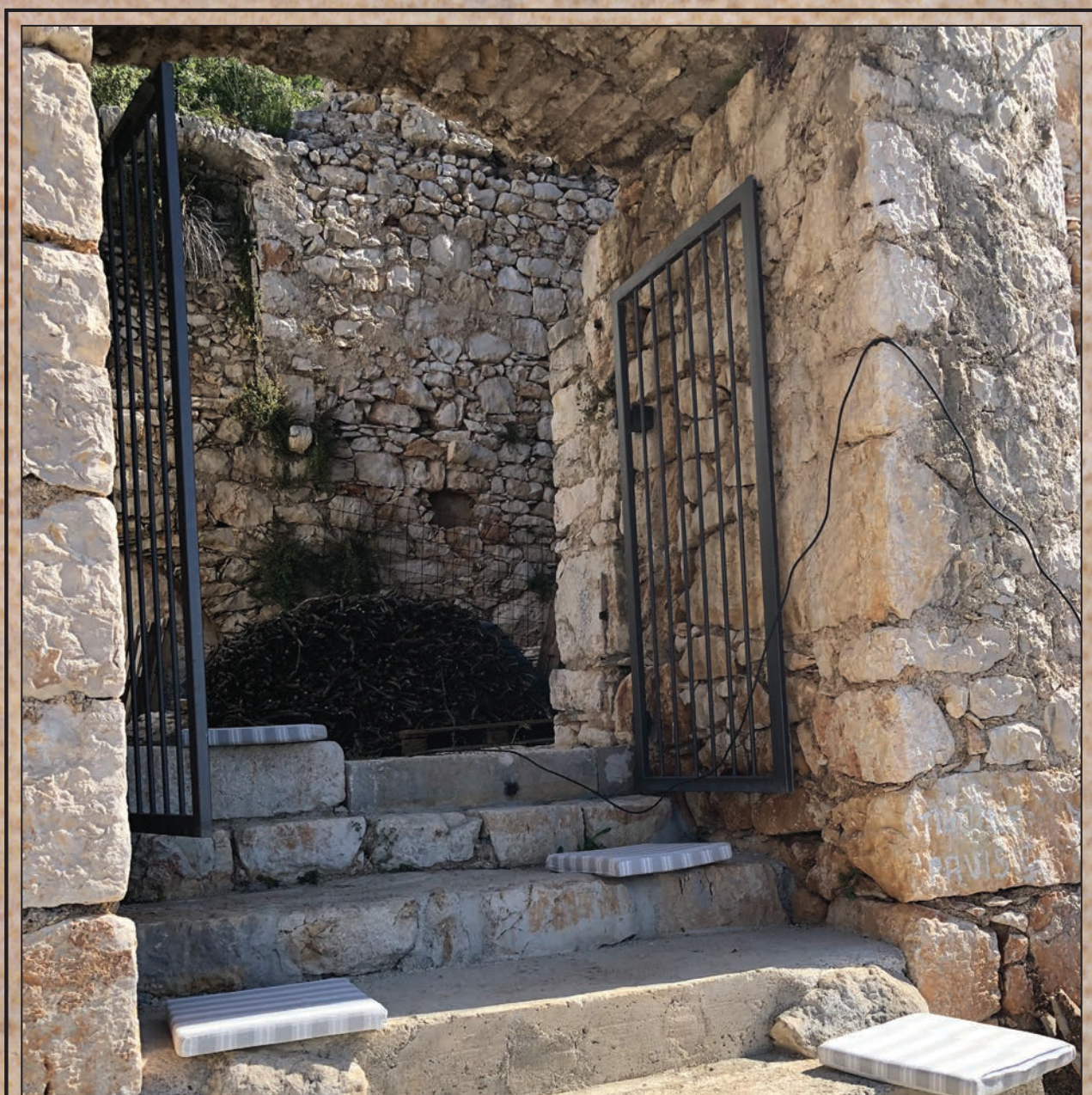


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EXPLORING THE DEMOGRAPHICS OF CONSPIRATORIAL BELIEFS ABOUT COVID-19 IN THE UNITED STATES AND EUROPEAN UNION: A CASE APPROACH

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ABSTRACT

This study examines conspiratorial beliefs associated with the coronavirus pandemic in the United States, the European Union, and Slovenia. Drawing on a case-based approach, this research seeks to understand the underlying factors that have led to the emergence of conspiratorial beliefs regarding the coronavirus and the COVID-19 disease. We analysed surveys from the US and the EU to investigate the support of the general population towards the selected statements and beliefs closely connected to prevailing conspiracy theories. We seek the answer to the question of which demographic and societal factors contribute the most towards people's beliefs about the origins of coronavirus.

Keywords: Covid-19, conspiracy theories, beliefs, United States, European Union, Slovenia

ESPLORARE I DATI DEMOGRAFICI DELLE CREDENZE COSPIRATORIE SUL COVID-19 NEGLI STATI UNITI E NELL'UNIONE EUROPEA: UN APPROCCIO A CASI SPECIFICI

SINTESI

Questo studio esamina le basi e l'impatto delle teorie del complotto sul coronavirus negli Stati Uniti, nell'Unione Europea e in Slovenia. Basandosi su un approccio basato sui casi, questa ricerca cerca di comprendere i fattori sottostanti che hanno portato all'emergere di convinzioni cospiratorie riguardo al coronavirus e alla malattia Covid-19. Stiamo analizzando sondaggi provenienti da Stati Uniti e UE per analizzare il sostegno della popolazione generale verso le affermazioni e le credenze selezionate strettamente legate alle teorie del complotto prevalenti. Stiamo cercando la risposta alla domanda su quali fattori demografici e sociali contribuiscono maggiormente alle convinzioni delle persone sull'origine del coronavirus.

