

# Disentangling the Factors Behind Shifting Voting Intentions: The Bandwagon Effect Reflects Heuristic Processing, While the Underdog Effect Reflects Fairness Concerns

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Supplementary Materials: Data, Materials, Preregistration [see Index of Supplementary Materials]



## Abstract

In today's elections, abundantly available polls inform voters what parties lead and what parties trail. This allows voters to accurately predict the likely outcomes of elections before the final results are in. Voters may react to these ex-ante election outcomes by shifting their votes either toward leading parties, often termed the “bandwagon effect” or toward trailing parties, often termed the “underdog effect”. The published literature presents different perspectives on the strength of both effects and the underlying psychological processes. Three preregistered studies (total N = 1,424) test the psychological causes of both effects. Exploratory Study 1 relates differences in interpersonal, moral, strategic, and epistemic psychological factors to shifts in voting intentions before the 2019 Polish parliamentary elections. Results suggest that the bandwagon effect reflects a lack of political expertise, whereas the underdog effect reflects fairness concerns. To provide experimental evidence, Studies 2a and 2b manipulate these two factors in a simulated election design. The results confirm that low expertise increases the bandwagon effect and that fairness concerns increase the underdog effect.

## Keywords

elections, polls, political psychology, decision making, heuristics, morality

## Non-Technical Summary

### Background

In parliamentary, presidential, or other political elections, people can arrive at their decision on whom to vote for depending on their interests, preferences, and evaluations of candidates. Typically, polls are conducted before election day to measure voting intentions. The results of these polls provide voters with an early preview of the likely results of the election. Earlier research shows that this information can influence people and their voting intentions. Specifically, two effects are distinguished: a bandwagon effect where people who intend to vote for parties that are trailing in the polls switch to parties that are leading in the polls; and an underdog effect in the opposite direction, from a leading to a trailing party.



**Why was this study done?**

Most who studied these phenomena mainly focused on documenting the effect, without testing the psychological process. This is a problem because both effects may be due to various different processes. We wanted to tease apart different explanations, to identify why both effects occur. Furthermore, drawing on that insight, we wanted to test the causal effect of these variables in an experimental design, because this allows for making causal inferences.

**What did the researchers do and find?**

In our first study, we recruited 1,131 adult Polish voters in the 2019 parliamentary elections. We checked who switched voting intentions and in what direction – and we tested a host of psychological factors to predict such switches. We found that the bandwagon effect reflects a lack of political expertise, whereas the underdog effect reflects fairness concerns. Next, we conducted two experiments (in the USA and the EU) in which we simulated an election and in which we tested the effect of both factors on switching intentions. These confirmed the causal effect of both factors.

**What do these findings mean?**

Our results suggest that the term underdog effect is correct, in the sense that it reflects the underlying psychological process. People who experience a moral concern and sense of pity for a trailing party's outcomes are more likely to switch from an intention to vote for a leading party and to vote instead for a trailing party. But our results also suggest that the term bandwagon effect is less well chosen because the effect does not reflect an interpersonal desire to belong to the victorious majority. Instead, the effect appears to reflect a more "mindless" tendency to simply follow the heuristic that the majority is usually right.

Voters today can make accurate predictions about the likely, future outcomes of political elections, long before casting their votes. In the United States, for example, in the weeks before a major election, all major news organizations publish information from their own and others' polls, collected in regular intervals, presenting the public every day with updated information on the likely result of the elections. As a result, voters do not cast their vote blindly, but with the knowledge of how their fellow citizens are likely to vote. An interesting question is how voters use this information to decide on which party or candidate to cast the ballot.

**Bandwagon vs. Underdog Effects**

In the current manuscript, we try to better understand the psychological factors that shape how voters react to such information. One possibility is that people are more likely to switch their vote to leading parties that are expected to win or do well. This effect is typically referred to as the *bandwagon effect* (Bartels, 1988; Simon, 1954). It connects to classic psychological theories of social conformity, meaning that people sometimes shift their opinion to match that of the majority (Asch, 1955; Latané, 1981; Sherif, 1936). But another possibility is that voters change their voting intentions toward a political party that is trailing. This effect is typically referred to as the *underdog effect* (Robinson, 1937; Simon, 1954; Vandello et al., 2007). It connects to equally classic theories in psychology that minorities can also have disproportionately strong effects and make the majority switch position (Moscovici, 1980; Moscovici et al., 1969).

These two effects thus go in opposite directions. This causes problems when these two effects are studied by looking at shifts in aggregated voting outcomes, as has been done often in past research, because the presence of one effect statistically suppresses the other. When some people's choices are influenced by a bandwagon effect and a similar number of other people's choices by an underdog effect, little changes overall even though both effects influence the outcome. This can explain why support for the existence of both effects is mixed.

Some research concludes that the bandwagon effect is robust, while there is little evidence for the underdog effect (Ansolabehere & Iyengar, 1994; Goidel & Shields, 1994; McAllister & Studlar, 1991; Mehrabian, 1998; for an overview see Barnfield, 2020). Particularly strong evidence in favor of the bandwagon effect comes for example from a recent analysis of voting data collected during the 2018 Brazilian presidential elections, in which technical glitches caused some voters to cast their ballots after initial results were announced. Results suggested a sizeable bandwagon and no underdog

effect (Araújo & Gatto, 2022). Other strong evidence for a bandwagon effect comes from a controlled experiment, which showed that participants were more likely to donate to charities that received the support of a majority of other participants (Farjam, 2021).

Yet other research reaches the opposite conclusion and reports that the underdog effect is larger than the bandwagon effect or even that there is no support for the latter (Ceci & Kain, 1982; Fleitas, 1971; Gaskill, 1974; LaPonce, 1966; Lavrakas et al., 1991; Marsh, 1985; Whiteley, 1986). Particular strong evidence comes from a recent study that used the asynchronous introduction of a ban on publishing polling information across various Indian states as a natural experiment. Results showed that support for trailing parties was higher if polling information was available, consistent with an underdog effect (Chatterjee & Kamal, 2021).

