

# Female Voters without ID in Texas During 2016 United States Election\*

Emily Su

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Abstract.

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\*Data and code are available at: <https://github.com/moonsdust/toronto-collisions>. The replication on Social Science Reproduction Platform can be found here: <https://doi.org/10.48152/ssrp-cbev-p353>

## 1 Introduction

The estimand is the effect of photo ID requirements on female voter turnouts in Texas.

Reasonable Impediment Declaration (RID)

## 2 Data

This paper seeks to further investigate Fraga and Miller (2022)’s paper claim that registrants voting without photo IDs were mostly Black and Latinx with a focus on female voters in Texas. Asians, who was excluded from a majority of the figures in the paper, were also included in this paper. In the analysis, the paper used two datasets, `cleaned_reason_data.csv` and `cleaned_map_data.csv`. `cleaned_reason_data.csv` is from the paper we replicated (Fraga and Miller 2022) where its original dataset “`fraga_miller_reasons_replication`” is a Stata file (StataCorp 2023). The other dataset is a hybrid dataset where female voter counts comes from “`fraga_miller_reasons_replication`” (Fraga and Miller 2022) and geometry data on Texas comes from Texas Open Data Portal’s “`County Map - StratMap_County_poly`” dataset, which is publicly available (Texas Open Data Portal 2024).

### 2.1 Data Source and Measurements

#### 2.1.1 Reason Dataset

`cleaned_reason_data.csv`

In 2016, individuals in Texas without a valid photo IDs could vote in the 2016 United States election as long as they filled out an RID (Fraga and Miller 2022). The RID form were available languages such as English, Spanish, Vietnamese, or Chinese. The form asked for the voter’s name, signature, a form of non-photo id such as current utility bill and the reason they are not able to present a valid photo ID at the polling place. The form provided the following options for reasons: Family Obligations (“family” in the dataset); Photo ID applied for but not not received (“applied” in the dataset); Lack of Transportation (“transport” in the dataset); Lack of birth certificate or other documents needed to obtain acceptable photo ID (“birthcert” in the dataset); Disability or Illness (“disability” in the dataset); Work schedule (“work” in the dataset); Lost or stolen photo ID (“lost” in the dataset); Other reasonable impediment or difficulty (“other” in the dataset) (Fraga and Miller 2022). Due to the Texas Public Information Act, Fraga and Miller (2022) was able to request for 16,097 RID forms to use for their study. Fraga and Miller (2022) also obtained a copy of the Texas voter registration

file in 2017 from the Texas Secretary of State. These two sources were then merged to get further information on voters from the RIDs. Since the RIDs do not contain information about a voter’s race and ethnicity, they used a R package, `wru` (R Core Team 2023) to get estimates of every voter’s race based on address, surname, sex, and birthday (Fraga and Miller 2022). The three sources were then recorded into a spreadsheet where each row represents one form containing information about the voter’s county, gender, race, and reason they don’t have a valid ID. For the RIDs where the voter has indicated “Other” and wrote down a reason, Fraga and Miller (2022) and their research assistants took note of the reason and categorized their reason into three categories based on their discretion: Relocation (“relocation” in dataset), Hardship (“hardship” in dataset), and ID-Capable (“id\_capable” in dataset). Relocation are reasons that mention recently moving, being a student, or waiting for a new ID (Fraga and Miller 2022). Hardship are reasons where hardships prevented the voter from getting a valid photo ID (Fraga and Miller 2022). ID-Capable are given to voters who were able to get a photo ID in the past (Fraga and Miller 2022). This spreadsheet was then turned into a dataset, which is available on Dataverse (Kuriwaki, Beasley, and Leeper 2023).

### 2.1.2 Cleaned Map Dataset

`cleaned_map_data.csv`

One half of the dataset comes `cleaned_reason_data.csv` while the other half comes from the “County Map - StratMap\_County\_poly” datasets, which is available on Texas Open Data Portal (Texas Open Data Portal 2024). The dataset contains geometry data (also known as “the\_geom” in the dataset) that reconstructs a map of Texas and it also reconstructs the boundaries of Texas’ counties (also called “county” in the dataset). These boundaries coordinates were obtained by the Texas Open Data Portal team (Texas Open Data Portal 2024) using the United States Geological Survey’s digital 7.5 minute Topology Maps, who obtain their data from satellites every 3 years (United States Geological Survey 2024).