Parole chiave: Covid-19, teorie cospiratorie, credenze, Stati Uniti, Unione Europea, Slovenia

INTRODUCTION¹

Conspiracy theories are attempts to explain events as the secret acts of powerful, malevolent forces (Swami & Coles, 2010, 560). For example, popular conspiracy theories allege that the US government orchestrated the 9/11 attacks and that the NASA moon landings were actually recorded in a Hollywood studio. Conspiracy theories often lack evidence and may be based on speculation or hearsay. Belief in conspiracy theories is widespread, with polls consistently indicating that more than 70% of Americans believe some form of conspiracy was responsible for President John F. Kennedy's death (Wood, Douglas & Sutton, 2012). Conspiracy theories may also result from *post hoc ergo propter hoc*, Latin for 'after this, therefore because of this'. It is a logical fallacy in which two events occur sequentially or simultaneously, leading to the misattribution to one event appearing to be the cause of the following event. Further, polls demonstrate that more than 20% of respondents endorse the idea that there is a link between childhood vaccines and autism (Public Policy Polling, 2013). Many other anti-vaccine conspiracy theories have emerged in recent years, with the COVID-19 pandemic giving them a major boost (Birchall & Knight, 2023). At the heart of the anti-vaccine conspiracy movement lays the argument that large pharmaceutical companies and governments are covering up information about vaccines to meet their own sinister objectives. According to the most popular theories, pharmaceutical companies stand to make such healthy profits from vaccines that they bribe researchers to fake their data, cover up evidence of the harmful side effects of vaccines, and inflate statistics on vaccine efficacy. Therefore, anti-vaccine conspiracy theories reflect suspicion and mistrust of scientific research examining vaccine efficacy and safety. Conspiracist ideation, in general, tends to be associated with a mistrust of science, such as the link between smoking and lung cancer.

Several conspiracy theories surrounding the novel coronavirus, commonly called COVID-19, stem from numerous sources and logical fallacies. The spread of the coronavirus has been accompanied by a massive spread of conspiracy theories (Bierwiazek, 2022, 1). One of the most pervasive conspiracy theories about the spread of COVID-19 is that it was deliberately released into the population by some nefarious group or organisation, most often the government of China. This theory is based on the idea that the virus was created in a lab, possibly as a bioweapon, and then accidentally or deliberately released into the public to cause mass chaos and destruction. The fact that the virus originated in the

Wuhan region of China has been used to attribute the discovery of the virus to nefarious actors in China, regardless of the severe lack of evidence. Bierwiazek, Gunderson, and Kunst's (2022, 3) study on the impact of conspiratorial claims regarding COVID-19 has had a significant and detrimental effect on public health simply due to the scale of the worldwide pandemic. Another common conspiracy theory is that the COVID-19 virus was deliberately spread by 5G networks. This theory claims that 5G radiation is powerful enough to weaken the immune system, allowing the virus to spread more quickly. While no scientific evidence supports this claim, the theory continues to circulate. Another popular conspiracy theory is that the virus was created as a way to control the population by imposing restrictions on travel and public gatherings. This theory suggests that the virus was created as a social engineering tool to keep people in their homes and limit their ability to interact with one another. However, a motive for such social engineering never materialises in this discourse. Finally, there is the theory that the virus is part of a vast conspiracy to increase the power and wealth of a select group of people. This theory gained significant popularity during the COVID-19 pandemic; it suggests that the virus was released to cause mass economic disruption, giving those in power an opportunity to amass even more wealth and power. How this global phenomenon leads to creating more wealth during global lockdowns seems to contradict this claim but does not halt its spread.

PSYCHOLOGY OF CONSPIRACY THEORIES

In the modern communication age, filtering through misinformation to arrive at a semblance of truth is a daunting task that requires us all to attempt to make it beyond the wall of conspiracy theories. If a phenomenon has made it to the nightly news, it is highly likely that there is a corresponding conspiracy theory. People seek causal explanations of events to construct a clear sense of their world (Douglas *et al.*, 2017, 538). They have an intrinsic need to make sense of the world because it helps them better understand their environment, make decisions, and form opinions. It is also essential for social interaction and relationships. People need to understand the world around them to interact with it, and constructing their worldview through these interactions gives them a framework for doing so. Douglas, Sutton and Cichocka (2017, 539) point out that explanations for events are important and help people feel safe and secure in their environment, providing a sense of control over that environment and themselves.

¹ This research was funded by the Slovenian Research and Innovation Agency (ARRS-NCN research grant N5-0222 and US-Slovenian bilateral grant BI-US/22-24-029).

Conspiracy theories provide a sense of control and autonomy because they provide an explanation for events that can otherwise appear chaotic and unpredictable. When people believe in a conspiracy theory, it gives them a sense of control over their lives because they can understand the world and why certain events occur (Wardawy-Dudziak, 2024, 53). This feeling of control and autonomy can be comforting for people who feel powerless in the face of events that are out of their control. Conspiracy theories may also help people feel like they are special because they provide a unique perspective and understanding of events that seem hidden from most people. Believing in a conspiracy theory can make people feel like they have access to knowledge and information that others do not, making them feel 'in the know'. According to van Prooijen and van Vugt (2018, 771), conspiracy theories have five critical ingredients: a) conspiracy theories assume events are causally linked; b) conspiracy theories ascribe intentionality; c) conspiracy theories always involve a group of actors working together; d) conspiracy theories always contain a threat of harm to achieve their goal; e) conspiracy theories always rely on secrecy to make them difficult to detect. Douglas and Sutton (2018) found that people who believe in one conspiracy theory are more likely to believe another (265). In their study of conspiratorial belief, Douglas and Sutton found that belief in conspiracy theories about the JFK assassination made someone more likely to believe conspiracies about Princess Dianna's death and the origins of the AIDS virus (Douglas & Sutton, 2018, 265).

