Class-based network segregation, Economic Inequality and Redistributive Preferences across societies

Supplementary material

S1 Income inequality ratios

Table S1: Multilevel models for Income inequality (Ratio 90/10), Network segregation and Redistributive Preferences

	Model 1	Model 2	Model 3	Model 4
Class-based network homogeneity (CWC)	−0.79 (1.05)	−0.79 (1.05)	−0.82 (1.05)	−7.33 (1.37)***
Social Class (Ref.= Service Class)				
Intermediate Class	1.53 (0.51)**	1.52 (0.51)**	1.53 (0.51)**	2.25 (0.50)***
Working Class	3.26 (0.76)***	3.24 (0.76)***	3.23 (0.76)***	3.36 (0.70)***
Macro-level factors				
Income inequality (Ratio 90/10)	−0.84 (1.51)	−2.96 (1.63)+	−0.07 (2.39)	1.79 (2.55)
GDP/capita		−3.98 (1.64)*	−5.52 (1.73)**	−5.36 (1.75)**
Size of the welfare state			5.24 (2.53)*	3.95 (2.56)
Homogeneity*Social Class				
Homogeneity*Intermediate Class				8.62 (1.65)***
Homogeneity*Working Class				11.05 (1.51)***
Homogeneity*Income Inequality				5.15 (1.31)***
Homogeneity * Social Class * Income Inequality				
Homogeneity*Intermediate Class*Income Inequality				−6.71 (1.48)***
Homogeneity*Working Class *Income Inequality				−7.87 (1.35)***
Controls	Yes	Yes	Yes	Yes
BIC	289374.28	289376.69	289380.83	289347.19
Num. obs.	31694	31694	31694	31694
Num. groups	31	31	31	31
Var: Group (Intercept)	89.93	77.79	88.39	77.57
Var: Group Homogeneity	20.36	20.62	20.71	17.46
Var: Group Intermediate Class	4.48	4.51	4.41	3.63
Var: Group Working Class	13.39	13.32	13.43	10.45
Cov: Group (Intercept), Homogeneity	13.49	10.00	16.21	9.46
Cov: Group (Intercept), Intermediate Class	−5.62	−6.61	−12.20	−7.02
Cov: Group (Intercept), Working Class	−16.42	−15.77	−21.45	−15.11
Cov: Group Homogeneity, Intermediate Class	−5.62	−5.54	−5.61	−5.59
Cov: Group Homogeneity, Working Class	−7.87	−7.85	−7.88	−6.21
Cov: Group Intermediate Class, Working Class	7.22	7.19	7.19	5.32
Var: Residual	480.42	480.41	480.42	479.19

Note: Models include individual level controls centered within cluster (group mean). Standard errors in parentheses. $^{***}p < 0.001$; $^{**}p < 0.01$; $^{*}p < 0.05$; $^{+}p < 0.1$

Table S2: Multilevel models for Income inequality (Ratio 90/50), Network segregation and Redistributive Preferences

