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Conspiracy Theories in Times of the Covid-19 Pandemic: Populism, Social Media and Misinformation

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Abstract

Social media platforms have for a long time been recognized as great disseminators of misinformation on health. Previous studies found a positive association between the use of social media as the main source of information and the acceptance of forms of misinformation, such as conspiracy theories. The association between populist attitudes and the valuation of information through social media is also described. From a questionnaire applied to 242 respondents after the first state of emergency of the covid-19 pandemic (March 2020) in Portugal, this study aims to identify the background and pre-requisites for the belief in misinformation. The data obtained suggest that individuals with populist feelings have less trust in institutional strategies to fight the pandemic, privileging social media as a source of information and revealing a greater acceptance of the conspiracy theories on the disease. The connection, documented in the literature, between the belief in conspiracy theories and risk behaviours recommends that measures be adopted to combat misinformation factors.

Keywords
media, social media, misinformation, conspiracy theories, covid-19, infodemic

Teorias da Conspiração em Tempos de Pandemia Covid-19: Populismo, *Media* Sociais e Desinformação

Resumo

As plataformas de *media* sociais são há muito reconhecidas como grandes disseminadoras de desinformação sobre saúde. Estudos anteriores encontraram uma associação positiva entre a utilização dos *media* sociais como fonte principal de informação e a aceitação de formas de desinformação, como teorias da conspiração. Encontra-se ainda descrita a associação entre atitudes populistas e a valorização da informação através dos *media* sociais. A partir de um questionário aplicado a 242 respondentes após o primeiro estado de emergência da pandemia da covid-19 (março de 2020), em Portugal, o presente estudo possui como objetivo identificar antecedentes e pré-requisitos da crença em desinformação. Os dados obtidos sugerem que indivíduos com sentimentos populistas possuem menor confiança em estratégias institucionais de combate à pandemia, privilegiam os *media* sociais como fonte de informação e revelam uma maior aceitação de teorias da conspiração sobre a doença. A ligação, documentada na literatura, entre crença em teorias da conspiração e comportamentos de risco, recomenda a adoção de medidas de combate aos fatores de desinformação.

Palavras-chave
media, *media* sociais, desinformação, teorias da conspiração, covid-19, infodemia

1. Introduction: From the Pandemic to the Infodemic

Since the last few months of 2019, information on health has become the centre of attention and concern of people around the world. On a scale and with a duration without precedent in recent collective memory, the pandemic caused by the disease of the new coronavirus variant, covid-19, has occupied, in an almost hegemonic fashion, the agenda of the various media — putting on the backburner many other issues that usually composed it and coupling, in a subordinate way, the remaining topics that still managed to make the news. In times of crisis, like when there are natural disasters on a large scale, terrorist attacks or outbreaks of diseases, the importance of the media increases, and the information they include become a key element for society to function. Due to the high level of uncertainty, most people turn to the media to understand the environment in which they live and make decisions relative to it. Similarly, in these situations, the media's influence is frequently magnified. Also, because of this, particularly in crisis management situations, the resource to reliable sources of information is one of the most important factors of social behaviour (Longstaff, 2005).

Focusing on how the vast media system operates, this study was developed for nearly a year (from March 2020 to February 2021), during which the covid-19 pandemic dominated the public sphere. During this period, alongside the global spread of the virus itself, it is today clear that another type of pandemic developed. With the quick spread of the disease, there was also an information outbreak through social media and conventional media, where a vast torrent of "news" as to the virus' origin and the forms of fighting it circulated, as virally and quickly as the infection. The director-general of the World Health Organisation (WHO), Tedros Adhanom Ghebreyesus, warned, still in the first few months of the pandemic, that with the arrival and spread of covid-19, "at WHO, we're not just battling the virus; we're also battling the trolls and conspiracy theorists that push misinformation and undermine the outbreak response" (World Health Organization (WHO), 2020). To some extent, this threat had already been anticipated years before. In 2013, the World Economic Forum (WEF) emphasised the existence of phenomena of massive digital misinformation, whose proliferation, stemming from social media, would represent one of the main threats for our societies in its various realms (Howell, 2013). Today, multiple phenomena of misinformation associated with social media platforms have been identified. In effect, characteristics such as openness, generalisation of access and reduction of control mechanisms, combined with mass and/or selective dissemination automatisms, have facilitated the creation and spread of content of a different nature, generators of false information, from unverified rumours and gossip to poorly written news, intentionally fake content or even conspiracy theories.

In this paper, we will use the concept of misinformation as a way of contemplating a whole growing number of concepts with a distinct nature and intention (from spam to

fake news), defining the term "misinformation" as an "umbrella to include all false or imprecise information spread by social media" (Wu et al., 2019, p. 81). We will also use the notion of "conspiracy theory", following the characterisation proposed by Freeman et al. (2020): understandings and narratives that arise from four assumptions — that reality (the world or a fact) is different from what it seems; that the truth is being concealed by powerful entities; that this perception or theory is only accepted by a minority of individuals; and that, lastly, these beliefs are not liable of being sustained on scientific evidence.