This feeling of exclusivity can be empowering, as it provides a sense of importance and purpose. Some people adopt a belief in a particular conspiracy because it allows them to preserve their pre-existing beliefs in the face of uncertainty and contradiction (Douglas *et al.*, 2019, 7). Douglas and colleagues (2019, 6) have pointed out that a growing body of psychological research focuses on psychological factors that increase the likelihood that someone will believe a conspiracy theory. The data in these studies indicate that some people believe multiple conspiracy theories, while others believe none (Douglas *et al.*, 2019, 7). These conspiratorial beliefs help satisfy several psychological factors, for example:

1. Need for control: Individuals who believe in conspiracy theories may need control, believing that they are the only ones who have the knowledge to understand the hidden mechanisms of power in the world.
2. Cognitive biases: Confirmation bias, the tendency to interpret information so that it confirms one's own beliefs, can lead individuals to interpret certain facts as evidence of a conspiracy.
3. Social cues: People tend to take cues from their peers and the media regarding which conspiracies might be plausible.
4. Fear of the unknown: Uncertainty can lead individuals to latch onto conspiracy theories to make sense of the world.
5. Sense of powerlessness: People who feel powerless may be more likely to look for hidden forces to explain the events that shape their lives.

Conspiracy theories may be considered a form of political propaganda constructed around a particular policy belief (Cassam, 2023, 1). When a conspiracy grows to a certain size, it can gain salience with communities and specific political belief systems. The salience of conspiracy theories refers to the extent to which they capture people's attention and interest. Conspiracy theories are often used to explain events or situations that are claimed to be due to the involvement of secretive and malevolent groups or individuals working behind the scenes to achieve their goals in opposition to the interests of the wider public. According to Cassam (2023, 6), conspiracy theories typically involve some aspect of cognitive bias, though cognitive bias itself does not create a belief in conspiracy theories. As part of political belief systems, denial occurs on an ideological basis, according to Cassam (2023, 9), which may lend credibility to the assertion that conspiracy theories are a kind of propaganda. Conspiracists often make illogical leaps in logic as a means of suggesting one thing is evidence of another. The explanation of a conspiracy itself is generally self-sealing to insulate it from evidence (Cassam, 2023). Conspiracists often cherry-pick their sources for the evidence that supports their assertions and dismiss experts or contradictory evidence out of hand. Evidence to the contrary may also be utilised as a new aspect of the conspiracy, as the 'experts' who do not support the conspiracy theory and their evidence are all faked to perpetuate their malevolent agenda. Overall, conspiracy theories can be difficult to refute because they often rely on circular reasoning, selective evidence, and a rejection of established sources of information. It is important to engage with conspiracy theorists in a respectful and evidence-based way, but it is also important to recognise that some conspiracy theories may be impervious to evidence-based arguments since they may have been constructed to trigger an emotional, rather than a rational, response.

DATA AND RESEARCH METHODS

Research Design

To evaluate the types of demographic factors that are most likely to be connected to beliefs of conspiracy theories related to the origins of the coronavirus,

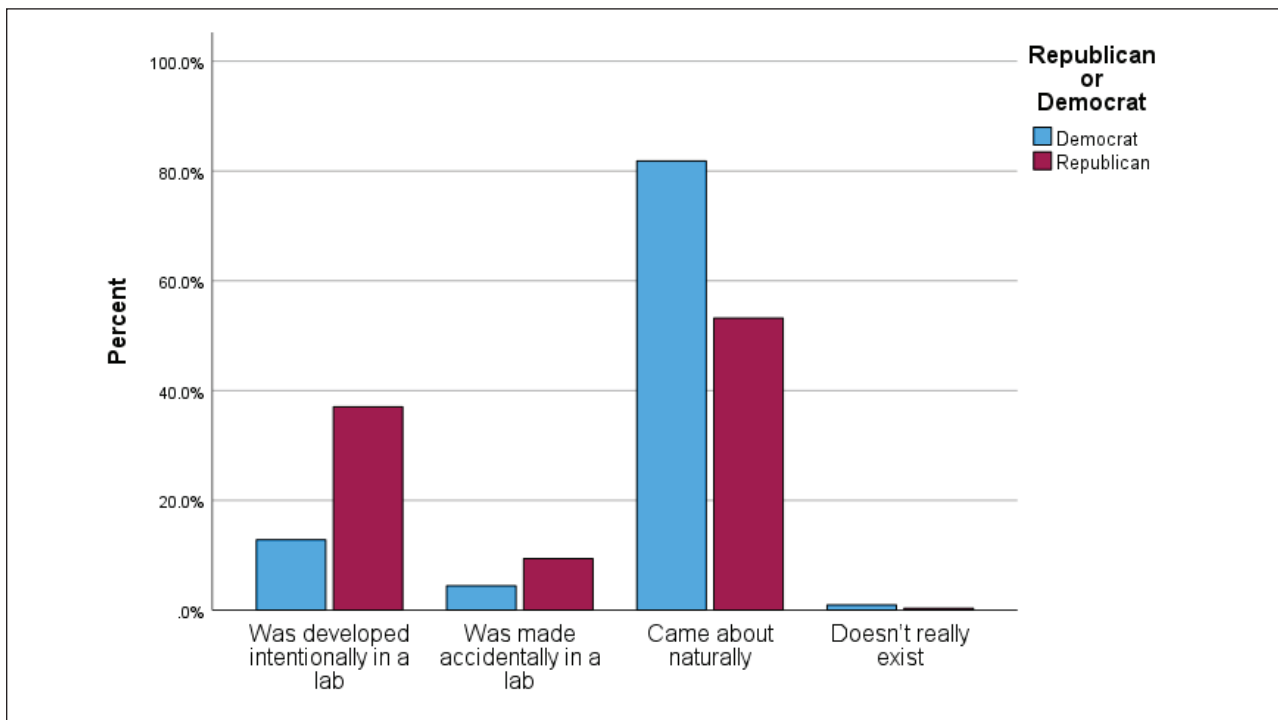


Chart 1: Crosstabulation of respondent beliefs regarding coronavirus creation vs. US political parties.

