

VALIDATION OF MEASUREMENT INSTRUMENTS

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Basic social justice orientations—measuring order-related justice in the European Social Survey Round 9

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Abstract

Individuals hold normative ideas about the just distribution of goods and burdens within a social aggregate. These normative ideas guide the evaluation of existing inequalities and refer to four basic principles: (1) *Equality* stands for an equal distribution of rewards and burdens. While the principle of (2) *need* takes individual contributions into account, (3) *equity* suggests a distribution based on merit. The (4) *entitlement* principle suggests that ascribed (e.g., gender) and achieved status characteristics (e.g., occupational prestige) should determine the distribution of goods and burdens. Past research has argued that preferences for these principles vary with social position as well as the social structure of a society. The Basic Social Justice Orientations (BSJO) scale was developed to assess agreement with the four justice principles but so far has only been fielded in Germany. Round 9 of the European Social Survey (ESS R9 with data collected in 2018/2019) is the first time; four items of the BSJO scale (1 item per justice principle) were included in a cross-national survey program, offering the unique opportunity to study both within and between country variation. To facilitate substantive research on preference for equality, equity, need, and entitlement, this report provides evidence on measurement quality in 29 European countries from ESS R9. Analyzing response distributions, non-response, reliability, and associations with related variables, we find supportive evidence that the four items of the BSJO scale included in ESS R9 produce low non-response rates, estimate agreement with the four distributive principles reliably, and follow expected correlations with related concepts. Researchers should, however, remember that the BSJO scale, as implemented in the ESS R9, only provides manifest indicators, which therefore may not cover the full spectrum of the underlying distributive principles but focus on specific elements of it.

Keywords: Order-related justice, Basic social justice orientations, Measurement quality, European Social Survey

Introduction

European societies are faced with growing inequalities (e.g., Cingano 2014; Grabka and Frick 2008; OECD 2015). While there seems to be a shared understanding that extreme levels of inequality lead to negative societal outcomes (Neckerman and Torche (2007)), this does not necessarily imply that adhering to strict equality is a

strong consensus. Indeed, individuals' views on the distribution of goods and burdens are more complex. Among others, the legitimacy of inequality is judged by the extent to which it corresponds to normative expectations individuals hold regarding the principles that should guide a just distribution. Justice theory has identified four such distributive principles, i.e., equality, need, equity¹, and entitlement. The evaluation of existing inequalities

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¹ We follow the terminology of Hülle et al. (2018) referring to the four principles as equality, need, equity, and entitlement. Other research, however, sometimes uses “equity” as a synonym of justice rather than to refer to the particular justice norm described here. The equity norm is sometimes also referred to as “merit.”



as legitimate by citizens is crucial. Indeed, it posits the link between the level of inequality and its speculated societal- and individual-level consequences as only inequalities that are evaluated as illegitimate are suggested to erode social cohesion and trust (e.g., Liebig and Sauer 2016). Thus, it is essential to have relevant measurement tools to investigate which justice principles are used when judging distributions as just or unjust. Addressing this need, Hülle et al. (2018) developed the Basic Social Justice Orientations Scale (BSJO) to capture individuals' agreement with each of the four principles and implemented the scale in the German research context. They showed that preference for equity, equality, need, and entitlement varies between individuals. Substantial variation, however, is also expected between societies as normative distributive preferences are speculated to vary with the basic structure of a society (Arts and Gelissen 2001; Miller 2001). Inclusion of BSJO items in Round 9 of the European Social Survey (ESS R9) as part of the rotating module "Justice and Fairness in Europe" (Adriaans et al. 2020) offers a unique opportunity to study both within and between country variation simultaneously. As the ESS R9 marks the first time, the BSJO scale has been fielded in a cross-country setting, investigation into its measurement quality is warranted. To assess measurement quality, we study non-response patterns, compare findings from ESS with findings from the Cross National Online Survey (CRONOS), and report correlations with socio-demographic characteristics at the individual-level, country-level characteristics, and with related attitudes on inequality and justice. Following an introduction to order-related justice attitudes and the four basic social justice principles, we describe the data, variables, and methods used in this report. After presenting results, we provide a summary and discussion of our findings and derive recommendations for researchers interested in using the four BSJO items in their research.

Order-related justice

Distributive justice is concerned with the allocation of rewards and burdens. Within distributive justice, two types of attitudes may be distinguished. Outcome-related justice evaluations refer to individuals' evaluation of the result of a distribution process, i.e., an evaluation of what is. Order-related justice, on the other hand, refers to ideas about what a just distribution of rewards and burdens should look like within a social aggregate, i.e., what ought to be (Liebig and Sauer 2016). The latter is the focus of this paper. More precisely, the focus is on the norms and principles according to which goods (e.g., wealth) and burdens (e.g., taxes) should be distributed within a society.

While closely related to ideas of inequality and redistribution, the order-related justice principles transcend the

dichotomy of equality/inequality. Scholars of justice came to understand justice as a multi-faceted concept and they identified four distinct distributive principles that individuals refer to when evaluating distributions. Equity theory (Adams 1963) stated that justice was assessed through proportionality, or more precisely, on the grounds of proportionality of individual contributions and rewards received in return relative to other's contributions and rewards. Other justice principles were later identified—equality, need, and entitlement (Deutsch 1975; Hülle et al. 2018; Miller 1979, 2001)—and allowed to examine the plurality of attitudes toward distributive justice. These four principles can be defined and distinguished as follows: (i) Equality stands for an equal distribution of rewards and burdens irrespective of individual characteristics and contributions. (ii) Equity suggests a distribution based on merit through the basis of proportionality between individual inputs and involvement on one side and the profits to be enjoyed on the other. (iii) The principle of need calls for a distribution that takes individual basic needs into account, while (iv) the entitlement principle² suggests that ascribed (e.g., gender) and achieved status characteristics (e.g., occupational prestige) should determine the distribution of goods and burdens (Deutsch 1975; Hülle et al. 2018; Miller 2001). It ought to be underlined that these four principles are not mutually exclusive (Van Hootegeem et al. 2020). One can, for instance, be in favor of equity and need as enshrined in the "Boulding principle" (Boulding 1962; Traub et al. 2005).

