Examining the links between conspiracy beliefs and the EU "Brexit" referendum vote in the UK: evidence from a two-wave survey

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Abstract

This research examined the link between conspiracy beliefs and political decisions in the context of the 2016 European Union referendum in the United Kingdom. In a longitudinal study, we surveyed British participants at two-time points (one week before the referendum vs. immediately after the referendum). At both time points, participants ($n = 334$) indicated their belief in conspiracy theories specific to the referendum, their general tendencies toward conspiracy theorising, their political orientation, and support for leaving the EU, followed by how they voted in the referendum, taken at Time 2. Using cross-lagged path analysis, we found that conspiracy beliefs specific to the referendum predicted both support for leaving the EU, and voting to leave the EU, above and beyond political orientation. We also found that the general tendency towards conspiracy theorising predicted belief in conspiracy theories relevant to the referendum, which subsequently led to increased support for leaving the EU. The chief novelty of this research lies in its longitudinal design, allowing us to conclude that conspiracy beliefs precede political behaviours in a temporal sequence.

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In 2016, the United Kingdom voted to leave the European Union (EU), with a majority of 51.9% leave to 48.1% remain. This event has become commonly known as "Brexit", and studies have shown that factors such as concerns about immigration (Abrams & Travaglino, 2018; Swami, et al., 2017), negative intergroup contact with EU immigrants (Meleady, et al., 2017), and British collective narcissism (Golec de Zavala, et al., 2017; Marchlewska, et al., 2018) all predicted support for the Leave vote. However, the media consumption patterns around Brexit was also blighted by disinformation and conspiracy theories that were polarized (Del Vicario, et al., 2017). Many conspiracy theories emerged about the fairness of the voting system, secret collaborations with the EU, and about the motives of politicians who abruptly 'defected' to the other side before the vote (e.g., Bienkov, 2016; Payne, 2016). In the current research, we empirically examine the influence of such conspiracy theories on people's voting in the referendum.

Conspiracy theories are 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 (see Douglas, et al., 2019). Popular conspiracy theories blame governments, scientists, people of the Jewish faith and many others for the ills of society rather than attributing these ills to accidents or natural occurrences (e.g., Cichocka et al., 2016; Jolley & Douglas, 2014a, 2014b; Jolley, Meleady, et al., 2020). Conspiracy theories are popular (Oliver & Wood, 2014), and it is theorised that they resonate with so many people because they promise to satisfy important psychological motives (Douglas, et al., 2017). For example, people who are feeling anxious, uncertain, insecure, and powerless are more likely to subscribe to conspiracy theories, presumably in an attempt to reduce those feelings (e.g., Abalakina-Paap, et al., 1999; Grzesiak-Feldman, 2013; Kofta, et al., 2020; Marchlewska, et al., 2018; van Prooijen & Jostmann, 2013).

Research has demonstrated that belief in conspiracy theories can increase throughout a political campaign (Golec de Zavala & Federico, 2018; Kofta & Sedek, 2005), and indeed, conspiracy theories were a prominent feature in the Leave campaign in the run-up to the referendum (Payne, 2016). For example, popular Brexit-specific conspiracy theories proposed that the UK government planted Remain supports within the Leave campaign who 'defected' to the other side at crucial moments. Another conspiracy theory proposed that the government staged the voter registration website crash as a way to register as many Remain voters as possible (Bienkov, 2016). Finally, there was a significant amount of suspicion amongst Leave supporters that the British establishment and MI5 would erase their pencil votes and that they should, therefore, take a pen into the ballot box (Griffin, 2016).

Research has shown that conspiracy theories change people's attitudes on important issues (Douglas & Sutton, 2008; see also Douglas & Sutton, 2018; Jolley, Mari, et al., 2020 for reviews). For example, exposure to conspiracy theories has been shown to influence people's intentions to vote and engage in climate-friendly behaviours (Jolley & Douglas, 2014a), and to vaccinate their children (Jolley & Douglas, 2014b). Reading about conspiracy theories also makes people more willing to engage in low-level crime (Jolley, et al. 2019). Other research has shown that conspiracy beliefs are positively linked to outgroup hostility (e.g., Biddlestone et al., 2020; Marchlewska, et al., 2019) and support for violence towards alleged conspirators (Jolley & Paterson, 2020). Furthermore, reading about anti-Semitic conspiracy theories increases prejudice and discrimination towards people of the Jewish faith (Jolley, Meleady, et al., 2020; but also see Bilewicz, et al., 2013). An important question to ask, therefore, is how conspiracy theories might have influenced people's attitudes, intentions, and voting behaviours surrounding the EU referendum.