	Model 1	Model 2	Model 3	Model 4
Class-based network homogeneity (CWC)	−0.79 (1.05)	−0.77 (1.05)	−0.83 (1.05)	−6.82 (1.37)***
Social Class (Ref.= Service Class)				
Intermediate Class	1.53 (0.51)**	1.53 (0.51)**	1.52 (0.51)**	2.15 (0.52)***
Working Class	3.26 (0.76)***	3.23 (0.76)***	3.23 (0.76)***	3.38 (0.72)***
Macro-level factors				
Income inequality (Ratio 90/50)	0.09 (1.40)	−2.22 (1.71)	0.71 (2.12)	2.09 (2.28)
GDP/capita		−4.08 (1.87)*	−5.42 (1.83)**	−5.33 (1.85)**
Size of the welfare state			5.95 (2.18)**	4.60 (2.21)*
Homogeneity*Social Class				
Homogeneity*Intermediate Class				8.02 (1.65)***
Homogeneity*Working Class				10.09 (1.50)***
Homogeneity*Income Inequality				5.45 (1.38)***
Homogeneity * Social Class * Income Inequality				
Homogeneity*Intermediate Class*Income Inequality				−7.98 (1.75)***
Homogeneity*Working Class *Income Inequality				−6.63 (1.54)***
Controls	Yes	Yes	Yes	Yes
BIC	289374.67	289377.54	289380.96	289361.75
Num. obs.	31694	31694	31694	31694
Num. groups	31	31	31	31
Var: Group (Intercept)	87.61	77.43	89.82	79.07
Var: Group Homogeneity	20.26	20.67	20.63	17.54
Var: Group Intermediate Class	4.48	4.52	4.40	4.07
Var: Group Working Class	13.39	13.38	13.42	11.02
Cov: Group (Intercept), Homogeneity	12.94	11.08	16.67	9.41
Cov: Group (Intercept), Intermediate Class	−4.48	−4.87	−12.83	−8.00
Cov: Group (Intercept), Working Class	−14.69	−14.03	−21.92	−16.18
Cov: Group Homogeneity, Intermediate Class	−5.64	−5.54	−5.60	−4.53
Cov: Group Homogeneity, Working Class	−7.82	−7.88	−7.84	−5.25
Cov: Group Intermediate Class, Working Class	7.23	7.22	7.19	5.86
Var: Residual	480.42	480.41	480.42	479.35

Note: Models include individual level controls centered within cluster (group mean). Standard errors in parentheses. $^{***}p < 0.001$; $^{**}p < 0.01$; $^{*}p < 0.05$; $^{+}p < 0.1$

S2 Income inequality groups

Table S3: Fixed effects linear regression models for Class-based network segregation and Redistributive Preferences by Income Inequality Quintiles

	Q1		Q2		Q3		Q4		Q5	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
Class-based network homogeneity	−4.38**	−15.30***	−0.46	−11.32***	0.80	−7.01**	2.38*	4.37+	−1.96	−2.76
	(1.58)	(2.42)	(1.34)	(2.37)	(1.41)	(2.52)	(1.19)	(2.41)	(1.28)	(2.76)
Network size	−0.15	−0.09	−0.36**	−0.25*	−0.36**	−0.27*	−0.36***	−0.38***	−0.44***	−0.42***
	(0.12)	(0.12)	(0.11)	(0.12)	(0.13)	(0.13)	(0.10)	(0.11)	(0.12)	(0.12)
Social Class (Ref.= Service Class)										
Intermediate Class	2.85***	−2.42+	1.66*	−2.35+	0.39	−1.91	0.33	0.36	0.39	0.99
	(0.72)	(1.46)	(0.71)	(1.27)	(0.82)	(1.39)	(0.70)	(1.28)	(0.81)	(1.38)
Working Class	6.26***	−1.53	2.92***	−2.78+	3.63***	−0.69	1.77*	2.90*	1.31	0.42
	(0.86)	(1.73)	(0.83)	(1.44)	(0.92)	(1.51)	(0.74)	(1.17)	(0.87)	(1.37)
Year of Education	−0.24***	−0.20**	−0.16*	−0.12	−0.17	−0.13	−0.05	−0.06	−0.08	−0.07
	(0.07)	(0.07)	(0.08)	(0.08)	(0.12)	(0.12)	(0.08)	(0.08)	(0.07)	(0.07)
Household Income (Ref.= Tertile I)										
Income (T2)	−3.92***	−3.75***	−2.07**	−2.04**	−3.27***	−3.16***	−0.24	−0.23	−0.38	−0.36
	(0.82)	(0.81)	(0.74)	(0.74)	(0.84)	(0.84)	(0.76)	(0.76)	(0.88)	(0.88)
Income (T3)	−7.78***	−7.42***	−4.29***	−3.94***	−7.46***	−7.15***	−1.24	−1.29+	−1.97*	−1.93*
	(0.85)	(0.85)	(0.78)	(0.78)	(0.86)	(0.86)	(0.77)	(0.77)	(0.91)	(0.91)
Income (No information)	−3.48***	−3.19***	−3.27***	−3.14***	−4.92***	−4.71***	−2.83**	−2.87**	−4.89***	−4.87***
	(0.86)	(0.86)	(0.79)	(0.79)	(1.00)	(1.01)	(0.88)	(0.88)	(0.89)	(0.89)
Not in paid work (Ref. = In paid work)	0.18	0.08	−0.28	−0.42	−0.92	−0.81	0.39	0.35	−0.12	−0.10
	(0.72)	(0.72)	(0.73)	(0.72)	(0.80)	(0.80)	(0.61)	(0.61)	(0.72)	(0.72)
Homogeneity x Social Class										
Homogeneity*Intermediate Class		17.31***		15.16***		9.46**		−0.73		−1.53
		(3.94)		(3.55)		(3.67)		(3.53)		(3.79)
Homogeneity*Working Class		20.63***		16.74***		13.15***		−3.47		2.21
		(3.75)		(3.21)		(3.44)		(2.95)		(3.33)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.08	0.09	0.10	0.11	0.20	0.20	0.25	0.25	0.04	0.04
Adj. R^2	0.08	0.09	0.10	0.10	0.20	0.20	0.25	0.25	0.04	0.04
Num. obs.	6569	6569	7061	7061	5457	5457	7021	7021	5586	5586

