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Believing in Conspiracy Theories: Evidence from an Exploratory Analysis of Italian Survey Data

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## Believing in Conspiracy Theories: Evidence from an Exploratory Analysis of Italian Survey Data

Moreno Mancosu, Salvatore Vassallo  and Cristiano Venzoni

### ABSTRACT

Beliefs in conspiracy theories have attracted significant international media attention in recent years. This phenomenon has been studied in the US but while anecdotal evidence suggests it is also widespread among the Italian public, little evidence has been collected to assess it empirically. Using data from a 2016 survey, this pioneering study of the Italian **situation** investigates the extent of diffusion of conspiracy theories among Italians and tests several hypotheses concerning individual determinants. The paper finds that conspiracism is indeed widely diffused in Italy. It is negatively associated with education and positively with religiosity, while no correlation is found with political trust. Beliefs in conspiracies are also related to rightwing orientation and support for the populist Five Star Movement.

### KEYWORDS

Conspiracy theories; public opinion; partisanship; Five Star Movement

During the last few years, attention to conspiracy theories and their supporters has increased in the Western public debate, both among pundits and scholars. Connected to this, a stream of reflection on a 'post-truth' era has unfolded, in connection with the allegedly significant influence of fake news – false and inaccurate information – on major democratic events like the Brexit referendum in the UK or the 2016 American election. It is not by chance that the topic has been addressed in the most prestigious scientific journals, such as *Nature*, which has published proposals to enhance knowledge about the phenomenon (Kucharski 2016) and appeals to scientists to correct misinformation (Williamson 2016).

Conspiracy theories are often considered a pathology (Fenster 1999) since they **appear** as true unproved conjectures, repeatedly rejected by the scientific community (Harambam & Aupers 2015). These theories ascribe to particular agents (usually defined as conspirators) an extraordinary capacity to influence personal and collective decisions, to forecast the consequences of their actions, to **maintain** secrecy about their strategies, and to coordinate themselves in a way that goes well beyond what is realistic in an open society (Sunstein & Vermeule 2009; Sunstein 2014). They tend to assume that complex social phenomena are intentionally orchestrated by hyper-rational and omnipotent collective actors, instead of considering the more plausible option that these results, in case they are real, are unintended consequences of a multitude of decisions made by short-sighted, bounded rational individual actors guided by conflicting purposes (Popper 2012; Pigden 1995).

Beliefs in such theories, together with the development of anti-scientific attitudes, seems to be common among the general public, especially among political extremists and less

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educated people (Darwin, Neave, & Holmes 2011; Wood, Douglas, & Sutton 2012; Swami et al. 2014; Oliver & Wood 2014; Uscinski, Klofstad, & Atkinson 2016; van Prooijen 2017). Nonetheless, the effects of the diffusion of such beliefs are disputed. On the one hand, the corollary of conspiracy theories, made up of suspicious attitudes toward the political and scientific establishment, can endanger democracy, undermining trust in institutions and public authorities. On the other hand, the same attitudes can work as a control mechanism, which is instrumental in preserving democratic institutions, as far as these attitudes keep the public vigilant and the élites under scrutiny. After all, this latter approach is historically justified by the existence of real conspiracies (Olmsted 2009), including attempts made by public or private government-driven agencies to diffuse false conspiracy theories to cover real 'state crimes' (DeHaven-Smith 2013) or legitimise state policies (Yablokov 2015).

Conspiracism is in fact not new at all, notwithstanding that curiosity about it among social scientists has grown significantly only during the last decade. In Karl Popper's terms, the most influential **nineteenth century** ideological narratives – Marxism and Nazism – were based on or incorporated a 'conspiracy theory of society' (Popper 2012). More recently, in a study based on the content of letters to the editors of the *New York Times* and the *Chicago Tribune* from 1890 to 2010, Uscinski and Patent (2014) have empirically shown that conspiracy **debate** in the US did not intensify during the last decades. During the post-war period, their diffusion in fact reached a major peak in the 1950s, at the time of the Cold War and McCarthyism, and **then** other minor peaks after the 1960s, mostly referring to John Fitzgerald Kennedy's assassination. A similar message stems from studies in the history of culture. According to Butter (2014), for a long time, conspiracy theories had been considered 'a legitimate form of knowledge' and conveyed to the public by prominent political, religious, and intellectual figures as a tool to forge communities and frame social conflicts. In Butter's account, the US as a nation 'was founded largely because of a persuasive conspiracy theory'. The political incorrectness of such a kind of public discourse was stigmatised (in Western countries) only starting **in** the 1960s. At that time, there became apparent a swing from theories inclined to see the government as the target of conspiracies orchestrated by domestic minorities or foreign powers to theories that see domestic rulers and other mainstream elites as conspirators themselves (Butter 2014; Butter & Reinkowski 2014). According to Fenster, the elaboration and diffusion of conspiracy theories **is** a recurrent 'interpretative and narrative practice in popular politics' that is 'sufficiently attractive, satisfying, and related to everyday political and cultural life [...] to sustain engagement'. 'It is longstanding in [...] human history, and while it operates distinctly in different cultures and historical periods, some of its basic forms remain consistent' (Fenster 1999, pp.17–19).

