# Race and campaign resources: candidate identification numbers in Brazil

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*Research Note*

# Race and Campaign Resources: Candidate Identification Numbers in Brazil

## Andrew Janusz[1] iD and Cameron Sells[2]

## Abstract

Party elites may hinder racial and ethnic minorities from winning public office by withholding resources. Prior studies have explored the distribution of money, media access, and party-list positions. In Brazil, party elites provide each candidate with a unique identification number. Voters must enter their preferred candidate's identification number into an electronic voting machine to register their support. In this article, we replicate and extend Bueno and Dunning's (2017) analysis of candidate identification numbers. They conclude that party elites do not provide white candidates with superior identification numbers than non-whites. We contend that assessing intraparty variation is theoretically and methodologically warranted. Using party fixed effects, we find that party elites provide non-white candidates with worse identification numbers than whites. We demonstrate that our findings are generalisable using data from other elections. Moreover, we show that party elites also withhold advantageous numbers from women and political novices.

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## Introduction

In Latin America, public officials routinely do not reflect the ethnic and racial diversity of the citizenry that they are expected to represent. In Brazil, racial disparities between the electorate and those elected are particularly glaring. Although a majority of Brazil's population is of African descent, elected officials at the local, state, and national levels are overwhelmingly white (Johnson, 2015). These racial gaps have fuelled a robust scholarly debate. Some studies emphasise voter bias as a key explanation for why Afro-Brazilians are not elected in proportion to their population size (Aguilar et al., 2015a, 2015b; Janusz, 2018; Mitchell Walthour, 2018). In contrast, others indicate that racial gaps in political representation are a product of racial disparities in resources (Bueno and Dunning, 2017; Campos and Machado, 2015; Oliveira, 1995; Strijbis and Völker, 2020).

An emergent body of work points to a third explanation for racial disparities in political representation – discrimination by party elites. In Brazil, party officials exercise gatekeeping authority as well as control the distribution of resources such as money and media access (Cheibub and Sin, 2020; Janusz and Campos, 2021; Wylie, 2018). Moreover, they assign each candidate the unique identification number that voters enter on electronic voting machines to cast their ballot for them. In an ambitious study, which assesses behavioural, institutional, and resource-based explanations for racial inequality in political representation, one of the hypotheses Bueno and Dunning (2017) test is whether party elites provide white candidates "better" identification numbers, that is, those that are more memorable, than the identification numbers they provide non-whites. They find that candidates with identification numbers that feature repeating or sequential digits are more likely to win office, but do not find evidence that party elites provide whites more advantageous identification numbers than they provide non-whites.

In this article, we replicate and extend Bueno and Dunning's (2017) analysis of candidate identification numbers. We contend that assessing intraparty variation is both theoretically and methodologically warranted. For one, party elites only have influence over the identification numbers of candidates within their party. Moreover, party affiliation itself is a potential confound. It is likely correlated with candidate race and directly related to the candidate identification numbers. We propose using party fixed effects to address these issues. Drawing on the data from a variety of Brazilian elections, we find strong evidence that party elites provide white candidates with superior identification numbers than Afro-Brazilians.

We demonstrate that other types of candidates also receive less advantageous candidate identification numbers. We find that female candidates receive less advantageous numbers than men. Moreover, we show that Afro-Brazilian women receive worse

numbers than white women. Importantly, we find that incumbency status attenuates racial and gender differences in candidate identification numbers. This suggests that party elites are less likely to discriminate against candidates via the distribution of identification numbers when candidates have proven they can win.

Our findings are consistent with Bueno and Dunning's (2017) broader argument that Afro-Brazilians' limited resources hinder them from winning elected office. Our results point to party elites as driving racial disparities in resources. Party elites provide certain types of candidates with more advantageous identification numbers than others and therein perpetuate the political underrepresentation of Afro-Brazilians.

