Gutenberg School of Management and Economics

& Research Unit “Interdisciplinary Public Policy”

Discussion Paper Series

False Consensus Beliefs and Populist Attitudes

Nils D. Steiner, Claudia Landwehr, Philipp Harms

January 22, 2024

Discussion paper number 2403

Johannes Gutenberg University Mainz
Gutenberg School of Management and Economics
Jakob-Welder-Weg 9
55128 Mainz
Germany
https://wiwi.uni-mainz.de/

Contact details

Nils D. Steiner
Department of Political Science
Johannes Gutenberg University Mainz
Jakob-Welder-Weg 12
55128 Mainz
Germany
steiner@politik.uni-mainz.de

Claudia Landwehr
Department of Political Science
Johannes Gutenberg University Mainz
Jakob-Welder-Weg 12
55128 Mainz
Germany
landwehr@politik.uni-mainz.de

Philipp Harms
Chair of International Economics
Johannes Gutenberg University Mainz
Jakob-Welder-Weg 4
55128 Mainz
Germany
philipp.harms@uni-mainz.de

False Consensus Beliefs and Populist Attitudes

Nils D. Steiner
Department of Political Science, Johannes Gutenberg University (JGU) Mainz,
Mainz, Germany
steiner@politik.uni-mainz.de
https://orcid.org/0000-0003-3433-4079

Claudia Landwehr
Department of Political Science, Johannes Gutenberg University (JGU) Mainz
Mainz, Germany
landwehr@politik.uni-mainz.de
https://orcid.org/0000-0002-0814-3028

Philipp Harms
Gutenberg School of Management and Economics, Johannes Gutenberg University (JGU)
Mainz
Mainz, Germany
philipp.harms@uni-mainz.de
https://orcid.org/0000-0003-1388-0652

Abstract: A well-established finding from social psychology is that people tend to hold "false consensus beliefs", that is, they regularly overestimate how many others agree with their own opinions. The consequences of such beliefs for how citizens assess democratic legitimacy have been left largely unexplored, however. We reason that false consensus beliefs may give citizens the erroneous impression that their political preferences are shared by most fellow citizens while political elites fail to follow this apparent will of the majority. False consensus beliefs might therefore play a central role in the development of populist attitudes to politics. Using original panel survey data from Germany, we document a robust relationship between false consensus beliefs and populist attitudes. As an indication of broader negative consequences for perceived legitimacy, we also find that individuals who hold false consensus beliefs score lower on external efficacy and political trust. Our findings suggest a novel cause of populist attitudes, rooted in humans' tendency to project own views onto others—a tendency that may be exacerbated by today's high-choice media environments.

Keywords: False consensus beliefs; beliefs about public opinion; populist attitudes; perceived responsiveness, belief polarization, political support.

Word count: 8,991 (including references).

Date: 22.1.2024.

Acknowledgements: Previous versions of this work were presented at the Workshop "As good as it gets? Promises and perils of representative democracy" at JGU Mainz, at the 2023 meetings of the German Political Science Association's (DVPW) standing groups for "Elections and Political Attitudes'" and "Analytical Political Theory", and in the Political Culture Lecture Series of the ECPR Standing Group on Political Culture. We thank the participants for their instructive and helpful comments. Simon Engelhart provided excellent research assistance. Financial support for this research was provided by the research unit "Interdisciplinary Public Policy (IPP)" at JGU Mainz.

Introduction

The rise of populist parties and candidates in most Western democracies over the course of the last two decades has often been explained by referring to citizens' growing dissatisfaction with the way democracies are working (Berman, 2021; Kriesi, 2014; Mudde, 2021; Schäfer & Zürn 2023). There exists an apparent gap between expectations and evaluations of democracy that Norris (2011) has termed the "democratic deficit", and that Ferrín and Kriesi (2016) have tried to map and measure. However, there is considerable variation not only in citizens' expectations, but also in their evaluations of democracy. Looking at indicators like satisfaction with democracy, political trust, and political efficacy across different surveys, we always see that some are (relatively) happy with the way democracy is working, while others are deeply frustrated. Where do these differences in the evaluation of democratic performance come from? Clearly, policymaking in contemporary democracies seems to serve some preferences—those of people with higher education and socio-economic status—better than those of others (Gilens, 2005; Mathisen et al., 2023; Elsässer & Schäfer, 2023). However, while the better-off tend to be more sanguine in their evaluation than less privileged groups (e.g. Schäfer, 2012), variation within the groups is considerable as well. Moreover, considering the offer populists make to dissatisfied citizens, namely, to prevent the "will of the people" from being obstructed by "corrupt elites", it seems that dissatisfaction with democracy is driven by one particular aspect of its performance: responsiveness to citizens' preferences. Assuming that such responsiveness either prevails or does not, apparent differences in its perception must be due to differences in information and information-processing among citizens.

With this paper, we seek to elucidate an informational misperception that may be central to the evaluation of democratic responsiveness and the formation of populist attitudes: "false consensus beliefs". By "false consensus beliefs" (FCB) we refer to the perception that one's

own policy preferences are shared by more people overall than is actually the case.[1] The human tendency to overestimate support for one's own position is well-established in a broad literature within social psychology (Krueger & Clement, 1994, Marks & Miller, 1987, Robbins & Krueger, 2005, Ross et al., 1977) and beyond (Bursztyn & Yang, 2022). Respective surveys and experiments show that, in the extreme, individuals whose views are shared only by a small minority may erroneously believe that their views are shared by a large majority. Such FCB may have dramatic consequences for the evaluation of democratic responsiveness and legitimacy, as individuals subject to it will interpret the government or parliament's failure to pass legislation in keeping with own policy preferences as a failure to obey the majority will. It is easy to see how such impressions create a resonance base for populist sentiment and mobilization.

In this study, we will argue that FCB (our main independent variable) may nurture populist attitudes (our main dependent variable) and extensively test this hypothesis through an analysis of observational survey data from the German GESIS panel. To measure FCB, we fielded a set of items that asked individuals for their estimates of public opinion on a set of controversial policy issues. Importantly, this (traditional) way of measuring FCB from specific factual beliefs about public opinion, rather than as an attitude, sets our study apart from one previous study which has touched upon the connection between FCB and populist attitudes (Schulz et al., 2020). Our results show that FCB are strongly correlated with populist attitudes, a finding that is robust to different model specifications and operationalizations of central variables. In

[1] The literature usually ascribes "false consensus beliefs" to a "false consensus bias" or "effect". Another closely related concept is "social projection", which goes back to Allport (1924) and can be defined as "the process by which people come to believe that others are similar to them" (Krueger, 2007, p. 2). Notably, social projection can sometimes be a useful heuristic that helps to form accurate beliefs. Because we are not interested in the projection process per se but rather in the consequences of making *errors* in the direction of one's own opinion, we prefer the term "false consensus beliefs" over these alternatives for this paper.

addition to this main finding, we document broader deleterious consequences of FCB on perceived legitimacy in the form of lower levels of external efficacy and political trust.

Our article is structured as follows: In the next section, we will provide an overview of the literature on FCB and theorize its implications for the perception of democratic responsiveness, populist attitudes, and perceived democratic legitimacy more broadly. In section 3, we will present the GESIS panel as well as our operationalization of central variables, showing the high prevalence of FCB in our sample. Section 4 presents findings from our regression analysis: We first turn to the effect of FCB on populist attitudes, extensively probe its robustness and then turn to other outcome variables, including further measures of political support and, as a possible behavioral downstream consequence, voting for populist parties. The conclusion summarizes our results and identifies implications and remaining research desiderata.

False consensus beliefs and their potential relevance for populist attitudes and political support

By describing the "false consensus effect", numerous studies have shown that people's beliefs about other people's opinions are often erroneous and biased towards their own views (Bursztyn & Yang, 2022, Krueger & Clement, 1994, Marks & Miller, 1987, Robbins & Krueger, 2005, Ross et al., 1977). This body of research shows that the bias applies across a range of domains, including people's political preferences. False consensus beliefs (FCB) can arise both from psychological processes within individuals and from the contexts that determine which pieces of information individuals are exposed to—as well as from the interplay between the two. Regarding internal psychological processes, FCB can result from goal-oriented motivated reasoning (Kunda, 1990) when individuals seek validation in assuming agreement with others. Strongly holding a particular view while acknowledging that few others agree with it may result

in an unpleasant state of cognitive dissonance (Festinger, 1957) that the human brain is motivated to avoid.

Another important mechanism that operates at the contextual level is selective exposure to information signals about the preferences of others (Marks & Miller, 1987, Ross et al., 1977): Selective exposure to information signals is partly the product of the social contexts and information environments humans operate in. As a result of technological change, these have changed in ways that may well have amplified selective exposure to information about the political preferences of other people. While research suggests that some of the early alarmism about online "filter bubbles" and "echo chambers" may have been overstated (Barberá et al., 2015), there is a consensus in communication science that we have moved from "low-choice media environments" to "high-choice media environments" (Van Aelst et al., 2017). A key characteristic of these new environments is that individuals increasingly select into, or are algorithmically selected into, consuming political news that accord with their prior political preferences.

In light of their potential significance for legitimacy perceptions, it seems surprising that there is only limited research within political science on how FCB matter in the political domain. At the level of political elites, studies show that even politicians, who face strong incentives to form accurate perceptions of public opinion, seem prone to hold FCB (e.g., Broockman & Skovron, 2018; Pereira, 2021; Sevenans et al., 2023; Walgrave et al., 2023). This finding comes with obvious and worrisome implications: If democratically elected politicians hold inaccurate perceptions of what voters want, and act upon those, democratic responsiveness will suffer (Walgrave et al., 2022).

At the same time, there is little research on the potentially pernicious political consequences of FCB among citizens. Specifically, we are not aware of research addressing the question of how

FCB among citizens affect their evaluations of democratic legitimacy. This is surprising, given that a core criterion of democratic legitimacy is policy responsiveness, that is, the degree to which political decisions are in line with what a majority of citizens' wants (Dahl, 1971; Pitkin, 1967). To the extent that citizens accept this criterion, they should perceive political decisions as more legitimate when they are believed to be supported by a (large) public majority. By extension, political institutions should be perceived as more legitimate if they regularly take decisions that are congruent with perceived majority preferences.

In line with this reasoning, previous survey experimental studies indicate that citizens ascribe more legitimacy to decisions that are supported by most other citizens, regardless of their own preferences. Wratil and Wäckerle (2023) find that fictitious policy decisions by the EU are rated as more legitimate when supported by "most citizens", even when these are incongruent with individuals' own preference. Likewise, Arnesen et al. (2019) report that large majorities in fictitious referendums boost support for governments following referendum results, especially among those who personally perceive the outcome as unfavorable.

While such experimental studies can purposefully manipulate information on majority support of policy decisions, in the empirical world it is citizens' *perceptions* of public opinion, or second-order beliefs about majority preferences, which should matter for legitimacy assessments. If these are systematically biased towards their own views, citizens may perceive responsiveness as low and question the legitimacy of political decisions, even when these are actually congruent with public majorities.

In this way, FCB may be especially crucial for the appeal of populism. According to the dominant ideational approach to populism (Mudde, 2004; Hawkins et al., 2018), populism entails a political worldview, a "thin-centered ideology", according to which there is a "general will of the people", which should be implemented without distortion but is obstructed by an

"evil" political elite. As commonly conceived, there are at least two components of a populist worldview: These are popular sovereignty, capturing the belief in a single will of the homogenous people and the demand for it to be implemented without restriction, and anti-elitism, capturing a disapproval of "the elite" (Erisen et al., 2021; Hawkins et al., 2018; Schulz et al., 2018; Wuttke et al., 2020). We argue that both of these populist ideas become more attractive and convincing to individuals who hold FCB. First, the more someone believes that his/her policy preferences are shared by most other citizens, the more appealing the belief in a single will of the people which needs to be followed is likely to become. Second, if positions erroneously perceived as supported by democratic majorities are not responded to by political elites, disdain of political elites is likely to increase. Taken together, FCB may then result in a Manichean worldview—often highlighted as a third component of a populist worldview (van Prooijen et al., 2022; Wuttke et al., 2020)—which pits "the good people" against "the evil elite".