In a viral and potentially dangerous manner, a vast set of conspiracy theories and misleading rumours, with the abovementioned characteristics, have been widely shared through online media — which include all the major social media platforms, video publishing and messaging platforms (from Twitter to Facebook, Instagram, WhatsApp, YouTube, etc.). Speculation, without scientific or factual grounds, as to possible causes, therapeutics or even the actual development of the pandemic circulates quickly, causing confusion and leading to risk behaviours (Allington et al., 2021). Individuals that define themselves as specialists interact through social media or websites to provide information on the disease, reporting on their clinical practice — sometimes arguing that covid-19 does not cause worse symptoms than the mild flu and, therefore, is not a health danger, and, other times, unveiling frightening realities that the professional media are hiding. For observers prone to conspiratorial beliefs, messages of this type operate as a confirmation mechanism for already latent assumptions (Goreis & Kothgassner, 2020). As a whole, online conspiratorial beliefs on covid-19 emerge expressed as an "outbreak", as the latest wave of a "flood of conflicting information, misinformation and information manipulated on social media" (Allington et al., 2021, p. 1763).

A study by the U.S. State Department, initially published in *The Washington Post* (Romm, 2020), mentioned that nearly 2.000.000 tweets spread conspiracy theories on coronavirus during the 3 weeks in which the outbreak started to spread outside of China. Among the most common posts were those that described the virus as "a biological weapon". According to a report obtained by *The Washington Post*, these and other false rumours represented 7% of the total tweets studied and were characterised as "potentially impactful on the broader social media conversation" (Romm, 2020, para. 2). The negative consequences of misinformation, which is particularly abundant today, on various issues within the domains of health are widely known. Among them, is the deterrence of effective preventive measures and the decrease in people's awareness of the degree of harmfulness of viruses and diseases (Allington et al., 2021; Vraga et al., 2020). Several other studies suggest that belief in misinformation related to covid-19 is positively associated with negligence in prevention and reluctance to take protective measures (Barua et al., 2020), factors that, in and of themselves, contribute to the increase of fatal outcomes.

In times of uncertainty, with the covid-19 pandemic dominating the public sphere for many months, and affecting, with no exception, all domains of social and political life, the initially defined public health crisis, started to appeal, for analysis, to the use of another relevant concept in the framework of the analyses of our time: the notion of populism. Indeed, the relationship between "crisis" and "populism" has been one of the

constant topics in social and political literature since the beginning of the last century. Not only are "crises" seen as particularly opportune moments for the resurgence of populist actors, but they also favour social and political divide and promote speech that separate and stimulate tensions — "people" and "elites", rulers and ruled, system and ordinary individuals. It is in contexts of crisis that "populists" invoke and incorporate in their discourse the expression of that same crisis, integrating and unifying grievances and frustrations, thereby mobilising broad social sectors against the "indifferent elites", blamed, to some extent, for the state of crisis (Katsampekis & Stavrakakis, 2020).

The role of the media in this process is not insignificant. While traditional journalistic media have tried to adapt their duties and mission to a quickly evolving context, social media and "alternative news on the internet" distinguish themselves through the specific slant they give to events. Even when it is not about potentially dangerous "fake news" and conspiracy theories, they predominantly share messages with a strong critical, even anti-systemic tone, opposing the mainstream media's view of the political establishment. Strictly speaking, some authors refer to the rise of a *pandemic populism* that, during this period, has contributed to the consolidation of contradictory, threatening and distrustful views of the world. Against this backdrop, academic research has made efforts to analyse the communication pathologies that developed alongside the pandemic and to try to identify generalised connections and patterns of pandemic populism that, it should be noted, seem to co-evolve with the spread of the virus itself (Boberg et al., 2020).

These are the purposes of this study.

2. Literature Review

2.1. Populism

Most literature identifies a particular understanding of "people" as the most important element of the populist ideology. From the outset, the people are conceived as a homogenous or monolithic group, good by nature and the beholder of a vast repertoire of positive attributes — purity, wisdom or authenticity (Albertazzi & McDonnell, 2008, p. 6). Closely related to the people is the concept of popular sovereignty, which defines the people as the legitimate and ultimate political sovereign, in a kind of renewed (and not exact) version of the idea of general will proposed by Rousseau. In the populist sense, popular sovereignty is a central premise for democracy to function — without which its functioning will be affected. It stems from this argument that populist discourse denounces the figure of elites who, more than accused of not representing the people's will, are held responsible for betraying that same will and, thus, depriving the people of their legitimate right to exercise power. The elites are also accused of complicity with *others, external* to the people they favour to the detriment of the ordinary people. The "other", as opposed to the "people", can be defined in various ways, which correspond to different versions of populism. Generally speaking, populism implies an opposition between ordinary citizens and a corrupt establishment (system; Mudde, 2004). Some forms of populism accentuated more specific profiles of exclusion: groups diffusely identified as

external to the community (refugees or emigrants, but also ethnic, gender or economic minorities), which, among other things, are accused of depriving the native people of their economic, symbolic and cultural capital (Mazzoleni, 2003).

