Measuring Public Attitudes Toward Political and Science-Related Populism in Surveys: A Tale of Two Scales?

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77th Annual AAPOR Conference, May 11-13, 2022, Chicago
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Background

Populism challenges political elites

HUFFPOST

What The Age Of Populism Means For Our Liberal Democracy

In just a few years populism has leapt from fringe protest to shaping, even dominating, the mainstream. Politics is operating on new set of rules – and we are floundering.

The New York Times

Will the Ukraine War End the Age of Populism?

March 16, 2022

…but also **science**

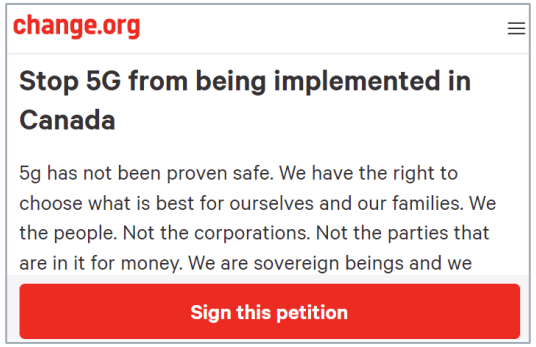
"I think the people of this country have had enough of experts."

Michael Gove

Protester in Toronto

"I have a natural instinct for science."

Donald Trump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Stop 5G from being implemented in Canada

5g has not been proven safe. We have the right to choose what is best for ourselves and our families. We the people. Not the corporations. Not the parties that are in it for money. We are sovereign beings and we

Sign this petition

Petition on change.org

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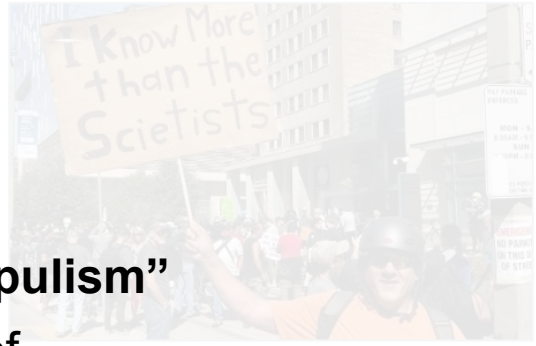
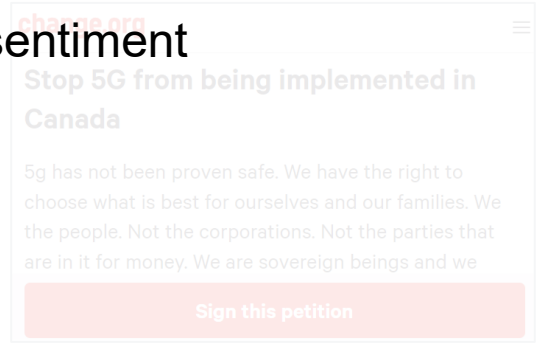


"science-related populism"

specific form of
populist/anti-science sentiment

"I have a natural instinct for science."