## Candidate Identification Numbers

In Brazilian elections, thousands of candidates routinely compete for public office. To vote for their preferred candidate, voters enter that candidate's unique identification number into an electronic voting machine. These identification numbers vary in length between two and five digits depending on the electoral office. For example, candidates running for Senate have unique three digits numbers, those seeking a seat in the Chamber of Deputies have unique four-digit numbers, and candidates running for state assembly and city council positions have unique five-digit numbers. There is reason to suspect that candidates with identification numbers that are easier to remember are more likely to win office.

In their analysis, Bueno and Dunning (2017) note that many of Brazil's elected politicians have numbers that are suspiciously easy to remember. Among these are Leonel Brizola Neto, the grandson of a popular former governor of Rio de Janeiro, who has the identifier 12345. Another candidate they identify as having an easily remembered code is Francisco Silva, a Member of Congress and popular circus performer known as Tiririca. Tiririca's identification number 2222, received the most preference votes of any congressional candidate in 2014.

Is this just a coincidence? Bueno and Dunning (2017) claim that party elites sometimes influence the initial assignment of candidate identification numbers. They contend that party elites strategically provide popular candidates with the most memorable identification numbers. Since votes for individual candidates are first pooled at the party level, providing *puxadores de legenda* – literally "vote pullers" – the best identification numbers should allow the party to maximise its total seat share.

Nonetheless, party elites may not always distribute identification numbers in the most advantageous way. Since elites have incomplete information about candidates they may overestimate or underestimate candidates' electoral prospects (Cheibub and Sin, 2020). Bueno and Dunning (2017) posit that party elites provide Afro-Brazilian candidates with worse identification numbers than white candidates based on the belief that voters prefer white candidates.

To test this hypothesis, Bueno and Dunning (2017) propose a simple, and, we believe, reasonably effective way to measure the quality of candidate identification numbers. Their measurement strategy focuses on two components of each candidate identification

number that plausibly affect how easy it is for voters to remember them: first, the number of times that each digit repeats, and second, the number of adjacent integers. Thus, according to their paper, "an identifier such as 11111 scores five on the first component, while 12345 scores five on the second." Next, they sum these scores to create an index of the quality of the candidate number, which they refer to as the "good number" measure. Using this good number measure, they assess whether white and non-white city council, state assembly, and federal deputy candidates receive better or worse identification numbers.

## Reconsidering the Relationship

An important limitation of Bueno and Dunning's (2017) study is that they compare identification numbers for white and non-white candidates using simple difference-in-means tests. This type of test does not account for differences between candidates, such as their party affiliation, where they are running for office, or their personal characteristics other than race.

Party affiliation is particularly important for two reasons. First, party elites can plausibly only exert influence over the distribution of identification numbers to candidates affiliated with their respective parties. Focusing on within-party variation therefore better captures the mechanism Bueno and Dunning (2017) propose – elite discrimination.

Second, party affiliation is a potential confounding variable. It is likely correlated with candidate race, which is the independent variable in this analysis. Previous research has established that non-white candidates are more likely to affiliate with some parties over others. In particular, non-white candidates tend to gravitate to the smaller political parties (Campos, 2015; Campos and Machado, 2017).

Moreover, the candidate's party is directly related to the dependent variable, the candidate identification number. The first two digits of each candidate's three-, four- or five-digit identification number are simply the two-digit code for their political party. Candidates who are affiliated with parties that have repeating digits in their codes – such as the Partido Republicano, which has party code 22 – are therefore more likely to have repeated digits in their identification numbers. Similarly, candidates who are affiliated with parties that have adjacent digits in their party code, such as the Partido Democrático Trabalhista, which has party code 12, tend to have candidate numbers that score higher on the adjacency dimension. Using data from the 2014 federal deputy elections, Figure 1 shows that candidates in both types of parties on average have higher-scoring identification numbers.

