

# Covid-19 in Brazil: Political controversies over social isolation measures to control the pandemic. A science vs. antiscience dispute?

*Covid-19 en Brasil: Controversias políticas por las medidas de aislamiento social para controlar la pandemia. ¿Una disputa entre ciencia y anticiencia?*

*Covid-19 no Brasil: controvérsias políticas sobre medidas de isolamento social para controle da pandemia. Uma disputa ciência versus anticiência?*

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## Abstract

The Covid-19 pandemic has narrowed the relationship between scientists and leaders around the world, with challenging decisions shared by both areas. Social isolation measures in Brazil as a way to control Sars-CoV-2 cases were involved in an intense political debate. Our aim in this article is to establish whether this dispute can be perceived as a science vs. antiscience controversy. In order to do so, we used criteria based on the Social Studies of Science and Technology (STS), which understands science fact as co-produced by social legitimation and influential actors, and Collins & Pinch approach to define an antiscientific discourse. By searches in the press and Twitter, from the first case of Sars-CoV-2 in Brazil – 25 February 2020 – until the 26th of April, we found three important political actors in the social isolation debate: 1) João Doria, governor of São Paulo; 2) Henrique Mandetta, ministry of Health; 3) Jair Bolsonaro, president of Brazil. Although there were different approaches in relation to science, with actor (1) dialoguing with an elite scientific community, actor (2) avoiding the debate initially, and referring to a more insulated science with selective debates; and actor (3) having a science-related populism approach, the investigation concluded that social isolation measures debate in Brazil were not polarized as a science vs. antiscience debate. Science and its symbolic authority were used by all actors to legitimate their positions, and, for this reason, we believe it would be very difficult for the general public to analyze whether these actors were using good quality evidence to support their positions. Further studies can invest in the analysis of social consensus production beyond scientific claims.

**Keywords:** Covid-19, dissent and disputes, quarantine, antiscience, science controversy

## Resumen

La pandemia de Covid-19 ha estrechado la relación entre científicos y líderes de todo el mundo, con decisiones desafiantes compartidas por ambas áreas. Las medidas de aislamiento social en Brasil como forma de controlar los casos de Sars-CoV-2 estuvieron envueltas en un intenso debate político. Nuestro objetivo en este artículo es establecer si esta disputa puede ser percibida como una controversia entre ciencia y anticiencia. Utilizamos criterios basados en los Estudios de Ciencia, Tecnología y Sociedad (CTS), que entiende el hecho científico como coproducido por legitimación social y actores influyentes, y el enfoque de Collins & Pinch para definir un discurso anticientífico. Mediante búsquedas en prensa y Twitter, desde el primer caso de Sars-CoV-2 en Brasil –25 de febrero de 2020– hasta el 26 de abril, encontramos tres actores políti-

cos importantes en el debate del aislamiento social: 1) João Doria, gobernador de São Paulo; 2) Henrique Mandetta, ministro de Salud; 3) Jair Bolsonaro, presidente de Brasil. Si bien hubo diferentes enfoques en relación a la ciencia, con actor (1) dialogando con una comunidad científica de élite, actor (2) evitando el debate inicialmente, y refiriéndose a una ciencia más aislada con debates selectivos; y actor (3) con un enfoque de populismo relacionado con la ciencia, la investigación concluyó que el debate sobre las medidas de aislamiento social en Brasil no se polarizó como un debate entre ciencia y anticiencia. La ciencia y su autoridad simbólica fueron utilizadas por todos los actores para legitimar sus posiciones y, por esta razón, creemos que sería muy difícil para el público en general analizar si estos actores estaban usando evidencia de buena calidad para respaldar sus posiciones. Otros estudios pueden invertir en la investigación de la producción de consenso social más allá de las afirmaciones científicas.