Donald Trump



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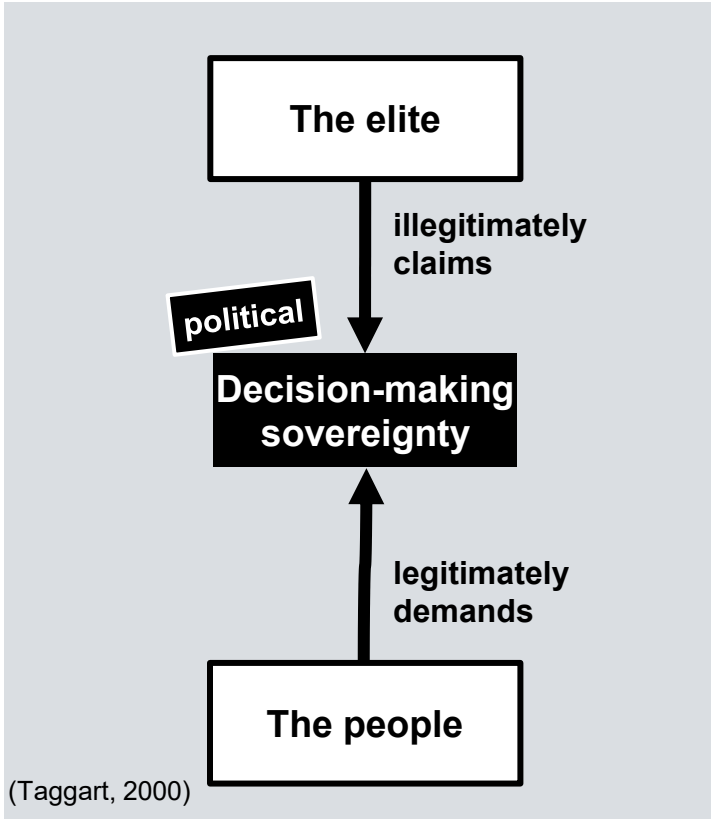
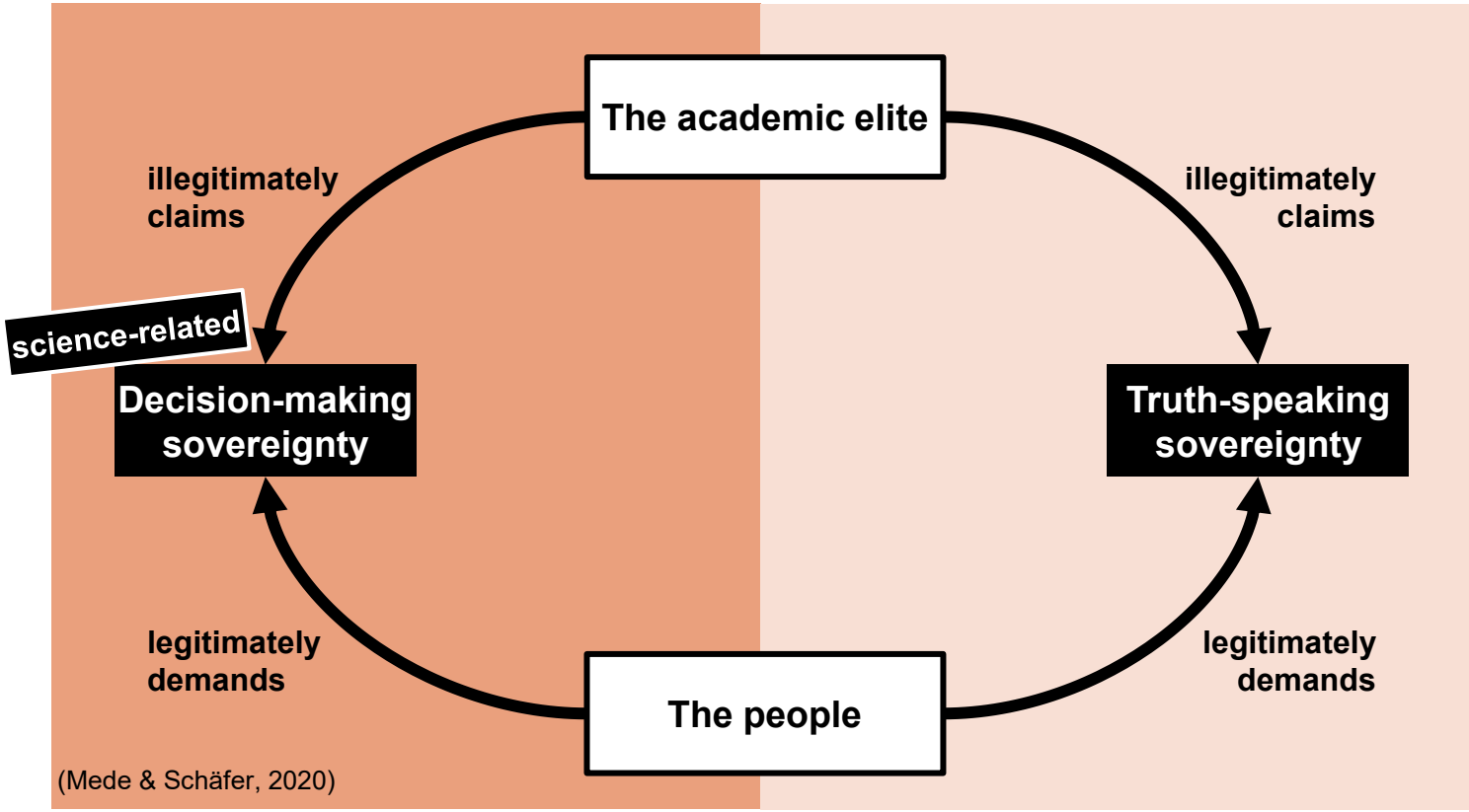
Political populism