While individuals within a society differ in their agreement with the four principles (e.g., Hülle et al. 2018), what is regarded as just can also vary with the structure of a society (Miller 1979). As argued by Wegener and Liebig (1995), different systems can produce different attitudes towards distributive justice. In addition to structural society-level characteristics, one's own position in this society and prior experience of justice and injustice, can also shape perceptions of justice. This is what Wegener and Liebig (1995) distinguished as normative and rational argumentation. Normative argumentation indicates that "different societies have different dominant justice norms" (Wegener and Liebig 1995) and rational argumentation states that the rational interest of individuals with respect to their own social position may influence their views on distributive justice³. In line with

² Both in theoretical and empirical work, equality, equity, and need are identified and studied as guiding distributive justice principles (Deutsch 1975; Jasso et al. 2016), but there is less agreement regarding the entitlement principle as a distinct distributive principle as suggested by Hülle et al. (2018). Further theoretical thought is warranted to assess the role of entitlement as a basic social justice orientation.

³ In the literature on welfare state attitudes, similar arguments are sometimes referred to as explanations based on ideology and self-interest, respectively (Van Hootegeem et al. 2020).

Table 1 English question wording of BSJO

Item	Wording
Introduction	There are many different views as to what makes a society fair or unfair.
Equality	A society is fair when income and wealth are equally distributed among all people.
Need	A society is fair when it takes care of those who are poor and in need regardless of what they give back to society.
Equity	A society is fair when hard-working people earn more than others.
Entitlement	A society is fair when people from families with high social status enjoy privileges in their lives.

Notes: All items of the BSJO scale use the following 5-point response scale: 1 "Agree completely," 2 "Agree," 3 "Neither agree nor disagree," 4 "Disagree," and 5 "Disagree completely". For the purpose of this report, the response scale is inverted so that higher values correspond to stronger agreement

this theoretical perspective on individual and country-level correlates of order-related justice attitudes, the aim of the BSJO scale is to identify preference for the four distributive principles within and between countries.

The Basic Social Justice Orientations Scale (BSJO)

The Basic Social Justice Orientation Scale (BSJO) (Hülle et al. 2018) was developed to measure people's agreement with the four principles: equality, equity, need, entitlement. The original 12-item scale (as well as the 8-Item short scale) was developed and validated in the German context and has been fielded in a number of studies representatives of the German population (e.g., SOEP-IS, ALLBUS, LINOS). For the ESS Round 9 rotating module "Justice and Fairness in Europe," a 4-item version of the BSJO scale was developed, including small adjustments to original question wording. Accordingly, each item serves as a manifest indicator of one justice principle. Table 1 reports the final question wording for all four items provided in the ESS source questionnaire which serves as the basis for translation into all languages used in the ESS data collection⁴.

The ESS R9 offers the first cross-country data source to study agreement with the four distributive principles equality, equity, need, and entitlement. To facilitate substantive research on the four principles, we address concerns of measurement quality in this report. In doing so, we acknowledge that using single-item indicators to represent complex latent concepts—while often necessary in large-scale survey programs—suffers from methodological shortcomings (Rammstedt and Beierlein 2014; Van

Hootegem et al. 2021). With respect to the basic social justice orientations, shortcomings introduced by the one item per dimension operationalization implemented in the ESS R9, may be especially problematic given recent evidence from Germany and Belgium. Van Hootegem et al. (2021) highlight discrepancies between the single-item measures (as used in ESS R9) and the latent operationalization of the four principles as proposed by Hülle et al. (2018). In relying on the four single-item measures to capture respondents' attitudes about basic social justice orientations, particular attention should thus be given to concrete item formulations and their overlap with the underlying theoretical concept. Differences between single-item measures included in the ESS R9 and the underlying theoretical concept of order-related justice, for example, include that the latter deals with the allocation of goods and burdens more generally, while the four items of the BSJO are only concerned with the allocation of goods and privileges. Even more specifically, the items measuring equality and equity limit their focus on the concept of income (or income and wealth in case of the equality item). This focus on income and wealth may affect how positively or negatively respondents' evaluate the four principles. This is particularly relevant considering that preference for distributive principles may differ depending on which resource (or burden) is being distributed and between whom (Konow 2003; Van Hootegem et al. 2020). Accordingly, the specific wording of each of the four BSJO items should be taken into consideration, both in interpreting our findings as well in using the four BSJO items in subsequent research.

Methods

Data

For our main analyses, we rely on data from ESS Round 9 fielded in 2018/2019 covering 29 European countries (ESS Round 9: European Social Survey Round 9 Data 2018). The ESS is a cross-sectional face-to-face survey conducted every 2 years in Europe. Country samples are representative of all individuals aged 15 and over that are

⁴ The ESS places a strong focus on cross-cultural questionnaire development, i.e., during the development process, experts from all ESS languages and cultural contexts are regularly consulted, and both quantitative and qualitative pre-testing is conducted in multiple language-country contexts. The questionnaire development process - including selection of and changes to the BSJO items - is documented in the module design documents available from www.europeansocialsurvey.org. Moreover, translation procedures followed the TRAPD protocol developed for cross-cultural survey research (Harkness 2003).

resident within private households. The survey is composed of a fixed core program and rotating modules. R9 features questions on distributive and procedural justice that are part of the newly developed rotating questionnaire module “Justice and Fairness in Europe.” The four items of the BSJO scale, intended to measure preference for the four distributive principles equality, equity, need, and entitlement, were fielded among all respondents. Accordingly, our analyses rely on 49,519 observations with country samples ranging between 861 respondents in Iceland and 2,745 respondents in Italy. We complement our analyses with data from the Cross National Online Survey (CRONOS), which featured select questions of the “Justice and Fairness” module later fielded in ESS R9 (CROSS-National Online Survey panel 2018). CRONOS is an online survey conducted among respondents of ESS R8 in Great Britain, Slovenia, and Estonia. CRONOS is a panel study re-interviewing respondents in six different waves of the survey from 12/2016 to 02/2018 (Villar et al. 2018). For the purpose of this report, we use information from Wave 3 and Wave 6. Country-level analyses rely on information on country-level unemployment in 2018 sourced from Eurostat, available in the multi-level data set provided by the ESS (Version 1.0).

Variables

BSJO The focal variables of this report are the four distributive justice principles equality, need, equity, and entitlement measured by the four items displayed in Table 1. All items were translated using the TRAPD protocol. Respondents were asked to state their agreement/disagreement with each of the four statements on a 5-point response scale, labeled 1 “Agree strongly,” 2 “Agree,” 3 “Neither agree nor disagree,” 4 “Disagree,” and 5 “Disagree strongly.” To ease reading of results, we inverted the response coding for the purpose of this report. In the following, the higher the score the stronger the agreement with a justice principle.