A better understanding of the psychological mechanisms behind both effects may be helpful (Barnfield, 2020; Grünhage & Reuter, 2021; Jenke & Huettel, 2016; Nadeau et al., 1993). Intuitively, the psychological mechanisms behind the two effects appear to be clear: the term *bandwagon effect* suggests that the effect is driven by an interpersonal desire to belong to the cheerful majority that celebrates victory, while the term *underdog effect* suggests that the effect is driven by fairness concerns and feelings of pity with the party that is predicted to lose. Nonetheless, the psychological factors that actually drive these effects may be different than suggested by their names. It is also quite possible that either effect is overdetermined and simultaneously due to multiple, different psychological mechanisms. Furthermore, factors that cause one effect may also suppress the other. For example, moral fairness concerns may reduce the likelihood that voters who initially favored a trailing party switch to a leading party and thus suppress the bandwagon effect. Finally, different factors may create effects in opposite directions that (partially) suppress or cancel each other out (e.g. Costello & Lilienfeld, 2021; Osborne et al., 2021). A failure to measure the underlying psychological factors may thus underestimate overall effects.

To overcome these limitations, we aim to take an individual perspective and tests how interpersonal differences in psychological motives predict individual shifts in voting intentions toward trailing parties (underdog effect) or toward leading parties (bandwagon effect), or prevent the likelihood of such shifts.

## Socio-Psychological Causes of Shifting Voting Intentions

Based on the established literature, we identified interpersonal, fairness, strategic, and epistemic psychological factors that may increase and decrease the bandwagon and underdog effects. The first two factors focus on the underlying psychological process directly suggested by the terms bandwagon and underdog. Specifically, the term bandwagon suggests an *interpersonal* need to join the majority, while the term underdog suggests the effect reflects *fairness* concerns with the predicted loser of the election. The latter two factors focus on rational choice and bounded rationality as theoretical models. Specifically, the most straightforward prediction following rational choice is that people will switch voting intentions *strategically*, in order to maximize utility (Simon, 1954). In contrast, from a bounded rationality perspective, epistemic factors such as a lack of complete information can increase the role of peripheral aspects of information in decision making (Tversky & Kahneman, 1974). Below we explain these ideas in detail:

### Interpersonal Factors: Belonging and Uniqueness

First, people may switch votes for interpersonal reasons. People often choose to associate with other groups – in particular with majority groups – to fit in and satisfy their need to belong (Baumeister & Leary, 1995; Campbell & Tesser, 1986; Schimel et al., 2000; Snyder et al., 1986). In the context of an election, joining a majority group and staying with that group is particularly appealing, because it also means being on the side of the winner of that election (Abramowitz, 1987; Mutz, 1992). This interpersonal desire to belong is one of the most common explanations of the psychological factors driving the bandwagon effect (Ansolabehere & Iyengar, 1994). By demonstrating this “herd behavior”, people may seek to try to satisfy their need to belong – in particular, to belong to the valued group that won the elections (Bartels, 1988; Zech, 1975). At the same time, this same motive to be part of the herd may also lead those people who initially considered voting for the leading party to stick with that party and thus reduce the underdog effect.

At the same time, interpersonal factors may also produce the opposite tendency to move to trailing parties, because it may be particularly appealing to belong to a small and unique group that struggles to heroically get ahead, against

all odds (Goldschmied & Vandello, 2009; Vandello et al., 2007). For example, people who score high in this desire to be unique or distinct from others (Snyder & Fromkin, 1980) tend to buy scarce, customized, or rare products (Lynn & Harris, 1997). Analogous to such consumer choice effects, the need for uniqueness may have political consequences and increase the underdog effect because it leads people to switch to smaller, trailing parties for they are more distinct and offer more uniqueness. Again, the same motive may also reduce the bandwagon effect because it makes leaving that smaller group less attractive.

### **Fairness Factors: Equity and Equality**

Second, people may switch voting intentions because of moral concerns about fairness. Notions about morality shape people's daily interactions, intuitions, and decisions (Haidt, 2007; Hofmann et al., 2014) including their political thoughts (Graham et al., 2009; Haidt & Graham, 2007). Therefore, it makes sense to expect that also their voting decision may be influenced by moral concerns for fairness. At the same time, there is little to no research testing the effect of moral concerns to explain bandwagon and underdog effects. One exception is work by Morton and Ou (2015), who point to the possibility that bandwagon and underdog effects may be driven by so-called other-regarding preferences. To chart the effects of moral concerns, here we rely on the distinction in distributive justice between the equity and equality principle (Deutsch, 1975, 1985).

The equity principle is based on parties' input or contribution and considers it morally correct that those who perform well receive what they deserve. If a party does well in the polls, presumably it reflects a superior performance. Therefore, people who more strongly endorse the equity principle will be more inclined to switch their support to that leading party – or stick with that party if they were already considering voting for it – because it is fair to reward parties that have “deserved” their vote (Davey et al., 1999).

In contrast, the equality principle stresses the importance of distributive equality and leads people to help or support those who have less than others (Fehr & Schmidt, 1999; Loewenstein et al., 1989; Messick, 1995). Therefore, people who endorse this equality principle will be inclined to switch their support to trailing parties to help avoid that these would otherwise be left with an unfairly low share of the vote. Again, this motive may also reduce the bandwagon effect among those who initially favored a trailing party, because these people would be disinclined to add further harm to those parties that are expected to lose the election.

