence intervals are based on the bootstrap version of the sum statistic, confidence intervals and *p* values maintain a given level of alpha.

For mediation analysis, we create two contrasts. First, we combine the group and group-composition conditions and compare to the individual condition; second, we compare the group condition to the group-composition condition. Table 3 presents these results. For sympathy, we find no significant effects in the combined group versus individual conditions. However, shifting from group to group-composition frame had a direct effect on sympathy, as well as indirect effects through agency, but not experience. In other words, respondents who read the company vignette reported less sympathy for the target compared to those who read the vignette about 20 people in a company, and this effect can partially be explained by changes in individual perceptions of the target's ability to have agency. Finally, the group versus group-composition manipulation had significant direct and indirect effects on willingness to help. Opposite to Hodson and Doucher, however, the manipulation had an indirect effect through agency, not experience. Also, unlike Cooley et al. and Hodson and Doucher, we find a direct effect for the group versus group-composition manipulation.

Table 3: Direct and Indirect Effects of Experimental Conditions on Sympathy and Willingness to Help

	Total effect		Direct effect		Indirect effects			
	avg. est.	95% CI (c.b.)	avg. est.	95% CI (c.b.)	experience		agency	
					avg. est.	95% CI (c.b.)	avg. est.	95% CI (c.b.)
Sympathy								
combined group vs individual	-0.12	(-1.96,1)	0.76	(-0.01,1.48)	-0.72	(-1.37,0.04)	-0.19	(-0.84,0.54)
group vs group-composition	-4.96	(-7.45,-2.68)	-2.20	(-3.99,-0.45)	-1.07	(-2.16,0.41)	-1.43	(-2.44,-0.35)
Willingness to help								
combined group vs individual	-0.57	(-1.63,0.97)	0.22	(-0.89,1.81)	-0.6	(-1.08,0.02)	-0.22	(-0.86,0.35)
group vs group-composition	-7.57	(-10.62,-3.93)	-5.68	(-8.28,-1.65)	-0.66	(-1.66,0.39)	-1.27	(-2.12,-0.38)

Note: avg.est. = average estimated effect from bootstrap samples; 95% CI = confidence ball bounds based on bootstrap estimates. Mediation effect is the rate of change in outcome. Due to potential correlation between mediators and overlapping mediation effects, the sum of direct and indirect effects may not equal the total effects. (Yu and Li 2017; Yu and Li 2021). **Bolded** coefficients represent $p < 0.05$.

Taken together, these results largely support the findings of Cooley et al. and Hodson and Doucher. We confirm that group composition and individual target groups evoke similar levels of sympathy and willingness to help, and that these levels are higher than those evoked by groups. In the case of sympathy, we also confirm that agency is a significant mediator in the group versus group composition comparison. Finally, our results differ slightly from Hodson and Doucher, as the effect of group versus group composition on willingness to help is mediated by agency, and not experience.

Study 2: Extension to Policy Support

We predict that increases in agency and experience associated with the individual and group-composition labels (compared to the group label) will translate to increased levels of policy support. The shift away from the group humanizes the target. In turn, humanization increases policy support.

To test, we rerun Study 1 with two changes: (1) the vignettes focus on a minority outgroup in Slovakia, the Roma; and (2) we add policy support as an outcome measure, asking respondents to what extent they support a government financial transfer policy aiding the mentioned beneficiary (0-100). We rewrote the vignettes as follows:

- *Individual:* Take a moment to imagine a man who lives in a marginalized Roma community. Now imagine that, recently, the man lost his housing. A landslide destroyed his home, and ensured that the man was left without a roof over his head.
- *Group-Composition:* Take a moment to imagine twenty people who live in a marginalized Roma community. Now imagine that, recently, these twenty people lost their housing. A landslide destroyed their homes, and ensured that these twenty people were left without a roof over their heads.
- *Group:* Take a moment to imagine a marginalized Roma community. Now imagine that, recently, this community lost their housing. A landslide destroyed their homes, and ensured that this community was left without a roof over their heads.

As in Study 1, we recruited a representative (to the Slovak population) sample of 1,008 participants from an online panel (M age = 44.3, SD age = 15.7, 52% female). Respondents who participated in Study 1 were not eligible. A post-hoc analysis for global effects using G*Power showed that a MANOVA with 1,008 participants across three groups would be sensitive to effects as small as $f^2 = 0.008$, with 80% power ($\alpha = .05$).

Results: We begin by plotting the data (Figure 2). The individual condition consistently scored the highest, while the group condition scored the lowest. Generally, the group-composition

condition fell somewhere between the two. Importantly, the group condition evoked significantly lower evaluations than the other two conditions across the outcomes. Table 4 presents descriptive statistics.