we are comparing both sides of the Atlantic, as we utilise the American Trends Panel (ATP) conducted by the Pew Research Center in the United States and the combination of European Social Survey (2023) and Special Eurobarometer 516 survey (European Commission, 2021) in the European Union. In the United States, we use Waves 63.5 and 68, asking respondents their opinion on the origins of coronavirus. In Wave 63.5, conducted from 10 to 16 March 2020, 8,914 respondents completed interviews. For Wave 68, 9,644 interviews were completed between 4 to 10 June. In the European Union, the European Social Survey, from June to August 2021, included 1,252 respondents from Slovenia who completed interviews on several statements, including three that are closely connected with conspiracy theories and the origin of the coronavirus. We also used Special Eurobarometer 516, conducted in September 2021, among 25,289 respondents from EU-27 countries who completed interviews on statements (among others) related to the origin of coronavirus. We are seeking the answer to the main research question on the demographic and societal factors that contribute the most towards people's beliefs of the origins of coronavirus, such as the potential production of the viruses in government-controlled laboratories. This study is limited to macro analysis of this phenomenon by use of national surveys, rather than a focused micro analysis of individual causes of conspiratorial beliefs.

United States Covid-19 conspiracy theory survey

The Pew Research Center's American Trends Panel dataset was used to examine the influence of demographic factors on believing conspiracy theories regarding Covid-19 in the United States. The ATP dataset consists of a nationwide survey on Covid conspiracy theories and was conducted during the pandemic, which makes the ATP ideal for the purposes of our project. The first dependent variable measures respondents' attitudes regarding beliefs about the origins of coronavirus, as reported in wave 63.5. The respondents were asked, 'From what you've seen or heard, do you think it is most likely the current strain of the coronavirus... 1. Was developed intentionally in a lab, 2. Was made accidentally in a lab, 3. Came about naturally, 4. Doesn't really exist' (Pew Research Center, 2020a). The largest category is 'Came about naturally', with 69.4% of respondents choosing this answer, followed by 23.4% answering 'Was developed intentionally in a lab', then 6.4% of respondents saying, 'Was made accidentally in a lab', and finally 0.8% indicating 'Doesn't really exist'.

The primary independent variable of interest for the analysis of the United States is party identification, namely whether the respondents considered themselves Republican or Democrat. The variable is coded as '0' for Democrat and '1' for Republican. Chart 1 below shows a crosstabulation between the first dependent

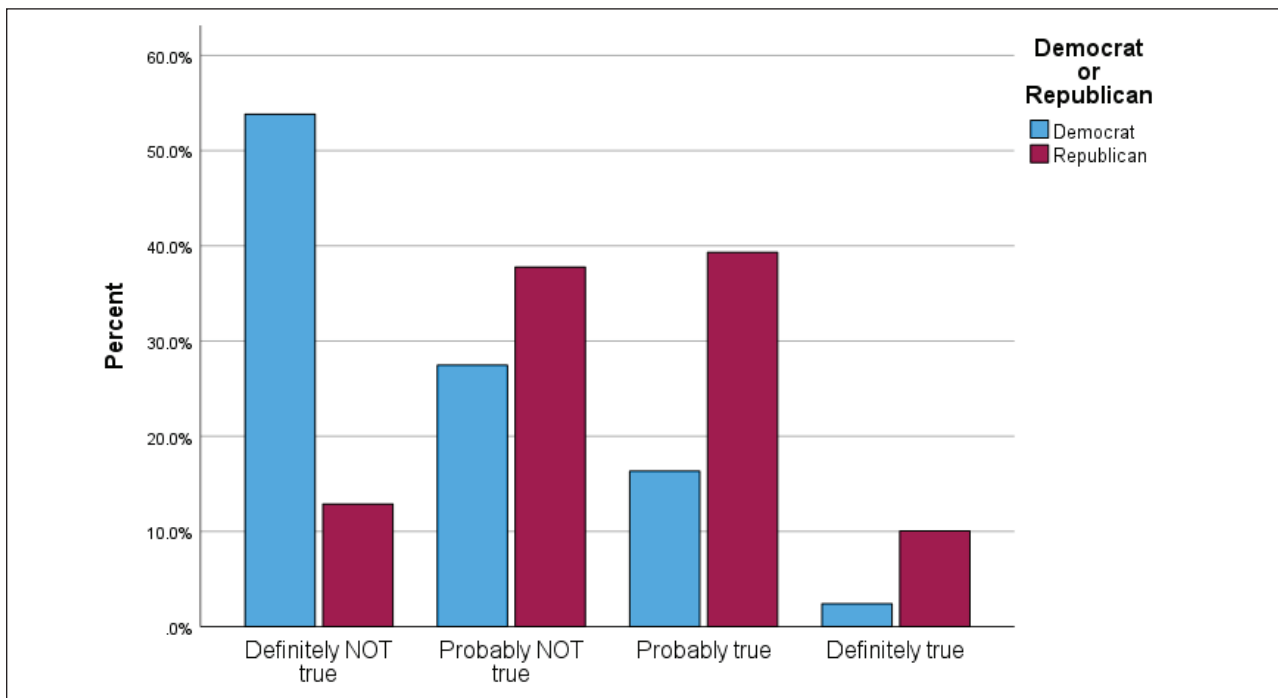


Chart 2: Crosstabulation of respondent beliefs regarding coronavirus being planned by powerful people vs. US political parties.

variable and the main independent variable, indicating that both parties had the highest frequency of answers in the ‘Came about naturally’ category. However, Republicans had higher numbers than Democrats in the ‘Was developed intentionally in a lab’ and ‘Was made accidentally in a lab’ categories, while Democrats had a higher frequency than Republicans in the ‘Doesn’t really exist’ category. Due to the categorical nature of the dependent variable, a multinomial logistic regression is used to test the hypothesis that there is a significant difference between the views of Republicans and Democrats regarding the origins of the coronavirus.