## 2.2 Methodology

The datasets used in this paper were retrieved, simulated, cleaned, analyzed, and tested using the R programming language (R Core Team 2023), `tidyverse` (Wickham et al. 2019), `haven` (Wickham, Miller, and Smith 2023), `knitr` (Xie 2014), `janitor` (Firke 2023), `dplyr` (Wickham et al. 2023), `ggplot2` (Wickham 2016), `sf` (Pebesma and Bivand 2023), `readr` (Wickham, Hester, and Bryan 2024), `dataverse` (Kuriwaki, Beasley, and Leeper 2023), and `ggpubr` (Kassambara 2023).

For the Reason dataset, a new column called “white” was constructed to indicate if the voter was white or not since it was not in the original dataset. For the cleaned map data, the columns, “female\_count”, “female\_white”, “female\_black”, “female\_asian”, and “female\_latinx” were

created from `cleaned_reason_data.csv` by filtering for female voters and summing the number of voters of each race.

### 3 Results

#### 3.1 Texas females who voted without a photo ID during 2016 United States election

Table 1: Percentage of Texas Voters who are female versus not female who voted in 2016 United States election without a photo ID.

Female	Not Female
0.57	0.43

#### Number of 2016 US election female voters across Texas counties without a photo ID

Counties with labels are 1 of the 5 counties with the most female voters without photo IDs

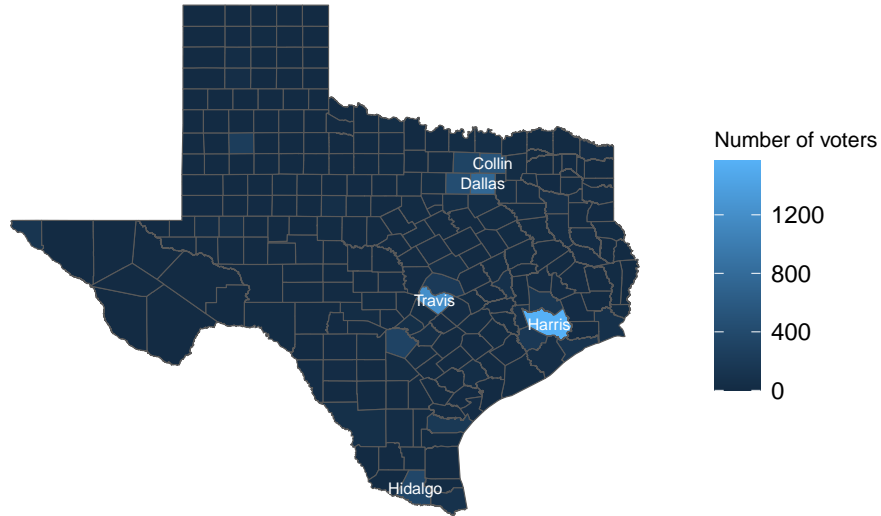


Figure 1: Number of female voters across Texas counties during 2016 United States election without a photo ID

Table 2: Number of female voters across Texas counties during 2016 United States election without a photo ID

County	Number of Female Voters
Harris	1570
Travis	1207
Dallas	752
Collin	518
Tarrant	442
Hidalgo	355