(Taggart, 2000)

Science-related populism



(Mede & Schäfer, 2020)

Background

Political populism

Established **scale** for **political populist *attitudes*: CSES** (Hobolt et al., 2016)

PP1:	What people call 'compromises' in politics are really just selling out one's principles
PP2:	Most politicians care only about the rich and powerful
PP3:	Most politicians are trustworthy
PP4:	Parties are the main problem in [country]
PP5:	The people, and not politicians, should make our most important policy decisions
PP6:	I would rather be represented by a citizen than by a specialized politician

Science-related populism

Established **scale** for **science-related populist *attitudes*: SciPop Scale** (Mede et al., 2021)

SP1:	What unites the ordinary people is that they trust their common sense in everyday life
SP3:	Scientists are only after their own advantage
SP5:	The people should have influence over the work of scientists
SP6:	People like me should be involved in decisions about the topics scientists research
SP7:	In case of doubt, one should rather trust the life experience of ordinary people than the estimations of scientists
SP8:	We should rely more on common sense and less on scientific studies

Is science-related populism just one facet of political populism?

Or are these distinct concepts?

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Political populism

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Science-related populism

Established **scale** for **science-related populist *attitudes*: SciPop Scale** (Mede et al., 2021)

SP1:	What unites the ordinary people is that they trust their common sense in everyday life
SP2:	Ordinary people are of good and honest character
SP3:	Scientists are only after their own advantage
SP4:	Scientists are in cahoots with politics and business
SP5:	The people should have influence over the work of scientists
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SP8:	We should rely more on common sense and less on scientific studies

(Mede & Schäfer, 2020)

Research Questions

RQ1: To what extent are political and science-related populism two distinct concepts?

RQ2: How do sociodemographic and attitudinal predictors of political and science-related populist attitudes differ?

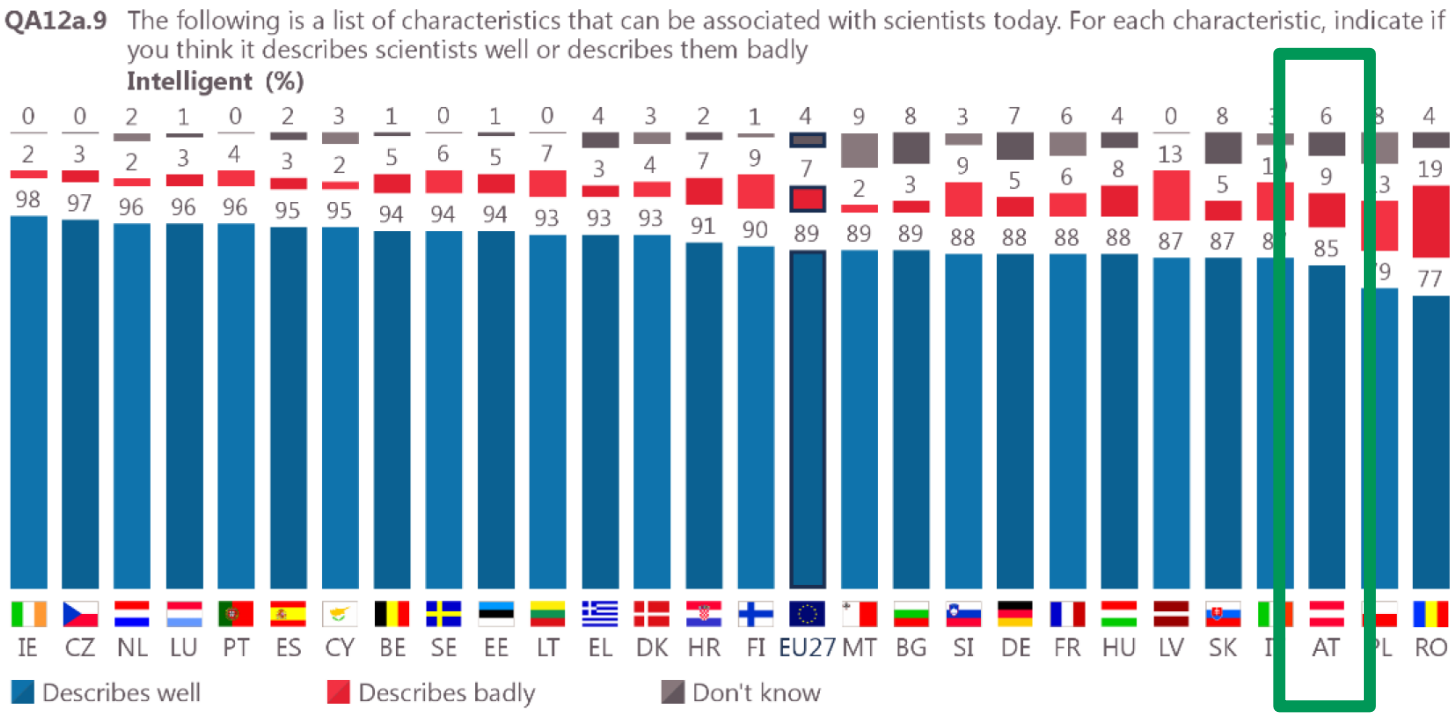
RQ3: How do political and science-related populism differ in predicting related concepts?