Swami et al. (2017) provided correlational evidence that such conspiracy theories may indeed have been influential. Their research examined relationships between Islamophobia,

perceived threat from Muslim immigrants, belief in Islamophobic conspiracy theories, and intentions to vote Leave in the referendum. Relevant to the current study, Swami et al. (2017) found that belief in Islamophobic conspiracy theories—that relate to Muslim immigration and proposed attempts to "Islamicise" Europe—mediated the link between Islamophobia and intention to vote Leave. Therefore, belief in conspiracy theories provided a link between negative attitudes toward one group (Muslims), and the intention to vote Leave in the referendum. However, the cross-sectional nature of this study provided little opportunity to examine these associations over time.

Another issue left open by Swami et al. (2017) is the role of broader conspiracy beliefs in predicting support for leaving the EU. A consistent finding in the psychological literature is that beliefs in conspiracy theories are strongly correlated with each other (Goertzel, 1994). That is, people who already believe in one conspiracy theory are likely to also believe in other, even mutually contradictory conspiracy theories (Wood, et al., 2012). This may indicate an underlying tendency to believe in conspiracy theories (Douglas, et al., 2019), which then may predict belief in other specific conspiracy theories, such as those surrounding Brexit. It is therefore possible that more general conspiracy theorising also influenced the Brexit vote, via the endorsement of Brexit-specific conspiracy theories.

It is also important to consider is the potential contribution of political orientation. Research has shown that conspiracy beliefs are strongest at the political extremes. Specifically, van Prooijen, et al. (2015) demonstrated a quadratic effect ("U-shape"), in which conspiracy beliefs were strongest at the far left and far right. However, van Prooijen et al. (2015) also found that conspiracy beliefs were stronger on the far right, which is a finding that has been supported by other scholars (e.g., Galliford & Furnham, 2017; van der Linden, et al., 2020). Focusing on the Brexit vote, YouGov (2016) provided evidence that the vote cut across party lines, where 65% of Conservatives voted Leave compared to 35% of Labour

voters. Also, right-wing authoritarianism (RWA) and social dominance orientation (SDO) were shown to predict people's intention to vote Leave (Golec de Zavala, et al., 2017). In a similar vein, a meta-analysis by Wilson and Sibley (2013) found that SDO and RWA predicted high levels of political conservatism. These findings highlight the role that political orientation may have played in predicting the Brexit vote. It is therefore important to examine the role of Brexit-specific conspiracy beliefs in predicting voting intentions and behaviours whilst taking into account voters' political orientation.

The Present Research

The current research aimed to explore the relationship between belief in conspiracy theories and support for leaving the EU, alongside reported voting behaviour in the EU referendum. In a longitudinal study with two waves (one week before the referendum vs. immediately after the referendum), participants were asked to indicate their belief in Brexit-specific conspiracy theories and their support for leaving the EU (at Time 1 and Time 2) and how they actually voted (taken at Time 2) in the referendum. We also measured general conspiracy beliefs and participants' political orientation. We predicted that stronger belief in Brexit-specific conspiracy theories would predict both supporting leaving the EU and voting Leave (at Time 2) and that more right-wing political orientation would also be associated with supporting leaving the EU and voting Leave (at Time 2). We also predicted that general conspiracy beliefs would predict specific (Brexit) conspiracy beliefs, resulting in an increased likelihood of supporting leaving the EU. A distinct contribution of this research is that a longitudinal design allows us to examine the causal relationship between conspiracy beliefs and political behaviours using cross-lagged path analysis.

Method

Participants and design

Four hundred participants (218 women, 178 men, 3 Trans/Other and 1 who would rather not say, M_{age} = 32.55, SD = 11.84) were recruited via the crowdsourcing platform *Prolific* at Time 1 (15th June 2016, 1 week before the referendum vote that took place on 23rd June 2016). The survey took approximately 7 minutes to complete, where participants were paid 85 pence for their participation (equivalent to £9.14 per hour, as advertised to participants on Prolific). Participants were invited to complete Time 2 measures on the day after the referendum (24th June 2016) and were paid £1 (equivalent to £12.21 per hour). The analyses we report focus on data obtained from 350 participants who completed both waves of the study (a retention rate of 87.5%[i]). Some exclusions were made. Participants were required to be British citizens who reside in the United Kingdom and must have passed an attention screen. Specifically, participants were asked if they devoted their full attention to the study and if there were any distractions. Participants who rated four and above (out of five, with five indicating no attention and many distractions) on the attention screen were removed from analyses. The final sample (n = 334) comprised of 184 women, 147 men, 3 Trans/Other and 1 who would rather not say, with a M_{age} = 33.35 (SD = 11.98).