Although the relevance of FCB as a potential cause of populist sentiment is plausible, FCB have not been systematically assessed as an explanatory variable for populist attitudes. There is one partial exception, though: Schulz et al. (2020) show that populist attitudes are associated with perceptions that public opinion is in line with one's own views. However, Schulz and colleagues directly ask respondents whether they think that "most people share" their opinions, and thereby use an attitudinal instrument that is conceptually close to the measurement of populist attitudes itself. This departs from the traditional approach of studies in social psychology (e.g., Krueger & Clement, 1994; Ross et al., 1977) to measure FCB by asking individuals for their concrete, numerical estimates of how many people hold certain views. To the best of our knowledge, no study to date has linked FCB as measured in this way with measures of populist attitudes, or political support more broadly.

To summarize, while the human tendency towards FCB is well documented, the political consequences of FCB have been neglected, especially regarding the citizen level. Given previous evidence for a link between majority support and legitimacy assessments, it is plausible to argue that FCB result in a perceived lack of responsiveness, thereby undermining legitimacy assessments and creating a resonance base for populist mobilization. Technological change and the ensuing changes in the media environment may have boosted FCB on political issues, due to an increase in selective exposure to information. An increase in FCB might therefore be considered as a central reason for why perceived political legitimacy has decreased, and populist sentiment increased, in some segments of democratic societies.

In this study, we test a set of hypotheses on the potentially detrimental consequences of FCB, which we now spell out in detail. We reason that FCB lead those who hold them to view decisions that are in fact responsive to the median voter as non-responsive, and to question democratic legitimacy. Especially, concerns about the "will of the people" being obstructed are likely to render individuals holding FCB susceptible to populist ideas. This suggests an effect of FCB on populist attitudes as formulated in our central hypothesis:

H1: The higher the level of an individual's FCB, the more likely she/he is to exhibit populist attitudes.

While we believe that an effect of FCB on populist attitudes is especially plausible, our discussion implies that there may be broader deleterious consequences for individuals' levels of perceived democratic legitimacy or: political support. In particular, external efficacy—as an attitude that is closely connected to perceptions of policy responsiveness, though more generalized and affectively charged (Esaiasson et al., 2015)—is likely to suffer when individuals hold FCB:

H2: The higher the level of an individual's FCB, the lower her/his sense of external political efficacy.

This, in turn, may translate into lower levels of political support more broadly. Here we focus on political trust and satisfaction with the way democracy works, and hypothesize:

H3: The higher the level of an individual's FCB, the lower her/his political trust.

H4: The higher the level of an individual's FCB, the less satisfied she/he is with the functioning of democracy.

Finally, while we are aware that vote choice is a result of many considerations, we explore whether there are repercussions of FCB on individuals' voting behavior. Given the connection between populist attitudes and populist voting (Akkerman et al., 2014; van Hauwaert & van Kessel, 2018), it stands to reason that holding FCB makes voting for populist parties more likely. Moreover, rhetorical appeals by populist parties to "silent majorities" are likely to be more convincing, and thus more attractive, to individuals who hold FCB. Thus, we hypothesize:

H5: The higher the level of an individual's FCB, the more likely she/he is to vote for a populist party.

Data and methods

We use observational survey data from the German GESIS Panel (Bosnjak et al., 2018) to test our hypotheses. We will focus on our main hypothesis of an effect of FCB on populist attitudes (*H1*) which guided the initial design of our study.[2] The GESIS Panel currently includes about

[2] Our study was included in the GESIS Panel after having passed a peer-review process and includes items to measure FCB and populist attitudes (see the study description: BLINDED FOR ANONYMOUS REVIEW). The outcome measures needed to test the remaining hypotheses are drawn from regular core modules.

5,000 panelists. Due to wave and item nonresponse, we are able to include about 3,500 individuals in our regression analyses. The surveys, currently four per year, are carried out in mixed mode consisting of postal and online questionnaires. The GESIS Panel is based on an initial probabilistic sample of the German-speaking population aged between 18 and 70 years. Regular refreshment samples are conducted to ensure the panels' representativeness in the face of panel mortality. It can thus claim to provide a good approximation to views in the German public overall. This is crucial for our purposes, as we aim to compare individuals' estimates of public opinion on several policy issues with the actual public opinion on these issues. All our analyses make use of the design weights provided by the GESIS Panel. Against this background, we are confident that public opinion, as measured in the GESIS Panel, is reasonably representative of public opinion within the German public at large.

Measuring false consensus beliefs

To measure FCB, we included items asking for respondents' own positions and their estimates of public opinion on seven controversial policy proposals in wave *ib* of the GESIS Panel. This wave was in the field from May 2021 to July 2021. We opted for a set of diverse items, i.e., policy proposals from different policy domains that are ideologically balanced. Our goal was to select the items in such a way that it would not always be the same individuals with the same ideological position who ended up holding a minority position.[3] Respondents were first asked for their own opinion on these policy proposals on five-point Likert scales. For our analyses, we use a collapsed version of this variable recording whether respondents are in favour, against,

[3] When defining the minority position in terms of whether more individuals were in favour or more were against the measure and counting how often respondents held the minority position, there is only one individual who always ended up holding the minority position. Conversely, about 4 in 5 respondents held the minority position at least once. While those on the far-right of the ideological spectrum tend to hold minority positions for a larger share of items, differences across the left-right spectrum are modest (see Appendix A).

or undecided.[4] We list the items in Table 1, including information on the distribution of opinions on these proposals, with the minority position marked in bold.

After having indicated their own position on these policy proposals, respondents were subsequently asked to "estimate the proportion of people in Germany who are in favour of the respective measure". Respondents were instructed to indicate a percentage number between 0 and 100 in an open-answer field.

Table 1: Issue items for measuring false consensus beliefs

Short name	Wording	Against	Partly/ partly	In favour	N (valid)
Lift COVID measures	"The regulations to combat the corona pandemic should now be lifted as they restrict the economy and civil liberties too much."	39.8%	34.2%	**26.0%**	4,332
Abolish right to asylum	"In order to limit immigration to Germany, the basic right to asylum should be abolished."	52.5%	30.1%	**17.4%**	4,320
Return EU powers	"Central decision-making powers of the European Union should be returned to the nation states."	32.4%	40.1%	**26.8%**	4,305
Restrict import	"In order to protect the German economy, the import of foreign products should be restricted."	42.0%	41.0%	**17.0%**	4,328
Mandatory women's quota	"The representation of women in all important political, economic and social bodies should be enforced with a mandatory quota of women."	**31.4%**	33.4%	35.1%	4,328
Higher taxes on the rich	"High incomes should be taxed much more heavily in Germany."	**12.7%**	25.0%	62.3%	4,331
Higher unemployment benefits	"The welfare state benefits for the poor and the unemployed ("Hartz IV") should be increased significantly."	32.1%	41.1%	**26.8%**	4,327

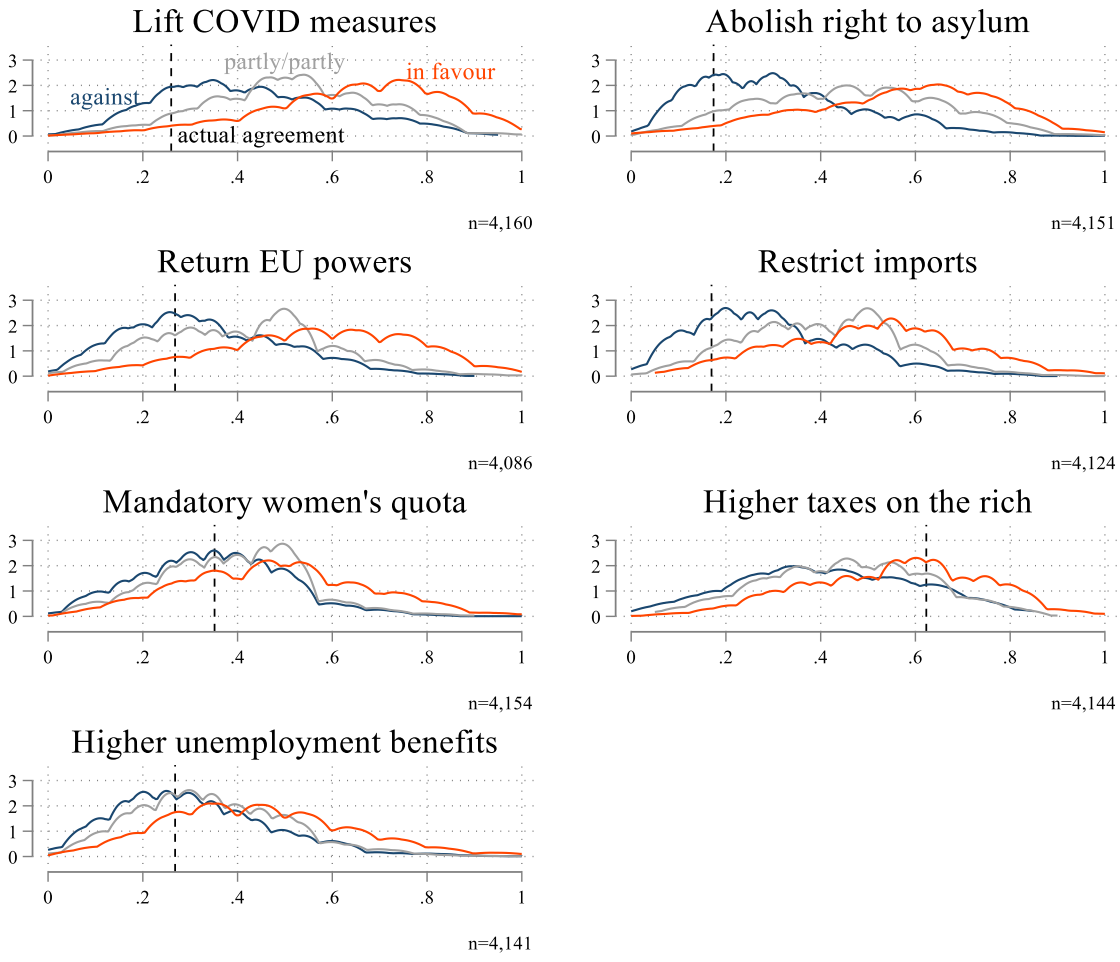
Note: Percentage shares are based on weighted data.

In Figure 1, we show kernel density plots of the (valid) answers by respondents' own position. The figure shows that individual estimates of public opinion differ, depending on the positions individuals themselves hold, suggesting the prevalence of FCB. On every issue, those who are against the proposal perceive less public support than those who are in favour, with the undecided falling in between. However, this discrepancy differs in strength across items. It is

[4] We offered a middle category (labelled "partly/partly") because we did not want to force respondents to take a stance on issues on which they do not have a clear position.

particularly large, for example, with regard to lifting the COVID-19 containment measures, which still was a highly salient issue on which Germans presumably held strong opinions when the survey was in the field. Differences are least pronounced for the two redistributive economic issues (higher taxes on the rich, higher unemployment benefits), where individuals are more likely to understand that their fellow citizens hold different preferences reflecting heterogenous material interests.

Figure 1: Estimated agreement on the seven policy proposals by own position



Note: Estimated share of the public that is in favor of the respective measure by respondents' own position towards the policy proposal. Dashed line in black indicates the percentage actually in favour of the respective measure as measured by (weighted) own positions in the GESIS panel (excluding don't know and item nonresponse).