Socio demographics Following the notion that preferences for distributive principles reflect positional effects, i.e., that they are shaped by one’s own position in society, we study the association of age, gender, years spent in full-time education, household income, employment status, and perceiving oneself to belong to a discriminated group with the preference for order-related justice principles. Household income refers to household net income and allowed respondents to place themselves in 1 of 10 income bands reflecting country-specific income deciles. Information on employment status corresponds to the main activity the interviewee has been doing for the last 7 days and indicates if a respondent is in paid work or

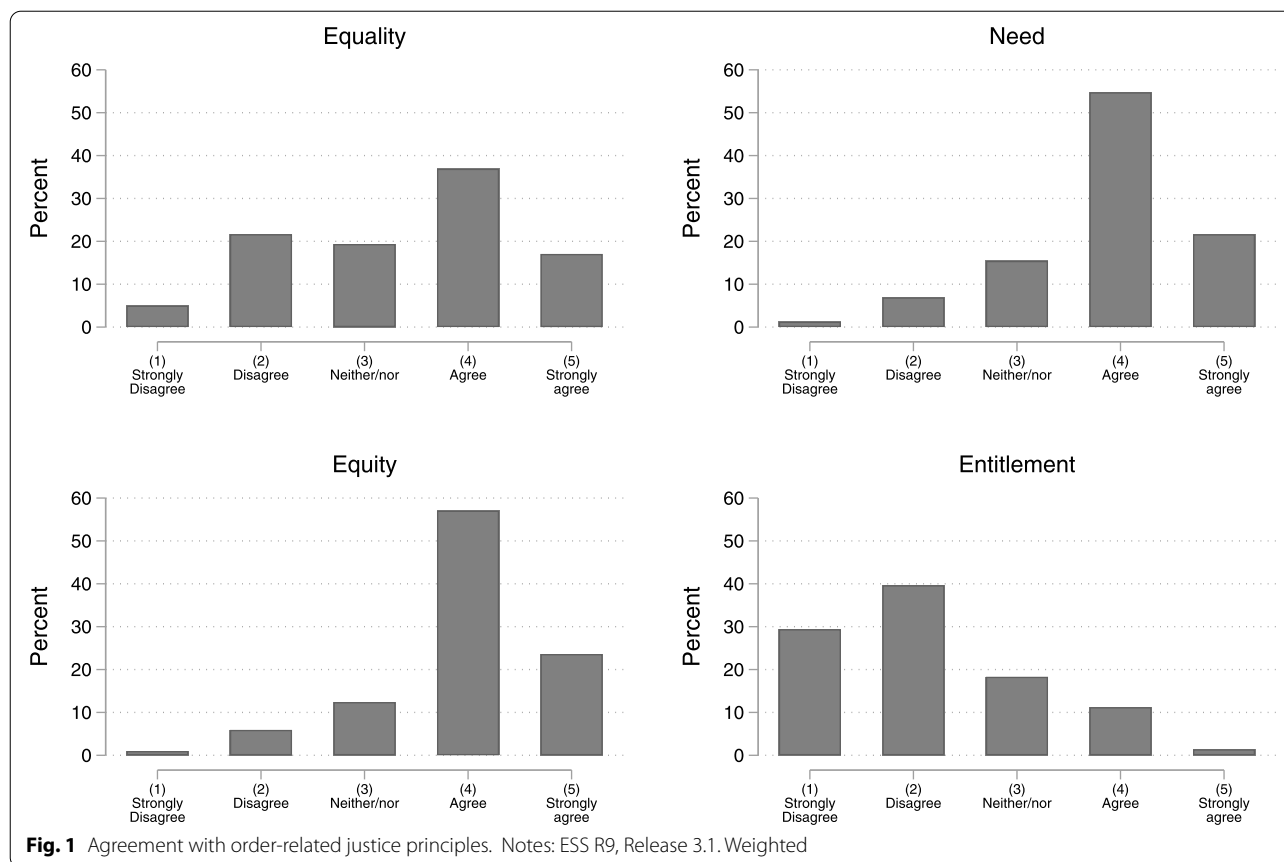
not. Respondents further stated if they belonged to a discriminated group.

Attitudes towards inequality and political attitudes Moreover, the following attitudinal measures were used to assess if normative preferences indeed map onto corresponding attitudes towards income inequality, redistribution, and political preferences, underlining concurrent validity of the four justice principles. Respondents evaluated the fairness of very high and very low incomes within their country. The question provided information on actual income levels in decile 10 and decile 1 in a country’s income distribution and used a 9-point response scale ranging from – 4 “extremely unfair, unfairly low incomes” to 4 “extremely unfairly, unfairly high incomes,” with 0 labeled as “fair incomes”⁵. Respondents also reported their agreement with the following statement serving as a measure of preference for redistribution: “The government should take measures to reduce differences in income levels,” where 1 refers to “Disagree strongly” and 5 refers to “Agree strongly.” Interviewees further reported their political orientation on a left-right scale, where 0 was labeled “left” and 10 was labeled “right.”

Analytical strategy

The aim of this report is to provide evidence on the measurement quality of the four items intended to measure agreement with the four distributive principles equity, equality, need, and entitlement. We, first, study the response distribution and then report item non-response as an indicator of measurement quality. Drawing on recent CRONOS data we investigate to what extent the four BSJO items are able to reliably assess individual-level and country-level support for the four principles. We then report associations with related variables spanning socio-demographic characteristics, attitudes on redistribution and income inequality, and the country context. Correlations with related variables are reported for the total population but country patterns are provided in the Appendix. Analyses are conducted in Stata 17 and employ the analytical weights (*anweight*) provided in the ESS data (Kaminska 2020).

⁵ These questions were part of the “Justice and Fairness” module as well and read: “Think about the top 10% of employees working full-time in your country, earning more than [amount per month or per year]. In your opinion, are these incomes unfairly low, fair, or unfairly high?” and “Think about the bottom 10% of employees working full-time in your country, earning less than [amount per month or per year]. In your opinion, are these incomes unfairly low, fair, or unfairly high?”