One solution to this confounding variable problem is to compare candidates within political parties. This can be accomplished by including party-fixed effects in a regression. In Figure 2, we examine the consequences of these specification decisions by replicating and extending Bueno and Dunning's (2017) analysis of the identification numbers provided to 2014 federal and state deputy candidates. The first model reproduces the difference-in-means tests that are reported in Online Appendix Table D1.[1]
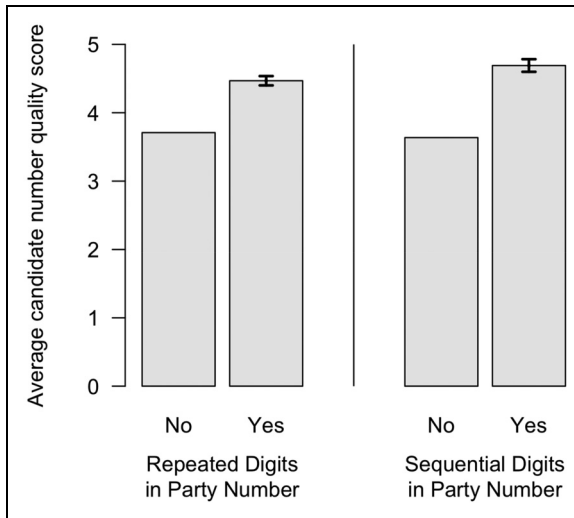
**Figure 1.** Party Determinants of Candidate Identification Numbers.

The second model illustrates the relationship between candidate race and number quality using a linear regression with party and state fixed effects.

Figure 2 shows that controlling for the candidate's party affiliation and state leads to markedly different conclusions about the relationship between race and candidate numbers. For the Federal Deputies sample, the regression estimate of the race effect is
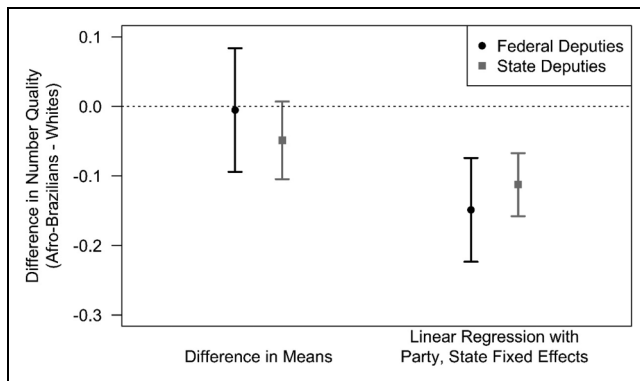


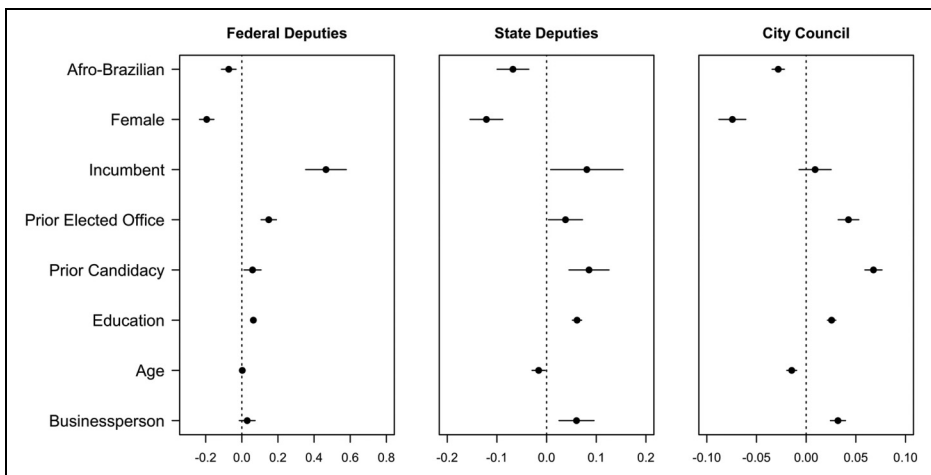**Figure 2.** Racial Differences in Identification Numbers – Replicating Bueno and Dunning's Results.
*Note:* The figure shows the difference in means and regression estimates of the difference in candidate number quality between Afro-Brazilian and White candidates. These estimates are based on data from Brazil's 2014 federal and state deputy elections.

roughly thirty times larger than the difference-in-means estimate; for the State Deputies sample, the regression estimate is more than twice as large as the difference-in-means test reveals. [2] The regression and difference-in-means estimates are statistically different from each other at the $\alpha = 0.05$ level for the Federal Deputies sample, while they are statistically different only at the $\alpha = 0.1$ level for the State Deputies sample.