Note: Gender, age and marital status are included as controls. Standard errors in parentheses. $^{***}p < 0.001$; $^{**}p < 0.01$; $^{*}p < 0.05$; $^{+}p < 0.1$

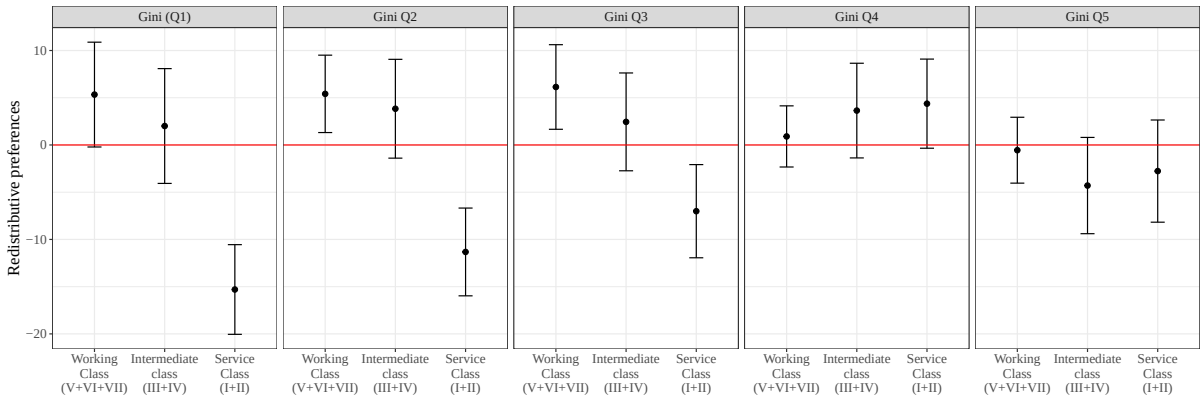

Figure S1: Average Marginal Effects of Network homogeneity conditioned by Social class on Redistributive Preferences by Income Inequality Groups

S3 Influential case analysis

Several robustness checks were consistent with our main results. First, a (delete-one) jackknife procedure indicated that estimations for the segregation hypothesis are robust to outliers. Additonaly, Using DFbetas and Cook distance, there are influential cases. Subsequently I see that in some cases the value is altered, but these changes are not significant. Second, repeating the procedure with the models, including the cross-level interaction for the mitigation hypothesis, leads to relatively same results.