Results and discussion

Response distribution

Figure 1 displays the response distribution for the four distributive principles across the entire sample of 29 European countries⁶. On average, agreement is highest for the equity item with an overall mean of 3.96 (ranging between 3.79 in Finland and 4.27 in Austria) and the need item with an overall mean of 3.89 (ranging between 3.35 in the Czech Republic and 4.10 in Austria). On average, respondents in the 29 European countries disagree with the entitlement item with an overall mean of 2.16 (ranging between 1.84 in Iceland and 2.89 in Slovakia). Agreement is mixed for the equality item, with country averages ranging between 2.62 in Norway and 3.93 in Italy and an overall mean of 3.39. This greater between-country variation on the equality item is reflected in the highest intraclass correlation (ICC) of 0.11 compared to low between-country variance on the equity item (0.02) and moderate between-country variance on need (0.05),

and entitlement (0.08). In line with this observation, within-country variance is generally lowest for the highly supported equity item and the need item as indicated by low standard deviations and left-skewed distributions (see Figures A1-A4 and Table A1). Generally, these summary statistics suggest that there seems to be a consensus within and between European societies that equity and need are guiding principles for a just society, while there is less agreement with regard to the principles of equality and entitlement.

Item non-response

A high share of non-response can indicate substantial problems on the side of respondents in understanding and/or responding to a survey question and may introduce bias in subsequent analyses. Therefore, we investigate the share of missing values due to item non-response across all four items in all 29 countries. For the total sample, non-response rates are low and range between 1.7% for the equity item and 3.0% for the entitlement item. A closer look at non-response rates on the country level (see Appendix Table A1) reveals that in the great majority of countries non-response levels are below 5% for all items. Entitlement is the item with the highest share of

⁶ Figures A1 through A4 in the Appendix show the response distribution by country. Table A1 shows means, standard deviations, and non-response by country.

Table 2 Reliability of agreement with order-related justice principles in Estonia, Great Britain, and Slovenia

		Equality	Need	Equity	Entitlement
EE	ESS R9 (Mean)	2.67	3.77	4.07	2.64
	CRONOS W3 (Mean)	2.59	3.64	4.21	2.31
	CRONOS W6 (Mean)	2.54	3.53	4.11	2.42
	Test-retest reliability W3,W6 (ICC)	0.51	0.44	0.35	0.42
	Exact match, full scale, W3,W6 (in percent)	49.25	49.81	56.34	46.46
	Exact match, 3 categories, W3,W6 (in percent)	61.61	61.75	82.28	60.82
GB	ESS R9 (Mean)	3.17	3.77	3.81	2.46
	CRONOS W3 (Mean)	2.99	3.68	3.88	2.36
	CRONOS W6 (Mean)	2.92	3.66	3.81	2.24
	Test-retest reliability W3,W6 (ICC)	0.65	0.46	0.45	0.48
	Exact match, full scale, W3,W6 (in percent)	51.56	52.53	55.84	49.90
	Exact match, 3 categories, W3,W6 (in percent)	66.93	67.12	73.54	65.69
SI	ESS R9 (Mean)	3.73	4.01	4.04	2.11
	CRONOS W3 (Mean)	3.66	3.78	4.08	1.80
	CRONOS W6 (Mean)	3.56	3.56	3.90	1.86
	Test-retest reliability W3,W6 (ICC)	0.38	0.47	0.32	0.43
	Exact match, full scale, W3,W6 (in percent)	45.10	47.36	52.55	54.88
	Exact match, 3 categories, W3,W6 (in percent)	60.00	61.84	74.12	79.49

Notes: Authors' calculations based on ESS Round 9, Release 3.1 and CRONOS Wave 3 and Wave 6

non-response in most countries. Bulgaria shows the highest shares of missing values on all four items, with non-response reaching up to 17.8% for the entitlement item, casting severe concern about the measurement quality of the distributive justice principles in Bulgaria.

Reliability

The four BSJO items were fielded twice in the CRONOS panel among the same set of respondents. Respondents from Estonia, Great Britain, and Slovenia first answered these questions in CRONOS Wave 3 (fielded June–August 2017) and then again as part of Wave 6 (fielded January–February 2018), allowing to assess reliability of the four BSJO items⁷. Table 2 reports average agreement with the four order-related justice principles in ESS R9 and the CRONOS panel. Comparing the average agreement across CRONOS and ESS R9 for Estonia, Great Britain, and Slovenia, we find that, on the country level, agreement is largely consistent across time points and studies. In particular, the order of preference for each principle remains stable across studies and measurement time points. The panel data structure of the CRONOS

study further allows investigating within-person stability. Estimating intraclass correlations (ICC)⁸ (Koo and Li 2016) as a measure of test-retest reliability, we observe ICCs ranging from 0.32 to 0.65. Compared to reliability standards recommended for measures used in diagnostics (Koo and Li 2016), these values indicate low test-retest reliability. However, keeping in mind that, first, the time-span between repeated measures was quite long, and that, second, not much is known about the stability of distributive preferences, and, third, that low ICC values may be the result of low variance in underlying values and a low number of measurement time points (Koo and Li 2016), we may not compare the observed test-retest reliability to quality thresholds commonly used in the diagnostics literature but rather compare ICC across countries and items (also see Berchtold 2016). In doing so, we find the test-retest reliability for the equality item to be slightly lower in Slovenia compared to Great Britain and Estonia. Across countries, test-retest reliability is highest for the need and entitlement principles and lowest for the equity item.

⁷ While question wording and response format were identical in both waves, the four items were fielded as part of a battery of a total of eight items measuring distributive justice preference in Wave 3. CRONOS is conducted as a self-administered online survey. Data collection thus differs substantially from the face-to-face fieldwork conducted as part of ESS Round 9.

⁸ Above we reported ICC as a measure of between-country variance in agreement with the four BSJO items derived from multi-level models where individuals are clustered in countries. In this case, we calculate the ICC based on models where individuals are clustered in two measurement points. In the latter case, ICC is, therefore, a measure of within-person stability (Koo and Li 2016)

The share of cases in percent, where responses in Wave 3 and Wave 6 of CRONOS matched perfectly, also reported in Table 2, further underlines this conclusion. Among the four BSJO items, the share of perfectly matched responses is highest for the equity item in Estonia and Britain, and second-highest in Slovenia. After recoding information from the 5-point response scale into three categories that only differentiate between “Agreement,” “Neither/nor,” and “Disagreement,” the share of consistent responses ranges between 60 and 82%. This underscores that the four BSJO items allow to reliably identify individuals who agree or disagree with each principle but may be less reliable in assessing the degree of (dis)agreement.

Future research should address the question of stability of distributive preferences—in perhaps long-spanning panel data—more thoroughly. Recent inclusion of items measuring attitudes towards the four distributive principles in the Socio-Economic Panel study in Germany will facilitate this type of research (Adriaans et al. 2021).

Correlations with related variables

We provide evidence on construct validity of the four BSJO items by means of studying correlations with related concepts. As findings on the social distribution of normative justice principles are scarce, we link our findings to the existing literature on the preference for redistribution. Generally speaking, equality and need may be thought of mechanisms reducing inequality and equity and entitlement as principles that legitimize inequality (Hülle et al. 2018).