### **Strategic Factors: Impact and Avoiding Monopolies**

Third, people may switch voting intentions because of strategic factors. Rational choice predicts that people will strategically change their voting intentions in response to polling information (Gartner, 1976; Simon, 1954). People may switch to a leading party because they hate to “waste” their vote on a party that is unlikely to make any impact (Bartels, 1988; Kenney & Rice, 1994; Mutz, 1992). Although this larger party may not match their own political beliefs as closely, it is more likely to be in a governing role. Similarly, that same strategic consideration will reduce the underdog effect because people would not switch to vote for a smaller party if they consider that a waste of their vote.

Alternatively, people may decide to strategically support one of the smaller parties to avoid a power monopoly. People are sensitive to the dangers of putting too much power in the hands of one party and therefore prefer to split power between parties (Tiedens et al., 2000). Part of the underdog effect may therefore be that people dislike one party to win it all and therefore support a contender who can keep the competition alive (Kim et al., 2008). In this case, the motive may increase the underdog effect and/or reduces the bandwagon effect.

### **Epistemic Factors: Political Expertise**

Fourth and finally, political expertise may be relevant. No person has complete access to information and everyone needs to arrive at the right decision by using imperfect strategies, such as relying on heuristics (Kahneman et al., 1982; Tversky & Kahneman, 1974). In the case of elections, this is particularly the case for people who lack political expertise and therefore rely on more peripheral cues. The most easily available heuristic is that candidates and parties that lead in the polls are likely a superior choice (Bartels, 1988; Mutz, 1992; Petty & Cacioppo, 1986). Voters may treat success in the polls as a proxy for favorable information about a candidate, that others have taken the trouble to acquire (Ansolabehere

& Iyengar, 1994). Therefore, voters who lack political expertise may be more likely to show a bandwagon effect and will also be disinclined to move toward a trailing party if their initial intention to vote for a leading party is confirmed by the polls.

Alternatively, it is also possible that those with high political expertise move away from leading parties and even toward trailing parties because they are likely to question peripheral information such as polls (Petty & Cacioppo, 1986). Instead, people with expertise in politics may focus on the readily available information on why the leading parties are not the optimal choice and move away from these parties. If so, this would reduce the bandwagon effect or even increase the underdog effect (Mutz, 1992).

Finally, it is also possible that a lack of political expertise amplifies any of the until-now hypothesized effects because those who lack political expertise may care less about the outcome of elections and have fewer intrinsic reasons to favor one candidate or party over the other and thus be more strongly influenced by any peripheral aspects (Kim & Garrett, 2012; Lee et al., 2016; Lodge et al., 2006; Petty & Cacioppo, 1986). Consistent with this, some research found that both the bandwagon and underdog effects are larger among voters who are less well-informed (Fleitas, 1971; Goidel & Shields, 1994; LaPonce, 1966).

## The Current Research

In Study 1 we measure the identified factors and test how they influence the tendency to switch voting tendencies over one month before the 2019 Polish national elections. Our results show that epistemic and fairness factors are the strongest predictors of the bandwagon and underdog effects, respectively. Of course, the correlational nature of this finding precludes making causal inferences. To gain causal evidence, Studies 2a and 2b seek to establish causal effects using a simulated election paradigm in which we manipulate these factors. Given the importance of replication, we conducted this latter study in the USA and the EU.

### Methodological Notes

These three studies are the only studies conducted as part of this research question. In each study, we report how we determined the sample size, all data exclusions, manipulations, and measures. Data, syntax, and materials are available as [Supplementary Materials](#).

## Study 1 – Measured Antecedents of Voting Shifts

In the context of the 2019 Polish parliamentary elections, we test how shifts in voting intentions between leading and trailing parties relate to interpersonal, strategic, moral, and epistemic factors. The study was preregistered (see [Supplementary Materials](#)). The 2019 Polish parliamentary elections featured two clearly leading parties (the Christian-conservative party *Prawo i Sprawiedliwość* / Law and Justice and the catch-all party (*Koalicja Obywatelska* / Civic Coalition) that both consistently polled 40% and 25% of the vote, respectively, and three trailing parties (*Lewica* / Left at 15%, *Koalicja Polska* / Polish Coalition at 8%, toward its right, and *Konfederacja* / Confederation at 7%, at the far right). Therefore, this election offered ample opportunity to switch between leading and trailing parties.

## Method

### Participants and Design

In return for about 4 Euros, 1,022 adult Polish participants took part. Participants indicated their initial voting preference (and completed additional measures) one month before the 2019 Polish parliamentary elections. After the elections, they disclosed their actual voting decision. Participants who did not indicate an initial preference or final choice were excluded a priori. We set the sample size a priori to at least 300 (Schönbrodt & Perugini, 2013), but received markedly more responses because an external agency collected the data on our behalf. Fifteen participants (1.5%) voted blank or “against all”, yielding a final sample of  $N = 1,007$  valid participants (58.6% men, 41.4% women; mean



age 40.9 years). Given that we tested multiple hypotheses simultaneously, we adjusted alpha to 0.007 to account for the family-wise error rate. This provides about 77% power to detect small-sized ( $|\rho| = .10$ ) and 99% power to detect small-to-medium-sized ( $|\rho| = .20$ ) correlations (using G\*Power; Faul et al., 2007).

## Procedure

About one month before the national elections, participants completed measures of interpersonal, strategic, moral, and epistemic factors, and indicated their initial voting intentions. See Table 1 for zero-order correlations. The interpersonal, strategic, and moral factors were measured in two ways (capturing both a tendency to move toward leading parties and toward trailing parties) and with four or five seven-point Likert items. Items were administered in randomized order (within and between blocks). All items are available via the provided Open Science link (see Supplementary Materials).