So, if this phenomenon is not a novelty, what is actually **generating** the growing curiosity on the matter? We see two main reasons. The first is what can be called the possible 'post-modern resurgence of pre-modern attitudes'. In open societies governed by a stabilised democracy, secured by multiple checks and balance mechanisms, and served by multiple sources of information, conspiracy should be harder to achieve. And among a highly educated audience, served by established and pluralistic **academic**, conspiracy theories – especially if based on unproven pseudo-scientific assumptions – should be much harder to promote. It should surely be more difficult than, for instance, at the time of the Great Plague of Milan (1629–1631), as famously portrayed by the Italian writer Alessandro Manzoni in 1827. The plague, unintentionally **introduced** by **passing** German troops (*Lanzichenecchi*) and spread by religious processions convened with the aim of eradicating it, was attributed,

in the popular belief, to a small group of conspirators (*untori*) supposedly paid by the Devil or by influential political figures to propagate the pestilence (Naphy 2002).

The reason why we look at conspiracism with renewed curiosity could thus be the sudden discovery of its resilience in our societies. In fact, it seems that a hyper-connected social environment in which all sorts of knowledge and information becomes accessible, with a growing level of cognitive and educational standards, instead of spreading an enlightened view on reality and reducing the appeal of unprovable conjectures, has on the contrary pandered to – if not fostered – the predispositions to elaborate and disseminate self-made truths (Nichols 2017). In fact, ‘post-truth’ was the word of the year in 2016, when the circulation of the word increased by approximately 2000 per cent over its usage in 2015 (Oxford Dictionaries 2017).

The second main reason that justifies the current interest of the academic community in the matter is the perception – to be investigated – that subjective conspiracist predispositions, presumably easy to solicit through new media, are increasingly exploited by populist leaders to mobilise latent anti-establishment biases and boost their own support. This hypothesis matches the general statement according to which individual predispositions towards conspiracism are prone to be triggered in conditions of power differentials, exclusion from political authority, and perception of threats, when conspiracies can be plausibly attributed to political antagonists (Uscinski & Parent 2014; Oliver & Wood 2014; Uscinski, Klofstad, & Atkinson 2016).

While the issue has been extensively examined by psychologists and political academics in the US, few studies have been conducted in European societies and none concerning Italy. Our aim is to bridge the gap, by ‘establishing the facts’ (Merton 1987) concerning conspiracy theories beliefs in Italy. The paper, thus, limits its inquiry to a quantitative assessment of the prevalence of the phenomenon. It does not aspire either to investigate individual cognitive mechanisms that encourage the development of such beliefs, or to analyse the contextual conditions that influence the spread or consolidation of conspiracy theories. Some working hypotheses are proposed in the last section of this article, but more focused research is necessary to address these issues.

As a first move in our research agenda, we want to capture the general prevalence of conspiracy theories within Italian public opinion and the underlying predispositions that drive conspiracism. So, we deliberately confine our analysis to theories not directly connected with power games and political struggles in the domestic arena. In this paper, we present the results from a survey collected as a national sample, to measure how extensive beliefs in conspiracy theories are found in the Italian population and what kind of citizens are particularly attracted by them. First, we provide descriptive statistics on several items, aimed at measuring the level of belief in conspiracy theories. Second, we assess the internal consistency of our conspiracism measure and we propose a synthetic scale that measures the propensity of an individual to believe in conspiracies. Finally, we test the impact of the main determinants indicated in the literature that are expected to affect individual levels of conspiracism (i.e. educational attainment, trust, religiosity, and partisanship).

### Conspiracy Theories in Italy

In contemporary Italy, the reach of conspiracy theories in public opinion can be illustrated by referring to several anecdotal examples, signalling the impact of such beliefs in overall

society. In the last few years, between 2012 and 2016, Italian judicial courts have sentenced in favour of parents whose children were diagnosed with autism after being vaccinated, suing the National Ministry of Health and explicitly relying on the conspiracy theory that links autism and MMR vaccines (Paravicini 2016). In 2012, seven geologists were sentenced to six years imprisonment for not having predicted the earthquake in 2009 that killed 309 people in L'Aquila, although there is no standard scientific method to forecast earthquakes (Cartlidge 2016). In 2013, after enormous pressure from the media and public opinion (even including public demonstrations), the Italian government was forced to violate the protocol on drugs testing by beginning trials on human beings of a controversial new method (Davide Vannoni's Stamina therapy), which lacked all experimental requirements to start such validation. Supporters of the Stamina therapy repeatedly claimed that big pharmaceutical firms purposely obstructed the alleged cure because they feared the alternative method could restrict their profits.

Although we could consider these episodes as ‘slips’ that are, to some extent, natural in a modern society the diffusion of these types of theories within public opinion can have major consequences concerning, for instance, public health. To combat the reduction of vaccine coverage, several Italian regions and local governments forbade nursery school access to children who had not completed a specific list of requested vaccinations (Capelli 2017; Carra & De Giorgio 2017). At the same time, the Italian Ministry of Health reported an outbreak of measles with a steady increase of cases in 2017 (Italian Ministry of Health 2017; *New York Times* 2017).

### Determinants of Conspiracism: A Set of Hypotheses

Drawing upon the definition of Uscinski and colleagues (2016, pp. 2), we can define a conspiracy theory as ‘a proposed explanation of events that cites as a primary causal factor a small group of persons (the conspirators) acting in secret for their benefit, against the common good’. As we pointed out above, a relevant amount of scientific literature indicates that beliefs in conspiracy theories and other anti-scientific attitudes are widely diffused in public opinion (Darwin, Neave & Holmes 2011; Oliver & Wood 2014; Swami et al. 2014; Wood, Douglas & Sutton 2012; Berinsky 2015; Uscinski, Klofstad & Atkinson 2016).