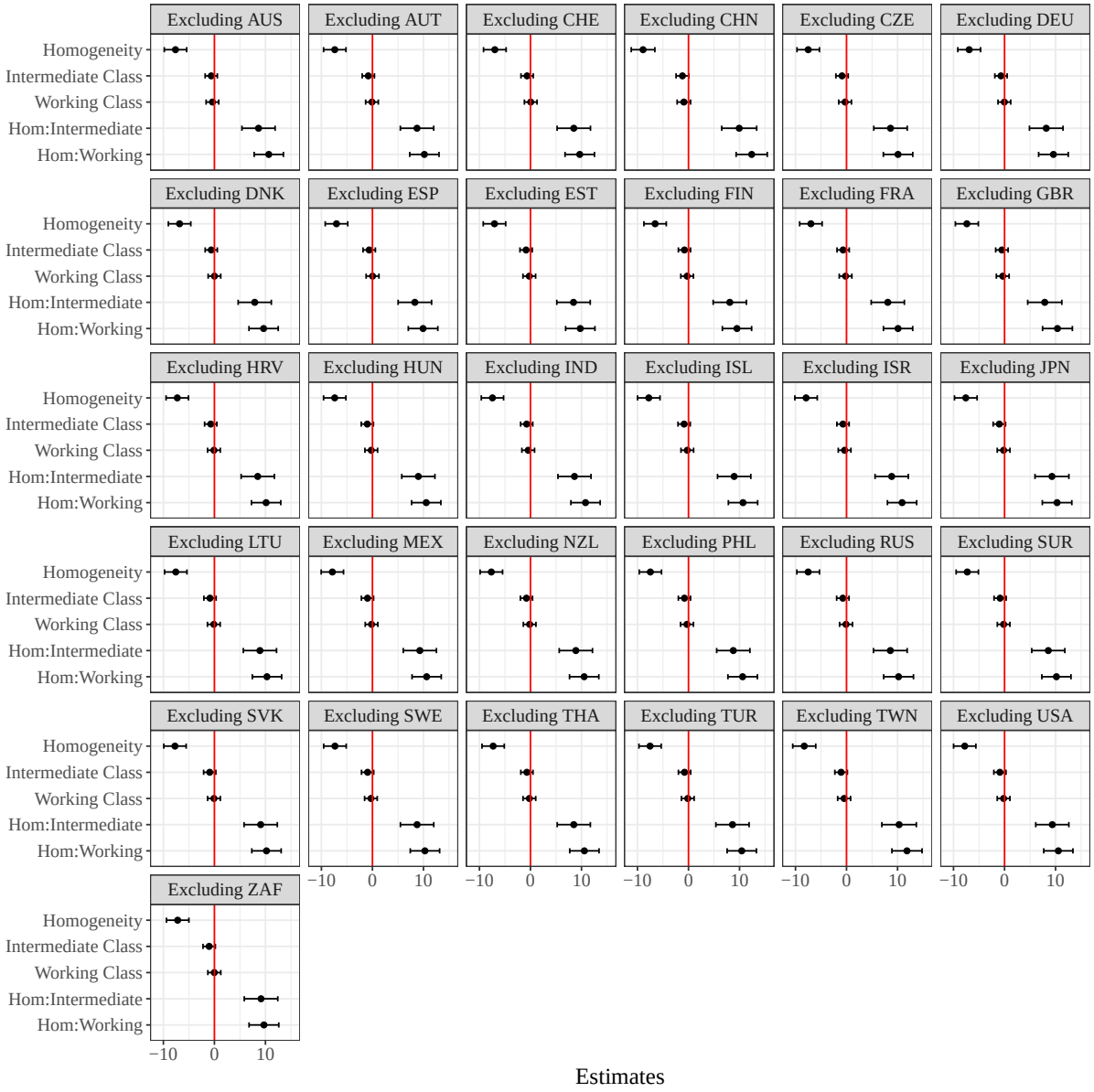

Figure S2: Interaction of network homogeneity and social class on redistributive preferences. Excluding countries one by one.

S4 Network homogeneity by ISEI

First, the average scores of the International Socio-Economic Index of Occupational Status (ISEI) (Ganzeboom, 2010) for each occupation of the position generator are calculated. Second, the ISEI score of the respondent (R's) is subtracted from the average ISEI points of the personal network. For example, if the R's has an ISEI of 80 and the network ISEI is 50, the social distance will be 30 (80 - 50), a "upward" social distance. Another case could be 50 (R's) minus 80 (network), and the average social distance will be - 30 or "downward" social distance. In addition, when the distance is 0, the network is entirely homogeneous.

