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A Comprehensive Model for Predicting Populist Attitudes

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Abstract

Populist attitudes are multi-causal, but their determinants are often studied separately, in small groups, or in different samples. This study presents a comprehensive model for the prediction of populist attitudes using a single sample. We use an ideological approach and measure of populist attitudes as anti-elitism, popular sovereignty, and homogeneity, while the differences between the elite and the people are Manichean. Analyzing a sample based on a representative quota for gender, age, education and region of Slovakia (N = 254), it was found that relative deprivation, belief in simple solutions, external political efficacy, trust towards experts, and conspiracy mentality were significant predictors of populist attitudes after controlling for other variables. The effect of education and subjective income faded out after adding variables into the model. The model explained 54% of the variance in populist attitudes. The results are discussed in detail with respect to its limitations and country specifics.

Keywords

populist attitudes, populism, ideational approach, predictors, Slovakia

The rise of populist party support in recent decades has fostered research on the demand side of populism – populist attitudes of the general population (Marcos-Marne et al., 2023). Populist attitudes have a far-reaching impact on today's society, but their manifestations and causes vary from one society to another. In some countries, they are associated with electoral behaviour (Jungkunz et al., 2021; Marcos-Marne, 2021), low support of democratic norms and tolerance of opposing views (Bos et al., 2023). They affect threat perceptions of global transformations such as climate change and migration, and global governance solutions to them (Dennison & Turnbull-Dugarte, 2022) and lead to interpersonal and intergroup hate (Martínez et al., 2023). To avoid the negative consequences of populist attitudes, it is important to understand its determinants, the related emotions, beliefs, attitudes, and behavioral tendencies.

Populist attitudes are influenced by many factors. However, they are often studied separately or in groups, such as socioeconomic (Abadi et al., 2020; Rico & Anduiza, 2019; Tsatsanis et al., 2018), sociocultural (Abadi et al., 2020; Marchlewska et al., 2018), psychological (Erisen et al., 2021; Pruysers, 2021), affective (Abadi et al., 2020; Rico et al., 2017) or cognitive factors (Balta et al., 2022; Castanho Silva et al., 2017), and in different samples. Moreover, data on populist attitudes and their determinants from Eastern European countries are underrepresented in the social psychological literature.

The observed effect of selected variables may be exaggerated if other relevant factors are not taken into account. Therefore, based on the literature review we have proposed and pre-registered a comprehensive prediction model of populist attitudes. This study aims to test several predictors of populist attitudes on the single country sample, including: 1) control variables (e.g., socio-demographic and socio-economic variables, political trust), 2) explanatory

variables (e.g., relative deprivation, mistrust of experts, conspiracy mentality), and 3) exploratory variables (e.g., internal political efficacy, vertical and narcissistic identification). We offer a social and political psychology perspective with the aim of finding the strongest predictors of populist attitudes defined by Schulz et al. (2018) – anti-elitism, people sovereignty, and people homogeneity (with a Manichean outlook captured across dimensions) – on a sample based on representative quotas for gender, age, education and regional affiliation of Slovak population.

Until recently, populist parties and leaders in many European countries held opposition positions, but today, their positions in parliaments and governments are strengthening in Europe and beyond. Unlike many European countries, Slovakia has a long tradition of populism, and the results on determinants of populist attitudes obtained in this context may provide relevant insights for European countries with the gradually increasing position of populists, but also for those with similar political (populist) or historical backgrounds (e.g., Hungary, Poland, the Czech Republic) (Caiani & Meardi, 2022).

Populist Attitudes

The definition of populist attitudes is based on the understanding of populism as "a thin-centred ideology that sees society as divided into two homogeneous and antagonistic groups – the pure people and the corrupt elite – and which argues that politics should be an expression of the general will (volonté générale) of the people" (Mudde, 2007, p. 23). Since populism is thin-centred, it is usually associated with complete ideologies such as nationalism (right–wing populism) or socialism (left-wing populism) (Mudde & Rovira Kaltwasser, 2013).

The development of scales to measure populist attitudes has peaked in the last decade, with only a few achieving good psychometric properties on different samples (Castanho Silva et al., 2020). This study is based on one that scored highly – Schulz et al. (2018), and has been validated on a Slovak sample (Piterová & Kováčová Holevová, 2022).

Schulz et al. (2018) understand populist attitudes as a three-dimensional construct that includes anti-elitism, sovereignty, and the homogeneity of the people, while the distinction between the people and elite is Manichean, built on the struggle of two groups that differ in morality. Anti-elitist attitudes are defined as the struggle against political elites (the government or politicians) who lose touch with common people, act little and are distant from the common people. The belief in the unlimited sovereignty of the people manifests itself in the belief that people should decide on important political issues. People are perceived as a homogeneous group that shares the same values and interests, and that is good and pure on a moral basis.

Predictors of Populist Attitudes

Many authors of existing research on the topic (Erisen et al., 2021; Huber et al., 2023) stress a need for comprehensive examination of populist attitudes in relation to a multitude of different important domains. Existing research points to a number of significant predictors from different domains (demographic, economic, social, psychological) and suggests that the emergence and persistence of populist attitudes is influenced by a number of factors, supporting the perception of these attitudes as multi-causal. Stemming from these assumptions, we included several variables based on effect sizes found in existing research, which were grouped into three blocks (control, explanatory, and exploratory) in the analyses. On the contrary, personality characteristics (Big five, the dark triad) were not included in the model, as they repeatedly achieved quite small effect sizes in international studies (Fatke, 2019; Galais & Rico, 2021; Pruysers, 2021). Below we describe the selected predictors and then outline the country-specific context. Research on populist attitudes in Slovakia or other Central or Eastern European (CEE) countries is still scarce, thus the choice of variables and hypotheses is mostly based on previous research conducted outside CEE.

