Misinformation and Political Behavior: the Brazilian Perspective

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Abstract

Political misinformation is an urgent preoccupation for many people and institutions engaged in defending democracy. However, there is not a large amount of research on this subject in political science. In this paper, I try to discover whether or not Brazilian voters are misinformed about some important political issues. To do so, I created an online survey using the Survey Monkey platform, presenting respondents with a few questions about sensitive political issues in the Brazilian context. The results suggest widespread political misinformation on topics like taxation, public debt, and electronic voting machines. There is also a moderate level of misinformation concerning a government program of income transfers. This research project also shows that partisanship has the strongest influence on the probability of being misinformed about specific political issues.

Keywords: *misinformation; accurate information; information processing; democracy; partisanship; social media*

1   Introduction

The word of the year for 2016 - according to the Oxford Dictionaries - was "post-truth", an adjective defined as: "relating to or denoting circumstances in which objective facts are less influential in shaping public opinion than appeals to emotion and personal belief." Responding to the same trends, Google created an application to flag "fake news." Last March, the United Nations and other international organizations published the "Joint Declaration on the Freedom of Expression and 'Fake News,' Disinformation and Propaganda."

What do these initiatives suggest to us? There is a considerable danger that objective facts about current events are losing their currency, and that steps must be taken to combat the effects of fake news and other sources of misinformation, especially in politics, the predominant concern of this article. If accurate political information is the currency of citizenship, as Delli Carpini and Keeter (1996) said, democracy could be seriously vulnerable in a context of widespread political misinformation.

As a result, the big challenge, as stated by Kunklinski et al. (2000), is not when people are uninformed about politics, but when they are *confidently misinformed*. This is a real problem, and resolving it is an indisputable necessity. Therefore, this project advances this research agenda, and asks new questions about political misinformation in the age of social media. For instance, would correcting misinformation in politics generate any effect concerning political behavior? How widespread is misinformation among the electorate? What is social media's role

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in spreading misinformation? Who is more susceptible to misinformation? Who is more likely and more willing to change their opinion: a misinformed person or an accurately informed one?

These are some general questions about misinformation that have been relatively well studied in the United States, but there is almost nothing on the subject in Brazil. Therefore, in this article, I present a very first view of the Brazilian electorate on this topic. I start from the following questions: *(1) how widespread is political misinformation among the Brazilian electorate; (2) what kind of person is more susceptible to misinformation; (3) what impact does misinformation have on political behavior; and (4) which form of media (if any) is more associated with false information: the Internet or traditional means, such as TV or newspapers?*

Carefully defining the concept of misinformation is important. Of course, this is hardly simple to conceptualize, especially in politics, because many topics depend on people's beliefs. For instance, one may evaluate a government database about how much money is assigned to income redistribution programs and think that it is an exaggeration. Others might see it as not enough to address social disparities. Individuals will share their own impressions with others, and the information (correct or not) may become widespread. Who would be correct or misinformed in this case? How do people know what information is correct or incorrect?

Resolving this philosophical problem is not my goal; to conduct this analysis, I will follow Fezter's (2004) idea that misinformation is simply defined as false, mistaken, or misleading information, as well as Kuklinski's (*idem*) argument that people are misinformed when they confidently hold wrong beliefs. In a more complex conceptualization, Hofstetter et al. (1999), argue that misinformation has to do with ideologically charged facts. For the purpose of this article, misinformation is understood to be any piece of information that contradicts an official government report or scientific finding on the issues discussed here.

To test these dynamics within the Brazilian electorate, I ran an online survey focused on political issues that I expected to be affected by misinformation. Examples include: the portion of Brazil's federal budget reserved for social policies; the profile of the people who benefit from these policies; the level of taxes paid; the proportion of the federal budget used to pay the public debt; and questions about the Brazilian electoral system (such as voting machine use). In addition to answering a number of "yes" or "no" questions, respondents were asked about their level of certainty on a scale from 0 to 5, where 0 designated "uncertain" and 5 "very certain." This measure showed respondents' confidence in their answers, which were very high in my sample.

Having collected these data, I took a first look into how misinformation functions in the Brazilian electorate. Within this sample, there were many misinformed respondents about the level of taxation, the public debt/budget ratio, and voting machine use. Additionally, a significant percentage of the respondents believed, for instance, that the majority of poor Brazilian women got pregnant to receive more money from the *Bolsa Familia* (BF program) - a government income-transfer program - and, in the same vein, that the majority of poor people have not wanted to work anymore after the creation of the BF program.

