Original Article



Disentangling the Relationship Between Conspiracy Mindset Versus Beliefs in Specific Conspiracy Theories

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Abstract: While there is ample evidence showing that people who believe in one conspiracy theory are more likely to believe in other conspiracy theories, and many studies that show that some people have a stronger general propensity to believe in conspiracy theories – i.e., conspiracy mindset – than others, the empirical relationship between conspiracy mindset and beliefs in specific conspiracy theories is unclear. This paper thus aims to investigate this relationship using a unique three-wave panel study. Among other things, the findings suggest that a conspiracy mindset empirically can be distinguished from beliefs in specific conspiracy theories, and that conspiracy mindset is a stronger predictor of beliefs in specific conspiracy theories than the other way around.

Keywords: conspiracy mindset, beliefs in conspiracy theories, longitudinal analysis, causal relationship, Sweden

One of the most robust findings in research on beliefs in conspiracy theories (CTs) is that people who believe in one conspiracy theory are more likely to believe in others as well (Sutton & Douglas, 2020). Some research has shown that this may be the case even for CTs that logically cannot be true at the same time (Wood et al., 2012). Such findings have given rise to the notion that some people have a stronger general propensity to believe in CTs than others (Brotherton et al., 2013; Imhoff & Bruder, 2014; Imhoff, Bertlich, et al., 2022a). Here, we will use the term *conspiracy mindset* to refer to this propensity.

The concept of the conspiracy mindset has however been questioned on the grounds that it is unclear what it represents and that there is a lack of evidence showing that measures of a conspiracy mindset capture conspiracy beliefs better than other measures. Sutton and Douglas (2020), for example, argue that "there is no evidence that a conspiracy mindset is psychometrically distinct from, or causative of, conspiracy beliefs" (p. 120), and that it is unclear whether it "attempts to explain or merely describe belief in conspiracy theories" (p. 121). The relationship between a conspiracy mindset and beliefs in specific CTs is thus unclear. This is problematic for at least three reasons. First, a conspiracy mindset should be more universal than beliefs in specific CTs. If a conspiracy mindset can be distinguished from beliefs in specific CTs, it would hence be more suitable for comparative and longitudinal research. Second, the underlying mechanisms, the antecedents and effects of a conspiracy mindset and beliefs in specific CTs, may differ. Third, recognizing conspiracy mindset as an underlying factor to beliefs in specific CTs may carry implications for countermeasures against the spread of CTs.

Against this background, the aim of this paper is to investigate whether a conspiracy mindset and beliefs in specific CTs can be empirically distinguished. Empirically, we will use a unique, three-wave panel study in the context of the 2022 Swedish election campaign. Thereby, we will apply a method still rather rarely used in research on conspiracy thinking (but see Williams, Ling, et al., 2022). This will allow for analyses of the longitudinal relationship between the focal variables.

Literature Review

On a general level, there is broad consensus that *conspiracy* theories conceptually refer to "attempts to explain the ultimate causes of significant social and political events and circumstances with claims of secret plots by two or more powerful actors" (Douglas et al., 2019, p. 4). While CTs are not necessarily wrong, they are typically epistemically dubious. To begin with, they stand in contrast to official accounts of circumstances and events, and involve distrust of, and more or less explicit attacks on, established processes of epistemic validation (Douglas et al., 2019). Second, they build on simplified Manichean constructions of binary inand outgroups, good and evil (Bergmann, 2018). Third, they make unrealistic assumptions about the ability of those involved in alleged conspiracies to keep things secret (Sunstein & Vermeule, 2009). Fourth, they are typically monological and more or less immune to falsification (Goertzel, 1994; Williams, Marques, et al., 2022).

Conspiracy beliefs thus refer to beliefs in specific CTs, for example, that John F. Kennedy was murdered by the CIA. Although some CTs are more widely believed than others, there is overwhelming evidence that conspiracy beliefs are quite widespread and have negative social and political consequences.

There is also overwhelming evidence that people who believe in one CT are more likely to also believe in others (Bruder et al., 2013; Imhoff & Bruder, 2014; Uscinski et al., 2022). Such findings have given rise to the notion that people differ in their general conspiracy mindset, defined as a "general propensity to subscribe to theories blaming a conspiracy of ill-intending individuals or groups for important societal phenomena" (Bruder et al., 2013, p. 2). As such, it represents a continuous construct "with gray shapes in-between" (Frenken & Imhoff, 2021, p. 2), which might explain why some people are more likely than others to believe in specific CTs that they are exposed to.

