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Does informing citizens about the non-meritocratic nature of inequality bolster support for a universal basic income? Evidence from a population-based survey experiment

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ABSTRACT

Despite citizens' precarization and policymakers' enthusiasm for a universal basic income (UBI), this alternative to targeted welfare has, curiously, received limited popular support. We theorize that this is due to people overestimating society's meritocratic nature. Accordingly, we field a randomized survey experiment with a representative sample of the Dutch population ($n = 1,630$) to investigate the impact of information provision about the non-meritocratic nature of wealth and ethnic inequality on support for a UBI. Informed by extant research indicating that citizens respond differently to the same information because of material circumstances or different worldviews, we further estimate conditional average treatment effects to explore moderation by (1) income, (2) economic egalitarianism, (3) welfare chauvinism and (4) institutional trust. We find that support for a UBI is higher among individuals with lower incomes and those who are more egalitarian and less welfare chauvinistic. Nonetheless, while exposure to our factual treatment makes participants more concerned about inequality and supportive of economic redistribution in general, it neither directly nor conditionally affects their support for a UBI. Our findings suggest that a UBI may be deemed too radical an approach to addressing inequality. We discuss theoretical and policy implications and provide suggestions for future research.

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Introduction

Much recent attention in the field of welfare attitudes has been devoted to analyzing public support for a universal basic income (UBI) (Baranowski and Jabkowski 2021; Kozák 2021; Rincon 2023; Laenen *et al.* 2023; Lee 2018; Nettle *et al.* 2021; Roosma and Van Oorschot 2019; Schwander and Vlandas 2020; Vlandas 2021). A UBI is an alternative to targeted welfare policies that are based on reciprocity and deservingness; a UBI guarantees unconditional, universal eligibility for a subsistence payment, regardless of a person's merit or need. It thus provides everyone the same elemental economic conditions, with the aim of offsetting poverty and economic insecurity based on an individual's subsistence capacity. Notwithstanding enthusiasm among scholars, policymakers and pundits, public support for a UBI remains limited, with strong variation between groups of citizens (e.g., Roosma and Van Oorschot 2019; Vlandas 2019).

This limited popular support is curious in light of growing economic inequality. Since the 1980s, inequality in Western Europe has increased, leading to a persistent growth of precariousness (OECD 2015) in the face of which a UBI would be expected to appeal to the public, for it provides an immediate improvement to people's livelihood (Standing 2011). A UBI could help rectify the harmful consequences of social inequality and welfare conditionality that pose limited opportunities for the disadvantaged to overcome their marginalized position. Indeed, according to theories that account for people's egotropic concerns (i.e. material self-interest), which are dominant in political economy scholarship, increasing income inequality should inspire enthusiasm for redistribution among those who run the risk of falling into poverty (Kuziemko *et al.* 2015; Meltzer and Richard 1981; Meuleman 2019). Similarly, explanations that account for sociotropic concerns (i.e. economic egalitarianism) would predict support for a UBI (Ahrens 2022), as scholars of social policy have demonstrated that, generally, public backing for redistribution correlates with support for a UBI (Roosma and Van Oorschot 2019; Vlandas 2021).

We argue that the curious case of limited public support for a UBI in these trying times might be better understood if we consider that many people hold a strong belief in the meritocratic nature of their society, where hard work is rewarded with a good job and income. Research documents widespread public belief in a direct, meritocratic, link between individual effort and economic returns, leading to an

understanding of inequalities as resulting from a lack of effort or ambition (Mijs 2018; Mijs *et al.* 2022; Spruyt 2015). This may help explain why many people are less than enthusiastic about welfare policy alternatives like a UBI, which are expressly designed to decouple that very link.

A link between beliefs about the nature of inequality and people's policy preferences has been established by survey experimental research documenting how giving people information about the non-meritocratic nature of inequality produces a greater preference for government interventions and income redistribution (e.g., Becker 2019; Hauser and Norton 2017, see also Ahrens 2022). However, such research has analyzed *generalized* support for economic redistribution after exposure to information about the non-meritocratic nature of inequality, and does not account for *specific* social policies such as a UBI.

This paper analyzes whether information about the non-meritocratic nature of inequality could bolster public support for a UBI. Our goal is to better understand whether support for alternative forms of redistribution that focus on egalitarian welfare provision, is affected by information about the state of inequality and its non-meritocratic character. We do so by focusing on two dimensions of inequality, namely the unequal distribution of wealth and barriers to opportunity faced by ethnic minorities. We focus on these dimensions as they most saliently reflect the non-meritocratic nature of inequalities in the Netherlands, where our research is situated.

We are sensitive to the possibility that the same information can lead to varying responses depending on people's material circumstances, while variation in responses could also be related to different worldviews (Achterberg *et al.* 2010; Sides 2016; Zaller 1992). If so, information about the non-meritocratic nature of inequality may increase support for a UBI for some, but not for others. Specifically, for reasons elaborated on below, we assess whether income, economic egalitarianism, welfare chauvinism, and institutional trust shape the effect of information about the non-meritocratic nature of inequality on support for a UBI.

Our empirical findings come from an original survey experiment with a representative sample of the Dutch population ($n = 1,630$). We field our experiment using a high-quality panel sampled from the official Dutch population register (see Data & Measures). Participants are assigned to either a control condition or one of two treatment conditions that provide information on the non-meritocratic nature of wealth disparities or ethnic inequality. We then examine whether exposure to either type of information affects participants' support for a UBI and estimate

conditional average treatment effects to explore whether a person's income or either of the three aforementioned worldviews have a moderating impact.