### 3.2 Texas females who voted without a photo ID during 2016 United States election (Across Race)

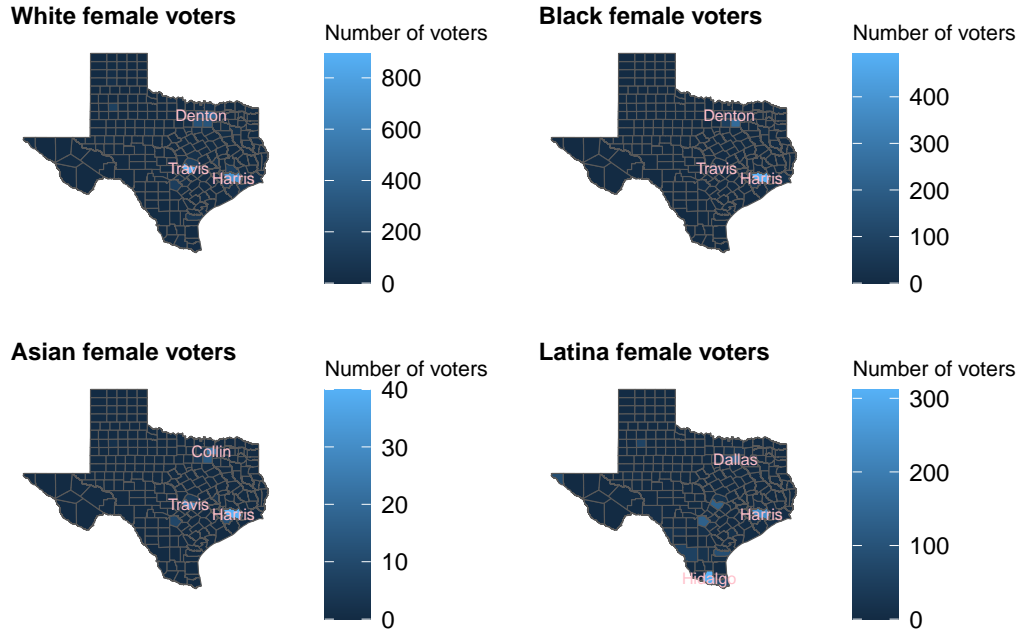


Figure 2: Number of female voters of different race across Texas counties during 2016 United States election without a photo ID

Table 3: Number of White female voters of different race across Texas counties during 2016 United States election without a photo ID

County	Number of Female Voters
Travis	895
Harris	706
Collin	432
Dallas	298
Tarrant	280
Denton	255

Table 4: Number of Asian female voters of different race across Texas counties during 2016 United States election without a photo ID

County	Number of Female Voters
Harris	40
Travis	27
Collin	24
Dallas	15
Fort Bend	12
Bexar	9

Table 5: Number of Black female voters of different race across Texas counties during 2016 United States election without a photo ID

County	Number of Female Voters
Harris	493
Dallas	248
Tarrant	81
Travis	64
Fort Bend	56
Denton	32

Table 6: Number of Latina female voters of different race across Texas counties during 2016 United States election without a photo ID

County	Number of Female Voters
Hidalgo	312
Harris	238
Dallas	137
Travis	136
Bexar	132
Nueces	89

### 3.3 Reasons of Texas females across different race without a photo ID during 2016 United States election

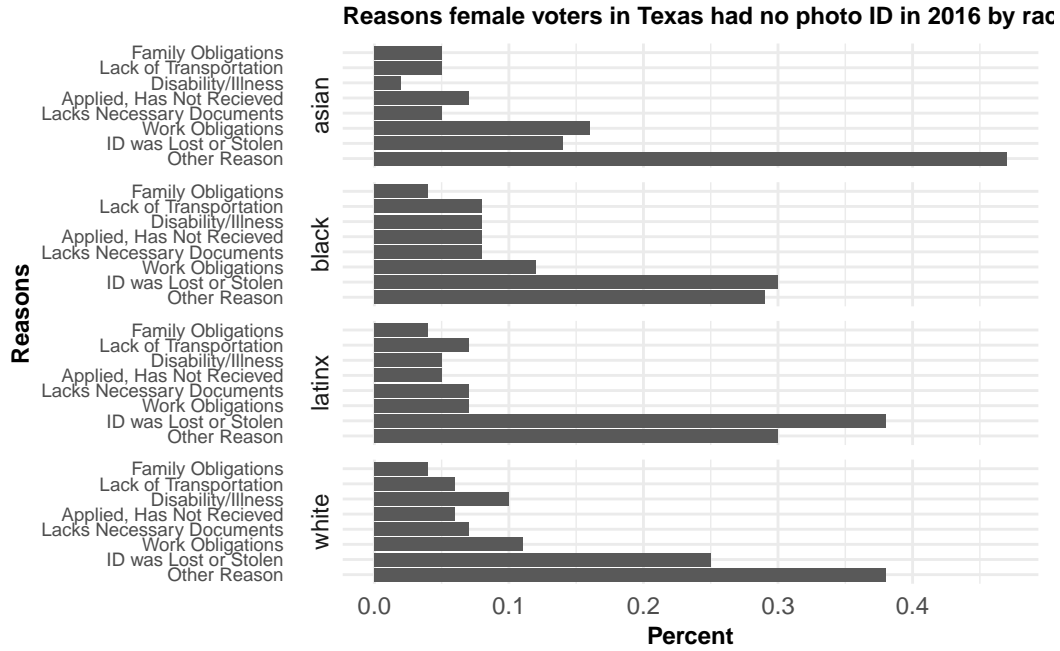


Figure 3: Impediments of female voters of different race across Texas counties during 2016 United States election without a photo ID