## Generalisability to Other Elections

In 2014, Brazilian electoral authorities began requiring candidates to racially identify themselves when they registered to run for office. When Bueno and Dunning (2017) conducted their analysis, information on the self-classified race of candidates was only available for the 2014 elections. In this section, we examine the relationship between candidate self-classified race and the quality of candidate identification numbers using data from Brazil's 2016, 2018, and 2020 elections.

In addition to using party fixed effects, we also utilise available data on candidate characteristics. Extant studies suggest that candidate characteristics besides race influence elite assumptions about candidate competitiveness. Bueno and Dunning (2017), for example, note that white candidates are about fifteen percentage points more likely than non-whites to have at least some college education. White candidates are also more likely than non-whites to have held elected office (Janusz, 2018). These differences
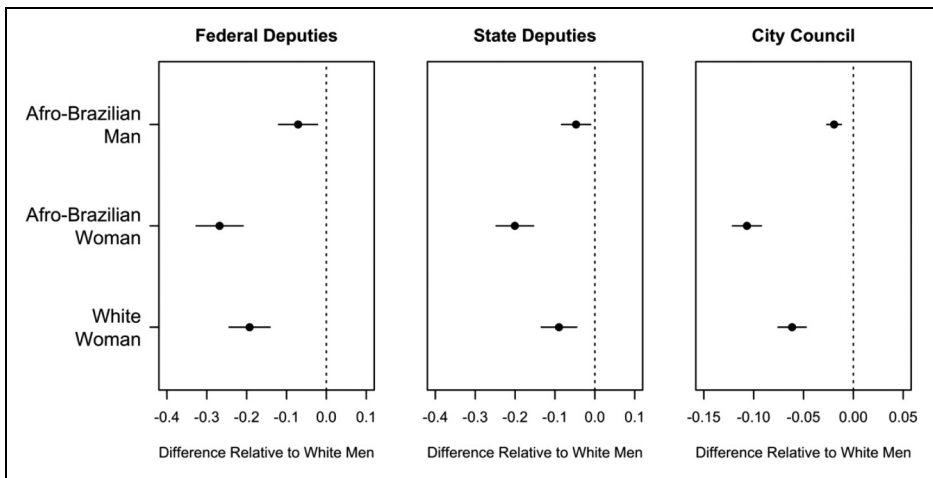


**Figure 3.** The Effect of Race on Candidate Identification Numbers.
*Note*: The figure presents ordinary least squares (OLS) regression coefficients. Data were pooled (2014/2018 and 2016/2020) by the electoral office. The federal deputies and state deputies' models included state-party fixed effects, while the city council model included municipality-party fixed effects.

could be responsible for variation in the quality of candidate identification numbers. We therefore utilise a series of control variables, including candidate age, education, gender, incumbency status, whether the candidate held any elected political office prior to this election, whether the candidate ran for elected office but was not elected, and whether the candidate was a businessperson.

In Figure 3, we graphically present the coefficients for these regression models. This figure provides strong evidence that Afro-Brazilians, an umbrella category under which self-identified brown and black Brazilians are routinely grouped, consistently receive worse identification numbers than their white competitors. For each type of office, being Afro-Brazilian had a significant and negative effect on the quality of the candidate identification number that the candidate received. The differences in number quality were the largest in federal deputy and state deputy elections.[3] This is likely because parties nominate relatively larger numbers of candidates in these types of elections, and the supply of "good numbers" is therefore smaller relative to the size of the candidate pool.