There are different reasonable ways of how to combine this information into one summary measure that indicates the extent to which an individual holds FCB. To assess whether our main result is robust to alternative approaches, we propose four alternative measures:[5]

(1) *Mean of error in direction of own opinion*: For each individual and for each proposal on which this individual holds a position against or in favour, we compute the absolute difference, or "error", between estimated and actual public opinion (expressed as shares, that is scaled between 0 and 1). If the error is in the "wrong" direction (i.e., underestimation if individuals are in favour, overestimation if individuals are against), we set this value to zero.[6] We then take the average of the resulting values per individual across issues. This gives a measure of how strongly perceptions of public opinion are biased in the direction of an individual's own position. We choose this as our preferred measure because it is intuitive, relatively easy to interpret, and captures the intensity of FCB.

(2) *Minority position & perceived majority share*: A second measure starts from the idea that the most dramatic consequences of FCB should result when individuals hold minority positions but believe these to be supported by a majority. A straightforward and simple measure is then to count how often this is the case, that is, how often an individual holds the minority position (as indicated by the bold numbers in Table 1) but believes that more (when the minority position is in favour)/less (when the minority position is against) than 0.50 of the public support the measure. We standardize this count measure by expressing it as a share of the number of items for which we have

[5] Appendix A offers a formal description of our measures of FCB.

[6] An alternative would be to set the absolute error to negative values in these cases. This alternative measure correlates at 0.92 with the one proposed here. It differs conceptually in that it also takes negative values for a minority of respondents who tend to perceive public opinion as more distant from their own position than it actually is. As our argument is about differences in the extent of false consensus beliefs rather than about whether some individuals might even err in the opposite direction, we prefer setting errors in the opposite direction to zero.

valid information on a respondent's own position and his/her perception of public opinion. A disadvantage of this measure is that it discards a lot of information as it essentially dichotomizes perceptions of public opinion.

(3) *Coefficient from multilevel model*: This approach starts from the idea of estimating the degree of projection, that is how large the effect of the own position on individuals' error is. Accordingly, we estimate multilevel regressions with a stacked dataset in which the level-1 observations are individual-issue combinations, and the level-2 observations are individuals. The outcome variable is the perceptual "error", that is the difference between perceived and actual public approval of an item. We regress this error on the own position (coded as -1: against, 0: neutral, +1: in favour) and include a random slope for its coefficient, thus allowing the extent of "projection" to vary across individuals. We then save the resulting slope coefficients. Positive values indicate that an individual will tend to overestimate public approval (positive error) if they are in favour (position of +1) and underestimate public approval if they are against (position of -1). This approach results in a measure that is positively signed for almost ¾ of the respondents (73%), in line with an overall tendency towards FCB.

(4) *Coefficient from multilevel model with negative values set to zero*: As our theoretical argument is not concerned with variation among those with a bias in the opposite direction but rather in the extent of FCB, we "correct" the third measure by setting all negative slopes to zero. Given that this measure is closer to our theoretical argument, we prefer it over the third measure, but include results from both for transparency. Like measure (1), measures (3) and (4) capture intensity in the extent of FCB, avoiding a dichotomization at the item level like measure (2).

Table 1: Correlations between different measures of false consensus beliefs

	(1) mean of error in direction of own opinion	(2) minority position & perceived majority share	(3) coefficient from multilevel model	(4) coefficient from multilevel model (negative values set to zero)
(1) mean of error in direction of own opinion	1.00			
(2) minority position & perceived majority share	0.68	1.00		
(3) coefficient from multilevel model	0.72	0.67	1.00	
(4) coefficient from multilevel model (negative values set to zero)	0.74	0.70	0.94	1.00

Note: All correlations are statistically significant with $p<0.001$. N=4,150.

In Table 1, we display the correlations between these alternative measures. Reassuringly, the measures are reasonably close to each other. The weakest correlations involve the *minority position & perceived majority share* (2), which is arguably our crudest measure. The two measures we prefer most, the *mean of error in direction of own opinion* (1) and the *coefficient from the multilevel model with negative values set to zero* (4) correlate at 0.74.

Measurement of outcome variables

To measure populist attitudes, our main outcome variable, we included the scale by Akkerman et al. (2014) in the subsequent wave of the GESIS Panel, i.e., wave *ic* which was in the field from August 2021 to October 2021. We deliberately avoided running the items in the same wave as our measure of FCB in order to prevent halo effects. The Akkerman et al. (2014) scale is one of the most widely used measures of populist attitudes. It consists of seven items covering the three populist subdimensions of popular sovereignty, anti-elitism, and Manichean worldview. For our baseline models, we combine these into one variable via a principal component factor analysis (see Table B1 in the Appendix). We standardize this variable to range from zero to one (mean: 0.60, standard deviation: 0.18; for a histogram see Figure B2 in the Appendix). In

robustness checks, we will consider alternatives, aggregating the items according to the idea that all subdimensions are necessary components of a populist attitude (Wuttke et al., 2020), and looking at the subdimensions separately.

The three indicators of political support needed to test H2 to H4 are measured in standard ways. External efficacy is operationalized as an additive index of agreement with the statements that "politicians don't care what ordinary people think" and "are only interested in votes, not in people's opinions". Political trust is an additive index composed of trust in government, parliament, parties, and politicians. Satisfaction with democracy measures satisfaction with the way democracy works in Germany. We recoded these variables to a range from zero to one. The corresponding items were all included in wave *ja* of the GESIS Panel (February-April 2022), resulting in a somewhat larger time lag between our measure of FCB (May 2021 to July 2021) and these outcome variables.

To test H5, we draw on voting intention in a German national election, as measured in wave *ja* of the GESIS Panel (February-April 2022). In the German context (and at the time the survey was in the field), the only relevant party making staunchly populist appeals is the AfD ("Alternative für Deutschland"). We thus coded two dummy variables of a voting intention for the AfD. The first distinguishes between a voting intention for the AfD (=0) and a voting intention for any other party (=1). The second addresses the issue that "The Left" and some of the other smaller parties might also be considered partly populist and distinguishes between a voting intention for the AfD (=1) and the intention to vote for one of the "mainstream" parties CDU/CSU, SPD, FDP, and Greens (=0).

Model specification and control variables

Given the (quasi-)continuous nature of our attitudinal outcome variables, we simply estimate OLS regressions with the design weight for wave *ib* of the GESIS Panel employed as probability weight to test H1 to H4. To test H5 on the effect of FCB on an AfD vote, we estimate binary-logistic regressions. The regressions include a set of standard socio-demographic control variables: age group, gender, school education in three categories, and living in the Eastern part of Germany, i.e. the former GDR. These control variables are taken from the latest wave in which they had been included prior to wave ib. We also control for self-reported political interest (from wave *ia*), given that politically less interested individuals might make larger errors when guessing public opinion.

In addition, we include positions on all seven issues, using the original five-point Likert scale in all regressions. This way, we aim to distinguish effects of FCB from associations that might arise because holding certain issue attitudes is related to holding populist attitudes (or: low political support). Note that our measures of FCB tend to score higher among individuals who hold minority positions. This is most obvious for the *minority position & perceived majority share* (2), as scoring high on it requires holding minority positions in the first place. It applies to the other measures as well since the potential to err in the direction of one's opinion when guessing public opinion is larger when one holds a position that few others hold. Our measures are thus confounded by holding certain issue positions by design. To address that confoundedness, we control for the positions that individuals hold.

We are aware that identifying causal relationships is difficult in a purely cross-sectional setting: since we cannot guarantee that variations in FCB—however measured—are exogenous, we have to account for the possibility (a) that both FCB and populist attitudes are driven by an unobserved third factor (omitted variable bias) and (b) that FCB is a result of populist attitudes

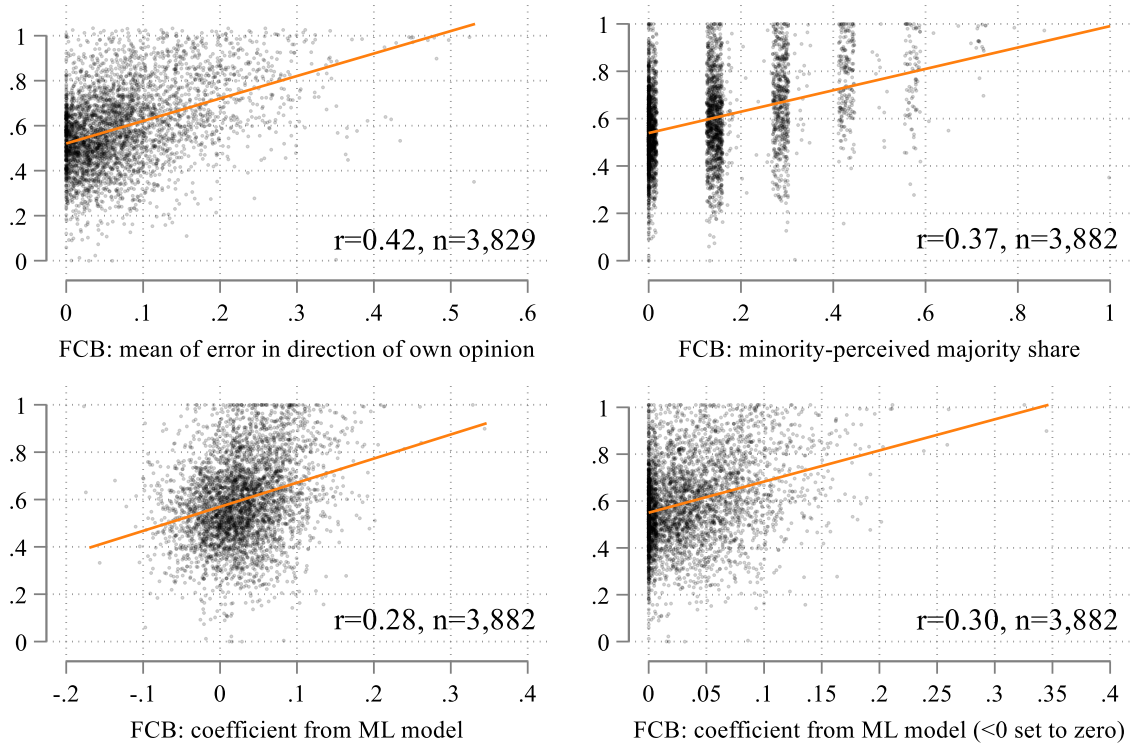
rather than a cause (reverse causality). However, we believe that the following features of our empirical design contribute to mitigating the endogeneity problem: first, we include respondents' attitudes on individual items, thus controlling for their perspectives on Covid measures, immigration, European integration etc. Some of these perspectives are highly correlated with populist attitudes, which helps to isolate the separate effect of FCB. In a similar vein, we control for important socio-economic characteristics like age, gender, education, residence. Third, all our FCB measures are based on a wide variety of items, some of which are likely to appeal to right-wing respondents while others are likely to appeal to left-wing respondents. This helps us to move closer to respondents' predisposition to develop FCB beyond their attitudes on particular items. Finally, we will later demonstrate that the FCB/populist-attitudes nexus prevails for both left-wing and right-wing respondents, indicating that our findings do not just reflect a combination of right-wing attitudes, a tendency to develop FCB, and a susceptibility for right-wing populism.

Empirical Results

The effect of false consensus beliefs on populist attitudes: Main results

Before turning to the regression results on our main hypothesis (H1), we present a set of scatterplots in Figure 2. These show the bivariate association between each of our measures of FCB (on the x-axes) and populist attitudes (on the y-axes). There is a (modest) positive correlation across all four measures. With r=0.42, the correlation is strongest for the *mean of error in direction of own opinion* (1).

Figure 2: Bivariate relations between false consensus beliefs and populist attitudes



Note: Jitter added to prevent overlaying. Linear fit line and Pearson correlation added. All correlations are statistically significant with p<0.001.