The Netherlands is a fitting context for our research because, despite the existence of major economic inequalities (Maestri *et al.* 2014; Pouwels-Urlings 2021) and ongoing ethnic discrimination (Thijssen *et al.* 2021b), Dutch citizens perceive themselves to be economically egalitarian and culturally liberal (Lechner 2012; Tonkens and Duyvendak 2016). This makes the Netherlands an especially good case for an information intervention; the treatments about inequality we provided plausibly subjected many a person to new information that clashed with their prior beliefs.

An additional reason for situating our study in the Netherlands is the transformation of its welfare state. In the last thirty years, the relatively encompassing Dutch welfare state has shifted from a cash-transfer based system to labor market activation policies (e.g., Marx and Verbist 2014), during which welfare benefits became highly conditional. All the while, inequality has increased since the 1980s (Salverda *et al.* 2014; Salverda *et al.* 2014), which was accompanied by an especially large rise in relative poverty among households (Salverda *et al.* 2014). These trends make it likely that alternatives to contemporary social policy will be welcomed by many Dutch citizens if they are informed about the non-meritocratic nature of contemporary inequalities.

Theoretical background

Information provision on the non-meritocratic nature of inequality and support for a UBI

Research has identified that people are generally misinformed about the extent of the inequality and lack of social mobility in their society (Alesina *et al.* 2018; Gimpelson and Treisman 2018; Hauser and Norton 2017), which they typically underestimate (Becker 2019; Hauser and Norton 2017; Kiatpongsan and Norton 2014; Norton and Ariely 2011). Surprisingly, while perceptions do affect redistribution preferences (e.g., Alesina *et al.* 2018), various studies show that popular support for redistribution does not correlate with the true extent of social inequality at the country level (e.g., Gimpelson and Treisman 2018; Niehues 2014). The causal link between perceptions of inequality and popular support for redistribution has thus been addressed to try to understand how changes in these perceptions affect the stances people take toward redistribution (Alesina *et al.* 2018; Cruces *et al.* 2013; Hoy and Mager 2018; Karadja

et al. 2017; Kuziemko *et al.* 2015). Although some studies identified only disparate effects, the overall conclusion in the literature is that giving citizens information on real inequalities and the lack of social mobility strengthens their preference for redistribution (Alesina *et al.* 2018; Cruces *et al.* 2013; Hauser and Norton 2017).

Whereas extant research typically analyzes generalized support for economic redistribution, this study focuses on a specific alternative to current social policies – a universal basic income. We anticipate that its appeal will be boosted by the provision of information on the non-meritocratic nature of inequality.

Meritocratic inequality entails that socioeconomic differences reflect variation in personal achievements, through individual effort and talent. Non-meritocratic inequalities stem from structural forces beyond the influence of individuals; they are the product of group membership (e.g., membership of a discriminated against ethno-racial minority) or luck (e.g., being an inheritor in a wealthy family). In the Netherlands, the non-meritocratic nature of inequality is most prominently manifested in two dimensions, namely (1) large differences in wealth, and (2) obstacles faced by ethnic minorities in school and the job market. So, in assessing whether support for a UBI is boosted by information provision on the non-meritocratic nature of inequality, our focus is on these two dimensions of inequality: wealth disparities and ethnic inequality.

The reasons why people's redistributive preferences are affected by inequality information are found to vary but have either to do with socio-tropic or egotropic accounts (cf. Ahrens 2022; Becker 2019). In the former, redistributive preferences reflect concerns about the justification of socioeconomic differences. For instance, people call for more redistribution if they perceive inequality to be unjust. Research finds this is the case if socioeconomic differences are not perceived to be meritocratic, but the product of (non-meritocratic) conditions that individuals have no influence over (e.g., Ahrens 2022; Alesina and La Ferrara 2005; Becker 2019). Accordingly, learning that inequality is non-meritocratic should lead to calls for more egalitarian redistribution policies, to which a UBI caters. Hence, we hypothesize:

H1a) Information provision about the non-meritocratic nature of wealth disparities has a positive effect on support for a UBI;

H1b) Information provision about the non-meritocratic nature of ethnic inequality has a positive effect on support for a UBI.

Do people's income or worldviews moderate the effects of information provision?

Citizens may respond differently to information about the non-meritocratic nature of inequality, and as such, we need to be sensitive to moderation effects. First, we address how egotopic concerns may shape the effect of information provision. Then, we discuss moderation by different worldviews.

The egotropic account has been a dominant perspective in the field of political economy. Applied to the issue of redistribution, it is best known as the median voter theory (Meltzer and Richard 1981). Redistributive preferences are regarded as stemming from actors who are self-interested and consciously consider whether policy proposals benefit their economic position. If so, one would expect that confrontation with substantial, and non-meritocratic, wealth inequality would make the poor (rich) more (less) inclined to support a UBI, as they learn that they are worse (better) off than generally assumed. Hence, we expect:

H2) There is a negative interaction effect between information about the non-meritocratic nature of wealth disparities and individual income on support for a UBI.