Importantly, a key difference between conspiracy mindset and beliefs in specific CTs is that conspiracy mindset "taps into the general propensity to suspect that conspiracies are at play, uncontaminated by concrete events, actors, or contexts" (Imhoff et al., 2022b, p. 392). According to Goertzel (1994, p. 740), such conspiracy mindset can be thought of as a monological "belief system," in the sense that the "key issue is not the belief in a specific conspiracy, but the logical processes which led to that belief" (see also Williams, Marques, et al., 2022). In support of this, some studies find that "conspiracy beliefs have all the makings of a belief system" (Enders et al., 2021, p. 267), although other studies suggest that the mindset is continuous and probabilistic (Frenken & Imhoff, 2021). Others have likened a conspiracy mindset to a particular worldview or generalized attitude, similar to political ideology (Bruder et al., 2013; Uscinski, 2019, p. 50). There are also discussions about whether the fact that beliefs in different conspiracy theories are strongly correlated depend on one underlying factor - conspiracy mindset - or a network model where beliefs in different conspiracy theories causally affect one another (Williams, Marques, et al., 2022). This will however not be tested here.

As noted, questions remain however with respect to the concept and measurement of conspiracy mindset and its relation to beliefs in specific CTs. Sutton and Douglas (2020), for example, have questioned whether the conspiracy mindset is psychometrically distinct from and predicts beliefs in specific CTs, and whether it should be thought of as a general political attitude or as comprising a general susceptibility to believe in CTs. Part of the problem is that there are different measures of a conspiracy mindset, where some have been constructed from responses to lists of specific conspiracy theories (Swami et al., 2017). This arguably makes the distinction between conspiracy mindset and beliefs in specific CTs less clear.

A key question, then, is the empirical relationship between conspiracy mindset and beliefs in specific CTs. If we assume that a conspiracy mindset is at least partially empirically distinct from beliefs in specific CTs, conceptually and theoretically at least four requirements need to be fulfilled. First, the measurement of conspiracy mindset needs to build on measures tapping a general belief in conspiracies, uncontaminated by concrete or specific CTs (Imhoff et al., 2022a). Second, the factorial and convergent validity of the measurement of conspiracy mindset, and its discriminantconvergent validity against beliefs in specific CTs, needs to be established (Swami et al., 2017). Third, the conspiracy mindset should be more stable and more normally distributed than beliefs in specific CTs (Imhoff et al., 2022a). Fourth, the conspiracy mindset at T_{-1} should be predictive of beliefs in specific CTs at T, establishing the causal relationship (Imhoff et al., 2022a; Sutton & Douglas, 2020; Williams, Ling, et al., 2022). For example, Jolley et al. (2022) found that conspiracy mindset at T_{-1} predicted beliefs in specific CTs related to the 2016 Brexit referendum at T.

In the following, we will test whether these requirements are fulfilled and hence whether a conspiracy mindset and beliefs in specific conspiracy theories empirically can be distinguished.

Methodology and Data

Empirically, this study draws upon a three-wave panel study done during the 2022 Swedish election campaign. It

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is based on a probability sample stratified by age, sex, and education. Fieldwork was done by the SOM-institute at the University of Gothenburg. A sample of 3,924 individuals was invited to take part of the first panel wave, which was in the field between June 16 and August 8, 2022. The survey was completed by 2,327 individuals, corresponding to 58 % in gross participation rate (AAPOR RR6). The second panel wave was in the field between August 16 and September 9, 2022. The net sample size was 3,832 individuals, and 2,079 completed the survey. The gross participation rate was 53 %. The election was held on September 11 and the third panel wave in the field between September 12 and October 13, 2022. The net sample size was 3,779 individuals. In total, 1,975 completed the questionnaire, and the gross participation rate was 51 %. Altogether, 1,654 respondents participated in all three waves, and all analyses in this study will be based on this sample. For the final sample structure and information concerning panel attrition, see the Electronic Supplementary Material, ESM 1.