Other variables of interest include sex, education level, marital status, race, whether or not the respondent is Evangelical or ‘born again’, age category, and family income. The control variable of sex is coded as ‘0’ for male and ‘1’ for female. Education level is divided into three categories, with ‘0’ indicating high school education or less, ‘1’ for some college, and ‘2’ for college graduate or higher. Marital status is divided into not married, indicated by ‘0’, and ‘1’ for married. The race category is represented by a ‘1’ if the respondent was not white, while a ‘0’ indicates the respondent is white. If the respondent identified as an Evangelical or being ‘born again’, they are coded as ‘1’, while ‘0’ signifies that the respondent does not identify as an Evangelical. The age category variable is divided into six classifications: 1=18–24 years old, 2=25–34 years old, 3=35–44 years old, 4=45–54 years old, 5=55–64 years old, and

6=65+ years old. Finally, the family income variable is an ordinal variable with nine categories, ranging from less than \$10,000 to \$150,000 or more.

The second dependent variable comes from the 68th wave of the American Trends Panel, which asks, ‘From what you have seen or heard, do you think the theory that powerful people intentionally planned the coronavirus outbreak is... 1. Definitely NOT true, 2. Probably NOT true, 3. Probably true, 4. Definitely true’ (Pew Research Center, 2020b). The greatest share of respondents answered ‘Definitely NOT true’, at 36.7%, followed by ‘Probably NOT true’, with 32.1%, indicating the majority of respondents (68.8%) believe it was unlikely coronavirus was intentionally created by powerful people. The third largest category of respondents answered ‘Probably true’, at 25.5%, and finally, 5.6% of respondents answered ‘Definitely true.’ Although the second dependent variable is coded as an ordinal variable, the variable failed the test of parallel lines, and thus, a multinomial logistic regression is used when testing the hypothesis that US political party identity is a predictor of the likelihood that a respondent believes coronavirus was planned by powerful people.

As with the first dependent variable, the main independent variable of interest for the second model is US party identification, where ‘0’ indicates the respondent is a Democrat and ‘1’ is Republican. As Chart 2 demonstrates, Democrats had a higher share in the ‘Definitely NOT true’ and ‘Probably NOT true’

Table 1: Demographic factors and beliefs of coronavirus origins.

	Developed Intentionally in a Lab			Made Accidentally in a Lab			Doesn't Really Exist		
	Coef.	S.E.	Odds Ratio	Coef.	S.E.	Odds Ratio	Coef.	S.E.	Odds Ratio
Party	1.199***	0.115	3.317	1.007***	0.186	2.738	-0.594	0.530	0.552
Sex	0.087	0.100	1.091	-0.206	0.162	0.814	0.648	0.521	1.911
High School or Less	0.630***	0.146	1.878	0.312	0.235	1.366	0.643	0.603	1.902
Some College	0.546***	0.110	1.726	0.304	0.181	1.355	0.359	0.520	1.432
Marital Status	-0.024	0.113	0.976	-0.020	0.183	0.980	0.261	0.486	1.299
Race	0.790***	0.138	2.204	0.739***	0.216	2.094	0.294	0.503	1.342
Evangelical	0.364***	0.099	1.438	0.108	0.164	1.114	0.492	0.447	1.636
Age	-0.083	0.052	0.920	0.004	0.012	1.004	-0.487*	0.227	0.615
Income	-0.132***	0.026	0.876	-0.218***	0.041	0.804	-0.275*	0.109	0.760
Constant	-1.053***	0.256	-	-1.592***	0.313	-	-2.252*	0.998	-

n 2526

Pearson's χ^2 7369.102***

Nagelkerke's Pseudo .167

 R^2 * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

The reference category is: Came About Naturally.

categories, while Republicans had more answers in the 'Probably true' and 'Definitely true' categories. The control variables in the second model are the same as used in the first model and follow the same coding schemes with one exception: the race variable is coded as '0' if the respondent identified as not white, while a '1' indicates the respondent identified as white. When testing for multicollinearity between variables in both models, all variance inflation factors ranged between 1 and 1.5, suggesting low correlation.

For the first dependent variable, in which respondents indicate their beliefs regarding whether coronavirus was developed intentionally in a lab, made accidentally in a lab, came about naturally or does not really exist, we find significant differences between the beliefs of Republicans and Democrats, holding all else equal. As Table 1 demonstrates, the Republicans, compared to Democrats, have higher odds (3.317 times) of believing the coronavirus was developed intentionally in a lab compared to the reference category that coronavirus came about naturally. In other words, the odds increase that the respondent is a Republican by 231.7% as compared to a Democrat. Similarly, the odds are higher that a Republican will believe the coronavirus was made accidentally in a lab as compared to coming about naturally by 2.738 times higher as compared to a Democrat, or an increase of 173.8%. No significant

relationship was found between the respondents who do not think coronavirus really exists and the reference category that coronavirus came about naturally when comparing the party identity of Republicans and Democrats. However, as indicated in Figure 1, the sample size was quite low, with only 24 Democrats and 6 Republicans answering that they did not believe coronavirus really existed.