In addition, we also consider differences in people's worldviews to analyze potential variation in responses to inequality information. Extant research has established that the same information is typically interpreted in a variety of ways by citizens with differing worldviews, invoking a range of responses across groups. This is because people's stances on public issues arise from both relevant information known to them and their predispositions (cf. Zaller 1992). Unsurprisingly, then, studies have shown that, regardless of the issue at hand, worldviews play a moderating role on our stances on public matters, including neighborhood disorder (Van Noord *et al.* 2018), penal policies (De Koster *et al.* 2016), vaccines (Ten Kate *et al.* 2022), or hydrogen technologies (Achterberg *et al.* 2010). In line with this, we theorize that worldviews frame the uptake of information on the non-meritocratic nature of inequality, leading to differences between groups of citizens in the extent of their support for a UBI. Studies suggest that issues relating to welfare and redistribution are especially impacted by economic egalitarianism (Andreß and Heien 2001; Achterberg *et al.* 2011; Blekesaune and Quadagno 2003), welfare chauvinism (Careja and Harris 2022; Van der Waal *et al.* 2010; Van der Meer and Reeskens 2021) and institutional

trust (Crepaz 2008; Derks 2004). Accordingly, we anticipate that information about the non-meritocratic nature of wealth disparities and ethnic inequality may be moderated by these worldviews.

Economic egalitarianism concerns preferences for a more equal society achieved by state-led redistribution. It distinguishes between those who believe that the government should ensure there is redistribution between citizens and those who endorse a *laissez-faire* approach (cf. Achterberg *et al.* 2011; Van der Waal *et al.* 2010). Citizens who adhere more strongly to an economically egalitarianist stance will likely be more susceptible to the view that a UBI is a solution to the non-meritocratic nature of inequality. Therefore, we hypothesize:

H3a) There is a positive interaction effect between information about the non-meritocratic nature of wealth disparities and economic egalitarianism on support for UBI;

H3b) There is a positive interaction effect between information about the non-meritocratic nature of ethnic inequality and economic egalitarianism on support for UBI.

Welfare chauvinism concerns the idea that ‘welfare services should be restricted to our (country’s) own’ (Andersen and Bjorklund 1990: 212). Those who endorse welfare chauvinistic beliefs may believe that the non-meritocratic nature of ethnic inequality is not particularly problematic. This is the proposition in a recent study which observed that stereotypical narratives based on, among other factors, the overrepresentation of immigrants among welfare recipients, invokes a negative response to redistribution (Alesina *et al.* 2018). Moreover, it has been noted that support for a basic income is significantly reduced if the deservingness of immigrants is questioned (Bay and Pedersen 2006; see, also, Linnanvirta *et al.* 2019). In line with these observations, we expect that citizens who are more welfare chauvinistic will be less likely to respond to information about the non-meritocratic nature of ethnic discrimination by increasing their support for a UBI.

H4) There is a negative interaction effect between information about the non-meritocratic nature of ethnic inequality and welfare chauvinism on support for UBI.

Finally, we consider citizens’ trust in public institutions, which varies widely from person to person. This is particularly notable in relation to those institutions with a link to the welfare state, which are generally supported less when trust is relatively low (e.g., Crepaz 2008; Derks 2004; Kumlin *et al.* 2017). Kuziemko *et al.* (2015), for example, demonstrate

that the low level of support in the US for policies that counteract inequality can be linked to a low level of trust in the government. Studies in Belgium and the Netherlands have highlighted similar patterns, with opposition to universal welfare deservingness found to be related to a lack of trust in institutions (Derks 2004; De Koster *et al.* 2013). Accordingly, we anticipate that citizens who have greater trust in institutions related to welfare services are more likely to turn information about the non-meritocratic nature of inequality into higher levels of support for a UBI.

H5a) There is a positive interaction effect between information about the non-meritocratic nature of wealth disparities and trust in institutions on support for UBI;

H5b) There is a positive interaction effect between information about the non-meritocratic nature of ethnic inequality and trust in institutions on support for UBI.

Data and measures

Data

Our participants were recruited from the LISS (Longitudinal Internet Studies for the Social Sciences) panel, which is a representative, probability-based sample of Dutch citizens drawn from the official population register and administered by Centerdata (Tilburg University, the Netherlands). Our dataset combines information collected in two waves. The first, fielded in January 2020 ($n = 2,218$; response rate of 75.6 percent), was designed to obtain information on background characteristics, the attitudinal measures used for the moderators, and a pre-treatment measure of support for a UBI. The second wave encompassed our experiment, which was conducted in September 2020 ($n = 1,645$, response rate of 89.5 percent) using the same participants as in wave one (25.8 per cent attrition rate). After inspecting the data for straightlining, we removed six individuals who had provided identical answers to questions on key variables. Listwise deletion was used to exclude missing values for the dependent variable, leaving 1,630 valid observations for the analysis. The replication package can be found at <https://osf.io/s364g/>.

Informational stimuli

In line with other experimental research about redistribution preferences (Alesina *et al.* 2018; Cruces *et al.* 2013; Kuziemko *et al.* 2015; Sides 2016), we designed informational interventions to update participants'

knowledge of the non-meritocratic nature of society. Specifically, using the simplest and most accessible terms, and combining text and visualization, we designed the stimuli to convey key facts about the nature of wealth disparities or ethnic inequality in the Netherlands. These two are the most prominent ways in which the non-meritocratic nature of inequality is manifested in the Netherlands. The participants were exposed to one of three conditions: (1) wealth disparities ($n = 543$); (2) ethnic inequality ($n = 542$); or (3) the control, where they were shown unrelated information in the same format and style as the other treatments to minimize between-condition differences in the cognitive load and the demands placed on their time and attention spans ($n = 545$). Table S1 (provided as online supplementary information) displays the post-allocation balance between participants in the two treatment groups and the control group. It shows that there are no significant differences between the three groups of respondents on key demographics.