Figure 3 also suggests that a candidate's race is not the only personal characteristic that can affect the quality of the candidate number that they receive. This figure shows that female candidates receive significantly worse identification numbers than men, and the gender effect is even larger than the race effect. This result is not surprising, given that party elites in Brazil, and Latin America more broadly, have historically discriminated



**Figure 4.** Racial and Gender Differences in the Quality Candidate Identification, Numbers.
*Note*: The figure presents ordinary least squares (OLS) regression coefficients. Data were pooled (2014/2018 and 2016/2020) by the electoral office. Each model includes controls for the candidates' age, education, gender, incumbency status, whether they held or ran for prior office, and whether they were a businessperson. For the federal and state deputy elections, party-state fixed effects are employed. For the city council elections, party-municipality fixed effects are employed.
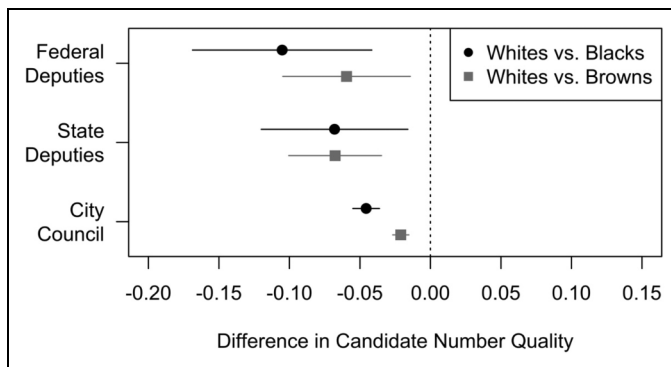
against women political candidates (Krook and Sanín, 2020; Wylie and Santos, 2016; Wylie, 2018). Importantly, however, not all women face the same penalty. As shown in Figure 4, Afro-Brazilian women have significantly fewer repeating or iterating digits than white women. This finding is consistent with a growing literature that shows that the distribution of resources is both raced and gendered (Wylie, 2020).
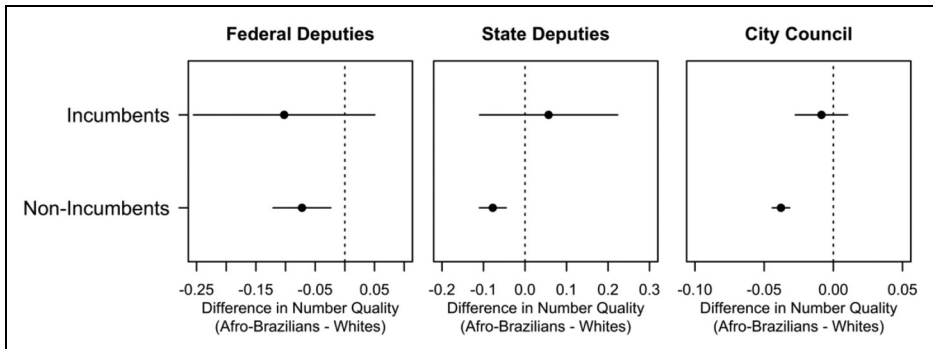
Although researchers commonly group brown and black Brazilians under the Afro-Brazilian label, some studies indicate that browns and blacks are not equally disadvantaged. For instance, Bailey et al. (2013) show that the latter suffer greater wage penalties. This difference is plausibly due to racial discrimination. Consistent with this perspective, da Silva and Paixão (2014) find that black Brazilians are more likely to report experiencing racial discrimination than brown Brazilians.

Party elites may also discriminate more against black candidates than browns. When we disaggregate the Afro-Brazilian category, we find evidence that both black and brown candidates receive worse numbers than whites, but the magnitude of the difference varies. Figure 5 shows that in federal deputy and city council elections, black candidates receive worse numbers than browns. In state deputy elections, on the other hand, there is no evidence of a difference between black and brown candidates.