Table 2 shows our main regression results. We present four models, one for each of our four measures of FCB. For all four measures, we obtain a statistically significant positive effect on populist attitudes, in line with *H1*. In terms of standardized effect sizes, the effects are in a similar range. An increase by one standard deviation in FCB is associated with an increase in populist attitudes by 0.018 according to model 1, 0.020 according to model 2, 0.013 according to model 3 and 0.017 according to model 4. These correspond to 7% to 11% of the standard deviation in populist attitudes (of 0.18). Likewise, the model fit is very similar across the four models. It is a bit lower when we do not "correct" the negative values in the coefficients from the multilevel model (model 3) and highest for our preferred measure, the *mean of error in direction of own opinion* (model 1).

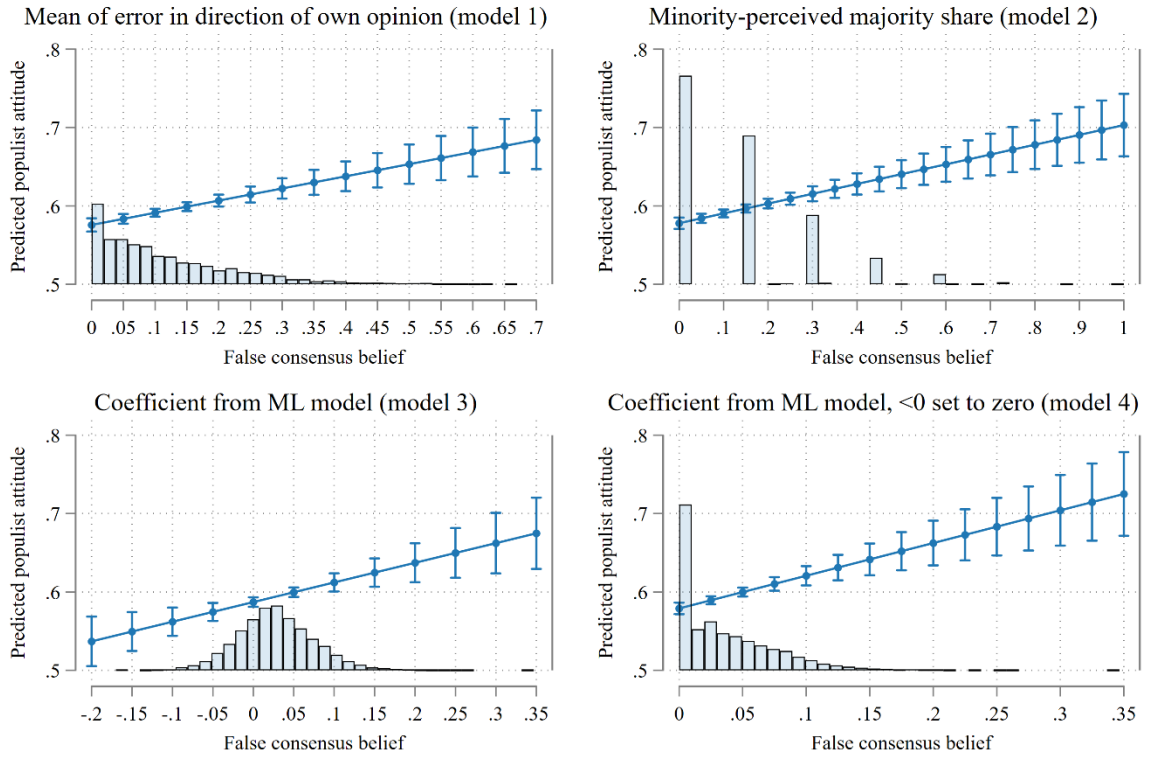
Table 2: Regressing populist attitudes on alternative measures of false consensus beliefs

	(1)	(2)	(3)	(4)
FCB: mean of error in direction of own opinion	0.16***			
	(0.032)			
FCB: minority position & perceived majority share		0.13***		
		(0.023)		
FCB: coefficient from multilevel model			0.25***	
			(0.071)	
FCB: coefficient from multilevel model (negative values set to zero)				0.42***
				(0.085)
Age: 35-49	-0.039***	-0.039***	-0.040***	-0.038***
	(0.0098)	(0.0097)	(0.0099)	(0.0098)
Age: 50-65	-0.033***	-0.032***	-0.034***	-0.032***
	(0.0092)	(0.0091)	(0.0092)	(0.0091)
Age: 66+	-0.024*	-0.022*	-0.024*	-0.023*
	(0.010)	(0.010)	(0.010)	(0.010)
Male	0.019***	0.018***	0.018***	0.018**
	(0.0054)	(0.0054)	(0.0054)	(0.0054)
Education: middle	0.00089	-0.0014	-0.0014	-0.0019
	(0.0078)	(0.0077)	(0.0077)	(0.0077)
Education: high	-0.011	-0.015+	-0.014+	-0.014+
	(0.0078)	(0.0078)	(0.0077)	(0.0077)
East	0.015**	0.014*	0.015*	0.016**
	(0.0060)	(0.0059)	(0.0059)	(0.0059)
Political interest	-0.012	-0.019	-0.016	-0.017
	(0.012)	(0.012)	(0.012)	(0.012)
Abolish right to asylum	0.12***	0.13***	0.13***	0.13***
	(0.012)	(0.011)	(0.011)	(0.011)
Higher taxes on the rich	0.078***	0.080***	0.087***	0.091***
	(0.012)	(0.012)	(0.012)	(0.012)
Higher unemployment benefits	0.021+	0.022+	0.030*	0.028*
	(0.012)	(0.012)	(0.012)	(0.012)
Mandatory women's quota	-0.0061	0.017	0.0024	0.0020
	(0.010)	(0.011)	(0.010)	(0.010)
Lift COVID measures	0.081***	0.082***	0.088***	0.085***
	(0.011)	(0.011)	(0.011)	(0.011)
Restrict imports	0.052***	0.058***	0.059***	0.059***
	(0.014)	(0.013)	(0.013)	(0.013)
Return EU powers	0.19***	0.19***	0.20***	0.20***
	(0.013)	(0.013)	(0.013)	(0.013)
Constant	0.35***	0.34***	0.34***	0.33***
	(0.016)	(0.016)	(0.016)	(0.016)
Summary statistics for FCB measure in sample				
Minimum	0	0	-0.16	0
Maximum	0.67	1	0.35	0.35
Mean	0.12	0.131	0.028	0.036
Standard deviation	0.11	0.151	0.049	0.039
Observations	3544	3591	3591	3591
R^2	0.369	0.368	0.365	0.368

Standard errors in parentheses. $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Reference categories: age: -34, female, education: low, Western Germany. Political interest and issue items scaled from zero to one. Design weight employed.

To better communicate the substantive relevance of the effects, Figure 3 plots predicted values across the observed spectrum of FCB from each of the four models. The plots also show histograms for the observed values of FCB in the estimation sample. It deserves noting that measures (1), (2) and (4) are notably right skewed. This follows from the nature of these measures, which capture whether an individual holds FCB and, (only) if so, how large the resulting bias is. While extremely high values are accordingly rare, Figure 3 shows that when evaluated across the full range FCB can result in a substantively significant difference of populist attitudes. For example, the predicted populist attitude score is around 0.58 at the low end of *mean of error in direction of own opinion* and 0.68 at its high end.[7]

Figure 3: Predicted values of populist attitudes across levels of false consensus beliefs



[7] Given the right-skewed measures, it is natural to wonder about nonlinear relations between our measures of false consensus beliefs and populist attitudes. However, apart from measure (3), there is little evidence of the association being non-linear: When we add a squared term, it is only statistically significant for measure (3) and the R^2 also improves only for measure (3). In the case of measure (3), we observe that higher values of false consensus beliefs are associated with higher populist attitude scores only in the positive value range (see Figure C1 in the appendix). This result is line with our rationale for setting negative values to zero, as implemented in measure (4).

Note: Predicted values of populist attitudes across levels of false consensus beliefs. Histograms with distributions of false consensus beliefs added.

The effect of false consensus beliefs on populist attitudes: Robustness checks

To further probe the robustness of our main finding on *H1* that FCB are associated with a higher level of populist attitudes, we performed additional checks. To reduce complexity, we only present results for our preferred measure of FCB, the *mean of error in direction of own opinion* (1) here. In the Appendix, we repeat these analyses with our second-most preferred measure, the *coefficient from the multilevel model with negative values set to zero* (4); we briefly report these results below.

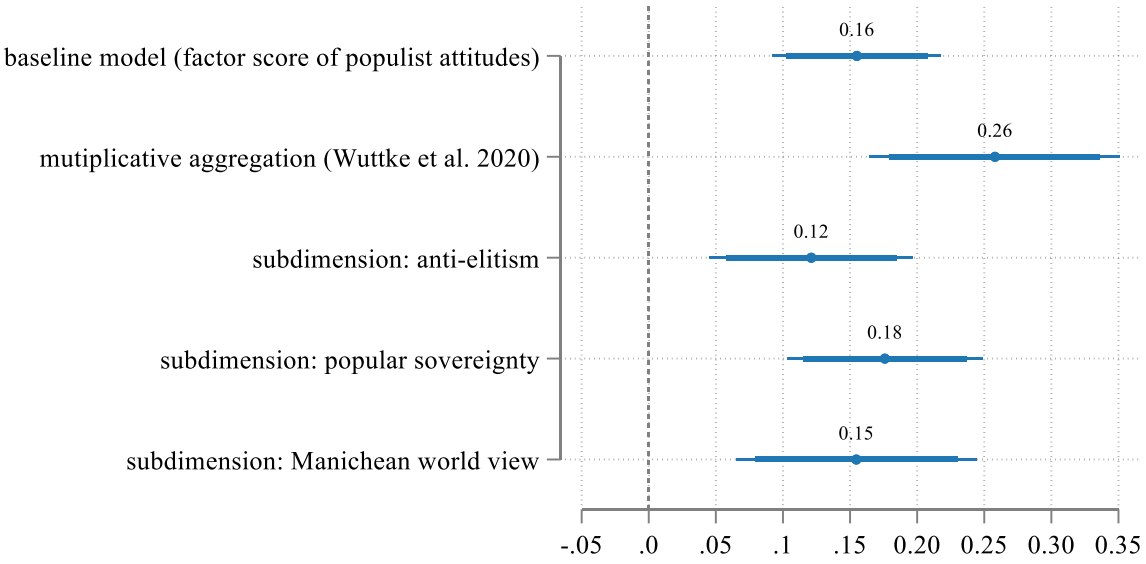
First, we checked whether the association between FCB and populist attitudes holds when aggregating the items according to the idea that all subdimensions are necessary components of a populist attitude syndrome (Wuttke et al., 2020). We followed Wuttke et al.'s suggestion (i.e., their "strategy 2") of how to implement this with the items from the Akkerman et al. (2014) scale. Thus, we computed mean indices for the three subdimensions (popular sovereignty, anti-elitism, Manichean worldview; see Table B1 in the Appendix for the assignment of the items to the three subdimensions) scaled between zero and one and then multiplied the values for the three subdimensions. This aggregation rule ensures that high populist attitude scores are only achieved when scoring high on all its subdimensions, resulting in an index with a lower mean value of populist attitudes (mean: 0.23; standard deviation: 0.22).

In Figure 3, we show the coefficients for our preferred measure of FCB when using this alternative measure of populist attitudes as a dependent variable, alongside—for comparison—the coefficient from the baseline model in the first row. Using another measure of populist attitudes results in a similar but somewhat larger effect of FCB. For an individual with FCB at

its 10-percentile value, the predicted value of populist attitudes is 0.20, while it is 0.27 at its 90-percentile value.

Second, we looked at the three subdimensions individually, obtaining a significant effect of FCB on each. The effect is largest for popular sovereignty, pointing to a close association between erroneous factual beliefs that most others share one's preferences and a preference for the popular will to be implemented without restriction. The results displayed in Figure 3 are similar when using the alternative measure based on the multilevel model instead (see Figure D1 in the Appendix).