The Role of Socio-Demographic, Socio-Economic Characteristics, and Political Orientation — The first group of predictors relates to socio-demographic characteristics that seem to be country specific. In some studies (in some countries, e.g., France, Greece), men were more likely to hold populist attitudes or vote for a populist party (Elchardus & Spruyt, 2016; Geurkink et al., 2020; Pruysers, 2021; Rico et al., 2017), which may be ideologically driven (Bernhard & Hänggli, 2018). There are also studies that did not detect the gender gap (Piterová & Kováčová Holevová, 2022; Rico et al., 2017, 2020; Spruyt et al., 2016; Tsatsanis et al., 2018). Populist attitudes were also positively associated with age

(Piterová & Kováčová Holevová, 2022; Pruysers, 2021; Rico et al., 2017, 2020; Tsatsanis et al., 2018), however, the effect often fades out after adding predictors or is limited to right populism (Bernhard & Hänggli, 2018).

Another explanation relates to objective or subjective socio-economic characteristics. The negative association of populist attitudes and formal degree of education was supported in many studies (Abadi et al., 2020; Fatke, 2019; Geurkink et al., 2020; Piterová & Kováčová Holevová, 2022; Pruysers, 2021), however, the significance of the results vary across countries (Rico et al., 2020). Household income proved to be negatively associated with populist attitudes (Bernhard & Hänggli, 2018; Tsatsanis et al., 2018) but a study of Rico et al. (2020) showed that it may depend on the negative perception of the country's economy, as the effect remains significant only in some countries (Greece, Sweden, Switzerland). More than objective economic hardship, the perception of one's own disadvantage compared to others (relative deprivation) is related to support for populism (Spruyt et al., 2016) or a right-wing populist party, which has been mitigated by income and GDP for high-income groups and those living in wealthy countries (Cena et al., 2023). In addition, the perception of one's own group's relative disadvantages has been linked to stronger populist views (Filsinger, 2023; Marchlewska et al., 2018) which points to the importance of social identity.

Populist ideology, rhetoric or strategies can be adopted by both left- and right-wing parties and movements (Akkerman et al., 2014; Mudde & Rovira Kaltwasser, 2013). Left-wing populism often emphasises economic inequality, social justice and the needs of marginalised groups. Right-wing populism may focus on issues such as nationalism, immigration and cultural identity (Aslanidis, 2011; Muro, 2017). Thus, populist attitudes should not be limited to people with particular political orientation.

The Role of Social Identity — Social categorisation of "us" versus "them" (Tajfel & Turner, 1979) can be a source of threat to one's own identity, leading to stronger populist attitudes aimed at defending the will of the people and fighting against elites (vertical distinction) or against immigrants, minorities (horizontal distinction). Populism may be supported by stigmatized groups who face difficulties in finding a positive social identity (Spruyt et al., 2016), those who strongly identify with a (national) in-group (Abadi et al., 2020), or those who believe in collective greatness (Lantos & Forgas, 2021; Marchlewska et al., 2018). A subfacet of national identification, national collective narcissism (Golec de Zavala & Keenan, 2021), is "the belief that one's own group (the in-group) is exceptional and entitled to privileged treatment, but it is not sufficiently recognized by others" (p. 55). It is obviously related to nationalism, but these are two separate constructs based on different psychological mechanisms (for more details, see Federico et al., 2023). National collective narcissism played a robust role in adopting populist views in Poland, the UK and the US (Marchlewska et al., 2018), thus we assume its relation to populist attitudes. Grassroots or common people identification does share a conceptual core with populist attitudes, but as such has not been part of previous research, compared to horizontal identification (Abadi et al., 2020). For this reason, vertical in-group identification is also added as an exploratory variable.

The Role of Trust — Political distrust is a powerful predictor of populist attitudes, mostly anti-elitism and people-centrism (Castanho Silva et al., 2017; Erisen et al., 2021) even though criticism towards political elites alone doesn't equate to the populist attitude. Geurkink et al. (2020) argue that despite similarities, political trust and populistic attitudes are constructs that are conceptually different, reflect different core components of populism and have different impact on voting outcomes. Populist attitude scales are effective in countries where opposition parties with populist agendas challenge established political parties. However, issues may arise when we look at countries where populists are in power (Jungkunz et al., 2021). In those cases, both measuring populist attitudes and understanding their connection with trust become complicated. When populists are elected into government, there's a presumption that the attitudes of their supporters have been addressed and satisfied (Jungkunz et al., 2021). This can disrupt the usual relationship between trust and populist attitudes that we observe in countries where populists are in opposition. In simpler terms, the link between how much people trust the government and their populist leanings might not work the same way in countries where populists are in charge. Thus, in addition to socio-demographic and socio-economic variables, we included political trust as a main control variable.

Populism is often related to distrust of political elites, but it may as well concern the scientists or experts that may be considered elite when populists are already in power. Such anti-scientific ideas were recently described as science-related populism (Mede & Schäfer, 2020; Mede et al., 2021). Scepticism towards science and experts' opinions

reflect the faith in common wisdom (Oliver & Rahn, 2016) that is central to both types of populism. The direction of relationships is, however, unclear, as populist attitudes also predict low institutional trust and negative attitudes towards science (Huber et al., 2022). Due to the fact that populists have been in power in Slovakia for a long time, we also selected trust towards experts in the complex model, which can influence populist attitudes in this type of country.