Especially during the last few years, a growing number of studies started to investigate the topic by exploring conspiracy theories’ supporters and their characteristics. Broadly speaking, it is possible to identify two main branches in this literature. On the one hand, a stream of research has investigated the relationship between several psychological traits and the likelihood of believing in conspiracy theories. These studies usually see conspiracism as a symptom of an underlying psychological disorder. Results of these works show that a number of psychological constructs such as low levels of self-esteem (Abalakina-Paap et al. 1999), negative attitudes towards authority (Swami, Chamorro-Premuzic, & Furnham 2010; Uscinski, Klofstad & Atkinson 2016), paranoid ideation and schizotypy (a prodromal phase of schizophrenia) (Darwin, Neave & Holmes 2011) are connected with beliefs in conspiracies.

On the other hand, a second branch of this literature argues that the mere relationship between conspiracism and psychological conditions (or, at least, their prodromal phases) is insufficient to understand the phenomenon. This branch of the literature aims at connecting conspiracism with socio-political, value-related, or religious attitudes (Darwin, Neave & Holmes 2011; Oliver & Wood 2014). Several studies, for instance, have stressed the negative

relationship between elements like scientific knowledge, rational thinking, and beliefs in conspiracy theories. These studies show that individuals who are more used to rational thinking will tend to be more attentive to the logical consequentiality of conspiracy theories. Consequently, they will be more likely to adopt a scientifically sceptical attitude, making them less susceptible to arguments that present logical fallacies (Wood, Douglas & Sutton 2012; Swami et al. 2014; Berinsky 2015). If we assume that education is a tool to train citizens to employ efficiently rational thinking and the capacity to store and rationally process information, we can expect that higher educational levels will lead to lower susceptibility to conspiracist accounts. If we define conspiracism as the attitude to consider conspiracy theories as plausible, the first straightforward hypothesis that tests the above-mentioned relation reads as follows:

**Hypothesis 1.** The higher the educational level, the lower the degree of conspiracism.

Another aspect that has been investigated in previous studies is the relationship between supernatural or religious beliefs and conspiracism. According to Oliver and Wood (2014), conspiracism is based on the propensity to attribute the source of unexplained facts to unseen forces that secretly shape people's lives. Several studies suggest that this predisposition is originated by a cognitive bias that leads people to search for causal relationships between actually unrelated facts. This bias is hypothesised to have an adaptive origin, leaning on a cognitive mechanism that allows people to feel control in uncertain situations (Guthrie 2001; Oliver & Wood 2014). Magic or religious accounts are one of the possible ways to increase feelings of control in uncertain conditions, as well as the attribution of responsibility to hidden actors who manipulate reality for their own profit. This analogy might lead us to expect a relationship between conspiracism and supernatural or religious beliefs. Various studies (Oliver & Wood 2014; Darwin, Neave & Holmes 2011) have shown that believing in invisible entities like Heaven, Hell, the Devil, angels, and extrasensory perception increases an individual's propensity to be attracted by and to believe in conspiracy theories. Overall, we can derive that conspiracism is correlated with a 'magical' attitude towards life events, of which religious views represent only one of several other possible realisations. Unfortunately, our data only offer measures for conventional religious practice. With these caveats in mind, we will limit our second hypothesis as follows:

**Hypothesis 2.** The higher the level of religiosity, the higher the level of conspiracism.

A further hypothesis can be found in the relationship between socio-political attitudes and conspiracism. As pointed out above, we can say the substantive part of a conspiracy theory can be depicted as some form of a secret plot hatched by powerful agents doing illegal or 'evil' things. More precisely, many of those theories involve members of the institutions in the conspiracy; in other words, the government and politicians are usually implicated in conspiracy theories, as colluding with or even participating in the secret plots **generated** to gain more power or benefits. It is thus not surprising that Einstein and Glick (2015) have shown that conspiracism is connected to lower levels of trust in civic and political institutions. The third hypothesis will thus read as follows:

**Hypothesis 3.** The lower the level of political trust, the higher the level of conspiracism.

According to the empirical evidence of previous studies, conspiracists tend to present lower levels of trust, higher levels of religiosity, and lower levels of education, in relation to citizens who do not believe in conspiracy theories. Some authors have noticed that this profile is consistent with that of the rightwing populist electorate (Sunstein & Vermeule

2009; Barreto et al. 2011). In this respect, it is possible to argue that populist rhetoric has something to share with conspiracist ideation. First, both populism and conspiracism tend to find their claims on Manichean narratives (Oliver & Wood 2014). Similar to the populist claims that contrast a corrupt, 'evil' elite with the 'good' people, conspiracies often depict some 'evil' agents who secretly aim at increasing their power at the expenses of the 'good' (Akkerman, Mudde & Zaslove 2014; Oliver & Wood 2014). According to both these narratives, identifying and fighting the conspirators as well as the elite becomes a way in which **good** can beat **evil**. Second, both populism and conspiracism present clear and pronounced anti-elitist attitudes (partially connected with the low trust in political institutions). In both conspiracists' and populists' claims, the elites are seen as an obscure, corrupt lobby that does not serve the heartland's interests (Hameleers, Bos & de Vreese 2016).