In both waves, participants were asked to complete a series of measures which formed our predictor variables—specifically, belief in Brexit-specific conspiracy theories, general belief in conspiracy theories, and political orientation. At Time 1 and 2, participants were asked to indicate their support for leaving the EU, and Time 2 they were also asked to indicate how they actually voted, which formed our two criterion variables.

Materials and procedure

Participants indicated their informed consent before beginning the questionnaire. Next, participants were asked to indicate the extent to which they agreed with five Brexit conspiracy theories: (1) *"Leave campaigner and Conservative MP Sarah Wollaston announced recently that she has changed her mind and is now backing Remain. The*

government have planted Remain supporters in Leave to create the appearance that Leave is losing supporters"; (2) *"The voter registration website crashed in the final hours before the deadline. The government deliberately crashed the system in order to extend the deadline and register as many likely Remain voters as possible."*; (3) *"Broadcasters such as the BBC and ITV are placing pro-European Union propaganda over their homepage. They are in league with the Remain campaign."*; (4) *"Thousands of European Union citizens living in the United Kingdom have been mistakenly sent polling cards by local authorities. The government has done this on purpose to gather as many Remain votes as possible"*; (5) *"Economists, who overwhelmingly suggest that leaving the European Union would harm the economy, are secretly collaborating with the European Union and the government to garner support for the Remain campaign."*). These were answered on a seven-point scale (1 = *strongly disagree; 7 = strongly agree*). Participants also completed the single-item conspiracy belief scale to measure their general tendency to believe in conspiracy theories (Lantian, et al., 2016). In this measure, participants were given a brief preamble and were asked to indicate if they agree that "I think that the official version of the events given by the authorities very often hides the truth", on a seven-point scale (1 = *completely false*, 7 = *completely true*). Presentation of the measures was counterbalanced.[ii]

Next, participants at both Time 1 and 2 were asked "Regardless of your intentions to vote, do you think the United Kingdom should remain a member of the European Union or leave the European Union?" on a 7-point scale (1 = *definitely remain*, 7 = *definitely leave*), which was taken as a measure of support for leaving the EU. Participants were also asked at Time 2 how they actually voted in the EU referendum ("In the referendum on Britain's membership of the EU, how did you vote?) with three possible responses (1 = *I did not vote* [23 participants, 6.9%]*, 2 = Remain* [231 participants, 69.2%], 3 = *Leave* [80 participants, 24%]). Finally, participants completed a series of demographic questions, alongside

indicating their political orientation (*0 = extremely left-wing; 11 = extremely right-wing*).

Participants were then debriefed, thanked and paid for their time.

Results

Pearson's correlations and descriptive statistics are presented in Table 1 for each of

the key variables. To examine the effects of conspiracy beliefs on voting intentions and

voting behaviour, we estimated two cross-lagged path models using M*plus*7.

[Insert Table 1 here]

In the first model, we examined the effects of Brexit-specific and general conspiracy

beliefs, and political orientation measured at Time 1, on support for leaving the EU measured

at Time 2 (controlling for the same measures at Time 1), and the reverse effects of Time 1

support for leaving the EU on Time 2 specific and general conspiracy beliefs and political

ideology (see Figure 1 for standardized coefficients). We also added participant gender

(coded 1 = male, 0 = female) and age as covariates at Time 1 and regressed all Time 2

measures on these variables. This analysis used the maximum likelihood estimates of model

parameters.

[Insert Figure 1 here]

Time 2 support for leaving the EU was positively predicted by Time 1 Brexit specific

conspiracy beliefs ($B = 0.16$, $SE = 0.06$, $p = .01$), but not Time 1 general conspiracy beliefs

($B = -0.09$, $SE = 0.05$, $p = .06$) or political orientation (linear, $B = 0.05$, $SE = 0.03$, $p = .15$;

squared, $B = 0.02$, $SE = 0.01$, $p = .052$). Time 2 support for leaving the EU was also

positively predicted by age ($B = .01$, $SE = 0.01$, $p = .03$), but not gender ($B = -0.24$, $SE = 0.14$,

