



Envy in the ballot box: How voting influences distributive preferences

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ARTICLE INFO

JEL codes:

D71
D64
C91
C92

Keywords:

Voting
Diffusion of responsibility
Distribution
Equality
Envy
Experiment

ABSTRACT

Voting is a cornerstone of democratic decision-making, but it may also diffuse individual responsibility, potentially encouraging people to support actions they would avoid when deciding alone. Such diffusion of responsibility could lead voters to prioritize relative standing over collective welfare, for example by endorsing policies that reduce others' advantages even at a cost to overall efficiency. Across two experiments (total $N = 1750$), including a preregistered replication, we examined whether voting contributes to envy-driven behavior in distributive decisions. Participants made choices in redistribution games under three decision-making rules: individually, through majority voting, or, in Study 2, via a Random Dictator mechanism that involved group decision-making without majority rule. In both studies, voting contributed to a higher rate of envy-driven choices, in which participants sacrificed efficiency to reduce disadvantageous inequality. This effect replicated with nearly identical magnitude in the preregistered study and was strongest when the personal cost of acting enviously was low. Results from the Random Dictator condition indicated that group decision-making alone increased envy-driven behavior, consistent with diffusion of responsibility, while majority rule amplified this effect further. These findings suggest that collective decision-making can shift social preferences by diffusing personal responsibility, thereby fostering competitive motives rather than cooperative ones. This psychological mechanism helps explain why democratic decisions about redistribution may sometimes reflect relative concerns rather than collective welfare.

1. Introduction

A fundamental characteristic of democratic participation is that individual votes rarely determine the outcome of an election. As a result, voters may experience a diminished sense of personal responsibility for the collective decision, potentially fostering more self-serving or envious behavior. Alternatively, the low likelihood of casting a decisive vote could also encourage individuals who typically act out of self-interest in private settings to adopt a more prosocial stance when voting, as it provides an opportunity to express socially desirable preferences at minimal personal cost. These contrasting possibilities suggest that people's decision-making in democratic

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contexts may diverge from their individual choices. This study investigates this phenomenon through two controlled experiments, an initial exploratory study (Study 1) and a preregistered confirmatory replication (Study 2), to assess whether distributive preferences differ between democratic and individual decision-making settings. While we find no evidence that voting systematically shifts preferences between equality and efficiency, our results indicate that voting increases envious behavior in distributional choices among groups.

This study builds on experimental research that examines democratic decision-making from an institutional-design perspective (Dal Bó et al., 2010; Dannenberg et al., 2020; Markussen et al., 2014; Sutter et al., 2010; Tyran and Feld, 2006). Prior work in this field has primarily focused on how democratic institutions can resolve social dilemmas by promoting socially beneficial behavior. A key finding in this literature is that democratically chosen institutions often perform better than identical institutions imposed exogenously, possibly because the act of voting signals legitimacy and influences subsequent behavior. Rather than examining institutional outcomes, our study shifts focus to how voting shapes envious behavior and distributive preferences.

Because voting could diffuse responsibility, our research connects with studies exploring how moral behavior shifts in market environments (Bartling et al., 2019, 2015b; Falk and Szech, 2013; Kirchler et al., 2016; Sutter et al., 2020). Falk and Szech (2013) demonstrated that individuals were more willing to sacrifice the life of a mouse in exchange for monetary gain when making decisions in a market setting rather than individually. One explanation for such shifts in moral behavior is the diffusion of responsibility that occurs in collective decision-making (Behnk et al., 2022; Dana et al., 2012; Darley and Latane, 1968; Kirchler et al., 2016). When choices are made collectively, individuals may feel less personally accountable for the consequences, leading them to behave in ways they might otherwise avoid in a private decision-making context. This diffusion of responsibility is not limited to market transactions but is also a fundamental characteristic of voting, where individuals share responsibility for the final outcome.

The concept of *shared guilt* provides a useful framework for understanding how collective decision-making can diffuse moral responsibility. Rothenhäusler et al. (2018) propose that individuals who support immoral group decisions experience guilt when outcomes are realized, but that this guilt diminishes as responsibility is shared among more decision-makers. Consistent with this idea, experimental studies show that distributing responsibility across individuals increases willingness to endorse morally questionable actions, both in market settings and collective choice contexts (Falk et al., 2020; Feess et al., 2023; Bartling et al., 2015a). Taken together, this body of work suggests that when responsibility is diffused, the perceived moral cost of harmful or unequal decisions is reduced, making individuals more willing to support actions they might avoid when deciding alone.

Drawing on these theoretical and empirical insights, our study was guided from the outset by the central hypothesis that voting, by diffusing responsibility, would reduce personal accountability, leading individuals to exhibit more envious behavior compared to individual decision-making. The shared responsibility inherent in voting may create a sense of justification for choices that prioritize relative standing over collective welfare, as individuals may feel less personally accountable for the outcomes.