Whereas I cannot generalize my findings[1] - they are quite alarming. Although the vast majority of the respondents have a high level of formal education (college or post-graduate), they are misinformed about some important political issues. If this is happening within the privileged echelons of Brazilian society, one can only imagine the level in the rest of the population (this is my the next step). It is difficult to imagine the results will provoke optimism.

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[1]My sample is as online survey and not a random one. As a result, it does not have much external validity, although datasets with social network information can be very useful for testing theories in the social sciences (Bisbee and Larson, 2017).

2 The Theoretical Path of Misinformation

Accurate information – in a sense of having it or not, and using it or not, to make political decisions – has been a conspicuous subject of research for political science for a long time (Bartels, 1996; Berelson et al., 1954; Converse, 1964; Delli Carpini, 2000; Lupia, 1994; Lupia and McCubbins, 1998; Page and Shapiro, 1992; Snidernam, Brady and Tetlock, 1991; Zaller, 1992), while misinformation has received less attention. Kuklinski et al. are pioneers in this analysis regarding the U.S.. They claim, contrary to what research about the American electorate has argued (there are two categories of voters: the informed and the uninformed), that there are, de facto, three distinctions: the informed (those with actual, accurate beliefs); the uninformed, (those without factual beliefs–they are in the dark); and the misinformed (those who firmly hold wrong beliefs). They are "not just in the dark, but wrongheaded" (p. 793). To them, the big problem here is not people lacking information, but people strongly supporting erroneous pieces of information and using it to form their political preferences.

Misinformation is an obstacle to educating the public with correct facts, and widespread misinformation can guide collective preferences to bad choices, which would be very different if people were correctly informed (Kuklinski et al., *idem*). For instance, fundamental public policies can be stopped, or even not developed, as the result of widespread incorrect views about them. When studying rumors surrounding health care reforms in the U.S., Berinsky (2015) found that misinformation negatively influenced the continuity of that policy and stopped it from being expanded. According to Kuklinski's work, many Americans confidently held incorrect beliefs about public policies, and the combination of those beliefs and preferences are a barrier to informing those people. Another alarming finding about the American people is their unwillingness to accept correction, especially partisan individuals (Berinsky, 2015; Kuklinski et al., 2000; Lewandowsky et al., 2012).

An even more problematic scenario can be the political system itself. At times, it not matter if information is correct or not; just whether political forces win or lose votes. Politicians and political parties can want people to keep believing things that are incorrect if it means more votes for them (Hochschild and Einstein, 2015). When politicians understand that a misinformed voter will keep them in office, they will do nothing to correct that voter's misconceptions. On the contrary, they help them stay misinformed. Normally, as Hochschild and Einstein found, people who are correctly informed are less active politically than those who are misinformed. Moving away from the active use of misinformation requires great effort, and sometimes abandoning the beliefs of the community to which one belongs (*idem*). Maybe this situation explains why party identification has been shown to be an important reason behind misinformation. It is important to re-iterate that political parties are a powerful source for spreading all kinds of political information, (Duverger, 1980) including misinformation.

Correcting misinformation is a very difficult task, the cost of correction is very high, and doing so is almost always unsuccessful (Lewandowsky et al., *idem*). Even more troublesome, people who act politically using misinformation are very confident of their beliefs and might have more difficulties changing their opinions (Hofstetter et al., 1999). The instantaneity and frequency through which every kind of information spreads through social media might complicate things even more. When people are repeatedly exposed to misinformation, it enhances the probability that they will agree with it – that is, interpret it as correct information (Ayers and Reder, 1998, p.17). Even so, political parties – or their leaders – are able to serve as tipping points for the spread of misinformation (Berinsky, 2015). Berinsky found that when a Republican refuted misinformation about Democrats (and vice versa), it can help their fellow partisans reject that

rumor, regardless of their own political predilections. However, given the electoral losses and gains at stake, this is very improbable, as found Hochschild and Einstein.

Conversely, misinformation could be only one more particularity associated with processing information. As such, a good question here could be "is there any difference in processing accurate or misinformed information?" While this is not the focus of this article specifically, I have no doubt that it is also crucial to this research agenda in the future. For instance, numerous researchers have shown people to be motivated reasoners; that is, they have great difficulty processing information that is incongruent with their views, but an immense facility to process those congruent with them (Ditto et al., 1998; Lodge and Taber, 2006; Nir, 2011; Redlawsk, 2002). Likewise, many people seek out situations or information that confirm their existing beliefs (Nickerson, 1998). People understand the world in a way that is consistent with their own political views (Jerit and Barabas, 2012). They are not capable of ignoring their prior beliefs when processing arguments or evidence (Taber et al., 2009).