Table 7: Other impediments of female voters of different race across Texas counties during 2016 United States election without a photo ID

percent	reasons	race
0.32	Relocation	white
0.33	Hardship	white
0.29	ID-Capable	white
0.27	Relocation	black
0.34	Hardship	black
0.34	ID-Capable	black
0.16	Relocation	latinx
0.31	Hardship	latinx
0.46	ID-Capable	latinx
0.47	Relocation	asian
0.30	Hardship	asian
0.18	ID-Capable	asian



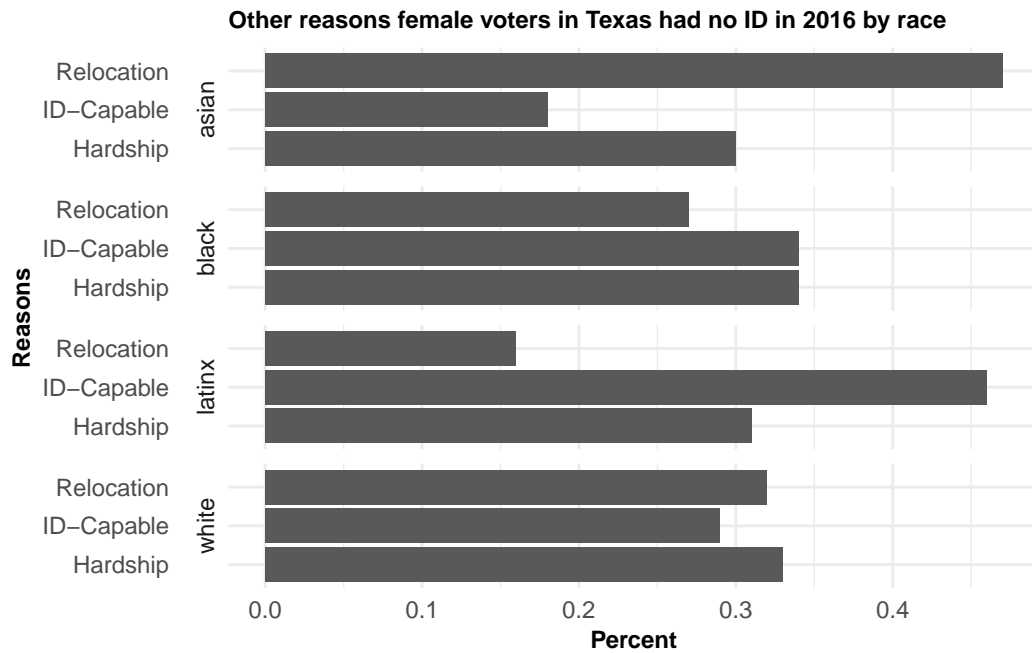


Figure 4: Other impediments of female voters of different race across Texas counties during 2016 United States election without an ID

## 4 Discussion

## Appendix

### .1 Acknowledgments

I would like to acknowledge Alexander (2023) for some of the R code used in this paper to produce the tables and graphs.

### .2 Datasets Used

Due to the length of the datasets horizontally, presenting glimpses of the datasets was not possible in the paper. However, the cleaned datasets that was used can be found here: [https://github.com/moonsdust/voting/tree/main/data/analysis\\_data](https://github.com/moonsdust/voting/tree/main/data/analysis_data).