Measures

To measure conspiracy mindset, we will use four items asked in each panel wave. Two come from the General Conspiracy Mentality Questionnaire (Bruder et al., 2013), namely, "Many important things happen in the world that the public is never informed about" and "There are secret organizations that greatly influence political decisions." The other two are reworded items from the Generic Conspiracist Beliefs scale (Brotherton et al., 2013): "Scientists often only reveal results of their research that support their predetermined conclusions," and "Governmental agencies' official versions of events oftentimes hide the truth."1 The order of the statements was randomized, and respondents asked to indicate to what degree they agree with the statements on a seven-point scale (1 = Fully disagree, 7 = Fully agree). An additive index was created based on these items. The scaling of the items was not altered, but the index was normalized to run from 0 to 1.

To measure *beliefs in specific conspiracy theories*, we will use four items related to the following conspiracy theories: "There is a secret plan to replace white Christians in Europe with Muslims," "The Coronavirus was created as a biological weapon," "The pharmaceutical industries very often hide dangerous side-effects of their medicines," and "The real reason for the Estonia-catastrophe has been hidden by the authorities."² The order of the statements was randomized, and the response scale 1 = Very certain it is false, 2 = Rather certain it is false, 3 = Uncertain whether it is true or false, 4 = Rather certain it is true, to 5 = Very certain it is true. All items were normalized to run from 0 to 1 for analysis; otherwise, the items were not altered.

Analytically, we first performed Confirmatory Factor Analysis (CFA). We then ran fixed effects models for each specific conspiracy belief to establish a relation between conspiracy mindset and belief in specific CTs. Finally, we used structural equation modeling (SEM) to analyze the causality and direction of the relationship. We ran three different models for each specific conspiracy belief. First, a regular cross-lagged panel model (CLPM). Second, a random intercept cross-lagged panel model (RI-CLPM) where random effects as captured by a latent variable account for individual differences (Hamaker et al., 2015). Third, we ran another RI-CLPM where we constrain effects between wave one and two, and two and three, respectively, to be equal to test stability of effects over time. We compare model fit statistics and present the results from the best fitting model.

Results

Starting with the factor structure of the conspiracy mindset scale, we subjected the four items comprising this scale to Confirmatory Factor Analysis, where a separate model was tested for each panel wave.³ The models tested depict a latent conspiracy mindset construct affecting the four items as indicators. To facilitate model identification, the coefficient for Item 2 in all three waves was set to 1. The results are presented in Table 1 (correlation matrices are reported in ESM 1).

As Table 1 demonstrates, the measurement models show a satisfactory fit with the data in all waves. In particular, the RMSEA scores were all satisfactory (MacCallum et al., 1996; Kenny et al., 2015). The scale also yielded an acceptable level of reliability in all waves. The test-retest stability was assessed using the correlations between the scores in the different waves, which were high

¹ In original, the items were "The government keeps many important secrets from the public" and "Groups of scientists ensure that only evidence which support a pre-determined conclusion is made known to the public."

² In 1994, M/S Estonia sank in the Baltic Sea and 852 lives were lost. The official report explained that the reason was that the locks on the bow door had failed, leading the door to separate from the ship, which allowed water to flow into the vehicle deck. This version has however been questioned by some.

³ As the specific CTs are modeled separately, we did not run any CFA for those.

Table 1	. Confirmatory	factor ana	lysis of	conspiracy	mindset so	cale
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Items	Wave 1	Wave 2	Wave 3
1. Many important things happen in the world that the public is never informed about	.95	.93	.96
2. Governmental agencies' official versions of events oftentimes hide the truth	1.00	1.00	1.00
3. Scientists often only reveal results of their research that support their predetermined conclusions	.82	.85	.87
4. There are secret organizations that greatly influence political decisions	.84	.90	.86
CFI	.97	1.00	.99
NFI	.97	1.00	.99
TLI	.96	.97	.97
RMSEA	.07	.05	.07
Ν	1,654	1,654	1,654
χ^2	17.23 (2)***	8.57 (2)*	19.02 (2)***
Cronbach's α	.80	.82	.83

and significant ($r_{W1.W2} = .77$, $r_{W2.W3} = .79$, and $r_{W1.W3} = .75$; p < .001 for all three coefficients). This is a very high correlation considering the time interval between the waves (roughly four months from Wave 1 to Wave 3) and confirms that the conspiracy mindset scale has a high degree of stability.