$p = .08$). Time 2 Brexit specific conspiracy beliefs were predicted by Time 1 support for

leaving the EU ($B = 0.17$, $SE = 0.03$, $p < .001$), and Time 1 general conspiracy beliefs ($B =$

0.10, $SE = 0.04$, $p = .01$). Time 2 general conspiracy beliefs were not predicted by Time 1

support for leaving the EU ($B = 0.01$, $SE = 0.04$, $p = .84$) but were positively predicted by

Time 1 Brexit specific conspiracy beliefs ($B = 0.21$, $SE = 0.06$, $p = .001$). Neither Time 2 Brexit specific conspiracy beliefs nor general conspiracy beliefs were predicted by Time 1 political orientation (linear, $B = 0.03$, $SE = 0.03$, $p = .33$, squared, $B = 0.01$, $SE = 0.01$, $p = .56$; linear, $B = -0.02$, $SE = 0.04$, $p = .51$, squared, $B = 0.01$, $SE = 0.01$, $p = .44$, respectively).

We then examined the indirect effect of Brexit-specific conspiracy beliefs mediating between general conspiracy beliefs and support for leaving the EU, controlling for political orientation. This can be achieved by testing the indirect effect of Time 1 general conspiracy beliefs on Time 2 Brexit-specific conspiracy beliefs by Time 1 Brexit-specific conspiracy beliefs on Time 2 support for leaving the EU (Cole & Maxwell, 2003). We estimated the effect with 5,000 bootstrapped resamples. The indirect effect was significant, estimate = .02 [0.001, 0.041]. Brexit-specific conspiracy beliefs accounted for the link between general conspiracy beliefs and increased support for leaving the EU.

Next, we ran a model with Time 2 self-reported voting as the nominal outcome variable, predicted by both specific and general conspiracy beliefs. In this model, we examined the effects of specific and general conspiracy beliefs, and political orientation measured at Time 1 on the same variables as well as voting measured at Time 2. The model compared voting Leave (coded as 0 as a reference category) to voting Remain (coded as 1) or to not voting at all (coded as 1). We also added gender and age as covariates at Time 1 and regressed all Time 2 measures on these variables. This analysis used the maximum likelihood with robust standard errors, which is the default estimator for this type of analysis in Mplus.

Time 1 Brexit specific conspiracy beliefs were associated with greater likelihood of voting Leave than Remain ($OR = 0.37$, $p < .001$). The likelihood of voting Leave, compared to voting Remain, was not associated with Time 1 general conspiracy beliefs ($OR = 1.12$, $p = .35$). Right-wing political orientation (linear) was associated with voting Leave, compared to voting Remain ($OR = 0.75$, $p = .01$), but political orientation (squared) was not a significant

predictor (OR= 0.98, p = .70). Again, the likelihood of voting Leave, compared to voting Remain, was linked to age (OR = 0.95, p < .001), but not gender (OR = 1.08, p = .84).

The likelihood of not voting, compared to voting Leave, was neither related to Time 1 Brexit specific conspiracy beliefs (OR= 0.81, p = .28) nor to Time 1 general conspiracy beliefs (OR= 1.16, p = .38). There were also no significant effects of political orientation (linear, OR= 0.91, p = .56; squared, OR= 0.93, p = .32), age (OR= 0.96, p = .11) or gender (OR= 1.46, p = .47).

Discussion

In the current research, participants with higher belief in Brexit-specific conspiracy theories measured at Time 1 were more likely to have supported leaving the EU, and have voted Leave, when voting behaviour was measured at Time 2. This finding occurred above and beyond the participants' political orientation. We also found that general conspiracy beliefs measured at Time 1 predicted Brexit-related conspiracy beliefs, which in turn predicted supporting leaving the EU at Time 2. This supports previous research linking general conspiracy theorising and with conspiracy theorising about real-world beliefs (see Douglas, et al., 2019). Together, this research suggests that Brexit-specific (and more general) conspiracy thinking may have played a part in the result of the EU referendum. Previous research has shown that conspiracy theories influence people's social and political intentions (see Douglas & Sutton, 2018; Jolley, Mari, et al., 2020). However, a limitation of existing research is that it has typically measured intentions rather than behaviours (with the exception of van der Linden, 2015). The present research, therefore, makes an important advance to our understanding of the consequences of conspiracy theories.