To facilitate the interpretation of the indicator, the homogeneity indicator based on social distance is calculated:

1. The absolute values are calculated to represent the total distance to occupations concerning R's ISEI score.
2. Since there are values of 0 representing absolute homogeneity, the variable is rescaled by summing 1.
3. The values were inverted to make higher values represent higher homogeneity.

Thus, higher values represent greater homogeneity regarding R's ISEI score in contrast to the average network ISEI score.

Table S4: Multilevel models for ISEI-based network homogeneity and Redistributive Preferences

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
ISEI-based network homogeneity/10	-0.12	-0.12	0.15	0.15	0.15	2.40^{***}
	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)	(0.28)
Network size		-0.46^{***}	-0.34^{***}	-0.30^{***}	-0.30^{***}	-0.25^{***}
		(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
ISEI/10			-0.98^{***}	-0.72^{***}	-0.72^{***}	1.89^{***}
			(0.06)	(0.07)	(0.07)	(0.30)
Year of Education				-0.07^{+}	-0.07^{+}	-0.06^{+}
				(0.04)	(0.04)	(0.04)
Income (T2)				-2.04^{***}	-2.04^{***}	-2.03^{***}
				(0.36)	(0.36)	(0.36)
Income (T3)				-4.29^{***}	-4.29^{***}	-4.14^{***}
				(0.37)	(0.37)	(0.37)
Income (No information)				-3.81^{***}	-3.81^{***}	-3.75^{***}
				(0.39)	(0.39)	(0.39)
Not in paid work (Ref. = In paid work)				-0.20	-0.20	-0.21
				(0.31)	(0.31)	(0.31)
Homogeneity*ISEI						-0.52^{***}
						(0.06)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
BIC	289735.27	289668.31	289436.89	289325.86	289325.86	289262.35
Num. obs.	31693	31693	31693	31693	31693	31693
Num. groups	31	31	31	31	31	31
Var: Country (Intercept)	79.18	80.58	75.63	78.54	78.54	76.87
Var: Residual	490.08	488.83	485.10	482.57	482.57	481.41

Note: Gender, age, marital status and religion are included as controls. Standard errors in parentheses. $^{***}p < 0.001$; $^{**}p < 0.01$; $^{*}p < 0.05$; $^{+}p < 0.1$