To examine the discriminant and convergent validity of the conspiracy mindset scale vis-à-vis the scale tapping beliefs in specific CTs, we followed the analytical strategy by Hayes et al. (2005). Their strategy was to test for the significance of the correlation between their construct and related constructs, estimated in a latent variables measurement model. This was examined by specifying two factors in the model (one for their WISC measure and the other for the other construct tested against their focal concept) and estimating the correlation between them (denoted φ). As Hayes et al. (2005, p. 13) maintain, "the primary advantage of estimating the correlation in this manner is that the resulting correlations are estimates of the correlations between the constructs in the absence of measurement error." We conducted our test for convergent validity similarly, testing for the correlation between the conspiracy mindset scale and the belief in specific CTs constructs in a latent factors measurement model.

Hayes et al.'s (2005) test for discriminant validity was based on the comparison between a two-factor model (allowing their WISC constructs to freely correlate with the presumably related construct) and a single-factor model in which the indicators of the presumably related construct were forced to load on a single factor with their WISC scale. The fit of these two models can be compared using a chisquare difference test with one degree of freedom (Hayes et al., 2005). We used the same procedure and tested for the discriminant validity of the conspiracy mindset scale against the scale measuring belief in specific CTs.

As Table 2 shows, the conspiracy mindset scale is strongly and significantly correlated with belief in specific

CTs in all three waves (r = .81 for Wave 1, r = .85 for Wave 2, and r = .84 for Wave 3; p < .001 in all cases), thereby providing evidence for convergent validity. At the same time, the improvement in the fit from a single-factor to a two-factor model was significant in both waves, indicating that these two constructs are empirically distinguishable.

These results support that a conspiracy mindset empirically is distinct from beliefs in specific CTs, in that the conspiracy mindset scale shows convergent validity and discriminant-convergent validity against beliefs in specific CTs.

To assess the stability and distribution of both belief in specific CTs and conspiracy mindset, we computed frequency tables and histograms for all waves. Overall, the conspiracy mindset is stable across all waves as well as quite normally distributed (ESM 1). The exception is a slight skewness toward the left in the third panel wave. As for belief in specific CTs, distributions are also stable across all waves. There are however stark discrepancies between the specific CTs. More specifically, items one (there is a secret plan to replace white Christians in Europe with Muslims) and two (the Coronavirus was created as a biological weapon) are strongly skewed to the left (ESM 1), indicating that comparatively few people in our sample believe these CTs. The other items (the pharmaceutical industries very often hide dangerous side-effects of their medicines; the real reason for the Estonia-catastrophe has been hidden by the authorities) are in contrast normally distributed. Compared to the conspiracy mindset scale, the results thus suggest that beliefs in specific CTs are less stable and more skewed. This is also supported by formal tests of normality (ESM 1).

To investigate whether the conspiracy mindset predicts belief in specific CTs and vice versa, we first fitted several fixed effects models. This resulted in five models (see Table 3), one for belief in each specific conspiracy theory and one for the conspiracy mindset scale.

Table 2. Convergent/discriminant validity of the conspiracy mindset scale vis-à-vis belief in specific conspiracy theories

Convergent/discriminant validity between:	Correlation with conspiratorial Mentality(ϕ)	Single-factor model	Two-factor model	Improvement in fit from single- to two-factor model
		χ ²	χ ²	$\Delta \chi^2 \ (df = 1)$
		CFI	CFI	Δ CFI
		NFI	NFI	ΔNFI
		TLI	TLI	ΔTLI
		RMSEA	RMSEA	∆RMSEA
Specific conspiracies—Wave 1	.81***	751.38	508.08	243.3***
		.83	.88	.05
		.72	.88	.16
		.83	.81	.02
		.14	.12	02
Specific conspiracies—Wave 2	.85***	539.24	425.86	113.38***
		.88	.92	.04
		.88	.91	.03
		.80	.85	.05
		.13	.11	02
Specific conspiracies—Wave 3	.84***	662.45	452.78	209.67***
		.88	.92	.04
		.88	.91	.03
		.80	.86	.06
		.13	.11	02

Note. ***p < .001.