An alternative perspective on the potential effects of voting does, however, emerge from public choice theory and research on expressive voting. These accounts propose that individuals vote not only for instrumental reasons but also as a means of signaling their values and beliefs on social issues (Tyran and Wagner, 2019) or to reinforce their social identity and group affiliation (Robbett and Matthews, 2018). According to Tullock (1971), when individuals recognize that their vote is unlikely to be decisive, they may be more inclined to behave prosocially, as this allows them to express socially desirable preferences at minimal personal cost - often referred to as the “low-cost hypothesis”. Some empirical evidence supports this notion. Ginzburg et al. (2022) examined how voting institutions shape expressive voting behaviors and found that when the probability of casting a pivotal vote decreases, either due to larger committee sizes or more restrictive voting rules, individuals are more likely to support ethically motivated proposals, even when it comes at a personal cost. This aligns with the idea that when the stakes of an individual vote are low, voters are more willing to express moral or socially desirable preferences. However, the evidence on expressive voting remains mixed. Some studies provide strong support for its impact on behavior (Bischoff and Egbert, 2013; Feddersen et al., 2009; Shayo and Harel, 2012), while others find little or no effect (Höchtel et al., 2012; Kamenica and Brad, 2014; Tyran, 2004; Tyran and Sausgruber, 2006). These conflicting findings suggest that the extent to which voters engage in expressive behavior may depend on contextual factors such as group size, voting mechanisms, and individual moral considerations.

Our study also connects to the broader political economy literature on why democracies often redistribute less than standard models predict. Explanations include beliefs about social mobility and future prospects (Piketty, 1995; Bénabou and Ok, 2001), macroeconomic shocks that shift distributional preferences toward selfishness and efficiency (Fisman et al., 2015), and heterogeneity in social preferences. Recent evidence shows that distinct preference types shape redistributive support (Fehr et al., 2024), and that beliefs about inequality interact with these types (Henkel et al., 2025). We complement these perspectives by focusing on diffusion of responsibility as a psychological mechanism that may affect redistributive behavior in democratic contexts. In doing so, our study links individual-level psychological processes to macro-level puzzles about the under-provision of redistribution.

To examine these competing perspectives, we first conducted an exploratory experiment (Study 1). Participants made allocation decisions either individually or through majority voting in large groups of 49, using four redistribution games based on Fehr and Schmidt's (1999) framework that capture both advantageous (guilt-driven) and disadvantageous (envy-driven) inequality. This design allowed us to explore whether voting encourages more equality-oriented redistribution, as suggested by expressive voting accounts, or whether it amplifies selfish and/or envy-driven choices as suggested by diffusing individual responsibility. Building on the patterns observed in Study 1, we then preregistered a confirmatory replication (Study 2) with a larger and more diverse sample and an additional Random Dictator condition, enabling a more rigorous test of whether voting systematically shifts distributive preferences.

In addition to testing the overall effects of voting, we also examined whether these effects vary across ideological orientations. To do so, we incorporated the Cultural Cognition Worldview Group (CCWVG) scale (Kahan, 2012), which measures preferences for government intervention and market regulation. Rooted in the Cultural Theory of Risk (Douglas and Wildavsky, 1982), the CCWVG

scale captures the individualism–collectivism dimension: individualists emphasize autonomy and limited government, while collectivists prioritize solidarity and endorse a stronger regulatory role for the state (Kahan and Braman, 2006; Kahan et al., 2012). This framework is particularly relevant for redistribution, where prior work suggests that collectivists are generally more supportive of intervention but may not display stronger in-group favoritism when group identity cues are weak (Triandis et al., 1988). This raises an important question: does voting amplify ideological differences in distributive behavior, or does the diffusion of responsibility attenuate them?

Based on these theoretical insights, we hypothesized that voting shapes redistributive preferences asymmetrically across ideological groups. Specifically, collectivists, who typically favor stronger government intervention, may support redistribution for two distinct reasons: (i) to mitigate their own self-serving or envious tendencies, reinforcing egalitarian principles, and (ii) to guard against perceived inequities arising from others' choices, reflecting a strategic preference for institutional fairness. To empirically evaluate these dynamics, we included the CCWVG scale as an exploratory measure. While it has been widely used to predict ideological divisions on policy issues such as climate change, use of nudges, nuclear power, abortion, and public health crises (Hagman et al., 2015; Kahan et al., 2007, 2009, 2010, 2011, 2016; Cheng et al., 2023), it has not, to our knowledge, been applied to study redistributive preferences or the extent to which these preferences shift under collective decision-making conditions. This exploratory application extends the use of the scale and contributes to a broader understanding of how ideological worldviews shape economic behavior in democratic contexts.

Taken together, the results from our two experiments reveal a clear and replicable pattern: voting amplifies envy-driven preferences in contexts involving disadvantageous inequality, particularly when achieving equality comes at little or no personal cost. This effect of voting was specific to envy; voting did not increase altruism or reduce preferences for advantageous inequality. The addition of the Random Dictator condition in Study 2 suggests that part of the effect may stem from group-level diffusion of responsibility, though majority rule appears to play a unique role. For the ideology-based hypothesis, both studies showed a descriptive pattern of stronger envy-driven redistribution among collectivists when voting, but preregistered interaction tests did not yield statistically robust evidence for moderation of the effect of voting on envy by ideological worldview. Overall, the findings highlight a potentially problematic feature of democratic decision-making: when responsibility for outcomes is shared, voters may be more likely to support policies that prioritize relative standing over collective welfare.