The wealth disparities treatment comprised a graph showing how wealth is distributed unequally across the Dutch population. This was based on data from Statistics Netherlands and was accompanied by a bullet-point list of facts which: (1) emphasized the inequitable distribution of national wealth by (2) referring to the fact that the poorest half of the population has almost none, whereas (3) a small group has the largest share, and (4) children who are born poor often remain so throughout their lives, while a child with wealthy parents is twice as likely to grow up to be rich (OECD 2015). Information about wealth instead of income disparities is presented because income disparities are relatively low in the Netherlands, while the country has persistent and significant wealth-based inequalities (OECD 2015; Van Bavel and Frankema 2017). As Dutch citizens tend to regard their country as relatively economically egalitarian, this type of information more likely updates participants' knowledge.

The ethnic inequality treatment presented a graph showing how, hampered by discrimination, opportunities for social mobility are distributed unequally per ethnic background. The graph is based on large-scale experimental evidence on education- and labor-market discrimination in the Netherlands (Thijssen *et al.* 2021a; Van den Berg *et al.* 2020), and was accompanied by text highlighting: (1) the unfair treatment of ethnic minorities; (2) specifically, that applicants with a traditional Dutch name are more likely to be called back for a job interview than equally qualified applicants with a Moroccan name; (3) that even

Dutch-sounding job applicants with a criminal record have a higher chance of getting an interview than applicants without a criminal record but with a Moroccan name; and (4) students in elementary school with a migration background are more likely than students without one to be recommended for a vocational education than for university, even when test scores are similar (Inspectorate of Education 2020). Online Supplementary Material figures S1, S2 and S3 provide additional information on all the stimuli.

Measures

The dependent variable, support for a UBI, was based on the following statement: *‘A basic income means the government pays everyone the same amount of money every month, regardless of whether a person is working or not. People can keep any money they earn in addition to this. A basic income is paid for through taxes. Would you be against or in favour of such a system in the Netherlands?’* (translated from Dutch). The question’s wording is adapted from the European Social Survey (ESS). Responses were measured on a 7-point Likert scale, ranging from ‘strongly against’ (1) to ‘strongly in favor’ (7) completely agree.

The moderator variable income is operationalized as the natural logarithm of monthly net household income, measured in September 2020 (as part of the background information available in the LISS panel; we did not have to include an income question in our survey, which could have biased the experimental results). Missing observations were imputed using related information (net or gross monthly individual income (for details, see De Vos 2012)). For 166 respondents, income could not be imputed by this procedure and these were treated as missing in our analyses. Additionally, two unlikely high responses were also omitted (47,000 and 146,652 euros).

The moderator variables economic egalitarianism, welfare chauvinism and institutional trust (all measured in wave one) are composites of four Likert items, measured on the same scale as the dependent variable, with answer categories ranging from ‘completely disagree’ (7) (see Table 1). Measures of economic egalitarianism were adapted from the ESS (round 8) and Achterberg and Houtman (2009). Factor analysis of the items yielded a 1-factor solution with an eigenvalue of 2.28, which explained 57 percent of the variance, motivating a one-dimensional scale with sufficient internal consistency ($\alpha = 0.75$).

Table 1. Items used for measuring the moderator variables economic egalitarianism, welfare chauvinism and institutional trust, including the wording of the statements. The statements have been translated from Dutch.

Item	Statement wording
Economic egalitarianism 1	<i>It is not a good thing if differences between the rich and poor are large.</i>
Economic egalitarianism 2	<i>Large income differences are not a problem. (reverse coded)</i>
Economic egalitarianism 3	<i>It is important that children from poor families get the same opportunities as children from rich families.</i>
Economic egalitarianism 4	<i>In a fair society, differences in what people are able to spend are small.</i>
Welfare chauvinism 1	<i>If immigrants are unemployed for a long period, they should be made to leave the Netherlands.</i>
Welfare chauvinism 2	<i>Only people whose parents are Dutch should be entitled to social benefits.</i>
Welfare chauvinism 3	<i>Immigrants should only be entitled to social benefits if they have worked here for several years.</i>
Welfare chauvinism 4	<i>Immigrants should not be permitted to make use of social benefits.</i>
Institutional trust 1	<i>How much trust do you have in the following institutions or persons: civil servants?</i>
Institutional trust 2	<i>How much trust do you have in the following institutions or persons: the state?</i>
Institutional trust 3	<i>How much trust do you have in the following institutions or persons: the UWV (the organization responsible for unemployment benefits)?</i>
Institutional trust 4	<i>How much trust do you have in the following institutions or persons: your municipal authority?</i>

The items measuring support for welfare chauvinism were adapted from Van der Waal *et al.* (2010) and Meuleman *et al.* (2020). Factor analysis yielded one factor with an eigenvalue of 2.62, explaining 65.7 percent of the variance, and a scale of the combined items shows high internal consistency ($\alpha = 0.83$).