Figure 3: Effects of false consensus beliefs on alternative measures of populist attitudes

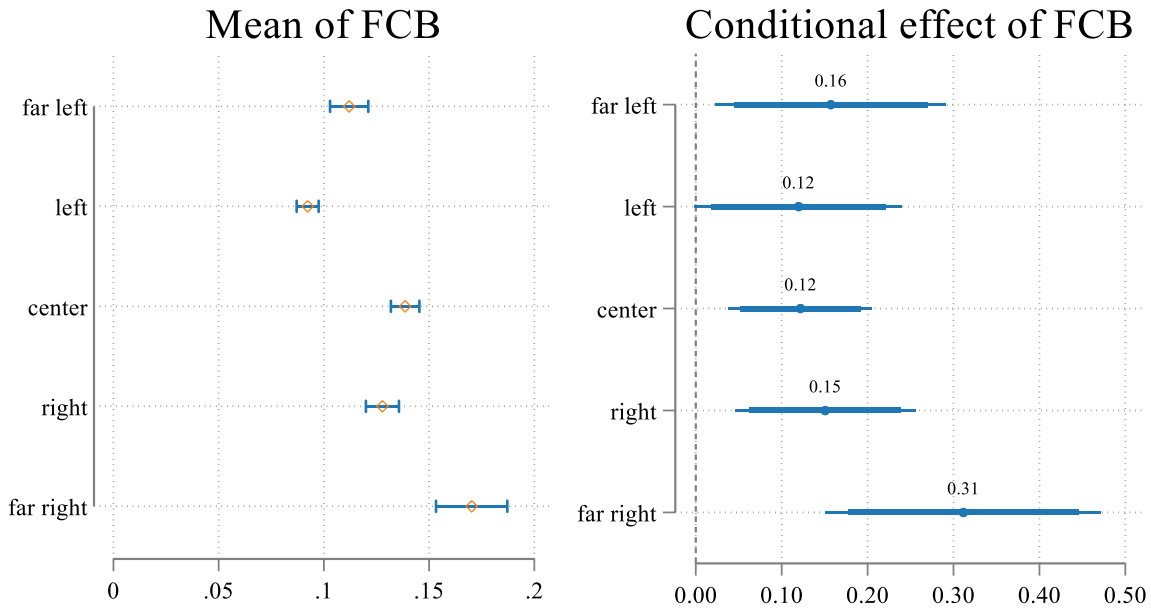


Note: False consensus beliefs are measured by the mean of error in direction of own opinion. Point estimates with 90% (thin) and 95% (thick) confidence intervals. Model specification similar to models in Table 2. FCB measured using the *mean of error in direction of own opinion*.

Second, we checked whether the association between FCB and populist attitudes holds across the left-right spectrum. This serves two purposes. First, it is interesting to see whether FCB might be more widespread, and their link to populist attitudes stronger, at different points on the ideological spectrum. Second, it serves as an additional check to see whether our results

reflect a genuine effect of FCB, or whether they may be distorted by our measures of FCB being confounded with holding certain issue positions. We therefore ran regressions including interactions between left-right positions, coded into 5 categories, and FCB. On the right-hand side of Figure 4, we plot the conditional effects of FCB for different positions on the left-right scale based on this model. On the left-hand side, we also show mean levels of FCB across left-right positions.

Figure 4: False consensus beliefs and their effects on populist attitudes across the left-right scale



Note: False consensus beliefs are measured by the *mean of error in direction of own opinion*. Left-hand side: Mean with 95% confidence intervals. Right-hand side: Marginal effects from OLS regression with interaction between false consensus beliefs and left-right self-placement. Left-right position, measured on a 0-10 self-placement scale, coded as follows: far left: 0-2, left: 3-4, center: 5, right: 6-7; far right: 8-10.

The results indicate that the effect of FCB holds across the left-right spectrum. However, we can also see that the effect tends to be larger for those respondents who locate themselves on the far right.[8] At the same time, FCB are most widespread on the far right to begin with. We

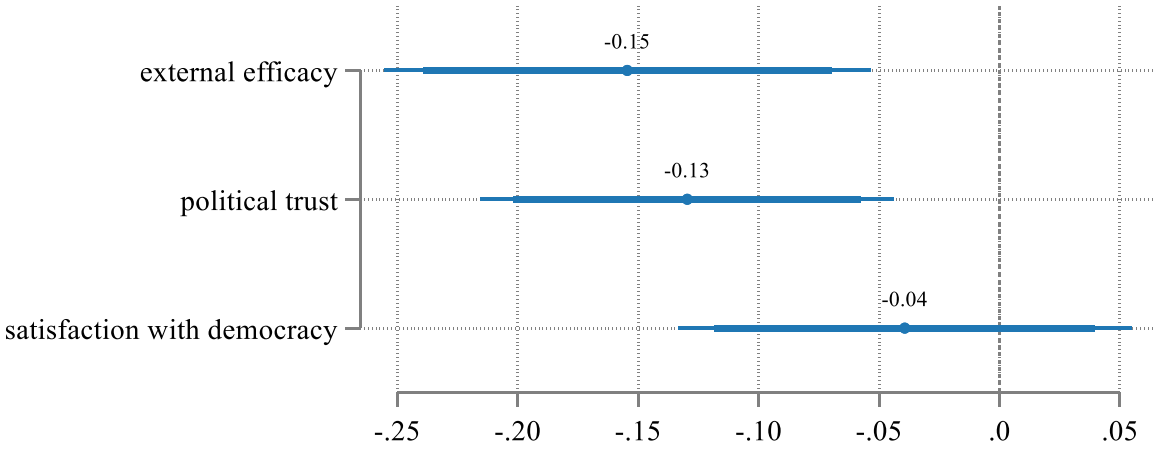
[8] The effect differs statistically significantly from the one for the right, center and left with at least $p<0.10$.

note that these differences should be interpreted cautiously, since levels of FCB across the left-right spectrum are sensitive to the choice of items used to measure FCB. Nevertheless, there is suggestive evidence that FCB are most widespread and most consequential for populist attitudes at the extreme right. Most importantly, however, these findings suggest that FCB are associated with populist attitudes independent of one's ideological position, with only the strength of this association varying. Again, results are similar when using the alternative *multilevel regression-based measure* (see Figure D2 in the Appendix).

Effect of false consensus beliefs on other outcome variables

Next, we report results from tests of our additional hypothesis, i.e. *H2* to *H5*. In Figure 5, we show regression coefficients for our preferred measure of FCB with the other attitudinal outcome variables, i.e., external efficacy, political trust, and satisfaction with the way democracy works.

Figure 5: Effects of false consensus beliefs on other indicators of political support

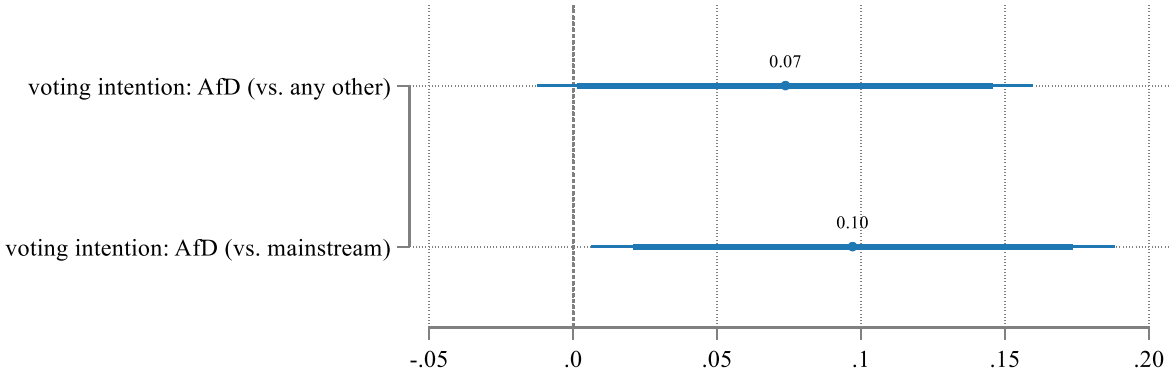


Note: Shown are regression coefficients from OLS regressions with 90% (thin) and 95% (thick) confidence intervals. Weights employed. False consensus beliefs are measured by the *mean of error in direction of own opinion*. Specifications similar to models in Table 2.

All three regression coefficients are negatively signed as expected. While the effects on external efficacy and political trust are statistically significant, the one on satisfaction with democracy is not. These results may reflect that external efficacy and political trust are conceptually and empirically closer to populist attitudes than is satisfaction with democracy. External efficacy taps into the claim that politicians are unresponsive to citizens' demands and captures the anti-elitism dimension of populism (Geurkink et al., 2020, p. 251). In line with our theoretical argument, it is concerned with a perceived lack of responsiveness and can thus be viewed as linking FCB to populist attitudes and behavior. Political trust is closely related to the anti-elitism facet of populism (Geurkink et al., 2020, p. 250). In our data, the (negative) correlation with populist attitudes is largest for external efficacy (r=-0.64), followed by political trust (r=-0.56), and then satisfaction with democracy (r=-0.49) (see Table B2 in the Appendix). Again, the findings are similar when using the FCB measure based on the multilevel regression instead, though the coefficient for external efficacy is statistically significant only at the $p<0.10$ level (see Figure D3 in the Appendix). Overall, these findings indicate that the deleterious consequences of FCB for democratic legitimacy are not limited to populist attitudes but extend to external efficacy (in line with *H2*) and political trust (in line with *H4*).

Finally, we turn to the potential behavioral consequence of holding FCB of voting for populist parties as formulated in *H5*. In Figure 7, we display average marginal effects on the probability to hold a voting intention for the AfD from binary-logistic using the two versions of the AfD dummy.

Figure 7: Effects of false consensus beliefs on voting intention for the AfD



Note: Shown are average marginal effects with 90% (thin) and 95% (thick) confidence intervals, based on binary-logistic regressions. Weights employed. False consensus beliefs are measured by the *mean of error in direction of own opinion*. Specifications similar to models in Table 2.

We obtain a positive effect of FCB on voting for the AfD that is statistically significant with $p<0.10$ when comparing the AfD to all other parties and with $p<0.05$ when comparing the AfD to the mainstream parties only. According to the second model, the probability to vote for the AfD is 6.8% when setting FCB to its 10-percentile value and 9.2% when setting FCB to its 90-percentile value. However, this finding is not robust to using the alternative measure, which also results in positive but imprecisely estimated effects (see Figure D4 in the Appendix).

Conclusion

In a complex world full of uncertainties, feeling that others share own views and opinions provides reassurance and comfort. It is easy to see how cognitive biases can arise from the human need for validation. This paper has studied political implications of a phenomenon well-known in social psychology: false consensus beliefs (FCB). On the basis of a broad literature on the topic in psychology and a relatively scarce literature on their consequences in political science, we theorized that FCB can result in citizens misperceiving democratic majorities to share their preferences. In consequence, actual decision-making and ruling elites are perceived

as unresponsive, and democratic legitimacy questioned. This provides fertile ground for the development of populist attitudes as a Manichean political worldview that combines a preference for the unrestricted implementation of the alleged "will of the people" with a disdain of "the political elite".

Measuring FCB on the basis of individuals' beliefs about public opinion on a set of controversial policy issues, we found a substantial correlation between FCB and populist attitudes. This effect is robust to numerous different model specifications and holds for several measures of FCB. We thus find support for our central hypothesis (*H1*) regarding the positive effect of FCB on populist attitudes. While we reasoned FCB to be especially relevant for populist attitudes that combine attitudes of people-centrism and anti-elitism, we expected negative consequences for political support more broadly. In line with this, we found an effect on external efficacy (*H2*) and political trust (*H3*), whereas the effect on satisfaction with democracy was not statistically significant (*H4*). We also found some evidence of FCB increasing the likelihood to vote for the populist radical right AfD (*H5*), which is interesting given that populist attitudes are widespread and do not necessarily translate into to populist voting. However, this effect was not statistically significant across different measures of FCB.