2. Methods

We conducted two studies to examine whether voting affects distributive preferences, particularly envy-driven behavior. Study 1 served as an initial exploratory investigation, while Study 2 was preregistered and designed to replicate and extend the initial findings with a larger and more diverse sample as well as an additional control condition. Unless otherwise noted, procedures were identical across studies.

2.1. Participants and recruitment

Study 1: A total of 574 undergraduate students (44.4% female; M age = 23.4, SD = 4.0) were recruited via the Online Recruitment System for Economic Experiments (ORSEE; Greiner, 2015) at a Swedish university. Participants completed the study in a laboratory setting.

Study 2: A total of 1176 English-speaking participants (57.6% female; M age = 42.2, SD = 13.0) were recruited online via Prolific (Palan and Schitter, 2018).

Study 2 was preregistered in advance, and all data, code, and materials are openly available (<https://osf.io/xgtsv/>).

The distribution of demographic characteristics (age, gender, education) and worldview scores was similar across experimental conditions in both studies. Full descriptive results are reported in Supplementary Tables 1 and 2.

All participants gave informed consent and were paid based on the outcome of one randomly selected decision task plus a fixed show-up fee.

2.2. Experimental tasks

Participants completed a set of binary redistribution games adapted from Bartling et al. (2009) to measure preferences for equality under both advantageous and disadvantageous inequality (see Table 1). In each game, participants chose between two payoff allocations for themselves (*self*) and another anonymous participant (*other*).

One randomly selected decision was implemented for payment.

In Study 1, payoffs were denominated in Swedish kronor (SEK); in Study 2, they were denominated in tokens convertible to British pounds.

Table 1

Distribution games used in both studies.

Game	Alternative A (Equal)	Alternative B (Unequal)	Interpretation of choosing A
Guilt Game	(40, 40)	(40, 30)	Reduces advantageous inequality
Envy Game	(40, 40)	(40, 50)	Reduces disadvantageous inequality (envy-driven choice)
Costly Altruism Game	(40, 40)	(35, 50)	Sacrifice own payoff to increase other's payoff (altruism)
Costly Envy Game	(40, 40)	(45, 50)	Sacrifice efficiency to reduce other's relative advantage (envy at cost)
Costly (but Cheap) Envy Game (Study 2 only)	(40, 40)	(41, 50)	Low-cost envy-driven choice

2.3. Experimental conditions

Participants were randomly assigned to one of the following decision-making conditions:

1. Individual Choice: Decisions affected only the participant and a single partner. The chosen option was directly implemented for that pair.
2. Voting (Majority Rule): Participants were grouped into clusters of 49 individuals. Each participant voted for Alternative A or B, and the option receiving the majority of votes was implemented for all group members. The group size was deliberately chosen to make any single vote unlikely to be pivotal, mimicking real-world democratic settings.
3. Random Dictator (Study 2 only): To control for group context effects and ex-ante diffusion of responsibility, Study 2 added a third condition in which participants were again grouped into clusters of 49. However, instead of majority rule, one randomly selected participant's choice was implemented for the entire group. This allowed us to isolate effects of voting per se from general group-level dynamics.

2.4. Procedure

Both studies followed a similar overall procedure, with only minor differences in implementation. Upon arrival (Study 1, in the laboratory) or login (Study 2, online), participants first received detailed instructions describing the decision tasks and the rules of their assigned condition. Comprehension checks were included to ensure participants understood the games and decision-making procedures before continuing.

Participants then completed the redistribution games in a randomized order. In Study 1, participants played four games, whereas Study 2 included a fifth game—the Costly (but Cheap) Envy Game—to test whether envy-driven choices also emerge when equality can be achieved at very low personal cost. The only procedural difference between conditions was the decision rule: participants either made choices individually, voted in a group of 49 where the majority choice was implemented, or (in Study 2 only) were part of a group where the outcome was determined by the choice of a single randomly selected group member (Random Dictator condition).

After completing the decision tasks, participants provided demographic information, including age and gender, and completed the Cultural Cognition Worldview Group (CCWVG) scale (Kahan, 2012), which measures ideological orientations along an individualism–collectivism dimension. At the conclusion of the study, one of the decisions was randomly selected for actual payment. In the voting and random dictator conditions, the implemented allocation applied to all members of the group.

In Study 1, all decisions were made anonymously in a laboratory setting using desktop computers. Study 2 followed the same steps but was conducted online, with additional integrity checks to ensure data quality.

2.5. Hypotheses and preregistration

Primary Hypothesis (H1): Voting increases envious behavior compared to individual decision-making.

Secondary Hypothesis (H2): The effect of voting on envy is stronger among participants with collectivistic worldviews than among those with individualistic worldviews.

Study 1 was exploratory and used to generate these hypotheses.

Study 2 served as a preregistered confirmatory test of H1 and H2, following a detailed preregistered analysis plan. Any additional analyses beyond the preregistration are reported as exploratory.