Figure 2. Distributions, means and 95% confidence interval of outcomes in respective conditions.

Table 4: *Study 2 descriptive statistics across outcomes and experimental groups*

	<i>M</i>	<i>SD</i>	<i>CI</i>	<i>N</i>
<u>Experience</u>				
individual	74.4	26.1	2.81	334
composition	71.2	28.1	3.01	337
group	66.7	29.5	3.16	337
<u>Agency</u>				
individual	57.6	27.7	2.98	334
composition	51	29.5	3.17	337
group	44.7	29.3	3.14	337
<u>Sympathy</u>				
individual	48.6	25.9	2.79	334
composition	42.1	27.5	2.94	337
group	31.7	25.2	2.7	337
<u>Willingness to help</u>				
individual	43.9	28.3	3.04	334
composition	42.7	29	3.1	337
group	33.7	27.1	2.9	337
<u>Policy support</u>				
individual	52.9	32.6	3.51	334
composition	48.8	31.2	3.35	337
group	38.6	30.9	3.31	337

More formally, we estimated the overall effects of experimental conditions across all five outcome variables using the same process as in Study 1 (results in Table 5). There was a significant effect of linguistic label on all outcome variables: WTS(10) = 85.25, resampled $p < .001$; MATS = 187, resampled $p = < .001$. Multivariate post-hoc comparisons with Tukey contrasts showed a significant difference between the group and individual conditions ($p = < .001$, estimated summary effect = -62.1), as well as a difference between the group and group

composition conditions ($p < .001$, estimated summary effect = -40.4). Again, individuals evaluate groups less positively than either individuals or group compositions⁵.

Individual analyses of variance for each outcome variable showed a significant effect of target group condition on experience ($F(2, 1005) = 6.46, p = .002, \omega^2 = 0.011$), agency ($F(2, 1005) = 16.96, p < .001, \omega^2 = 0.031$), sympathy ($F(2, 1005) = 35.51, p < .001, \omega^2 = 0.064$), willingness to help ($F(2, 1005) = 13.27, p < .001, \omega^2 = 0.024$) and policy support ($F(2, 1005) = 18.24, p < .001, \omega^2 = 0.033$). The shift from individual to group led to significant post-hoc differences between all five outcomes, and the shift from group-composition to group led to significant differences in all outcomes except experience. Finally, there was a significant difference between individual and group-composition frames for agency and sympathy. For further details see SM (Tables 11-14).

Table 5: *Differences between experimental conditions (summary effects)*

Contrast	Summary effect estimate	95% CI lower	95% CI upper	<i>p</i>
composition - individual	-21.7	-46	2.64	.089
group - individual	-62.1	-86.1	-38.06	<.001
group - composition	-40.4	-64.8	-16.08	<.001

Note: Summary effects are averaged over all dimensions, confidence intervals are based on the bootstrap version of the sum statistic, confidence intervals and *p* values maintain a given level of alpha.

To test the mediation hypotheses, we again create two contrasts: group and group composition versus individual; and group versus group composition. Table 4 presents results. Results are consistent with previous analyses, and show that the hypothesized relationships also

⁵ Results with manipulation check failures excluded were consistent. See SM for details (Tables 9-14).

apply to policy support. For sympathy, we see statistically significant effects (direct and indirect) of linguistic label. The group and group-composition conditions evoked less sympathy than the individual condition, and the group condition led to less sympathy than the group-composition condition. The mediation analysis also shows that shifts in perceptions of the target group's ability to have agency explain a portion of this effect, while the mediating effect of experience was not consistent across variables and contrasts. When it comes to willingness to help and policy support, we see a similar relationship. These results suggest that the relationships evidenced in Cooley et al. and Hodson and Doucher extend to policy support.

Table 6: Direct and Indirect Effects of Experimental Conditions on Sympathy, Willingness to Help, and Policy Support