In various ways, populist social actors present themselves as representatives, defenders and spokespersons for the people. Their discourse is organised around a permanent challenge in its most common traits: rescuing sovereignty and returning it to the people. Two skills are important to fulfil these duties: first, greater sensitivity to opinions and problems that, at any given time, resonate more with broad sectors of the public; afterwards, a way to communicate that favours direct and non-mediated channels, without the filtering or control of the mediators, whomever they may be (Canovan, 2002, p. 34; Kriesi, 2014, p. 363). In turn, citizens with populist sentiments support a view of social and political life that is organised and expressed within this ideology (Schulz et al., 2017). More specifically, individuals with populist sentiments show anti-elite attitudes and reproach the political class or others who hold power, whom they accuse of losing touch with the people and not attending to their problems and interests. Furthermore, citizens with populist sentiments demand unlimited popular sovereignty in a way that, in its most extreme forms, allows for the unrestricted submission of liberal democratic elements or minority rights to the expression of majority popular sovereignty. Lastly, these individuals share the mythologised image of the people as a homogeneous and virtuous group, a coherent, honest, inherently good entity with the same values and interests.

2.2. Social Media and Populism

The connection between the media and populism is not new. At first, the mass media provided populists with a more direct channel to the people than the provided through more institutionalised means of political communication — such as manifestos, speeches or parliamentary discourse. Even so, the populists needed to submit to the journalistic gatekeepers, to their criteria and routines and even to the cycles inherent to news production itself (Shoemaker & Vos, 2009). Today, in the environment created by the internet, these factors play a less important role, at least in power. Among other factors, the online environment allows bypassing the various traditional filters and creating more direct forms of communication, described by some as a "one-step flow of communication" (Bennett & Manheim, 2006; Vacccari & Valeriani, 2015).

The very existence of this "free" environment stimulated the rise of anti-media populism (Krämer, 2014) throughout the West. For citizens with populist sentiments, what would be a healthy form of scepticism towards the media has been progressively replaced by a distrustful discourse towards the media professionals, who deliberately act against people's interests (Schulz et al., 2020). Studies that combine variables of selective exposure and scepticism towards the media (Stroud, 2008; Tsfatsi & Cappella, 2003) suggest that individuals with populist sentiments tend to distance themselves from the mainstream information media, which they accuse of lying and of being close to the political elites.

From this point on, social media emerges with an increasingly central role in shaping political opinions. They assume some of the fundamental democratic roles that once belonged to the mass media — such as providing information and different points of view on current political and social issues. On platforms like Facebook or Twitter, individuals and political actors (populist or not) can express their views on important social issues without the constraints and filtering of the professional and ethical rules that regulate media professionals (Papacharissi, 2010). Taking advantage of this freedom of expression, citizens and politicians alike often use these means to emphasise the divide between the virtuous ordinary individual and the guilty external antagonist. Some years of research have come to describe cases in which the attribution of responsibilities articulated by the populist actors through social media have decisively influenced the attitudes of important sectors of public opinion in countries other than the West, with relevant consequences from the point of view of social and political life — ranging from electoral results to the same vision of society as a whole. A study by Hameleers et al. (2019) showed that populist messages blaming political elites negatively affected the citizens' attitudes towards the political system. Another study carried out by Matthes and Schmucck (2017) revealed that populist publications, which attributed the responsibility for social problems to immigrants and minorities, activated negative attitudes towards these groups.

If populist social actors show a preference for social media due to its direct nature and lack of professional mediation, various studies have shown that, similarly, at the base, individuals with populist sentiments tend to privilege some types of media over others as a source of information. Populist individuals tend to prefer tabloid newspapers, commercial television and content broadcast on social media, particularly on Facebook. In addition, evasion trends are expected concerning quality (so-called reference) newspapers and public information service news, which the populist actors associate to vested interests and manipulated information. Other relevant characteristics of individuals with populist sentiments are their "political reluctance" (Mudde, 2004), along with feelings of anomie and lack of political effectiveness, which together involve a certain degree of alienation as to public and/or political affairs. Thus, these individuals are part of a group that is available to be mobilised rather than the author of its own initiatives. At the same time, disinterest and avoidance of political information tend to emerge, associated with hard news. This tendency towards evasion can be reinforced by the frequent messages of reproach against the reference information media, coming from populist actors and spread by other individuals with populist sentiments, and who allege the existence of an alliance between these media and the elites against the interests of the people (Krämer, 2014). To the extent that individuals internalise this perception, they will move away from the mainstream news — or, at least, its consumption will be marked by scepticism and an adversarial attitude.

