

Vote-by-mail ballot rejection and experience with mail-in voting

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Abstract

Although most ballots in the United States have historically been cast in-person, an increasing number of Americans are turning to mail-in voting during the ongoing COVID-19 pandemic. Voters inexperienced with the form of voting, however, disproportionately submit ballots that end up being rejected, either because they arrive late at local elections offices or have signature defects on their return envelopes. Our analysis of ballot rejections in the political battleground state of Florida shows that inexperienced mail voters were three and 2.75 times more likely, respectively, in the 2016 and 2018 General Elections to have their ballots rejected than experienced mail voters. Similarly, in Florida's recent 2020 Presidential Preference Primary, held in March 2020 as the COVID-19 pandemic was beginning to take hold in the state, voters inexperienced with mail ballots suffered from rejection rates 2.75 times as great as voters with experience voting by mail. Moreover, the effect of inexperience on vote-by-mail ballot rejection rates varies by party affiliation, race/ethnicity, age, and gender.

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Introduction

Voters in the United States have choices as to how they cast their ballots. The most common voting methods in the country are *in-person* and via *mail*.¹

In-person voting has historically been the modal method of ballot casting in American general elections (U.S. Election Assistance Commission 2019). However, in the midst of its worst public health crisis since the Spanish Flu, many American states are embarking on a massive electoral experiment: millions of registered voters across the country who normally would vote in-person in a presidential contest appear to be posed to instead cast mail-in ballots in the November 2020 General Election. While it is not possible to know the number of such vote-by-mail (VBM) ballots that will be cast in 2020 presidential election, primary elections held during the COVID-19 pandemic are instructive regarding the implications of the national shift from in-person to VBM voting.² In record numbers, voters in Georgia, Maine, Nebraska, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, and Wisconsin shifted from in-person voting to mail-in voting, a clear reaction to the public health threat posed by the novel coronavirus and in some cases a reflection of a state's transitioning to all-mail voting (e.g., as in Ohio).³ In Georgia's June 2020 primary election, for

¹What precisely characterizes mail voting can be ambiguous. For example, consider a voter who is mailed a ballot and then delivers it, completed, to a local elections clerk or a secure drop box. While this voter has certainly voted with a ballot that was delivered by mail, the voter did not submit his or her ballot in this way. As will be clear in the body of the paper, when clarity is needed we are explicit about method of ballot submission.

²See "A Record 76% of Americans Can Vote by Mail in 2020," *New York Times*, August 14, 2020, available at <https://www.nytimes.com/interactive/2020/08/11/us/politics/vote-by-mail-us-states.html> (last accessed August 15, 2020). For a running tally of mail ballots distributed and returned, see "US General Election Early Vote Statistics" curated by Dr. Michael P. McDonald at <https://electproject.github.io/Early-Vote-2020G/index.html> (last accessed September 25, 2020).

³In Georgia, see "Judge orders Georgia to extend deadline for absentee ballots," *AP News*, August 31, 2020, available at <https://apnews.com/article/c7dc45f6e37d3c743469978220754aa6> (last accessed September 25, 2020); in Maine, see, "Pandemic curbs Maine's in-person primary election turnout, but many already voted absentee," *Bangor Daily News*, available at <https://bangordailynews.com/2020/07/14/politics/pandemic-curbs-maines-in-person-primary-election-turnout-but-many-already-voted-absentee/> (last accessed August 11, 2020); in Nevada, see, "About 6,700 Nevada primary ballots rejected over signatures," *Las Vegas Sun*, June 24, 2020, available at <https://lasvegassun.com/news/2020/jun/24/about-6700-nevada-primary-ballots-rejected-over-si/> (last accessed August 11, 2020); in Nebraska, see, "Nebraska primary voters avoid polls, shatter mail-in record," *AP.com*, May 12, 2020, available at <https://apnews.com/75d78b971c7002fbff032e6421e72e11> (last accessed August 11, 2020);

instance, over half (53 percent) of all ballots cast were mail-in ballots. By comparison, in the 2016 primary in Georgia fewer than four percent of all ballots cast in the state were by mail (Hood III and Haynes 2020).

Unlike ballots cast in person, VBM ballots can be rejected by elections officials after being cast. The most common reasons for ballot rejection are (1) lateness and (2) the presence of a signature defect on a ballot's return envelope.⁴ Rejected VBM ballots do not count and thus represent lost opportunities—and possibly lost voting rights—for individuals to make their voices heard.

Here we explore the relationship between VBM ballot rejection and the extent to which a voter has experience with voting via mail. Although there is literature on the impact that increases in VBM voting have had on both turnout and partisan election outcomes—Barber and Holbein (2020) and Thompson et al. (2020) show that the introduction of this form of voting in California, Utah, and Washington had small effects on voter turnout and no appreciable partisan consequences—few studies, as we discuss below, have examined the phenomenon of rejected VBM ballots. To the best

in New Hampshire, see, "One in 10 Ballots Rejected in Last Month's Vote-by-Mail Elections," *New Hampshire Union Leader*, September 8, 2020, available at https://www.unionleader.com/news/politics/voters/absentee-ballots-fuel-turnout-in-tuesdays-state-primary-election/article_57cd86a3-76c1-51fa-8358-ba52cc865c36.html (last accessed September 25, 2020); in New Jersey, see, "One in 10 Ballots Rejected in Last Month's Vote-by-Mail Elections," *NJSpotlight*, June 10, 2020, available at <https://www.njspotlight.com/2020/06/one-in-10-ballots-rejected-in-last-months-vote-by-mail-elections/> (last accessed August 15, 2020); in New York, see, "The Chaos in New York Is a Warning," *The Atlantic*, July 24, 2020, available at <https://www.theatlantic.com/politics/archive/2020/07/new-york-election-failure-mail-in-voting/614446/> (last accessed August 11, 2020); in Ohio, see, "The Cybersecurity 202: Ohio primary marks a major test for mail-in voting," *The Washington Post*, April 28, 2020, available at <https://www.washingtonpost.com/news/powerpost/paloma/the-cybersecurity-202/2020/04/28/the-cybersecurity-202-ohio-primary-marks-a-major-test-for-mail-in-voting/5ea779a3602ff1457841f982/> (last accessed August 7, 2020); in Pennsylvania, see, "Pennsylvania's mail ballot problems kept tens of thousands from voting in a pandemic primary," *The Philadelphia Inquirer*, July 30, 2020, available at <https://www.inquirer.com/politics/election/pa-mail-ballot-deadlines-disenfranchisement-20200730.html> (last accessed September 25, 2020); in Wisconsin, see, "How Wisconsin's 23,000 Rejected Absentee Ballots Could Spell Trouble For The November Election," *Wisconsin Public Radio*, available at <https://www.wpr.org/how-wisconsins-23-000-rejected-absentee-ballots-could-spell-trouble-november-election> (last accessed August 7, 2020).

⁴There are other reasons why a return ballot can be rejected, i.e., not being returned in a secrecy sleeve (a so-called "naked" ballot) or lacking a witness signature. See "VOPP: Table 13: States that are Required to Provide Secrecy Sleeves for Absentee/Mail Ballots, available at <https://www.ncsl.org/research/elections-and-campaigns/vopp-table-13-states-that-are-required-to-provide-secrecy-sleeves-for-absentee-mail-ballots.aspx> (last accessed August 23, 2020).

of our knowledge, there are no academic studies aimed explicitly at characterizing the relationship between ballot rejection and voter experience.

In what follows we provide details on mail-in ballot rejection, discussing in particular ballot timeliness and signature defects on ballot return envelopes. We then describe how we study the effects of voter experience on mail-in ballot rejection using publicly available data from Florida. Our results characterize what we refer to as the *inexperience penalty* faced by voters who do not regularly vote by mail, and we break down this penalty by a voter’s party registration, race/ethnicity, age, and gender. Our final section concludes.

Vote-by-mail ballot rejection

In the United States, VBM ballot rejection criteria vary by state, reflecting that election administration in the country is largely a state-level, as opposed to a federal, matter ([Keyssar 2009](#)). That said, whether a given VBM ballot is rejected or accepted in general turns on two key factors: the ballot’s timeliness and the validity of a voter’s signature on the back of its security envelope. Ballots that are late or have signature defects (or, in principle, suffer from both of these problems) are rejected and thus do not count. These ballots do *not* contain what are referred to as residual votes ([Stewart III 2011](#)), i.e., missing or otherwise invalid votes on ballots that are cast and counted. Rather, the return envelope containing a ballot that is not timely or has a signature defect is never opened—meaning that the ballot is not tabulated at all.

For the vast majority of ballots cast in American elections in person, either on or prior to Election Day, the possibility of a rejected ballot is a misnomer. There is simply no such thing as a regular ballot cast in person by an eligible voter that is later rejected.⁵

⁵Provisional ballots that do not count are unlike rejected VBM ballots. When a provisional ballot is rejected, it is because local officials have concluded that the voter who cast it was not eligible to cast such a ballot in the first place ([Hanmer and Herrnson 2014](#)). Late mail-in ballots or mail-in ballots with signature defects are not rejected based on voter eligibility; rather, they are rejected because of problems with the way they were returned.

VBM ballot timeliness

With regard to timeliness, a VBM ballot that is late is one that arrives at a local elections office after a state's arrival deadline. Some states impose return deadlines of Election Day itself; others allow ballots to arrive after Election Day as long as they are postmarked no later than Election Day and arrive before a post-election deadline.⁶ There are exceptions regarding VBM ballot timeliness for members of the military and their dependents and for registered voters living overseas; in many states, ballots cast by these voters can arrive well after Election Day and still count. While military-related and overseas VBM ballots are a small minority of total VBM ballots cast in federal elections (Hall 2014), at times they can spark controversy (e.g., Imai and King 2004).

VBM ballot return envelope signatures

All states require signatures on mail ballot return envelopes—in some cases both voter signatures and assistant or witness signatures—though several states, do not have matching requirements or have relaxed existing requirements during the ongoing COVID-19 pandemic.⁷ However, a ballot received on time at a local elections office can simply lack the voter's signature on the ballot's return envelope. This is an example of a signature defect. In what follows, we use the term "unsigned ballot" as shorthand for a returned VBM envelope that does not have the voter's signature. To maintain ballot secrecy, voters are never instructed to sign their actual ballots.

