

# Mobilizing the Youth Vote? Early Voting on College Campuses

Enrijeta Shino and Daniel A. Smith

## ABSTRACT

Might additional opportunities to cast a ballot prior to Election Day increase the probability that an individual turns out to vote? More narrowly, does convenience voting have differential effects, altering the method of how some registrants cast their ballot? Scholars disagree as to whether convenience voting bolsters turnout, or even if it alters the method of voting. We argue that the targeted adoption of early in-person voting on the campuses of public colleges and universities lowers the barriers of casting a ballot, increasing the turnout of young registrants. Drawing on individual-level election administration data from Florida in the 2018 general election, we offer a series of models (differences-in-differences (DD), differences-in-differences-in-differences (DDD), and matching combined with differences-in-differences) to estimate the effect of the expansion of early in-person voting on eight public campuses. Although we find uneven effects of the policy reform on overall turnout, we find consistent evidence that the adoption of on-campus early voting not only made it more likely that young registrants exposed to the policy turned out to vote, but that it also shifted the timing of when these young voters cast a ballot.

**Keywords:** turnout, youth voting, early in-person voting, voter mobilization, Florida

## INTRODUCTION

**M**IGHT ADDITIONAL OPPORTUNITIES to cast a ballot before Election Day increase the likelihood that an individual turns out to vote? More narrowly, does convenience voting have differential effects, altering the method or timing of when registrants cast their ballot? Scholars disagree over whether or not reforms designed to make voting more convenient bolster voter turnout. Voters face a

variety of “costs” when deciding whether or not to vote (Downs 1957; Riker and Ordeshook 1968); institutional reforms may lower these costs (Wolfinger and Rosenstone 1980; Leighley and Nagler 2014). But do all registered voters exposed to a convenience voting reform take advantage of the added opportunity to cast a ballot? We argue that targeted convenience voting reforms should bolster turnout, and should also alter the method of voting, but they should have differential turnout effects across demographic groups.

Our research design, which leverages the variation within a single state of an institutional change (Nicholson-Crotty and Meier 2002)—namely, the introduction of on-campus early in-person (EIP) voting locations in Florida—allows us to assess the effect of a specific convenience voting reform. In the waning months prior to the 2018 general election, eight county supervisors of elections (SOEs) opened on-campus early voting locations on public colleges

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and universities. Building on recent scholarship assessing the impact of administrative rule changes (Hood III and Buchanan 2019; Keele and Titunik 2018; Walker, Herron, and Smith 2019; Keele and Minozzi 2012; Amos, Smith, and Ste. Claire 2017), our study complements research drawing on cross-sectional and survey data to examine the effect of election policies on voter turnout (Springer 2014; Burden et al. 2014). Studying the implementation of an election administration change in a single state that varies across local jurisdictions, we are able to better isolate the impact of a particular convenience voting reform on turnout, as well as determine whether such a reform alters where and when voters cast their ballot. In addition, we are able to gauge whether the expansion of on-campus EIP voting has salubrious spillover effects, increasing turnout among all registered voters, or if it has differential effects limited to young voters. As a preview of our findings, our estimates indicate that on-campus early voting increases turnout among young voters by as much as five percentage points in some of the counties that adopted the reform.

Our study of on-campus EIP voting is important for three reasons. First, it provides insight as to whether the adoption of a single election administration policy—permitting early in-person voting to be located on public college and university campuses—might have a positive effect on voter turnout. Change in turnout, from one general election to another, is relative. Here, we understand the adoption of on-campus EIP voting to have a “positive” effect if the drop-off in turnout between the 2016 presidential election and the 2018 midterm election is lower in counties that adopted the policy, compared to the drop-off in turnout in surrounding counties that did not adopt the policy. Second, our research design allows us to gain purchase as to whether the introduction of on-campus early voting of public colleges and universities might have a pronounced effect on the turnout of young voters, who are perennially low-propensity voters, including in Florida (Wattenberg 2015; Shino and Smith 2018). Third, our study provides additional evidence of how econometric techniques using administrative data can help policymakers evaluate the impact of election reforms, in this case, a reform that resulted from a federal lawsuit.

In short, we argue that the expected drop-off in turnout between general and midterm elections should be mitigated in the eight Florida counties that adopted the reform, that this effect should be found mainly among young voters, and that younger

voters, compared to older cohorts and compared to those residing in counties that did not adopt the reform, should be more likely to utilize EIP voting. We are more circumspect regarding expectations as to whether the adoption of on-campus early in-person voting affected overall turnout or usage of EIP voting, as spillover effects from the adoption of the targeted policy should be minimal.