We can imagine that political misinformation would be more acceptable if was in consonance with one's beliefs, although beliefs may not constrain political behavior (Converse, 1964). Therefore, in situations in which one's beliefs are at work, accurate information and misinformation, can act absolutely alike one another. When new content is compatible with one's beliefs, it requires almost no effort to process. On the contrary, it will probably be ignored. When people are searching for and processing information, the desirability of favorable outcomes seems to be the pattern (Halevy and Chou, 2014). In other words, it does not matter if the piece of information is correct or not during its processing–the goals underlying the process may direct the behavior.

There are many topics to take into account regarding misinformation, but I want to start with a few here, looking to the Brazilian case. We have seen that widespread misinformation might be a serious problem for democracy, and that correcting it is not an easy task. To correct misinformation one must first know if it is, in fact, widespread, and then look for possible explanations for why it spread. My hypotheses about the Brazilian reality are that: **a)** misinformation will be widespread among the respondents; **b)** the respondents who gather their political information predominantly on the Internet and social media will be more misinformed in comparison to those who use the traditional media (TV, radio, newspapers, and magazines); **c)** partisanship will increase the spread of misinformation; **d)** misinformation will affect political behavior.

3 Methodology

In order to create a preliminary portrait of misinformation among the Brazilian electorate, I conducted an online survey using the Survey Monkey platform from August 3-24, 2017. The questionnaire was sent to Facebook and WhatsApp users who were in my network, as well as their contacts. Only people who were eligible for vote were invited to participate in the survey: that is, those 16 or older.

I received 343 responses, with 58% men, 57% white, 56% were between 30 and 50 years, 21% between 17 and 29, and 23% between 50 and 79 years. The majority of respondents had a college degree (40% – 10% of which have not finished college) and post-graduate (40%). Certainly, this sample is very different from the average of the Brazilian people, gathered by the official census[3], which shows that 51% of Brazilians are women, 45% white, and only 13% have a college degree.

Besides the traditional socio-demographic and political questions, I asked questions about sensitive political issues, which could be incorrectly understood by the average Brazilian voter.

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[3]See here: `https://brasilemsintese.ibge.gov.br/`

In more detail, the statements were the following: **(a)** "Brazil is the only country which uses the electronic voting machine," **(b)** "Voting machines were rigged in the 2014 elections to help Dilma Rousseff win re-election," **(c)** "The Brazilian government spends most of its budget on the BF program," **(d)** "The majority of poor Brazilian women get pregnant to receive more money from the BF program," **(e)** "The majority of poor people have not wanted to work anymore after the creation of the BF program," **(f)** "Brazil has the highest level of taxation in the world," and **(g)** "The government assigns more than 50% of the federal budget to public debt payment."

After these statements, subjects answered the following question: "Do you agree that this statement is true?" The options were "yes," "no," or "don't know." If they answered "yes," they would be considered misinformed. Trying to avoid in some way what Clifford and Jerit (2016) called "self-deceptive enhancement," that is, people who cheat in online surveys to seem smarter, I asked the respondents to agree not to consult the Internet to answer the questions. They had the option of choosing "yes" or "no" to that agreement. As result, 97.5% of the participants chose "yes."

When choosing the issues to test whether or not Brazilian voters are misinformed, I googled some themes I was accustomed to see in debates on the social media and checked the quantity of times they were mentioned. For example, there were more than 40 million of citations about the statement "Brazil has the highest level of taxation in the world," 1,7 million about "The majority of poor people have not wanted to work anymore after the creation of the BF program," 612 thousand about "The majority of poor Brazilian women get pregnant to receive more money from the BF program," and 1,1 million related to "Voting machines were rigged in the 2014 elections".

To determine whether information was true or false, I used research and public reports about the BF program, public reports about the federal budget, and the Electoral Court's information on the security of the electronic voting system. These are understood as trustworthy sources of information. It is a strategy also used by Kuklinski et al. (2000).