Finally, we examine whether incumbency status attenuates the race effects we identify. There are several reasons why candidate race might be more consequential for non-incumbents compared to incumbents. First, incumbents may have greater leverage over party leaders, and this can make it more costly for party leaders to discriminate against Afro-Brazilian incumbents. Second, incumbency sends a strong signal to party officials



**Figure 5.** Differences in the Quality of Candidate Identification Numbers Among Afro-Brazilians.
*Note*: The figure presents ordinary least squares (OLS) regression coefficients. Data were pooled (2014/2018 and 2016/2020) by the electoral office. Each model includes controls for the candidates' age, education, gender, incumbency status, whether they held or ran for prior office, and whether they were a businessperson. For the federal and state deputy elections, party-state fixed effects are employed. For the city council elections, party-municipality fixed effects are employed.

**Figure 6.** Racial Differences in the Quality of Candidate Identification Numbers Based on Incumbency.

*Note*: The figure presents ordinary least squares (OLS) regression coefficients. Data were pooled (2014/2018 and 2016/2020) by the electoral office. Each model includes controls for the candidates' age, education, gender, incumbency status, whether they held or ran for prior office, and whether they were a businessperson. For the federal and state deputy elections, party-state fixed effects are employed. For the city council elections, party-municipality fixed effects are employed. The models were estimated separately for the incumbents and non-incumbents samples.
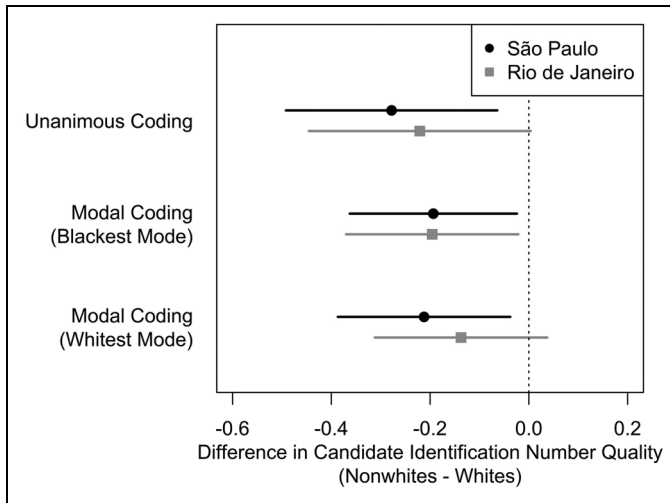
that the candidate is electorally viable. If party elites wish to maximise the total seats the party wins, they should invest in candidates with good strong electoral prospects.

The results presented in Figure 6 are consistent with this hypothesis. For each type of office, the effect of race on candidate number quality was statistically significant only for non-incumbents. While the magnitude of the race effect for Federal Deputies candidates was around the same size for both incumbents and non-incumbents, the race effects for state deputy and city council candidates disappear when we restrict the samples to only incumbents.

## An Alternative Measure of Candidate Race

Research indicates that the racial identification data collected by electoral authorities is generally reliable. Scholars find that there is substantial overlap between candidate self-classified race and interviewer ascribed race (Bueno and Dunning, 2017; Janusz, 2018). Nonetheless, it is not a panacea. Previous work has shown that Brazilian politicians change how they racially identify themselves over time. Janusz (2021) contends that Brazilian political candidates change how they racially identify in response to electoral incentives and that they assert membership in the racial groups that offer the greatest electoral rewards. In light of these concerns, we turn to another data source.

In a 2015 study, Campos and Machado analysed differences between white and non-white city council candidates. To conduct their analysis, which focuses on the 2012 city

**Figure 7.** Differences in the Quality of Candidates' Identification Numbers in the 2012 City Council Elections.
*Note*: The figure presents ordinary least squares (OLS) regression coefficients. Each model includes party fixed effects and controls for the candidate age, educational attainment, gender, and incumbency status.

council elections in São Paulo and Rio de Janeiro, they had Brazilian coders racially classify political candidates based on photographs. Four coders categorised each candidate as either white or non-white. Campos and Machado (2015) find that coders generally agreed on which candidates were white and which were non-white. They find that 62.9 per cent of candidates were racially categorised by all four coders as white or non-white and three of four agreed in 75.3 per cent of the remaining instances.