**Table 1**

*Zero-Order Correlations and (Diagonally) Internal Reliability ( $\alpha$ )*

Measure	1	2	3	4	5	6	7
1. Interpersonal: Need to Belong	.789						
2. Interpersonal: Need for Uniqueness	.235**	.883					
3. Strategic: Increase Impact	.353**	.193**	.583				
4. Strategic: Avoid Power Monopoly	.126**	.198**	.158**	.747			
5. Fairness: Equity Motive	.208**	.060	.310**	.159**	.729		
6. Fairness: Equality Motive	.148**	.129**	.113**	.498**	.138**	.600	
7. Political Expertise (Quiz score)	-.226**	-.159**	-.156**	-.041	.016	-.109**	.735

\* $p < .05$ . \*\* $p < .001$ .

## Measures

**Interpersonal Factors** — Participants completed a four-item measure of their need to belong ( $\alpha = .789$ ; adapted from Leary et al., 2013) and a four-item measure of the self-attributed need for uniqueness ( $\alpha = .883$ , adapted from Lynn & Harris, 1997).

**Strategic Factors** — Four items measured the need to maximize strategic impact, but we dropped one item to increase internal reliability (from  $\alpha = .439$  to  $\alpha = .583$ ). Results did not differ depending on exclusion. Participants also completed a four-item measure of the strategic consideration to avoid a power monopoly ( $\alpha = .747$ ).<sup>1</sup>

**Fairness Factors** — Four items adapted from the Preference for Merit Principle Scale (Davey et al., 1999) measured the equity moral motive ( $\alpha = .729$ ). Four additional items measured equality / distributive justice moral concerns ( $\alpha = .600$ ).

**Political Expertise** — We used a 16-item 4-option multiple-choice test of Polish politics ( $\alpha = .735$ ;  $M = 72.0\%$  correct,  $SD = 18.9\%$ ).

**Voting Intentions and Decisions** — Finally, participants indicated which party they were planning to vote for in the upcoming elections, by picking one of the nine parties registered to take part in the elections. About one month later, one or two days after the elections, participants indicated which party they had voted for.

1) We found only weak evidence for the finding reported by Eggers and Vivyan (2020) that older participants voted more strategically, in order to maximize impact,  $r = .051$ ,  $p = .104$ . Adding age to the main analyses, we also found that age negatively predicted the underdog effect,  $B = -0.434$ ,  $SE = .137$ , Wald's(1) = 10.052,  $p = .002$ , meaning that younger people were more likely to switch to a trailing party than were older people. In contrast to Plutowski et al. (2021), we found that political expertise negatively predicted strategic voting,  $r = -.156$ ,  $p < .001$ .

**Other Measures** — We also collected additional measures, but do not discuss these here because they were superfluous, had unsatisfactory reliability, or concerned other theoretical questions. For transparency and for the interested reader, we discuss these in an [online supplement](#).

## Results

### Descriptive Analyses

One month before the elections, 64.1% of participants intended to vote for a leading (Civic Coalition or Law and Justice) and 35.9% for a trailing (all others) party. Of those who intended to vote for a leading party, 14.4% switched to a trailing party (underdog effect) and 85.6% stayed with their initial choice, while of those who initially intended to vote for a trailing party, 22.1% switched to a leading party (a bandwagon effect) while 77.9% stayed with their initial choice. In the end, 62.8% voted for a leading and 37.2% for a trailing party. Final voting choices roughly mirrored those of the actual national elections.

### Main Analyses

We split the sample according to initial voting preference (leading vs. trailing) and then tested the predictive power of each of the seven predictors (listed in [Table 1](#)) on switches in voting intentions (to a trailing vs. leading party). See [Table 2](#).

**Table 2**

*Logistic Regression Results Predicting the Likelihood (Odds Ratios) of Switching From a Trailing to a Leading (Left) or From a Leading to a Trailing (Right) Party, With Interpersonal, Strategic, and Fairness Factors; and With Political Expertise (All Standardized)*

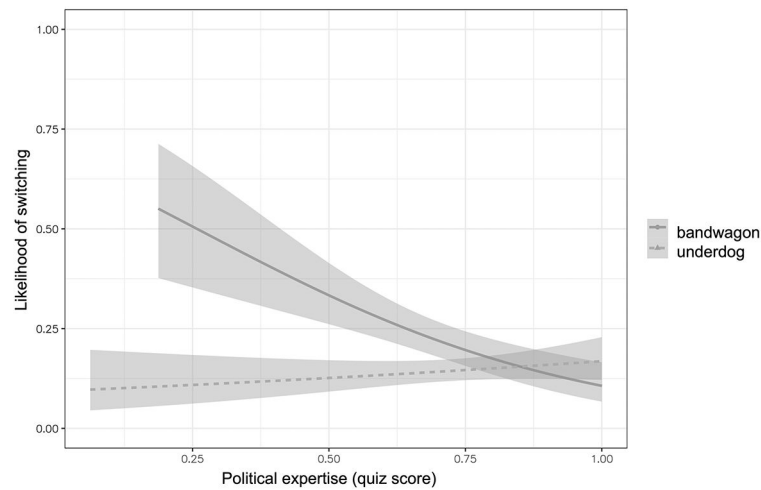
Measure	Bandwagon Effect:	Underdog Effect:
	Odds of switching to a leading party	Odds of switching to a trailing party
1. Interpersonal: Need to Belong	OR = 1.018, 95% CI [0.763, 1.358], $p = .903$	OR = 0.919, 95% CI [0.717, 1.177], $p = .503$
2. Interpersonal: Need for Uniqueness	OR = 1.093, 95% CI [0.834, 1.433], $p = .519$	OR = 1.072, 95% CI [0.843, 1.361], $p = .571$
3. Strategic: Increase Impact of Vote	OR = 1.280, 95% CI [0.951, 1.723], $p = .103$	OR = 0.709, 95% CI [0.544, 0.924], $p = .011$
4. Strategic: Avoid Power Monopoly	OR = 1.050, 95% CI [0.756, 1.457], $p = .772$	OR = 1.233, 95% CI [0.939, 1.619], $p = .132$
5. Fairness: Equity Motive	OR = 1.057, 95% CI [0.798, 1.399], $p = .701$	OR = 0.975, 95% CI [0.765, 1.242], $p = .838$
6. Fairness: Equality Motive	OR = 0.823, 95% CI [0.604, 1.121], $p = .216$	OR = 1.547, 95% CI [1.188, 2.016], $p = .001$
7. Political Expertise (Quiz score)	OR = 0.606, 95% CI [0.461, 0.797], $p < .001$	OR = 1.120, 95% CI [0.884, 1.420], $p = .348$

*Note.* We adjusted alpha to 0.007 to account for the family-wise error rate.