Institutional trust was measured using items adapted from the ESS (core module), focusing on the institutional actors most relevant to welfare services in the Netherlands. Factor analysis of the four items yielded one factor with an eigenvalue of 2.77, explaining 69.2 percent of the variance. The items combined form a reliable measure for institutional trust ($\alpha = 0.85$).

To increase the precision of our estimates, we included a pre-treatment measure (wave one) of support for a UBI in all models (cf. Clifford *et al.* 2021). We did not include other control variables to test hypotheses 1a and 1b, given that our analysis was based on a randomized treatment. In testing hypotheses 2a through 5b, we estimated conditional average treatment effects and therefore did not require controls (cf. Kam and Trussler 2017). Sensitivity analyses (see below) demonstrate that alternative models including a broad range of controls support the same substantive conclusions.

Results

Preliminaries

Table 2 shows descriptive statistics for all variables included. Notably, it demonstrates the rather mixed pre-treatment views on a UBI: average support for a UBI is only slight positively skewed (with a mean of 4 out of 7), yet its high standard deviation (1.7) indicates strong disagreement over the matter.

Table 3 shows the relationships between income, economic egalitarianism, welfare chauvinism and institutional trust on the one hand and the dependent variable post-treatment views on a UBI on the other, while controlling for respondents' pre-treatment support for a UBI. The first model shows a significant negative association between income and support for a UBI ($b = -0.179$; $p < 0.05$): generally, the poor (rich) are more (less) in favor of it. If the attitudinal variables are considered simultaneously, this effect is no longer visible (model 5).

Table 2. Descriptive statistics.

	<i>n</i>	Mean	SD	Min	Max
<i>Dependent</i>					
Support for a UBI	1,630	3.91	1.82	1	7
<i>Moderators</i>					
Net monthly household income in euros	1,462	3270.40	1801.32	100	13900
Economic egalitarianism	1,630	5.24	1.03	1.75	7
Welfare chauvinism	1,630	3.74	1.35	1	7
Institutional trust	1,630	3.71	0.89	1	7
<i>Controls</i>					
Pre-treatment support for a UBI	1,630	4.07	1.70	1	7
Age in years	1,630	57.29	17.01	18	92
Gender (1 = female)	1,630	0.52	0.50	0	1
Educational level: Other education	1,630	0.02	0.12	0	1
Educational level: ISCED-1 ('basisonderwijs')	1,630	0.03	0.17	0	1
Educational level: ISCED-2 ('vmbo')	1,630	0.21	0.41	0	1
Educational level: ISCED-3 ('havo/vwo')	1,630	0.11	0.31	0	1
Educational level: ISCED-4 ('mbo')	1,630	0.24	0.43	0	1
Educational level: ISCED-5 ('hbo')	1,630	0.26	0.44	0	1
Educational level: ISCED-6/7/8 ('wo')	1,630	0.12	0.33	0	1
Labor-market status: employed	1,630	0.39	0.49	0	1
Labor-market status: self-employed	1,630	0.05	0.22	0	1
Labor-market status: retired	1,630	0.34	0.47	0	1
Labor-market status: unemployed	1,630	0.06	0.24	0	1
Labor-market status: homemaker	1,630	0.09	0.28	0	1
Labor-market status: student	1,630	0.04	0.20	0	1
Labor-market status: disabled	1,630	0.04	0.20	0	1
Immigrant status (1 = immigration background)	1,630	0.16	0.37	0	1
Amount of financial assets	1,623	6.78	4.27	0	24
Number of children at home	1,630	0.56	0.10	0	6
Marital status: married	1,630	0.55	0.50	0	1
Marital status: widowed	1,630	0.08	0.28	0	1
Marital status: divorced	1,630	0.12	0.33	0	1
Marital status: never married	1,630	0.25	0.43	0	1

Table 3. OLS regression estimates for support for a UBI on key variables.

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Income	-0.179* (0.071)				-0.125 (0.072)
Economic egalitarianism		0.247*** (0.036)			0.221*** (0.040)
Welfare chauvinism			-0.154*** (0.027)		-0.115*** (0.030)
Institutional trust				0.024 (0.041)	0.011 (0.045)
Support for a UBI (pre-treatment)	0.628*** (0.023)	0.591*** (0.022)	0.613*** (0.021)	0.631*** (0.021)	0.585*** (0.023)
Intercept	2.795*** (0.583)	0.214 (0.189)	1.993*** (0.147)	1.258*** (0.176)	1.760* (0.695)
<i>n</i>	1,462	1,630	1,630	1,630	1,462
<i>R</i> ²	0.349	0.367	0.361	0.349	0.375

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$. Standard errors in parentheses.

The second model shows that economic egalitarianism is significantly and positively associated with support for a UBI ($b = 0.247$, $p < 0.001$): the respondents with a more economically egalitarian stance tended to express greater support. Welfare chauvinism proved to be negatively associated with this support ($b = -0.154$, $p < 0.001$), as shown in the third model. This means that people who endorse a more welfare chauvinistic stance typically support a UBI less. The fourth model shows no statistically significant association between institutional trust and support for a UBI. These preliminary findings are in line with extant research on the sources of support for a UBI (e.g., Bay and Pedersen 2006; Roosma and Van Oorschot 2019; Vlandas 2021). As such, they indicate the validity of our data and underline the importance of considering the roles of worldviews in explaining support for a UBI.