2.6. Statistical analysis

The main outcome variable was whether participants selected the equal allocation (Alternative A) in each game. We began by examining simple descriptive patterns, comparing the proportion of equal choices across conditions using chi-square tests for each game. To assess the robustness of these results and account for individual-level differences, we then estimated logistic regression models that included gender, age, and worldview score as covariates. Because randomization and outcomes were at the individual level, and participants made decisions privately without feedback, each observation can be treated as independent. For this reason, clustering of standard errors at the group level is not necessary in our design.

Table 2
Key differences between studies.

Aspect	Study 1	Study 2
Purpose	Exploratory, hypothesis-generating	Confirmatory, preregistered replication
Sample	Swedish undergraduates (N = 574)	Prolific online sample, diverse demographics (N = 1176)
Conditions	Individual, Voting	Individual, Voting, Random Dictator
Games	4 redistribution games	Same 4 games + added “Costly (but Cheap) Envy Game”
Preregistration	No	Yes

For Study 2, which was preregistered, we followed the pre-specified analysis plan to formally evaluate whether the effects observed in Study 1 replicated. We also compared outcomes between the Voting and Random Dictator conditions to determine whether any observed effects were specifically attributable to majority rule decision-making rather than to general group dynamics or ex-ante diffusion of responsibility (Table 2).

3. Results

We first report descriptive results for each game across conditions and studies, followed by regression analyses that adjust for demographic covariates and worldview. By presenting the results of Studies 1 and 2 together, we highlight which effects replicate and which do not.

3.1. Envious behavior when voting

Our primary hypothesis (H1) concerned whether voting would increase envy-driven behavior compared to individual decision-making. Across both studies, we observed this predicted pattern.

In the Envy Game, participants were more likely to select the equal distribution when decisions were made by voting rather than individually. In Study 1, 40.7% chose equality under Individual Choice compared to 50.3% under Voting, a difference of 9.6 percentage points ($\chi^2(1) = 5.36, p = 0.021, n = 574$). In Study 2, this result replicated almost exactly: 56.7% under Individual Choice vs. 67.9% under Voting, a difference of 11.2 percentage points ($\chi^2(1) = 10.49, p = 0.001, n = 786$). The Random Dictator condition produced an intermediate outcome (61.5%), consistent with partial diffusion of responsibility, though the difference between Voting and Random Dictator did not reach conventional levels of significance ($\chi^2(1) = 3.51, p = 0.061$).

In Study 2 we also introduced the Costly (but Cheap) Envy Game, where enforcing equality came at a very small personal cost. Here too, voting significantly increased envy-driven choices: 11.5 percentage points more participants selected the equal option under Voting than under Individual Choice ($\chi^2(1) = 10.46, p = 0.001, n = 786$). By contrast, in the Costly Envy Game, where enforcing equality required a larger personal sacrifice, the effect of voting was weaker and not statistically reliable in either study. In Study 2, the increase was only 6.4 percentage points and fell short of significance ($\chi^2(1) = 3.20, p = 0.074, n = 786$).

Taken together, the results in Fig. 1 show that voting consistently amplified envy-driven behavior when reducing disadvantageous inequality came at no or very low cost, but the effect diminished when equality required a substantial personal sacrifice. To further explore the pattern observed across the three conditions, we conducted a Jonckheere–Terpstra test for ordered alternatives, examining whether envy-driven choices increased stepwise across the three conditions (Voting > RD > Individual). This test was not preregistered and was carried out following a suggestion by a reviewer during the Stage 2 evaluation of this paper. The analysis revealed a significant increasing trend, $JT = 247,721, z = 3.23, p < 0.001, n = 1176$, which is consistent with the visual impression of the data. While exploratory, this finding provides additional support for our interpretation that both group decision-making in general and majority rule specifically contribute to higher levels of envy-driven behavior.

3.2. Voting effects in other redistribution games

Voting effects did not generalize beyond envy-driven contexts. In the Guilt Game, which involved advantageous inequality, Study 2 revealed a small but significant negative effect: 6.1 percentage points fewer participants chose the equal allocation under Voting than under Individual Choice ($\chi^2(1) = 5.31, p = 0.021, n = 786$). No such effect was observed in Study 1, so this finding does not represent a replicated pattern.

In the Costly Altruism Game, where participants could sacrifice their own payoff to increase another's, there was no evidence that voting affected behavior in either study. Choices were stable across conditions.

As illustrated in Fig. 2, these results suggest that voting's influence is specific to disadvantageous inequality. It reliably increases envy-driven redistribution when costs are low or moderate, but it does not extend to altruistic behavior and may even reduce preferences for equality in contexts of advantageous inequality.