We are well aware that a reverse effect is not only possible, but even plausible: Individuals holding populist attitudes (or even having voted for populist parties) may rationalize their attitudes and decisions by engaging in motivated reasoning about majority opinion and selectively seeking out information that confirms their biases. However, we believe that our empirical design goes a long way in mitigating endogeneity concerns. Moreover, individuals are not only motivated to believe that others agree with them, but they are also motivated to hold *true* beliefs. As a general rule and from an evolutionary perspective, true beliefs tend to be more instrumentally useful than false ones. Thus, expecting individuals to consciously avoid

any information that would correct false beliefs seems implausible. At the same time, causal identification remains an important task for future research in the study of FCB.

Against this background, we should explore strategies to correct FCB and mitigate their potentially pernicious effects on democracy. While longitudinal studies will be important for causal identification, experimental studies could, in addition, test strategies to correct FCB and their effects on perceived responsiveness and legitimacy. Having provided compelling evidence for a strong association between FCB and populist attitudes, we thus see significant remaining research desiderata to better understand the mechanisms behind it and to develop counterstrategies.

References

Akkerman, A., Mudde, C., & Zaslove, A. (2014). How populist are the people? Measuring populist attitudes in voters. *Comparative Political Studies, 47*(9), 1324-1353.

Allport, F. (1924). Chapter 13: Social Attitudes and Social Consciousness. In F. Allport, (Ed.), *Social Psychology* (pp. 320–335). Boston: Houghton Mifflin Company.

Arnesen, S., Broderstad, T. S., Johannesson, M. P., & Linde, J. (2019). Conditional legitimacy: How turnout, majority size, and outcome affect perceptions of legitimacy in European Union membership referendums. *European Union Politics, 20*(2), 176–197.

Barberá, P., Jost, J. T., Nagler, J., Tucker, J. A., & Bonneau, R. (2015). Tweeting from left to right: Is online political communication more than an echo chamber? *Psychological Science 26*(10), 1531–1542.

Berman, S. (2021). The causes of populism in the west. *Annual Review of Political Science, 24*, 71-88.

Bosnjak, M., Dannwolf, T., Enderle, T., Schaurer, I., Struminskaya, B., Tanner, A., & Weyandt, K. W. (2018). Establishing an open probability-based mixed-mode panel of the general population in Germany: The GESIS panel. *Social Science Computer Review, 36*(1), 103-115.

Broockman, D. E., & Skovron, C. (2018). Bias in perceptions of public opinion among political elites. *American Political Science Review 112*(3), 542-563.

Bursztyn, L., & Yang, D. Y. (2022). Misperceptions about others. *Annual Review of Economics, 14*, 425-452.

Dahl, R. A. (1971). *Polyarchy: Participation and Opposition*. New Haven: Yale University Press.

De la Haye, A.-M. (2000). A methodological note about the measurement of the false-consensus effect. *European Journal of Social Psychology 30*(4), 569-581.

Elsässer, L., & Schäfer, A. (2023). Political Inequality in Rich Democracies. *Annual Review of Political Science, 26*, 469-487.
Esaiasson, P., Kölln, A. K., & Turper, S. (2015). External efficacy and perceived responsiveness—Similar but distinct concepts. *International Journal of Public Opinion Research, 27*(3), 432-445.
Erisen, C., Guidi, M., Martini, S., Toprakkiran, S., Isernia, P., & Littvay, L. (2021). Psychological correlates of populist attitudes. *Political Psychology, 42*(S1), 149-171.
Ferrín, M., & Kriesi, H. (Eds.). (2016). *How Europeans view and evaluate democracy*. Oxford: Oxford University Press.
Festinger, L. (1957). *A Theory of Cognitive Dissonance*. Stanford: Stanford University Press.
Geurkink, B., Zaslove, A., Sluiter, R., & Jacobs, K. (2020). Populist attitudes, political trust, and external political efficacy: Old wine in new bottles?. *Political Studies*, 68(1), 247-267.
Gilens, M. (2005). Inequality and Democratic Responsiveness. *Public Opinion Quarterly 69*(5), 778–796.
Hawkins, K. A., Carlin, R. E., Littvay, L., & Kaltwasser, C. R. (Eds.). (2018). *The Ideational Approach to Populism: Concept, Theory, and Analysis*. London: Routledge.
Kriesi, H. (2014). The Populist Challenge. *West European Politics, 37*(2), 361-378.
Krueger, J., & Clement, R. W. (1994). The truly false consensus effect: an ineradicable and egocentric bias in social perception. *Journal of Personality and Social Psychology, 67*(4), 596-610.
Krueger, J. (1998). On the perception of social consensus. *Advances in Experimental Social Psychology 30,* 163-240.
Krueger, J. I. (2007). From social projection to social behaviour. *European Review of Social Psychology, 18*(1), 1-35.
Kunda, Z. (1990). The case for motivated reasoning. *Psychological Bulletin 108*(3), 480–498.
Marks, G. & Miller, N. (1987). Ten years of research on the false-consensus effect: An empirical and theoretical review. *Psychological Bulletin 102*(1), 72–90.
Mathisen, R., Schakel, W., Hense, S., Elsässer, L., Persson, M., & Pontusson, J. (2023). Unequal Responsiveness and Government Partisanship in Northwest Europe. In N. Lupu, & J. Pontusson (Eds.), *Unequal Democracies: Public Policy, Responsiveness, and Redistribution in an Era of Rising Economic Inequality* (pp. 29-35). Cambridge: Cambridge University Press.
Mudde, C. (2004). The populist Zeitgeist. *Government and Opposition 39*(4), 541–563.
Mudde, C. (2021). Populism in Europe: an illiberal democratic response to undemocratic liberalism. *Government and Opposition, 56*(4), 577-597.
Norris, P. (2011). *Democratic deficit: Critical citizens revisited*. Cambridge: Cambridge University Press.
Pereira, M. M. (2021). Understanding and reducing biases in elite beliefs about the electorate. *American Political Science Review 115*(4), 1308–1324.
Pitkin, H.F. (1967). *The Concept of Representation*. Oakland: University of California Press.
Robbins, J. M., & Krueger, J. I. (2005). Social projection to ingroups and outgroups: A review and meta-analysis. *Personality and Social Psychology Review, 9*(1), 32-47.
Ross, L., Greene, D., & House, P. (1977). The 'false consensus effect': An egocentric bias in social perception and attribution processes. *Journal of Experimental Social Psychology 13*(3), 279–301.
Schäfer, A. (2012). Affluence, inequality and satisfaction with democracy. In S. Keil, & O. W. Gabriel (Eds.), *Society and democracy in Europe* (pp. 139-161). Milton Park: Routledge.
Schäfer, A., & Zürn, M. (2023). *The Democratic Regression: The Political Causes of Authoritarian Populism*. Hoboken: John Wiley & Sons.

Schulz, A., Müller, P., Schemer, C., Wirz, D. S., Wettstein, M., & Wirth, W. (2018). Measuring populist attitudes on three dimensions. *International Journal of Public Opinion Research, 30*(2), 316-326.

Schulz, A., Wirth, W., & Müller, P. (2020). We are the people and you are fake news: A social identity approach to populist citizens' false consensus and hostile media perceptions. *Communication Research 47*(2), 201–226.

Sevenans, J., Walgrave, S., Jansen, A., Soontjens, K., Bailer, S., Brack, N., Breunig, C., Helfer, L., Loewen, P., Pilet, J.-B., Sheffer, L., Varone, F., & Vliegenthart, R. (2023). Projection in politicians' perceptions of public opinion. *Political Psychology, 44*(6), 1259-1279.

Van Aelst, P., Strömbäck, J., Aalberg, T., Esser, F. de Vreese, C., Matthes, J., Hopmann, D., Salgado, S., Hubé, N., Stępińska, A., Papathanassopoulos, S., Berganza, R., Legnante, G., Reinemann, C., Sheafer, T., & Stanyer, J. (2017). Political communication in a high-choice media environment: a challenge for democracy? *Annals of the International Communication Association 41*(1), 3-27.

Van Hauwaert, S. M., & Van Kessel, S. (2018). Beyond protest and discontent: A cross-national analysis of the effect of populist attitudes and issue positions on populist party support. *European Journal of Political Research, 57*(1), 68-92.

van Prooijen, J. W., Cohen Rodrigues, T., Bunzel, C., Georgescu, O., Komáromy, D., & Krouwel, A. P. (2022). Populist gullibility: Conspiracy theories, news credibility, bullshit receptivity, and paranormal belief. *Political Psychology, 43*(6), 1061-1079.

Walgrave, S., Soroka, S., Loewen, P., Sheafer, T., & Soontjens, K. (2022). Revisiting Elite Perceptions as Mediator of Elite Responsiveness to Public Opinion. *Political Studies*, Online First. https://doi.org/10.1177/00323217221105170.

Walgrave, S. Jansen, A., Sevenans, J., Soontjens, K., Pilet, J.-B., Brack, N., Varone, F., Helfer, L., Vliegenthart, R., van der Meer, T., Breunig, C., Bailer, S., Sheffer, L., & Loewen, P. J. (2023). Inaccurate politicians: Elected representatives' estimations of public opinion in four countries. *Journal of Politics 85*(1), 209–222.

Wratil, C., & Wäckerle, J. (2023). Majority representation and legitimacy: Survey-experimental evidence from the European Union. *European Journal of Political Research 62*(1), 285–307.

Wuttke, A., Schimpf, C., & Schoen, H. (2020). When the whole is greater than the sum of its parts: On the conceptualization and measurement of populist attitudes and other multidimensional constructs. *American Political Science Review, 114*(2), 356-374.

Appendix to

False Consensus Beliefs and Populist Attitudes

Section A: Formal presentation of measures of false consensus beliefs

In this appendix, we offer a formal presentation of the alternative measures of false consensus beliefs (FCB) that we describe in Section 3.1, and that we use in our subsequent empirical analysis. In all those measures, we define $\bar{y}_{ij}$ to be respondent *i*'s estimate of the population share that supports item *j*, i.e. her *estimated item popularity*, while $\bar{y}_j$ is the *average support* for item *j* that we observe in the sample (i.e. the *true item popularity*).[1] The difference $e_{ij} \equiv \bar{y}_{ij} - \bar{y}_j$ thus represents the *error* committed by individual *i* in assessing the popularity of item *j*. Finally, x_{ij} is individual *i*'s *endorsement* of item *j*, coded as -1: against, 0: neutral, +1: in favour.

Mean of error in direction of own opinion. This measure can be expressed as

$$FCB_i^{MeanError} = \frac{1}{N} \sum_{j=1}^{N} \max \left\{ e_{ij} \cdot x_{ij}, 0 \right\}$$

For the N items for which we have responses by individual *i*, we compute the product between her error e_{ij} and her endorsement x_{ij}. If this product is positive—either because the individual is in favour of the item and overrates its true popularity, or because she is against it and underrates its true popularity—we use the resulting number. Conversely, if $e_{ij} \cdot x_{ij}$ is negative, we replace it by a zero. Obviously $e_{ij} \cdot x_{ij}$ is also zero if individual *i* is neutral on item *j*. The resulting measure $FCB_i^{MeanError}$ is the average taken across items. It has the advantage of reflecting the intensity of FCB—i.e. the average size of the error. At the same time, it may be heavily influenced by a high FCB that prevails for a narrow subset of items.

[1] Of course, interpreting sample shares as "true" share assumes that the sample is representative. As explained in the main text, we are confident that the GESIS Panel comes reasonably close to fulfilling this assumption.