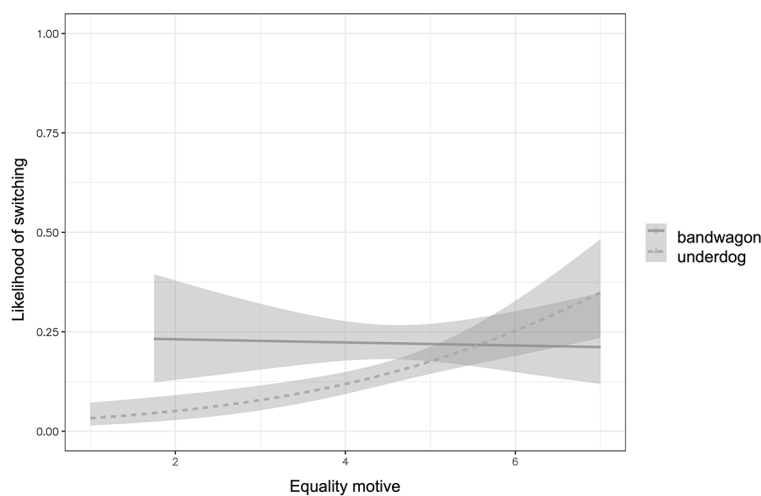
**Bandwagon Effect** — A logistic regression testing the effect of each of the seven predictors (standardized) on the likelihood that people who initially favored a trailing party switched to a leading party, showed that only political expertise was a significant, though small-sized predictor (Cohen, 1988)<sup>2</sup>. See [Table 2](#), left column. Those with less expertise were more likely to switch toward a leading party, consistent with a bandwagon effect,  $B = -0.501$ ,  $SE = .140$ , Wald's(1) = 12.810,  $p = .0003$ ,  $OR = 0.606$ , 95% CI<sub>OR</sub> [0.461, 0.797]. See [Figure 1](#). Expertise did not affect the likelihood that those who initially favored a leading party switched to a trailing party,  $B = 0.114$ ,  $SE = .121$ , Wald's(1) = 0.882,  $p = .348$ ,  $OR = 1.120$ , 95% CI<sub>OR</sub> [0.884, 1.420]. In other words, expertise only increased the bandwagon but did not reduce the underdog effect.<sup>3</sup>

2) Note that  $OR = 0.606$  is equally strong as  $1 / .606 = 1.65$ .

3) Note that this difference in effects is significant; a logistic regression testing the effect of political expertise, initial voting preference, and their interaction on final voting decision (using the combined sample) showed a significant interaction,  $B = -3.539$ ,  $SE = .915$ , Wald's(1) = 14.966,  $p < .0001$ .

**Figure 1***Political Expertise Reduces the Bandwagon Effect*

*Note.* Participants who lack expertise are more likely to show a bandwagon effect and switch from a trailing to a leading party (solid). Expertise does not affect the underdog effect (dotted). Lines indicate fitted logistic regression lines (shaded area represents 95% CIs).

**Figure 2***An Equality Motive Increases the Underdog Effect*

*Note.* Participants who have a strong equality motive are more likely to show an underdog effect and switch from a leading to a trailing party (dotted) but this motive does not affect the likelihood of switching from a trailing to a leading party (solid). Lines indicate fitted logistic regression lines (shaded area represents 95% CIs).

**Underdog Effect** — A logistic regression testing the effect of each of the seven predictors on the likelihood that people who initially favored a leading party switched to a trailing party, showed that only fairness concerns with equality produced a significant, but small-sized effect on switching intentions (Cohen, 1988). See Table 2, right column. Those with stronger concerns about equality were more likely to switch to a trailing party, consistent with an underdog effect,  $B = 0.436$ ,  $SE = .135$ ,  $Wald's(1) = 10.459$ ,  $p = .001$ ,  $OR = 1.547$ , 95%  $CI_{OR} [1.188, 2.016]$ . See Figure 2. Fairness concerns did not affect the likelihood that those who initially favored a trailing party switched in the opposite direction,  $B = -0.195$ ,  $SE = .158$ ,  $Wald's(1) = 1.529$ ,  $p = .216$ ,  $OR = 0.823$ , 95%  $CI_{OR} [0.604, 1.121]$ .<sup>4</sup> In other words, concern for equality only increased the underdog but did not reduce the bandwagon effect.



## Discussion

Results show that political expertise is the only significant predictor of the bandwagon effect, although we do note that its effect is small. This suggests that the superficial processing of information associated with low expertise can lead people to follow the heuristic that the majority must be right. In contrast, only concerns for distributive equality significantly predicted the underdog effect, although this effect was also small. Importantly, these effects were asymmetric. That is, expertise does not reduce the underdog effect, and fairness concerns do not reduce the bandwagon effect.

## Study 2a and 2b – Simulated Election Experiments

A limitation of Study 1 is the inability to draw a causal conclusion due to the correlational nature of the study. To overcome these limitations, Studies 2a and Study 2b use a full experimental design. We use a vignette manipulation (Atzmüller & Steiner, 2010) to experimentally manipulate those factors that Study 1 identified to be most relevant. Participants resolved a hypothetical voting decision and did so while imagining they lacked expertise to make an informed decision or while being guided by a strong concern for equality. Orthogonally, we manipulated whether participants initially supported a trailing vs. a leading party. Study 2a was conducted in the USA and the replication Study 2b was conducted in the European Union. We preregistered the studies (see [Supplementary Materials](#)). Given the similarity of the studies, we present and discuss them together.