	Total effect		Direct effect		Indirect effects			
	avg. est.	95% CI (c.b.)	avg. est.	95% CI (c.b.)	experience		agency	
					avg. est.	95% CI (c.b.)	avg. est.	95% CI (c.b.)
Sympathy								
combined group conditions vs individual	-9.76	(-12.17,-5.13)	-4.49	(-7.15,-0.01)	-0.99	(-1.91,-0.25)	-4.47	(-6.77,-2.65)
group vs group- composition	-8.38	(-11.99,-4.56)	-5.16	(-8.26,-2.79)	-0.51	(-1.28,0.14)	-3.07	(-5.84,-0.63)
Willingness to help								
combined group conditions vs individual	-4.51	(-6.38,-2.17)	-0.24	(-1.65,0.78)	-0.82	(-1.33,-0.18)	-3.61	(-5,-2.11)
group vs group- composition	-6.54	(-10.17,-3.15)	-3.85	(-7.31,-1.57)	-0.52	(-1.05,-0.01)	-2.48	(-4.54,-0.77)
Policy support								
combined group conditions vs individual	-7.35	(-10.24,-4.64)	-1.31	(-3.6,0.38)	-1.74	(-3.14,-0.54)	-4.64	(-6.04,-2.43)
group vs group- composition	-7.57	(-10.95,-2.70)	-3.87	(-6.29,-0.72)	-1.18	(-2.5,0.12)	-2.98	(-5.32,-0.79)

Note: avg.est. = average estimated effect from bootstrap samples; 95% CI = confidence ball bounds based on bootstrap estimates. Mediation effect is the rate of change in outcome. Due to potential correlation between mediators and overlapping mediation effects, the sum of direct and indirect effects may not equal the total effects. (Yu and Li 2017; Yu and Li 2021). **Bolded** coefficients represent $p < 0.05$.

Conclusion

The language used to describe beneficiaries of redistributive transfers matters. Cues and heuristics can be overt such as when the race of a target group is mentioned; yet, as this analysis shows, subtle linguistic shifts matter as well. In our replication-extension, we first confirm the findings of Cooley et al. (2017) and Hodson and Doucher (2020): referring to beneficiaries as individuals, members of a group, or as a group evokes different levels of sympathy and willingness to help, and shifts in perceptions of experience and agency explain these changes. Second, we show that similar relationships apply to individual levels of welfare policy support. Mediation analysis unpacks the mechanisms and shows that respondents humanize group compositions to nearly the same extent as individuals. Groups score much lower in their capacity to experience or have agency. Ultimately, lower attributions of humanity translate to lower levels of policy support. Importantly, as our focus on the Roma shows, this relationship holds for stigmatized and dehumanized outgroups.

These findings offer a nuanced perspective on the study of target group dehumanization and (welfare) policy support. Even subtle forms of dehumanization, encoded in inconspicuous linguistic cues, can have considerable effects on policy support. Seeing social targets as more or less human is not only a function of stereotypes and prejudice, but also of linguistic systems, which are often used indiscriminately by individuals and institutions, no matter how positively or negatively they feel or behave towards targets. Ultimately, our findings point to linguistic sources of policy support.

These findings also have important policy implications. Funding schemes -- both at national and European levels -- are meant to benefit members of marginalized groups. For example, to promote social inclusion, the European Social Fund includes a specific Investment

Priority (IP 9.2) about redistributive transfers to Roma communities.⁶ Such a policy, in its description of beneficiaries, may spur opposition and resentment amongst majorities because, paradoxically, it may dehumanize the target population it aspires to help. This work offers one, straightforward way to mollify these adverse consequences: referring to target populations in a more humanized form as individuals within groups instead of as unitary groups.

⁶ <https://www.euromanet.eu/esi-funds/>

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Humanization and Policy Support: A Replication-Extension on Group-Composition

Framing

SUPPLEMENTARY MATERIAL

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Table 1: *Randomization checks, Study 1- all participants*

variable	N	df between	df within	statistic	<i>p</i>
gender	1014	2	674	0.006	.994
age	1014	2	674	0.095	.909
region	1014	2	674	0.009	.991
education	1014	2	674	0.004	.996
municipality size	1014	2	674	0.076	.927

Table 2: *Descriptives statistics for Study 1 - manipulation check correct answers only*

	N	<i>M</i>	<i>SD</i>	CI
<u>Experience</u>				
individual	297	80.4	21.3	2.43
composition	265	81.5	19.8	2.39
group	263	76.5	24.2	2.94
<u>Agency</u>				
individual	297	67.1	22.8	2.6
composition	265	69.8	23.8	2.88
group	263	64.1	23.4	2.85
<u>Sympathy</u>				
individual	297	64.7	20.9	2.39
composition	265	69.2	22.4	2.71
group	263	63.2	23.8	2.9
<u>Willingness to help</u>				
individual	297	64.6	23.3	2.66
composition	265	70.6	25.3	3.06
group	263	59.2	29.2	3.55

Table 3: *Differences between experimental conditions (summary effects) - Study 1, manipulation check correct answers only*

WTS(8) = 31.71, resampled $p = .001$; MATS = 48.2, resampled $p < .001$.