Not only do states require that voter signatures are present on VBM ballot return envelopes, but such signatures must match official voter signatures on file.⁸ Local elections officials are tasked

⁶For a current compilation states' VBM deadlines, see "VOPP: Table 11: Receipt and Postmark Deadlines for Absentee Ballots," *National Conference of State Legislatures*, available at <https://www.ncsl.org/research/elections-and-campaigns/vopp-table-11-receipt-and-postmark-deadlines-for-absentee-ballots.aspx> (last accessed August 23, 2020).

⁷See "Two of These Mail Ballot Signatures Are by the Same Person. Which Ones?," *The New York Times*, available at <https://www.nytimes.com/interactive/2020/10/07/upshot/mail-voting-ballots-signature-matching.html> (last accessed October 7, 2020) and "COVID-19 and Elections," *National Conference of State Legislatures*, available at <https://www.ncsl.org/research/elections-and-campaigns/state-action-on-covid-19-and-elections.aspx> (last accessed August 15, 2020).

⁸For variations in the technologies used by states/localities in verifying signatures, see, "Factbox: U.S. counties using automated signature verification software," *Reuters*, September 24, 2020, available at <https://www.reuters.com/article/us-usa-election-ballot-signatures-softwa/factbox-u->

with ascertaining whether signatures on return envelopes match official signatures. Thus, when we refer to a mismatched signature, we mean one that local elections officials have concluded does not conform with a voter's signature on file. For the most part, as will be clear shortly, mismatched signatures occur with lower frequency than VBM ballot rejections caused by outright missing signatures on return envelopes.

Beyond unsigned ballots and ballots with mismatched signatures, there are other categories of signature errors that can lead to VBM ballot rejection, e.g., the members of a household accidentally signing the wrong return envelopes. These occurrences tend to be rare.

The presence of voter signatures on return envelopes and the extent to which these signatures match official records distinguish mail-in voting from in-person voting. Unlike voting in person—whereby election officials authenticate the identity of voters *prior* to their casting ballots at polling locations—a distinct feature of voting by mail is that the identities of voters are authenticated by election officials *after* they have mailed in their ballots. This distinction is far from trivial, as the authenticity of a voter's signature occurs *in absentia*. Vote first, authenticate the eligibility of the voter later, but not with the voter present.⁹

The correlates of rejected VBM ballots

The study of voter turnout in American elections is extensive (e.g., [Wolfinger and Rosenstone 1980](#); [Leighley and Nagler 2013](#); [Springer 2014](#)), as are studies of the effects of voting by mail on turnout (e.g., [Hanmer and Traugott 2004](#); [Stein and Vonnahme 2010](#); [Monroe and Sylvester 2011](#); [Barber and Holbein 2020](#); [Thompson et al. 2020](#)). In contrast, there is a paucity of scholarly literature

s-counties-using-automated-signature-verification-software-idUSKCN26F1U4 (last accessed September 27, 2020)

⁹Some states, though with considerable variation, permit voters to submit absentee ballots that were received by voters in the mail to local elections officials in person. See fn. 1. This is a form of voting that is sometimes called in-person absentee voting. In-person absentee ballots must contend with the same signature rules as VBM ballots, and thus they can be rejected on the basis of timeliness and signature defects. Also see "Voting Outside the Polling Place: Absentee, All-Mail and other Voting at Home Options," *National Conference of State Legislatures*, September 24, 2020, available at <https://www.ncsl.org/research/elections-and-campaigns/absentee-and-early-voting.aspx#permit> (last accessed October 8, 2020).

on the correlates of rejected VBM ballots. For exceptions, see [Alvarez, Hall and Sinclair \(2008\)](#), [Shino and Suttman-Lea \(2020\)](#), and [Baringer, Herron and Smith \(2020\)](#). These correlates are our focus, and we are particularly interested in the rates of rejected VBM ballots cast by individuals who are inexperienced with VBM voting. This matter is of utmost importance in a pandemic that is driving registered voters to request and cast mail ballots, thus raising the rates at which individuals inexperienced with mail voting seek to vote by mail. The pandemic notwithstanding, the matter of VBM ballot rejection is important in a more general sense. Rejected VBM ballots that are cast by eligible voters constitute a failure of the procedures dictated by states' laws that are designed to facilitate political representation. Insofar as free and fair elections are the keystone of democratic politics ([Katz 1997](#)), if a set of laws prevents some voting-eligible citizens from having their voices heard ([Grofman and Lijphart 1986](#)), these individuals are deprived of having their preferences translated into support for those running for office.

Our analysis assessing the importance of inexperience in VBM ballot rejection reflects the procedural complexity associated with mail-in voting. In addition to the timeliness and signature requirements of VBM ballots, we have already noted that a key feature of mail-in voting is the fact that voters who cast their ballots with it are not in the presence of local elections clerks and often not in the presence of other voters. This, of course, is precisely why VBM voting in a pandemic is safer than in-person voting, during which social distancing can be challenging if not outright impossible, depending on how a polling site is arranged and managed. Compared to in-person voters, when filling out their return ballot envelopes, voters are thus isolated from individuals trained in election administration and cannot receive help from them.

We hypothesize that inexperienced VBM voters are disproportionately likely to have their ballots rejected, all things equal. While this hypothesis has not been studied, the role of experience, particularly when it comes to education, has been assessed since at least the time of Aristotle ([Saugstad 2013](#)) and was central to the pragmatist school of thought, led in the United States by John Dewey ([1938](#)). Scholars have considered the centrality of experience across a variety of domains, accident prevention being a principle focus with studies analyzing automobile driving

(Curry et al. 2015), occupational injuries (Fabiano et al. 2008), and hand tools (Becker, Trinkaus and Buckley 1996). These studies conclude, much as Heinrich (1931, p. 136) penned nearly a century ago in his tome, *Industrial Accident Prevention*, "Accident frequency rates tend to decrease with age and experience." The same, we argue, applies to in-person voters transition to casting a mail-in ballot.

Measuring voter experience and characterizing rejected ballots in Florida elections

Our study of the effects of experience on VBM ballot rejection draws on three historical elections in Florida. We now explain how we use data from these elections in pursuit of our research agenda and in so doing justify our focus on Florida.

Measuring voter experience

For practical and presumably ethical reasons, scholars cannot experimentally manipulate the level of experience that voters have with mail voting to explore whether inexperienced VBM voters have greater rejection rates than their experienced counterparts. Researchers interested in the effects of experience on aspects of voters' behaviors are accordingly dependent on observational data.

In many states in the country, there are either no publicly-available lists of voters and their methods of voting (so that we cannot know which voters have VBM experience and which do not) or there is no publicly available information on the disposition of VBM ballots (so that we cannot determine whether any particular voter's VBM ballot was rejected and, if so, why). However, neither of these two things applies to Florida, a state whose open records laws are such that officials make public after an election lists of (1) voters who cast VBM ballots and (2) dispositions of these ballots (Shino et al. 2020).

In a given election we define a *Mail Experienced* voter in Florida as one who successfully cast a VBM ballot in previous elections in Florida (we provide details shortly on what "previous" means

in this context). Here, successfully means, not rejected. In contrast, we say that a voter is *In-person Experienced* if, in previous elections, the voter cast a valid ballot in-person. A voter in a hypothetical election may be neither Mail Experienced nor In-person Experienced. This would be the case if a voter were, say, 18 years old at the time of the election or if the voter were older but had abstained from voting in previous elections.

Recent Florida elections

With respect to Florida elections, first we analyze the state's 2020 Presidential Preference Primary (hereinafter, the 2020 Primary), which took place at the start of the COVID-19 pandemic. This election is useful for our analysis as its timing—during the pandemic—bears similarity to what will almost certainly characterize the upcoming 2020 General Election in Florida. Florida's 2020 Primary took place on March 17, 2020, ten days after the state's first official COVID-19 death, which happened to coincide with the last day voters were permitted to request a VBM ballots.¹⁰

Second, we turn to the 2018 General Election (2018 General) in Florida. This contest is pre-pandemic, but unlike a primary election in a closed primary state (like Florida), it would attract a much broader swath of the electorate, most notably voters not registered with a political party. Third, we consider the 2016 General Election (2016 General). This election features a presidential contest like the upcoming election in November 2020 and is most likely to have a surge of what [Campbell \(1960, p. 399\)](#) long ago classified as "peripheral voters."

Our three Florida elections—the 2020 Primary, the 2018 General, and the 2016 General—vary by type, and that is a strength of our research design. By considering three types of statewide elections in Florida, we can be reasonably confident that any regularities we observe in all of them

¹⁰For a coronavirus timeline in Florida, see "Timeline: As the Coronavirus Worsened in Florida, Officials' Response Led to Frustration," March 20, 2020, *NBC 6*, available at <https://www.nbcmiami.com/news/local/timeline-as-the-coronavirus-worsened-in-florida-officials-response-led-to-frustration/2206693/> (last accessed May 15, 2020). See also, "Florida reports its first 2 coronavirus deaths," *CNN.com*, March 7, 2020, available at <https://www.cnn.com/2020/03/07/us/florida-coronavirus-deaths/index.html> (last accessed May 15, 2020). Per the Florida Elections, "The deadline to request that a vote-by-mail ballot be mailed is no later than 5 p.m. on the 10th day before the election."

do not reflect idiosyncrasies associated with a single election type.

For the 2020 Primary, we say that a VBM voter in this election is Mail Experienced if the voter cast an accepted VBM ballot in the 2018 General *and* in the 2016 General in Florida. On the other hand, a voter in the 2020 Primary is In-person Experienced if he or she cast a successful in-person ballot in the 2016 *and* 2018 general elections in Florida. With respect to the 2018 General, we say that a VBM voter in this election is Mail Experienced if the voter cast an accepted VBM ballot in the 2014 *and* 2016 general elections in Florida, and we say that a voter in the 2018 General is In-person Experienced if he or she cast a valid in-person ballot in these two previous general elections in the state. Lastly, with respect to the 2016 General, we say that a voter in this election is Mail Experienced if the voter cast an accepted ballot in the 2014 *and* 2012 general elections in Florida, whereas a voter is In-person Experienced if he or she voted successfully in-person in the two previous general elections. Appendix A provides additional details on how we assess voter experience using official statewide data from Florida.

Characterizing rejected VBM ballots

The Florida Division of Election (FDOE) maintains records, drawn from reports created by officials in Florida's 67 counties, on the dispositions on ballots cast in the state's elections.¹¹ A ballot submitted by a Florida voter can be accepted, rejected on account of lateness, rejected because its envelope was unsigned, or rejected on account of another error.¹² The overall rejection rate for a given election in Florida is thus the number of ballots received by elections clerks and rejected for one of the three reasons noted above divided by the total number of mail-in ballots received by these clerks, which are disproportionately valid ballots. This calculation does not include ballots

¹¹For details, see Florida Division of Elections, "Vote-by-Mail Ballot Request Information File Layout," available at <https://www.dos.myflorida.com/media/695816/dsde145.pdf> (last accessed May 4, 2020).