### EARLY IN-PERSON VOTING AND TURNOUT

The opportunity to cast a ballot before Election Day has become well-entrenched across the American states (Gronke et al. 2008). Although there has been some notable backsliding (Bentele and O’Brien 2013; Herron and Smith 2014; Weaver 2015; Herron and Smith 2015; Hicks et al. 2015), states controlled by both Democratic and Republican state legislatures have expanded the methods by which citizens may cast ballots prior to Election Day (Biggers and Hammer 2015; Hood III and Bullock III 2011). In both the 2012 and 2016 presidential elections, roughly one-third of all voters nationwide cast ballots by means other than showing up at their designated local precincts on the first Tuesday after the first Monday of November.

Intuitively, it is easy to imagine that expanding opportunities for voters to cast ballots prior to Election Day should lead to higher voter turnout. More locations, more days, and expanded hours to vote should likely lead to an increased turnout. Indeed, this logic is one of the leading reasons why legislators in more than 30 states have expanded early in-person voting, which began in California in 1978 and then slowly spread across the country (Biggers and Hammer 2015). But does the added convenience of casting an early ballot actually increase turnout? Indeed, does such an opportunity enhance the utilization by voters of the adopted policy? The scholarly literature is split on these issues.

Some scholars, drawing largely on aggregate, cross-sectional, and survey data report minor, negligible, conditional, or even dampening effects on turnout when states adopt early in-person voting (Stein and Garcia-Monet 1997; Stein and Vonnahme 2008; Giammo and Brox 2010; Larocca and Klemanski 2011; Springer 2012). Perhaps with the expansion and availability of convenience voting, the calculus for an individual to turn out becomes more

complex. If so, this could lead to an even greater bias of high-propensity voters turning out to vote (Berinsky 2005; Rigby and Springer 2011). In particular, Burden et al. (2014) find that when adopted alone by a state, in-person early voting appears to depress overall turnout. If one considers Election Day to be the denouement of civic engagement, as they suggest, the added convenience of voting early might lead to a demobilization of some potential voters. The anticipation of a signal, collective moment—turning out to vote on Election Day—may dissipate electoral enthusiasm, with voters casting their ballot well before Election Day. Other scholars, though, have found that the availability of early voting, while perhaps not increasing aggregate turnout, may alter the composition of the electorate. Initial studies examining the turnout effects of early voting reforms found that voters who cast their ballots prior to Election Day were more likely to be habitual voters (Southwell and Burchett 2000; Hammer and Traugott 2004; Berinsky 2005) and were disproportionately more likely to be partisan, older, and white (Stein 1998; Neeley and Richardson Jr. 2001; Kropf 2012).

Cognizant of the limits of cross-sectional modeling of the impact of institutional reforms on turnout (Erikson and Minnite 2009), scholars more recently have employed research designs that hold constant state-level variation to better account for unobserved state-level confounders (Keele and Minozzi 2012). Notable are research designs that take advantage of events that constitute an approximation of a natural experiment (Fraga 2018), in particular, those that leverage geographic boundaries to assess a causal linkage between an institutional change and turnout. Utilizing observational data from Florida's statewide voter files, Herron and Smith (2012, 2014) find that the contraction of EIP voting in the state in the 2012 general election dampened the use of EIP voting among minority and young voters. In their study drawing on individual-level voting records in North Carolina, Walker, Herron, and Smith (2019) match voters on race, party, and geography to examine how changes in the availability of early voting hours across the state's 100 counties impacted voter turnout in the 2016 presidential election. Similarly, Amos, Smith, and Ste. Claire (2017) show, in their study of changes of Election Day polling locations on turnout in a single county in Florida, the availability and locations of early voting sites may help offset transportation or information costs when localities consolidate or move Election Day polling locations.

Most recently, Kaplan and Yuan (2020) compare turnout among registrants living on either side of a county border to assess the impact on voter turnout among various demographic groups after a 2010 Ohio state law made EIP voting locations uniform across the state's 88 counties. They find the expansion of early voting opportunities in some counties led to a significant increase in turnout, especially among Democrats, independents, and women (particularly of child-bearing age). That peripheral voters, particularly young voters, might be drawn to convenience voting is not new; in one of the first studies on the expansion of early voting in Oregon, Fitzgerald (2003, 1) found that "allowing people to vote early in person at convenient locations also has a positive, although smaller and not statistically significant, effect on youth voting."