2.3. Covid-19 and Conspiracy Theories

The current context, with a pandemic crisis with consequences in multiple dimensions of social life (from purely health to the economic, labour, affective, and social

realm), has highlighted the importance of analysing the relationship between populism and misinformation and on how it develops in the new communication channels. Several studies have valued the role of social media as a focus of misinformation. More specifically, Valenzuela et al. (2019) suggest the existence of a positive association between the use of social media and the sharing of incorrect information. Anspach and Carlson (2020) noted a greater propensity for users of social media, such as Twitter and Facebook, to be misinformed, then tending to "report factually incorrect information" (p. 697). Based on data collected very recently, already during the covid-19 pandemic, Allington et al. (2021) found that the greater the dependence on Twitter, Facebook or YouTube as main sources of information, the more likely the acceptance of the various conspiracy theories related to the pandemic.

Some reasons have been identified explaining why misinformation quickly becomes viral in the social media environment. Chen et al. (2015) claim that people share misinformation due to the specific characteristics of this type of content. Generally, misinformation content is more "interesting", "new and engaging", and "may be a better topic of conversation" than content made up of authentic information (Chen et al., 2015, p. 587). They also suggest that most individuals do not prioritise accuracy and authenticity when sharing information on social media. This data reinforces the thesis that most misinformation is based on conspiracy theories, which typically purport to unravel the malicious purposes of specific organisations within the system or influential individuals, thus revealing secrets and hidden stories (Craft et al., 2017). With these qualities, this type of content attracts greater attention and achieves higher levels of dissemination (Peter & Koch, 2019; Uscinski & Parent, 2014). Other studies suggest that the excessive use of social media tends to create fatigue from that same media and, as a result, makes individuals less likely to validate the truthfulness of the news they share (Ravindran et al., 2014). Later studies not only confirmed this perception but noted a positive association between the overuse of social media, the resulting fatigue, and the online sharing of fake news (Talwar et al., 2019).

Within this context, and in association with the attitudes and beliefs of a populist nature, the so-called "conspirationism" emerges. Its main features can be defined as the tendency to assume that major events impacting our lives are secretly orchestrated by powerful and malevolent entities who act together in an articulated manner (Douglas & Sutton, 2008). The idea that such actions explain social reality was influentially designated as "conspiracy theory of society" by Karl Popper (2012), and its various theses are popularly known today as "conspiracy theories". The covid-19 pandemic and associated prevention and confinement measures created favourable conditions for the development of conspiratorial beliefs. These conditions include the feeling of physical, psychological and financial vulnerability in a framework of uncertainty drawn from impositions from formal power (government, authorities, scientific elites). Furthermore, the effects of the restrictive measures were greater on those who find themselves more fragile, more vulnerable to socio-economic circumstances, who are, in many cases, less media literate. The confinement also provided greater availability to consume online content:

individuals had more free time, were isolated and had Internet access. Based on this framework, Freeman et al. (2020) found that a significant minority of the population supports excessively sceptical views, including false conspiratorial beliefs, regarding official explanations on the covid-19 pandemic. These ideas are linked to pre-existing conspiracy theories, less compliance with government guidelines and greater scepticism about the strategies proposed by the entities responsible for health.

In fact, in online social media, this type of beliefs has emerged abundantly as an alternative explanation for the causes and facts associated with covid-19. Research conducted between April and June of the first year of the pandemic's generalisation (2020) identified a strong positive relationship between the use of social media platforms as sources of information on covid-19 and the maintenance of one or more conspiratorial beliefs, with YouTube being the most strongly associated social media, followed by Facebook (Allington et al., 2021). In a true outbreak of conspiracy theories, these types of messages pose a global threat to public health. On the second level of effects, data from the study by Allington et al. (2021) ascertained a strong connection between the belief in conspiracy theories on the virus and the practice of risky behaviours during the restrictions imposed to prevent its spread.