3.3. Regression analyses

Logistic regression models controlling for age, gender, and worldview confirmed the descriptive findings (Tables 3 and 4). In the Envy Game, voting increased the probability of choosing the equal distribution by 9.1 percentage points in Study 1 ($p = 0.022$) and by

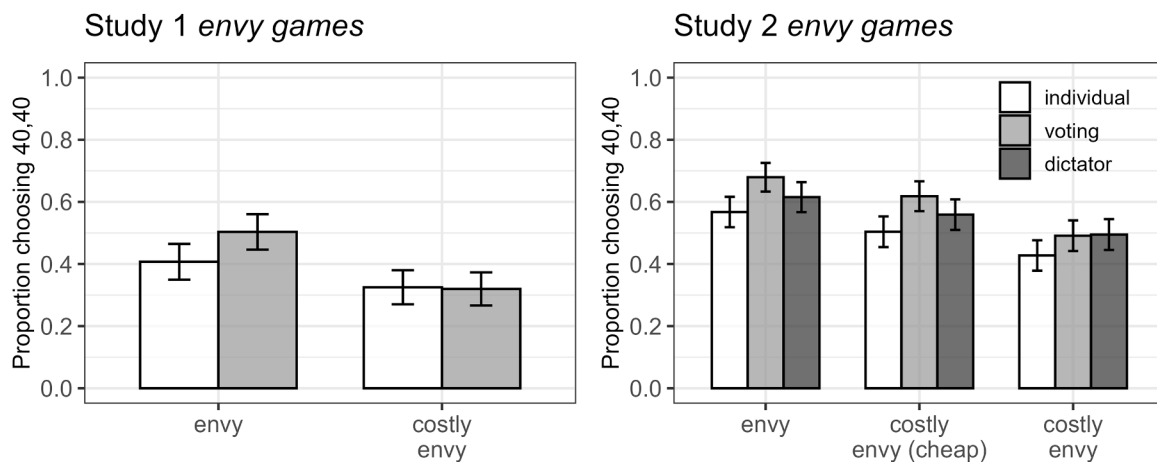


Fig. 1. Proportion of participants that chose the equal alternative in the envy games for each study. Bars represent 95% confidence intervals. White indicates individual condition, grey indicates the voting condition, and dark grey indicates the random dictator condition (only Study 2).

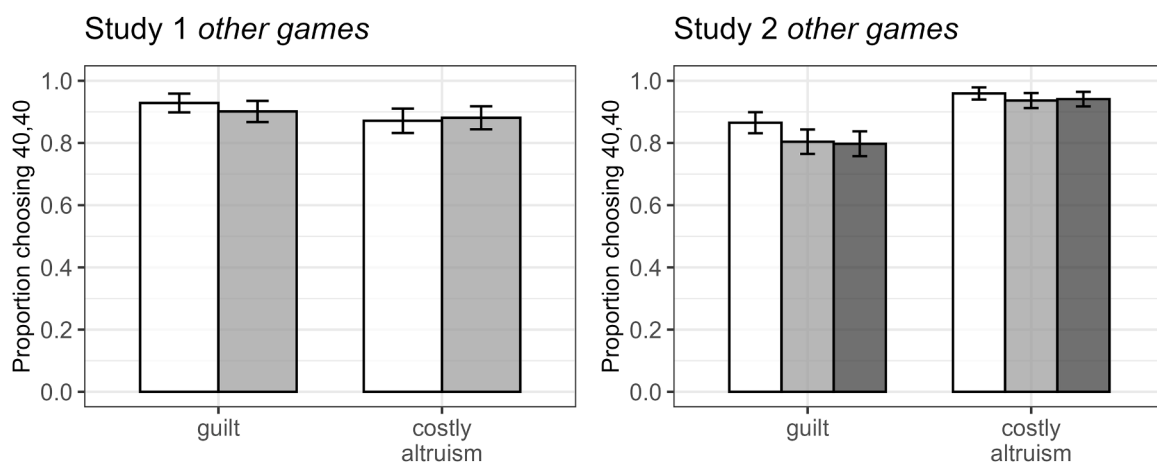


Fig. 2. Proportion of participants that chose the equal alternative in the other distribution games (the Guilt Game and the Costly Altruism Game) for each study. Bars represent 95% confidence intervals. White indicates individual condition, grey indicates the voting condition, and dark grey indicates the random dictator condition (only Study 2).

Table 3

Logistic regression for the effect of voting on preferences for equality (Study 1).

	Guilt Game	Envy Game	Costly Altruism Game	Costly Envy Game
Voting	−0.031 (0.024)	0.091** (0.040)	0.010 (0.027)	−0.016 (0.038)
Female	−0.026 (0.024)	0.237*** (0.036)	0.122*** (0.032)	0.228*** (0.034)
Age	0.011** (0.005)	−0.005 (0.005)	−0.005* (0.003)	0.004 (0.005)
Worldview scale	−0.053** (0.023)	0.052 (0.039)	0.018 (0.026)	0.050 (0.037)
Observations	574	574	574	574

Note: Presented with average marginal effects, standard errors in parentheses. For each game, dependent variable = 1 if subjects chose the equal allocation (40,40) and = 0 otherwise. Worldview scale is subjects' average score (ranging from 1 to 4) from the Cultural Cognition Worldview Group Scale, where 1 is the most collectivistic score and 4 is the most individualistic score.

*** $p < 0.01$.

** $p < 0.05$.

* $p < 0.1$.

Table 4

Logistic regression for the effect of voting on preferences for equality (Study 2).