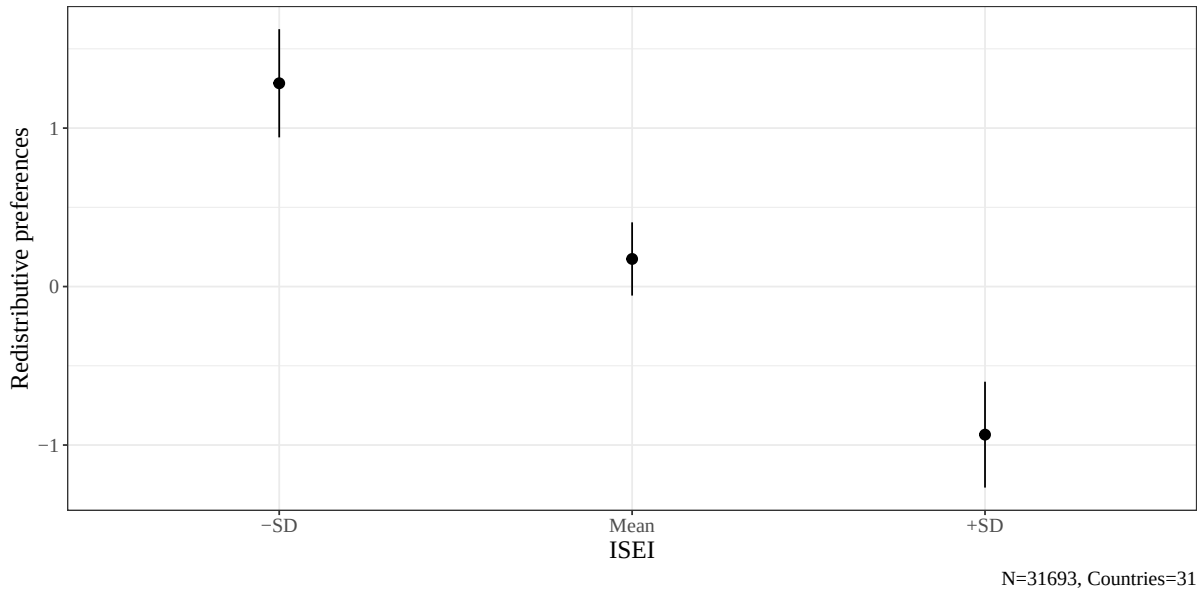

Figure S3: Average Marginal Effects of ISEI-based network homogeneity conditioned by ISEI on Redistributive Preferences

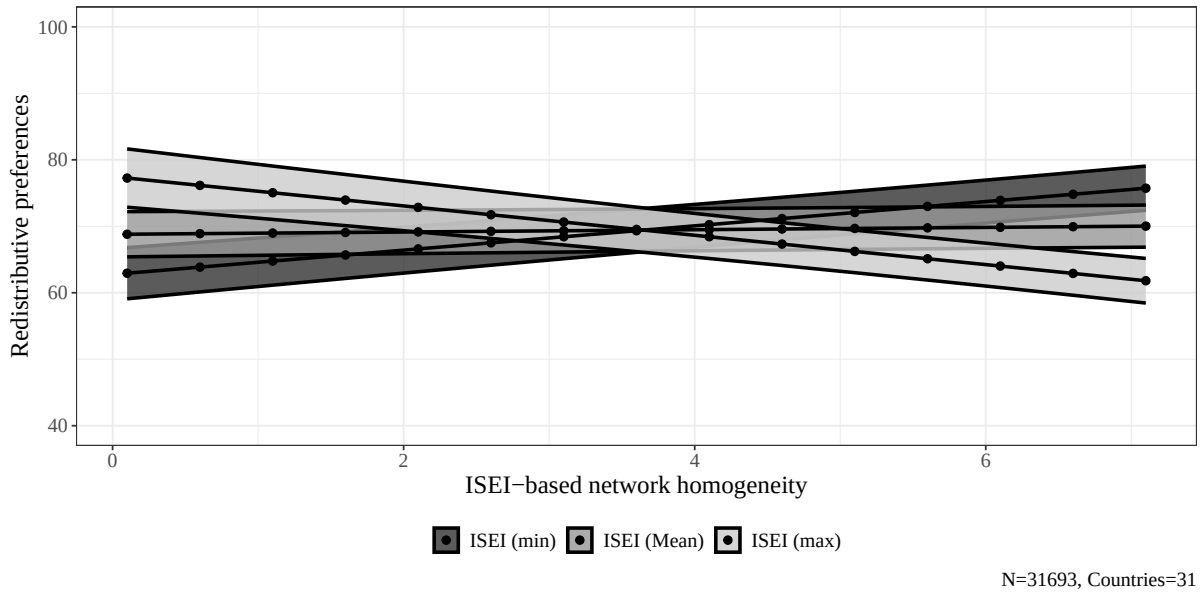

Figure S4: Linear Predictions for ISEI-based network homogeneity on Redistributive Preferences by ISEI

Table S5: Multilevel models for Income Inequality, Network homogeneity and Redistributive Preferences

	Model 1	Model 2	Model 3	Model 4
ISEI-based network homogeneity (CWC)	0.08 (0.19)	0.07 (0.20)	0.07 (0.20)	0.11 (0.21)
ISEI	−0.70 (0.17)***	−0.70 (0.17)***	−0.70 (0.17)***	−0.93 (0.16)***
Income inequality (Gini index)	−0.41 (1.35)	−2.23 (1.86)	2.39 (2.92)	4.83 (2.96)
GDP/capita		−2.94 (1.92)	−2.93 (1.81)	−2.65 (1.77)
Size of the welfare state			5.80 (2.54)*	5.75 (2.48)*
Homogeneity*ISEI				−0.43 (0.06)***
Homogeneity*Income Inequality				0.31 (0.21)
ISEI*Inequality				0.56 (0.15)***
Homogeneity*Working Class*Income Inequality				0.28 (0.06)***
Controls	Yes	Yes	Yes	Yes
BIC	289249.24	289254.51	289256.96	289229.45
Num. obs.	31693	31693	31693	31693
Num. groups	31	31	31	31
Var: Group (Intercept)	81.91	73.16	72.28	67.44
Var: Group Homogeneity	0.70	0.71	0.72	0.86
Var: Group ISEI	0.67	0.67	0.67	0.54
Cov: Group (Intercept), Homogeneity	5.33	4.48	4.47	4.58
Cov: Group (Intercept), ISEI	1.10	1.22	2.36	1.42
Cov: Group Homogeneity, ISEI	0.04	0.03	0.03	−0.11
Var: Residual	479.38	479.38	479.38	478.29