The Role of Emotions — Growing support for populist parties is often linked to the emotions that populist movements evoke in order to motivate people to vote. One of the central points of populist rhetoric is the attribution of blame to elites or out-groups. With populist messages, blame is attributed using a highly emotionalized style, emphasizing anger and fear towards threatening political elites. Based on this perspective, the populist core idea distinguishes itself from mainstream politics by emotionally blaming elites for societal and economic problems (Hameleers et al., 2017). The anger (a combination of rage and powerlessness) expressed over the economic crisis was supported as a predictor of populist attitudes across individuals and over time (Rico et al., 2017). Moreover, negative emotions (anger and anxiety) were recently proved to be stronger predictors of populist attitudes than socio-economic or socio-cultural factors (Abadi et al., 2020).

The Role of Cognitions — Conspiracy mentality is a general tendency to engage in conspiracist ideations such as explaining events as secret plots by a group of powerful people (Bruder et al., 2013). The relationship between populist attitudes and conspiracy mentality, conspiracy beliefs, and acceptance of unsubstantiated epistemic claims was cross-culturally established (Balta et al., 2022; Castanho Silva et al., 2017; Eberl et al., 2021; Erisen et al., 2021; Papaioannou et al., 2023; van Prooijen et al., 2022). Both populism and conspiracies offer simple explanations of social or political events, with two morally distinct parties involved (Mudde, 2007) – conspiring elite and pure people as victims – so Manichean worldview, a romanticization of common people as victims, and anti-elite sentiment are the common denominators. Thus, as recent research suggests (van Prooijen et al., 2022), people who accept populist rhetoric as a viable alternative to mainstream political discourse are also more likely to accept conspiracy claims as true. Evidence for causality or directionality in this relationship is however still lacking.

Intolerance of uncertainty manifests in behavioral patterns, like the preference for structure, a desire for predictability and simplicity (Gründl & Aichholzer, 2020). The authors found a direct positive effect of uncertainty avoidance on populist attitudes, and a negative effect when radical right ideology was taken into account. As populism simplifies politics but at the same time it challenges the status quo and calls for changes, the relations are not clear. People longing for certainty might be deterred from populist ideologies that make a demand for a major transformation of society (p. 652).

Belief in simple solutions helps us cope with such uncertainty. In the case of populism, the belief in the division of society into good people and corrupt elites, or the so-called Manichean worldview is a simplification of reality. Extremists on both sides of the political spectrum (liberal and conservative) are affected by this dichotomy, making them rigid in their beliefs. Regardless of their viewpoint, these individuals view their extreme positions as simple solutions to problems that cannot be solved otherwise (Fernbach et al., 2013). In Erisen et al. (2021), belief in simple solutions was related to populist attitudes positively and negatively, depending on the metric of populist attitudes and the studied country.

The Role of Appraisal of Control — There are two types of political efficacy, external and internal. External political efficacy is a feeling of having a say in what the government does, and whether the system is responsive to people's demands (OECD, 2021). It is related to institutional trust and satisfaction with democracy (González, 2020). Spruyt et al. (2016) and Geurkink et al. (2020) proved that populist attitudes and external political efficacy are distinguishable constructs that are differently related to populist voting preferences. External political efficacy was not a robust predictor for populist party support (Geurkink et al., 2020), however, we assume it might work reasonably as a predictor of populist attitudes. Since the closeness of the political system to the people agrees with the ideological core of populist attitudes, we added the variable to the control variables.

Internal political efficacy is a perception of one's ability to understand and participate in political processes that is also related to political trust and satisfaction with democracy (OECD, 2021). There is a widely spread idea that a low

level of political competence is associated with populism. On the other hand, is the belief that people with higher levels of political competence are more critical towards politicians and believe that people are able to do a better job in politics, which was supported by Rico et al. (2020), but not in Spruyt et al. (2016), so this relation needs to be verified. Since there is no evidence on the relationship of this variable with populist attitudes, we added the variable to the exploratory section.

The Role of Slovaks' Social and Political Background — Populism manifests itself differently in different political contexts and, as international research has shown, this has an effect on the results concerning the determinants of populist attitudes.

Slovakia has a relatively long history of populism and nationalism (Deegan-Krause, 2012; Mesežnikov & Gyárfášová, 2008). After the fall of communism, national-populist party HZDS have managed to gain great electoral support. Another populist left-wing party SMER-SD, dominated Slovak politics from 2006 to 2020. Following the 2020 general election, the party SMER-SD was succeeded by the right-wing populist movement OĽaNO. During its pre-election campaign, OĽaNO spotlighted the transgressions of the incumbent party, shedding light on issues such as corruption, clientelism, and other related scandals. In Slovakia, it's not very clear-cut whether a political party is on the right or the left, but populism is present across the whole political spectrum, including both the parties in power and those in opposition.

There is a high level of distrust in the National Council and the Government of the Slovak Republic (TASR, 2023), and also a persistent dissatisfaction with the way democracy works (European Parliament, 2022). According to GLOBSEC (2022), Slovakia is one of the countries most vulnerable to conspiracy theories, with more than half of the respondents (54%) believing in various of them. Moreover, Slovaks see threats all around them, as almost half of Slovak respondents (48%) perceive the United States, liberal democracies, western societies, and/or migrants as threats to their security, values, and identity. Preliminary research in Slovakia (Piterová & Kováčová Holevová, 2022) showed that older and less educated people are holding stronger populist attitudes while gender differences were not observed. Moreover, populist attitudes were associated with distrust of politicians and experts, conspiracy thinking, and relative deprivation.