3. Study Structure and Interest

Social media platforms have long been recognised as great disseminators of health misinformation. Previous studies have found a negative association between health protection behaviours and beliefs in the form of misinformation known as "conspiracy theory". Concerns as to the dissemination of misinformation on covid-19 on social media have been widely voiced. The currentness and seriousness of this matter justify this study's intention to identify factors associated with the acceptance of misinformation (and, in particular, "conspiracy theories") regarding the covid-19 pandemic within the Portuguese context. The importance of social media as a source in the current media ecosystem is well known. Some of the specific contents circulating therein propose themselves as alternatives to information from mainstream media and official sources. It is foreseeable that individuals with populist sentiments, who also have an adversarial attitude from the onset, display higher rates of distrust regarding formal institutions (government and the National Health Service and the way they manage the pandemic crisis). The association between populist attitudes, the valuation of information through social media and the acceptance of misinformation — namely of some of the theses classified as "conspiracy theories" is also described. Thus, after testing and evaluating the association between the factors mentioned above, we believe that the results of this study may provide valuable elements to gain knowledge as to the background and pre-requisites for the belief in misinformation. Lastly, this knowledge may suggest guidelines for action and, thus, constitute a positive contribution to flatten the infodemic curve.

4. Research Questions and Hypotheses

The research questions that serve as a starting point for this study are the following:

Q1: Do populist sentiments have a negative impact on trust in the way the government is managing the pandemic crisis?

Q2: Do populist sentiments have a negative impact on the trust in the National Health Service's ability to respond to the pandemic crisis?

Once these questions are answered, the following hypotheses are formulated:

H1: A positive association is identified between populist sentiments and social media as the main source of information on the covid-19 pandemic.

H2: A positive association is identified between the belief in "conspiracy theories" and the preference for social media as the main source of information on the covid-19 pandemic.

5. Methodology and Statistical Data

As this is an exploratory study, the sample is convenient, not probabilistic, and was constituted using email lists and requesting disclosure through personal contact and communication networks, such as email and MSN. Thus, an online questionnaire was submitted between 26 and 31 March 2020, and 242 valid responses were obtained. This sample was considered to have relevant distinguishing characteristics, such as high use of media and greater attention to civic and social issues. Data analysis and interpretation were supported by descriptive statistics, with a simple and bivariate analysis of frequencies and qualitative variables (through contingency tables).

Demographic control variables. Two demographic control variables were included — gender and age — which were also considered to intervene in the political participation process. It was ascertained that 44% of the respondents were male and 56% female. In terms of age, they were reasonably spread out across various age groups, although there were more respondents in the 20 to 30 age group.

Distribution is the one shown in Figure 1.

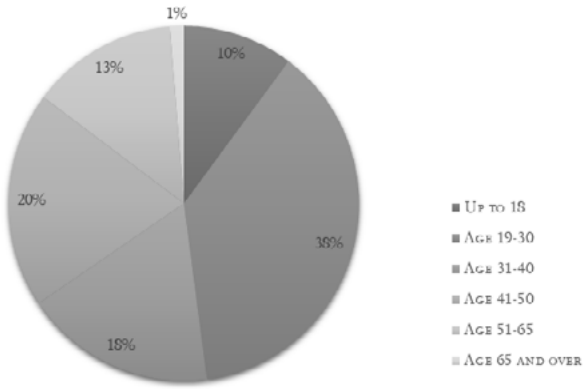

Figure 1 *Age group*

Political attitude. The questionnaire included some instruments for measuring core components of populism to assess the existence of populist sentiments. Using as reference the instruments consistently used in academic studies on the same subject (Mitchell et al., 2018; Newman et al., 2019; Schulz et al., 2017), the following questions were formulated:

Q1: "I think that most political representatives don't care what people like me think?"

Q2: "I believe that ordinary people should be consulted whenever important decisions have to be made, namely through popular referenda?"

Both measures intended to capture the core ideas associated with populist ideals, namely those that reflect the antagonism between the people and the elites, the dissatisfaction with the actions of these same elites, and the importance attributed to the perspective of popular sovereignty. Each question had a response scale consisting of five points, the first two contrary to statements Q1 and Q2 (*totally disagree* and *partially disagree*), a neutral central point (*neither agree nor disagree*) and two points of agreement (*partially agree* and *totally agree*). Following the methodology applied by previous studies, these two questions were combined into a single variable with two categories. Individuals who responded that they agreed that the majority of the political representatives do not care about what people think and ordinary people should be consulted whenever vital decisions are to be made, namely through popular referenda, were categorised as having populist attitudes; all others were categorised as having mainstream attitudes.

The results obtained show the following distribution: 83 individuals (34%) have populist attitudes, and 161 individuals (66%) have mainstream attitudes. The following table (Table 1) illustrates the distribution of political attitudes by age group.