Case: Austria

- **Good example of an increasingly common situation in Western democracies**
  - Major populist challenger: Populist Far Right Freedom Party (FPÖ)
  - Promotes anti-science positions to climate crisis, “chemtrails”, COVID-19 vaccination
- **Anti-science attitudes also prevalent among public**: Austria one of Europe’s countries where critical views on science are most widespread (Special Eurobarometer, 2021)

Case: Austria

- **Good example of an increasingly common situation in Western democracies**
- **Anti-science attitudes also prevalent among public**



Data: The Austrian Corona Panel Project

Data

- Online panel survey of Austrian voting-age population during COVID-19 pandemic (see Kittel et al, 2020)
- Quota sampling: age, gender, gender × age, region, education, and municipality size
- Waves 20 and 21 (Feb 2021 and Mar 2021)
- 1,500 respondents completed the questionnaires – 996 have full records on both populism scales

Measures

- Science-related populist attitudes: SciPop Scale (Mede et al., 2021)
- Political populist attitudes: CSES (Hobolt et al., 2016)
- Covariates:
  - Trust in the government
  - Trust in science
  - Support for technocracy ("It is better for important policy decisions to be taken on the basis of scientific evidence by independent experts rather than by elected politicians")
  - COVID-19 conspiracy beliefs (5 items, e.g., "COVID-19 is a bioweapon")

Results: RQ1 – PolPop and SciPop: Distinct Concepts?

- Exploratory Factor Analysis: Clearly two different/separate factors
- No cross-loadings