¹²The FDOE refers to the latter as "voter-caused errors." See "Absentee Ballot Request Information File Layout," available at <https://www.flrules.org/Gateway/reference.asp?No=Ref-06150> (last accessed September 29, 2020). It is not always obvious that the errors classified in this way are truly voter-caused. We use the term "voter error" in this paper so that our language is consistent with the FDOE vernacular, but do not endorse its implication that what the FDOE calls "voter-caused" errors are necessarily caused by voters.

sent to voters and returned to clerks as "undeliverable" by the United States Postal Service nor does it include ballots sent by clerks, received by voters, and then never returned by them. A Florida voter who receives a ballot is not required to vote with it—indeed, the voter is not required to vote at all. Put another way, in order for a ballot to be rejected, it must be submitted by a voter, received by an elections clerk, evaluated for timeliness, and assessed for signature validity. Beyond the overall rejection rate for a given election, we can also calculate the election’s late ballot rate, i.e., the fraction of ballots received by local clerks that arrived after Florida’s Election Day deadline. We similarly can calculate the unsigned ballot rate and the voter error rate.¹³

The three reasons for ballot rejection described above pose different advantages and disadvantages for our analysis of the effect of experience on ballot rejection. As will be clear, lateness is the modal rejection reason among rejected ballots in Florida. Interpreting late ballot rates is nonetheless complicated by the dependence of timely ballot delivery on the Postal Service. In our data on Florida elections, we observe only the dates that ballots were received by elections clerks—not the dates that voters placed these ballots in the mail system.

The least common reason for ballot rejection is what in Florida is called a voter-caused error (see fn. 12 for a discussion of this term). One limitation in our interpreting the rates of these phenomena is that such ostensible errors reflect local election clerk discretion. An elections clerk who infers in conjunction with local guidelines and processes that a voter’s signature does not match a signature on file is making a choice much like any street-level bureaucrat, including those who assess in-person voter identities (King and Barnes 2019; Suttman-Lea 2020). Accordingly, the rates we calculate for voter errors are confounded by local discretion.

Of our three types of rejection reasons, ballots rejected on the grounds of missing signatures

¹³Voters casting mail ballots in 19 states, including Florida, are permitted to "cure" deficiencies with their return envelope, although the rules and timelines to do so vary across states (BPC 2020). In Florida, a voter had until 5:00 PM two days after Election Day to provide a "cure" affidavit if his or her VBM ballot is rejected by a county canvassing board on the grounds of a missing or mismatched signature. Voters have no opportunity to cure late arriving ballots that received at a local elections office after 7:00 PM on Election Day. See Florida Statutes, Chapter 101.68, "Canvassing of vote-by-mail ballot," available at http://www.leg.state.fl.us/statutes/index.cfm?mode=View%20Statutes&SubMenu=1&App_mode=Display_Statute&Search_String=cure+affidavit&URL=0100-0199/0101/Sections/0101.68.html (last accessed October 7, 2020).

are our cleanest form of rejection. The presence of a signature on a ballot return envelope is not dependent on the Postal Service. Moreover, it is hard to imagine how there could be local election official discretion regarding missing signatures. Of course it possible that missing signatures on VBM ballot return envelopes can be confounded by variations in voter instructions or the designs of return envelopes.

Results

We now turn to results on the relationship between VBM experience and ballot rejection in Florida’s 2020 Primary, 2018 General, and 2016 General. Our initial results aggregate the three types of ballot rejections we presented above: lateness, missing signatures, and voter errors. After describing overall rejection rates for both Mail Experienced and In-person Experienced voters, we disaggregate rejections by type and then further break down rejection rates by party registration, race/ethnicity, age, and gender. Finally, we provide an analysis of the marginal effect of a voter’s experience with mail-in voting on VBM ballot rejection conditional on voter characteristics.

Overall ballot rejection rates and voter experience

Table 1 displays counts of Mail Experienced and In-person Experienced voters in our three elections of interest. It restricts attention to voters who cast VBM ballots in the 2020 Primary (top panel of table), the 2018 General (middle panel), and the 2016 General (lower panel). In each of these elections, more Mail Experienced voters cast ballots than did In-person Experienced voters, which is not surprising since the table conditions on mail-in voters in our elections of interest in the first place.

As Table 1 makes clear, in all three elections studied here, millions of Florida voters cast ballots, over 2.5 million in each of the past two general elections in the state. When comparing two groups of voters—Mail Experienced and In-person Experienced—each of which has thousands of members and in some cases hundreds of thousands, tests for statistical significance can lose their

Table 1: VBM ballots and voter experience in recent Florida elections

	Counted	Rejected	Percent rejected
2020 Primary			
In-person Experienced	76,087	1,693	2.18
Mail Experienced	870,930	7,164	0.82
All VBM votes	1,371,441	17,080	1.23
2018 General			
In-person Experienced	241,398	2,561	1.05
Mail Experienced	1,066,880	3,942	0.37
All VBM votes	2,566,926	27,885	1.07
2016 General			
In-person Experienced	235,220	1,449	0.61
Mail Experienced	982,199	1,890	0.19
All VBM votes	2,640,882	18,990	0.71

importance. It is easy to reject differences in, say, ballot rejection rates across groups when group sizes are enormous. Thus, in what follows, we do not report minuscule p -values when there is little reason to do so (to say nothing of the fact that our data include the universe of cases).

Table 1 reveals that Mail Experienced voters have lower ballot rejection rates than In-person Experienced voters. This finding addresses our fundamental research question, i.e., do voters inexperienced with voting have disproportionately high rejection rates? The answer to this question is affirmative. Moreover, this finding holds across all three elections in Table 1.

In the 2016 General, which was the most recent presidential contest in Florida, the inexperience penalty paid by voters who cast VBM ballots, but who usually vote in-person, is a factor of approximately 3.2 (0.61 divided by 0.19). That is, In-Person Experienced voters were roughly three times as likely to cast a rejected ballot than Mail Experienced voters.

Table 1 shows that rejection rates in Florida have increased since 2016. Roughly speaking and conditional on type of voter experience, 2020 Primary rejection rates are greater than 2018 GE rates, which are then greater than 2016 GE rates. Given the data at hand, we cannot know whether this reflects developments in Florida’s electoral environment that are likely to persist through the November 2020 election or if this reflects a cycle, meaning that rejection rates in November 2020

should be expected to mirror those from November 2016 (ignoring the present pandemic, of course).

It is notable as well that the rejection rates of Mail Experienced voters are not zero in any of the elections covered in Table 1. Even voters who have successfully voted in past Florida elections cannot entirely escape ballot rejection.

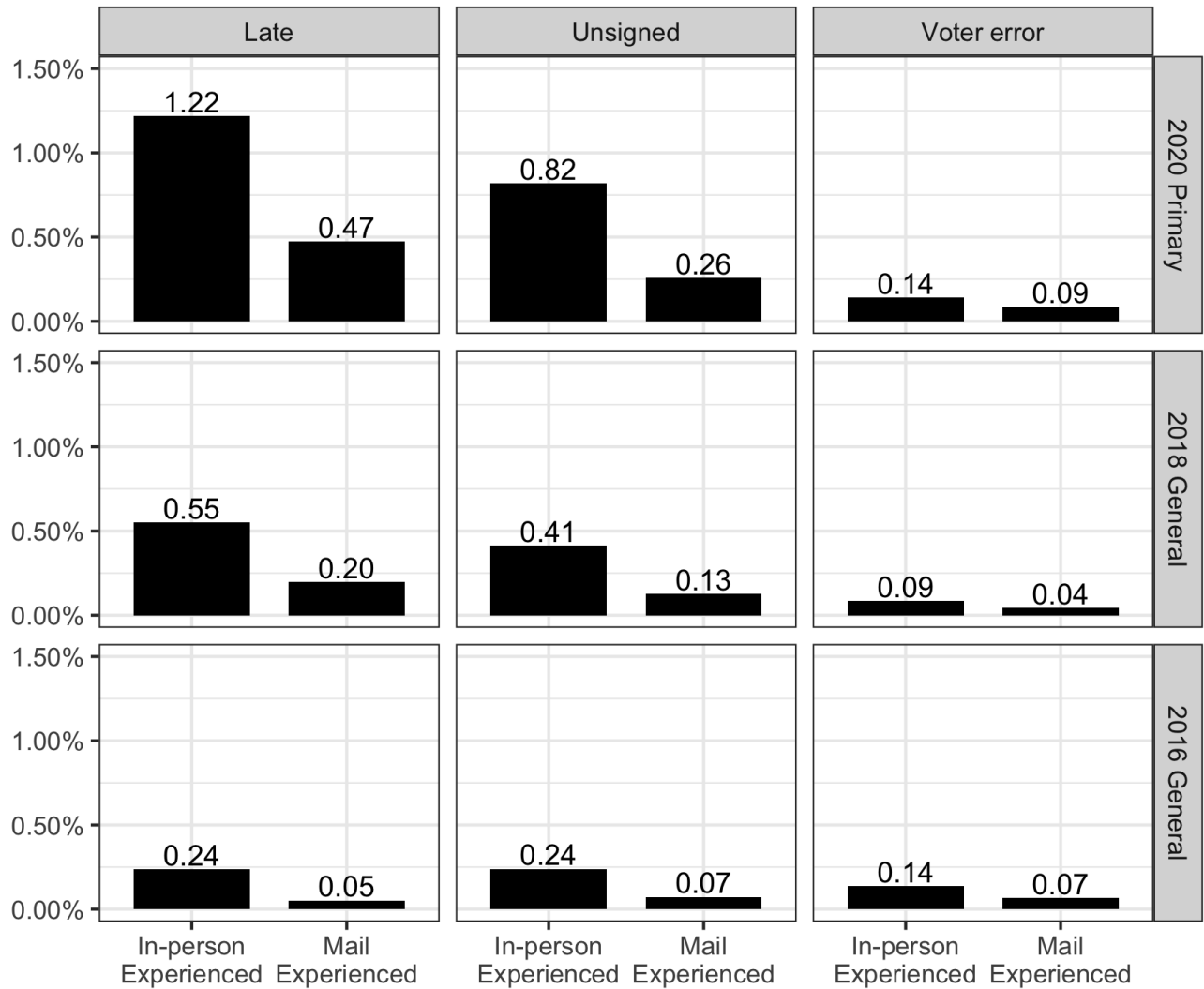
Types of ballot rejections and voter experience

Figure 1 disaggregates rejection rates by type, namely, lateness, missing signature, and voter errors. This figure has three panels, each of which corresponds to one of the elections analyzed in this paper. Each panel is itself divided into three sections. One section ("Late") reports the percentage of VBM ballots that were late; the second section ("Unsigned") reports the percentage of VBM ballots that lacked signatures; and, the third section ("Voter error") reports the percentage of ballots that have voter-caused errors" as we have previously defined this term. This latter category includes mismatched signatures and other miscellaneous errors distinct from missing signatures.