Here, we are interested whether a specific institutional change—the expansion of on-campus EIP voting in eight Florida counties in the 2018 general election—not only bolstered turnout but also shifted the method of voting of young voters who had the newfound opportunity to cast a ballot on a college or university campus during the two-week run-up to Election Day.

## WHY FLORIDA?

Not surprising given its history of election melodrama (Hasen 2012), the process of early voting in the Sunshine State has not escaped controversy. In 2011, the Florida legislature enacted House Bill 1355, which cut the number of days of early voting across the state from a total of 14 days to only eight days, eliminating the first five days and the final Sunday before Election Day. Critics of the legislation contend the not-so-subtle goal of the Republican-controlled legislature was to depress early voting by black registrants (Herron and Smith 2014). In the 2008 general election, 31.9% of the electorate, or nearly 2.7 million Florida voters, cast their ballots in person prior to Election Day. African Americans were especially likely to turn out on the final Sunday of early voting, a day that was subsequently eliminated by the legislature (Herron and Smith 2012).<sup>1</sup>

<sup>1</sup>Florida Department of State, Division of Elections. "November 2008 General Election Ballots Cast." 2009. URL: <<http://dos.myflorida.com/media/693351/2008ballotscast.pdf>>.

The reduction in the number of days of early voting was correlated with a sharp decline in early voting in the 2012 presidential election; only 2.4 million registrants (or 28.1% of the electorate) voted EIP, a precipitous drop. The decline in early voting was especially sharp among African Americans, despite President Obama being once again on the statewide ballot (Herron and Smith 2014). In 2013, facing sharp criticism from long lines during the early voting period, the legislature permitted SOEs to allow two full weeks of early voting, including the final Sunday. In the 2016 general election, nearly 3.9 million registered voters, some 40.3% of those who turned out to vote, cast their ballot at an early voting location, a new high watermark.<sup>2</sup> Early in-person voting in Florida is popular across all age groups.

As we discuss below, our research design leverages the decision made in late summer of 2018 by eight county election supervisors to offer early voting sites on public college/university campuses in their counties. The option for SOEs to locate early voting sites on public campuses was a result of a federal lawsuit filed in the spring of 2018. In a strongly worded decision handed down on July 24, 2019, U.S. District Court Judge Mark Walker ruled that the Florida Division of Elections had incorrectly interpreted Florida's early voting statute when it issued an administrative rule in 2014 that on-campus buildings could not be used for early voting. "Throwing up roadblocks in front of younger voters does not remotely serve the public interest," Judge Walker ruled, rejecting the Division of Elections' determination that public colleges and universities' student facilities did not fit with the legislature's definition of a "government-owned community center."<sup>3</sup> Judge Walker's ruling did not require SOEs to provide on-campus early voting; rather, it merely made on-campus early voting permissible (Fineout 2018).

Unfortunately, we are not privy to the discussions between SOEs and college administrators that led to the adoption of on-campus early voting locations in some of the counties by the October 7 state deadline for polling locations. We do know that some SOEs moved quickly to cement an on-campus polling location after Judge Walker's ruling. Alachua County SOE Kim Barton, for example, reached out to the University of Florida to locate an early voting site at the Reitz Union, the hub of student activity on campus, and the university embraced it. "We just want our students to develop a lifetime habit of vot-

ing," University of Florida President Kent Fuchs was quoted saying, as voting on campus is "also just trying to make it more convenient for them, so they don't waste time in line" (Bousquet 2018). Others were more circumspect. As late as August 17, 2018, the Duval County SOE, Mike Hogan, claimed, "I don't think it's going to happen," when he referred to the possibility of having on-campus early voting at the University of North Florida (Rivers 2018).

In the end, eight SOEs—two elected Republicans (Duval and Escambia), one Republican-appointed (Miami-Dade), and five elected Democrats (Alachua, Hillsborough, Leon, Orange, and Palm Beach)—authorized registered voters in their counties to cast a ballot at an on-campus polling location at a public college or university during the two-week early voting period, running Monday, October 22 through Sunday, November 4, 2018 (two days before Election Day). The eight counties and participating public universities were Alachua (University of Florida), Duval (University of North Florida), Escambia (University of West Florida), Hillsborough (University of South Florida), Leon (Florida State University and Florida A&M University shared a location on the FSU campus), Miami-Dade (Florida International University), Orange (University of Central Florida), and Palm Beach (Florida Atlantic University). In addition, the Miami-Dade SOE negotiated to place additional early voting locations on two Miami-Dade College campuses, North and Kendall.<sup>4</sup> A total of 52,229 registered voters cast early in-person ballots at the 10 on-campus public school locations in the eight counties; of those, 42% were cast by 18–22-year-olds, compared to only three percent of all ballots cast at non-campus early voting locations by the same age group.