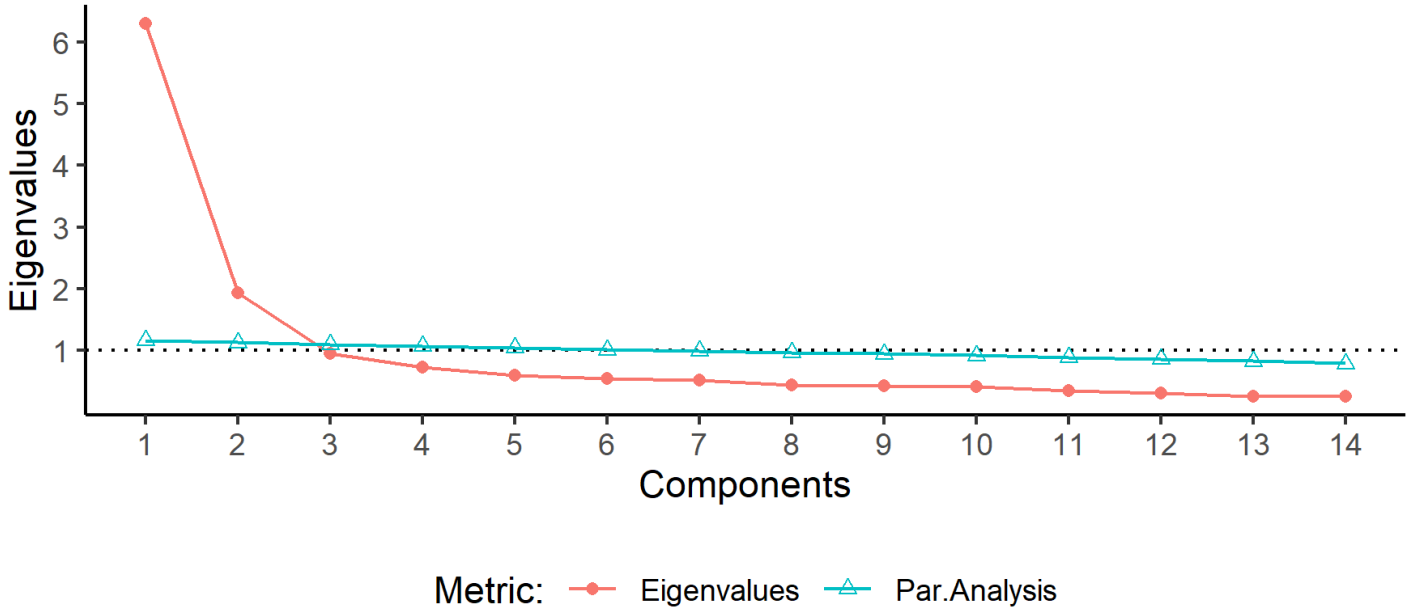


Figure 1: Scree Plot for both dimensions of populist attitudes

Results: RQ1 – PolPop and SciPop: Distinct Concepts?

- Exploratory Factor Analysis: Clearly two different/separate factors
- No cross-loadings

Item	Factor 1	Factor 2
PP1 – What people call 'compromises' in politics are really just selling out one's principles	-0.04	0.73
PP2 – Most politicians care only about the interests of the rich and powerful	-0.03	0.78
PP3 – Most politicians are trustworthy	0.05	-0.66
PP4 – Parties are the main problem in Austria	0.03	0.67
PP5 – The people, and not politicians, should make our most important policy decisions	0.18	0.55
PP6 – I would rather be represented by a citizen than by a specialized politician	-0.03	0.59
SP1 – What unites the ordinary people is that they trust their common sense in everyday life	0.66	-0.05
SP2 – Ordinary people are of good and honest character	0.66	-0.09
SP3 – Scientists are only after their own advantage	0.73	0.08
SP4 – Scientists are in cahoots with politics and business	0.69	0.17
SP5 – The people should have influence over the work of scientists	0.77	-0.03
SP6 – People like me should be involved in decisions about the topics scientists research	0.65	0.01
SP7 – In case of doubt, one should rather trust the life experience of ordinary people than the estimations of scientists	0.84	0.00
SP8 – We should rely more on common sense and less on scientific studies	0.79	0.04

Note: Entries are standardised factor loadings from an exploratory factor analysis. Loadings above 0.2 are highlighted in grey.

Table 1: Exploratory Factor Analysis with both populism scales

Results: RQ2 – Different Antecedents?

- Similar relationship of both scales and financial situation + interest in politics
- Inverted U-shape with **education,** somewhat stronger vor science-related populism
- No relationship between **political ideology** and populism (van Hauwaert & van Kessel, 2018; Mede & Schäfer, 2020)