	Guilt Game	Envy Game	Costly Altruism Game	Costly Envy Game	Costly (but Cheap) Envy Game
Voting	−0.055** (0.026)	0.091*** (0.033)	−0.024 (0.016)	0.038 (0.034)	0.091*** (0.034)
Female	−0.06** (0.028)	0.233*** (0.029)	0.007 (0.016)	0.289*** (0.029)	0.287*** (0.027)
Age	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)
Worldview scale	−0.037 (0.025)	0.105*** (0.031)	0.029* (0.016)	0.119*** (0.032)	0.075** (0.031)
Observations	786	786	786	786	786

Note: Presented with average marginal effects, standard errors in parentheses. For each game, dependent variable = 1 if subjects chose the equal allocation (40,40) and = 0 otherwise. Worldview scale is subjects' average score from the Cultural Cognition Worldview Group Scale, where 1 is the most collectivistic score and 4 is the most individualistic score.

*** $p < 0.01$.

** $p < 0.05$.

* $p < 0.1$.

9.1 percentage points in Study 2 ($p = 0.006$). Results for the Costly (but Cheap) Envy Game in Study 2 were nearly identical. No significant effects were observed in the other games, except for the negative effect of voting in the Guilt Game in Study 2 ($p = 0.038$).

To further assess robustness, we estimated additional regressions that included treatment dummies for both the Voting and Random Dictator conditions, using Individual Choice as the reference category. These models, reported in Supplementary Table 3, yielded effect sizes similar to our main analyses (e.g., the effect of Voting vs. Individual in the Envy Game was 9.3 percentage points when adjusting for covariates). Tests of coefficient equality indicated that the difference between the Voting and Random Dictator conditions was not statistically significant ($p = 0.13$ for the Envy Game).

Gender emerged as a consistent predictor: women were more likely than men to choose the equal allocation in all the envy games across both studies. Worldview scores predicted behavior in the envy games in Study 2, where participants with more individualistic orientations were more likely to make envy-driven choices. There was a tendency for a similar pattern in Study 1, but the effects there were weaker and not significant.

3.4. Worldview and moderation of voting effects

Study 1 suggested that collectivists might be particularly prone to envy-driven choices when voting: they increased the proportion of equal choices from 36.2% to 51.4% when voting ($\chi^2(1) = 6.22$, $p = 0.013$), whereas among individualists the increase was smaller and nonsignificant (44.4% to 49.4%, $\chi^2(1) = 0.75$, $p = 0.387$). In Study 2, this descriptive pattern replicated: among collectivists, voting increased the proportion of equal choices from 50.2% to 63.1% ($\chi^2(1) = 6.83$, $p = 0.009$), whereas among individualists the increase was smaller and nonsignificant (64.4% to 72.7%, $\chi^2(1) = 3.01$, $p = 0.083$).

However, preregistered interaction models using worldview as a continuous variable did not detect a statistically reliable moderation effect in either study. Fig. 3 shows the descriptive subgroup patterns, while Tables 5 and 6 present the regression results. These findings suggest that while ideological worldview may predict overall envy-driven behavior, it does not reliably moderate the

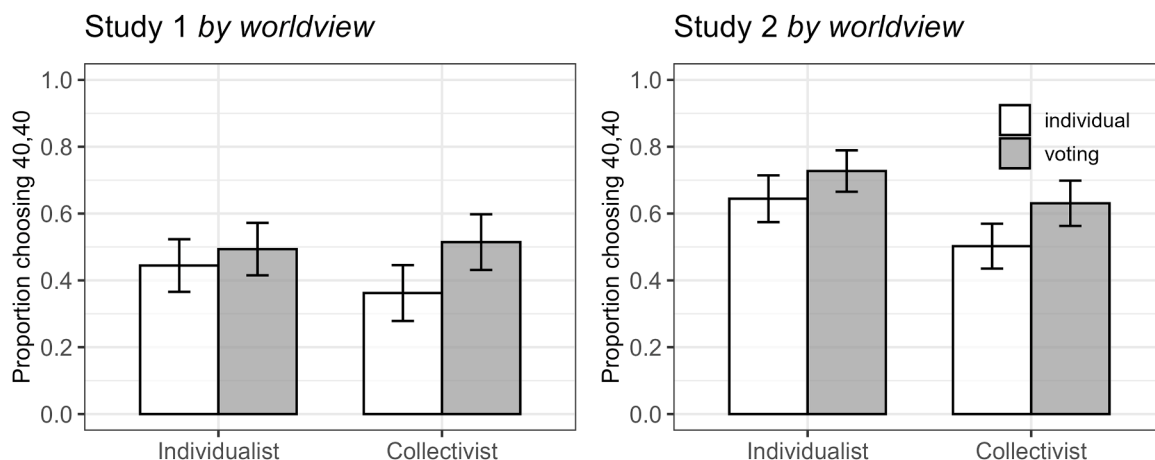


Fig. 3. Proportion of collectivists and individualists choosing the equal distribution in the Envy Game for each study. Bars represent 95% confidence intervals. White indicates individual condition and grey indicates the voting condition.

Table 5
Summary of interaction models (Study 1).