The implications of Figure 1 are straightforward: for all types of ballot rejections, voter experience matters. For each rejection reason and each election in the figure, the In-Person Experienced bar is higher than the corresponding Mail Experienced bar. In many cases, VBM experience with voting by mail is associated with more than a twofold lower rejection rate. This is particularly true regarding late ballots and ballots missing signatures.

Earlier we noted that the three ballot rejection reasons possible in Florida vary based on the extent to which they involve the Postal Service (late ballots), local discretion (voter errors), and neither of these (unsigned ballots). That said, Figure 1 is notable in that it highlights an inexperience penalty for all rejection reasons. One could argue that perhaps In-person Experienced voters live in places in Florida that have poor mail delivery. Or, that these voters reside in jurisdictions where local elections clerks are unusually rigid regarding voter errors and mismatched signatures in particular. Even with these concerns in mind, we see in Figure 1 that In-person Experienced voters have greater rejection rates caused by missing signatures. It would be difficult to explain away this result by (potential) variance in local conditions.

Figure 1: VBM rejection rates by reason and experience



Ballot rejection, experience, and party registration

Insofar as elections are competitions with partisan implications, we disaggregate our results on the effects of VBM experience on ballot rejection by party registration. By doing this, we can engage literature on the relationship between voting and partisanship.

When registering to vote, individuals in Florida may choose to affiliate with one of the two main parties (Democratic and Republican), with a minor party, or with no party affiliation at all.¹⁴

¹⁴Voters can also change their registrations after registering to vote.

The latter is known as NPA, for **No Party Affiliation**. Whether the effect of VBM experience on ballot rejection varies by party registration is particularly important given the shift to VBM voting taking place across the American states in response to health exigencies associated with the COVID-19 pandemic. This matter is also important to consider given recent findings regarding the neutrality of VBM voting and voter turnout (i.e., that the introduction of voting does not have partisan implications), and Figure 2 speaks directly to this point.

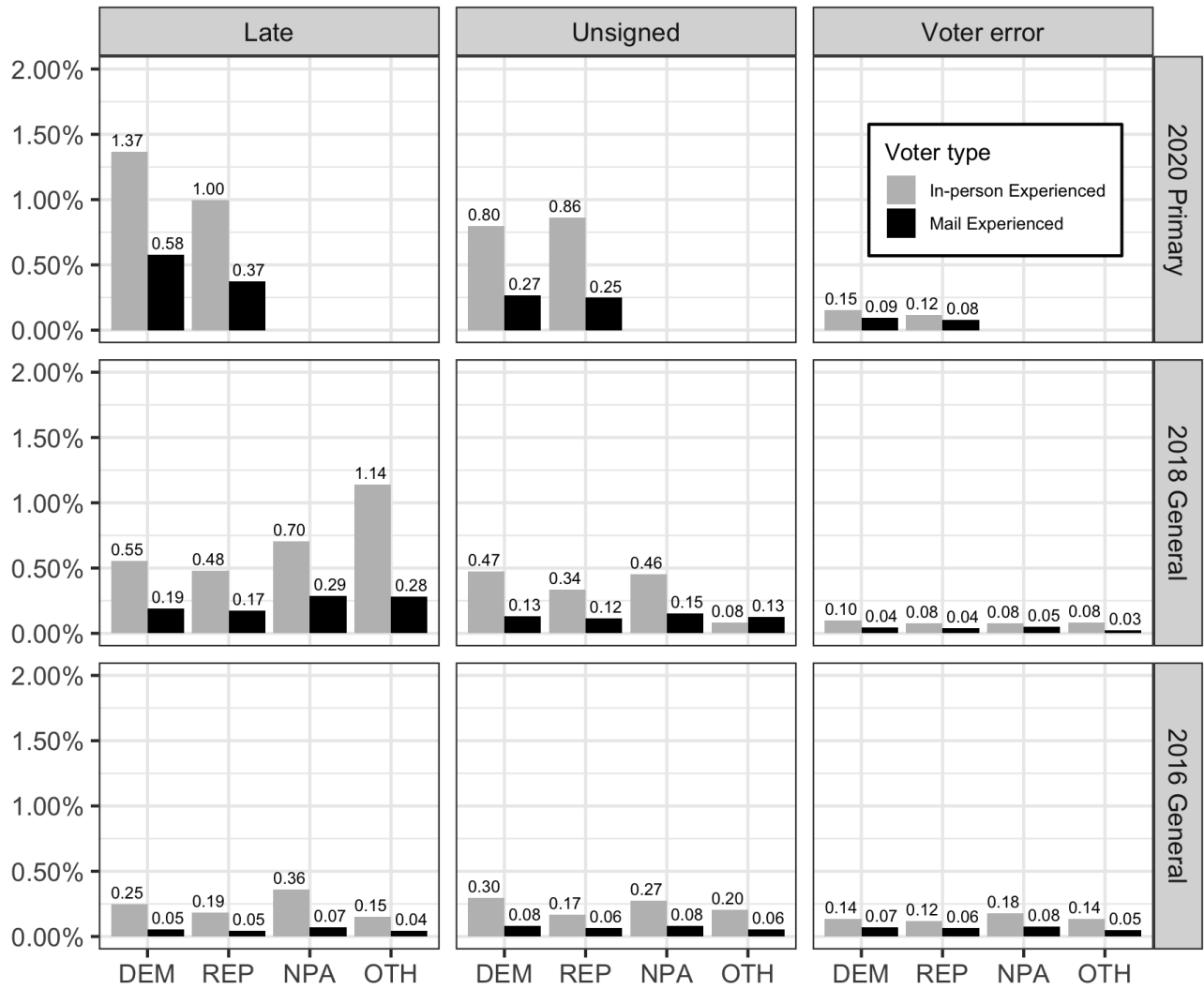
The top section of Figure 2 draws on the 2020 Primary, which on account of its nature as a partisan primary excluded voters whose party registrations were neither Democratic nor Republican.¹⁵ That said, in this election, Democratic registrants had greater rejection rates than Republican registrants independent of the extent of experience. The gray bars in Figure 2 are taller than corresponding black bars. However, the figure also shows that the marginal effects of VBM experience on ballot rejection—these are captured in differences in heights between gray bars and black bars, holding partisan registration constant—are roughly similar across parties.

In the 2018 General and the 2016 General we see similar results regarding Democratic and Republican rejection rates: Democratic affiliates have greater rejection rates of all types compared to Republican affiliates, but the marginal effects of experience are not dissimilar across party groups.

That said, two things can be said about voters who participated in the 2018 General and 2016 General and who do not affiliate with one of the two major political parties. First, these voters have relatively high late ballot rejection rates but do not have particularly high rejection rates due to signature problems. Second, the marginal effect of VBM experience on VBM ballot lateness is large for individuals who are neither registered Democrats nor Republicans. Intuitively, this suggests that voters (1) not affiliated with one of the two major political parties in the United States and (2) who voted VBM in 2018 and 2016 despite not being experienced in this form of voting may have waited "too long" to cast their ballots. Here, we write "too long" not to impugn these voters and suggest that they voted in a tardy way. Rather, as individuals who are not registered as Democrats

¹⁵There are a small number of voters who participated in the 2020 Primary yet have party registrations in our data that are neither Democratic nor Republican. We include these individuals in our rejection rate calculations but do not include them in Figure 2

Figure 2: VBM rejection rates by party registration and experience



Note: political party abbreviations appear on the horizontal axes in this figure. DEM denotes the Democratic Party; REP the Republican Party; NPA denotes no party affiliation; and, OTH means other, which includes all individuals who have party registrations that are neither Democratic nor Republican.

or Republicans, these voters are less likely to receive messaging from major political parties on how to vote and may have interest in delaying their vote choices because they have less knowledge about candidates running for office (Shino and Smith 2020). Put another way, strong partisans may find it easier to vote "early," as they they have more knowledge and require less information (if any) to

make decisions compared to unaffiliated voters.