**Palabras clave:** COVID-19; disidencia y disputas; cuarentena, anticiencia, controversia científica

## Resumo

A pandemia de Covid-19 estreitou a relação entre cientistas e líderes de todo o mundo, com decisões desafiadoras compartilhadas por ambas as áreas. As medidas de isolamento social no Brasil como forma de controlar os casos de Sars-CoV-2 estiveram envoltas em um intenso debate político. Nosso objetivo neste artigo é estabelecer se esta disputa pode ser percebida como uma controvérsia entre ciência e anticiência. Utilizamos critérios baseados nos estudos de ciência, tecnologia e sociedade (ECTS), que entendem o fato científico como coproduzido por legitimação social e atores influentes, e o enfoque de Collins & Pinch para definir um discurso anticientífico. Mediante buscas na imprensa e no Twitter, desde o primeiro caso de Sars-CoV-2 no Brasil –25 de fevereiro de 2020– em 26 de abril, encontramos três atores políticos importantes no debate do isolamento social: 1) João Doria, governador de São Paulo; 2) Henrique Mandetta, ministro de Saúde; 3) Jair Bolsonaro, presidente do Brasil. Embora tenhamos registrado diferentes abordagens em relação à ciência, com o ator (1) dialogando com a elite da comunidade científica, o ator (2) evitando o debate inicialmente, e referindo-se a uma ciência mais isolada com debates seletivos; e ator (3) com uma abordagem de populismo relacionado à ciência, a investigação concluiu que o debate sobre medidas de isolamento social no Brasil não foi polarizado como um debate ciência versus anticiência. A ciência e sua autoridade simbólica foram usadas por todos os atores para legitimar suas posições e, por isso, acreditamos que seria muito difícil para o público em geral analisar se esses atores estavam usando evidências de boa qualidade

para sustentar suas posições. Novos estudos podem investir na investigação da produção de consensos sociais para além de alegações científicas.

**Palavras-chave:** Covid-19; dissidências e disputas; quarentena, anticiência, controvérsia científica

## Introduction

On February 26th 2020, as the world registered 80,239 cases and 2700 deaths from Covid-19 (WHO, 2020a), the first case of Sars-CoV-2 in Brazil was reported in São Paulo, Brazil's largest city, with a 61-year-old traveler from Italy, Lombardy region (Brasil, MS, 2020). Nine days after this registration, the first death was confirmed in Brazil, also in São Paulo (Cambricoli & Ribeiro, 2020). This led the state government to progressively recommend the closure of non-essential businesses (G1 SP, 2020). An intense debate on quarantine measures arises in the country, popularizing the expression “flattening the curve”, with graphics showing how a sudden and exponential increase in cases would lead to a health system collapse. An important factor in this debate was a study conducted by the Imperial College London (Ferguson et al., 2020), which projected 1 million deaths in Brazil if quarantine measures or mass testing were not adopted. The study's results were broadcasted on YouTube by the scientific communicator and biologist Átila Iamarino on March 20th. The video, in April 2020, had more than 5.5 million views (Iamarino, 2020) and the biologist became progressively influential in the mainstream media (Folha de S.Paulo, 2020; TV Cultura, 2020).

With the advance of the debate and the growth in the number of deaths, quarantine is decreed in the state of São Paulo on March 24 (Dantas, 2020). On the same day of this announcement, the president of Brazil, Mr. Jair Bolsonaro, declares the measure is excessive and calls the governor of São Paulo a “lunatic” (CNN Brasil, 2020). The Ministry of Health at the time, Henrique Mandetta, expresses hesitation with Bolsonaro's approach, with dubious press interviews (G1, 2020; Salviano, 2020). A couple of weeks later, scientists projected that, without any restriction for circulation, Brazil was on track to become the world epicenter for Covid-19 (Menezes et al., 2020).

This is the condensed narrative of how social isolation in Brazil as an initiative to contain Covid-19 was situated in a highly polarized national political debate. In the Brazilian context, “social distancing”, “quarantine”, “social isolation”, “horizontal isolation” were terms used to express a reduction in circulation, the closing of non-essential services (hospitals, supermarkets and pharmacies remained open), with no use of force to ensure the restriction<sup>1</sup>. As detailed above, the controversy lies in the level of this restriction, with different arguments being used to support a variety of positions concerning the matter.

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<sup>1</sup> We are going to use these terms in the article according to Brazilian context. The expressions are often used as opposed to the so-called “vertical isolation”, a strategy in which only the most vulnerable to Covid-19 would be advised to distance themselves from others. See section 3.3.2.