## Method

### Participants and Design

Participants in Study 2a were 202 American Amazon Mechanical Turk users (107 men, 95 women; mean age 37.0 years; 76.8% White, 8.7% Black, 5.8% Asian, 6.4% other/ mixed; HIT score of 95% or higher) who participated in return for \$1.00 (about \$15/hour). Participants in Study 2b were 200 Prolific Academic users from the EU or UK (97 men, 103 women; mean age 26.7 years) who participated in return for £0.50 (about £15/hour). Participants were randomly assigned to one of four cells of a 2 (position of initial party: leading vs. trailing) × 2 (factor: heuristic vs. moral) between-participants design. The sample size was set to  $N = 200$ , to provide more than 90% power to detect a medium-sized interaction (using G\*Power; Faul et al., 2007).

### Procedure and Measures

Participants took part in a simulated upcoming election for a new board member of an organization that they were a member of. Participants were first shown the two candidates (A and B), well before the actual elections. Independent of their choice, participants assigned to the leading position condition were told that 90% of the other voters were also planning to support the candidate favored by the participant, while in the trailing position condition they read that only 10% were planning to do so. Then participants learned that time had passed and the actual elections would now take place. In the heuristic processing condition, participants read that they had forgotten a little about the elections as the time passed, while in the distributive equality condition they read that they had reached the consideration that it would be fair if both candidates were included in important decisions. Participants then indicated on two items the likelihood (between 1 *very unlikely* and 7 *very likely*) that they would stick with their candidate or switch to the other candidate ( $r_{\text{Study2a}} = -.757$ ,  $r_{\text{Study2b}} = -.683$ , both  $ps < .0001$ ) which after recoding we combined into one index of the likelihood of switching voting intentions.

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4) Note that this difference in effects is significant; a logistic regression testing the effect of concerns for equality, initial voting preference, and their interaction on final voting decision (using the combined sample) showed a significant interaction,  $B = -0.483$ ,  $SE = .530$ , Wald's(1) = 7.761,  $p = .005$ .

## Results

### Study 2a

A 2 (position of initial party: leading vs. trailing)  $\times$  2 (factor: heuristic vs. moral) ANOVA on the likelihood of switching voting intentions index, showed the predicted interaction-effect,  $F(1, 198) = 29.71, p < .0001, \eta_p^2 = .130$ . See Table 3. Consistent with the results of Study 1, participants who were told that the candidate they intended to vote for was trailing were more likely to switch to the leading candidate (show a bandwagon effect) if they based their decision on heuristic processing ( $M = 4.02, SD = 1.41$ ) than when they based their decision on moral considerations for equality ( $M = 2.92, SD = 1.60$ ),  $t(99) = 3.67, p < .001, d = .73, 95\% CI_d [0.33, 1.13]$ . In contrast, participants who were told that the candidate they intended to vote for was leading were more likely to switch to the trailing candidate (show an underdog effect) if they based their decision on moral considerations for equality ( $M = 3.57, SD = 1.74$ ) compared to when they based their decision on heuristic processing ( $M = 2.36, SD = 1.23$ ),  $t(99) = 4.04, p < .001, d = .80, 95\% CI_d [0.40, 1.21]$ .

**Table 3**

*Study 2a (Americans): Self-Reported Likelihood (Likert Score Between 1 and 7) of Switching Voting Intentions*

Initial party	Heuristic	Moral: Equality	Difference
Trailing	4.02 (1.41)	2.92 (1.60)	$p < .001, d = .73$
Leading	2.36 (1.23)	3.57 (1.74)	$p < .001, d = .80$

Note. Data show cell means (SDs) and the difference between participants who rely on heuristics and who follow moral motives for equality.

### Study 2b

A 2 (position of initial party: leading vs. trailing)  $\times$  2 (factor: heuristic vs. moral) ANOVA on the likelihood of switching voting intentions index, showed the predicted interaction-effect,  $F(1, 196) = 11.46, p < .0001, \eta_p^2 = .055$ . See Table 4. Consistent with the results of Study 1, participants who were told that the candidate they intended to vote for was trailing were more likely to switch to the leading candidate (show a bandwagon effect) if they based their decision on heuristic processing ( $M = 3.74, SD = 1.46$ ) than when they based their decision on moral considerations for equality ( $M = 2.91, SD = 1.42$ ),  $t(98) = 2.88, p = .005, d = .58, 95\% CI_d [.17, 0.97]$ . In contrast, participants who were told that the candidate they intended to vote for was leading were marginally more likely to switch to the trailing candidate (show an underdog effect) if they based their decision on moral considerations for equality ( $M = 2.83, SD = 1.21$ ) compared to when they based their decision on heuristic processing ( $M = 2.40, SD = 1.11$ ),  $t(98) = 1.83, p = .071, d = .37, 95\% CI_d [-0.03, 0.76]$ .

**Table 4**

*Study 2b (EU Replication): Self-Reported Likelihood (Likert Score Between 1 and 7) of Switching Voting Intentions*

Initial party	Heuristic	Moral: Equality	Difference
Trailing	3.74 (1.46)	2.91 (1.42)	$p = .005, d = .58$
Leading	2.40 (1.11)	2.83 (1.21)	$p = .071, d = .37$

Note. Data show cell means (SDs) and the difference between participants who rely on heuristics and who follow moral motives for equality.

## General Discussion

The bandwagon effect refers to the tendency that some people change their voting intentions simply because their initially favored party is trailing in the polls and they subsequently decide to move to a party that is leading. The underdog effect refers to the opposite effect, where people decide to shift their vote to a party that is trailing. Three studies tested the psychological factors that can explain these effects.