Ballot rejection, experience, and race/ethnicity

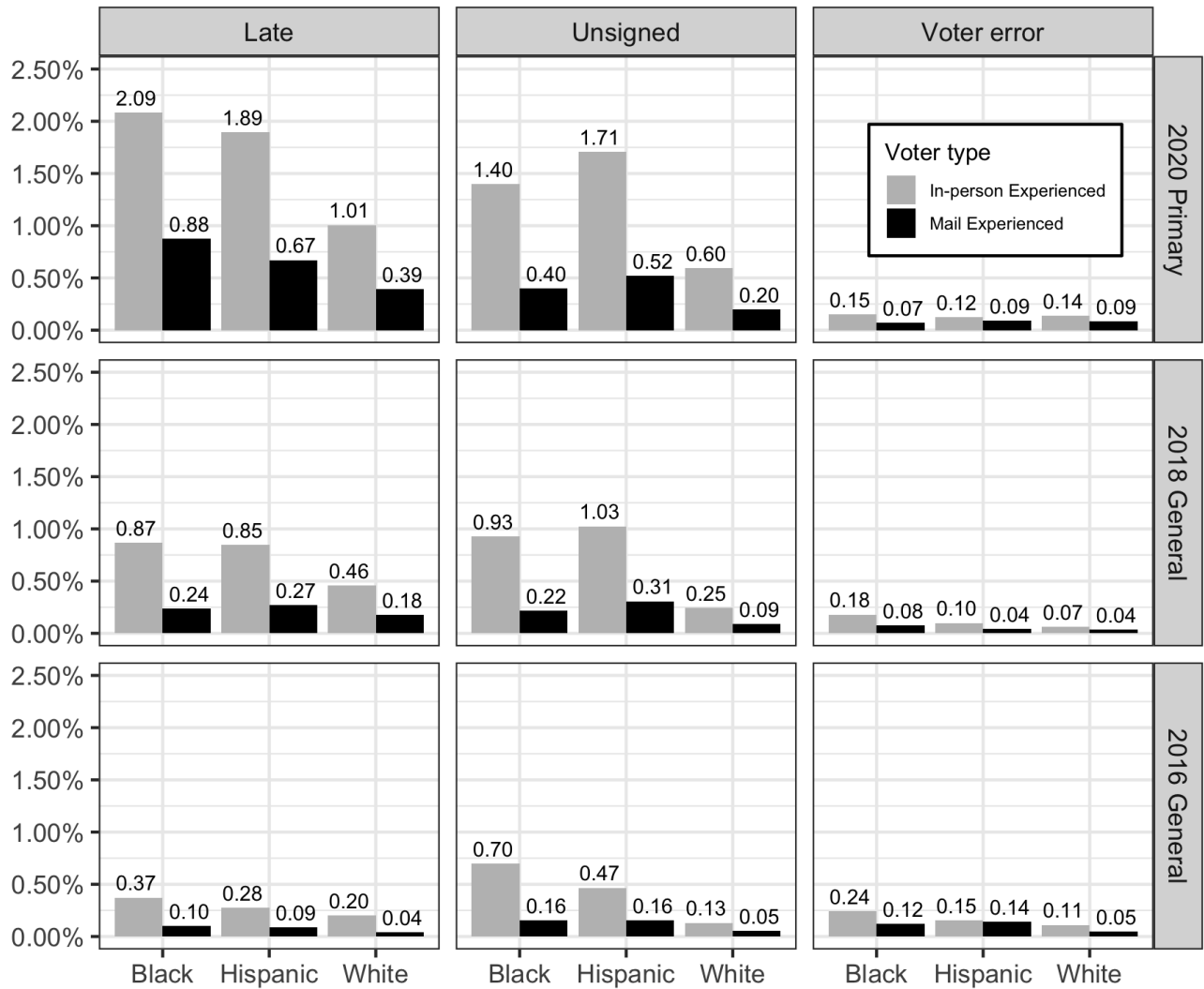
We now consider the relationship between voter experience, race/ethnicity, and ballot rejection. To do this, we take advantage of the fact that, when registering to vote in Florida, individuals are asked to self-identify themselves by choosing one of seven racial/ethnic categories: American Indian/Alaska Native, Asian/Pacific Islander, Black (not of Hispanic Origin), Hispanic, White (not of Hispanic Origin), Multi-racial, and Other. The categories Black, Hispanic, and White account for well over 90 percent of all registered voters in Florida, and we limit our analysis in this section of the paper to these three categories. Figure 3 describes rejection rates by voter race/ethnicity. As in previous figures, the figure has one horizontal panel per election, and each panel is broken into three sections, one for each type of rejection.

The implications of Figure 3 are threefold. First, VBM ballot rejection rates vary considerably by voter race/ethnicity. In particular, Mail Experienced voters who are White have lower rejection rates than Mail Experienced voters who are Black or Hispanic, and the same is true for In-person Experienced voters. It is usually the case that Black and Hispanic voters in Florida have higher ballot rejection rates than White voters, but, as [Baringer, Herron and Smith \(2020\)](#) show, after controlling for county of residence and selection into VBM voting, this does not always hold.

Second, the inexperience penalty for a given rejection reason (In-person Experienced rejection rate minus Mail Experienced rejection rate) is greater for minority voters other than for White voters. In this sense, minority voters pay a greater price for inexperience with mail voting than do White voters. Still, this price is not unsubstantial for White voters.

Third, looking across elections, we see the temporal patterns as previously discussed. Namely, VBM rejection rates were greater in 2020 than in 2016 (with the caveat here that the election in 2020 was a primary and the elections in 2016 and 2018 were general elections).

Figure 3: VBM rejection rates by race/ethnicity and experience



Ballot rejection, experience, and age group

We turn now to the relationship between voter experience, age group, and ballot rejection. To this end, Figure 4 displays rejection rates by voter age broken down by ten-year intervals.¹⁶ What is immediately noticeable from the figure is that there is a strong relationship between late ballot

¹⁶Voters over of the age of 99 are excluded. Our youngest age group in principle starts at 18, but in practice the youngest voters in our study are 22 years old. This is because we cannot define In-person Experience or Mail Experience in a given election for individuals who were not eligible to vote four years prior to said election.

rejection rates and age. During the 2020 Primary, over three percent of In-person Experienced voters and nearly 1.5 percent of Mail Experienced voters between the ages of 18 and 30 had their VBM ballots rejected the grounds of lateness. VBM rejection rates for these two groups of voters decline with age, reaching their lowest values among voters in their seventies. Still, there remains a clear difference across all age groups in rejection rates of Mail Experienced VBM voters and In-person Experienced voters. In the 2020 Primary for example, In-person Experienced voters were roughly twice as likely as Mail Experienced voters to have their VBM ballots rejected.

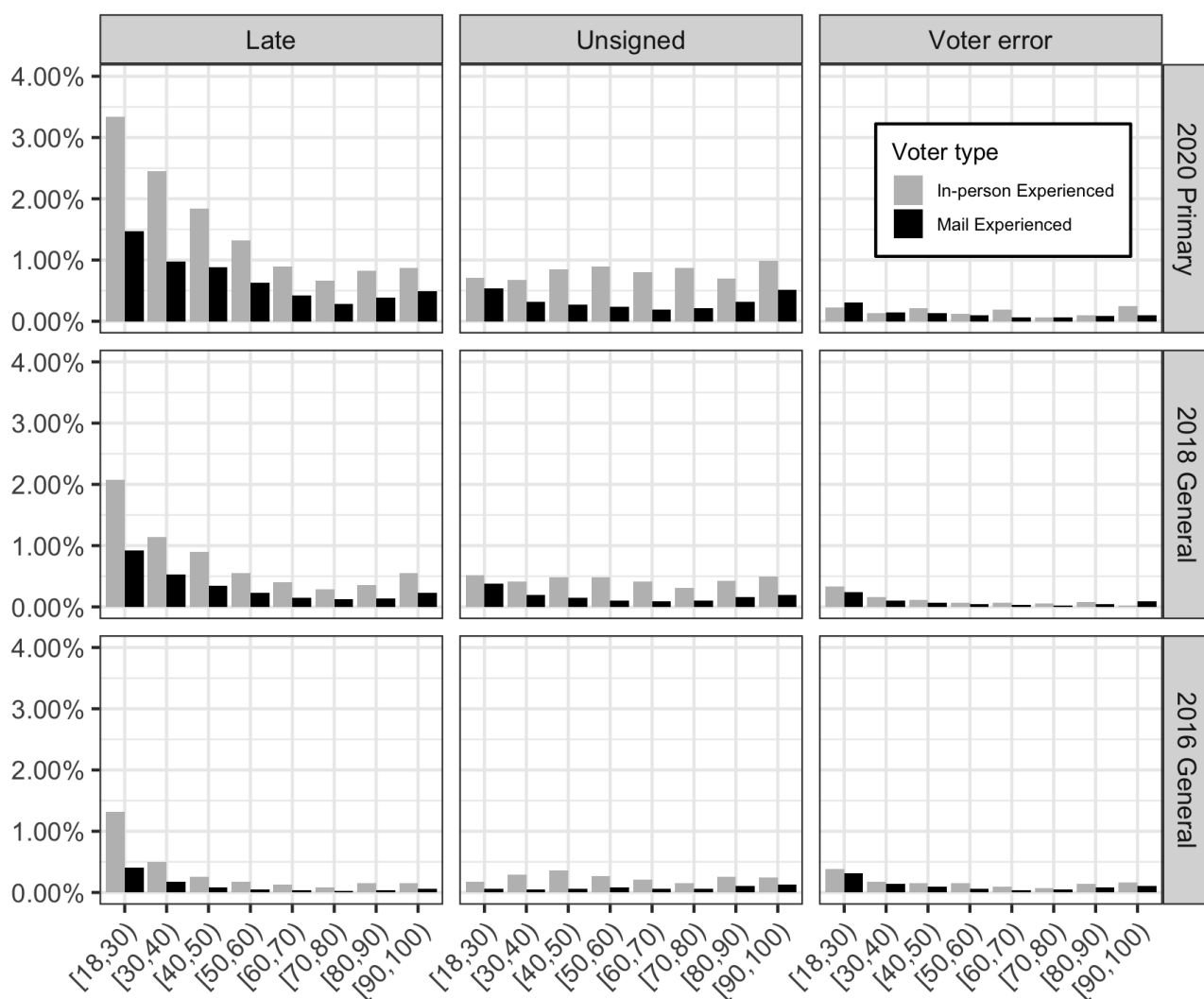
We draw three general observations from Figure 4. First, across all three elections, younger voters—even if they have experience voting by mail—are consistently more likely to have their ballots arrive late. This is in accordance with [Shino and Suttman-Lea \(2020\)](#), who analyze late-arriving ballots in Georgia in the 2018 General Election. Second, younger voters who successfully return their VBM ballot on time are nevertheless disproportionately likely to have mistakenly not signed their return envelopes. Third, the inexperience penalty associated with VBM ballot rejection holds across all age cohorts. Even older voters who have recent experience voting in person (and presumably, much more experience voting in other elections) when compared to their peers who have experience voting by mail in recent elections are more likely to have their ballots arrive late, arrive on time but without a signature, or arrive on time but with voter error.

Ballot rejection, experience, and gender

We now turn to the relationship between voter experience, gender, and ballot rejection. We group registered voters by their self-assigned genders when registering to vote. We exclude individuals who decline to identify their genders (the Florida voter registration form offers a binary choice, "M" or "F") ([Shino et al. 2020](#)) as well as those whose personal information is protected from public records.¹⁷ Figure 5 provides the rejection rates by a voter's gender, with each of the three panels for each election broken down by type of rejection.

¹⁷See "Voter Information as a Public Record," Florida Division of Elections, available at <https://dos.myflorida.com/elections/for-voters/voter-registration/voter-information-as-a-public-record/> (last accessed October 6, 2020).