Socio-demographics Table 3 shows correlations between socio-demographic characteristics and the four items in the pooled sample. Correlations by country are presented in the Appendix (Table A2). Figure 2 further plots average agreement with the four items by gender, membership in a discriminated group, and employment status⁹. In the pooled sample, we observe small positive correlations of equality and need with age, i.e., older respondents tend to show higher agreement with these principles and lower agreement with the entitlement item. Contrary to these patterns Hülle et al. (2018) report that in Germany agreement with the need principle is highest among young respondents and Olivera (2015) reports that, after controlling for cohort effects, younger individuals are more in favor of redistribution. Forsé and Parodi (2009), however, report only small differences by

Table 3 Correlation of agreement with order-related justice principles with age, education, and household income

	Equality	Need	Equity	Entitlement
Age	0.06***	0.05***	0.02***	− 0.05***
Education	− 0.19***	0.01**	− 0.01**	− 0.03***
HH net income	− 0.20***	− 0.02***	0.01	− 0.01**

Notes: Authors' calculations based on ESS Round 9, Release 3.1. Spearman rank-order correlation. *P*-values are reported using stars. Specifically, ***, **, and * indicate that the associated coefficient is statically significant at the 1%, 5%, and 10% level, respectively

age group with older respondents reporting stronger agreement with equality and equity.

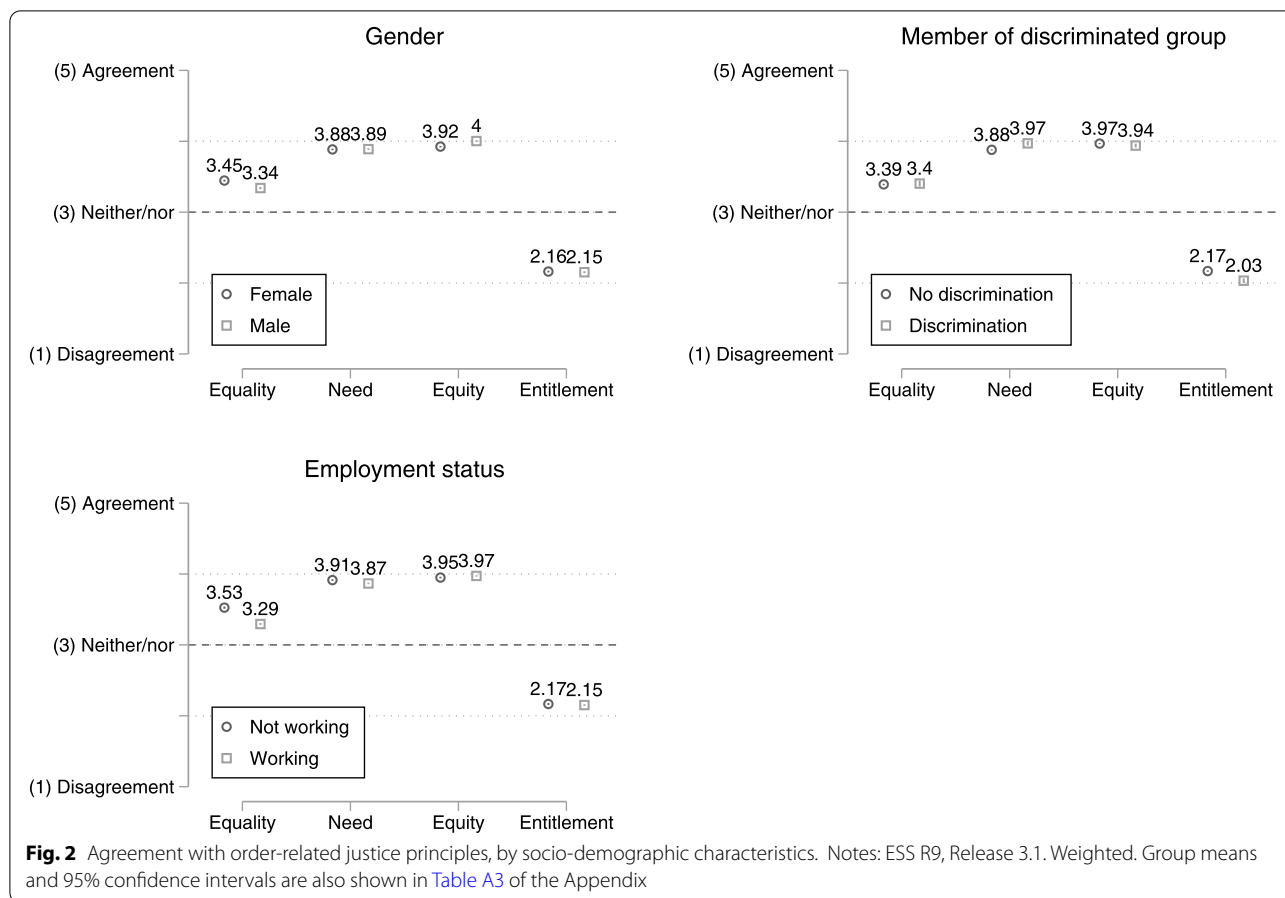
Following (Hülle et al. 2018) and (Forsé and Parodi 2009) who report a negative relationship between education and equality, we find that respondents who spent more years in full-time education tend to agree less strongly with the equality item showing a moderate correlation ($r = -0.19$).

Moreover, agreement with the equality item is negatively related to household income, underscoring the notion that individuals' preferences for distributive principles are not independent from self-interest (Hülle et al. 2018; Reeskens and Van Oorschot 2013). In line with findings from Rehm (2009) who found that unemployment levels at the occupational level increase preference for redistribution, respondents who are not in paid work, are more in favor of equality (see Fig. 2). Somewhat surprisingly, considering that equity is the dominant distributive norm in the context of work (e.g., Adams 1963; Deutsch 1975), agreement with the equity item does not differ considerably between respondents who are in paid work and those who are not. Again, following the notion that one's own position and experiences may shape distributive preferences, respondents who state they are a member of a discriminated group report stronger agreement with the need item and lower agreement with the entitlement item.

Empirical evidence further suggests that women are more in favor of justice principles reducing inequality, rather than principles that legitimize it (Forsé and Parodi 2009; Hülle et al. 2018; Liebig and Krause 2006; Wegener and Liebig 2000). Small yet consistent mean differences are found in ESS R9. Women show stronger agreement with the equality item and lower agreement with the equity item.