A large number of studies, especially in the US, focused on the so-called *ideological conspiracies* (Oliver & Woods 2014), namely, those conspiracies in which an identifiable political actor is the main character accused of being a conspirator. Those studies showed quite convincingly that partisanship, in this case, can explain the likelihood to believe in conspiracies in which opposing partisans are the conspirators and to resist theories arguing that conspiratorial behaviour is applied by politicians on the same side of the political spectrum. According to this argument, Republicans are far more likely to believe that Barak Obama is foreign-born while Democrats are more apt to believe that G.W. Bush was complicit in the 9/11 attacks (Tesler & Sears 2010; Cassino & Jenkins 2013; Furnham 2013; Pasek et al. 2014).

If the empirical evidence concerning ideological conspiracies is quite straightforward, there is much less clarity for what concerns *general conspiracies*, namely, those conspiracy theories in which the conspirators are individuals or secret societies that are not connected to a certain ideological position, being, according to conspiracy theorists, presumably more powerful than parties and politicians. In this latter case, conspiracies are deemed to have been hatched by big industrial groups (such as pharmaceutical firms) or by secret programmes that are not linked to any particular party or politician. It is clear that in the case of general conspiracy theories, the relation with partisanship is far less obvious.

Nonetheless, several studies employing small samples and experimental designs found a relationship between political views and beliefs in general conspiracies, arguing that general conspiracism is mainly a populist, rightwing phenomenon (Sunstein & Vermeule 2009; Barreto et al. 2011). Other studies found no connection whatsoever between partisanship and this type of conspiracism (Oliver & Wood 2014). Other contributions present evidence showing that the highest levels of conspiracies are to be found in (both left and right) extremist sections of the electoral body (van Prooijen, Krouwel & Pollet 2015). Since we can define our null hypothesis as the absence of a relationship between conspiracism and political views, we split Hypothesis 4 into two mutually exclusive sub-expectations:

**Hypothesis 4a.** The more rightwing an individual is, the higher her level of conspiracism.

**Hypothesis 4b.** The more ideologically extreme an individual is, the higher her level of conspiracism.

The following paragraphs will present the data used for our analyses as well as the **method** that we employ to measure people beliefs in conspiracy theories and their determinants.

## Data

We test our hypotheses on data from the 2013–2016 on-line electoral panel of the Italian National Election Study (ITANES) and the University of Milan. The respondents were selected from an opt-in community of a private research company (SWG), and reproduce the quotas for gender, age, and regional distribution of the Italian population. The panel started during the election campaign for the General Elections of 2013. Since then, at least two sets of data per year were collected, generally before and after the main electoral events (2013 Italian National Elections, 2014 European Elections, 2015 Regional Elections, 2016 Constitutional referendum).<sup>1</sup> Interviews were collected by CAWI mode. Each interview included approximately 70 questions and covered a broad number of topics generally included in electoral surveys.

In the present study we mainly use the data coming from the ninth dataset of the panel, which was collected shortly after the constitutional referendum of 4 December 2016 (more precisely, between 7 and 13 December 2016). The bulk of the variables included in the analyses thus come from this dataset, while only a few variables that operationalise the determinants of conspiracist ideation (religion and political trust) are borrowed from the previous dataset of the panel when they were measured, but still refer only to respondents of dataset 9. On that occasion, the sample numbered 3027 individuals. Strictly speaking, this sample cannot be considered representative of the Italian population. This limitation calls for caution when considering the prevalence of conspiracy theories among the Italian general public. On the other hand, the sample size is ample, and such a number of respondents allows a robust investigation of the relationship between conspiracist ideation and other dimensions, coming to a reliable assessment of the impact of the hypothesised determinants on conspiracism.

## Measures of Conspiracy Theory Beliefs and Other Variables

In the ninth dataset of the ITANES panel, some questions addressed the issue of conspiracism. Among other questions, respondents were asked to assess the plausibility of different conspiracy theories, using a 0–10 scale where '0' meant 'Not plausible at all' and '10' meant 'Completely plausible'. In particular, the interview included an assessment of four statements referring to conspiracies that have featured in public debate in recent decades. The statements read as follows:

- (1) 'Moon landings never happened and the proofs have been fabricated by NASA and the US government' ('Moon')
- (2) 'Vapour trails left by aircraft are actually chemical agents deliberately sprayed in a clandestine programme directed by government officials' ('ChemTrails')
- (3) 'Vaccines harm the immune system and expose it to diseases' ('Vaccines')
- (4) 'The Stamina method invented by Davide Vannoni for curing neurodegenerative diseases has been obstructed by big pharmaceutical groups' ('Stamina')

The first statement ('Moon') refers to a theory born in the mid-1970s and reappearing in later decades, which claimed that the moon landing was a hoax faked by NASA in a Hollywood studio to win the space race with the USSR. Although several attempts have been made to

debunk the conspiracy, the moon hoax theory seems to persist even today (Swami et al. 2013).

The second statement concerns another cross-national conspiracy, that of Chemical trails (or 'ChemTrails'), namely, the belief that the persistent trails left by aircraft provide evidence of a secret programme of large-scale weather modification (Cairns 2016). According to an alternative version of the conspiracy, these released chemicals are aimed at depopulating the country (Ballatore 2015) or controlling people's minds, making the population more docile and prone to accept bad policies (Kollipara 2015). In line with the reasoning behind conspiracy creation, the conspirators are here supposed to be abnormally skilled in hiding a conspiracy that, if true, should comprise hundreds of thousands of people involved in both the civil and military aviation systems.