Contrast	Summary effect		95% CI lower	95% CI upper	p
	estimate				
composition - individual	14.4		-0.43	29.14	.064
group - individual	-13.8		-29.51	1.86	.107
group - composition	-28.2		-44.49	-11.87	< .001

Univariate p -values adjusted for multiple testing using Bonferroni-correction:

Agency: .136

Experience: .108

Sympathy: .02

Willingness to help: <.001

Table 4: *Effect of target-group condition on respective outcome variables (individual ANOVAs) - Study 1, all participants*

	Sum of squares	df	Mean square	F	ω^2	p
Experience						
group	7971.42	2	3985.71	7.868	0.013	< .001
Residuals	512125.01	1011	506.55			
Agency						
group	9128.15	2	4564.08	8.934	0.015	< .001
Residuals	516503.25	1011	510.88			
Sympathy						
group	9419.18	2	4709.59	9.533	0.017	< .001
Residuals	499454.51	1011	494.02			
Willingness to help						
group	24688.02	2	12344.01	18.916	0.034	< .001
Residuals	659754.82	1011	652.58			

Table 5: *Post-hoc comparisons, Study 1, all participants*

		mean difference	S.E.	<i>t</i>	<i>p</i> tukey
Experience					
individual	composition	-0.30	1.73	-0.17	.983
individual	group	5.80	1.73	3.34	.002
composition	group	6.10	1.73	3.52	.001
Agency					
individual	composition	-2.85	1.74	-1.64	.229
individual	group	4.44	1.74	2.55	.029
composition	group	7.29	1.74	4.20	<.001
Sympathy					
individual	composition	-4.44	1.71	-2.60	.026
individual	group	2.97	1.71	1.73	.193
composition	group	7.41	1.71	4.34	<.001
Willingness to help					
individual	composition	-5.82	1.96	-2.96	.009
individual	group	6.25	1.97	3.17	.004
composition	group	12.08	1.96	6.15	<.001

Note: *p* values with Tukey correction for respective outcome variables.

Table 6: *Effect of target-group condition on respective outcome variables (individual ANOVAs)*
- manipulation check correct answers only

	Sum of squares	df	Mean square	F	ω^2	<i>p</i>
Experience						
group	3768	2	1884	3.96	0.007	.019
Residuals	391218	822	476			
Agency						
group	4319	2	2160	3.97	0.007	.019
Residuals	447397	822	544			
Sympathy						
group	5143	2	2571	5.13	0.01	.006
Residuals	411582	822	501			
Willingness to help						
group	17208	2	8604	12.78	0.028	<.001
Residuals	553363	822	673			

Table 7: *Post-hoc comparisons, Study 1 - manipulation check correct answers only*

		mean difference	S.E.	<i>t</i>	<i>p</i> tukey
Experience					
individual	composition	-1.15	1.84	-0.62	.807
individual	group	3.93	1.85	2.13	.085
composition	group	5.08	1.9	2.68	.021
Agency					
individual	composition	-2.68	1.97	-1.36	.364
individual	group	3.04	1.98	1.54	.273
composition	group	5.72	2.03	2.82	.014
Sympathy					
individual	composition	-4.49	1.89	-2.37	.047
individual	group	1.48	1.9	0.78	.713
composition	group	5.97	1.95	3.07	.006
Willingness to help					
individual	composition	-6.05	2.19	-2.76	.016
individual	group	5.36	2.2	2.44	.039
composition	group	11.41	2.26	5.05	<.001

Table 8: *Randomization checks, Study 2, all participants*

variable	N	df between	df within	statistic	<i>p</i>
gender	1008	2	670	0.036	.965
age	1008	2	670	0.001	.999
region	1008	2	670	0.004	.996
education	1008	2	670	0.057	.945
municipality size	1008	2	670	0.046	.955

Table 9: *Descriptive statistic for Study 2 - manipulation check correct answers only*

	N	M	SD	CI
Experience				
individual	292	76.0	26.1	3.00
composition	285	72.5	28.2	3.29
group	251	68.0	29.8	3.70
Agency				
individual	292	57.7	28.0	3.22
composition	285	50.4	30.4	3.54
group	251	43.2	29.5	3.67
Sympathy				
individual	292	48.1	25.7	2.96
composition	285	41.3	28.0	3.27
group	251	29.0	23.8	2.96
Willingness to help				
individual	292	43.0	28.3	3.26
composition	285	41.4	29.6	3.46
group	251	31.1	26.2	3.26
Policy support				
individual	292	54.0	33.2	3.83
composition	285	48.5	32.4	3.78
group	251	35.9	30.7	3.82

Table 10: *Differences between experimental conditions (summary effects) Study 2 - manipulation check correct answers only*

WTS(10) = 93.16, resampled $p < .001$; MATS = 203, resampled $p < .001$.