It is worth noting that even when controlling for political orientation, Brexit-specific conspiracy beliefs were a strong predictor of supporting leaving the EU and voting Leave. Specifically, when we included Brexit conspiracy theories, the link between political

orientation and Leave vote was found to be non-significant. This finding is important because we know from other research that right-wing political convictions predicted voting Leave (Golec de Zavala, et al., 2017). The current research suggests that Brexit-specific conspiracy beliefs may have played a greater role in predicting the Brexit vote than people's political orientation.

The current research also provides evidence that general conspiracy beliefs predict specific conspiracy beliefs—in this case, Brexit conspiracy beliefs—which were associated with the likelihood of supporting leaving the EU. Previous research has shown that that conspiracy beliefs are often correlated with each other (Goertzel, 1994); however, this is the first study to provide longitudinal evidence that a general tendency towards conspiracy beliefs predicts belief a specific conspiracy theory (Brexit), which can then translate into political decisions. Thus, whilst believing in the general idea that *others* are acting in secret for their own gain was not directly associated with the Leave vote, our findings showcase the indirect effect of endorsing more general beliefs in conspiracy theories.

Whilst the current research has noteworthy strengths, there are nevertheless some limitations. For example, whilst we recorded self-reported actual behavior (at Time 2), we are reliant on the participants being honest about their actual voting behaviour. The time course between data time points also does not allow us to explore how Brexit conspiracy beliefs contributed to growing support for Leave. Future research could explore how conspiracy beliefs emerge and develop over a full length of a campaign period. Moreover, the measure of Brexit conspiracy beliefs centered on conspiracy theories distributed by the Leave campaign and did not include non-conspiracy messaging. Our research therefore cannot highlight the unique contributions of conspiracy content and non-conspiracy content created by the Leave campaign to encourage people to vote Leave. Ideally, future research should

explore the role of conspiracy beliefs that are attractive to both sides of a political debate whilst disambiguating the effects of conspiracy and non-conspiracy messaging.

Future research could also explore the role of conspiracy theories in other political contexts. Whilst our data is based on a specific event (EU Referendum), future research could examine the impact of conspiracy theories on election campaigns more broadly. Correlational research has demonstrated that conspiracy beliefs can play a role in other political decisions. For example, Lamberty, et al. (2017) found that general conspiracy beliefs predicted voting for the more conservative party candidate (Trump) in the 2016 US election. It would be valuable to further explore how conspiracy theories influence other political decisions using experimental and longitudinal research designs.

In summary, our research builds on previous work by suggesting that conspiracy theories might influence political decisions. In the case of Brexit, this research demonstrated that conspiracy beliefs predicted the decision to vote Leave over and above political orientation. The chief novelty of the current research lies in its longitudinal design, allowing us to demonstrate that conspiracy beliefs precede political behaviours in a temporal sequence. Overall, this research provides important evidence that major political events can be shaped by conspiracy theorizing.

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Table 1

Means, reliability coefficients and Pearson product-moment correlations for key variables in the study (n = 334).

	M (SD)	α	1	2	3	4	5	6	7	8	9
(1) Brexit conspiracy theories $_{T}{}^{1}$	3.13 (1.58)	.91	-	.78***	.50***	.47***	.62***	.56***	.29***	.32***	.34***
(2) Brexit conspiracy theories $_{T2}$	2.80 (1.60)	.92		-	.46***	.53***	.62***	.61***	.34***	.30***	.32***
(3) General conspiracy beliefs $_{T}{}^{1}$	4.26 (1.67)	-			-	.62***	.32***	.25***	.010$^{¥}$	.07	.08
(4) General conspiracy beliefs $_{T2}$	4.14 (1.65)	-				-	.30**	.25***	.12*	.10$^{¥}$	.14*
(5) Support for leaving the EU $_{T}{}^{1}$	3.13 (2.27)	-					-	.84***	.50***	.35***	.39***
(6) Support for leaving the EU $_{T2}$	2.79 (2.31)	-						-	.61***	.36***	.42***
(7) Voting (self-reported) $_{T2}$	2.17 (0.53)	-							-	.26***	.45***
(8) Political orientation $_{T}{}^{1}$	4.34 (2.21)	-								-	.88***
(9) Political orientation $_{T}{}^{2}$	4.18 (2.19)	-									-