Minority position & perceived majority share. This measure can be expressed as

$$FCB_i^{MinPercMajSh} = \frac{1}{N}\sum_{j=1}^{N} d_{ij},$$

$$\text{with } d_{ij} = \begin{cases} 1 \text{ if } \left(50 - \bar{y}_j\right) x_{ij} > 0 \text{ and } \left(\bar{y}_{ij} - 50\right) x_{ij} > 0 \\ 0 \text{ otherwise} \end{cases}$$

The term d_{ij} takes a value of one if two conditions are satisfied: individual *i* endorses a minority position and individual *i* believes item popularity to be above (below) 50 percent when she endorses (rejects) item *j*. A high value of $FCB_i^{MinPercMajSh}$ indicates that an individual mis-assesses the majority in line with her own endorsement for a large share of items. The advantage of this measure is that it is unlikely to be dominated by a large error on a few items. However, the measure also discards information on how strongly estimated item popularities deviate from true item popularities.

Coefficient from multilevel model. This measure is based on estimating the parameters of the following regression equation:

$$e_{ij} = \alpha_i + \beta_i \, x_{ij} + \varepsilon_{ij}$$

The left-hand side of this equation is individual *i*'s error on item *j*, which is positive (negative) if estimated item popularity is greater (smaller) than true item popularity. On the right-hand side, α_i is an individual-specific random intercept, representing individual *i*'s general tendency to over- or underestimate item popularity across items, while ε_{ij} is a random disturbance,

capturing all non-systematic errors.[2] Our key parameter of interest is β_i , which indicates how sensitive individual *i*'s error in assessing the popularity of item *j* is to the individual's own endorsement of that item. Using a multilevel design, we estimate the parameters of the above equation for each individual, exploiting the variation of endorsements and errors across the seven items the individual was exposed to. The resulting measure of FCB for individual *i* is thus

$$FCB_i^{MultiLevel} = \hat{\beta}_i ,$$

i.e. the estimated slope coefficient of the above regression. We interpret a higher value of $\hat{\beta}_i$ as representing a stronger tendency to develop false consensus beliefs: a positive and high value of that parameter indicates that the individual's endorsement of an item intensely maps into her error in assessing the item's popularity. If this individual is in favor of an item, she tends to overrate its popularity, if she is against it, she tends to underrate it. The absence of FCB for individual *i* is represented by a value of $\hat{\beta}_i$ that is close to zero or negative, i.e. an error that is not affected by the individual's endorsement or a tendency to mis-assess item popularity "against" one's own endorsement.[3]

Note that $FCB_i^{MultiLevel}$ is related, but not identical to $FCB_i^{MeanError}$.[4] The first difference between the two measures is that $FCB_i^{MeanError}$ sets negative values of $e_{ij} \cdot x_{ij}$ equal to zero, while both positive and negative values of $e_{ij} \cdot x_{ij}$ enter $FCB_i^{MultiLevel}$. Hence, $FCB_i^{MeanError}$ cannot be

[2] We do not model a_i as a fixed effect since this would eliminate individual *i*'s (unobserved) tendency to mis-assess the popularity of items, i.e. the very predisposition that we are aiming to analyze.

[3] Our approach to estimate individuals' FCB as the coefficient of a linear regression is related to, but different from the approach chosen by Krueger (1998) and de la Haye (2000) who focus on the *correlation* between endorsement and error (Krueger 1998) or estimated popularity (de la Haye, 2000). While regression coefficients and correlation coefficients share the same sign, correlation focuses on the consistency of the relationship between endorsement and error/estimated popularity – simply spoken: the fit in a linear regression – while the slope coefficient measures the intensity of that relationship.

[4] Recall that the OLS estimator is given by $\hat{\beta}_i = \sum_{j=1}^{N} e_{ij} \cdot x_{ij} \; / \sum_{j=1}^{N} x_{ij}^2$.

negative by construction, while $FCB_i^{MultiLevel}$ can. Second, the scaling factor in $FCB_i^{MeanError}$ is the number of observations per individual (N), while it is the sum of squared endorsements for $FCB_i^{MultiLevel}$. As a result, individuals with a wider dispersion of endorsements tend to be assigned lower values of $FCB_i^{MultiLevel}$ than individuals who have a strong opinion on some items but are undecided on others. Note, finally, that, by construction, $\sum_{j=1}^{N} x_{ij}^2$ cannot be greater than N. For this reason—and since negative values are not eliminated – $FCB_i^{MultiLevel}$ is likely to be smaller than $FCB_i^{MeanError}$.

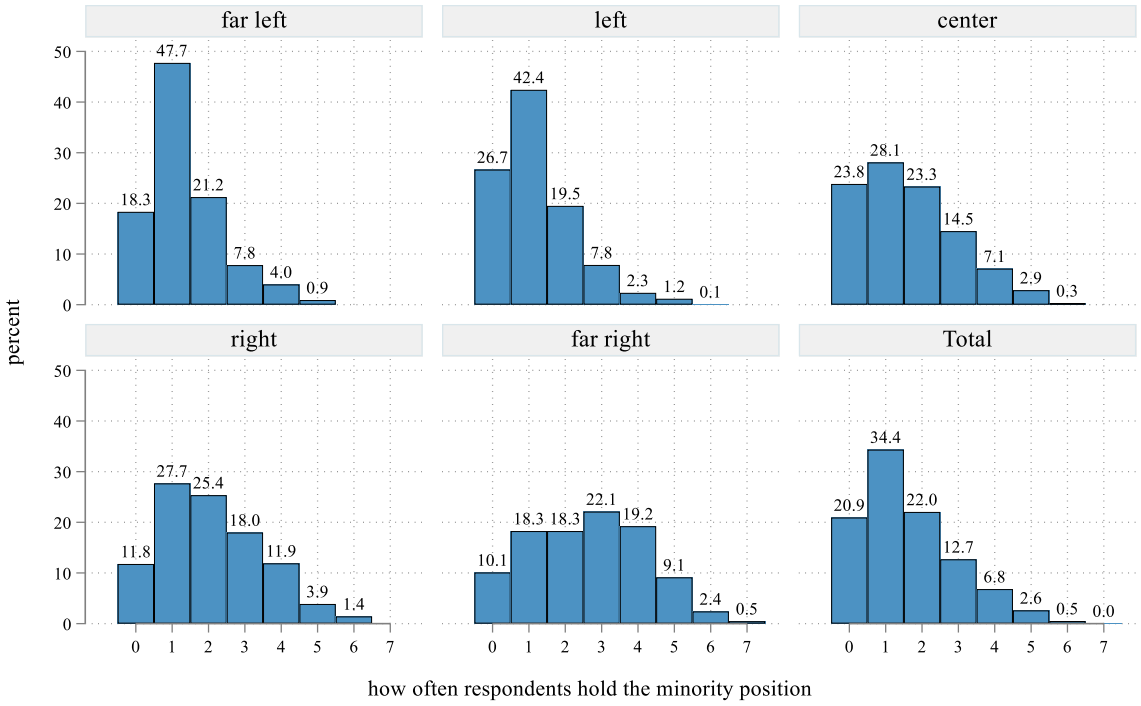
Coefficient from multilevel model with negative values set to zero. This measure is defined as

$$FCB_i^{MultiLevel,NoNeg} = \max\left\{ 0,\ \hat{\beta}_i \right\},$$

i.e. it replaces estimates of negative slope coefficients by zero and thus neutralizes those (rare) cases for which endorsement (rejection) of an item systematically results in an underestimation (overestimation) of its popularity.

Section B: Additional descriptive results

Figure B1: Holding the minority position by left-right self-placement



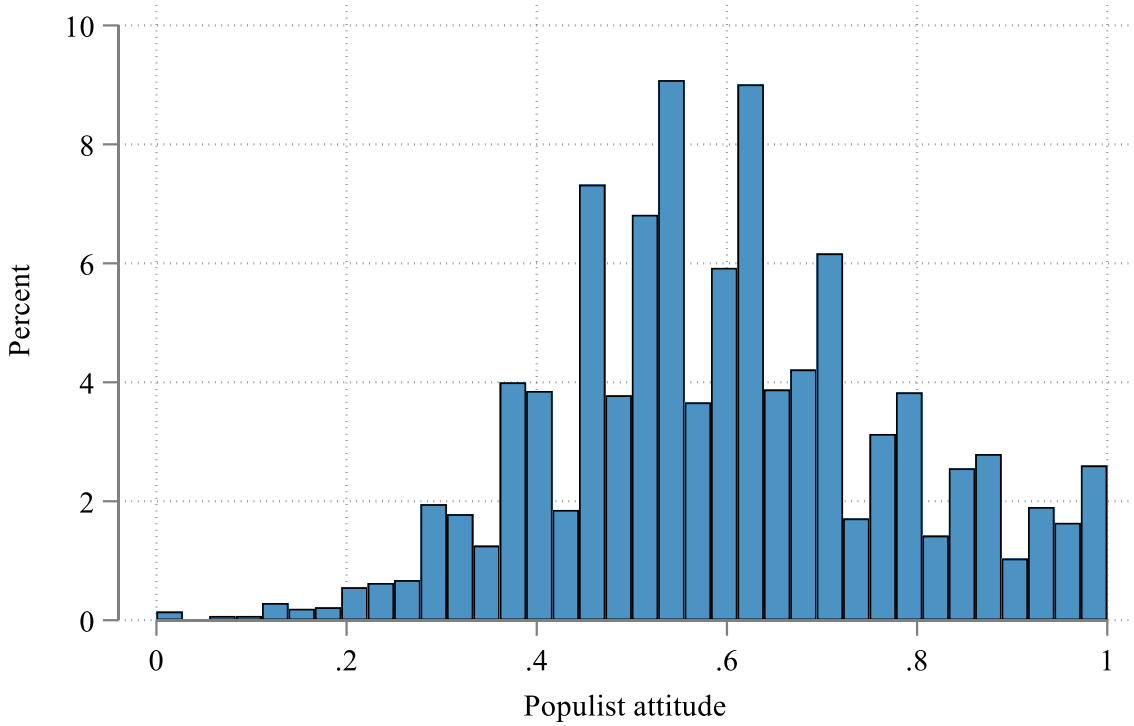
Note: Count of holding the minority position by left-right self-placement. Original 0 to 10 left-right scale collapsed into five categories as follows: 0-2 → far left, 3-4 → left, 5 → center, 6-7 → right, 8-10 → far right. The percentages reflect the share of individuals of given political orientation who hold minority positions on 0, 1, 2, …, 7 items.

Table B1: Measurement of populist attitudes

	Loading on 1st factor
A citizen would represent my interests better than a professional politician. [popular sovereignty]	0.80
Politicians talk too much and do too little. [anti-elitism]	0.78
The people, not the politicians, should make the most important policy decisions. [popular sovereignty]	0.78
What is called compromise in politics is really just a betrayal of principles. [Manichean worldview]	0.71
The political differences between elites and the people are larger than the differences among the people. [anti-elitism]	0.68
The members of the German Bundestag need to follow the will of the people. [popular sovereignty]	0.64

Note: Results from principal component factor analysis. 1st factor has an Eigenvalue of 3.24 and accounts for 54.0 % of the variance in the variables.

Figure B2: Histogram of populist attitude (factor score)



Note: The histogram shows the distribution of our measure of populist attitudes—i.e. the first principal component of individual populism measures—among respondents. The mean is 0.60 and the standard deviation is 0.18.