Populism thrives in times of crises and so dissatisfaction with the political system, the economic and migration crisis, the Covid-19 pandemic and the invasion of Ukraine create the conditions for spreading and strengthening of populist attitudes in Slovakia. Therefore, national context and people's attitudes and beliefs seems an appropriate basis for the chosen determinants and the relevance of multifaceted evaluation of populist attitudes from the perspective of individuals in Slovakia.

Hypotheses

Based on the theory outlined above, we hypothesized that

> *H1:* individuals with a higher level of relative deprivation, conspiracy mentality, mistrust of experts, horizontal in-group identification, negative affect (anger, anxiety), belief in simple solutions, and intolerance for uncertainty will have higher levels of populist attitudes.

> *H2:* individuals with lower levels of education, subjective income, trust in politicians, and external political self-efficacy will have a higher level of populist attitudes.

> *H3:* respondents' political orientation does not play a role in predicting populist attitudes.

Method

Procedure and Sample

The study was pre-registered at OSF (Loziak & Piterová, 2022) before the data collection. A questionnaire was approved by the Ethics Committee of the Centre. Data were collected from the end of December 2022 till the beginning of January 2023 using an online panel of the local research agency. The sample of respondents was selected based on population

quotas for gender, age and education groups, and eight regions of the Slovak Republic. Participants meeting quotas were approached by the agency. Those who completed the questionnaire were compensated with credits that could be used for the products offered by the agency.

Out of 278 respondents, the final sample consists of 254 respondents, who answered correctly on two attention check items and had not a longstring or Mahalanobis distance > 2 *SD*. We have decided on a stricter criterion compared to pre-registration (longstring and Mahalanobis distance > 3 *SD*), which was not sufficient to exclude careless respondents. Based on sensitivity analysis (parameters set on: sample size 254, .95 power, standard .05 alpha error probability, 18 predictors) it was specified that we are able to detect an effect size of f^2 = .123.

The final sample is representative of the Slovak population in terms of gender (48% men), age (aged 18 to 75 years, with an average age 44.8 years (*SD* = 15.4), level of education (primary and lower secondary 39%, upper secondary 34.6%, tertiary 26.4%), and in terms of regional affiliation. The composition of the sample and population data are presented in Table S1 in the Supplementary Materials.

Data Preparation

Data were analyzed in R software (R Core Team, 2022; RStudio Team, 2019). Initial cleaning of careless responses was conducted using a careless package (Yentes & Wilhelm, 2021). Variables were derived from multiple items combined through CFA using lavaan package (Rosseel, 2012). For scales with three items, the CFA model is saturated, and we are unable to compute standard fit indices. The reliability (McDonalds' omega) of such scales is presented. Question wording is presented in the Supplementary Materials.

Measures

Populist Attitudes Scale proposed by Schulz et al. (2018) consists of 12 items, four in each dimension – anti-elitism, popular sovereignty, and homogeneity of people. Manichean outlook is included across dimensions. The scale was translated and validated on a Slovak sample (Piterová & Kováčová Holevová, 2022). The scale had a good fit with the data (CFI = .984, TLI = .988, SRMR = .054, RMSEA = .093). All items loaded adequately (.623 – .934) on three factors that were moderately correlated (*r* = .35 – .63). Reliability of subdimensions: anti-elitism (ω = .83), people sovereignty (ω = .91), homogeneity of people (ω = .91).

Control Variables

We controlled for several sociodemographic variables, including **gender** (Male, Female), **age** (measured in years), and **education** (primary, lower secondary, upper secondary, tertiary). Since populist attitudes are expected to depend on perceived economic vulnerability (Rico & Anduiza, 2019), we have also included **subjective income** (measured by a single item from the European Social Survey (ESS, 2020) – "How do you feel about your household's income nowadays?" 1) Living comfortably on present income, 2) Coping on present income, 3) Difficult on present income, 4) Very difficult on present income). **Political orientation** was measured with a single ESS (2020) item. Respondents should position themselves on the scale from 0 = left to 10 = right.

Some variables have been considered the main predictors of populist attitudes, e.g. **trust in politicians** (Erisen et al., 2021), which was measured by three ESS (2020) items – trust in Slovak politicians, political parties, and parliament on an 11-point scale. Reliability of the scale (ω = .93). Some other variables share some of their meaning with populist attitudes (Geurkink et al., 2020), so we added such variables also as controlled ones. **External political efficacy** was measured by two items from the ESS (2020) on a 5-point scale, from "not at all" to "a great deal". Reliability of the scale (ω = .84). **Horizontal in-group identification** (SLOVAK) was measured using three items based on research by Ellemers et al. (2002) with a 6-point scale from "Totally disagree" to "Totally agree". Reliability of the scale (ω = .89).

Explanatory Variables

Relative deprivation was measured using seven items from Elchardus and Spruyt (2016) with a 5-point scale from "Totally disagree" to "Totally agree". The fit indices (CFI = .974, TLI = .982, SRMR = .042, RMSEA = .102; ω = .87).

Mistrust of experts was measured by three items based on research by Oliver and Rahn (2016) with a 5-point scale from "Totally disagree" to "Totally agree". Reliability of the scale (ω = .81).

Negative affect was measured as feelings of anger (angry, outraged, disgusted) and anxiety (anxious, nervous, afraid) over the situation in the country (Weeks, 2015). Reliability of the anger (ω = .94) and anxiety scale (ω = .9).

Conspiracy Mentality Questionnaire (CMQ) is composed of five items with an 11-point scale from "0% certainly not" to "100% certain" (Bruder et al., 2013). The fit indices (CFI = .972, TLI = .979, SRMR = .042, RMSEA = .206; ω = .89).