Table 3. Fixed effects models assessing effects of belief in specific conspiracies on conspiracy mindset and vice versa

Conspiracy theories	Conspiracy mindset	Great replacement	COVID bioweapon	Estonia catastrophe	Big pharma
Great replacement	.031*	_	.114***	.056**	.086***
COVID bioweapon	.007	.116***	_	.053**	.089***
Estonia catastrophe	.036**	.048**	.044**	_	.178***
Big pharma	.037**	.063***	.064***	.153***	_
Conspiracy mindset	_	.043*	.009	.060**	.071**

Note. n = 1,653, independent variables are on the left, dependent variables at the top.

In the models predicting belief in specific CTs, beliefs in the other CTs were controlled for. The results show that there are effects of both belief in specific CTs on conspiracy mindset, and effects of conspiracy mindset on belief in the respective CTs. The results also show that belief in one CT predicts belief in other CTs.

To further investigate the causal relationship, we performed structural equation modeling. For each CT we compared cross-lagged panel models (CLPM) with random intercept cross-lagged ones and the option to constrain effects to be similar over-time (RI-CLPM; see Table 4). In all instances, the RI-CLPM demonstrated a better model fit than the regular CLPM (for Great Replacement $\Delta \chi^2 = 379.92$, df = 3, p < .001, for COVID bioweapon $\Delta \chi^2 = 387.54$, df = 3, p < .001, for Estonian catastrophe $\Delta \chi^2 = 456.20$, df = 3, p < .001, and for big pharma $\Delta \chi^2 = 402.17$, df = 3, p < .001). In the RI-CLPM, between person effects are captured by a latent variable that represents a person specific random intercept. Only for the big pharma conspiracy theory does a model that constrains cross-lagged effects to be similar over time outperform the "regular" RI-CLPM model ($\Delta \chi^2 = 7.04$, df =7, p = .43). In all other instances, the RI-CLPM shows better model fit (for Great Replacement $\Delta \chi^2 = 37.54$, df = 7, p = .083, and for Estonian catastrophe $\Delta \chi^2 = 16.51$, df = 7, p = .02).

In the RI-CLPM models as reported in Table 4, the cross-lagged effects focus on within-person variance. Intra-class coefficients demonstrate that a considerable amount of variance is between individuals (ranging from

		(CT		CM
Statistics		w1-w2	w2-w3	w1-w2	w2-w3
Great replacement					
СТ		.164* (.085)	.277*** (.041)	.076 (.090)	.089* (.038)
CM		.047 (.100)	.121* (.054)	047 (.063)	.194*** (.055)
ICC CT	.718				
ICC CM	.771				
$\text{Cov}(\mathbf{K}, \Omega)$.028*** (.002)				
$r(CT_{t1}, CM_{t1})$.472***				
Fit	χ^2 = 2.245, df = 1, p =	= .134; CFI = 1.000; RMSE	A = .027		
COVID bioweapon					
CT		.205** (.066)	.219*** (.051)	.072 (.050)	.059 (.046)
CM		.051 (.086)	.166* (.058)	.093 (.079)	.157* (.061)
ICC CT	.735				
ICC CM	.771				
$Cov(K,\Omega)$.026*** (.002)				
$r(CT_{t1}, CM_{t1})$.413***				
Fit	χ ² = 2.674, df = 1, p =	= .102; CFI = 1.000; RMSE	A = .032		
Estonia catastrophe					
CT		.055 (.076)	.125* (.054)	.016 (.054)	.015 (.042)
CM		125 (.099)	.126+ (.069)	.084 (.085)	.177** (.059)
ICC CT	.744				
ICC CM	.771				
$Cov(K,\Omega)$.033*** (.002)				
$r(CT_{t1},CM_{t1})$.469***				
Fit	χ^{2} = .202, df = 1, p =	.653; CFI = 1.000; RMSEA	.000		
Big pharma					
CT		016 (.035)	016 (.035)	.001 (.021)	.001 (.021)
CM		026 (.042)	026 (.042)	.066+ (.040)	.066+ (.040)
ICC CT	.662				
ICC CM	.771				
$Cov(K,\Omega)$.034*** (.002)				
$r(CT_{t1}, CM_{t1})$.536***				
Fit	χ^2 = 9.857, df = 8, p	= .275; CFI = 1.000; RMSE	A = .033		

Table 4. Random intercept cross-lagged panel models for CM and various CTs

Note. CT = conspiracy theory, CM = conspiracy mindset, K latent factor CT, Ω latent factor CM, CFI = comparative fit index, RMSEA = root mean square error of approximation, ICC = intraclass coefficient, N = 1,654.