To operationalize the analysis, I created a binary variable for each question of interest, ignoring the "don't know" answers and coding the 'no' answers as "0" (the accurate informed ones) and assigning "1" to those who answered "yes" to the incorrect statement. The reason why I did not utilize the "don't know" answers is that it means that the person is uniformed about the issue, not misinformed. For people who chose "yes" or "no," I also asked them for their level of certainty about their answer. They measured their certainty on a scale from 0 (uncertain) to 5 (very certain). I recoded this answer to optimize the operationalization. As a result, 1 and 2 points were grouped with 0 ("uncertain"), 3 became "neutral" and 4 and 5 were coded as "very certain."

Concerning the empirical analysis, I used only one question per issue for the models because the level of misinformation was very similar by topic. Then I picked questions *a*, *e*, *f*, and *g*.

At the end of the questionnaire, respondents were asked if they agreed that the BF program should be stopped and if Brazil should not use voting machines in its electoral process. I focused on these two questions because they were simpler to understand than, for instance, the federal budget. In my first analysis, the "yes" answer to those questions can be seen as important evidence that misinformation affects political behavior, which should not be a surprise given that Kuklinski et al. also found a significant relation between misinformation and the rejection of some public policies in the United States.

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4 Empirical Analysis

4.1 Is Misinformation Widespread?

Concerning Hypothesis "A," as shown in Figure 1, almost 42% of the respondents believed that Brazil was the only country in the world using the voting machine in its electoral process. They are misinformed. According to Barrat (2012) and the National Democratic Institute (NDI)[2], thirty countries, including the USA, are using, have used, or are testing electronic voting machines in their electoral process.

Figure 1: Level of Misinformation
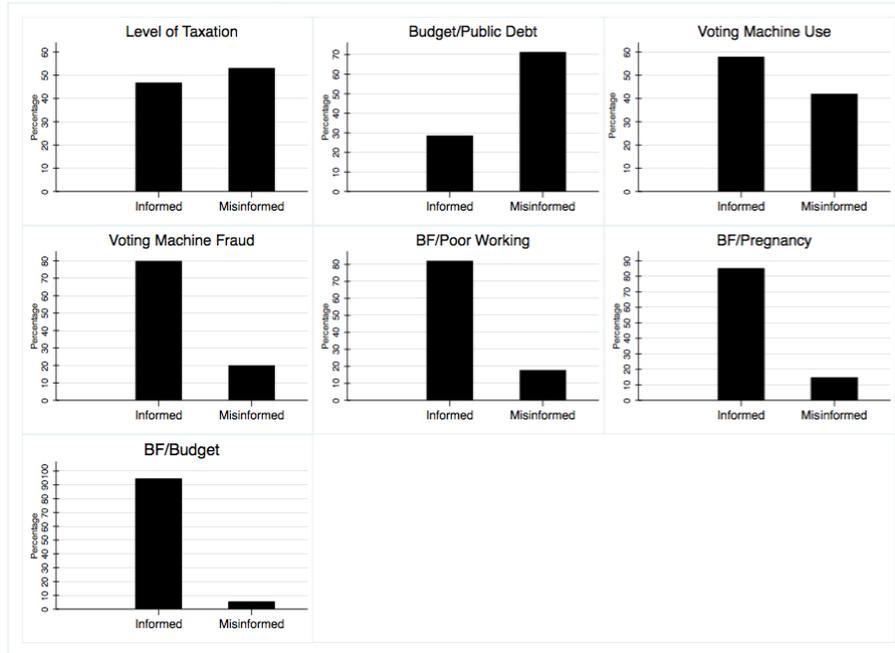
In addition, 20% of the respondents believed that the machines were rigged in 2014 to help Dilma Rousseff win reelection as president. This is also false. The voting machines were audited by the opposition party, the PSDB[3], which lost the election, and no fraud was found. Moreover, the court in charge of the election has conducted a variety of tests, including public ones[4], in the presence of representatives of every political party in the country and members of civil society organizations. Additionally, every election process in Brazil has been accompanied by a variety of international institutions, and, up to now, none of these institutions has raised any alarms about the process.