Treatment effects

We estimated the treatment effects of informational stimuli on support for a UBI using OLS regression models. Table 4 presents the results. Model 1 estimates the treatment effect of information on participants' support for a UBI. Models 2, 3, 4 and 5 add the interactions of the treatments with income, economic egalitarianism, welfare chauvinism and institutional trust, respectively.

The results in Model 1 indicate non-significant effects of both informational treatments on support for a UBI. Respondents exposed to the non-meritocratic nature of society do not report more support for a UBI than those not exposed to it. Accordingly, we find no support for H1a or H1b.

Table 4. OLS regression estimates for support for a UBI.

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Wealth disparities information	0.095 (0.089)	0.085 (1.393)	0.988* (0.452)		0.035 (0.377)
Ethnic inequality information	-0.093 (0.089)		-0.595 (0.453)	0.259 (0.257)	-0.562 (0.383)
Income		-0.212 (0.126)			
Wealth disparities info*Income		0.000 (0.175)			
Economic egalitarianism			0.272*** (0.060)		
Welfare chauvinism				-0.139** (0.046)	
Institutional trust					-0.021 (0.070)
Wealth disparities info X Economic egalitarianism			-0.169* (0.085)		
Ethnic inequality info X Economic egalitarianism			0.099 (0.085)		
Ethnic discrimination info X Welfare chauvinism				-0.090 (0.064)	
Wealth disparities info X Institutional trust					0.016 (0.100)
Ethnic discrimination info X Institutional trust					0.126 (0.100)
Support for a UBI before treatment	0.632*** (0.021)	0.625*** (0.028)	0.588*** (0.022)	0.615*** (0.026)	0.632*** (0.021)
Intercept	1.342*** (0.105)	3.066** (1.011)	0.089 (0.320)	1.923*** (0.221)	1.419*** (0.275)
<i>n</i>	1,630	979	1,630	1,087	1,630
<i>R</i> ²	0.350	0.347	0.372	0.379	0.351

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$. Standard errors in parentheses.

Model 2 considers the moderating role of income. It shows that income differences between participants do not significantly underlie different responses to being provided information on wealth disparities in terms of their support for a UBI (rejecting H2).

Model 3 considers the moderating role of economic egalitarianism. We find that, surprisingly, economic egalitarianism negatively moderates the effect of the wealth disparity treatment on support for a UBI ($b = -0.169$, $p < 0.05$). This finding suggests that the effect of the wealth disparities treatment on support for UBI is smaller for people with a more economically egalitarian worldview; they are, on average, less inclined to express a higher level of support for a UBI after the treatment. This finding is contrary to our expectation (rejecting H3a) and likely reflects a ceiling effect resulting from a high baseline of support for a UBI among people with a strongly economically egalitarian worldview (see next section). We do not find an interaction effect between economic

egalitarianism and the ethnic inequality treatment, which leads us to reject Hypothesis H3b.

Models 4 and 5 assess the moderating roles of welfare chauvinism and institutional trust. We do not find any significant interaction effects for either of the moderators. This means that the theorized – yet unobserved – direct relationship between the treatments and support for a UBI is not moderated by welfare chauvinism or institutional trust, leading us to reject hypotheses H4, H5a and H5b.

Overall, we find no evidence that information about the non-meritocratic nature of inequality affects people's support for a UBI, nor that this relationship is moderated by people's income or worldviews, with the exception of economic egalitarianism which we consider in more detail in the next section. Our findings are corroborated by sensitivity checks that include control variables used in extant research on the sources of support for a UBI and income redistribution more generally (Supplementary information, Table S2). In the following sections, we discuss the results of additional robustness checks that bolster confidence in our null findings.

A ceiling effect?

Our main analysis revealed a negative interaction between information about wealth disparities and economic egalitarianism in explaining support for a UBI (Table 4, Model 3). To investigate whether this unexpected finding is the product of a ceiling effect, we inspect the pre-treatment support for a UBI among people with different levels of economic egalitarianism in Figure 1. The means and individual scores plotted in the figure show that egalitarians already express strong support for a UBI prior to their exposure to the informational treatment. Hence, it is plausible that the negative interaction observed in Model 3 in Table 4 is not indicative of a substantively meaningful moderation effect. Instead, the strong pre-treatment support for a UBI among egalitarians may imply that post-treatment observations reach a ceiling. Hence, post-treatment support for a UBI trends toward the sample mean, in a downward direction.

A ceiling effect is conventionally considered to be present when more than 15 to 20 percent of a (sub)sample scores highest on the dependent variable (Garin 2014). In our case, the distribution of the strong egalitarians ($n = 189$) revealed that 37 participants said they 'completely agree' with a UBI pre-treatment; this corresponds to 20 percent of the