For the control variables in Table 1, lower levels of education were significantly related to whether the respondent believed the coronavirus was intentionally developed in a lab compared to coming about naturally. Likewise, lower income levels were also more likely than higher income levels to believe coronavirus was developed intentionally in a lab rather than coming about naturally. Finally, respondents who identified themselves as not white and as Evangelicals or 'born again' had a higher probability of believing coronavirus was developed intentionally in a lab instead of coming about naturally than their white and non-Evangelical counterparts. No significant result was found for the control variables of sex, marital status, and age.

Comparing the control variables for those who answered that coronavirus was made accidentally in a lab to the reference category that coronavirus came about naturally, race, and income were found to have statistically significant relationships, in which those

Table 2: Demographic factors and belief that powerful people created coronavirus.

	Probably NOT True			Probably True			Definitely True		
	Coef.	S.E.	Odds Ratio	Coef.	S.E.	Odds Ratio	Coef.	S.E.	Odds Ratio
Party	1.789***	0.137	5.981	2.376***	0.115	10.757	2.870***	0.264	17.630
Sex	0.270*	0.126	1.310	0.564***	0.138	1.757	0.437*	0.208	1.548
High School or Less	0.817***	0.232	2.264	1.481***	0.236	4.396	1.657***	0.312	5.243
Some College	0.351*	0.142	1.421	0.963***	0.150	2.619	0.859***	0.233	2.361
Marital Status	0.116	0.142	1.123	0.104	0.153	1.110	0.360	0.237	1.434
Race	-0.764***	0.175	0.466	-1.399***	0.183	0.247	-1.018***	0.306	0.361
Evangelical	0.117	0.134	1.124	0.294*	0.141	1.342	0.661**	0.207	1.936
Age	-0.171*	0.067	0.843	-0.307***	0.073	0.735	-0.204	0.112	0.815
Income	-0.132***	0.035	0.873	-0.272***	0.036	0.762	-0.311***	0.054	0.733
Constant	0.825*	0.391	-	1.184**	0.412	-	-1.247*	0.633	-

n 2202

Pearson's χ^2 3540.893***

Nagelkerke's .300

Pseudo R^2 * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

The reference category is: Definitely NOT True.

who responded they were not white or of a lower income level were more likely to think the coronavirus had been made accidentally in a lab. The results for the control variables sex, education, marital status, being Evangelical, and age were all found to be inconclusive. Finally, for the comparison of respondents who believe coronavirus does not really exist with those who think coronavirus came about naturally, age and income were the only statistically significant control variables, with those in younger age categories and of lower income status being more likely to believe that coronavirus does not really exist.

The second dependent variable tested for the US case is an ordinal variable that denotes if the respondent thinks coronavirus was created by powerful people, ranging from definitely not true to definitely true. As with the first dependent variable, the main explanatory variable of party identification is found to have a statistically significant relationship with the dependent variable across all categories. In this case, all else being equal, Republicans are significantly more likely than Democrats to believe that coronavirus was created by powerful people. In Table 2, respondents who are more likely to believe that powerful people created coronavirus have higher odds of being Republicans than Democrats compared to the reference category

that powerful people definitely did NOT create coronavirus. Notably, when comparing those who believe it is definitely true that powerful people created coronavirus to those who think it is definitely NOT true, the odds that the respondent is a Republican, compared to a Democrat, multiply by 17.630, or 1,663.0%.

Across categories of the dependent variable, those who identify as non-white and female are more likely to think powerful people created coronavirus than those who identify as white or male, as well as those of lower education and income levels. When a significant relationship is found with the Evangelical and age control variables, Evangelicals were more likely than non-Evangelicals, and those in younger age categories were more likely than older age categories to believe coronavirus was created by powerful people. The control variable for marital status had results that were inconclusive with the dependent variable.

European Covid-19 Conspiracy Theory Surveys

As Birchall and Knight (2023) note in their work dedicated exclusively to coronavirus conspiracy theories, immediately after the first news about the emergence of a new infectious virus in China, various speculations about the actual origin of the virus emerged on various

Table 3: Belief that viruses have been produced in government laboratories to control people's freedom (in %) (Source: Special Eurobarometer 516 (European Commission, 2021)).

COUNTRY	TRUE	FALSE	DON'T KNOW
Austria	23	64	12
Belgium	10	74	16
Bulgaria	52	19	29
Croatia	50	28	22
Cyprus	52	26	22
Czech Republic	14	66	20
Denmark	6	83	11
Estonia	21	52	27
Finland	10	69	21
France	30	54	16
Germany	14	70	16
Greece	44	31	25
Hungary	43	43	14
Ireland	10	73	17
Italy	34	52	14
Latvia	28	41	31
Lithuania	31	40	29
Luxemburg	13	66	21
Malta	36	35	29
Nederland	7	84	9
Poland	40	41	19
Portugal	19	50	31
Romania	53	31	16
Slovakia	37	44	19
Slovenia	47	36	17
Spain	36	42	22
Sweden	7	75	18
EU-27	28	55	17
Monte Negro	71	22	7
North Macedonia	60	24	16
Albania	53	24	23
Kosovo	53	18	29
Bosnia Herzegovina	52	30	18
Serbia	51	31	18
Turkey	51	22	27
United Kingdom	12	69	19
Iceland	11	66	23
Switzerland	9	74	17
Norway	8	75	17

social networks. Given previous findings on the patterns of virus emergence and the situational factors that lead people to look for alternative explanations, the emergence of conspiracy theories in similar situations is by no means a new phenomenon (Douglas, 2021).