The third statement refers to another widely debated conspiracy, relating to vaccines and several immune system adverse effects. In particular, the theory states that vaccines cause autism in children and that they are promoted by pharmaceutical firms even if they (or even to) damage the population. The theory received much attention in the late-1990s after a 1998 article by Andrew Wakefield in the *Lancet*, in which the relationship between the MMR vaccine and autism seemed to be convincingly demonstrated. Subsequently, the article was retracted when the editors realised that the data were fabricated (see Kata 2010; Jolley & Douglas 2014). Differently from the previous two conspiracies, which do not have any explicit connection to the Italian context, this third one has reached high salience in the last years in the national public debate. In the very last months, the issue received considerable attention in Italian public debate with a re-emergence of theories connected to the security of vaccines, which are presumably affecting the levels of vaccine coverage in some parts of the country (Carra 2017; World Health Organization 2017).

The fourth statement concerns the so-called Stamina therapy, a controversial alternative method that, according to its inventor – Davide Vannoni, a former professor of Psychology of Communication – is capable of curing a large number of neurodegenerative diseases. Although no published research in peer-reviewed scientific journals accounts for testing its effects, the therapy was presented as an effective treatment for conditions such as Parkinson's disease and Amyotrophic lateral sclerosis in a popular TV show in February 2013, leading to a mass public opinion movement calling for testing of the allegedly revolutionary cure. This movement eventually pushed Prime Minister Enrico Letta and his Minister of Health, Beatrice Lorenzin, to impose the testing protocol allowing clinical trials on humans from May 2013, despite the absence of the necessary experimental requirements (Abbott 2013). In September 2014, a committee of experts rejected the efficacy of the Stamina method. Between 2014 and 2015, the inventors of the method and the central figures involved in the Stamina Foundation were found guilty and given prison sentences of between one and two years for fraud and infusion of imperfect drugs. Although according to the medical community, the Stamina case represents a clear attempt at medical fraud, the confused media coverage led a part of public opinion to regard it as plausible that the method was sabotaged by big pharmaceutical firms, afraid of losing profits because of the Stamina therapy. This theory was repeatedly suggested by the 'inventor' of the method, Vannoni, who had many chances to present it in the media.

It is clear that the four statements refer to conspiracy theories with very different characteristics. The first three statements are similar to those employed in other works: they are indeed adapted from a battery used in the Cooperative Congressional Election Study

(2011) aiming at tapping whether the respondent is willing to believe in several popular conspiracy theories. The third item, however, differs from the previous two for its salience in Italian public debate and its real connections with issues related to national public health. Finally, the fourth item refers specifically to the Italian situation, and it is included for the first time in a survey.

### Testing the Hypotheses

To test our hypotheses, we applied a series of regression models with a scale of conspiracist ideation as the dependent variable. The building of the scale is illustrated in the next section. As independent variables, we used the determinants of conspiracism in the following way:

- For testing Hypothesis 1, we used educational level, coding it as 'Primary' (up to middle school), 'Secondary' (up to high school), and 'Tertiary' (university or more);
- For testing Hypothesis 2, we used level of religiosity with a question that asks respondents how important is God in their lives<sup>2</sup>, on a 0–10 scale, measured in dataset 7 (June 2016);
- For testing Hypothesis 3, we used political trust with a synthetic index of four items that mainly deal with the role of parties in modern democracies,<sup>3</sup> measured in dataset 8 (October 2016).

Finally, to test Hypothesis 4a and Hypothesis 4b, the hypotheses on the relation between political orientation and conspiracism, we employed the left-right self-placement and declared voting intention in the next general election:

- Left-Right self-placement, originally an 11-point scale, recoded as follows: 'Left' (0–1), 'Centre-left' (2–4), 'Centre' (5), 'Centre-right' (6–8), 'Right' (9–10); 'Does not locate' (people who do not want to place themselves are coded separately).
- Voting intention, coded by the party names as 'Partito Democratico', 'Forza Italia', 'Movimento 5 Stelle', 'Lega Nord', 'Fratelli d'Italia', 'Sinistra Italiana', 'Others', 'Abstainers/Undecided'.

In all the regression models we additionally controlled for age (linear) and gender.

In the following section we cover the main aims of our work. First, we describe the phenomenon, analysing the frequency distributions of the four items and showing how widespread these conspiracy theory beliefs are among our respondents. Second, we test whether beliefs in different conspiracies are coherent and come together; in practice, we show that the four conspiracy items belong to a coherent latent construct and we illustrate the procedure to build a conspiracism scale. Third, by employing linear regression models (in a fashion similar to that of Oliver & Wood 2014), we test our four hypotheses concerning the determinants of conspiracy beliefs.

### Extent of Beliefs and the Conspiracist Ideation Scale

Table 1 shows the distributions of the beliefs in the four conspiracies. Respondents are placed into three groups: those who 'firmly do not believe' in the conspiracy (those who give a '0' to the question of plausibility of the conspiracy), those who 'tend not to believe' in the conspiracy (1–5), and those who 'believe' in the conspiracy (those respondents answering '6' or more on the plausibility scale). Although a majority of respondents is sceptical about the

Table 1. Distribution of the level of belief in four conspiracy theories (column percentages).