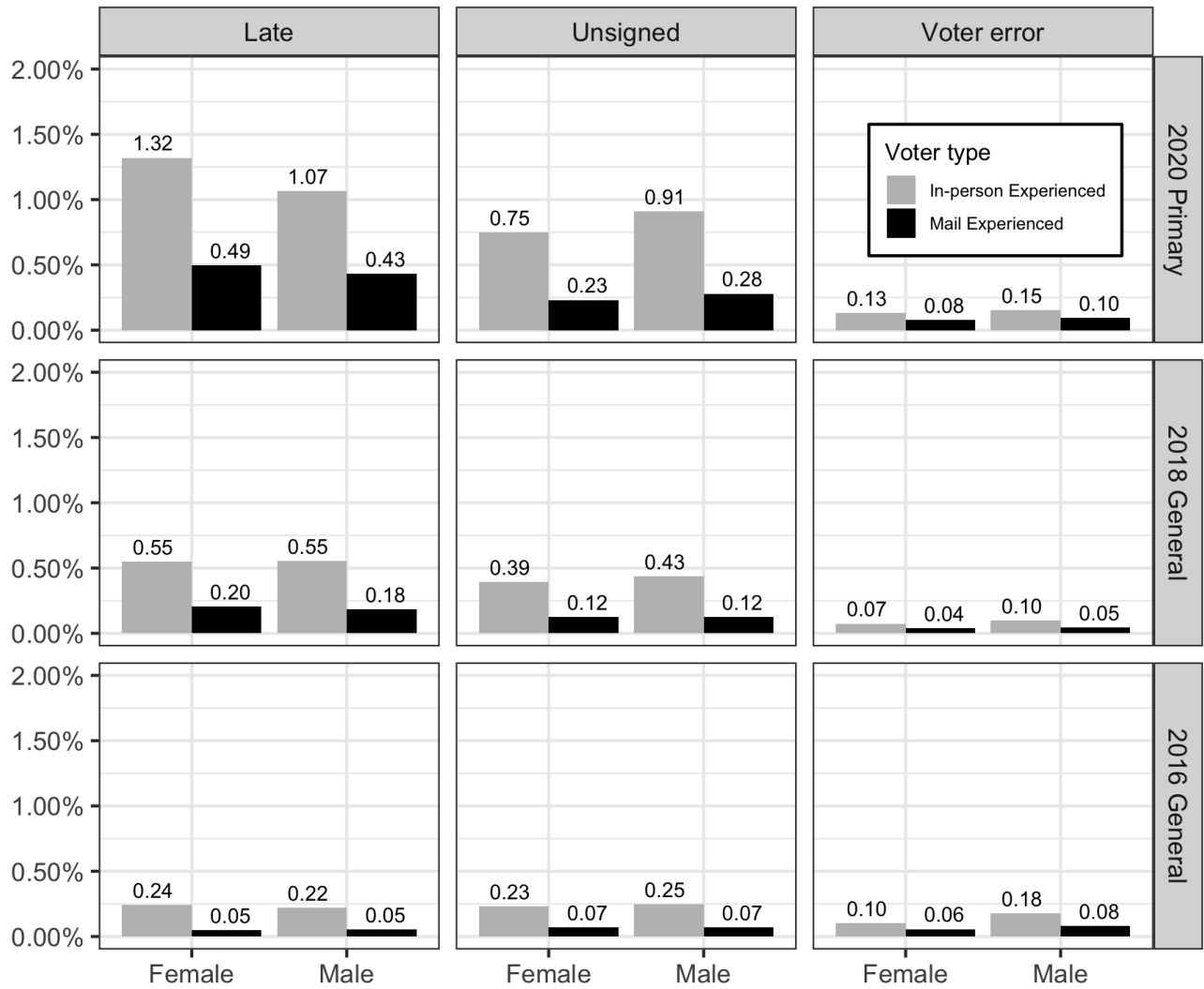
Figure 4: VBM rejection rates by age group and experience



Note: age categories abbreviations appear on the horizontal axes in this figure. Voters over of the age of 100 are excluded.

As Figure 5 reveals, there is a consistent pattern across all three types of VBM rejections across all three elections considered here. Regardless of rejection reason, regardless of election, and regardless of gender, In-person Experienced voters who cast a VBM ballot pay a large penalty when it comes to having their mail-in ballot county. Regarding late VBM ballots, men and women are equally likely to have their ballots rejected for lateness, for being unsigned, and for having voter errors. Thus, we conclude that the likelihood having one's VBM ballot rejected does not appear to

Figure 5: VBM rejection rates by gender and experience



Note: Genders labeled as undefined are excluded.

be driven by voter gender.

Marginal effects of voter experience on ballot rejection

Although we have shown that In-person Experienced voters are more likely to have their VBM ballots rejected than Mail Experienced voters, it is worth considering whether the differences in rejection rates we have identified are due to experience itself or to some other feature of voters

whom we have labeled In-person Experienced. Put another way, in previous sections of this paper, we have characterized the effect of inexperience on VBM ballot rejection when holding constant a single voter characteristic like age, race/ethnicity, party registration, and gender. Even so, age differences, say, between In-person Experienced and Mail Experienced voters could contribute to what we describe as the differences in VBM rejection rates among Democrats and Republicans.

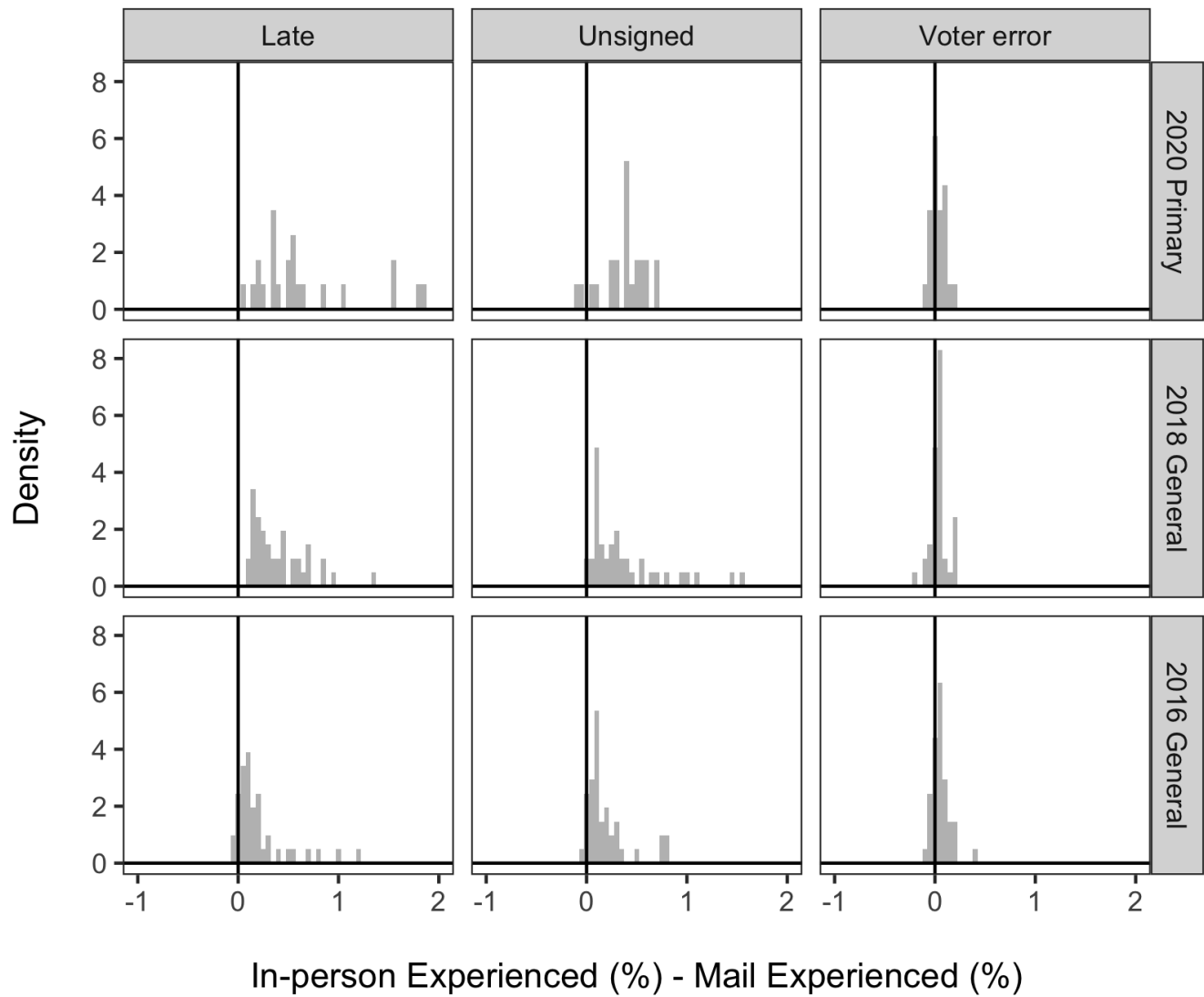
To limit the potential for confounded effects like this, here we describe the marginal effects of experience on VBM ballot rejection rates for all voter cohorts based on age, race/ethnicity, party registration, and gender combinations that are sufficiently numerous.¹⁸ Then, the marginal effect of experience is calculated by subtracting the VBM rejection rate of Mail Experienced voters from the rejection rate of In-person Experienced voters. Our marginal effects are percentage point differences that can be interpreted as the percentage point change in a voter cohort’s VBM rejection rate due to inexperience with mail-in voting.

The histograms in Figure 6 plot the distributions of these marginal effects with respect to late ballots, unsigned ballots, and voter error. The values for the pictured marginal effects and the cohorts they represent are in Appendix B.

Figure 6 highlights several features of VBM ballot rejection rates in Florida. First, holding constant voter cohort characteristics based on age, race/ethnicity, party registration, and gender, the penalty for being inexperienced is mostly greater than zero. This is especially true for ballot rejections caused by late or unsigned ballots, where the masses of the distributions of marginal effects of voter experience vary between zero and two percentage points. Second, there is notable variation in the marginal effects displayed in Figure 6, and voter experience tends to have more of an effect on late rejections and unsigned rejections than it does on rejections due to voter error. There is less dispersion in the voter error marginal effects than in the late and unsigned ballot marginal effects, meaning that the effect of experience on ballot rejections caused by voter error are similar across all voter cohorts. That is not true regarding VBM rejections caused by late and

¹⁸In any election, we define a voter cohort as being sufficiently numerous if of its members more than 1,000 In-person Experienced voters *and* more than 1,000 Mail Experienced voters cast ballots.