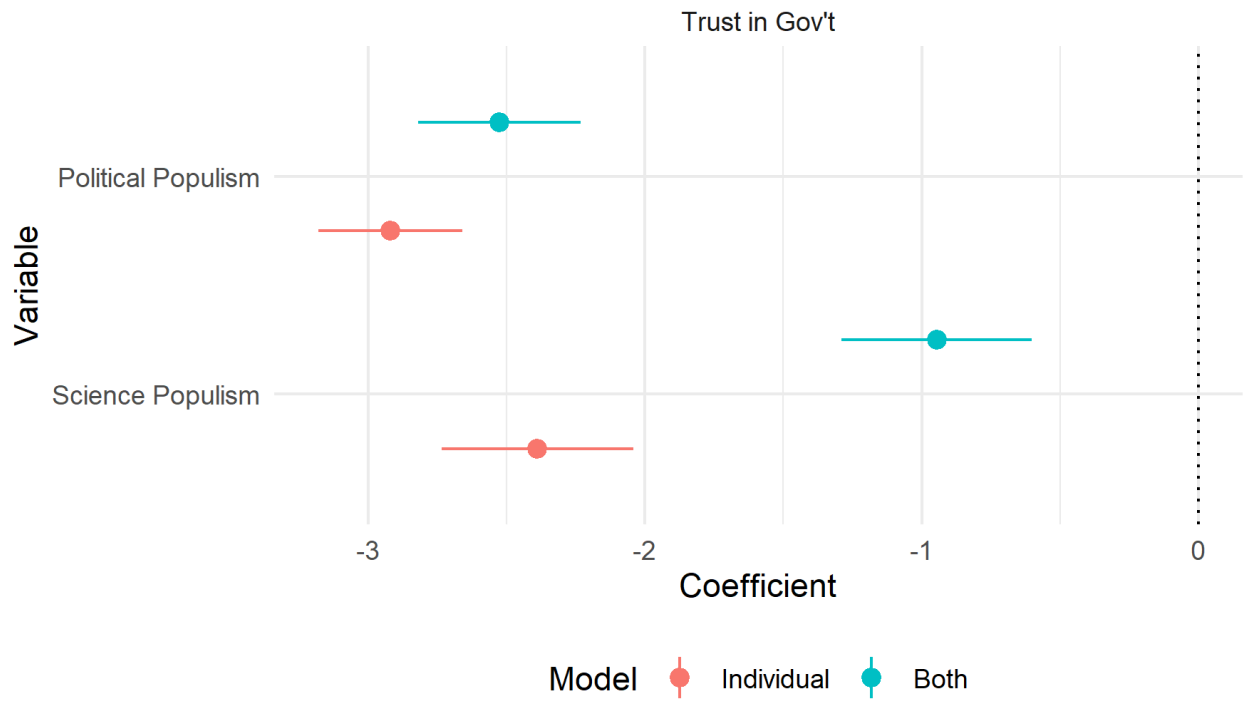
	Political Populism	**Science-Related Populism**
(Intercept)	0.46 (0.15)**	0.39 (0.13)**
Age	0.00 (0.00)	0.00 (0.00)
Female	0.01 (0.05)	0.01 (0.04)
Education – Low	-0.17 (0.09)*	-0.16 (0.07)*
Education – Higher	-0.16 (0.05)**	-0.32 (0.04)***
Left-Right Self-Placement	-0.01 (0.04)	0.03 (0.03)
Left-Right Self-Placement × Left-Right Self-Placement	0.00 (0.00)	0.00 (0.00)
Financial Situation	-0.09 (0.02)***	-0.10 (0.02)***
Political Interest	-0.08 (0.03)**	-0.08 (0.02)***
Adj. R^2	0.05	0.18
N	878	878

***p < 0.001, **p < 0.01, *p < 0.05. Entries are unstandardised coefficients from an OLS regression. Standard errors in brackets. Both dependent variables are extracted from a confirmatory factor analysis.

Table 2: OLS regression predicting of political and science-related populism

Results: RQ3 – Distinct Predictors?

- **Individually**, both forms of populism correlate with **trust in government**
- When both are included in the model, **the correlation with political populism is much stronger**