Our aim is to determine whether it can also be perceived as a science vs. antiscience controversy, according to influential actors. In order to do so, we tracked main political actors and analyzed their public statements while the dispute was happening based on authors from the Social Studies of Science and Technology (STS). The Social Studies of Science and Technology (STS) conceives scientific facts in terms of a co-production between science, society and a variety of actors (both humans and no-humans) (Jasanoff, 2004; Latour, 2005). The field defines science and society as dynamic institutions, in which the consolidation of facts is perceived as provisional, being the result of instruments of validation and legitimation. Some facts recognized as natural, in the sense that they are no more object of interrogation, are stabilized controversies that may come to surface once their black box is opened.

Scientific facts become ahistorical and naturalized, as if they had been always a consensus – with history, in most cases, being reduced to a sum of curiosities from a science that can be considered as less scientific than today's. Kuhn (Kuhn, 2007) was a pioneer in showing that science works as an assembly of a puzzle, in which some parts are left out or silenced after the formation of a paradigm. Additionally, for STS, truth and the so-called “errors” or “beliefs” must be explained by the same causes, social ones; and not one being the result of truth and nature, and the other being based on misconceptions (Bloor, 1976). Nature is often the end result and not the starting point of a complex process of legitimation and networks, involving different non-human agents and elements, which, far from being inert, change the flow of policies and human lives (Latour, 1994; Latour & Woolgar, 1979), as we can see with the recent Sars-CoV-2 pandemic.

Authors from this field consider there are advantages in following “hot” topics, as they are easily traceable at the time it occurs (Venturini, 2010), with great contribution to understanding institutions (Callon, 1986; Latour, 2005, 2011; Law, 2004; Venturini, 2010). Several studies have consolidated this perspective with a variety of objects, such as the mapping of the human genome (Reardon, 2001), the decision-making processes on embryo research (Mulkay, 1994), the molecular research in oncology (Fujimura, 1988), the labeling of genetically modified foods (Klintman, 2002) and the use of science in courts (Cambrosio et al., 1990).

It's needless to say the Covid-19 pandemic was a “hot” topic, full of controversies. An epidemic is an event that mobilizes a historical chain of values that returns with great dramatic intensity to all those involved (Rosenberg, 1992). Authors have described the Covid-19 pandemic as a loss of our future's perspective, with deep social adjustments (Agamben et al., 2020; Latour, 2020; Santos, 2020; Soares, 2020). In the midst of this intense changes, science facts were also not stabilized during the beginning of the pandemic.

## Methods

Based on the Social Studies of Science and Technology (STS), this article analyzes how isolation measures to control Sars-CoV-2 were debated in Brazil in order to verify whether it can be considered a science vs. antiscience dispute. Latour (2011) considers there are some sources of uncertainties and guidelines that may serve as a takeoff for the researcher to follow the controversy without stabilizing facts – in this research, that would mean considering what is scientific or not before investigating social data. The guidelines are: 1) enter the network; 2) identify the spokespersons; 3) select what are the sources of record in which this controversy materializes; 4) and map the relationship between its actors in order to understand how they reinforce each other (Latour, 2011).

### 1) Enter the network

As the dispute was public at the time, a way to enter the network was through the press. By searching in Google for key terms (“social distancing”, “quarantine”, “social isolation” and “isolation”), from the first case of Sars-CoV-2 in Brazil – 25 February 2020 – until the 26th of April, it was possible to observe some political actors were using the press and social media to defend their position for or against social distancing as a measure to control the pandemic.

### 2) Identify the spokespersons

We also identified the controversy was being held between three main actors: President Jair Bolsonaro, João Doria, the governor of São Paulo, and Henrique Mandetta, then the Minister of Health [1-5]<sup>2</sup>.