<sup>2</sup>Florida Department of State, Division of Elections. 2017. "Voting Activity by Ballot Type for 2016 General Election." URL: <<http://dos.myflorida.com/media/697842/2016-ge-summaries-ballots-by-type-activity.pdf>>.

<sup>3</sup>See *League of Women Voters of Florida, Inc., et al. v. Detzner*, 314 F. Supp. 3d 1205, (N.D. Fla. 2018), available at <<https://www.leagle.com/decision/infcco20180725987>>.

<sup>4</sup>We do not include private schools, Nova Southeastern University (Broward County) and Edward Waters College (Duval County) in our analysis, as their facilities do not constitute a government-owned community center and were never prohibited from being used as an early voting location under the Division of Election's 2014 directive.

## DATA AND METHODS

Our study uses a series of econometric models to estimate whether the adoption of public campus early voting locations mitigated turnout drop-off in the 2018 general election, especially among the targeted group of young voters. We consider a county's adoption of on-campus EIP voting to be analogous to a "treatment" effect as applied to registrants in the eight counties (see Burden et al. (2014)). Our "treatment" of counties that adopted public on-campus early voting sites must assume, as do other studies that utilize this strategy (Keele and Titiunik 2016, 2018; Walker, Herron, and Smith 2019; Amos, Smith, and Ste. Claire 2017; Weaver 2015; Kaplan and Yuan 2020; Neiheisel and Horner 2019), that an individual does not self-select for the sake of the treatment, that is, that an individual registers to vote in a county because of a future possibility of having on-campus early voting. We think this would be highly unlikely, as the decision to place early voting locations on public campuses in Florida was determined very late in the election cycle. Furthermore, we know of no evidence suggesting that individuals register to vote in a county because of a future possibility of on-campus early voting.

Drawing on statewide voter file data and taking advantage of the early voting sites on campuses in eight counties in the 2018 general election, we analyze whether the convenience of an on-campus early voting site mitigates drop-off between the 2016 and 2018 general elections. Given that all registered voters living in one of the eight counties that implemented the policy had the opportunity to cast an early in-person ballot in the new early voting sites, first we focus our analysis on whether the policy had a positive turnout effect across all demographic groups. However, the new early voting sites were located on college campuses, making early voting more convenient and accessible for college students. Therefore, we are particularly interested if young voters are more likely to vote due to the introduction of early voting on public campuses, given the historically poor turnout of younger voters. Young voters face considerable barriers when trying to vote (Wattenburg 2015; Ashok et al. 2016). Already less likely to be contacted and mobilized by campaigns (Bennett 1991) or be conditioned as regular voters, young voters are not yet habituated to turn out (Plutzer 2002; Franklin 2004; Shino and Smith 2018).

Our study benefits from the fact that there were only minor election administration changes in Florida between the 2016 presidential and the 2018 mid-term elections. This stability over time allows us to better isolate the possible effect of one convenience voting reform, holding constant other election administration changes. Concerns about the endogeneity of the treatment might arise given that certain counties with particular characteristics were more likely to implement the policy compared to other counties. Hanmer (2009) argues that the implementation of election laws are endogenous and the most commonly used statistical analysis will lead to bias estimates. These concerns should be taken seriously; however, we do not think they weaken our conclusions about the effects of on-campus early voting in the 2018 mid-term election. To minimize the effect of unobservables, we control for variables that might affect the relationship between turnout (and the use of EIP) and the implementation of the new policy. In all our models, we also adjust the standard errors to account for clustering of units by county since unobservable components that might affect turnout (or use of EIP) might be correlated (Erikson and Minnite 2009; Primo, Jacobsmeier, and Milyo 2007; Burden et al. 2014; Neiheisel and Horner 2019). Finally, in order to assure the robustness of our empirical findings, we conduct a variety of additional tests, including several that are available in the Supplementary Appendix.

Young voters in the U.S. appear to be particularly sensitive to election administration changes that raise obstacles to voting. In this regard, Florida is no different than other states. Scholars have found young voters in the Sunshine State to be more likely to face long lines at the polls (Herron and Smith 2013), more likely to have their vote-by-mail ballots rejected (Smith 2018), and more likely to cast provisional ballots and have those "failsafe" ballots rejected (Merivaki and Smith 2016, 2019). Young registered voters in Florida are more sensitive to changes to the process of early in-person voting than older voters. When Florida reduced the number of days of early in-person voting prior to the 2012 general election, particularly when it eliminated the final Sunday of early voting, early voting among young voters tailed off in 2012 (Herron and Smith 2014). Using individual-level data, scholars have also shown that in Florida, turnout decreases more sharply among young voters when Election Day precincts are either eliminated or relocated—even when

other methods of voting (EIP or vote-by-mail) are available—as information and transportation costs increase (Amos, Smith, and Ste. Claire 2017).