	Conspiracies			
	Moon	Chemical trails	Vaccines	Stamina
0	42	45	37	26
from 1 to 5	38	34	39	36
from 6 to 10	20	21	24	38
Total	100	100	100	100
N	2889	2885	2892	2816

Table 2. Number of conspiracy theories in which respondents believe (score  $\geq 6$ ).

N° of believed conspiracies	%
0	53
1	19
2	10
3	7
4	10
Total	100 (n = 2741)

plausibility of the stories reported in the statements and fall in the first group, at least a steady 20 per cent of respondents in the sample regard the conspiracies as plausible. The situation is more pronounced for the Stamina case, which was a prominent story in the news a couple of years ago. In that case, almost four out of ten find the conspiracy plausible, while only a quarter of the respondents see it as completely implausible.

A more informative and parsimonious measure of the distribution of conspiracy beliefs can be reached by considering jointly the number of theories that each respondent believes in. To achieve this goal we attribute a score of '1' when a respondent believes in a theory (thus plausibility  $\geq 6$ ) and we sum the scores on the four items. The outcome is shown in Table 2. The table indicates that about 50 per cent of our sample is partly or entirely sceptical about all the conspiracies proposed. At the same time, the other half of the sample consider plausible at least one of the theories proposed. Moreover, 30 per cent of the sample does so for two or more conspiracies. Finally, about ten per cent of the sample considers all four stories likely to be true.

This first analysis gives us an idea of the diffusion of conspiracy theories among the Italian public. Nonetheless, it does not provide information about the structure of these beliefs. Are the attitudes of respondents toward these stories independent one from the other, or are they related? In this second case, we could assume that, beyond the specific content of the conspiracies, the inclination to believe in them represents an underlying trait of a person, who generally has a higher propensity to accept stories and arguments that imply the existence of unproven connections between fact justified by the hidden actions of small groups of conspirators (Uscinski, Klofstad & Atkinson 2016).

It is thus interesting to check whether belief in these stories are related. In fact, the four conspiracist items present a high internal consistency. Overall, the average inter-item correlation is 0.62, and the Cronbach alpha is 0.87, with none of the items displaying anomalies compared to the others. A factor analysis shows the same results, with a satisfying solution represented by one factor that accounts for 72 per cent of the common variance and factor loadings on the four items of comparable and substantial size (all above .75). This suggests that beyond the idiosyncratic nature of each of these theories, respondents manifest

a coherent attitude toward this kind of stories. This can be read as a latent trait expressing a general propensity to believe in conspiracy theories and can be considered a good measure of 'conspiracist ideation' (Swami et al. 2017). The main consequence of this result is that it is possible to produce a conspiracism scale by summing each individual's scores of the four items. The scale arising from the sum (a 0–40 scale) has been rescaled on a range between '0' (which represents an individual who does not believe in any conspiracy) and '10' (representing people who believe firmly in every conspiracy proposed). The scale does not refer any longer to a specific story but is a property on which each respondent receives a certain value. This scale is then used to test our hypotheses.

### Testing the Determinants of Conspiracist Ideation

To test our hypotheses, we fit a series of nested multivariate linear regression models (Table 3) where the dependent variable is the conspiracism scale. The variables relevant to the hypotheses are inserted sequentially, starting with education, adding in subsequent steps religion and political trust, and ending with the political variables. Besides the variables relevant to the hypotheses, in each model we control for age and gender. The results of the first set of models are presented in Table 3.

As far as our first hypothesis is concerned, in Model 1 we can see that the coefficients for the higher educational levels are negative, large, and significant. That means that people with more education tend to believe less in conspiracies (on a scale of 0 to 10, compared to respondents with primary level education there is a reduction of approximately 0.7 for secondary schooling and about 1.6 less for tertiary education).

Model 2 assesses hypothesis 2, that is, the relevance of religious beliefs in explaining our dependent variable. We have stressed that, since beliefs in conspiracies share some traits with religious beliefs, it is possible that people who are more religious will be more prone to believe in such theories. As can be seen, the effect of religiosity is positive and significant. On average, the difference between an entirely non-religious respondent ('0' on the religiosity scale) and a very religious person ('10' on the same scale) is about 1.4 points on the conspiracism scale.

Model 3 examines the role of political trust. Our expectation that political trust would present a negative correlation with conspiracism was not confirmed by our results. The

Table 3. OLS regression models studying socio-demographic and value-based predictors on conspiracism scale.

Independent variables	Model 1		Model 2		Model 3	
	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
Gender: Female (Ref. Male)	0.85***	(0.12)	0.74***	(0.11)	0.74***	(0.11)
Age/10	-0.36***	(0.04)	-0.39***	(0.04)	-0.38***	(0.04)
Educational level (Ref. Primary)						
Secondary	-0.78***	(0.18)	-0.81***	(0.18)	-0.78***	(0.18)
Tertiary	-1.56***	(0.19)	-1.52***	(0.19)	-1.50***	(0.19)
Religiosity			0.14***	(0.02)	0.15***	(0.02)
Political trust (Stealth democracy)					-0.04	(0.02)
Constant	5.41***	(0.29)	4.77***	(0.29)	4.91***	(0.31)
Observations	2,003		2,003		2,003	
R <sup>2</sup>	0.09		0.12		0.12	

Standard errors in parentheses.  
\*\*\*p<0.01; \*\*p<0.05; \*p<0.1.