### 3) Select what are the sources of record in which this controversy materializes

By searching for key terms (“social distancing”, “quarantine”, “social isolation” and “isolation”), from the first case of Sars-CoV-2 in Brazil – 25 February 2020 – until the 26th of April, we focused on the following sources:

1. João Doria’s Twitter
2. Henrique Mandetta’s Twitter and the official twitter account of the Ministry of Health
3. President’s Jair Bolsonaro Twitter
4. Four TV statements from Jair Bolsonaro
5. Press in Brazil<sup>3</sup>

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2 The numbers refer to a database where tweets, press materials, as well as other sources of data, can be found. In order to easily find the material, the data can be organized by title. Available at: [https://www.zotero.org/groups/4703289/razn\\_y\\_palabra/library](https://www.zotero.org/groups/4703289/razn_y_palabra/library).

3 From the Google Search, we selected relevant and professional media outlets: UOL (website), Folha de S. Paulo (newspaper), Correio Braziliense (newspaper), O Globo (newspaper), Estado de Minas (Newspaper), G1 (website), R7 (website), Exame (magazine), Agência Lupa (website)

Our objective was not to exhaustively analyze everything that has been published or posted on the subject, but to look for relevant materials that could materialize the controversy; that is, find places where the actors left their traces (Latour, 2005; Venturini, 2010).

#### **4) Map the relationship between its actors in order to understand how they reinforce each other**

During the analysis, we also focused on how the actors would refer to one another, concerning the social isolation as a measure to control Sars-CoV-2 infections.

Another step in the research methodology was to consider, among the collected data, what could be considered closer to science and what would be further away from scientific consensus. As mentioned in the introduction section, for STS, a scientific fact is stabilized through evidence, but also through influential actors in the network (being then scientists or not). It's, therefore, a result of a co-production between science and society. Based on that, our aim was to map the legitimation process of a scientific fact; and, in order to do so, we used the assumptions of Collins and Pinch (1979) to analyze what would be an antiscientific discourse from this perspective. For the authors, an idea can be considered unscientific for three reasons (1) it does not follow an epistemological maxim that defines it as scientific; as the application of an induction idea or the search for basic facts; 2) it does not apply a legitimate method in the community; 3) its content is incompatible with established scientific knowledge (Pinch & Collins, 1979).

### **3. Results**

#### **3.1. João Doria, governor of São Paulo**

On João Doria's Twitter account, we observed his adherence to isolation measures gradually increased as the number of Covid-19 infections advanced. When the second case was confirmed, the governor stressed there would be no reason for panicking and claimed it would not be necessary to change any routine. Progressively, however, he started to mention social isolation as a necessary measure to avoid a probable health system collapse. In early April, Doria announced that, without isolation measures, the public health system would run short of hospital beds, by the thousands [3,6]. He also presented a gradual plan to exit quarantine, in which he mentions acting with the support of science. Doria records videos with experts about Sars-CoV-2 preventions and mentions that isolation is backed by science, while also congratulating scientific institutions in São Paulo. When tweeting about a meeting with Bolsonaro about isolation measures, he claims the president had an "uncontrolled attack" in which "he preferred to talk about politics and elections". The governor also deplored the dismissal of Henrique Mandetta, Minister of Health, and required the new minister follows criteria established by the World Health Organization [7].

We also analyzed press data that involved João Doria between February 25th and April 26th. There are news about caravans in support of Jair Bolsonaro and against Doria, with requests to reopen non-essential businesses [5,8]. The governor also went to the police against threats he suffered for adopting isolation in São Paulo [11] and members of Bolsonaro's previous party (PSL) filed an impeachment of the governor [9]. Doria criticized the so-called vertical isolation, a proposal defended by Jair Bolsonaro, who foresees social distance of the most vulnerable to the coronavirus [10]. The press also reports Doria had not gone to a party during social isolation, as some sources had claimed. [12]. According to the press, the governor also criticized the political treatment given to the pandemic [13, 14].

João Dória's position does not show a debate between science and antiscience, but rather a political position in which the adoption of isolation measures was linked to projections based on the health system's capacity. Based on the proposal by Pinch & Collins (1979), it can be noted there is no denial of scientific methods, nor a denial of basic facts or content that is incompatible with established scientific knowledge. This is not an unscientific or scientific discourse. João Doria associated himself with the legitimated science, congratulated scientists and institutions, and have put himself as outside of a political debate. Science, however, was used as a secondary actor.