The belief in a simple solution scale (van Prooijen, 2017) is composed of three items with a 7-point scale from "Totally disagree" to "Totally agree". The reliability of the scale (ω = .59). Removing one item increased the reliability (ω = .68).

Intolerance of uncertainty was measured using IUS-5 (Bottesi et al., 2020) translated and adapted to Slovak language by Bavoľar (2019). The fit indices (CFI = .715, TLI = .573, SRMR = .122, RMSEA = .328; ω = .68). One item was removed as shown as highly correlated to others. The fit indices of the shortened scale (CFI = .952, TLI = .904, SRMR = .042, RMSEA = .123; ω = .66).

Exploratory Variables

Internal political efficacy was measured by two items from the ESS (2020) with a 5-point scale, from "not at all able/confident" to "completely able/confident". Reliability of the scale (ω = .86).

Vertical in-group identification: one own item that captures the distance to elites and common people perceived by respondents on an 11-point scale from 0 = "common people" to 10 = "elite".

Narcissistic identification was measured by Collective narcissism scale (three items, Golec de Zavala et al., 2018) with a 6-point scale, from "Totally disagree" to "Totally agree". Reliability of the scale (ω = .78).

To control the attention of respondents we have included two items with the 5-point Likert scale (1. I do not understand a word of Slovak; 2. Most social problems are too complicated, but forget the previous part of the question and tick number two on the scale). The order of questions within the questionnaire was randomized for those with the same response options. Attention check items had a stable position within the questionnaire.

Data Analysis

Data were analysed in R software using the hierarchical regression analysis, utilising libraries jtools and performance (Long, 2022; Lüdecke et al., 2021). In the case of hypotheses, effects are confirmed if p < .05.

In addition to socio-demographic, socio-economic variables, and political orientation, variables that share a definitional core with populist attitudes were included as control variables. The explanatory variables included those that have been confirmed as significant predictors of populist attitudes in foreign research and/or preliminary research in Slovakia. Some variables were added as exploratory, as they were not examined yet, or were tested in association to the support of populist parties, but not to populist attitudes.

Results

The descriptive statistics (means, scales, standard deviations and 95% confidence intervals of means) of all the used measures are reported in Table S2 in the Supplementary Materials. In Figure 1, correlation relationships of the studied variables that are statistically significant (p < .05), are plotted. The exact values of the correlations are reported in Table S3 in the Supplementary Materials.

Correlation Figure of Statistically Significant Relationships
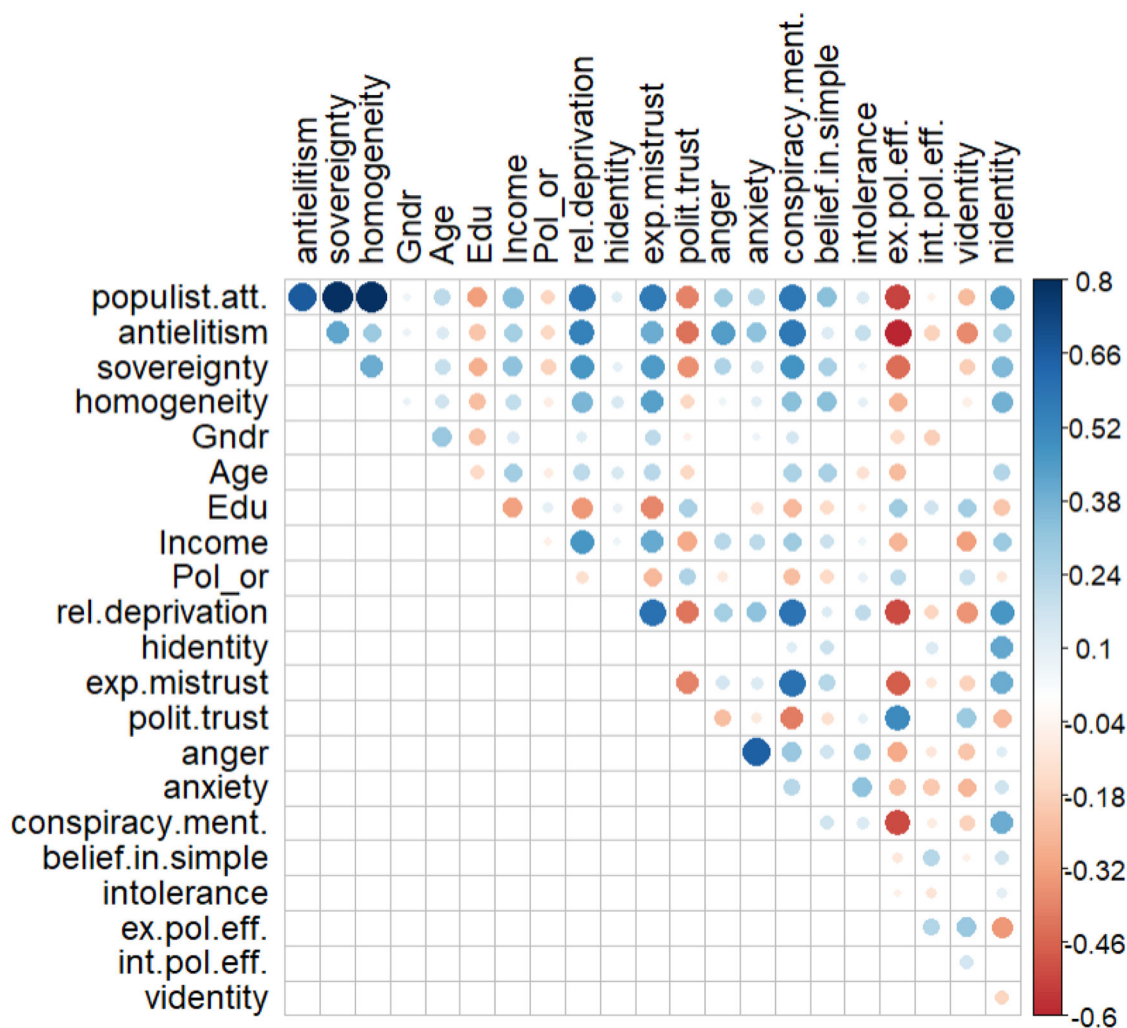
Analysis

All required assumptions were tested to demonstrate the adequacy of the data for regression analysis. In Table 1, standardized regression coefficients mean-centred and scaled by 1 *SD*, *p*-values as indicators of statistical significance, VIF scores and statistics for all models are reported.