Figure 6: Percentage point change in VBM rejection rate due to inexperience by election



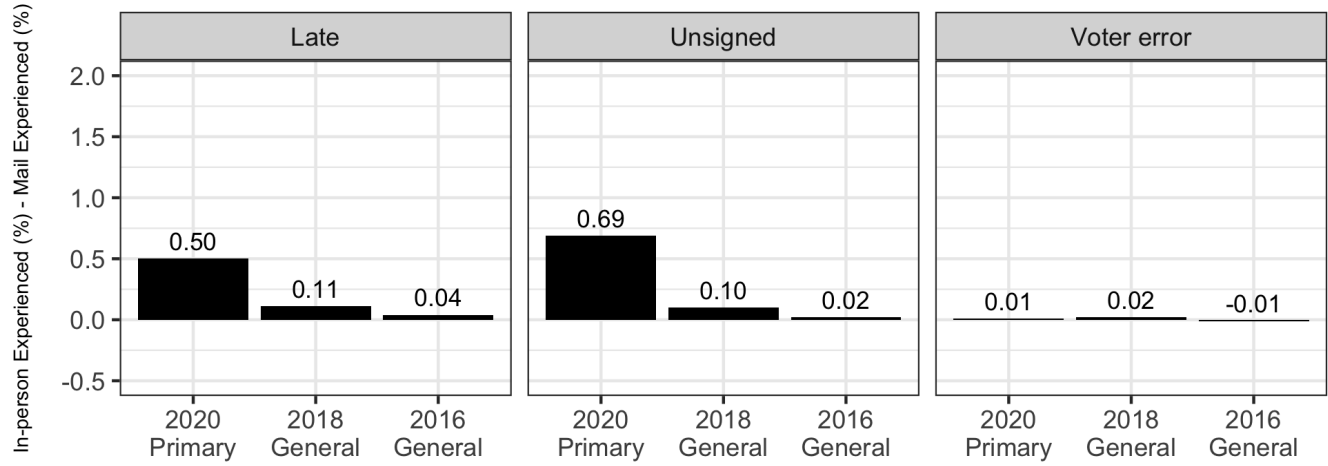
Note: Marginal effects calculated for all age, race/ethnicity, party registration, and gender combinations for which there were at least 1,000 ballots cast by In-person Experienced voters and at least 1,000 ballots cast for Mail Experienced voters. Distributions are displayed in density histograms.

unsigned ballots.

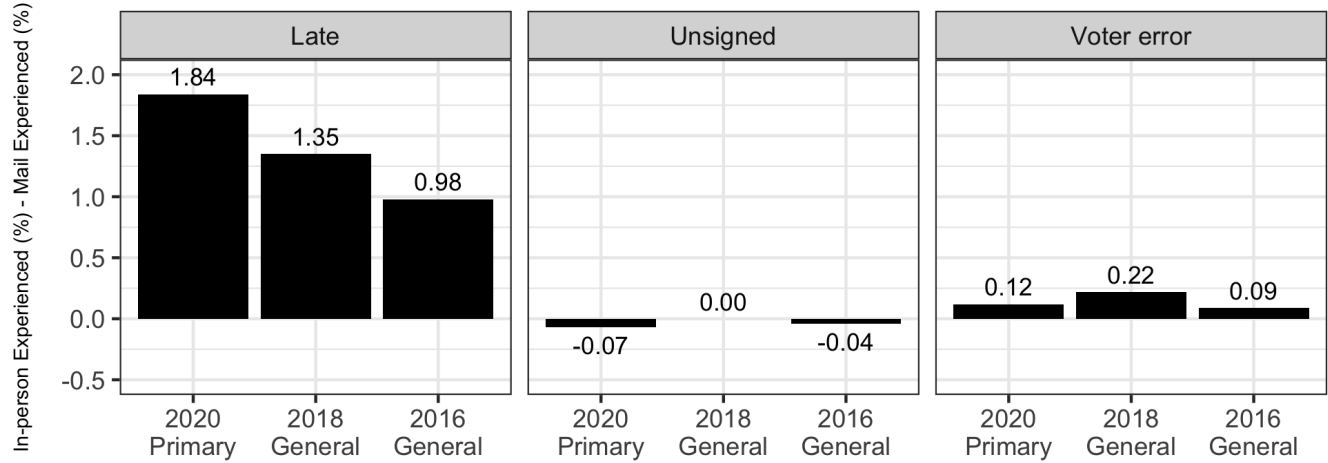
Lastly, Figure 7 describes the marginal effects for two categories of voters. The upper panel (a) describes the effect on ballot rejection for voters who are white, female, Republican and between the ages of 70 (inclusive) and 80 (exclusive). And, the lower panel (b) does the same for white,

Figure 7: Percentage point change in VBM rejection rate due to inexperience by election

(a) ... for a white, female, Republican at least as old as 70 but younger than 80 old



(b) ... for a white, female, Democrat younger than 30



female, Democrats who are under the age of 30.

Particularly with respect to late ballots, the marginal effects of experience are much greater for young, female, white, Democrats then for older, female, white Republicans. This is largely a special case of our earlier findings on age, which show that (1) young VBM voters are disproportionately prone to late VBM ballots and more that the marginal effect of experience is the greatest for the youngest VBM voters.

Discussion

The United States has witnessed a surge in absentee voting—and mail-in voting in particular—in states that have held elections since the onset of the COVID-19 pandemic. In light of health risks associated with public gatherings and the commensurate need for social distancing, it is virtually certain that mail-in voting will be major part of the 2020 General Election, to be held this coming November.

Given that in-person voting has historically been the modal voting method used in the United States, a surge in mail-in voters connotes a surge in individuals for whom voting by mail is new. Messages to voters suggesting that they alter their voting methods can be effective (Hassell 2017; Herrnson, Hanmer and Koh 2019), and there is evidence that candidates, interest groups, and political parties are doing pushing voters toward mail voting ahead of the November election.¹⁹ It is thus a virtual certainty that inexperienced VBM voters will be part of the upcoming November 2020 election.

We have shown here with an analysis of Florida elections that voters inexperienced with mail voting are disproportionately prone to casting mail-in ballots that are late to arrive at local elections offices or have signature defects. These types of mail-in ballots are rejected and do not count.

Roughly speaking, voters inexperienced with mail voting are close to three times as likely to cast a rejected ballot than are voters who are experienced with this form of voting. This regularity extends across three statewide elections in Florida that have taken place since 2016. Our results show as well that mail-in ballot rejection rates in Florida have increased since that year, but we cannot at present ascertain if this reflects a feature of Florida elections that would persist through 2016 regardless of the COVID-19 pandemic. Regardless, that recent mail-in ballot rejection rates

¹⁹See, for example, the Florida Democratic Party's effort, "I Will Vote," available at https://iwillvote.com/votebymail?state=FL&partner=dnc_ads&partner_campaign=ga_11008056884_461940090849&gclid=CjwKCAjwq_D7BRADEiwAVMDdHmyVdApbqG5GfhIjwaI1QpYl-SKSMwEOGejeheODF__qi6ZjeDbjMBoC3JOQAvD_BwE (last accessed October 6, 2020). For the Republican Party of Florida's effort, see "Vote By Mail ballots are out! Voting by mail in Florida is safe and secure. Return yours today!" available at <https://www.facebook.com/FloridaGOP/> (last accessed October 6, 2020).

in Florida were high in March 2020 should raise a red flag about the 2020 General Election.

The negative effect of a lack mail inexperience is greatest for minority voters (who already tend to have disproportionately high mail-in ballot rejection rates) and voters who are not affiliated with major political parties. We suspect that one explanation for the latter is that independently minded voters wait longer to vote than do partisans, thus raising the risk of late mail-in ballots. This is compounded when independently minded voters are inexperienced with mail-in voting.

We have focused our analysis on Florida because this state's open records laws permit us to carry out a detailed analysis of the correlates of rejected mail-in ballots. We cannot be sure that our findings on the role of voter experience extend to other states, but the vast majority of states simply cannot be scrutinized in the way that Florida can.

There has been as of late an extensive debate in the United States regarding absentee voter assistance during a public health emergency that is leading voters to shun methods of voting that involve person-to-person contacts. To this matter, our results have clear implications: voters inexperienced with mail-in voting stand to gain disproportionately from third-party assistants who focus on ensuring that mail-in ballots are returned on-time and with needed signatures.

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A Data sources and processing

To characterize the disposition of ballots cast in Florida in the 2020 Primary, the 2018 General, and the 2016 General, we rely on daily absentee voter files created by Florida counties and submitted to the Florida Division of Elections (FDOE). Absentee voter files are generated both pre-election and post-election by the 67 Florida Supervisors of Elections, and each absentee file lists the disposition of a county's slate of absentee ballots as of the date of the file. To assess the final disposition of absentee ballots, we use the last daily absentee file created by each county, submitted to the FDOE approximately 15 days after Election Day.

Each absentee file assigns a one-letter ballot status code to every returned ballot listed in the file. The codes useful for the analysis in this paper are as follows: "E" denotes an absentee ballot that is was rejected due to a "voter-caused error"; "N" denotes an absentee ballot rejected on account of being unsigned, or "no signature"; and, "V" denotes an absentee ballot that was accepted as "valid". In some cases, the daily absentee files created by Florida counties contain conflicting ballot return codes. When we encounter this situation, we resolve this ambiguity in favor of absentee ballot acceptance. That is, when a ballot has status codes that indicate that it was accepted and unsigned, we assume that it was accepted. This means that the rejection rates described in this paper are conservative. To identify late ballots, we rely on the ballot return dates listed in the absentee files and disregard ballot status codes. That is, we consider a ballot as being rejected for arriving late if it arrived *after* its corresponding Election Day. And if a ballot arrives after Election Day the ballot is considered late even if the ballot was unsigned or had a voter error that would have resulted in its rejection. Therefore, no ballot has more than one reason for rejection.²⁰

The daily absentee files contain statewide Florida voter identification numbers, and we use these numbers to merge details on ballots with voter demographics (age, race/ethnicity, gender, and party registration) from statewide Florida voter files. The FDOE makes these files publicly

²⁰[Baringer, Herron and Smith \(2020\)](#) is, like this study, an analysis of Florida. Unlike the present paper, however, [Baringer, Herron and Smith](#) rely on Florida voter history files for their data on ballot rejections.

available. For the 2020 Primary, we link data with a voter file dated May 2020; for the 2018 General, the voter file we use is dated January 2019; and, for the 2016 General we merge data with a voter file dated January 2017.

Each statewide Florida voter file also contains history codes that describe whether, and how, each registered voter in Florida at the time the file was created participated in previous elections. Florida history codes do not specify reasons for ballot rejections for those ballots that were rejected. This information is contained in the aforementioned absentee ballot files

We need history codes to determine which absentee voters in a given election (either the 2020 Primary, the 2018 General, or the 2016 General) cast valid in-person ballots or valid absentee ballots across the previous two general elections in Florida. These vote histories are used to determine whether voters were In-person Experienced or Mail Experienced when voting by mail in said election. To establish whether an absentee voter had voted in-person or by mail in the 2018 General, we use the January 2019 voter history file. To establish whether an absentee voter had voted in-person or by mail in the 2016 General or the 2014 General, we use the January 2017 voter history file. In rare case, the voter history file will list individual voters as having voted in multiple ways. If there is ever a case where the history file lists an individual as having voted both in-person and absentee in the same election, we assume they voted in-person only.