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magnitude and statistical significance of the coefficient suggest the absence of a consistent association between the two constructs. However, we should remember that our measure of political trust is not optimal. (The questions do not coincide with the usual items designed to tap political trust and the measures were gathered in a previous wave of the panel). Thus the evidence on the issue is not conclusive. On this point, it is also worth noting that the fit of the models presented in Table 3 is relatively low, accounting for approximately only one-tenth of the total variance. This suggests the need for some caution in evaluating the results. It also points to the need for future research to collect specific information providing valid measures for the determinants to consider in relation with conspiracy beliefs.

The fit of the models substantially increases when the political variables are included (R<sup>2</sup> = 0.18). The results testing hypotheses 4a and 4b are shown in Table 4. We built Models 4a and 4b of Table 4 by adding respectively left-right self-placement and voting intention as identical to Model 3 of Table 3.<sup>4</sup> The first thing we notice is that when adding the political variables, the other predictors maintain their significance levels, even if the magnitude of the coefficients slightly decreases.

We have mentioned above that, *ceteris paribus*, the effect of political orientation could work in different ways, either showing an ideological effect (leftwing individuals being less conspiracist than rightwingers) or an extremism effect (individuals located at either extreme of the left-right scale being more conspiracist than the others). Model 4a shows that in our sample the first alternative is corroborated (namely, Hypothesis 4a). Individuals located on the left of the political spectrum show a lower level of conspiracist beliefs, while centre-right and, especially, extreme rightwing people tend to present significantly higher levels of those

Table 4. OLS regression models studying political predictors on conspiracism scale.

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Independent variables	Model 4a		Model 4b	
	Coef.	S.E.	Coef.	S.E.
Gender: Female (Ref. Male)	0.72***	(0.11)	0.82***	(0.11)
Age/10	-0.32***	(0.04)	-0.33***	(0.04)
Educational level (Ref. Primary)				
Secondary	-0.66***	(0.17)	-0.66***	(0.17)
Tertiary	-1.25***	(0.19)	-1.26***	(0.19)
Religiosity	0.12***	(0.02)	0.13***	(0.02)
Political trust (Stealth democracy)	0.00	(0.02)	0.01	(0.03)
Left-Right self-placement (Ref. Centre)				
Left	-0.36	(0.23)		
Centre-Left	-0.65***	(0.19)		
Centre-Right	0.05	(0.20)		
Right	1.51***	(0.24)		
Does not locate	0.51**	(0.23)		
Voting intention (Ref. Partito Democratico)				
Forza Italia			1.51***	(0.24)
Movimento 5 Stelle			1.37***	(0.17)
Lega Nord			1.33***	(0.21)
Fratelli d'Italia			0.98***	(0.33)
Sinistra Italiana			0.01	(0.26)
Others			-0.02	(0.34)
Don't know / No vote			0.24	(0.16)
Constant	4.39***	(0.35)	3.61***	(0.35)
Observations	2,003		2,003	
R <sup>2</sup>	0.18		0.18	

Standard errors in parentheses.  
\*\*\*p<0.01; \*\*p<0.05; \*p<0.1.



beliefs. Figure 1 (left panel) shows an even clearer gradient through linear predictions for the left-right self-placement fitted in Model 4a of Table 4.

The high level of conspiracism among people who do not locate on the left-right scale deserves some additional attention, since it can suggest a further association between conspiracism and voting behaviour. In the current Italian political situation, most of the people refusing to locate themselves on the left-right scale do declare an intention to vote for Movimento 5 Stelle (Maggini 2013), an anti-system populist party founded by a former comedian, Beppe Grillo, which gained 25 per cent of valid votes in the 2013 National elections, thus becoming the second largest party in the Italian political landscape (Vezzoni & Mancosu 2016). The observed correlation thus easily suggests a possible association between conspiracism and a vote for this party. This sounds plausible as the party leadership has repeatedly denounced the manipulative nature of official media and its leader, Beppe Grillo, has backed various conspiracy theories including allegations related to anti-vaccine theories (Vignati 2013).

This expectation is well documented in Model 4b, which includes the voting intention. Predicted scores for the parties taken into account are presented in Figure 1 (right panel). As it is possible to see, voters of Sinistra Italiana and the Partito Democratico tend to maintain lower levels of conspiracism, as well as 'Other parties' voters, and non-voters. On the contrary, both supporters of rightwing parties and Movimento 5 Stelle show higher than predicted levels on the conspiracism scale. The first result, concerning especially Forza Italia and the Lega Nord, about 1.5 points above the prediction for the Partito Democratico, confirms the outcomes for ideological self-placement. The second result concerning Movimento 5 Stelle supporters confirms our argument about the relationship between conspiracism and support for this populist movement.

## Conclusions

Conspiracy theories are widespread in contemporary democracies and can have major consequences, from the public health, political, and social perspectives. Research on this topic is relatively recent and empirical evidence, based on quantitative data, has been mainly collected in the American context. The present work aimed to provide evidence concerning conspiracism in Italy, a context in which empirical evidence was entirely absent. The choice

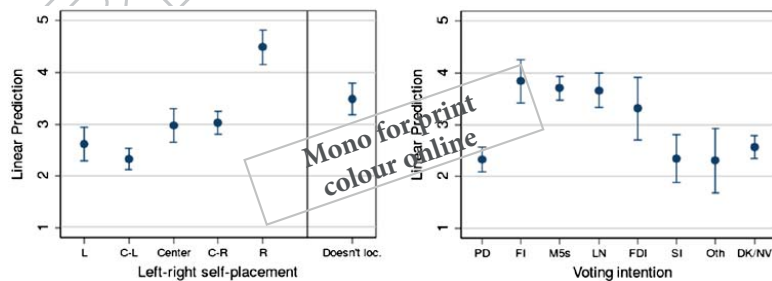


Figure 1. Linear predictions for left-right self-placement and voting intention (based on Table 4 coefficients).

was to select both general conspiracy theories (the fake moon landing and chemical trails) and some that recently received attention in Italian public debate (the Stamina method and vaccines).