The question related to BF showed that only 5% of the respondents agreed that most of the federal budget is designated to the program, but almost 15% believed that the majority of poor women got pregnant to gain more money from BF, and 18% believed that the majority of poor people did not want work anymore after the creation of the BF. Campelo and Neri (orgs.) (2013),

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[2]The National Democratic Institute is a nonprofit, nonpartisan, nongovernmental organization that has supported democratic institutions and practices in every region of the world for more than three decades (https://www.ndi.org/)

[3] More here: https://goo.gl/ZC85mg

[4]To test the reliability of the system, the Electoral Court (Tribunal Superior Eleitoral), promotes from time to time Public Safety Testing, where experts or group of experts try to break into the electronic voting system. There have been no reports that they have succeeded in doing so, and Brazil is the only country in the world that conducts this type of test. See more in http://www.tse.jus.br

researchers from the Institute for Applied Economic Research (IPEA) - a public institution that provides technical support to the federal government with regard to public policies, have shown that BF is the cheapest federal income transfer program in Brazil today, while Oliveira and Soares (2012) found that the BF Program does not cause people to not look for jobs. Regarding pregnancy among poor Brazilian women, Jannuzzi and Pinto (2013) found that fertility rates dropped among those who benefited from the BF program. As a result, we can see that a significant proportion of the respondents are misinformed about BF.

Regarding taxation and the budget/public debt ratio, the level of misinformation is very high. That is, 53% of the respondents agreed that Brazil is the country with the highest level of taxation in the world, and 71% thought that the government designated more than 50% of the federal budget to public debt payments. They are misinformed about these topics as well. According to the Annual Budget Law for 2017 (LOA), 9.6% of the budget was assigned to public debt payments[5]. As for the taxation/GDP ratio, Brazil is far below the majority of G20 members[6]. No one can deny that economic issues are very complex for many people – particularly fiscal issues – primarily because the government and the mainstream media do not address them clearly. However, my results show that the majority of respondents are completely misinformed on the subject.

Some pieces of political misinformation are widespread among respondents, and this result is worrisome because 80% of the sample have at least a college degree (of them, 40% have a post-graduate degree). Additionally, as one can see in Figure 2, the participants have a high level of certainty about their answers. I cannot generalize this perception to all Brazilian voters, but there is a dangerous probability that people are completely misinformed on these relevant topics.

Figure 2: Level of Certainty about Answers
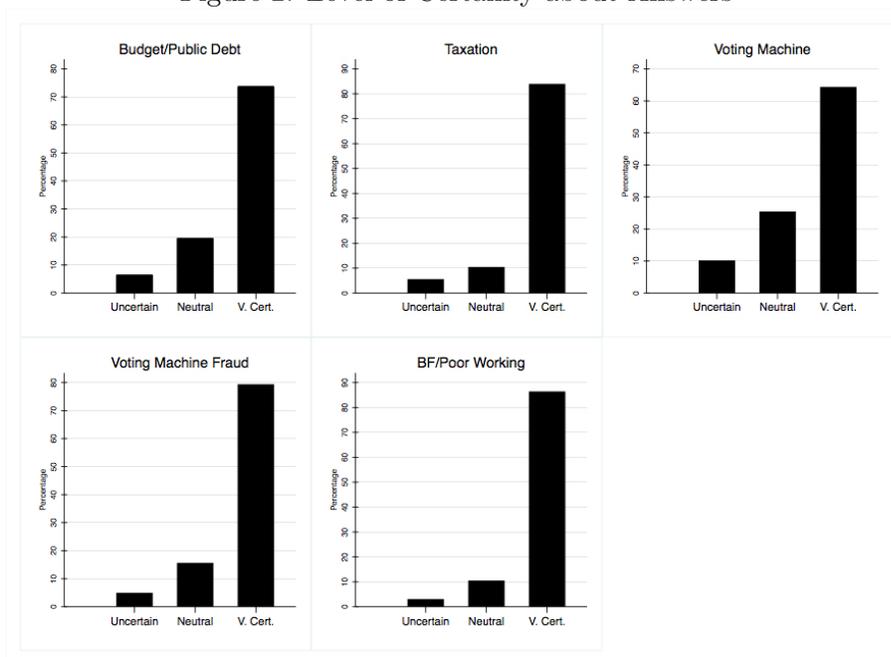
Around 64% of the sample were sure of their "yes" or "no" answer about the assertion that

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[5]More details in `https://goo.gl/ZdxeeX`

[6]See in `https://goo.gl/Gd8th9` and in `https://goo.gl/nqFDaN`

"Brazil is the only country which uses electronic voting machines," 79% that "voting machines were rigged in 2014," 94% that "Brazil has the highest taxation level in the world," and 74% that "more than 50% of the federal budget goes to the public debt payment." This means that both the misinformed and accurately informed are very sure of their knowledge about these topics.