	Guilt Game	Envy Game	Costly Altruism Game	Costly Envy Game
Intercept	0.780 (1.877)	−1.466* (0.836)	1.398 (1.133)	−2.937*** (0.887)
Voting	0.623 (1.581)	1.366 (0.863)	1.715 (1.240)	1.079 (0.930)
Worldview scale	−0.465 (0.455)	0.430* (0.245)	0.507 (0.354)	0.477* (0.259)
Female	−0.341 (0.310)	1.027*** (0.177)	1.156*** (0.301)	1.114*** (0.188)
Age	0.139** (0.064)	−0.020 (0.022)	−0.048* (0.028)	0.021 (0.023)
Voting x Worldview scale	−0.391 (0.589)	−0.387 (0.336)	−0.652 (0.488)	−0.460 (0.363)
Observations	574	574	574	574

Note: Logistic regressions. Presented with log-odds estimates, and standard errors in parentheses. For each game, dependent variable = 1 if subjects chose the equal allocation (40,40) and = 0 otherwise. Worldview scale is subjects' average score (ranging from 1 to 4) from the Cultural Cognition Worldview Group Scale, where 1 is the most collectivistic score and 4 is the most individualistic score.

*** $p < 0.01$.

** $p < 0.05$.

* $p < 0.1$.

Table 6
Summary of interaction models (Study 2).

	Guilt Game	Envy Game	Costly Altruism Game	Costly Envy Game	Costly (but Cheap) Envy Game
Intercept	2.716*** (0.846)	−1.785*** (0.596)	0.380 (1.295)	−2.717*** (0.622)	−1.784*** (0.599)
Voting	−0.921 (1.006)	0.374 (0.762)	0.370 (1.550)	0.492 (0.767)	0.460 (0.755)
Worldview scale	−0.390 (0.288)	0.481** (0.202)	0.796 (0.488)	0.599*** (0.209)	0.353* (0.203)
Female	−0.445** (0.204)	1.088*** (0.155)	0.131 (0.326)	1.299*** (0.158)	1.315*** (0.154)
Age	0.010 (0.008)	0.006 (0.006)	0.019 (0.013)	0.004 (0.006)	0.004 (0.006)
Voting x Worldview scale	0.198 (0.378)	0.019 (0.294)	−0.362 (0.632)	−0.124 (0.292)	−0.018 (0.289)
Observations	786	786	786	786	786

Note: Logistic regressions. Presented with log-odds estimates, and standard errors in parentheses. Dependent variable = 1 if subjects chose the equal allocation (40,40) and = 0 otherwise. Worldview scale is subjects' average score from the Cultural Cognition Worldview Group Scale, where 1 is the most collectivistic score and 4 is the most individualistic score.

*** $p < 0.01$.

** $p < 0.05$.

* $p < 0.1$.

effect of voting.

3.5. Replication summary

Across both studies, we find consistent evidence that voting increases envious behavior in redistribution settings, supporting Hypothesis 1. This effect was robust in the Envy Game and replicated in the Costly (but Cheap) Envy Game, suggesting that diffusion of responsibility in voting contexts makes participants more willing to sacrifice efficiency to reduce disadvantageous inequality.

Hypothesis 2, which proposed that this effect would be stronger among collectivists, was not supported. Although descriptively stronger effects were observed among collectivists, formal interaction tests were nonsignificant in both studies.

The addition of the Random Dictator condition in Study 2 suggests that part of the effect may stem from group-level diffusion of responsibility, though majority rule appears to play a unique role.

Together, these findings point to a potentially problematic feature of democratic decision-making: when responsibility is shared, voters may be more inclined to endorse choices that prioritize relative standing over collective welfare.

4. Discussion

Our study set out to investigate whether voting, as a collective decision-making process, influences distributive preferences,

particularly envious behavior. Across two behavioral experiments, we found that individuals were significantly more likely to express envious preferences, choosing to sacrifice overall efficiency to reduce disadvantageous inequality, when making decisions through voting rather than individually. This finding challenges the conventional assumption that democratic participation primarily fosters prosocial behavior and highlights the complex psychological mechanisms that underlie collective decision-making.

At the same time, our results also nuance the view that voters act mainly out of narrow self-interest (Agranov and Palfrey, 2015; Esarey et al., 2012). Prior studies show only a weak connection between voting and material self-interest (Gelman et al., 2007; Hansson et al., 2022; Sears and Funk, 1990), and our findings are consistent with this. Specifically, we found that voting did not simply encourage selfish choices or a general preference for equality. Instead, it appeared to trigger group-based, envious responses in scenarios involving disadvantageous inequality. This interpretation resonates with research showing that groups tend to act more competitively and less cooperatively than individuals (Kugler et al., 2012; Luhan et al., 2009; Schopler et al., 2001), and with studies suggesting that people feel less empathy toward groups than toward individuals (Fetherstonhaugh et al., 1997; Slovic, 2007). In our setting, social comparison processes underlying envy were amplified when decisions were made by voting, particularly in distributions between groups where relative disadvantage became salient.