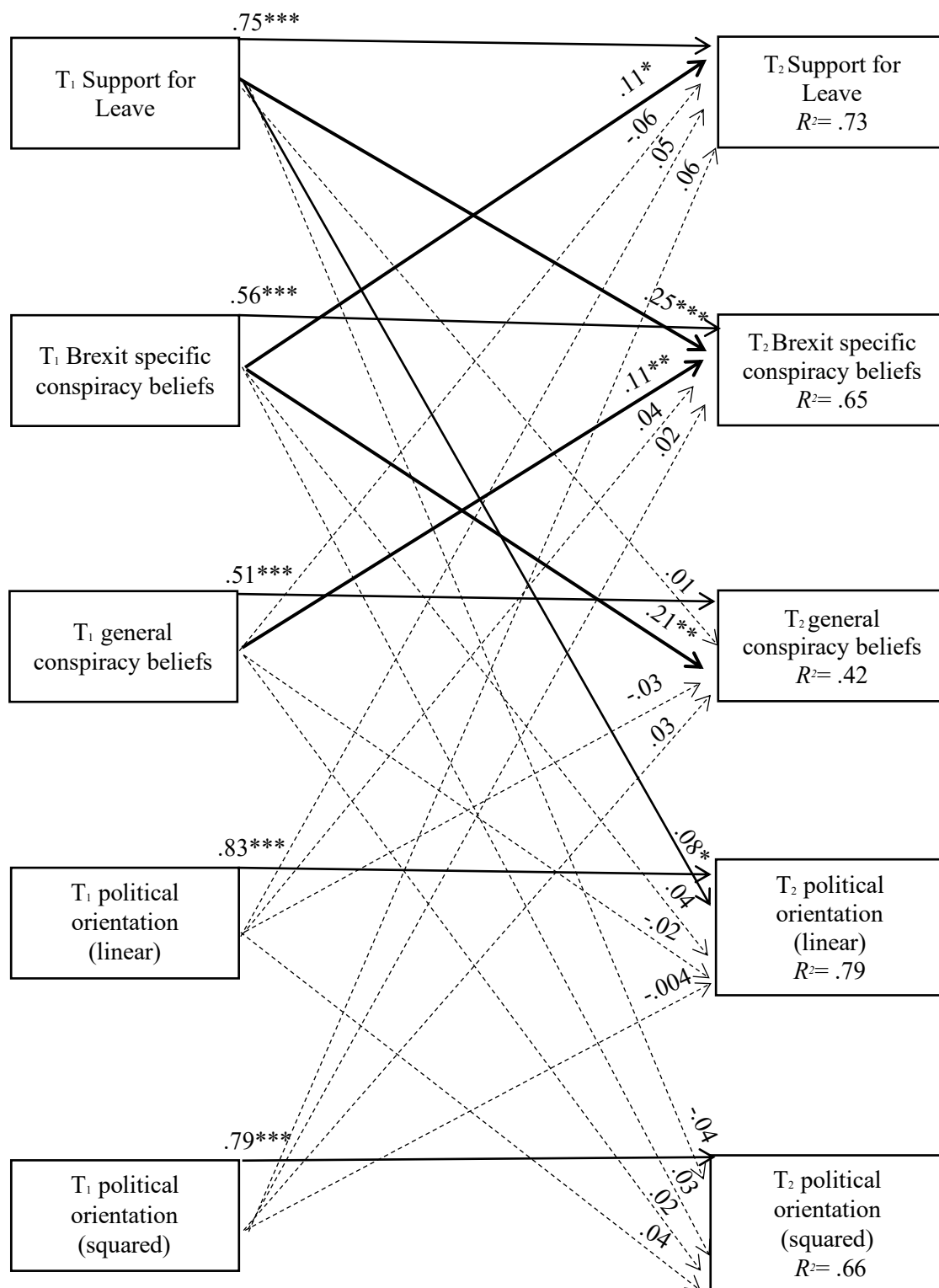$^{¥}p <. 10.$ *$p < .05.$ ** $p <.01.$ *** $p < .001.$

Figure 1. Cross-lagged relationships between conspiracy beliefs and support for leaving the EU (*n* = 334). Entries are standardized coefficients. Variables are manifest factors. Controls (age and gender), predictor covariance and residual covariances are not included in the figure for simplicity. Non-significant paths are represented with a dashed line.

Note. *p* < .05. ** *p* <.01. *** *p* < .001.

End notes.

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[i] Using a logistic regression model, we found that the variables used in the investigation at Time 1 (Brexit conspiracy belief, general conspiracy belief, support for Leave, and political orientation) did not predict attrition at Time 2.

[ii] We also included other measures that were part of a broader investigation and were not analysed as part of this study. Specifically, participants indicated their attitudes towards the European Union (EU), EU system justification, feelings of powerlessness, collective narcissism, UK identification, self-esteem, narcissism, trust, political hopelessness and alienation.