4.2 What Explains Misinformation?

If it is true that Brazilian voters are misinformed about political issues, one should want to understand what variables explain political misinformation in order to help find strategies to correct this. Correction, however, is no easy task. I run logistic regressions, specifically *probit models*, to test all my hypotheses, wherein a positive coefficient indicates a higher probability of being misinformed about the issues addressed in the questionnaire. The dependent variable here is a binary variable specifying whether the respondent was misinformed or correctly informed.

It is also important to remember that I used only one question per issue for the models because the level of misinformation was very similar by topic, that is: "Brazil is the only country in the world which uses the electronic voting machine," "after the creation of the BF program by the government, the great majority of Brazilian poor people do not want to work anymore," "Brazil is the country with the highest level of taxation in the world," and "the Brazilian government spends more than 50% of the federal budget to pay the public debt."

Table 1:   Explaining Misinformation

	Coefficients (SE)			
Variables	VM Use	Taxation	PD/Budget	BF/PW
Information Source	. 008 (.19)	.62* (.21)	.062 (.25)	-.16 (.23)
Likes the PT	-.052* (.026)	-.14* (.028)	-.027 (.031)	-.35* (.080)
Likes the PSDB	.011(.035)	.037 (.038)	-.056 (.040)	.038 (.044)
Ideology	.034 (.034)	.029 (.036)	.028 (.040)	.030 (.043)
Gender	.096 (.16)	.090 (.18)	-.23 (.20)	-.24 (.22)
Race	-.22 (.16)	-.30 (.18)	.086 (.21)	-21 (.22)
Age	.018* (.008)	.022* (.008)	-.005 (.009)	.018 (.009)
Education	.042 (.077)	-041 (.078)	-.13 (.10)	.044 (.096)
Individual Income	-.077 (.060)	-.20* (.064)	.11 (.071)	-21* (.078)
Constant	-.92 (.67)	.42 (.66)	1.51 (.86)	-.63 (.81)
P-seudo R^2	.04	.20	.03	.27
n	249	257	189	265

*$p < 0.05$

One can see in Table 1[7] that when the statement is "only Brazil uses the voting machine," there is a small probability that a respondent who gets his/her political information on the Internet

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[7]As the P-seudo R^2 is not considered a great measure of model quality in logistic regressions (Wooldridge, 2007), I used the Stata command *estat class*, to better see the goodness-of-fit for the model. The overall rate of correct classification is estimated to be 60.24% for the model "VM use," that is, "only Brazil uses the electronic voting machines," 84.53% for "BF/PW," or "the great majority of poor people does not want to work anymore after the creation of the BF program," 73.93% for "Taxation," which is "Brazil has the highest level of taxation in the world," and 73.54% for "PD/Budget," or "the government assigns more than 50% of the federal budget to public debt payment." It is possible to say that all the models are quite well-adjusted

and social media will be misinformed in comparison to those who use traditional media. The same thing holds for questions about "voting machines," "levels of taxation" and "the public debt/budget ratio." A negative relation is noted when the statement is "the great majority of poor people does not want to work anymore after the creation of the BF program." In this case, contrary to my expectations, people who use social media have a higher probability of being accurately informed (statistically significant at .05 only for the "level of taxation").

Another explanatory variable I tested here, following a common path in the discipline, is partisanship. People who have a preferred political party might be more misinformed on some political issues. In order to examine this, I have used the two largest–and most polarizing–parties over the past 20 years in Brazil: the PT (Labor Party) and PSDB (Social Democrat Party). Supporting the PT strongly increases the probability of being correctly informed about the use of voting machines, the level of taxation, poor people working after the creation of BF, and has a small effect on the public debt/budget ratio. Conversely, supporting the PSDB is positively correlated with being misinformed on all those issues, except on the public debt/budget ratio. The PSDB's elite commonly recommend budgetary austerity regarding the payment of public debt (significant at .05 for "Likes the PT," except on the subject of public debt).

I also tested the effect of ideology on misinformation, although ideology tends not to matter much for Brazilian political behavior (Oliveira and Turgeon, 2015). I have put ideology only because of the high level of formal education of my sample. I used the respondents' self-identification on an ideological scale from 0 to 10, with 0 being extreme left and 10 extreme right. As expected, ideology had no significant effect on the level of misinformation.