Table 3 refers to the Special Eurobarometer 516 (European Commission, 2021) survey that was conducted in September 2021, including more than 25,000 respondents in all European Union member states and ten other non-EU member countries. Question 20.11 is particularly interesting for our research, as it asked the respondents whether it was true or false that viruses had been produced in government laboratories to control their freedom. There are six EU Member States where at least seven in ten respondents correctly say that it is false that viruses are produced in government laboratories to control people's freedom: the Netherlands (84%), Denmark (83%), Sweden (75%), Belgium (74%), Ireland (73%) and Germany (70%). By contrast, less than three in ten respondents in Bulgaria (19%), Cyprus (26%), and Croatia (28%) correctly say this statement is false. This compares with the EU average of 55%. The countries with the highest proportions of respondents unable to answer are Latvia and Portugal (both 31%), Bulgaria, Malta and Lithuania (29% in each), and Estonia (27%), compared with the EU average of 17%. Among the non-EU countries surveyed, at least seven in ten respondents correctly said that it is false that viruses were produced in government laboratories to control people's freedom in Norway (75%) and Switzerland (74%). By contrast, less than three in ten respondents correctly say that this is false in Kosovo (18%), Turkey and Montenegro (both 22%) and North Macedonia and Albania (both 24%). Again, Kosovo has a high proportion of respondents (29%) who are unable to answer. We can clearly observe the divide between the western and northern European countries (e.g., Belgium, Norway, the Netherlands, and Denmark), where shares of false votes are consistently near or above 70 per cent and southern, central and eastern European countries (e.g., Slovenia, Bulgaria, Greece, Montenegro and Croatia), where shares of false votes are consistently (well) below 40 per cent. There are also notable exceptions to this rule, for instance, the Czech Republic or Estonia, which are much closer to the former group than the latter.

Unukič, Turjak, and Rašič (2023, 58) also analysed Special Eurobarometer 516 (European Commission, 2021), specifically question 20.11. Their analysis confirmed that EU citizens differ in the opinion that viruses were made in government laboratories to maintain our freedom. At the significance level of 5%, they rejected the hypothesis that EU citizens have an equal opinion that viruses have been produced in government laboratories to control their freedom. The next step in our research is to identify the demographic and societal factors influencing the respondents' conspirative

Table 4: General population opinions on selected conspiracy theories in Slovenia (Source: European Social Survey, 2023).

STATEMENTS	Definitely not true (1)	Probably not true (2)	Not sure; cannot decide (3)	Probably true (4)	Definitely true (5)	Mean value (1-5)
1) Coronavirus is the result of the deliberate and covert action of one of the governments or organisations	128 (11.0%)	278 (23.9%)	353 (30.3%)	279 (23.9%)	127 (10.9%)	3.00
2) A small hidden group of people is responsible for making all the major decisions in world politics.	59 (4.9%)	260 (21.8%)	281 (23.6%)	431 (36.2%)	161 (13.5%)	3.31
3) Groups of scientists manipulate, falsify, or conceal data to mislead the public	89 (7.5%)	305 (25.6%)	336 (28.2%)	377 (31.6%)	86 (7.2%)	3.14

n= 1252.

beliefs in the above-mentioned survey. We have used Pearson correlation analysis and tested age, gender, religion, education, marital status and left-right political placement as possible factors influencing conspirative beliefs in survey respondents. We used aggregated data for all 27 EU member states. There is not enough evidence that gender, marital status, and age influence the respondent's beliefs that viruses have been produced in government laboratories to control their freedom. Further, we found evidence that religion, education, and left-right political placement have a very mild influence on the respondent's beliefs that viruses have been produced in government laboratories to control their freedom. In left-right political placement,² the largest group to believe that viruses have been produced in government laboratories to control their freedom are respondents refusing to place themselves on the left-right political scale (39.8%), followed by centre-oriented (30%), right-wing oriented (27.8%) and left-wing oriented (24.2%) respondents. We can see differences, especially among respondents who declared their political orientation, are mild at best. The biggest (but still only moderate) differences were spotted using religion as the factor that should best explain differences in conspirative beliefs in survey respondents; we can conclude that respondents following certain religions are more likely to believe that viruses have been produced in government laboratories to control their freedom compared to atheists and non-believers (32.9% compared to 17.4%). Interestingly, there are quite important differences among different religions in the EU in terms of their support of the claim that viruses have been produced in government laboratories to

control their freedom; the smallest support comes from protestants (12.7%), and the largest support comes from orthodox Christians (48.2%).

Slovenian Covid-19 Conspiracy Theory Surveys

Table 4 refers to the European Social Survey data collected in 2020 and 2021 and includes three interesting questions closely related to the typical conspiracy theory claims. We analysed data for Slovenia on a sample of 1252 completed in-person interviews that evaluated their opinions towards three statements on the scale from one (definitely not true) to five (definitely true). This survey complements Special Eurobarometer 516 findings that we analysed above, as the first statement ('Coronavirus is the result of the deliberate and covert action of one of the governments or organisations') splits the general population into two opposing camps; namely, almost exactly equal shares of population believe (34.8%) or do not believe (34.9%) that coronavirus is the result of the deliberate and covert action of one of the government or organisations. The second statement refers to one of the most recognised and popular conspiracy theories, which claims that a small covert group of people is responsible for making all the major decisions in global politics. The levels of support (49.7%) towards this conspirative statement are much stronger than the opposition (26.7%). The last statement indirectly connects to the anti-vax movement and conspiracy theories, as it claims that scientists manipulate, falsify, or conceal data to mislead the public; we can again ascertain that support (38.8%) towards this statement is stronger than the opposition (33.1%).

² Respondents were asked to place themselves on the left-right political scale from 1 (left) to 10 (right). We grouped all respondents which assigned themselves values from 1 to 4 as left-wing oriented, respondents with assigned values from 5 to 6 as centre-oriented and respondents with assigned values from 7 to 10 as right-wing oriented.