Contrast	Summary effect estimate	95% CI lower	95% CI upper	p
composition - individual	-24.7	-53.3	3.91	.107
group - individual	-71.6	-100.3	-42.87	< .001
group - composition	-46.9	-76.4	-17.33	.001

Table 11: *Effect of target-group condition on respective outcome variables (individual ANOVAs)*
- Study 2, all participants

	Sum of squares	df	Mean square	F	ω^2	<i>p</i>
Experience						
group	10082	2	5041	6.46	0.011	.002
Residuals	784343	1005	780			
Agency						
group	28258	2	14129	16.96	0.031	<.001
Residuals	837282	1005	833			
Sympathy						
group	48773	2	24386	35.51	0.064	<.001
Residuals	690110	1005	687			
Willingness to help						
group	20954	2	10477	13.27	0.024	<.001
Residuals	793771	1005	790			
Policy support						
group	36429	2	18214	18.24	0.033	<.001
Residuals	1003638	1005	999			

Table 12: *Post-hoc comparisons, Study 2, all participants*

		mean difference	S.E.	<i>t</i>	<i>p</i> tukey
Experience					
individual	composition	3.25	2.16	1.507	.288
individual	group	7.72	2.16	3.579	.001
composition	group	4.47	2.15	2.076	.095
Agency					
individual	composition	6.59	2.23	2.956	.009
individual	group	12.98	2.23	5.824	<.001
composition	group	6.39	2.22	2.875	.012
Sympathy					
individual	composition	6.50	2.02	3.212	.004
individual	group	16.90	2.02	8.351	<.001
composition	group	10.40	2.02	5.151	<.001
Willingness to help					
individual	composition	1.16	2.17	0.534	.855
individual	group	10.20	2.17	4.698	<.001
composition	group	9.04	2.17	4.173	<.001
Policy support					
individual	composition	4.17	2.44	1.710	.202
individual	group	14.32	2.44	5.868	<.001
composition	group	10.14	2.43	4.167	<.001

Table 13: *Effect of target-group condition on respective outcome variables (individual ANOVAs), Study 2- manipulation check correct answers only*

	Sum of squares	df	Mean square	F	ω^2	<i>p</i>
Experience						
group	8774	2	4387	5.6	0.011	.004
Residuals	645905	825	783			
Agency						
group	28130	2	14065	16.4	0.036	<.001
Residuals	706851	825	857			
Sympathy						
group	49910	2	24955	37.0	0.08	<.001
Residuals	557078	825	675			
Willingness to help						
group	21908	2	10954	13.8	0.03	<.001
Residuals	654725	825	794			
Policy support						
group	45844	2	22922	22.1	0.049	<.001
Residuals	854577	825	1036			

Table 14: *Post-hoc comparisons, Study 2- manipulation check correct answers only*

		mean difference	S.E.	<i>t</i>	<i>p</i> tukey
Experience					
individual	composition	3.58	2.33	1.54	.275
individual	group	8.06	2.41	3.35	.002
composition	group	4.48	2.42	1.85	.154
Agency					
individual	composition	7.21	2.44	2.96	.009
individual	group	14.42	2.52	5.72	<.001
composition	group	7.21	2.53	2.84	.013
Sympathy					
individual	composition	6.81	2.16	3.15	.005
individual	group	19.08	2.24	8.53	<.001
composition	group	12.27	2.25	5.46	<.001
Willingness to help					
individual	composition	1.64	2.35	0.70	.764
individual	group	11.90	2.42	4.91	<.001
composition	group	10.26	2.44	4.21	<.001
Policy support					
individual	composition	5.45	2.68	2.03	.105
individual	group	18.11	2.77	6.54	<.001
composition	group	12.66	2.79	4.54	<.001

Figure 1: *Overlap of distributions, means, and 95% confidence intervals of dependent variables across experimental conditions for Study 1 - all participants*

Figure 2: *Overlap of distributions, means, and 95% confidence intervals of dependent variables across experimental conditions for Study 1 - correct answers only*

Figure 3: *Distributions, means, and 95% confidence intervals of dependent variables across experimental conditions for Study 1 - correct answers only*

Figure 4: *Overlap of distributions, means, and 95% confidence intervals of dependent variables across experimental conditions for Study 2 - all participants*

Figure 5: *Overlap of distributions, means, and 95% confidence intervals of dependent variables across experimental conditions for Study 2 - correct answers only*

Figure 6: Distributions, means, and 95% confidence intervals of dependent variables across experimental conditions for Study 2 - correct answers only