As control variables, I included age, gender, race, education, and individual income. The elderly tends to be somewhat misinformed on all the issues presented in the questionnaire, but less so on the public debt/budget ratio. For race, the coefficients indicate a lower probability of a white person being misinformed about voting machine use, the poor working after BF, and the level of taxation, but also a lower probability of being informed about the public debt/budget ratio. Education has a positive effect on beliefs about voting machine use and the question about the poor working after BF; people with more years of formal education also tend to be misinformed about these issues, but are more informed about the level of taxation and the public debt/budget ratio. Wealthier people tend to be correctly informed about voting machine use, the poor working after BF, and taxation levels, but misinformed on the public debt/budget ratio[8].

Looking only at the coefficient signs, one could say that the media from where people gather their political information matters in regards to being misinformed. The results show that, in the great majority of cases, respondents who use the Internet and social media will be more misinformed in comparison to those who use TV, radio, newspapers, and magazines. This would confirm Hypothesis "B." Another important suggestion is that partisanship really can have a positive effect on spreading misinformation. This would confirm Hypothesis "C," too. Regardless of what is shown by the tests, in the logistic regression, one cannot say many things beyond the coefficient signals. To have more certainty about the results, one must look at marginal effects, setting the explanatory variables at their minimum and maximum values, and keeping all others at their means while obtaining the differences in probabilities (Wooldridge, 2007).

Calculating the marginal effects for this model, we see in Table 2, shows us that when the source of political information is the Internet and social media, there is a very small increase of 0.33% in the chance of being misinformed about the use of the voting machines, 2% about

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[8]There is statistical significance at .05 only for "age" in the relationship with the BF program and taxation level variables, and for "individual income" in the BF program and taxation level variables.

poor people working after BF, and 2% about the public debt/budget ratio when compared to those who use traditional media. However, for the statement that "Brazil has the highest level of taxation in the world," when the source of information is the Internet or social media, there is an increase of almost 24% in the probability of the respondent being misinformed. The findings suggest that the Internet and social media do not have big effects on the level of political misinformation, except for the case of taxation, where the effect is very substantial. It could be that this is the type of issue that is discussed mostly on the Internet and social media. If so, that would confirm what we saw in the theoretical discussion: when people are repeatedly exposed to misinformation, it increases the probability that they will believe it.

Table 2: Explaining Misinformation: marginal effects

| Variables | Differences in percentage | | | |
	VM Use	Taxation	PD/Budget	BF/PW
Information Source	0.33%	24%	2%	2%
Likes the PT	20%	50%	9%	32%
Likes the PSDB	5%	15%	20%	6%

When I calculated the difference between those who like and those who dislike the PT, I found that a respondent who likes the PT has 20% less chance of being misinformed about voting machine use, 50% less of being misinformed about taxation levels, 9% less chance of being misinformed about the public debt/budget ratio and 32% less chance of being misinformed about the poor wanting to work after BF. If a respondent liked the PSDB, he/she would have 5% more chance of being misinformed about voting machine use, 15% more about taxation levels, 6% more on the poor wanting to work after BF, but 20% less chance of being misinformed about the public debt/budget ratio. In other words, partisanship can either increase or reduce the probability of the respondent being misinformed about these issues.

4.3   The implications of Misinformation

Kuklinski and co-authors found a significant relation between misinformation and the rejection of some public policies in the United States. It might happen in Brazil as well. To test it (Hypothesis "D"), the dependent variables about voting machine use and the poor working after BF became independent variables in the model. The dependent variables were whether the respondent supported stopping the use of vote machines or stopping the BF program. Adopting this operationalization, I wanted to see if misinformed people were more likely to want both of these policies to end. A positive coefficient would show that misinformation affected the respondent's political behavior. Table 3[9] shows that people who were misinformed about those issues, in fact, had a very strong probability of supporting the end of the BF program and the use of electronic voting machines. Both relationships are statistically significant at the .05 level, and confirm my hypothesis.

Regarding the source of political information, the coefficient is negative, which suggests that the use of the Internet and social media could generate a lower probability of wanting the end of the use of voting machines. It does, however, have a positive coefficient about the end of the BF program, yet the coefficient is not significant. Liking the PT tends to reduce the probability

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[9]I also used the Stata command *estat class*, to better see the goodness-fit for both models. The overall rate of correct classification is estimated to be 77% for the model "Stop VM Use" and 86% for "Stop BF program."