A plausible mechanism behind this behavioral shift is the diffusion of responsibility or guilt sharing that voting contexts create. When individual responsibility is diffused, voters may become more willing to endorse punitive redistributive policies without fully considering their far-reaching economic consequences. This interpretation aligns with Bartling et al. (2015a), who found that individuals preferring unequal distributions often avoid being directly responsible for outcomes, and with Schumacher et al. (2017), who demonstrated that individuals who are prosocial in small group settings may act more selfishly when costs are widely dispersed. Thus, diffusion of responsibility may encourage voters to support punitive redistributive policies, potentially overlooking the broader economic repercussions of such decisions. By amplifying envious behavior and weakening personal accountability, voting contexts may inadvertently promote choices that prioritize relative standing over collective welfare.

Our findings also connect to the longstanding political economy puzzle of why democracies often provide less redistribution than standard models predict. While prior accounts emphasize beliefs about social mobility and social preferences, our results suggest that diffusion of responsibility in voting contexts may be an additional psychological mechanism that shapes redistributive behavior, specifically by amplifying envy-driven responses to disadvantageous inequality. By highlighting this link, our study bridges individual-level decision-making processes with macro-level patterns of under-provision of redistribution in democratic societies.

An exploratory finding from Study 1 suggested that the increase in envious behavior when voting was primarily driven by individuals with a collectivistic-oriented worldview. This result was particularly intriguing, as collectivistic worldviews are typically associated with support for social policies that prioritize collective welfare over individual gains, indicating a potentially complex relationship between political ideology and other-regarding behavior in the context of voting. While Study 2 replicated the overall descriptive pattern, showing a positive and significant effect of voting on envious behavior among collectivists but not among individualists, the effect was less pronounced, and no robust interaction between voting and cognitive worldview emerged. Although these findings point to an interesting dynamic, they remain inconclusive. While individuals with a collectivistic worldview may be more inclined to exhibit envious tendencies in a voting context, tendencies they might not express in individual decision-making settings, our results should be interpreted with caution. Our preregistered difference-in-differences analysis did not provide statistical support for this hypothesis. Given these limitations, further research is needed to clarify whether and how individual differences in cognitive worldview interact with democratic decision-making processes to shape envious behavior across different social and economic contexts.

Our study also revealed gender differences in social preferences, showing that women exhibit stronger envy-driven behavior in redistributive choices compared to men. Specifically, women were more likely to sacrifice overall efficiency to reduce inequality, even at a personal cost. While this aligns with Capraro (2020), who found that women prioritize equality over efficiency, our findings suggest that this behavior is primarily driven by envy rather than a general concern for fairness. Similarly, Exley et al. (2025) note that while women are often expected to be more fairness-oriented than men, actual gender differences in social preferences are less pronounced and vary across contexts. These results highlight the complexity of gendered social preferences, suggesting that women's redistributive choices may stem more from disadvantage aversion than a broad concern for fairness.

Some limitations should be noted. First, we explore the effect of voting only at the point of decision. However, democratic participation is not only about voting. Frey (1994) distinguishes three different stages of democratic participation: (i) the pre-voting stage where group discussions enable mutually beneficial bargaining and exchange, (ii) the voting stage where voters may gain some intrinsic utility from the act of expressing their preferences, and (iii) the post-voting stage where voters can signal to the others their act. Our experiment focuses exclusively on the act of voting (ii). As such, we are not able to say anything about the effects of democratic participation on distributive preferences. Second, as highlighted by Buchan et al. (2006), measures of individual differences in cognitive worldviews regarding social structures (individualism-collectivism) may not perform equally well across all populations. In particular, non-Western samples (e.g., China) may have developed within social structures that shape distinct cognitive approaches toward social structures and responsibility. Since the scale used in this study has predominantly been used within Western populations, this raises concerns about the cross-cultural reliability of this construct.

In conclusion, while democratic decision-making is a cornerstone of fair governance, our research suggests that voting contexts can sometimes lead to suboptimal social outcomes by amplifying envious behavior. Rather than pointing to inherent flaws in democracy, our findings highlight how collective decision-making can change the psychological calculus of redistribution. This perspective resonates with the “morals and markets” literature pioneered by Nora Szech and colleagues, which shows how market institutions can erode moral standards when responsibility is diffused. Our results suggest that democratic contexts may be subject to a similar dynamic: when responsibility is shared, voters become more willing to sacrifice efficiency to improve relative standing. Recognizing this

parallel not only deepens our understanding of the psychology of democracy but also underscores the need to consider how institutional design can counteract responsibility diffusion in both markets and politics.

Compliance with ethical standards

This study was conducted in compliance with ethical standards.

Use of AI

The authors used OpenAI's ChatGPT (GPT-5) to assist with language editing, text refinement, and reference formatting during manuscript preparation. The AI tool was not used for data analysis, interpretation of results, or generation of scientific content.

Funding

This work was supported by the Swedish Research Council (grant number: 2018–01755 and 2024–01310). Funders had no role in study design, data collection, and analysis, decision to publish, or preparation of the manuscript.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at [doi:10.1016/j.euroecorev.2026.105389](https://doi.org/10.1016/j.euroecorev.2026.105389).

Data availability

Data and materials is available at <https://osf.io/xgtsv/>.

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