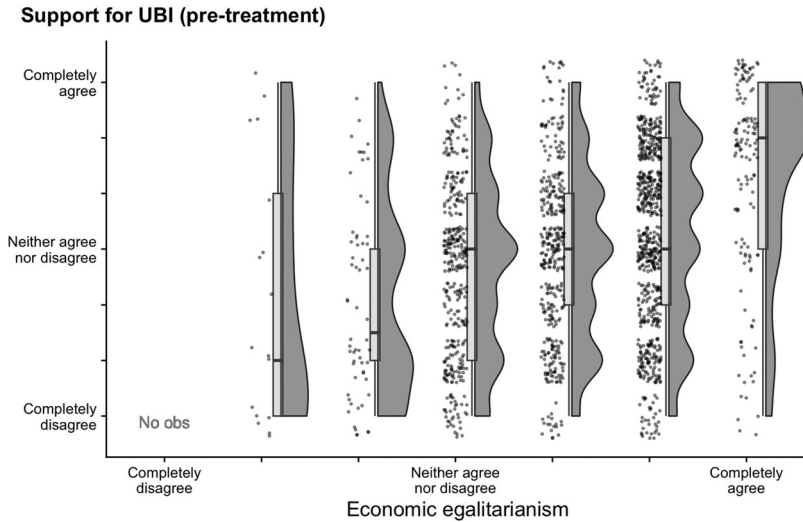


Figure 1. Support for a UBI (pre-treatment) over economic egalitarianism ($n = 1,630$). Half density distribution and boxplot distribution. The dots signify individual scores. Note: The scores for the lowest economic egalitarianism category ('completely disagree') are not shown, as there were no respondents who completely disagreed with all four of the economic egalitarianism items. The horizontal axis reflects the rounded mean scores of the four items.

subsample of strong egalitarians (Supplementary information, Table S3). We thus conclude that the observed association reflects the presence of a ceiling effect. This bolsters our confidence in our empirical finding of no meaningful moderation by economic egalitarianism in how information provision about wealth inequality affects support for a UBI.

Validity of treatments

A potential concern with our findings is that our informational treatments in fact did little to change the participants' beliefs about inequality and redistribution, which could explain the null findings. We therefore scrutinize the validity of our informational stimuli by discussing their use in other research, and by presenting two further empirical assessments.

The theoretical validity and empirical applicability of the same and related treatments has been demonstrated by extant research on inequality beliefs and associated political attitudes. Mijs *et al.* (2022) drew on the same treatments and found that each of them significantly affected support for redistribution. Mijs and Hoy (2021) and Alesina *et al.*

(2018) used comparable stimuli to measure the impact of information on participants' understanding of the causes of inequality and policy attitudes, respectively. Each study demonstrated that informational stimuli designed to update participants' understanding of inequality led to belief change (see also Kuklinski *et al.* 2000; Kuziemko *et al.* 2015).

Empirically, we can assess the validity of the treatments in two ways. First, we consider whether there is a significant difference between the treatment and control groups in terms of the participants' subjective evaluations of belief change. At the end of the wave 2 survey, participants were asked whether they 'were more or less worried about inequality in the Netherlands after participating in the survey' (measured on a 7-point Likert scale, ranging from 'a lot less worried' to 'a lot more worried'). We find a significant and positive difference between the wealth disparities treatment group and the control group ($b = 0.262$, $p < 0.001$), indicating that the wealth disparities treatment has a significant impact on participants' assessments that their beliefs about inequality had changed. We find no significant differences between the ethnic inequality treatment group and the control group (at $p < 0.05$).

While our research participants' subjective indication of the effect of our stimuli provides reassurance on the validity of the wealth disparities treatment, it does not validate the ethnic inequality treatment, nor does it account for their objective impact. We therefore conduct a second check of the impact of the treatments by analyzing their effects on thematically related outcomes, following the logic of a reverse placebo test. Our confidence in our null finding vis-à-vis support for a UBI would be bolstered if we find that the treatments do have a significant effect on related attitudinal variables.

To this end, we ran OLS regression models with five thematically related outcomes, reported in Table 5. The first two models give the treatment effect on participants' assessment of inequality of opportunity. The first variable reflects participants' agreement with the statement that 'children from poor families do not have the same opportunities to get ahead in life as children from rich families'; the second to what extent participants agreed with the statement that 'children from a non-Dutch background do not have the same opportunities for getting ahead in life as children with a Dutch background' (both measured on a 7-point Likert scale, ranging from 'completely disagree' to 'completely agree'). Models 3 and 4 include participants' assessment of the importance of various factors in a person's chances of getting ahead in society. Included in model 3 is participants' assessment of the importance of 'coming from

Table 5. Reverse placebo tests: OLS regression estimates on different, but related, dependent variables (based on non-missing observations on the dependent variable, pretreatment control variable and moderator variables).

Variables	Model 1 Belief in inequality of opportunity: wealthy parents	Model 2 Belief in inequality of opportunity: non-Dutch background	Model 3 Structural explanation of inequality: wealth-based	Model 4 Structural explanation of inequality: ethnic-based	Model 5 Support for economic redistribution
Wealth disparities	0.056 (0.086)	0.015 (0.096)	0.152** (0.055)	0.080 (0.058)	0.275*** (0.093)
Ethnic discrimination	0.023 (0.087)	0.374*** (0.096)	0.002 (0.055)	0.169** (0.059)	0.056 (0.093)
Intercept	5.223*** (0.061)	4.510*** (0.068)	2.826*** (0.039)	2.543*** (0.041)	4.963*** (0.066)
<i>n</i>	1,462	1,462	1,462	1,462	1,462
<i>R</i> ²	0.000	0.013	0.007	0.006	0.007

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$. Standard errors in parentheses.

a wealthy family'; model 4 gauges participants' evaluation of the importance of 'having a non-Dutch background' (both are measured on a 5-point Likert scale, ranging from 'not at all important' to 'essential'). Model 5 considers participants' support for redistribution with an item asking participants to what extent they agree with the statement that 'it is the responsibility of the government to reduce the differences in income between people with high incomes and those with low incomes', measured on the same 7-point scale as used for the items in models 1 and 2.