We have also tested demographic and societal factors that are (possibly) influencing conspirative beliefs in respondents to the Special Eurobarometer 516 (European Commission, 2021) survey, using data only from 1,023 respondents from Slovenia. We have tested a number of the independent variables, such as age, gender, religion, education, marital status, and left-right political placement, as possible factors influencing conspirative beliefs in survey respondents. There is not enough evidence that gender, marital status, and age influence the respondent's beliefs that viruses have been produced in government laboratories to control their freedom. Further, we can confirm that religion, education, and left-right political placement have a (moderate) influence on the respondent's beliefs that viruses have been produced in government laboratories to control their freedom. When analysing religion, we can conclude that respondents following certain religions are more likely to believe that viruses have been produced in government laboratories to control their freedom compared to atheists and non-believers (52.4% compared to 33.7%). Analysing education, we found evidence that respondents who have obtained higher levels of education (university degree and more; 35.7%) are less likely to believe that viruses have been produced in government laboratories to control their freedom compared to persons with lower obtained levels of education (less than university degree; 53.1%). In left-right political placement, the largest group to believe that viruses have been produced in government laboratories to control their freedom are respondents refusing to place themselves on the left-right political scale (59.5%), followed by centre-oriented (49.4%), right-wing oriented (45.2%) and left-wing oriented (35.4%) respondents.

CONCLUSIONS

It is not surprising that the coronavirus pandemic has given rise to numerous conspiracy theories in the age of the internet and the widespread use of social media, as well as the simultaneous presence of populist politics and public mistrust towards major political institutions. Conspiracy theories have become an important part of public discourse worldwide, including in the United States and the European Union. Furthermore, the outbreak of the coronavirus pandemic has led to increased scientific interest in conspiracy theories (Šteger, 2024, 83).

The main aim of this article was to provide an overview of demographic and societal factors that are contributing towards people's beliefs of the coronavirus origins; for this purpose, we have analysed and compared three big data surveys, namely American Trends Panel (ATP) conducted by the Pew Research Center in the United States, and European Social Survey and Special Eurobarometer 516 surveys from European Union.

The analysis of the ATP survey from the United States found that lower levels of education were significantly related to whether the respondent believed coronavirus was intentionally developed in a lab compared to coming about naturally. Likewise, lower income levels were more likely than higher income levels to believe coronavirus was developed intentionally in a lab rather than naturally occurring. Finally, respondents who identified themselves as not white and as Evangelicals or 'born again' had a higher probability of believing coronavirus was developed intentionally in a lab. We could also confirm that Republicans are significantly more likely than Democrats to believe that coronavirus was created by powerful people. Also, females in younger age categories are more likely to think powerful people created coronavirus than males and those in older age categories.

In the European Union, citizens do not have an equal opinion that viruses have been produced in government laboratories to control their own freedom, as there are major differences between EU member states with a stark divide between the western and northern European countries on anti-conspiracy side and southern, central and eastern European countries on a side more inclined towards conspiracy theories. We could also confirm that religion, education, and left-right political placement have a (very) mild influence on the respondents' inclination towards conspiracy theories. To gain additional insight into the EU findings, we also analysed both EU surveys including only respondents from Slovenia, and found out that religion, education, and left-right political placement have a moderate influence on the respondent's beliefs that viruses have been produced in government laboratories to control their freedom, but it is clear that Slovenian general population is (much) more inclined towards supporting conspiracy beliefs compared to EU averages.

RAZISKOVANJE DEMOGRAFIJE ZAROTNIŠKIH PREPRIČANJ O COVID-19 V ZDRUŽENIH DRŽAVAH AMERIKE IN EVROPSKI UNIJI: ŠTUDIJA PRIMEROV

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POVZETEK

Članek analizira vpliv teorij zarot o koronavirusu v Združenih državah Amerike, Evropski uniji in v Sloveniji. Na podlagi pristopa, ki temelji na študijah primerov, si raziskava prizadeva razumeti osnovne dejavnike, ki so privedli do nastanka zarotniških prepričanj glede koronavirusa in posledične bolezni Covid-19. V članku analiziramo raziskavo American Trends Panel, ki so jo izvedli Pew Research Center (Združene države Amerike), European Social Survey (Evropska unija) in Special Eurobarometer 516 (Evropska unija), da bi analizirali podporo prebivalstva izbranim izjavam in prepričanjem, tesno povezanim s prevladujočimi teorijami zarote. Pri tem odgovor na raziskovalno vprašanje, kateri demografski in družbeni dejavniki prispevajo k prepričanju ljudi o izvoru koronavirusa, kot je morebitna proizvodnja virusa v laboratorijih pod nadzorom oblasti. Ugotavljamo, da obstajajo določeni demografski in družbeni dejavniki, ki vsekakor prispevajo k prepričanju ljudi o izvoru koronavirusa, predvsem so to versko prepričanje, stopnja izobrazbe in levo-desna politična umestitev, vendar je njihov vpliv močnejši v Združenih državah ter nekaterih južnih, vzhodnih in osrednjih evropskih državah (npr. v Sloveniji) v primerjavi z zahodno in severno Evropo. Slovenski anketiranci kažejo zmeren vpliv teh dejavnikov in so opazno bolj nagnjeni k zarotniškemu prepričanju kot povprečje EU. Članek zaključimo z ugotovitvami o desničarskih političnih ideologijah, ki prispevajo k verovanju v teorije zarot o pandemiji, in uporabi družbenih medijev kot mehanizma za širjenje teorij zarot o koronavirusu.

Ključne besede: Covid-19, teorije zarote, prepričanja, ZDA, Evropska unija, Slovenija

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