		Age						Total
		Up to 18 years	19–30 years	31–40 years	41–50 years	51–65 years	More than 65 years	
Mainstream attitudes	Frequency	19	61	24	31	24	2	161
	Political attitude	11.8%	37.9%	14.9%	19.3%	14.9%	1.2%	100%
	Age	76.0%	66.3%	55.8%	64.6%	72.7%	66.7%	66.0%
	Total	7.8%	25.0%	9.8%	12.7%	9.8%	0.8%	66.0%
Populist attitudes	Frequency	6	31	19	17	9	1	83
	Political attitude	7.2%	37.3%	22.9%	20.5%	10.8%	1.2%	100%
	Age	24.0%	33.7%	44.2%	35.4%	27.3%	33.3%	34.0%
	Total	2.5%	12.7%	7.8%	7.0%	3.7%	0.4%	34.0%

Table 1 *Table of contingency with the "political attitude" and "age" variables*

Trust in institutions. To measure the individuals' trust in public institutions that combat the pandemic, we formulated two questions, one regarding trust in the government's

action and the second with regards to the National Health Service's capacity. Afterwards, the answers were analysed according to the political attitudes of the respondents (Table 2).

		Trust the government		Total
		Yes	No	
Mainstream attitudes	Frequency	110	51	161
	Percentage	68.3%	31.7%	100%
Populist attitudes	Frequency	45	38	83
	Percentage	54.2%	45.8%	100%
		Trust the National Health Service		Total
		Yes	No	
Mainstream attitudes	Frequency	99	62	161
	Percentage	61.5%	38.5%	100%
Populist attitudes	Frequency	39	44	83
	Percentage	56.6%	43.4%	100%

Table 2 *Table of contingency with the "political attitude" and "trust in institutions" variables*

Main source of information. Respondents were asked about their main means of accessing the information on the pandemic. The results are shown in Figure 2.

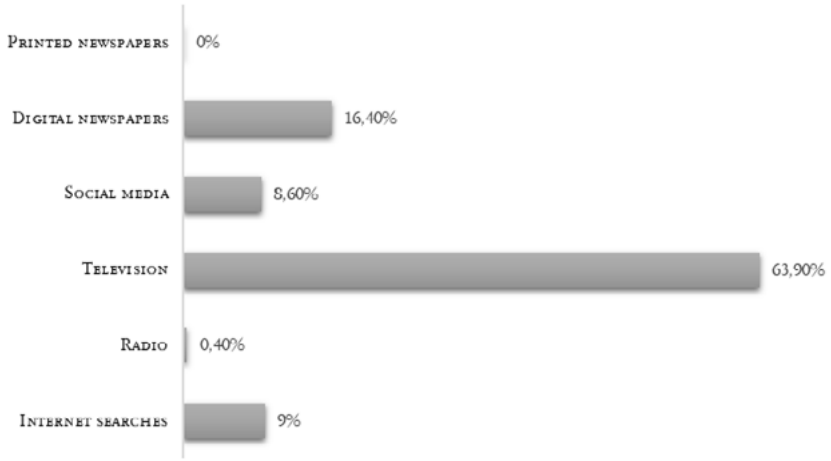

Figure 2 *Among the means you used, which would you indicate as your main source of information on the covid-19 pandemic during the last few weeks?*

Political attitudes and sources of information. In possession of this data, we sought to identify whether (or not) there were different preferences as to sources of information, given the political attitudes (populist or mainstream) of the individuals being studied, through a table of contingency (Table 3). In this measure, we performed Pearson's chi-squared test for the "political attitude", populist and mainstream, and "main source of information on covid-19" variables, whose results ascertained that there was a significant relationship between these two variables (x^2 (3)=9.657, p = 0.047).

		Main source				Total
		Television	**Social media**	**Digital newspaper**	**Internet searches**	
Mainstream attitude	Frequency	110	10	25	16	161
	Political attitude	68.3%	6.2%	15.5%	9.9%	100%
	Main source	70.5%	45.5%	62.5%	66.7%	66.0%
	Total	45.1%	4.1%	10.2%	6.6%	66.0%
Populist attitude	Frequency	46	12	15	8	83
	Political attitude	55.4%	14.5%	18.1%	9.6%	100%
	Main source	29.5%	54.5%	37.5%	33.3%	34.0%
	Total	18.9%	4.9%	6.1%	3.3%	34.0%

Table 3 *Table of the contingency of the "main source" and "political attitude" variables*

Misinformation. To introduce the variable related to misinformation, we intend to assess the studied individuals' acceptance of some of the "conspiracy theories" present in the public sphere, which circulate virally on social media and are duly identified in the literature. Specifically, Christian Fuchs (2020) provided a list of "fake news on coronavirus" (p. 392); from that list, we selected three stories, set out in Table 3. The following "theories" were presented to the individuals studied, and their degree of acceptance was requested (1: *totally disagree*; 6: *totally agree*). The aggregate results (between 1 and 3: *rejects*; between 4 and 6: *accepts*) are shown in Table 4.