Overall, observed correlations and mean differences are small to moderate suggesting that agreement with the four BSJO items does not reflect mere positional effects

⁹ Group means and 95% confidence intervals are also shown in Table A3 of the Appendix.



but rather complex normative preferences that transcend self-interest and one’s current position within a country’s social structure.

Attitudes towards inequality and political stance The four distributive justice principles refer to normative ideals about how goods and burdens should be allocated within a society. Accordingly, we would expect agreement with these principles to predict evaluations of the existing income distribution, where very low and very high incomes violate both equality and need principles. On the other hand, the principles of equity and entitlement may legitimize the observed inequalities suggesting that respondents may evaluate the income distribution as more fair. ESS R9 respondents evaluated both top (Decile 10) and bottom incomes (Decile 1) within their country. In line with expectations, respondents who show stronger agreement with the equality and need items evaluate bottom incomes as more unfairly low and top incomes as more unfairly high (Table 4). Also, in line with expectations, respondents with stronger agreement with the entitlement item evaluate top incomes as less strong overreward and bottom incomes as less severe

underreward. The association between equity and evaluations of top and bottom incomes shows the reversed association. While at first glance this may seem counter-intuitive, equity only legitimizes inequality that is due to differences in effort. Accordingly, very low incomes of full-time workers and very high incomes that may be due to factors other than “hard work” violate the equity norm. Upon closer inspection, in Denmark, Finland, Iceland, Norway, and Sweden—most of which are characterized by low levels of actual income inequality—the correlation between equity and evaluation of top incomes is positive and the correlation between equity and evaluation of bottom incomes is negative, suggesting that in these settings very low and very high incomes may be viewed as violating the equity norm. Contrary to this observation, agreement with the equity norm shows the expected negative correlation with the evaluation of top incomes in 17 out of the 29 countries studied (Table A2).

We grouped the four principles into mechanisms that may reduce inequality (equality, need) and those that may legitimize inequality (entitlement, equity), suggesting a close link between distributive justice and

Table 4 Correlation of agreement with order-related justice principles with attitudes towards inequality and political orientation

	Equality	Need	Equity	Entitlement
Bottom incomes	− 0.18***	− 0.10***	− 0.10***	0.14***
Top incomes	0.15***	0.07***	0.02***	− 0.11***
Preference for redistribution	0.36***	0.18***	0.06***	− 0.17***
Political orientation	− 0.15***	− 0.11***	0.07***	0.08***

Notes: Authors' calculations based on ESS Round 9, Release 3.1. Spearman rank-order correlation. *P*-values are reported using stars. Specifically, ***, **, and * indicate that the associated coefficient is statically significant at the 1%, 5%, and 10% level, respectively

preference for redistribution. If individuals are in favor of the equality principle, we would expect them to also support government intervention in reducing inequalities. The other principles are less clearly linked to preference for redistribution by means of government intervention but the categorizing of principles into inequality-reducing and inequality-legitimizing suggest a positive association with need and negative correlations with equity and entitlement. The strong and moderate positive correlations observed for preference for redistribution with the equality and need items as well as the moderate negative correlation with the entitlement item are in line with this expectation. In the pooled sample, agreement with the equity item shows a weak yet positive correlation with preference for redistribution. Closer inspection of correlations by country shows a heterogeneous picture with both positive and negative effects that seem to follow a North-South divide with negative effects in Denmark, Finland, Great Britain, Iceland, Netherlands, Norway, and Sweden, and positive effects in Bulgaria, Cyprus, Croatia, Czech Republic, France, Hungary, Italy, Latvia, Lithuania, Montenegro, Poland, Portugal, Serbia, Slovakia, and Slovenia. Explanations for these heterogeneous patterns may relate to country differences in the extent to which individuals perceive redistribution through government intervention as a valid measure to address existing inequity in the distribution of income (Ahrens 2019). Interestingly, there seems to be an overlap between the countries where we observed positive correlations between agreement with the equity item and the evaluation of more pronounced injustice at the top and bottom of the income distribution. At the same time, these countries (Denmark, Finland, Iceland, Sweden, and Norway) are characterized by high tax burdens and extensive welfare states (Kautto 2010) which suggests that, among those with higher support of the equity norm in these countries, (additional) government intervention is not

viewed as a valid measure to address remaining injustices in the income distribution.

Correlations between equality, need, entitlement, and the preference for redistribution vary in size but not in direction across countries. Beyond the political means of redistribution, the political spectrum corresponds to ideas of a fair society. In line with the pro-redistribution stance from the political left (Bean and Papadakis 1998) and that economic equality is related to a left-leaning political preference in Europe (Hadarics 2017), respondents tending towards the left in their political self-evaluation show stronger agreement with equality and need, and less agreement with equity and entitlement as guiding principles of a just society. These patterns are fairly consistent across countries.

Overall, correlations between the four principles and related attitudes such as the preference for redistribution, political orientation, and the justice evaluation of the income distribution are in line with expectations providing supportive evidence that the four BSJO items measure the underlying constructs of equality, equity, need, and entitlement.

Structural conditions Besides identifying individual agreement with the distributive principles of equality, need, equity, and entitlement, the four items of the BSJO implemented in ESS R9 are also intended to identify between country differences in the preferences for norms that guide the allocation of goods and burdens within a society. As stated by Wegener and Liebig (1995), structural conditions at the country level are expected to translate into different justice norms. Olivera (2015), for example, showed that the unemployment rate is associated with increased demands for redistribution. A similar pattern can be observed for the principles of equality and need (see Fig. 3). Overall, agreement with equality and need items is higher in countries with higher unemployment rates. That is, in countries where objective need is higher, the inequality-reducing principles need and equality find higher agreement.