For these reasons, we expect young registered voters, who are the least habituated to turn out (particularly in midterm elections) and who are registered in the eight counties that offered on-campus early voting locations to be more likely to vote than their peers registered in counties without on-campus voting. We argue that the added convenience of on-campus voting reduces information, transportation, and time costs associated with turning out for young voters. On-campus early voting offers young voters the flexibility of being able to cast a ballot during any day of the week, including on the weekend. The convenience of on-campus early voting locations may also shift the decision rationale for some registrants who might otherwise wait until Election Day to vote, raising both information and transportation barriers tied to getting to the polls on Election Day. Therefore, we expect the adoption of on-campus voting to mitigate any expected drop-off in turnout between the 2016 and 2018 general elections by young registrants, as these registrants have greater chances to cast their ballots, relative to similar registrants who were not afforded the policy in their counties. Because of the reform, we also expect the use of EIP voting to be relatively stronger among young voters in the eight counties that adopted on-campus locations, as compared to the method of voting by young voters in counties that did not adopt on-campus early voting locations.

Unquestionably, supporters of the federal lawsuit expected such a positive impact in their effort to allow EIP voting to become possible on Florida's public campuses. "This is truly a victory for the citizens of Florida, especially with so many young people motivated to vote," Patricia Brigham, the president of the League of Women Voters of Florida, declared immediately after the federal court ruling in July 2018, continuing that, "the court ruling demonstrates that making it easier for our students to vote truly matters" (Fineout 2018). Although any registered voter in the eight Florida counties that implemented the new reform was permitted to cast a ballot at a college or university early voting location, we think the on-campus locations are most likely to affect young prospective voters, many of whom are trying to figure out how to vote for the first time. More precisely, we expect registered voters—particularly college-age voters—to be more likely to turn out in the counties that offered

on-campus early voting locations, and to be more likely to vote early, relative to young voters in counties that did not adopt the policy as well as relative to older voters in the counties that adopted the reform.

Our dataset includes nearly 14 million voters registered in Florida as of October 31, 2018. Using a unique voter ID number, we merge the statewide voter file with the statewide vote history file from December 31, 2018, so as to include the vote history of registrants in the 2016 and 2018 general elections. Individuals who were not yet old enough to vote in 2016 are excluded from the analysis. The unit of analysis is registrant-year, and the dependent variables in our models are either turnout or having voted an EIP ballot. We consider registered voters to be in the treated group if they reside in a county that implemented on-campus early voting and in the non-treated group if they reside in a county adjacent to any of the eight counties that implemented the policy.

We begin with some descriptive analysis. Table 1 shows summary statistics for Alachua County, which implemented the on-campus early voting policy at the University of Florida, compared to the surrounding counties that chose not to locate EIP voting on a public campus. It shows the sample composition means (for turnout, registration year, age, percent white, percent female, percent registered with a party [Democrat or Republican]) both before and after the implementation of the on-campus voting reform in Alachua County, compared to its adjacent counties that did not implement the policy. The composition of Alachua County's registered voters is similar before and after the implementation of the policy. The composition is also similar between Alachua County and its surrounding group of adjacent counties. There are no significant differences with respect to turnout, registration year, gender, or if the individual is registered with a major political party (Republican or Democratic); however, Alachua County's registered voters are slightly younger and more racially and ethnically diverse compared to its adjacent counties that did not implement the policy. The population descriptions are consistent for both 2016 and 2018 election years.<sup>5</sup>

Historically, across the states, voter turnout is higher in presidential elections than in midterm

<sup>5</sup>Summary statistics for the other seven counties that implemented the policy and their respective group of adjacent counties that did not implement the policy are available in Supplementary Appendix A, Supplementary Appendix Tables A1 to A7.