São Paulo and Rio de Janeiro are the two most populous cities in Brazil. In 2012, 1137 candidates ran for city council in São Paulo and 1598 ran for office in Rio de Janeiro.[4] Like all city council elections, some of the candidates had more advantageous candidate identification numbers than others. Using the "good number" measure proposed by Bueno and Dunning (2017), we assess whether white candidates possess higher quality candidate identification numbers than non-whites. We present the results of our analysis in Figure 7.

Our analysis reveals that white city council candidates have more advantageous candidate identification numbers compared to non-whites. This result is the strongest when we restrict our analysis to the candidates that are classified unanimously by coders as white or non-white. This finding provides further evidence that party elites do privilege white candidates when distributing candidate identification numbers.

## Conclusion

Afro-Brazilians are not elected in proportion to their population size. In Bueno and Dunning's (2017) pathbreaking study, they provide evidence that racial disparities in electoral success are attributable to differential access to resources. One resource that party elites have exclusive control over is candidate identification numbers, some of which are more valuable than others. Bueno and Dunning (2017) indicate that party elites may perpetuate the political marginalisation of Afro-Brazilians by providing white candidates "better" identification numbers. Their empirical analysis shows that certain candidate identification numbers are superior to others but reveals no evidence that party elites provide them principally to whites.

In this article, we replicate and extend Bueno and Dunning's (2017) analysis of candidate identification numbers. We account for confounds in an effort to more appropriately test the hypothesis that party elites discriminate against Afro-Brazilians when distributing campaign resources. The results of our analysis are inconsistent with Bueno and Dunning's (2017) results, but consistent with their broader argument. We find strong evidence that party elites do provide Afro-Brazilian candidates with significantly worse identification numbers than whites. Evidence that Afro-Brazilians have less advantageous numbers is important, considering that voters use heuristics, such as candidate identification numbers, race, and gender to make voting decisions (Aguilar et al., 2015a, 2015b; Batista, 2020; Cunow et al., 2020).

The hypothesis that party elites prioritise certain types of candidates through the distribution of candidate numbers can be generalised to other groups. We find strong evidence that party elites privilege male over female candidates. The magnitude of the difference between men and women is larger than that between whites and Afro-Brazilians. Even these gendered disparities though are racialised. Party elites provide white women significantly more advantageous candidate identification numbers than Afro-Brazilian women.

It is plausible that party elites distribute other resources unequally as well. For example, recent news reports claim that party elites in Brazil, who have discretion over the distribution of public funds following campaign finance reforms, provide white candidates greater funding than non-white candidates (Velasco and Vasconcellos, 2020). This suggests that the allocation of candidate identification numbers is just one of the many ways that party elites in Brazil perpetuate a white and predominately male ruling class.

## Supplemental Material

Supplemental material for this article is available online.

## Notes

1. In both models we correct for coding errors in the dependent variable, candidate identification number quality that we identified in the original version of the article. See Online Appendix A for additional information on these coding errors. After learning via the peer review process about these errors, Bueno and Dunning corrected the Online Appendix and replication materials. A corrigendum of the main text was issued in the *World Politics* July issue.
2. For the federal deputy sample, the difference in effect sizes between the fixed effects regression estimate and Bueno and Dunning's (2017) difference-in-means specification is 0.14 repeated or sequential digits, or 0.12 standard deviations of the good number variable. For the state deputy sample, the difference in effect sizes is 0.06 digits or 0.05 standard deviations of the good number variable.
3. An effect size of 0.1 means that all else equal, Afro-Brazilian candidates received identification numbers that have 0.1 fewer repeated or sequential digits on average compared to the identification numbers of white candidates.
4. Campos and Macado (2015) did not have information on two city council candidates that ran for office in Rio de Janeiro. Therefore, our analysis only includes 1596 as opposed to 1598 candidates.

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