Study 1 focused on actual changes in voting intentions over one month before the 2019 Polish parliamentary elections. By measuring individuals' shifts in voting intentions, rather than relying on aggregated outcomes, we were able to isolate the effect of seven factors on these shifts, in either direction. Results showed that the bandwagon effect (the tendency to switch from a trailing toward a leading party) was strongest among those who lack political expertise, suggesting superficial processing leads people to follow the heuristic that the majority is correct. In contrast, the underdog effect (the tendency to switch from a leading to a trailing party) was mainly driven by concerns for fairness. Results furthermore showed that these effects occur asymmetrically, meaning that factors that increase one effect do not suppress or reduce the other effect.

Building on these findings, we conducted Studies 2a and 2b. In these studies, we used a vignette manipulation to test whether participants who imagined they engaged in superficial processing due to a lack of detailed knowledge versus participants who were guided by moral concerns for equality, made similar decisions in a simulated elections study in which they initially supported a trailing versus a leading candidate. We found that participants who initially favored a trailing party were more likely to switch to a leading party if they imagined engaging in superficial processing, while participants who supported a leading candidate were more likely to switch to a trailing party if they imagined being led by moral considerations for equality.

Overall, these results suggest that the term *underdog effect* is a very correct reflection of the underlying psychological process because the effect indeed reflects a moral concern and sense of pity with a trailing party's outcomes. In contrast, although the term bandwagon effect suggests a desire to be part of the majority, to be among the winners, or to follow the herd, we did not find much support that social concerns predicted the likelihood of switching toward a leading party. Rather, the effect appears to reflect the tendency to follow the heuristic that the majority is likely to be right. In other words, where the underdog effect appears a relatively motivated and reflective process that reflects moral concerns, the bandwagon effect appears to reflect more superficial and reflexive heuristic processing (Kim & Garrett, 2012; Lee et al., 2016; Lodge et al., 2006; Petty & Cacioppo, 1986).

## Future Research

The research design of our studies only allowed testing the likelihood that voters switch their voting intention between a party that is leading and a party that is trailing in the polls – or instead stick with their original intention. In contrast to such conversion effects, other research has also focused on changes in turnout due to polling information, referred to as mobilization effects (Barnfield, 2020; Marsh, 1985; Morton et al., 2015; Moy & Rinke, 2012). Future research may want to test whether the effects identified here also apply to such mobilization effects. Pending such research, we suggest that, intuitively, the effect of heuristic processing may have an even stronger bandwagon effect on mobilization than on conversion. After all, voters with low expertise may be more likely to be undecided on whether to show up at the polls and it is easy to see that such a tendency is amplified if people lack polling information about the majority's voting intentions, because without such information these relatively uninformed voters lack a clear heuristic. Yet when the first polling information becomes available, such polling information offers a clear heuristic and this may lead people to show up.

Our research designs also only allowed testing *static* polling effects, meaning the tendency of people to switch between parties based on the information that they have been leading or trailing over a longer time in the polls. In contrast, *dynamic* effects refer to changes in voting intentions due to shorter-term changes in the polls. For example, a bandwagon effect may occur if voters switch to a party that has been trailing, but shortly has started to move up in the polls and approaches the leading parties (Barnfield, 2020; Meffert & Gschwend, 2011; van der Meer et al., 2016). The 2019 Polish elections (which we used in Study 1) did not allow testing such dynamic effects because parties did not move much in the polls in the month before the elections. Nonetheless, future research may be interested in testing whether the effects identified here also apply to dynamic effects. Pending such research, we suggest that the equality motive may be particularly salient in response to dynamic shifts in polling information. After all, compared to static information, shifts present a much stronger counterfactual that may evoke stronger feelings of pity – for example when an initial lead in the polls is lost. It is also plausible that in such situations an equity motive produces a bandwagon effect, because it may for example be easier to relate shorter-term shifts in polling results to performance in debates. People with a

strong equity motive may feel that his success needs to be rewarded and may thus switch their vote to reward parties that move up in the polls.

Finally, our research design did not allow studying the effects of voters' expectations of possible coalitions on voting decisions. In the actual election in Study 1, this was not a major theme given the stable positions of the parties across the polls. Also, in the simulated elections (Studies 2a,b) no such information was provided. Given emerging evidence about such effects (Bahnsen et al., 2020) future research should take into account how these and other psychological motives interact with information on potential coalitions. Finally, we limited our selection of seven personality styles and other aspects of cognition and behavior to those that, based on reading the literature, seemed to be the most promising candidates. Yet given the large literature on the effect of personality on political behavior (Cichocka & Dhont, 2018; Winter, 2003), it is unlikely that our search was exhaustive and therefore future research may want to use an even broader approach. Other research could also move beyond our focus on chronic motives and personality differences and instead focus on short-term discrete emotions. For example, enjoyment likely increases the bandwagon effect, empathy and sadness may increase the underdog effect, and anger may increase both (Weber, 2013).

## Strengths and Limitations

### Limitations Associated With Study Design

A limitation to our approach in Study 1 is that we operationalized the bandwagon effect as all switching from a trailing to a leading party and the underdog effect as all switching in the opposite direction, without testing whether such switching was actually motivated by an awareness of polling information that a party was doing well or not. Good arguments have been made against this approach and in favor of a stricter definition (for a recent overview, see Barnfield, 2020). We chose to use this loose definition because from a psychological perspective it is difficult to firmly establish why people switch voting intentions. Even if voters are aware of polls, are able to accurately summarize polling results, and explicitly state that they changed their voting intentions because of these polls, such statements on why people changed their intentions may still easily reflect post-hoc rationalizations (Bargh & Chartrand, 1999; Burdein et al., 2006; Lieberman et al., 2003). Measuring explicit statements of justifications of changes in voting intentions therefore easily leads to an underestimation of bandwagon or underdog effects, because voters are likely to formulate more reasoned post-hoc explanations – rather than “admit” that they were merely following the majority, for example. A related advantage associated with this loose definition is therefore that we were less likely to miss any changes. Given that only 17.2% of voters switched voting intentions from a trailing to a leading party or vice versa, this provides greater statistical power. But the cost of our loose definition is that we possibly captured changes in switching intention that were not the result of any changes in polling results and thus are not strictly bandwagon or underdog effects.