Table 3: Misinformation and Political Behavior

	Coefficients (SE)	
Variables	Stop VM Use	Stop BF Program
Mis. VM Use	.45 (.20)*	-
Mis. BF/PW	-	.91 (.25)*
Information Source	. -.13 (.23)	.026 (.25)
Likes the PT	-.21 (.042)	.22 (.067)*
Likes the PSDB	-.11 (.042)	.005 (.046)
Ideology	-.034 (.041)	.068 (.045)
Gender	-.50 (.21)*	-.28 (24)
Race	.45 (.21)*	.033 (.24)
Age	.014 (.009)	.014 (.010)
Education	-.083 (.094)	.003 (.11)
Individual Income	-.16 (.073)	-.045 (.082)
Constant	.44 (.81)	-1.65 (.89)
P-seudo R^2	.24	.29
n	246	261

*$p < 0.05$

of wanting to end these policies (significant at .05). Among those who like the PSDB, one tends to want to end of the use of voting machines and the BF program, but both coefficients are insignificant. In regards to ideology, being right-wing can reduce the probability of supporting the end of voting machine use, but increases the likelihood of wanting to end BF (but yet again, the coefficients are insignificant).

Female respondents have a higher probability of supporting voting machine use (significant at .05), but not the BF program, as the coefficient is insignificant. Being white also can reduce the probability of supporting voting machine use (at .05), but this effect is not significant for BF. Age has no significant effect on either variable. Education can reduce one's probability of supporting the end of voting machine use (at .05), but not BF. Wealthier respondents do not support stopping the use of voting machines (at .05), and wealth has no effect on BF support.

As mentioned earlier, the coefficients do not tell us a great deal about these relationships, so they are supplemented with marginal effects. The variables of interest are set at their minimum and maximum values, while the others are held constant at their means. Table 4 shows that misinformation increases the probability that the respondent wants to end voting machine use by 13% and increases the probability that he/she wants to end the BF program by 19%. This is a strong indication that misinformation affects respondents' political behavior. This result is similar to that by Kuklinski et al. (2000) about changes in public policies in the United States.

The marginal effects also show using the Internet and social media decreases the probability of supporting the end of the use of voting machines by 4% and increases the probability of supporting the end of BF by 0.36%. These are not strong effects, but they suggest that the source of political information has a small effect on respondents' political behavior.

If the respondent likes the PT, he/she is 38% less likely to want to stop the use of voting machines and 21% less likely to want to end the BF program. PSDB supporters are 3% less

Table 4: Misinformation and Political Behavior: marginal effects

	Differences in percentage	
Variables	Stop VM Use	Stop BF Program
Mis. VM Use	13%	-
Mis. BF/PW	-	19%
Information Source	4%	0.36%
Likes the PT	38%	21%
Likes the PSDB	3%	0.82%

likely to want to end voting machine use and 0.82% less likely to want to end the BF program. As one can see, liking the PT has an important effect on the respondents' political behavior. This may be a result of the central role played by the PT in the political polarization of the country over the past 20 years.

5 Conclusion

The data presented here are insufficient to generalize to all Brazilian voters because of the non-random sample, but the results are worrisome. For instance, given that almost half of the sample believes that Brazil has the highest level of taxation in the world, this would suggest that the government would have big problems in dealing with its fiscal situation in the case of a real need to raise taxes. People normally do not seem to like paying taxes, but misinformation could intensify the rejection of increased taxation rates. Another serious problem is the rejection of the electronic voting system. If voters do not see the process as reliable, the Brazilian electoral system could be under constant suspicion. What about the BF program, considered a fundamental cash transfer program for poorer Brazilians?

If people do not approve of a public policy because of misinformation, democracy is in serious danger. When the people reject a public policy, or even a politician, because of an incorrect piece of information, many others can suffer the consequences. One might vote for a candidate who does not suit one's expectations, potentially undermining the representative system. Or, as has occurred in the U.S., a public policy like Obamacare was rejected by an important part of the American population because of widespread fake news about so-called "death panels" (Berinsky, 2015).

In short, misinformation can be a phenomenon capable of destroying the political and social system. It is important to re-iterate that, if misinformation guides public opinion, the implications can be bad public policies, crises of representation, less accountability, or, to put it simply, the bankruptcy of democracy.

There is no research on this subject in Brazil, especially using the approach presented in this article. Therefore, this will be the first part of a broader research project that is still a work in progress. Going forward, the next step will be to construct a nation-wide random sample to re-analyze the points discussed here in a broader perspective. There is a lot of work to do, especially after the conclusions reported in this study.

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