	Acceptance individuals populist attitudes	Acceptance individuals mainstream attitudes
The social alarm around covid-19 has both economic and political objectives	53.0%	42.2%
Covid-19 is a way of nature rebalancing itself	43.4%	40.4%
Coronavirus is a Chinese biological weapon developed at the Wuhan Institute of Technology	41.0%	34.8%

Table 4 *Conspiracy theories and their acceptance*

Bearing in mind a stratified analysis, we focused on the "theory" regarding covid-19, which, following the list collected by Fuchs (2020), seems the most widespread: "coronavirus is a Chinese biological weapon developed at the Wuhan Institute of Technology". The valid answers, 243, were organised in 153 responses disagreeing (63%) and 90 responses agreeing (37%). Next (Table 5), we sought to ascertain if there was an association between the acceptance of this theory and the main source that the individuals chose to get information on the pandemic.

			Misinformation: biological weapon		Total
			Yes	No	
Main source	Television	Frequency	67	88	155
		Main source	43.2%	56.8%	100%
		Misinformation: biological weapon	74.4%	57.5%	63.8%
		Total	27.6%	36.2%	63.8%
	Social media	Frequency	11	11	22
		Main source	50.0%	50.0%	100%
		Misinformation: biological weapon	12.2%	7.2%	9.1%
		Total	4.5%	4.5%	9.1%
	Digital newspaper	Frequency	7	33	40
		Main source	17.5%	82.5%	100%
		Misinformation: biological weapon	7.8%	21.6%	16.5%
		Total	2.9%	13.6%	16.5%
	Internet searches	Frequency	4	20	24
		Main source	16.7%	83.3%	100%
		Misinformation: biological weapon	4.4%	13.1%	9.9%
		Total	1.6%	8.2%	9.9%

Table 5 *Table of the contingency of the "main source" and "misinformation: biological weapon" variables*

Next, we carried out Pearson's chi-squared test for the "misinformation: biological weapon" and "main source for information on covid-19" variables, whose results identified that there was a significant relationship between them, the levels of acceptance of that information and the main source used (x^2 (3)=15.093, p = 0.05).

6. Discussion

By revealing a categorisation of 34% of individuals with populist attitudes, the sample studied identified a significantly low figure if we consider data from other studies. Data from the *Reuters Institute Digital News Report 2019* (Newman et al., 2019), by Reuters Institute for the Study of Journalism, with the same measures, showed a figure of 73% for our country. Even for the country identified with the lowest figure of populist attitudes, Denmark, the figure found was 42%, 8% above the data found in this study. We considered some bias in the sample as an explanatory hypothesis due to its size and construction methodology ("snowball" technique). However, above all, we considered that the attitudes were measured during a particular crisis situation. Data from the *Edelman Trust Barometer* (Edelman, 2020) Spring update dedicated to trust during the covid-19 pandemic revealed a dramatic change compared to January's data: trust in the group of governments studied rose by 11%, making them the most trustworthy institution for the first time in the 20 years during which this centre has carried out these studies. The data from the study, however, reveals less trust in how the government is managing the situation of pandemic crisis by individuals with populist sentiments compared to individuals with mainstream sentiments (54%–68%) and, also, a lower degree of trust in the

response capacity of the National Health Service (47%–61%). The percentage point differences indicated, exactly 14% in both cases, have statistical significance and allow for an affirmative answer to research questions 1 and 2 on the impact of populist sentiments on the trust in social institutions (political and health), thus, being in line with the references identified in the literature.

Crossing the "political attitude" and "main source" variables shows that almost all media is chosen by a higher percentage of individuals with mainstream attitude. These results are in line with a trend towards increased trust in authorised sources in times of greater risk and uncertainty, such as those that marked this study. The exception is the "social media" source: the individuals that indicate it as their main source are divided into 45.5% with mainstream attitude and 54.5% with populist attitude. After breaking down this analysis, it was ascertained that 6.2% of the individuals with mainstream attitude elected social media as the main source compared to 14.5% of the individuals with populist attitude. This data confirms what we identified in the literature presented above, which refers to the preference of populist individuals for tabloid newspapers, commercial television and, increasingly, for content distributed through social media. The data, thus, allows validating hypothesis 1, which suggests a positive association between populist sentiments and the use of social media as the main source to obtain information on covid-19.

Likewise, the analysis of the behaviour of individuals, when faced with the theses that we associated with conspiracy theories, revealed results in line with other results that we cited throughout this study. Namely: with regards to the conspiratorial belief "coronavirus is a Chinese biological weapon developed at the Wuhan Institute of Technology", it was rejected mainly by individuals whose main source was any media, except those who elected social media, in which case the percentage of acceptance and rejection (50% each) was the same. It should also be noted that rejection values are exceptionally high in media that imply greater selectivity and an active attitude in the search for information (digital newspapers, 82.5%, and internet searches, 83.3%), compared to the information media whose consumption tends to be passive and accidental (television and social media). The statistical test proved a significant association between the "source" and "misinformation" variables, positively correlated. This data validates hypothesis 2, which suggests the association between the use of social media as the main source of information on covid-19 and the acceptance of content associated with conspiracy theories on that same issue.