We find statistically significant treatment effects for all the thematically related outcomes but the first. Facts about wealth inequality significantly and positively affected participants' belief in the importance of having rich parents (Model 3; $b = 0.152$, $p < 0.01$) and their support for redistribution (Model 5; $b = 0.275$, $p < 0.001$). The ethnic inequality stimulus has a significant and positive effect on perceptions of unequal opportunities faced by ethnic minorities (Model 2; $b = 0.374$, $p < 0.001$) and on participants' evaluation of the importance of ethnic background for a person's chances of getting ahead (Model 4; $b = 0.169$, $p < 0.01$). In summary, these results reinforce the empirical validity of the treatments used in our survey experiment by showing nonzero treatment effects on related outcome variables but not on the key variable of this study, support for UBI.

Conclusion and discussion

Despite growing inequality and the non-meritocratic nature thereof, the precarization of citizens, the ongoing austerity of the welfare state, and the fact that a universal basic income is often heralded as a solution to these problems, popular support for it remains limited. In this paper, we seek to better understand this curious pattern by analyzing whether providing information about the non-meritocratic nature of wealth and ethnic inequality has an impact on people's support for a UBI, and whether the effect of information is moderated by participants' level of income, economic egalitarianism, welfare chauvinism, or institutional trust. Our population-based survey experiment fielded in the Netherlands reports null findings, suggesting that the answer is no for both types of information about inequality.

At the same time, our findings corroborate extant research on the direct association between economic egalitarianism, welfare chauvinism, and support for a UBI (Baranowski and Jabkowski 2021; Bay and

Pedersen 2006; Linnanvirta *et al.* 2019; Nettle *et al.* 2021; Parolin and Siöland 2020; Roosma and Van Oorschot 2019; Schwander and Vlandas 2020; Vlandas 2019). Unexpectedly, institutional trust proved to be unrelated to people's stance on a UBI, which indicates that the link between trust and support for social policies more generally, as has been described in previous research (e.g., Crepaz 2008; Derks 2004; Kumlin *et al.* 2017), does not automatically translate into backing for a more specific proposal like a UBI. While US-based scholarship finds that low trust in government moderates the effect of information about inequality (Alesina *et al.* 2018; Kuziemko *et al.* 2015), institutional (dis-)trust tells us little about the variable support for a UBI in the Dutch case.

A reason for the surprising lack of support after exposure to the non-meritocratic nature of wealth and ethnic inequalities may be that a UBI is perceived to be too radical an alternative to existing social policies (cf. Laenen *et al.* 2023; Rincon 2023). Tellingly, as indicated by both previous research and our validity checks, the disclosure of relevant information *does* affect people's beliefs about redistribution and inequality more generally (e.g., Alesina *et al.* 2018; Mijs and Hoy 2021). That a UBI might be viewed as too radical is also in line with the recent findings of Laenen *et al.* (2023), who identified higher levels of support for types of basic income that are conditional. Future research could therefore address why a policy solution like a UBI is regarded as too extreme while other approaches are not. The features of a UBI that generate opposition have been investigated elsewhere (Laenen *et al.* 2023), but the reasons *why* people consider one aspect to be more feasible than another in relation to implementation in the real world are still unexplored. A deliberative research design using focus groups, for example, would highlight what people consider to be justifiable alternatives to current welfare arrangements versus proposals that are seen as too radical (Burchardt 2014).

We note two other avenues for future scholarship on the topic. A first concerns the effect of citizens' knowledgeability on their support for alternatives to redistribution. This might be a relevant factor because the item measuring support for a UBI used in this study addresses its universal and unconditional nature, and, for ease of comprehension, does not speak of other elements of a UBI, such as (1) the net level of economic sustenance it provides for citizens, (2) that it replaces the current social safety net, and (3) that it does not lead to an increase in institutional inefficiency, nor higher public costs. As such, participants who were

already more knowledgeable about a UBI might have interpreted the item differently from those who are less acquainted with it.

Another avenue for future research is the contextualization of our findings through cross-national research, as there are indications that different welfare regimes inspire differences in people's receptiveness to social policies like a UBI (cf. Laenen *et al.* 2023). Surprisingly, it has been shown that liberal regimes are a more fertile breeding-ground for support for a UBI than countries where the welfare state is more encompassing (Lee 2018; Vlandas 2021). Lee (2018) has observed that citizens in the former context have a greater sense of socioeconomic insecurity, which could account for this difference. In combination with the perception of a UBI as too radical, this could account for the absence of effects of our treatments on support for a UBI, as the Netherlands has a relatively encompassing welfare state, making the Dutch public less susceptible to a UBI.

Overall, whereas previous research as well as the present study show that exposure to information on actual levels of inequality and its non-meritocratic nature inspires support for economic redistribution in general, we find that it does not in the specific case of a UBI. Future studies could examine whether exposure to relevant facts may increase popular backing for less radical social policy alternatives, as well as how far our null findings extend beyond the Dutch case.

Online supplementary materials

The replication package can be found at "<https://osf.io/s364g/>"

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