Fortunately, the latter limitation is partially addressed by Studies 2a/b, where we used a minimal information manipulation that leaves few alternative explanations for the observed shifts. The design of Studies 2a and 2b were limited, however, by our reliance on vignette manipulations. These types of manipulations do not directly induce the underlying psychological construct, but instead instruct participants to imagine being in a specific, hypothetical situation, associated with a certain perspective on the task at hand (Atzmüller & Steiner, 2010). Such manipulations have the advantage that they allow researchers to manipulate complex, hypothetical situations and test how this affects decisions. But the downside of these manipulations is low validity because it is often unclear whether people would behave in the same way in real life as in these unrealistic and artificial situations (Aguinis & Bradley, 2014). This is also the case here because in reality people are not told to engage in superficial processing or to adopt a motive for distributive equality, but they develop these perspectives naturally. Real political elections are highly meaningful events that evoke many emotions. In contrast, the fictional elections used in Study 2 were void of any meaning or emotion. It is therefore questionable whether our manipulations were sufficiently faithful simulations of the real experience and some may even argue that our experimental design has little bearing on how experiences play out in reality. Nonetheless, we hope that the combination of the two research designs of Studies 1 and 2a/b can address their individual shortcomings.

## Limitations Associated With Sampling

A limitation to our research is that our correlational Study 1 was based on observing shifts in a single, national parliamentary election in Poland. Some have pointed to specific political-psychological differences between this and other countries (Wojcik et al., 2021). We selected this election in this country as it was ideal for testing our hypotheses. The specific election featured two clearly leading parties toward the left and right of the center of the political continuum and several trailing parties, ideologically dispersed around it. Hence, it allowed an ideal constellation to test shifts toward leading or trailing parties, relatively unconstrained by ideology. Other elections may not feature such an ideal constellation. More generally, a continental system of proportional representation that typically features many parties, offers more statistical power to study shifts in voting intentions, compared to the Anglo-Saxon winner-takes-all system that typically features only two or three viable candidates and thus no realistic trailing candidates.

A limitation to our Approach in Studies 2a/b is that we relied on relatively small convenience samples. We note that Mechanical Turk samples have been shown to offer high-quality data that has been shown to mimic the results of more expensive representative samples, in particular for inferential research on political psychological questions (Berinsky, Huber, & Lenz, 2012; Buhrmester, Kwang, & Gosling, 2011; Clifford, Jewell, & Waggoner, 2015). Nonetheless, we do note the lack of external validity offered by these non-representative samples and welcome research that replicates these findings in a large-scale, nationally representative sample.

## Conclusion

The underdog effect is stronger among those who lack political expertise, suggesting it primarily reflects heuristic processing and a tendency to follow the majority in a heuristic manner, while the underdog effect is stronger among those who share moral concerns for equality of distributions, suggesting it reflects more motivated processing. While the former term is apt, the latter term does not appear to match the underlying psychological process. Potentially, campaigners for political parties can use these findings for their benefit by appealing to specific psychological motives. Specifically, campaigners for parties that are leading in the polls may be able to further extend their lead by communicating to voters, in particular those with relatively little political expertise, that their candidate is currently expected to win the elections vote. Given the role of superficial thinking styles, it may even be wise to avoid any deeper discussion of policy, to maximize the likelihood that voters follow the heuristic that the majority is right. In contrast, campaigners for parties that are trailing may instead be successful if they bank on moral motives and stress that also trailing parties have important perspectives that deserve to be heard, and even stress the fact that their candidate is (undeservingly) trailing.

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**Data Availability:** For this article, three data sets are freely available (Lammers et al., 2022).

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## Supplementary Materials

The Supplementary Materials contain the following items (for access see [Index of Supplementary Materials](#) below):

- *Via AsPredicted:* Preregistration protocols for Study 1 and 2a / 2b
- *Via the Open Science Framework (OSF):* Research data, code, and additional information. For reasons of transparency, the Supplementary Materials provide an overview of additional measures collected in Studies 1 and 2a / 2b and their results (if applicable).



## Index of Supplementary Materials

- Lammers, J., Bukowski, M., Potoczek, A., Fleischmann, A., & Hofmann, W. (2019). *Supplementary materials to "Disentangling the factors behind shifting voting intentions: The bandwagon effect reflects heuristic processing, while the underdog effect reflects fairness concerns"* [Preregistration protocol for Study 1]. AsPredicted. <https://aspredicted.org/4rq5g.pdf>
- Lammers, J., Bukowski, M., Potoczek, A., Fleischmann, A., & Hofmann, W. (2020). *Supplementary materials to "Disentangling the factors behind shifting voting intentions: The bandwagon effect reflects heuristic processing, while the underdog effect reflects fairness concerns"* [Preregistration protocol for Study 2a]. AsPredicted. <https://aspredicted.org/zr7bs.pdf>
- Lammers, J., Bukowski, M., Potoczek, A., Fleischmann, A., & Hofmann, W. (2021). *Supplementary materials to "Disentangling the factors behind shifting voting intentions: The bandwagon effect reflects heuristic processing, while the underdog effect reflects fairness concerns"* [Preregistration protocol for Study 2b]. AsPredicted. <https://aspredicted.org/ub2ci.pdf>
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