### **3.2. Henrique Mandetta and the Ministry of Health**

Since the beginning of the pandemic, the profile of the then minister of Health on Twitter, Henrique Mandetta, has been used mostly to publicize actions by the Ministry of Health. In the network, there was no explicit defense of social isolation, a perception that changes with the analysis of the controversy in the press. Mandetta's network references the distribution of tests, homemade masks, protection for health professional and other measures. With a YouTube broadcast made on March 12, Mandetta shows alignment with the President, in which he stresses the need to protect the elderly, without requiring the population to stay at home [16]. Fake profiles, however, used the minister's name to make a declared opposition to the president [15]. There is a subtle reference to isolation on April 8, when Mandetta retweeted an image that suggests the need to decrease the number of cases to avoid overloading the health system [17].

The Ministry of Health's Twitter profile did not make an active campaign for social isolation during the mandate of Henrique Mandetta. It only referenced isolation subtly or indirectly: there are tweets about culinary activities to be done at home [82], there is mention of playing with children who are out of school, telephone services for questions about the virus [18] and instructions for isolating sick patients [83]. Tweets also points out the need for people over 60 and with flu-like symptoms to stay at home [19]. The network mentions measures to be implemented within the workplace for the non-proliferation of Sars-CoV-2, with the recommendation for employee rotation. When the first Covid-19 cases were detected, a press conference by the Ministry of Health mentions



the control of travelers and identification of the health system for the contact of cases, but not mention for isolation or quarantine in the country was made [20].

When we evaluated the news related to the former minister of Health, Henrique Mandetta, we noticed a change of tone in relation to the analysis of Twitter. On the social network, Mandetta makes no direct reference to social isolation, nor did the Ministry of Health under his command run a direct campaign on isolation. In the press, however, phrases by the health minister put him in a dubious ground concerning isolation measures [3,21,22]. Columnists also disagreed about the analysis of Mandetta's position: some reported the minister would have accepted to relax isolation measures to remain in office [23]; others claimed that he would have forced his resignation by insisting on isolation [5]. In one of the interviews that preceded his resignation, Mandetta defended social isolation on TV Globo and suggested that the president divides the country over isolation [24]. He also suggested president was not consistent [25]. On another occasion, the press reported that Mandetta had been pressured to sign a protocol in favor of the use of hydroxychloroquine, a signature he would have refused [26,27].

Henrique Mandetta's position was subtle and he tried to avoid the isolation matter in his Twitter profile. He bases his position on science, but only in other matters, such as the protection of the elderly. His position changes when he resigns, where he chose a more confrontational approach in some interviews. According to Collins & Pinch categorization of antiscience discourse, Mandetta's position can be perceived as related to science, but an insulated one, once he chose not to openly debate certain matters as a health minister.

### **3.3. Jair Bolsonaro, President of Brazil**

In the analysis of President Jair Bolsonaro's tweets in the period, there is a clear opposition to social isolation with the closure of businesses [28] and great opposition to Brazilian press. He considers the press an advocate of isolation [29, 30], and claims journalists generate panic [31] and fake news [32]. Accused of promoting pro-agglomeration acts [33,34], he tweeted journalists [35] were the ones who gathered around him. Although being opposed to more restrictive measures of isolation, Bolsonaro has expressed dubious opinions. On March 21, he reassured the Ministry of Health [36] in concerns about home isolation of infected people and showed solidarity to the victims [37]. The president also supported acts in his favor, despite the recommendation of non-agglomeration [38]; however, he had publicly discoursed ambiguous positions in this matter. On March 15, after asking that a protest aligned with his government should be canceled in a TV statement, Bolsonaro made more than 40 tweets with videos and photos of protests defending his government throughout Brazil.

Instead of focusing on isolation, the president bet was in possible drugs able to prevent serious symptoms. There are tweets in defense of the hydroxochloroquine as a treatment for Covid-19 infections, citing studies in Brazil [39]. The drug at that time had

had different results of effectiveness (Boulware et al., 2020; Gautret et al., 2020). The president also mentions doctors in favor of the drug [40], with a video of a doctor who reportedly treated 500 patients with the drug [41]. He also suggested that well-known doctors should assume they were treated with the drug – with reference to São Paulo’s Health Secretary, who tested positive for Sars-CoV-2 and had an alleged prescription for hydroxychloroquine circulating on social networks [42,43].