Variance inflation factor (VIF) values ranged between 1.03 and 2.59, suggesting low multicollinearity. All regression models were statistically significant with adjusted R squared ranging (from .35 to .54). Visualisations of regression lines for all statistically significant predictors in Model 2 (as Model 3 did not provide any additional findings) are available in Figure 2. These plots are based on partial regressions, thus providing association between the predictor variable and the response variable (populist attitudes), while holding the value of all other predictor variables constant.

Table 1

Hierarchical Regression Analysis for Populist Attitudes

Predictor	Model 1 (control)			Model 2			Model 3		
	Est	p	VIF	Est	p	VIF	Est	p	VIF
Gender	-.13	.17	1.15	-.14	.10	1.18	-.11	.20	1.24
Age	.00	.46	1.23	.00	.59	1.35	.00	.49	1.40
Education	-.15*	< .001	1.24	-.05	.23	1.35	-.05	.31	1.41
Income	.14*	.01	1.26	.00	.95	1.49	.00	.98	1.55
Political orientation	-.02	.50	1.08	.00	.87	1.13	.00	.83	1.16
Trust in politicians	-.04	.21	1.46	-.02	.48	1.61	-.02	.51	1.64
Horizontal ident.	.07	.07	1.03	.04	.28	1.09	.00	.97	1.40
External pol. efficacy	-.37*	< .001	1.46	-.18*	< .001	1.81	-.18*	< .001	1.92
Relative deprivation				.19*	.02	2.34	.15	.07	2.59
Mistrust of experts				.17*	< .001	2.16	.15*	.01	2.22
Anger				.06	.41	2.01	.07	.36	2.03
Anxiety				-.03	.70	1.95	-.03	.67	2.03
Conspiracy mentality				.06*	.01	2.08	.06*	.01	2.10
Belief in s. solutions				.18*	< .001	1.24	.18*	< .001	1.26
Int. of uncertainty				.07	.27	1.20	.07	.27	1.20
Internal pol. efficacy							.02	.67	1.22
Vertical ident.							-.01	.79	1.40
Narc. ident.							.09	.07	1.79
F	$F(8, 245) = 18.29$			$F(15, 238) = 20.45$			$F(18, 235) = 17.40$		
p	< .001			< .001			< .001		
R^2	.37			.56			.57		
Adjusted R^2	.35			.54			.54		

*p < .05.

Hypothesis Testing

In the next section, the hypotheses were tested at the predictor level. For the hypothesis to be confirmed at the predictor level, statistical significance for a given predictor had to be detected in at least one of the models. In the case of predictors for which statistical significance was not confirmed in either model, the related hypothesis was rejected. The results of the hypothesis testing are shown in Table 2.

Of all the predictors tested, education, income, relative deprivation, mistrust of experts, conspiracy mentality, belief in simple solutions and external political efficacy were confirmed as statistically significant predictors of populist attitudes. Hypotheses on all other predictors were rejected.

Additional hierarchical regression analyses were also conducted for three subdimensions of populist attitudes. In a regression analysis of anti-elitism, education, income, and belief in simple solutions did not demonstrate predictive power compared to the general construct of populist attitudes. On the contrary, anger and vertical identification (common people) were significant predictors of anti-elitism. Notably, external political efficacy emerged as a stronger predictor of anti-elitism. In the case of popular sovereignty, in contrast to the general construct, relative deprivation was not a predictor, but gender emerged as a significant factor. Horizontal and narcissistic identification demonstrated a predictive relationship with the subdimension of homogeneity of people compared to populist attitudes, but conspiracy mentality was no longer significant. The complete results can be found in Tables S4-S6 in the Supplementary Materials.

Table 2

Hypothesis Testing

Predictor	Statistical significance in models	Hypothesis testing on predictor level
Gender	in any model	
Age	in any model	
Education	1 of 3 models	**H2 confirmed**
Income	1 of 3 models	**H2 confirmed**
Political orientation	in any model	
Trust in politicians	in any model	H2 rejected
Horizontal ident.	in any model	H1 rejected
External pol. efficacy	all models	**H2 confirmed**
Deprivation	1 of 2 models	**H1 confirmed**
Mistrust of experts	all models	**H1 confirmed**
Anger	in any model	H1 rejected
Anxiety	in any model	H1 rejected
Conspiracy mentality	all models	**H1 confirmed**
Belief in s. solutions	all models	**H1 confirmed**
Int. of uncertainty	in any model	H1 rejected
Internal pol. efficacy	in any model	
Vertical identification	in any model	
Narc. identification	in any model	

Note. Bold formatting of predictors signifies the confirmation of a related hypothesis.