Note: Models include individual level controls centered within cluster (group mean). Standard errors in parentheses. $^{***}p < 0.001$; $^{**}p < 0.01$; $^{*}p < 0.05$; $^{+}p < 0.1$

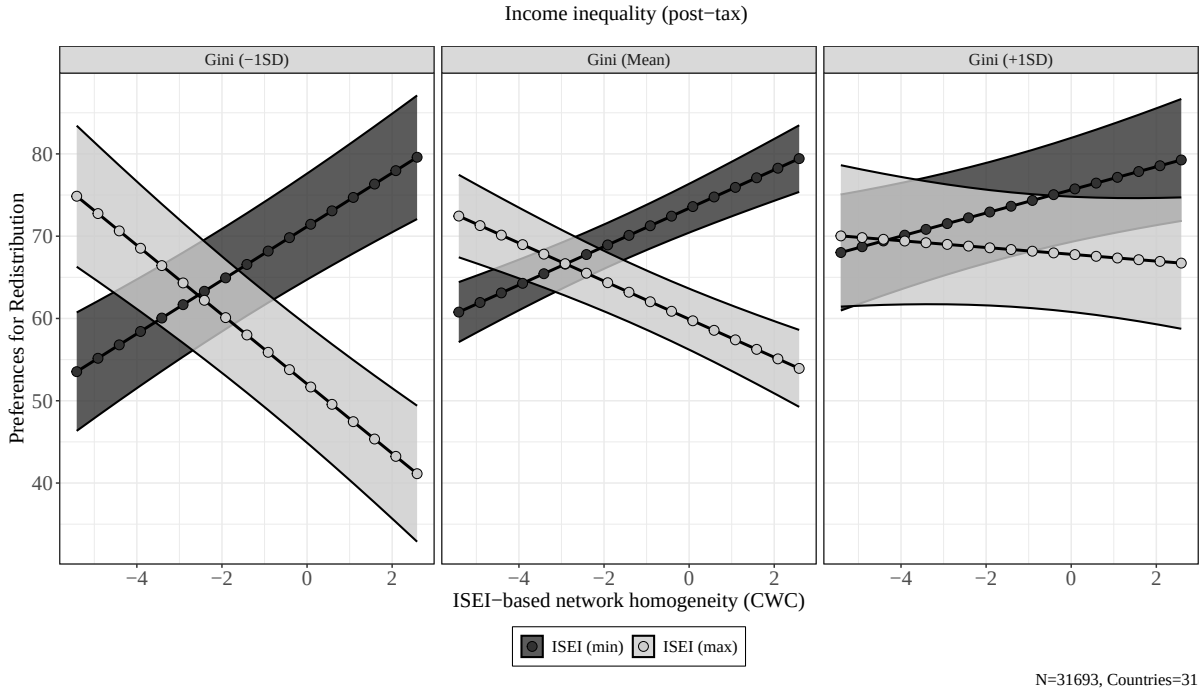

Figure S5: Three-way interaccion effects for Redistributive Preferences, ISEI-based network homogeneity, ISEI and Income Inequality

References

Ganzeboom, H. B. (2010). A new international socio-economic index (ISEI) of occupational status for the international standard classification of occupation 2008 (ISCO-08) constructed with data from the ISSP 2002–2007. In *Annual Conference of International Social Survey Programm* (Vol. 1). Lisbon.