TABLE 1. SUMMARY STATISTICS ON ALACHUA COUNTY AND SURROUNDING COUNTIES

	<i>Control/before (2016)</i>				<i>Control/after (2018)</i>			
	<i>Mean</i>	<i>SD</i>	<i>P(25)</i>	<i>P(75)</i>	<i>Mean</i>	<i>SD</i>	<i>P(25)</i>	<i>P(75)</i>
Voted	0.69	0.46			0.60	0.49		
Registration year	2004	10.82	1998	2012	2004	10.87	1998	2012
Age	53.44	18.65	38	68	52.72	19.12	36	68
White	0.79	0.41			0.79	0.41		
Female	0.53	0.50			0.53	0.50		
Partisan	0.78	0.41			0.78	0.41		
Number of voters	517,833				528,751			

	<i>Treatment/before (2016)</i>				<i>Treatment/after (2018)</i>			
	<i>Mean</i>	<i>SD</i>	<i>P(25)</i>	<i>P(75)</i>	<i>Mean</i>	<i>SD</i>	<i>P(25)</i>	<i>P(75)</i>
Voted	0.68	0.47			0.60	0.49		
Registration year	2004	11.81	1998	2013	2004	11.86	1999	2014
Age	45.22	18.97	28	61	44.17	19.30	27	60
White	0.67	0.47			0.66	0.47		
Female	0.53	0.50			0.53	0.50		
Partisan	0.76	0.43			0.76	0.43		
Number of voters	185,969				193,574			

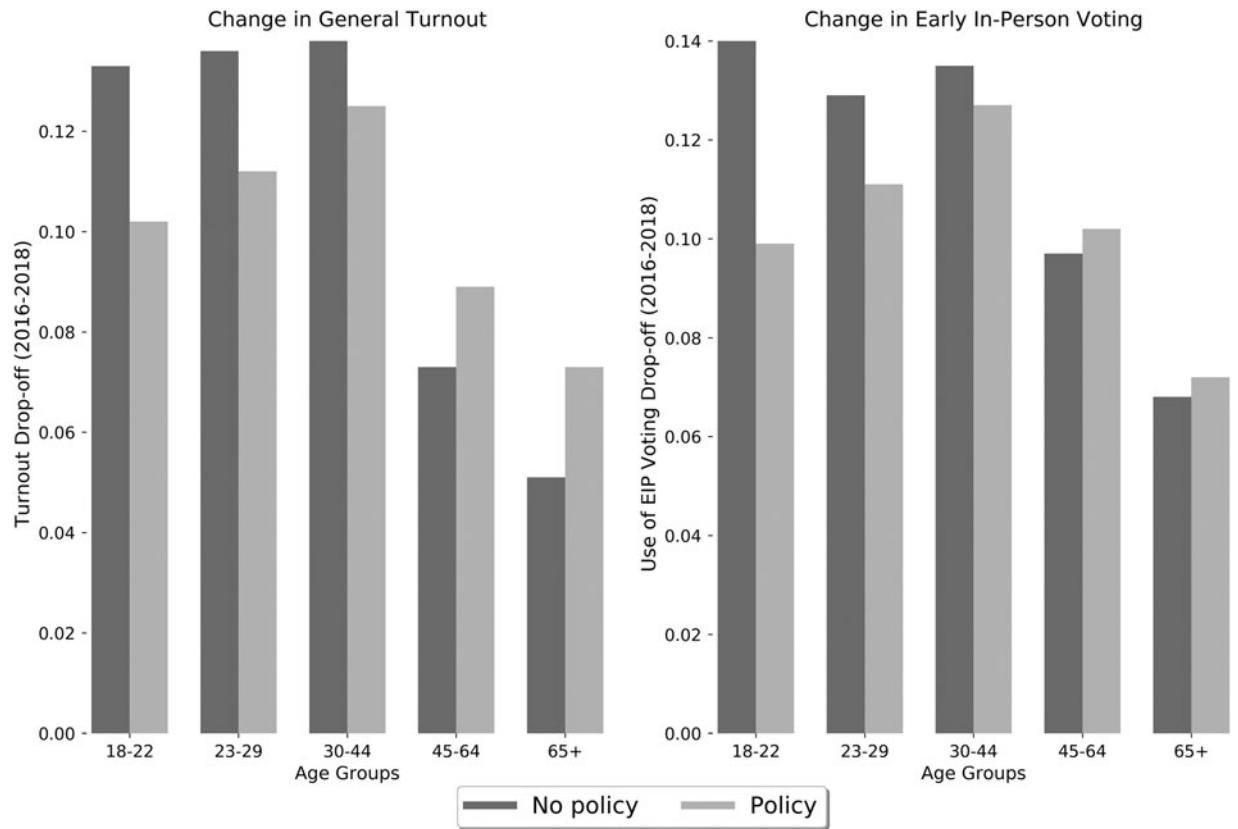
Note: Descriptive statistics for 2016 and 2018 for Alachua County, the treatment group, and its surrounding counties (Bradford, Clay, Putnam, Marion, Levy, Gilchrist, Union, and Columbia), which constitute the control group.