### .3 Tables from Results

Table 8: Impediments of female voters of different race across Texas counties during 2016 United States election without a photo ID

percent	reasons	race
0.04	Family Obligations	white
0.06	Applied, Has Not Recieved	white
0.06	Lack of Transportation	white
0.07	Lacks Necessary Documents	white
0.10	Disability/Illness	white
0.11	Work Obligations	white
0.25	ID was Lost or Stolen	white
0.38	Other Reason	white
0.04	Family Obligations	black
0.08	Applied, Has Not Recieved	black
0.08	Lack of Transportation	black
0.08	Lacks Necessary Documents	black
0.08	Disability/Illness	black
0.12	Work Obligations	black
0.30	ID was Lost or Stolen	black
0.29	Other Reason	black
0.04	Family Obligations	latinx
0.05	Applied, Has Not Recieved	latinx
0.07	Lack of Transportation	latinx
0.07	Lacks Necessary Documents	latinx
0.05	Disability/Illness	latinx

Table 8: Impediments of female voters of different race across Texas counties during 2016 United States election without a photo ID

percent	reasons	race
0.07	Work Obligations	latinx
0.38	ID was Lost or Stolen	latinx
0.30	Other Reason	latinx
0.05	Family Obligations	asian
0.07	Applied, Has Not Recieved	asian
0.05	Lack of Transportation	asian
0.05	Lacks Necessary Documents	asian
0.02	Disability/Illness	asian
0.16	Work Obligations	asian
0.14	ID was Lost or Stolen	asian
0.47	Other Reason	asian

## References

- Alexander, Rohan. 2023. “Telling Stories with Data.” Chapman; Hall/CRC. <https://tellingstorieswithdata.com/>.
- Firke, Sam. 2023. *Janitor: Simple Tools for Examining and Cleaning Dirty Data*. <https://github.com/sfirke/janitor>.
- Fraga, Bernard L., and Michael G. Miller. 2022. “Who Does Voter ID Keep from Voting?” *The Journal of Politics* 84 (2). <https://doi.org/10.1086/716282>.
- Kassambara, Alboukadel. 2023. *Ggpubr: 'Ggplot2' Based Publication Ready Plots*. <https://CRAN.R-project.org/package=ggpubr>.
- Kuriwaki, Shiro, Will Beasley, and Thomas J. Leeper. 2023. *Dataverse: R Client for Dataverse 4+ Repositories*.
- Pebesma, E, and R Bivand. 2023. *Spatial Data Science: With Applications in r*. Chapman; Hall/CRC. <https://doi.org/10.1201/9780429459016>.
- R Core Team. 2023. *R: A Language and Environment for Statistical Computing*. Vienna, Austria: R Foundation for Statistical Computing. <https://www.R-project.org/>.
- StataCorp. 2023. *Stata Statistical Software: Release 18*. College Station, Texas: StataCorp LLC. [www.stata.com/](http://www.stata.com/).
- Texas Open Data Portal. 2024. “County Map - StratMap\_county\_poly.” [https://data.texas.gov/dataset/County-Map-StratMap\\_County\\_poly/m3yf-ffwm/about\\_data](https://data.texas.gov/dataset/County-Map-StratMap_County_poly/m3yf-ffwm/about_data).
- United States Geological Survey. 2024. “United States Geological Survey.” [www.usgs.gov](http://www.usgs.gov).
- Wickham, Hadley. 2016. *Ggplot2: Elegant Graphics for Data Analysis*. Springer-Verlag New York. <https://ggplot2.tidyverse.org>.
- Wickham, Hadley, Mara Averick, Jennifer Bryan, Winston Chang, Lucy D’Agostino McGowan, Romain François, Garrett Golemund, et al. 2019. “Welcome to the tidyverse.” *Journal of Open Source Software* 4 (43): 1686. <https://doi.org/10.21105/joss.01686>.
- Wickham, Hadley, Romain François, Lionel Henry, Kirill Müller, and Davis Vaughan. 2023. *Dplyr: A Grammar of Data Manipulation*. <https://CRAN.R-project.org/package=dplyr>.
- Wickham, Hadley, Jim Hester, and Jennifer Bryan. 2024. *Readr: Read Rectangular Text Data*. <https://CRAN.R-project.org/package=readr>.
- Wickham, Hadley, Evan Miller, and Danny Smith. 2023. *Haven: Import and Export 'SPSS', 'Stata' and 'SAS' Files*. <https://CRAN.R-project.org/package=haven>.
- Xie, Yihui. 2014. “Knitr: A Comprehensive Tool for Reproducible Research in R.” In *Implementing Reproducible Computational Research*, edited by Victoria Stodden, Friedrich Leisch, and Roger D. Peng. Chapman; Hall/CRC. <http://www.crcpress.com/product/isbn/9781466561595>.