Figure 2

Partial Regression Plots
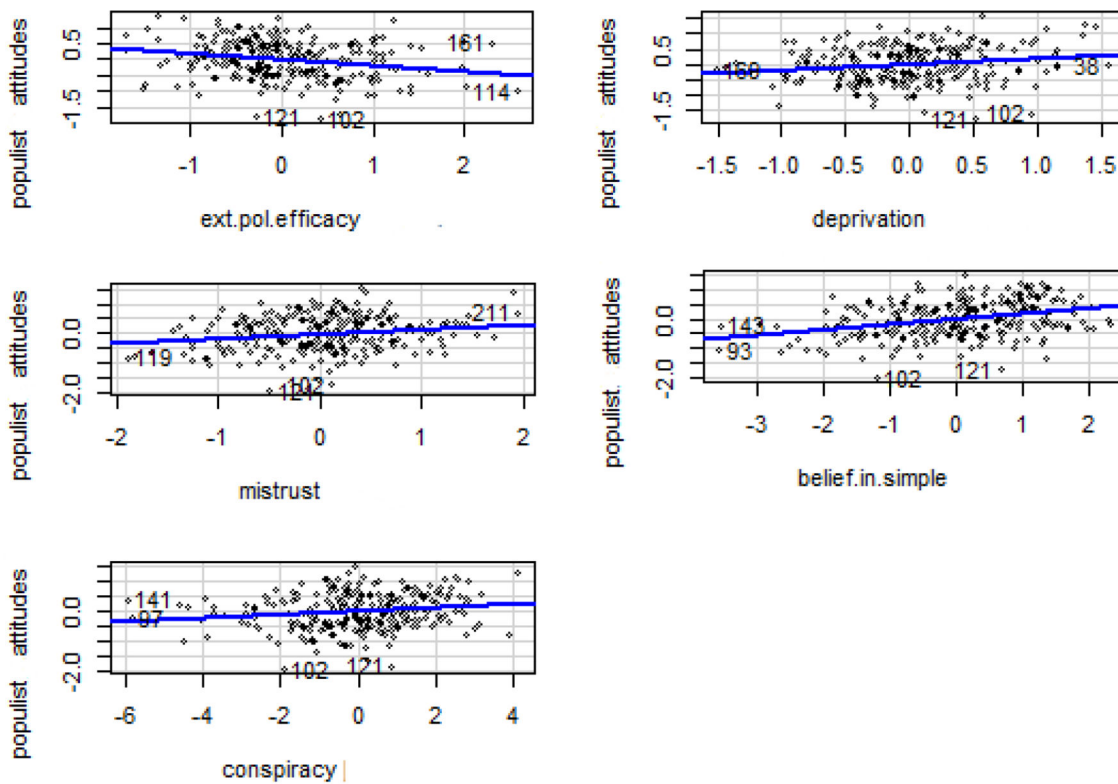
Discussion

The main aim of the present study was to develop a comprehensive model of predicting populist attitudes by testing three sets of predictors: control, explanatory, and exploratory. Notably, the second model demonstrated a commendable explanatory power, accounting for 54% of the variance in populist attitudes—a result considered acceptable within the social sciences (Ozili, 2023). However, the introduction of extra exploratory variables in the third model did not yield further improvements.

Control Variables

The study confirmed that the influence of socio-demographic characteristics on the level of populist attitudes varies by country. In our study, gender was not a predictor, which is consistent with previous research (Rico et al., 2017, 2020; Spruyt et al., 2016; Tsatsanis et al., 2018) and preliminary findings in Slovakia (Piterová & Kováčová Holevová, 2022). Populist attitudes in Slovakia were found to increase with lower education and subjective income. However, the effect of education diminished once explanatory variables were added, aligning with similar trends observed in other studies (Pruysers, 2021; Rico et al., 2017, 2020; Tsatsanis et al., 2018).

As expected, respondents' political orientation did not predict populist attitudes, supporting the theory that populism transcends the traditional political spectrum (Akkerman et al., 2014; Mudde & Rovira Kaltwasser, 2013). While perceived openness or closedness of the political system (external political efficacy) may not be a stable predictor of voting for populists (Geurkink et al., 2020), it has been shown to be a predictor of populist attitudes among Slovaks. As it is also related to low institutional trust and dissatisfaction with democracy (González, 2020), it supports the theoretical framework emphasizing that the system's closedness to the people ("impeding popular sovereignty") increases populist attitudes.

Despite its relevance in other studies, political trust did not emerge as a significant predictor in our models (Castanho Silva et al., 2017; Geurkink et al., 2020). However, the level of anti-elitism (focused on government) was relatively high in the sample, and political trust was moderately correlated with populist attitudes and its subscales. The explanation may reside within the Slovak political context, where populist parties occupy both governmental and opposition roles, potentially impacting populist attitudes and their interplay with political trust. The study suggests that populist attitude scales effective in numerous European countries may encounter limitations in countries characterized by populist governance (Jungkunz et al., 2021). This raises the question of whether it makes sense in such countries to examine populist attitudes with a scale that considers only the ruling politicians as the elite. Given that distrust of experts (an explanatory variable) was a significant predictor in all models, a better approach might be to simultaneously focus on other elites within the anti-elitist framework, such as experts. In future research on samples from countries with populist parties in government, we recommend incorporating anti-elitism from the science-related populism scale (Mede et al., 2021).

Explanatory Variables

Regarding the block of explanatory variables, a higher feeling of deprivation compared to others proved to be a significant predictor, supporting the theoretical framework of populism, namely that the populist narrative is particularly appealing to those who feel deprived and disadvantaged compared to others (Marchlewska et al., 2018). On the contrary, anger and anxiety did not emerge as significant predictors of populist attitudes. This result is unexpected, given that anger (Rico et al., 2017) was supported in previous research, and even negative emotions have surpassed other predictors in strength in Abadi et al. (2020). As emotions emerge as a response to event evaluation and are unstable (Scherer, 2005), studying them in the context of general attitudes towards politics might bring inconclusive results.