Beyond correlations with broader conditions on the labor market, it has been argued that ideas of distributive justice are enshrined in different types of welfare states (Clasen and van Oorschot 2002; Sachweh 2016). Building on an extension by Eikemo et al. (2008) of the classic welfare state typology suggested by Esping-Andersen (1990), Fig. 4 shows profiles of agreement with the four order-related justice principles by welfare state type (group means and 95% confidence intervals are also

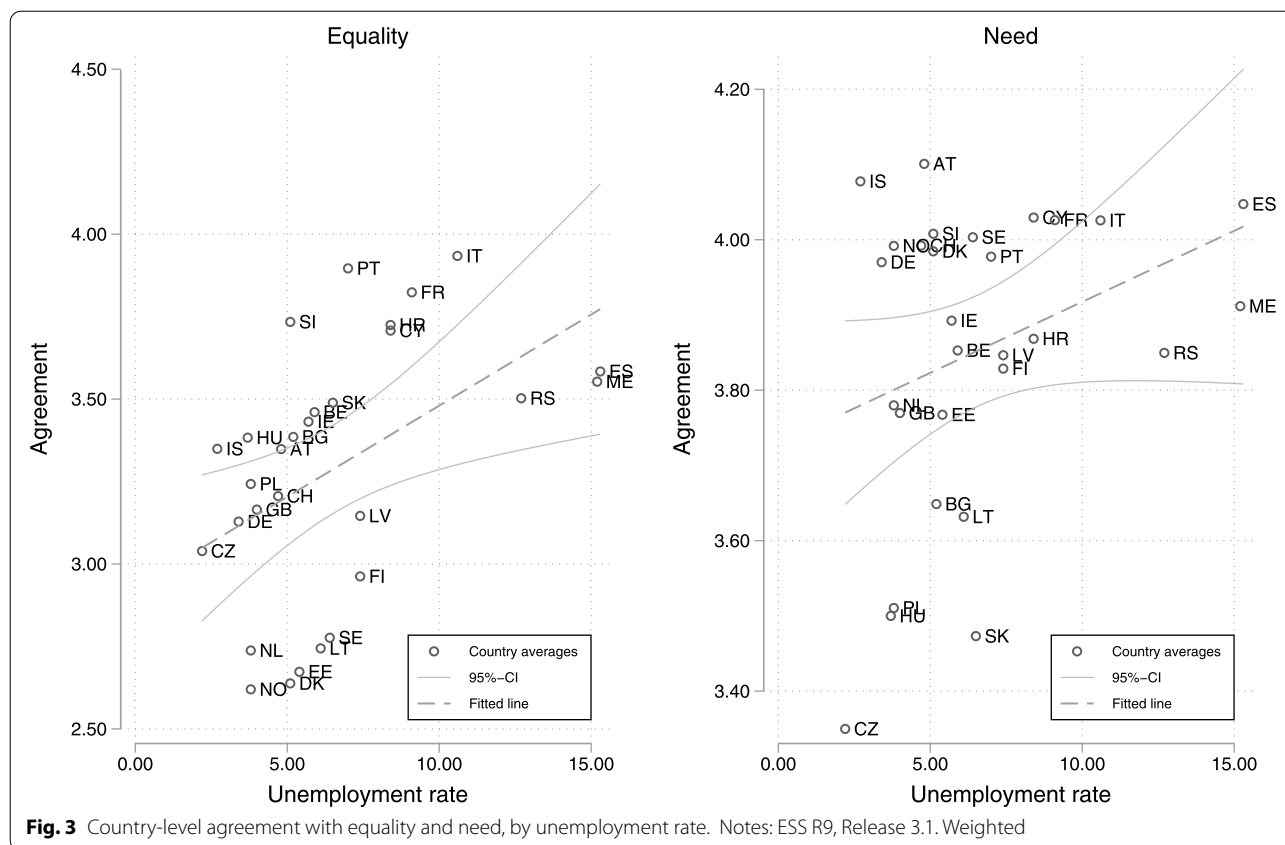
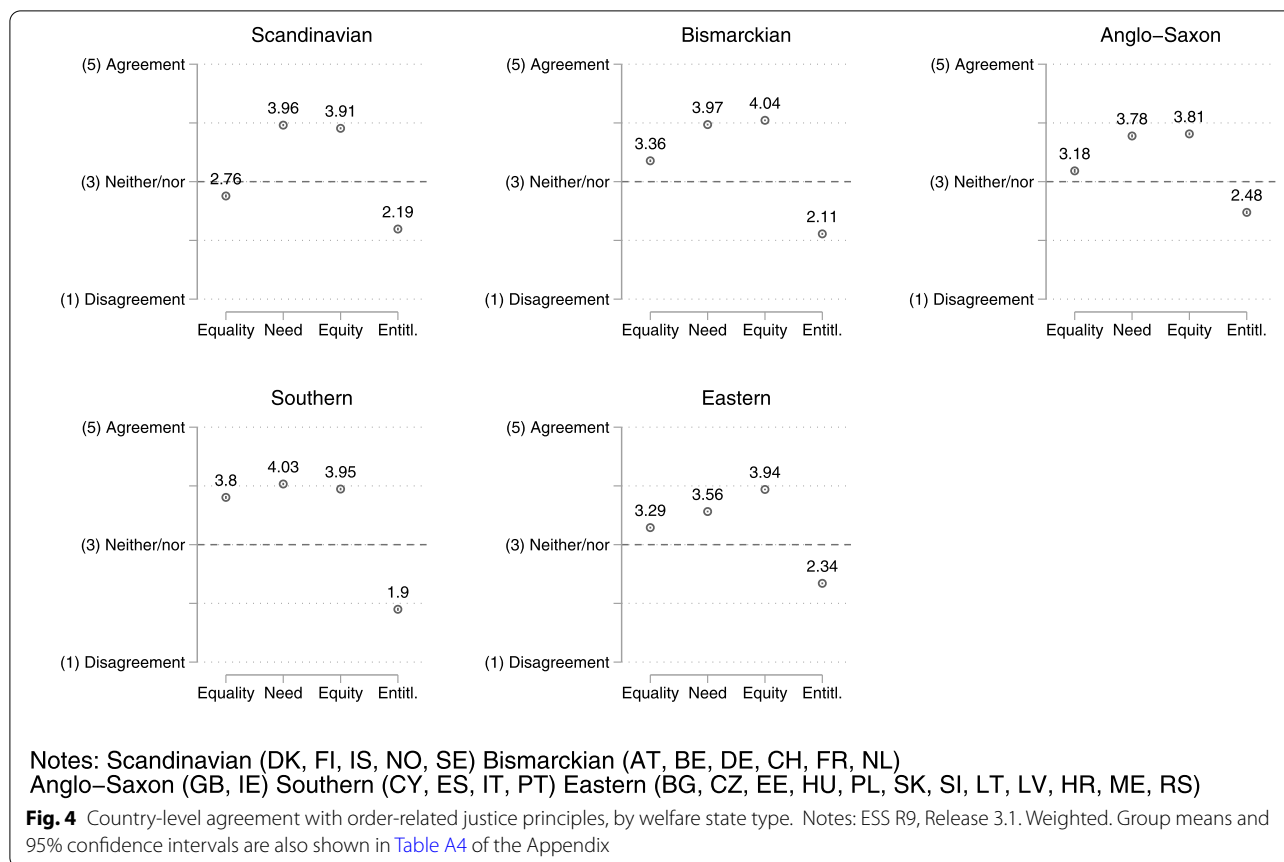