***p < .001. **p < .001. *p < .05. +p < .10.

66.2% for the Big Pharma conspiracy theory to 77.1% for the conspiracy mindset), which is not surprising given that a conspiracy mindset and beliefs in specific conspiracy theories might be rather stable and only demonstrate limited variation over time. We also see a positive association between the various CTs and conspiracy mindset at the individual level, as reflected in the correlations between t1 scores, as well as the positive covariance between the latent variables predicting CT and conspiracy mindset in the various models. The cross-lagged effects furthermore demonstrate that for three out of the four CTs, one of the coefficients of conspiracy mindset is significant, while the reversed effect is only present in a single case. This indicates that – while in general within-person effects are limited – conspiracy mindset is predicting beliefs in specific CT rather than the other way around, which is in line with our expectations. All models demonstrate satisfactory to good model fit, with insignificant χ^2 , CFI scores of 1, and RMSEA scores below .05.

Discussion

This study set out to investigate the empirical relationship between conspiracy mindset and beliefs in specific CTs. Together, the results suggest that conspiracy mindset indeed can be distinguished empirically from beliefs in specific CTs. To begin with, the confirmatory factor analysis and the tests for the discriminant and convergent validity vis-à-vis beliefs in specific CTs show that conspiracy mindset and beliefs in specific CTs empirically are related but distinct from each other and represent different constructs. Furthermore, our findings show that conspiracy mindset is more stable and more normally distributed than beliefs in specific CTs. Finally, the longitudinal analyses show that conspiracy mindset is a stronger and more consistent predictor of posterior beliefs in specific CTs than the other way around.

Altogether, these results strongly suggest that a general conspiracy mindset is not the same as specific conspiracy beliefs. Hence, they support the notion that conspiracy mentality "taps into meaningful individual differences in the very basic worldview that the fate of the world is determined by plans hatched in secret" (Imhoff et al., 2022, p. 4).

However, several questions remain. First, our findings suggest that a conspiracy mindset is a stronger predictor of beliefs in some specific CTs – e.g., the Big Pharma conspiracy theory – than in others. The reason for this is, however, not clear. Given that the Big Pharma conspiracy theory has not been very salient in the Swedish debate, one hypothesis might be that conspiracy mindset is a stronger predictor of beliefs in less salient CTs. This should be further explored in future research.

Another question is related to the importance of time and time lags. Scholars from other fields have suggested that bottom-up (from general to specific) and top-down (from specific to general) beliefs may play out differently across time (Guay et al., 2003). This might imply that sometimes particular beliefs (about new events) that spread under high uncertainty may activate and fuel conspiracy mindset as well. Given the relative scarcity of longitudinal research on the linkage between conspiracy mentality and specific conspiracy beliefs (Williams, Ling, et al., 2022), more research is however needed to further our understanding of whether and how the relationship differs depending on time and time lags.

Conclusion

The importance of national context also needs to be further explored. As shown by Smallpage et al. (2023), Sweden seems to be less conspiratorial than other European countries and with a weaker social desirability bias on self-reported conspiracy beliefs. Whether this has an impact on our results is not clear, but the single-country focus in this study is a limitation that calls for further crossnational research. In other words, while this study suggests that conspiracy mindset and beliefs in specific conspiracy theories can and should be distinguished, more research is needed to further disentangle the relationship and dynamics between conspiracy mindset and beliefs in specific conspiracy theories.

Electronic Supplementary Material

The electronic supplementary material is available with the online version of the article at doi:10.1027/2151-2604/ a000546

ESM 1. Sample structure, attrition, and measurements. Correlation matrices. Distribution of conspiracy mindset and beliefs in specific conspiracy theories across waves. Tests for normality.

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