### **3.3.1. Jair Bolsonaro’s TV announcements**

Until April 8, Bolsonaro had made four pronouncements on Brazilian TV about the progress of Sars-CoV-2 in Brazil. On April 8, he claims he fights for the maintenance of both lives and jobs and states that even the World Health Organization claimed each country has its particularities. “The humblest cannot stop moving around to get their daily bread”. The president also congratulated a Brazilian doctor for the use and adoption of hydroxychloroquine, cited economic measures and a biblical verse. On March 31, he reinforced the need for maintaining lives and jobs and says he follows WHO guidelines [45]. On March 24, in a TV statement, he mentions governors could not adopt a “scorched earth” strategy in the coronavirus crisis. Bolsonaro also claims that if Sars-CoV-2 reaches only people over 60, there would be no reason to close schools [46]. On March 12, Bolsonaro claimed the World Health Organization had classified the pandemic “in a responsible manner”. [47]. On March 6, he asks Brazilians to follow science guidelines [48].

As for news related to Jair Bolsonaro, there are mentions on social agglomerations promoted by him, with the press emphasizing the president’s stance is not in line with what is advocated by health authorities [49,50,51]. The press also reported the president advocated for the so-called vertical isolation, “in which only the elderly and people with pre-existing illnesses would be isolated” [52,53]. Journalists also pointed out that Twitter and other networks have deleted posts from the president about the coronavirus for violating community rules. In these posts, Bolsonaro showed videos with social agglomerations in which he participated during the pandemic [54,55].

### **3.3.2. The “vertical isolation” strategy**

We also followed the category of “social isolation”, in the Brazilian press. To filter the data and hone in on the controversy already identified by the positioning of the actors mentioned above, we searched for the keywords “vertical isolation”, used by President Jair Bolsonaro to defend his strategy to contain Sars-CoV-2. “Vertical isolation” refers here to isolating only the more susceptible to more complicated outcomes, such as the elderly and those with chronic diseases. Those in favor of the strategy is opposed to the closure of business [56]. The press reports the defense of this type of approach by the business community, with divisions in the service sector and among large retailers

[57,58,59]. The industrial sector and other actors, such as a former Minister of Health [60] and some doctors, also defended the “vertical isolation” strategy [61, 62].

For the most part, however, the press mentions actors in defense of the isolation of all those who are not working on essential services, the so-called “horizontal isolation”. There is a letter from seven former ministers of health addressed to the UN in repudiation of Bolsonaro’s position in the pandemic and an interview with another former minister of health, who considered Bolsonaro’s strategy on the isolation matter to be nonsense [63, 64]. The press reports on the defense of horizontal isolation by ministers of the Federal Supreme Court [65] and various experts, with texts that showed that the position of “vertical isolation” was a minority position in science [66, 67, 68]. Experts from Brazilian universities, through news sites linked to their institutions, also pointed to more flexible isolation risks, indicating support for more restrictive measures [69,70].

In relation to “vertical isolation”, the press reports that the Minister of Health had a dubious position: sometimes defending horizontal isolation [71], sometimes seeing the possibility of adopting an isolation restricted to the most vulnerable to the virus [72]. The press also reported a hesitant position by the Army, Bolsonaro’s allied institution, for whom the conclusions about any kind of isolation were premature, although the institution saw the need for consensus between different government spheres [73]. There is also evidence that different business sectors backed Bolsonaro’s position, but the press reports these positions as being opposed to those of health experts [74,75]. News also compared the different isolation measures in relation to their consequences for the economy, sometimes with worse consequences [76], sometimes as the best option [77]. According to the press, the Minister of Economy, Paulo Guedes, defended that there should be a balance between social isolation and what the economy endures [78]. There are also references to the failure of countries that took a long time to adopted circulation restrictions, such as Italy and Turkey [79, 80], and of world leaders who had to change their position over the course of the pandemic [81].