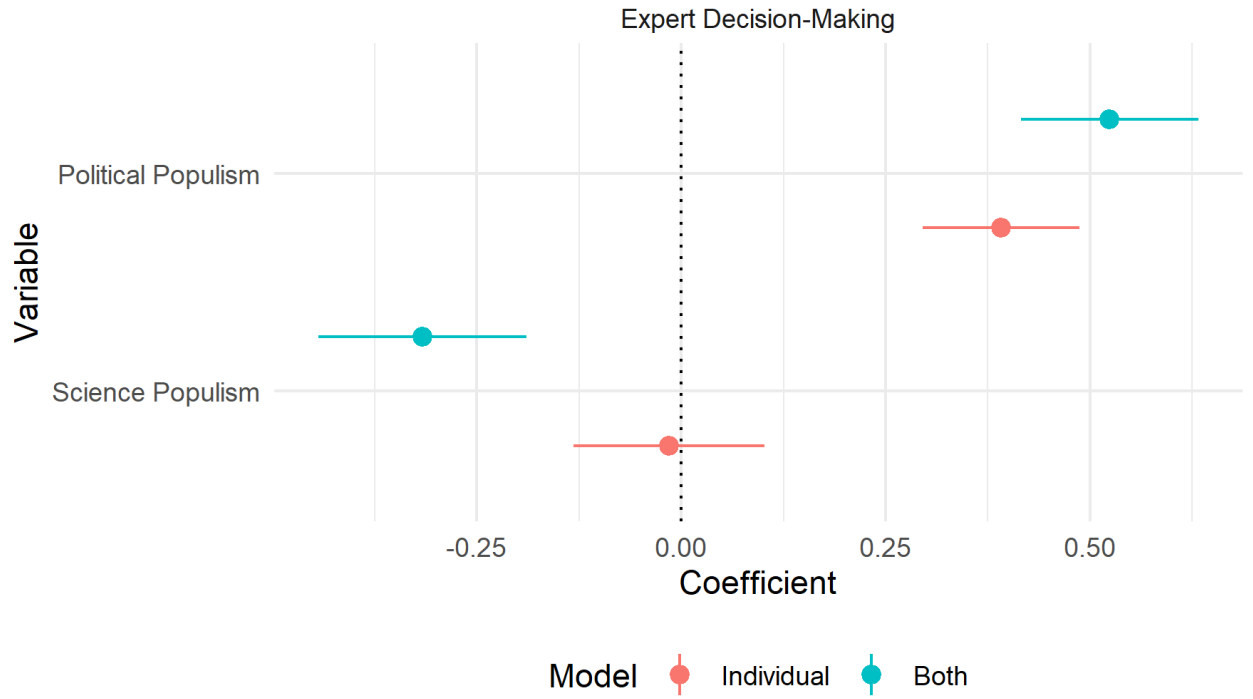


Results: RQ3 – Distinct Predictors?

- **Individually**, both forms of populism correlate with **trust in science**
- When both are included in the model, **the correlation with science-related populism is much stronger**

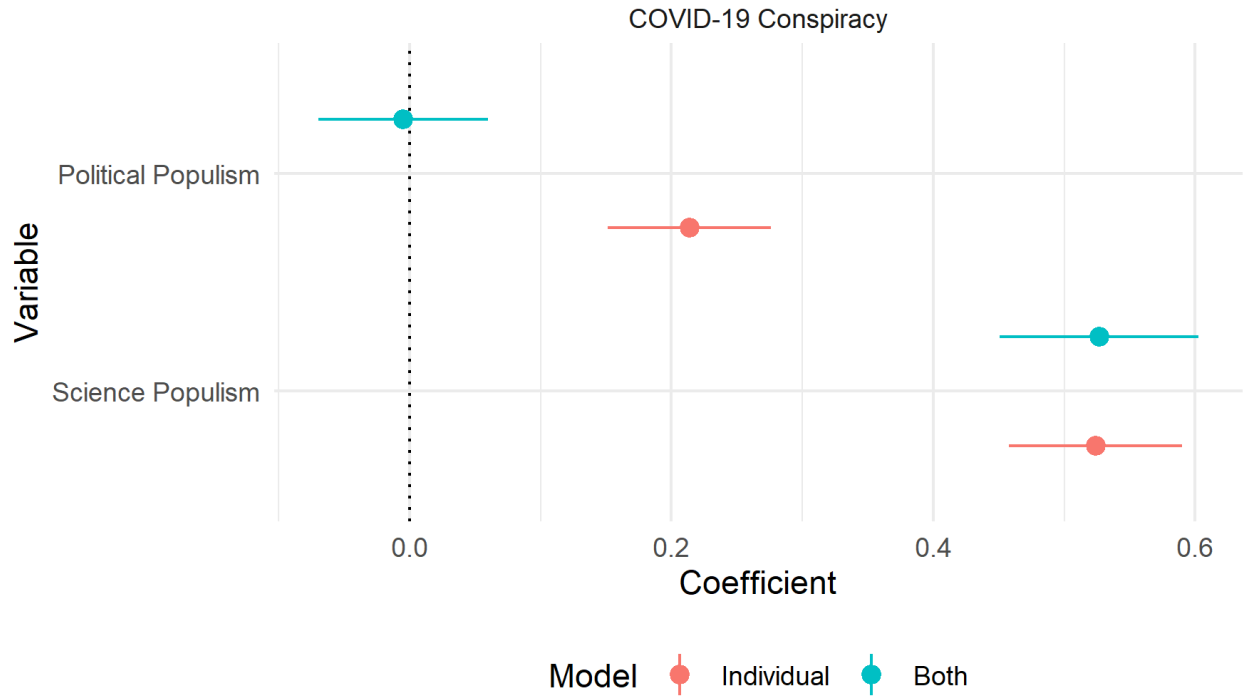
Results: RQ3 – Distinct Predictors?