Fig. 3 Country-level agreement with equality and need, by unemployment rate. Notes: ESS R9, Release 3.1. Weighted

shown in Table A4 of the Appendix)¹⁰. In line with the response pattern that was already introduced above, the equity item finds strong agreement in all welfare state types, with the lowest agreement (3.81) across the Anglo-Saxon countries (i.e., Great Britain and Ireland) but overall low between-country variation. In line with Clasen and van Oorschot (2002), agreement with the equity item is especially pronounced in Bismarckian welfare states. The entitlement item, on the other hand, meets disagreement across the board with the lowest level of support (1.9) in the Southern welfare states. Consistent with the particular strong disagreement with the inequality-legitimizing entitlement norm as a guiding principle for a fair society, Southern European countries show the strongest agreement with the inequality-reducing equality and need principle. Support for the need principle is also very

pronounced in the Scandinavian and Bismarckian welfare states but finds less agreement in the Eastern European countries. The equality item, finds weak support in Bismarckian, Anglo-Saxon, and Eastern European countries and moderate support in Southern European countries. Only in Scandinavia, we observe overall disagreement with the equality item which may seem surprising given that the Scandinavian welfare state is characterized by universalism (Clasen and van Oorschot 2002). In combination with the positive correlation observed for unemployment and equality, this may suggest that agreement with the order-related justice principles does not necessarily reflect which distributive norms are enshrined in the countries' institutions but rather reflect which principles would address current inequalities. When analyzing country-level patterns, it should be noted that the four distributive principles do not directly map onto specific welfare policies as welfare states may differ in their interpretation of distributive principles into policies (Clasen and van Oorschot 2002). For example, the definition of "basic needs," whose coverage is demanded by the need principle, may vary substantially between more or less generous welfare states, even if the principle of need receives similar levels of popular support. This may also help to explain why observed differences between welfare

¹⁰ While welfare state typologies have enjoyed vast popularity in the literature, they also draw criticism because they may be too broad to serve as meaningful analytical categories, too inflexible to capture changes in welfare state policies, or may indeed merely reflect geographical clusters (Jaeger 2006; Van Hooftgem 2022). Moreover, as recalled by Van Hooftgem (2022) empirical studies have produced mixed results on the relationship between Esping-Andersen's welfare state typology and citizens' normative preferences.



state types are rather small (while statistically significant). Moreover, the analyses is restricted to the European context. Follow-up research that extends its sample beyond European countries may shed more light on how structural conditions across more heterogeneous institutional settings relate to preferences for distributive principles.

Conclusion

The four items of the BSJO scale included in ESS R9 are intended to measure agreement with the four order-related justice principles of equality, need, equity, and entitlement. Developed in the German research context, the ESS R9 is the first time these items were fielded cross-nationally. While methods to ensure cross-country measurement were employed during the development process (e.g., quantitative and qualitative pretesting in multiple country-language settings, consultation of experts, TRAPD translation protocols), measurement quality remains an important issue. This report therefore set out to report validity evidence on the four basic social justice orientations. Investigating response distributions revealed that there seems to be a consensus in the 29 studied European countries

that equity and need are relevant principles in guiding the just allocation of goods and burdens within a society, while there is less agreement on equality and entitlement as guiding principles of a just distribution. Accordingly, there is little within and between country variation in agreement with the equity and need principle, resulting in skewed distributions. This does not necessarily indicate poor measurement quality but may actually reflect a true European consensus on the importance of equity and need that mirrors the European dominance of market economies combined with a welfare state that covers basic needs. Low within and between-country variation on these principles may, however, limit the potential of the equity and need items to serve as explanatory variables in empirical models. Non-response analyses do not indicate problems on the side of respondents in stating their agreement with the four items. Only in Bulgaria do we observe concerning shares of item non-response suggesting caution in studying agreement with equity, need, equality, and especially entitlement in Bulgaria. Comparing aggregate agreement with the four principles across studies, we find that the four items in the ESS R9 replicate findings from Estonia, Slovenia, and

Great Britain well. Moreover, CRONOS data allows to assess test-retest reliability across a 6-month time span. Test-retest reliability ranges between poor and moderate, but given scarce evidence on intra-person stability of distributive justice attitudes and the long time-frame between measurements, it is most noteworthy that overall agreement or disagreement is measured reliably across a 6-month time span.

With regard to construct validity, we estimate correlations with related concepts at individual level and at the country level. Generally, we find correlations to be largely in line with expectations and consistent with findings from the literature on redistribution, underscoring that indeed the four items measure the underlying concepts of equity, equality, need, and entitlement. Overall, we conclude that the four items of the BSJO scale used in the ESS R9 show acceptable levels of measurement quality in 28 of the 29 countries under investigation. High shares of non-response in Bulgaria suggest caution. More generally, researchers should keep in mind that the four items constitute manifest indicators that therefore may not be able to capture the entirety of the underlying conceptions of the order-related justice principles equality, need, equity, and entitlement. This is especially relevant in light of recent findings presented by Van Hootegem et al. (2021) that internal consistency of the BSJO scale may be less clear than initially proposed by Hülle et al. (2018), notably concerning the entitlement principle. In using the four items on equality, need, equity, and entitlement in applied research, we, therefore, join Van Hootegem et al. (2021) in their call to pay close attention to the specific statements used to measure agreement with the four distributive principles equality, equity, need, and entitlement. Moreover, it might be useful to consider that there is limited theoretically guided research that identifies the entitlement principle as a distinct basic social justice orientation, compared to a wide consensus on equality, equity (or merit), and need. Both further theoretical and empirical work is called for to investigate the independent role of entitlement as a distributive justice principle.

Supplementary Information

The online version contains supplementary material available at <https://doi.org/10.1186/s42409-022-00040-3>.

Additional file 1. Appendix. Additional tables and figures including country-specific information on response distributions, summary statistics, and correlations with related variables.

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Authors' contributions

JA conceptualized the study. JA and MF conducted the analyses and wrote the manuscript. The authors read and approved the final manuscript.

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Availability of data and materials

The data used for this study stem from the European Social Survey and the CROSS-National Online Survey. ESS data is available free of charge through the ESS Data Portal (<https://ess-search.nsd.no>) and CRONOS data is available through the ESS website. Code for all analyses presented in the paper are available here <https://osf.io/ankum/>.

Declarations

Competing interests

The authors declare that they have no competing interests.

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