7. Study Limitations

We highlight some critical limitations of the present study, which deserve consideration in future developments due to analysis insufficiencies and the biases they may have caused. First, the non-segmentation of the content presented on social media (where anonymous rumours co-exist side by side with mainstream media publications) and on television (where the variety of informational, opinion or entertainment content

also co-exists). Secondly, social media has developed credible information mechanisms on the pandemic, supported by accurate information, automatically highlighted in each user's feed. At the same time, they created mechanisms to scrutinise and report false information, actively collaborating in the fight against the dangers of infodemics. The WHO, in turn, started a dedicated messaging service on WhatsApp and Facebook in Arabic, English, French, Hindi, Italian, Spanish and Portuguese, intending to convey reassurance and correct information on the pandemic (Sahni & Sharma, 2020). The effects of these actions were also not considered by this study. Lastly, the demographic data collected (age and gender) did not allow identifying significant differences in the use of the various means and the trust attributed to them, so it would be helpful to consider other untested variables (education, income, among others). This limitation is proven by the results of recent studies (Nielsen et al., 2020), which reveal that people with low levels of formal education are more likely to rely on social media applications for information on coronavirus, also being more prone to answer simple questionnaires on covid-19 wrong.

8. Conclusions

The results point to various perceptions that cross and unite the concepts designated in this study: populism, media choice, and conspiracy theories. In pandemic times, having just entered the state of emergency and mostly confined, individuals questioned consumed information from all available sources (television, social media, digital newspapers, and the internet). However, they attributed greater credibility to conventional means of information — to television and newspapers. Social media, despite being regularly consulted, only deserved the trust of a minority. We highlight the determining role that individuals continue to assign to the professional mediators — despite the continuous torrent of information to which they are exposed, television continues to be the reference source of information. Digital newspapers largely supersede the importance they attach to unfiltered professional and deontological information that crosses social media. Thus, we can suggest elements that point towards digital literacy skills — having ascertained that there is an attribution of a hierarchy in information — with journalism obtaining greater credibility than what is conveyed by social media.

We clearly note that populist attitudes will not be the only or even the strongest predictors of acceptance of conspiratorial beliefs on covid-19; to this extent, identifying other relationships will be a task for future research in order to propose answers and communication strategies suitable to new situations of unprecedented global crisis, as in the present case. Nevertheless, this study identified the association between political attitudes of populism and the choices that individuals value to be informed about the disease. Individuals with populist sentiments tend to privilege social media as a source of information; individuals with mainstream attitudes prefer to rely on professional information resources. In line with the literature presented, this study suggests that individuals with populist sentiments tend to move away from mainstream information media — which the populist ideology described as close to the elites and associated with vested

interests. In addition to informational preference, the remaining data that characterise individuals with populist sentiments are consistent with each other — greater distrust of government officials and the capacity of the National Health Service, accompanied by a higher percentage of acceptance of misinformation and source selection profile. As a result, these individuals will find themselves in a situation of greater vulnerability to the infodemic outbreak to which they are exposed. These individuals are the ones who least reject false theories, in this case about the pandemic, its causes and its nature. More specifically, the data in this study confirms a relatively stable perception: that when used as a source of information, social media can represent a significant risk to public health, as two interconnected roles are developed, with non-negligible consequences: the role of disseminator of false and conspiratorial beliefs and of discrediting official messages on the battle against the disease.

Lastly, we have identified what constitutes, in our perspective, the most relevant contribution of the present study and which crosses the complementary and interconnected scientific fields of studies of the media (from media education to media literacy) and political studies (from citizenship practices to political participation). By showing the association between populist attitudes and the selection and importance of information sources, the results of this study show the vulnerability of these individuals when faced with misinformation and conspiratorial beliefs, with consequences in terms of the formation of their opinion and the public action that they will carry out. Times of crisis exacerbate the effects of this process, as well as its social impact. We know that the perceptions of risk, not actual risk, determine how people react to crises. Factual information, but also the various types of wrong information (inaccurate and purposefully false information), when accepted as valid, shape the way people understand and respond to this public health crisis, as well as their assessment on how institutions are handling it. That has a practical implication: these perceptions point to the importance (and the need) of media literacy actions that provide individuals with mechanisms for measuring the credibility of the information sources. Knowing that conspiratorial beliefs can be easily spread through social media, working on groups that are more likely to obtain information on social media is positive for breaking this vicious circle of misinformation. By identifying factors that influence this circle, this study will make a positive contribution towards designing strategies that mitigate the risks and threats that this same process contains — thus, favouring the flattening of the infodemics and misinformation curves.

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