In addition to merging the absentee voter files with registered voter demographics and voter history, we also merge the files with Florida's Election Recap files published by the FDOE. These Recap files identify registered voters who are members of the military, their dependents, or are U.S. Citizens living abroad and are therefore protected under the Uniformed and Overseas Citizens Absentee Voting Act (UOCAVA). Since UOCAVA voters have different standards for returning absentee ballots, we remove all UOCAVA voters from the absentee voter lists.

B Tables of marginal effects

This appendix contains three tables, one per election. Each table reports three marginal effects for a voter cohort based on age, race/ethnicity, party registration, and gender. The table incorporates only those cohorts that had at least 1,000 In-person Experienced voters and 1,000 Mail Experienced voters.

For example, the first row in Table 2 corresponds to White, Female, and Democratically-affiliated voters up to age 30 who cast ballots in the 2020 Primary. Of these individuals, the difference in rejection rates due to lateness between In-person Experienced and experienced voters is 1.84. This quantity can be thought of as the inexperience penalty. That this penalty is positive means that In-person Experienced voters (who are Black, Female, Democratically-affiliated, and up to age 30) had greater late ballot rates than corresponding Mail Experienced voters.

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Table 2: Percentage point change in rejection rate due to inexperience, 2020 Primary

Age group	Race/ethnicity	Party	Gender	Ballots	Late	Unsigned	Voter error
[18,30)	White	Democrat	Female	5,382	1.84	-0.07	0.12
[30,40)	White	Democrat	Female	8,106	1.78	-0.12	0.06
[30,40)	White	Democrat	Male	5,705	1.56	0.39	0.01
[40,50)	White	Democrat	Female	9,767	0.61	0.24	0.18
[40,50)	White	Republican	Female	10,884	1.54	0.38	0.05
[50,60)	Black	Democrat	Female	7,776	1.03	0.55	-0.07
[50,60)	White	Democrat	Female	20,973	0.36	0.44	0.07
[50,60)	White	Democrat	Male	12,531	0.24	0.32	-0.03
[50,60)	White	Republican	Female	29,544	0.86	0.42	0.04
[50,60)	White	Republican	Male	24,248	0.56	0.27	0.11
[60,70)	Black	Democrat	Female	14,112	0.65	0.71	-0.08
[60,70)	White	Democrat	Female	51,337	0.53	0.42	0.08
[60,70)	White	Democrat	Male	28,983	0.14	0.49	0.10
[60,70)	White	Republican	Female	58,781	0.55	0.54	0.09
[60,70)	White	Republican	Male	46,749	0.50	0.48	0.13
[70,80)	White	Democrat	Female	60,130	0.18	0.40	-0.01
[70,80)	White	Democrat	Male	36,421	0.18	0.40	0.02
[70,80)	White	Republican	Female	72,547	0.50	0.69	0.01
[70,80)	White	Republican	Male	62,377	0.34	0.61	-0.03
[80,90)	White	Democrat	Female	29,711	0.37	0.07	-0.04
[80,90)	White	Democrat	Male	17,150	0.05	0.60	-0.02
[80,90)	White	Republican	Female	38,862	0.37	0.12	-0.02
[80,90)	White	Republican	Male	32,100	0.38	0.31	-0.00

Table 3: Percentage point change in rejection rate due to inexperience, 2018 General

Age group	Race/ethnicity	Party	Gender	Ballots	Late	Unsigned	Voter error
[18,30)	White	Democrat	Female	3,516	1.35	0.00	0.22
[18,30)	White	Republican	Female	4,003	0.84	0.39	-0.20
[18,30)	White	Republican	Male	3,930	0.70	-0.02	-0.05
[30,40)	Black	Democrat	Female	4,175	0.72	0.54	0.03
[30,40)	White	Democrat	Female	7,291	0.60	0.36	0.01
[30,40)	White	Democrat	Male	4,880	0.15	0.24	0.04
[30,40)	White	Republican	Female	8,201	0.24	0.23	-0.01
[30,40)	White	Republican	Male	7,074	0.59	0.03	0.18
[40,50)	Black	Democrat	Female	5,985	0.55	0.37	0.18
[40,50)	White	Democrat	Female	10,595	0.36	0.14	0.01
[40,50)	White	Democrat	Male	6,843	0.54	0.22	0.00
[40,50)	White	Republican	Female	15,514	0.45	0.11	0.05
[40,50)	White	Republican	Male	13,742	0.69	0.43	0.04
[50,60)	Black	Democrat	Female	11,045	0.46	0.97	0.06
[50,60)	Black	Democrat	Male	5,621	0.93	1.57	-0.10
[50,60)	Hispanic	Democrat	Female	4,824	0.83	1.02	0.03
[50,60)	Hispanic	Republican	Female	5,081	0.21	0.40	0.09
[50,60)	White	Democrat	Female	25,483	0.15	0.28	0.02
[50,60)	White	Democrat	Male	15,306	0.64	0.11	0.07
[50,60)	White	Republican	Female	39,748	0.29	0.09	-0.03
[50,60)	White	Republican	Male	34,765	0.20	0.23	0.06
[60,70)	Black	Democrat	Female	17,135	0.44	0.65	0.18
[60,70)	Black	Democrat	Male	8,452	0.14	1.47	0.04
[60,70)	Hispanic	Democrat	Female	6,188	0.34	0.80	0.04
[60,70)	White	Democrat	Female	56,995	0.15	0.17	0.02
[60,70)	White	Democrat	Male	33,568	0.20	0.06	0.06
[60,70)	White	Republican	Female	71,109	0.25	0.09	0.02
[60,70)	White	Republican	Male	58,634	0.26	0.22	0.08
[70,80)	Black	Democrat	Female	14,488	0.23	0.29	-0.03
[70,80)	Black	Democrat	Male	7,382	0.40	1.10	0.21
[70,80)	Hispanic	Republican	Female	9,129	0.22	0.32	0.17
[70,80)	White	Democrat	Female	61,975	0.15	0.08	0.00
[70,80)	White	Democrat	Male	37,896	0.08	0.08	0.03
[70,80)	White	Republican	Female	84,279	0.11	0.10	0.02
[70,80)	White	Republican	Male	74,588	0.17	0.17	0.04
[80,90)	Black	Democrat	Female	7,588	0.47	0.53	0.03
[80,90)	White	Democrat	Female	35,226	0.13	0.31	0.03
[80,90)	White	Democrat	Male	20,370	0.20	0.12	0.00
[80,90)	White	Republican	Female	47,119	0.29	0.10	0.03
[80,90)	White	Republican	Male	39,407	0.28	0.12	0.04
[90,100)	White	Republican	Female	11,564	0.40	0.70	-0.12

Table 4: Percentage point change in rejection rate due to inexperience, 2016 General

Age group	Race/ethnicity	Party	Gender	Ballots	Late	Unsigned	Voter error
[18,30)	Black	Democrat	Female	2,884	1.22	0.33	-0.01
[18,30)	White	Democrat	Female	4,035	0.98	-0.04	0.09
[18,30)	White	Democrat	Male	2,925	0.69	0.00	-0.06
[18,30)	White	Republican	Female	5,207	0.32	0.11	0.06
[18,30)	White	Republican	Male	4,783	0.79	0.04	0.21
[30,40)	Black	Democrat	Female	4,424	0.38	0.77	0.04
[30,40)	White	Democrat	Female	7,131	-0.04	0.09	0.00
[30,40)	White	Democrat	Male	4,800	0.56	0.13	-0.09
[30,40)	White	Republican	Female	8,907	0.32	0.08	0.03
[30,40)	White	Republican	Male	7,534	0.52	0.24	0.05
[40,50)	Black	Democrat	Female	6,121	0.19	0.78	0.07
[40,50)	White	Democrat	Female	10,635	0.18	0.23	-0.03
[40,50)	White	Democrat	Male	7,114	0.18	0.14	0.06
[40,50)	White	Republican	Female	16,790	0.10	0.05	-0.03
[40,50)	White	Republican	Male	14,779	0.22	0.18	0.11
[50,60)	Black	Democrat	Female	11,230	0.13	0.31	0.18
[50,60)	Black	Democrat	Male	5,716	0.02	0.82	0.39
[50,60)	Hispanic	Democrat	Female	4,208	0.06	0.11	-0.07
[50,60)	White	Democrat	Female	27,078	0.11	0.05	0.04
[50,60)	White	Democrat	Male	16,349	0.02	0.21	0.08
[50,60)	White	Republican	Female	40,442	0.15	0.07	0.02
[50,60)	White	Republican	Male	34,272	0.09	0.11	0.14
[60,70)	Black	Democrat	Female	15,814	0.08	0.48	0.00
[60,70)	Black	Democrat	Male	7,686	0.23	0.77	0.14
[60,70)	Hispanic	Democrat	Female	5,239	-0.07	0.22	-0.02
[60,70)	White	Democrat	Female	53,927	0.12	0.10	0.04
[60,70)	White	Democrat	Male	32,294	0.07	0.08	0.13
[60,70)	White	Republican	Female	66,864	0.06	0.01	0.02
[60,70)	White	Republican	Male	54,468	0.08	0.10	0.06
[70,80)	Black	Democrat	Female	12,504	0.01	0.31	-0.00
[70,80)	Black	Democrat	Male	6,344	0.00	0.28	0.08
[70,80)	White	Democrat	Female	50,346	0.07	0.02	0.02
[70,80)	White	Democrat	Male	30,518	0.05	-0.02	0.05
[70,80)	White	Republican	Female	69,499	0.04	0.02	-0.01
[70,80)	White	Republican	Male	59,685	0.07	0.07	0.08
[80,90)	White	Democrat	Female	35,236	0.01	0.08	0.07
[80,90)	White	Democrat	Male	19,884	0.10	0.08	0.05
[80,90)	White	Republican	Female	42,817	0.17	0.05	0.09
[80,90)	White	Republican	Male	33,862	0.09	0.18	0.05
[90,100)	White	Democrat	Female	10,805	0.19	0.14	-0.05
[90,100)	White	Republican	Female	11,073	0.15	0.10	0.18