elections, and this is particularly the case for young people (Springer 2014; McDonald 2010). Given higher voter mobilization, salience, and hype accompanying a presidential election, registered voters are less likely to vote in midterm elections. We are not suggesting that the adoption of on-campus EIP voting will *increase* overall turnout (or the turnout of young voters) from the 2016 presidential to the 2018 midterm election in Florida. Rather, we argue that the adoption of the policy in the eight counties should mitigate the drop-off in turnout from presidential to midterm elections, relative to the expected drop-off in the state's other 57 counties, specifically among targeted college-age voters. In other words, by making voting more convenient—in this case by placing an early voting location on a college campus for a two-week period before Election Day—the expected drop-off in turnout from 2016 to 2018 should be mitigated. We also expect that making EIP voting available on college campuses will increase the likelihood of young voters utilizing the early voting method.

In Figure 1 (left panel), we plot the sample mean difference in turnout from 2016 to 2018 of registered voters across five age categories for the eight counties that adopted the on-campus EIP voting policy and the other 57 counties in the state. Figure 1 (right panel) displays the sample mean difference in the use of EIP voting among all voters from 2016 to 2018 across five age categories. In the left

panel, it is clear that the drop-off in the overall turnout of registered voters between 2016 and 2018 in the eight counties that adopted the on-campus EIP voting policy, when compared to the drop-off in overall turnout in the state's other 59 counties that did not adopt the policy, was considerably lower among the three youngest age categories (18–22, 23–29, and 30–44) but not the oldest two age categories (45–64 and 65 and older), an indication that the new policy had limited spillover effects on overall turnout in the election. For example, the drop-off in turnout between the presidential and midterm elections among the youngest cohort of registered voters in the eight counties with on-campus EIP voting was only 10%, whereas the drop-off among these young voters was over 13% percentage points in the other 59 counties.

In the right panel, we observe that the drop-off in the use of EIP voting among voters in the youngest three age groups was lower in the eight counties that adopted the policy compared to the drop-off in the counties that did not adopt the reform. The drop in the mean percent of EIP votes cast (out of all votes cast in an election) in the eight counties that adopted on-campus EIP voting was less than 10%; there was a drop of roughly 14% in the 57 counties that did not offer on-campus voting. Due to the descriptive nature of the data we cannot rule out other factors that might explain the difference in the drop-



**FIG. 1.** Difference in turnout and difference in early in-person (EIP) voting, 2016–2018. *Note:* Bars display the sample mean difference between the 2016 and 2018 general elections in the eight counties that adopted the on-campus EIP voting policy in 2018 and those that did not.

off rates between the counties that implemented the policy and those that did not, nor whether they are statistically significant or not. As such, we utilize a series of econometric methods described below.

We begin our analysis with a differences-in-differences (DD) identification strategy to evaluate the impact of the early voting on college campuses on the 2018 General Election turnout in the eight Florida counties that implemented on-campus early voting. We specify the linear DD model as follows,

$$\begin{aligned}
 y_{ict} &= \gamma_c + \lambda_t + \tau I_{ct} + x'_{ict}\beta + \pi z_c + u_{ict} \\
 &= \alpha + \gamma_1 1\{c = 1\} + \lambda_1 1\{t = 2018\} \\
 &\quad + \tau(1\{c = 1\} \cdot 1\{t = 2018\}) + x'_{ict}\beta \\
 &\quad + \pi z_c + u_{ict}
 \end{aligned} \tag{1}$$

where  $y_{ict}$  is a dummy variable that denotes the turnout of voter  $i$  in county  $c$  in time  $t$ , and  $y_c$  is a dummy variable that captures potential differences between the eight counties that passed the policy and their respective adjacent counties prior to the implementation of the policy.  $\lambda_t$  is a time-period dummy for the

election year 2018 and controls for factors that might have affected turnout in the absence of the policy. The estimand,  $\tau$ , on the interaction term  $I_{ct}$  represents the average policy effect on turnout in 2018. The indicator function  $1\{\cdot\}$  takes the value of 1 and zero otherwise. We also control for individual level characteristics  $x_{ict}$ , county-level campaign competitiveness  $z_c$ , and  $u_{ict}$  is the stochastic component of the model.<sup>6</sup> Other confounding variables, such as political culture, media or peer mobilization, and demographics (education, income) may affect turnout across the counties; however, not controlling for these confounders is arguably less of an issue for