By relying on the CAWI panel of the Italian National Election Study, collected in late 2016, we have shown that support for conspiracy theories is widespread in the country. About half of the respondents in the sample evaluate as plausible at least one of the four conspiracy theories proposed. Besides this rough evaluation of the prevalence of beliefs in conspiracy theories, we were also able to show that these beliefs are structured. Once they are considered together, they allow us to build a synthetic scale reflecting the propensity of individuals to regard these accounts as plausible. We concluded that this scale well reflects the concept of conspiracist ideation.

Once the scale was established, the paper tested different hypotheses concerning the relationship between conspiracism and other dimensions. The results are only partly in line with previous literature. First, as in other contexts, the educational level is negatively correlated with conspiracism. Second, we find that religiosity is positively correlated with conspiracist ideation. Nonetheless, we do not hold this evidence as conclusive because the religiosity indicator that we used (importance of God) only partially reflects the magical understanding of reality that theoretically should be primarily related to conspiracism. Third, we find no correlation between political trust and conspiracism. Also in this case, we detected some problems with the survey items available that only partially tap into political trust. This aspect thus deserves further attention in future research.

Finally, we analysed the association between conspiracism and political orientation, in terms of left-right self-placement and voting intention. The results showed that rightwing voters, as well as Movimento 5 Stelle supporters, tend to present higher levels of conspiracism. Such a result comes partly as a surprise with respect to the previous literature concerning other national contexts. Previous studies based on national samples, indeed, showed no correlation (Oliver & Wood 2014) or a higher level of conspiracism on the (left and right) extremes of the ideological spectrum (van Prooijen, Krouwel & Pollet 2015). In general, it seems that in Italy voting for parties usually depicted as populist, such as the Northern League (Tarchi 2008) or the Movimento 5 Stelle (Vezzoni & Mancosu 2016; Vignati 2013), is strongly connected with higher levels of conspiracism. This result is useful to stress the specificity of the Italian context and makes a compelling case for further study of conspiracist ideation in Europe.

The work has some drawbacks that should be taken into account. The first limitation concerns the nature of the data when evaluating the relevance of conspiracism in Italy. As we have stressed above, the ITANES panel is collected using CAWI interviews and presents some distortions, especially concerning education and interest in politics. For these reasons, the sample cannot be considered representative of the population although quotas for age, residence and gender were applied when making the selection. It is therefore not possible directly to generalise our results to the entire population. Having said this, we are confident that the results indicate a consistent magnitude and relevance of the phenomenon in Italian society. Further studies must address both the prevalence of beliefs in specific theories and the overall level of propensity to believe as an underlying characteristic of the individuals (what we have called conspiracist ideation).

The second caveat concerns the causal relationship that we assume in the regression models. Particularly concerning Table 4, by using the levels of conspiracism as the dependent

variable and vote choices and left-right self-placement as the independent variable, we are implicitly assuming that believing in conspiracies is a consequence of partisanship and then, that partisanship is exogenous to conspiracism. Although this approximation has been made in other studies (Oliver & Wood 2014), little research has been carried out to assess and understand the relationship more precisely. What we have observed is a strong relationship between political orientation and conspiracism – to our surprise the strongest association among those we tested and one which also lingers when controlling for all other the variables considered. We are currently unable to supply a satisfactory account of this relationship and we remain with a number of hypotheses that require empirical testing. For this reason, we are persuaded that this finding deserves further attention and that the links between conspiracism, ideology, and vote should be further investigated.

## Notes

1. For our aims, three sets of data were conducted in 2016: the first in June (dataset 7), the second before the Constitutional referendum of 6 December (dataset 8) and the third after the referendum (dataset 9).
2. As mentioned above, this indicator only partly covers the dimension that is relevant to the study in relation to conspiracism. If one would like to study the relationship between beliefs in conspiracies and propensity to have a magical understanding of reality, other indicators would be more appropriate. Unfortunately, none of them were available in this study.
3. The items come from an adaptation of the 'stealth democracy' scale (Hibbing & Theiss-Morse 2002). Respondents are asked to express their degree of agreement with a list of statements on an 11-point scale. The original instrument includes a longer list of items than those considered here. However the four items analysed show a high internal consistency and a Principal component analysis indicates that they belong to the same construct. The items refer to the following statements: 'Parties are necessary to defend special interests of groups and social classes'; 'People have not enough knowledge or interest to decide about political problems'; 'Parties guarantee that people can participate in politics in Italy'; 'Without parties there cannot be democracy'. The four items present an inter-item correlation of .46 corresponding to a Cronbach Alpha of .77. The final index is a simple sum of the scores on the four items, ranging from 0 to 10.
4. The effect of left-right self-placement has also been tested by employing the non-recorded version of the variable, leading to substantively equal results.

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## Disclosure Statement

No potential conflict of interest was reported by the authors.

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