- **Individually**, only political populism correlates with support for technocracy
- When both are included in the model, **the correlations with political populism and science-related populism go in opposite directions**



Results: RQ3 – Distinct Predictors?

- **Individually**, both forms of populism correlate with **COVID-19 conspiracy beliefs**
- When both are included in the model, **the correlation with political populism disappears and only the correlation with science-related populism remains**



Conclusion

Three takeaways:

1. Researchers need to think carefully about which of these phenomena is (or whether both are) relevant to their research question.

2. Researchers need to develop different theoretical and statistical models to explain support for either form of populism.

3. Researchers need to think about which type of populism is theoretically better suited to explain their dependent variable.

Thank you for your attention!

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Results: RQ3 – Distinct Predictors?

- **Individually**, both forms of populism correlate with **trust in government**
- When both are included in the model, **the correlation with political populism is much stronger**

	Model 1A	Model 2A	Model 3A
Political Populism	-2.92 (0.13)***		-2.53 (0.15)***
Science-Related Populism		-2.39 (0.18)***	-0.95 (0.18)***

***p < 0.001, **p < 0.01, *p < 0.05. Entries are unstandardised coefficients from an OLS regression. Standard errors in brackets. The dependent variable is trust in government, measured on an 11-point scale from 0 (no trust at all) to 10 (complete trust). N = 877. The full regression table is available in the Appendix, see Table A1.

Table 3: OLS regressions predicting trust in government

Results: RQ3 – Distinct Predictors?

- **Individually**, both forms of populism correlate with **trust in science**
- When both are included in the model, **the correlation with science-related populism is much stronger**

	Model 1B	Model 2B	Model 3B
Political Populism	-1.41 (0.12)***		-0.58 (0.12)***
Science-Related Populism		-2.34 (0.13)***	-2.02 (0.15)***

***p < 0.001, **p < 0.01, *p < 0.05. Entries are unstandardised coefficients from an OLS regression. Standard errors in brackets. The dependent variable is trust in science, measured on an 11-point scale from 0 (no trust at all) to 10 (complete trust). N = 868. The full regression table is available in the Appendix, see Table A2.

Table 4: OLS regressions predicting trust in science

Results: RQ3 – Distinct Predictors?

- **Individually**, only political populism correlates with support for technocracy
- When both are included in the model, **the correlations with political populism and science-related populism go in opposite directions**

	Model 1C	Model 2C	Model 3C
Political Populism	0.39 (0.05)***		0.52 (0.06)***
Science-Related Populism		-0.01 (0.06)	-0.32 (0.07)***

***p < 0.001, **p < 0.01, *p < 0.05. Entries are unstandardised coefficients from an OLS regression. Standard errors in brackets. The dependent variable is agreement with the statement that 'It is better for important policy decisions to be taken on the basis of scientific evidence by independent experts rather than by elected politicians', measured on a 5-point scale from 1 (completely disagree) to 5 (completely agree). N = 872. The full regression table is available in the Appendix, see Table A3.

Table 5: OLS regression predicting support for scientific experts vs elected politicians

Results: RQ3 – Distinct Predictors?

- **Individually**, only political populism correlates with support for technocracy
- When both are included in the model, **the correlations with political populism and science-related populism go in opposite directions**

	Model 1D	Model 2D	Model 3D
Political Populism	0.21 (0.03)***		-0.00 (0.03)
Science-Related Populism		0.52 (0.03)***	0.53 (0.04)***

***p < 0.001, **p < 0.01, *p < 0.05. Entries are unstandardised coefficients from an OLS regression. Standard errors in brackets. The dependent variable is mean value of agreement with statements that A) COVID-19 is a bioweapon, B) COVID-19 is a natural disease (reversed), C) COVID-19 is a secret US military experiment, D) Bill Gates wants to vaccinate by force to earn money, E) 5G transmitter masts are responsible for COVID-19. Agreement is measured on a 5-point scale from 1 (very certain that this is false) to 5 (very certain that this is true). N = 878. The full regression table is available in the Appendix, see Table A4.

Table 6: OLS regression predicting COVID-19 conspiracy beliefs