Bolsonaro’s approach to science is no antiscientific, in a sense that, in concerning social isolation, we did not identify Bolsonaro had denied basic facts – he even corroborated isolation, but only of those most vulnerable through his “vertical isolation”, he did not particularly deny any scientific established method and even tried to cite studies and the World Health Organizations to support his claim. A guideline from the World Health Organization published in March 18<sup>th</sup>, classified different measures to contain coronavirus, among them, are the protection of the most vulnerable (WHO, 2020b). Bolsonaro’s position, nevertheless, can be classified as a science-related populism as proposed by Mede and Schäfer (2020), when he opposes social isolation to the economy he establishes a scientific elite against Brazilian people, with scientists not representing the need for the families to support themselves, as they would stay at home with no income with social isolation (Mede & Schäfer, 2020).

## 4. Discussion

Considering a scientific fact as co-produced by society and its process of legitimation—and an antiscience approach as openly denying methods established within the scientific community—the controversy around more restrictive social isolation measures to control Sars-CoV-2 infections, was not a science versus antiscience debate, but rather a controversy in which science were used to legitimate different positions.

Jair Bolsonaro used the World Health Organization when he thought it suited him and also used the disclosure about risk groups first postulated to defend his thesis on vertical isolation, that only these groups would be affected; and, therefore, social isolation should only prioritize them. The president also used scientific imagery when he cited studies to defend his strategies and the use of hydroxychloroquine; at the time, with different studies. Bolsonaro's position can be classified as a science-related populism as proposed by Mede and Schäfer (2020), when he opposes social isolation to the economy, he establishes a scientific elite, together with Brazilian press, as against Brazilian people.

We identify that, for the most part, the minister of health, Henrique Mandetta, has avoided an open debate over isolation measures. The Ministry of Health, under his command, has done no campaigns in favor of isolation or practical actions in this direction. The Minister of Health also signed a scientific article that defended isolation (Croda et al., 2020), but there's no indication of the Ministry of Health as an institution doing a concrete action concerning more restrictive measures to control Sars-CoV-2. Henrique Mandetta's position was subtle and he tried to avoid the isolation matter in his Twitter profile. Mandetta's position can be perceived as related to science, but an insulated one, once he chose not to openly debate certain matters; at least, until his resignation was foreseen.

In the network analysis, it is noted that the governor of São Paulo defended the isolation and took advantage of this defense to make an open confrontation against the President of the Republic; while Bolsonaro, at least on his Twitter account, chose more veiled and indirect debates in relation to the governor. Another relevant factor is that the leadership dispute over isolation may have prevented further analysis of the situation in the state of São Paulo; which, even with the adoption of recommended isolation, registered low isolation rates, with 58% on April 27th, when the expected rate is 70% (Cruz, 2020). The state closed non-essential businesses and schools but did not adopt the lockdown. On April 28, São Paulo accounted for the highest number of deaths in the country (2049), more than 24 thousand cases and had an ICU occupancy rate of 81% in the most populous cities (Santiago, 2020). João Dória's position does not show a debate between science and antiscience, but rather a political position in which the adoption of isolation measures was linked to projections based on the health system's capacity. João Doria associated himself with the legitimated science, congratulated scientists and institutions, and have put himself as outside of a political debate. Science, however, was used as a secondary actor.

While some authors consider the use of a scientific rhetoric and the discussion of only particularly studies as being antiscientific (Hameleers, 2021), our approach here is the perception of a public debate. Our analysis shows it would be very difficult for the general public to identify whether these actors were using good quality evidence to support their positions, as all of them tried to use science in their favor. Social isolation is a complicated issue that affects different sectors. Based on that, we believe that the claim that a consensus should be reached by science can confuse the general public, since even in science there are internal controversies, and actors try to use scientific claims when appropriate. As Hamellers (2021) has written, perhaps the issue is not antiscience per se, but the collapse of a debate based on scientific claims.

## 5. Conclusion

Based on the above data, we conclude the debate over social isolation as a measure to control Sars-CoV-2 infections in Brazil was not a science vs. antiscience debate. The adoption of more restrictive isolation measures in Brazil was involved in a political dispute, with science being used by actors to defend strategies. We believe that further studies can invest in the investigation of consensus production beyond scientific assertions.

## 6. References

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