As expected, conspiracy mentality was a stable and significant predictor in both models, supporting the notion that people with populist views are more prone to believe in conspiracy theories or unsubstantiated epistemic claims, and have a more general conspiracy mentality (Balta et al., 2022; Castanho Silva et al., 2017; Eberl et al., 2021; Erisen et al.,

2021; Papaioannou et al., 2023; van Prooijen et al., 2022). As mentioned earlier, Slovakia is one of the countries most vulnerable to conspiracy theories, emphasizing the need for more thorough research on the relationship between the conspiracy mentality and populist attitudes in Slovakia to reduce the risk that both pose to society. The role of belief in simple solutions was supported in both models, but mixed results were presented in the study of Erisen et al. (2021), as the direction of correlations was dependent on the country and used scale. The result supports the theoretical notion of populism as a simplification of politics and a manifestation of a Manichean worldview.

Exploratory Variables

Out of the exploratory variables, the perception of one's own ability to act in politics did not play a role. The results on internal political efficacy are in line with Spruyt et al. (2016), however, Rico et al. (2020) found the opposite. Despite the strong nationalism in Slovakia (Deegan-Krause, 2012), the study did not confirm the theoretical assumptions that people who believe in collective greatness and perceive the entire national group as undervalued are more likely to hold populist attitudes. Narcissistic identification has so far been confirmed in the context of voting for populist parties, populist politicians, or supporting Brexit (Lantos & Forgas, 2021; Marchlewska et al., 2018). The importance of social identification has also been previously confirmed by Abadi et al. (2020), highlighting unique aspects of the Slovak context. This contradiction encourages further exploration within the theoretical framework of identity politics and its role in shaping populist attitudes.

To sum up, this paper reveals that in Slovakia, belief in simple solutions, conspiracy mentality, external political efficacy, distrust of experts, relative deprivation, and socioeconomic variables (education, income) significantly impact populist attitudes. The dynamics of populism are intricately shaped by Slovakia's historical, political, and cultural context. The country's complex history, economic transitions, and the presence of populist leaders during periods of political uncertainty, along with cultural values, may influence attitudes towards political elites and institutions. These factors contribute to the acceptance of populist narratives among Slovaks who feel deprived compared to others, perceive the political system as closed, are more susceptible to conspiracies, have lower levels of education and income, and do not trust experts. As populism unfolds, it becomes evident that these local factors play a pivotal role in shaping populist attitudes. However, before generalization of the results, they need to be replicated, ideally on cross-country samples.

There are several limitations to the present research. Firstly, although the research sample is representative in terms of multiple basic parameters (gender, age, education, regional affiliation), it is still a single-country online panel sample that has its specifics, e.g. excluding part of the population, non-naivety etc. Secondly, the dependent variable is not calculated as a second-order factor as some authors suggest (Schulz et al., 2018). Sum score (and interpretation of it) can be vulnerable to high scoring in one of the dimensions (e.g., in anti-elitism attitudes). Thirdly, the measurement of anti-elitism attitudes is only focused on political elites. Such a definition of anti-elitism may be problematic in countries where there is a strong tradition of populist parties in government (not just in opposition). Lastly, using regression analysis and considering the observational nature of data, we did not detect causal or mediating relationships.

Despite these limitations, the study offers valuable contributions. The analysis confirmed a number of important predictors of populist attitudes; moreover, it provided insight into their combined effect and tested them on a single sample. Also, the research contributed to evidence of the nonsignificance of certain predictors – for example, trust in politicians or negative emotions, that may be specific in countries with populists in power.

Understanding how populist attitudes arise, how they function and what they are related to is the first and crucial step towards controlling them and reducing their prevalence in the population. Their control and reduction seems necessary given the many societal domains that populist attitudes influence. Populist attitudes negatively affect a number of serious societal problems - for example, low support of democratic norms and tolerance of opposing views (Bos et al., 2023), threat perceptions of global transformations such as climate change and migration (Dennison & Turnbull-Dugarte, 2022) and interpersonal and intergroup hatred (Martínez et al., 2023). Populism is also often perceived as a threat to democracy, so it is important to examine what drives support for populism at the psychological level. The findings presented in this research contribute to the understanding of populist attitudes, and thus (indirectly) to the

solution of these social problems. They also offer a better understanding of populist attitudes in an Eastern European context that are still underrepresented in social and political psychology research.

Conclusion

The study contributed to existing knowledge on the prediction of populist attitudes. Compared to existing research, the study provided a broader perspective on the connections between populist attitudes and a number of diverse variables. The findings of this study need to be tested on a cross-country dataset, however, they may serve as a useful basis for further research in this area.

Data Availability: All research data, code, and materials to replicate the findings of this study are publicly available (see Loziak & Piterová, 2023)

Supplementary Materials

The Supplementary Materials contain the following items:

- The pre-registration protocol for the study (Loziak & Piterová, 2022)
- All research data, code, and materials to replicate the findings (Loziak & Piterová, 2023)

Index of Supplementary Materials

Loziak, A., & Piterová, I. (2022). *Supplementary materials to "A comprehensive model for predicting populist attitudes"* [Pre-registration protocol]. OSF Registries. https://doi.org/10.17605/OSF.IO/UXPBD

Loziak, A., & Piterová, I. (2023). *Supplementary materials to "A comprehensive model for predicting populist attitudes"* [Research data, code, and materials]. OSF. https://osf.io/crw8n

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