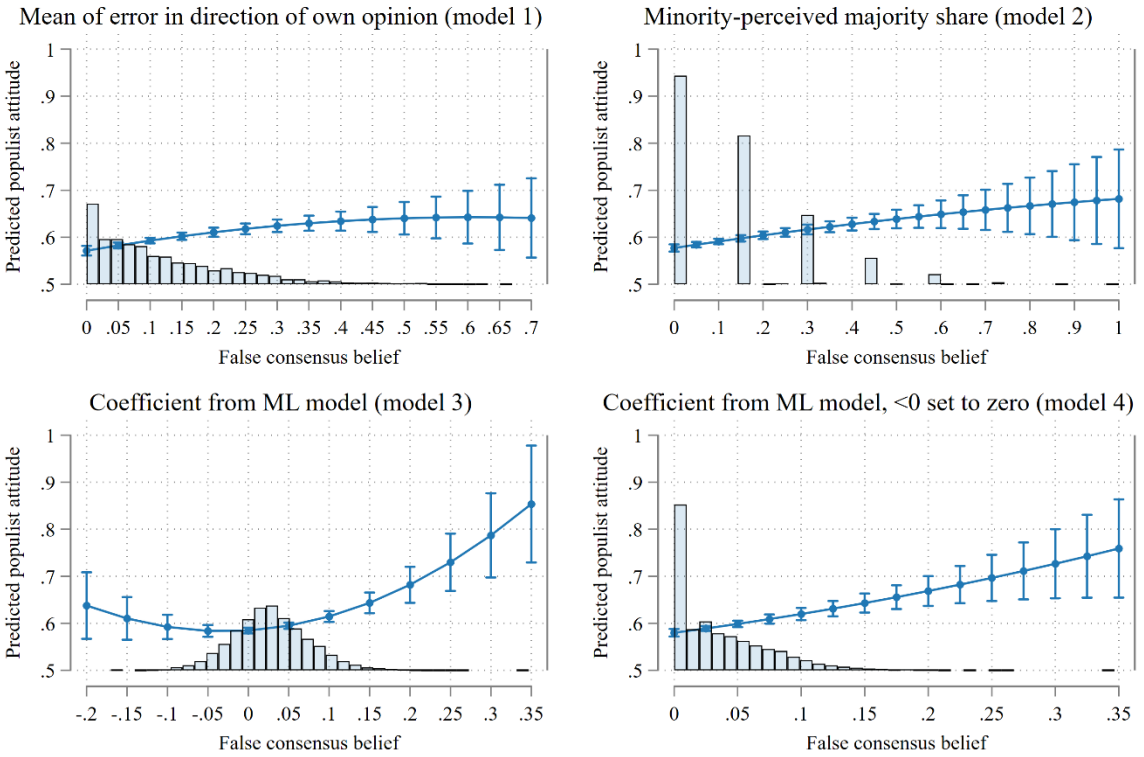
Table B2: Correlations between attitudinal outcome variables

	Populist attitude (factor score)	Populist attitude (Wuttke et al.)	External efficacy	Political trust	Democracy satisfaction
Populist attitude (factor score)	1.00				
Populist attitude (Wuttke et al.)	0.89	1.00			
External efficacy	-0.64	-0.58	1.00		
Political trust	-0.56	-0.55	0.67	1.00	
Democracy satisfaction	-0.49	-0.49	0.55	0.67	1.00

Note: All correlations are statistically significant with $p<0.001$. N=3,546.

Section C: Robustness check: Nonlinear effect

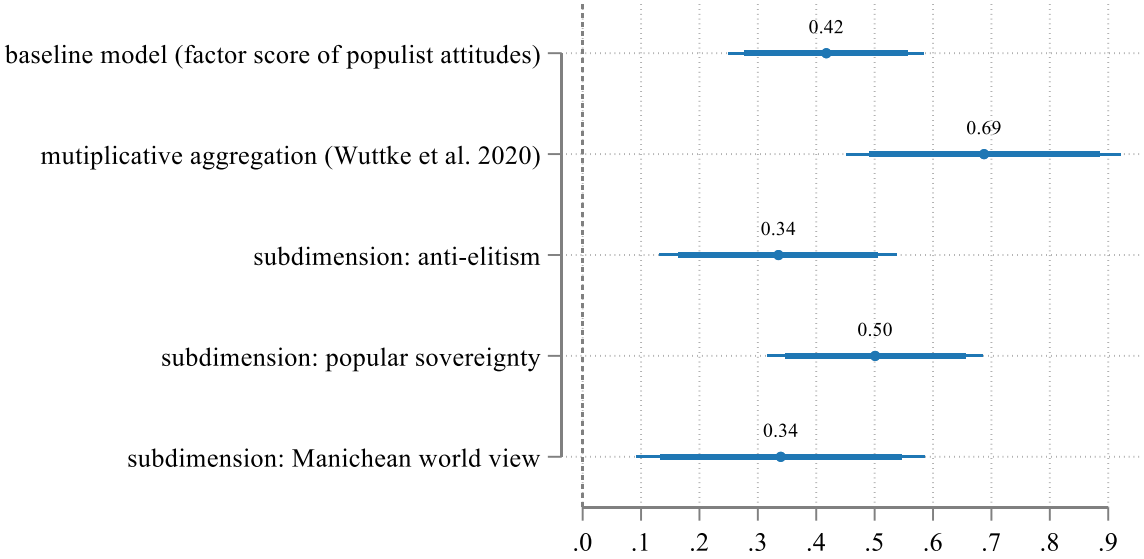
Figure C1: Predicted values of populist attitudes across levels of false consensus beliefs with squared terms added



Note: Predicted values of populist attitudes across levels of false consensus beliefs, based on regressions including a quadratic term. Histograms with distributions of false consensus beliefs added.

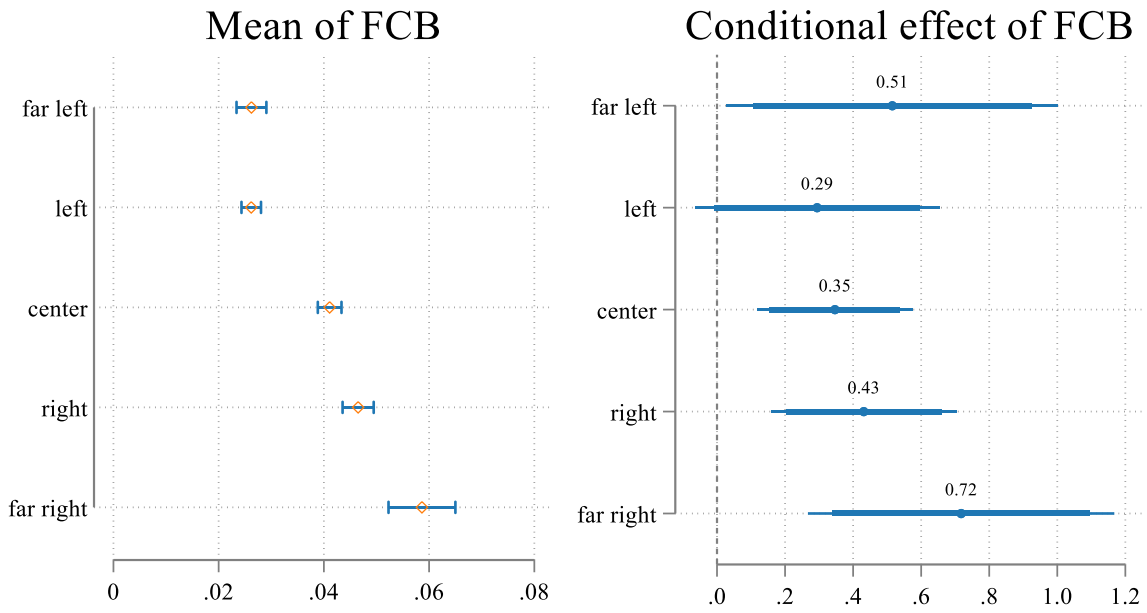
Section D: Robustness check: Results for FCB measured by coefficient from multilevel model

Figure D1: Effects of false consensus beliefs on alternative measures of populist attitudes



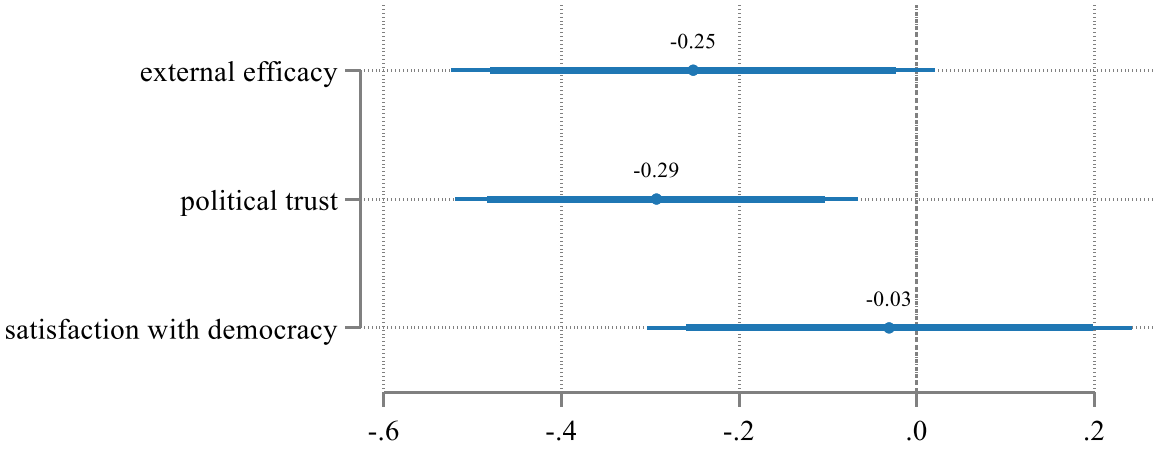
Note: False consensus beliefs are measured by *coefficient from multilevel model (negative values set to zero)*. Point estimates with 90% (thin) and 95% (thick) confidence intervals. Model specification similar to models in Table 2.

Figure D2: False consensus beliefs and their effects on populist attitudes across the left-right scale



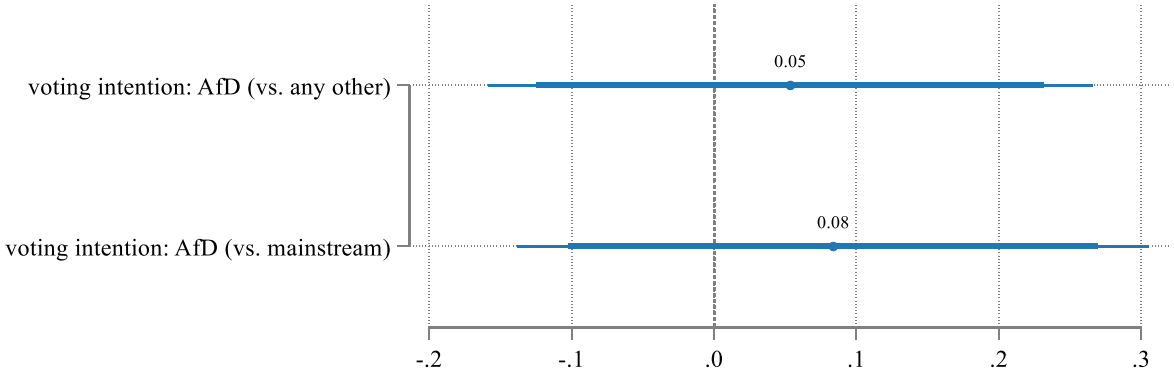
Note: False consensus beliefs are measured by *coefficient from multilevel model (negative values set to zero)*. Left-hand side: Mean with 95% confidence intervals. Right-hand side: Marginal effects from OLS regression with interaction between false consensus beliefs and left-right self-placement.

Figure D3: Effects of false consensus beliefs on other outcomes



Note: Shown are regression coefficients from OLS regressions with 90% (thin) and 95% (thick) confidence intervals. Weights employed. False consensus beliefs are measured *by coefficient from multilevel model (negative values set to zero)*. Specifications similar to models in Table 2. Attitudinal outcomes measured in wave ja (February-April 2022) and scaled to range from zero to one. External efficacy combines "Politicians don't care what ordinary people think" and "Politicians are only interested in votes, not in people's opinions". Political trust is an additive index composed of trust in government, parliament, parties, and politicians. Satisfaction with democracy measures satisfaction with the way democracy works in Germany.

Figure D4: Effects of false consensus beliefs on voting intention for the AfD



Note: Shown are average marginal effects with 90% (thin) and 95% (thick) confidence intervals, based on binary-logistic regressions. Weights employed. False consensus beliefs are measured by *coefficient from multilevel model (negative values set to zero)*. Specifications similar to models in Table 2.