<sup>6</sup>We measure county campaign competitiveness as the difference in county results between the Democratic and Republican nominees for U.S. Senate in the 2016 and 2018 general elections. Data obtained from the <<https://results.elections.myflorida.com/Index.asp?ElectionDate=11/6/2018> DATAMODE = Florida Division of Elections>. Following Burden et al. (2014), we calculate this county-level variable as  $100 - |\text{Democratic Candidate\%} - \text{Republican Candidate\%}|$ , with higher values indicating greater campaign competitiveness.



differences-in-differences estimations compared to cross-sectional estimations (Burden et al. 2014, 2017; Hammer 2009; Leighley and Nagler 2014).<sup>7</sup> We estimate a linear DD model using ordinary least squares (OLS) and report robust standard errors clustered by county.<sup>8</sup> We analyze the turnout of registered voters who were at least 18 years old at the time of the 2016 general election and who remained registered in Florida for the 2018 general election. The indicator function,  $1\{c=1\}$ , takes a value of 1 if the registrant resides in a county that implemented the policy  $c=1$ , and the indicator function for time represented by  $1\{t=2018\}$  takes a value of 1 if year is 2018.

To evaluate the effect of the availability of on-campus EIP voting on the turnout of young voters, we further refine our analysis by creating additional treated and non-treated groups for a registrant's age, which is coded as 1 if the registrant was 18–20 years old in 2016 and 0 otherwise.<sup>9</sup> The adoption of on-campus early voting locations might have different effects on the turnout rates of registrants of different age groups. The policy is aimed at making voting more convenient for voters in general, but young voters in particular; therefore, we refine the treated and non-treated groups by a registrant's age. Given that the turnout of registrants of different age groups might be affected by factors other than the policy, to control for the possibility of confounding factors we implement a more robust identification strategy than DD, known as differences-in-differences-in-differences (DDD) (Wooldridge 2010). We specify the linear DDD model as follows,

$$\begin{aligned}
 y_{iact} &= \theta_a + \gamma_c + \lambda_t + \delta_1 I_{ac} + \delta_2 I_{at} + \delta_3 I_{ct} \\
 &+ \tau I_{act} + x'_{iact} \beta + \pi z_c + u_{iact} \\
 &= \alpha + \theta_1 1\{a=1\} + \gamma_1 1\{c=1\} \\
 &+ \lambda_1 \{t=2018\} + \delta_1 (1\{a=1\} \cdot 1\{c=1\}) \\
 &+ \delta_2 (1\{a=1\} \cdot 1\{t=2018\}) \\
 &+ \delta_3 (1\{c=1\} \cdot 1\{t=2018\}) \\
 &+ \tau (1\{a=1\} \cdot 1\{c=1\} \cdot 1\{t=2018\}) \\
 &+ x'_{iact} \beta + \pi z_c + u_{iact}
 \end{aligned} \tag{2}$$

In the linear DDD approach, we refine the “treatment” by introducing a dummy variable  $a$  which equals one if the registrant is 18–20 years old in 2016 and zero otherwise. The coefficient of interest in the DDD equation (2) is  $\tau$ , which estimates the policy effect on youth turnout for the 2018 general

election. The DDD model adds a *second term* to the usual DD model, which estimates the differential *trends* for the counties that have not passed the policy. This term serves as an additional control. If the difference—in the absence of the policy—is similar in counties, then  $\hat{\tau}$  estimates the policy effect on the turnout of the young voters.

A possible drawback of the DD approach is that there may exist systematic differences between the registrants in the counties that implemented the policy and those in the counties that did not, which might affect turnout or the use of EIP voting and are not due to the policy implementation. Using the DDD approach allows us to control for two potential confounding factors (Wooldridge 2010). The first is the systematic difference in youth turnout across counties, which might be unrelated with the policy change. The second potential confounding factor is the possible difference in turnout across all registrants residing in the counties that implemented the policy.

The common trend assumption is the main identification assumption which is required to hold for both DD and DDD models. This is a strong assumption: in the absence of the policy implementation, voting trends should be the same across the counties that adopted the policy and those that did not (Angrist and Pischke 2009). We test for the common trend assumption using data from the 2014 and 2016 Florida voter file and find that the assumption does

<sup>7</sup>A challenge to our research design is that the surrounding, non-treated counties do not contain major universities. The presence of a major university that housed an early voting location could help to explain higher turnout or use of early in-person (EIP) voting among young voters in the treated counties. As a robustness check, we compare the turnout and use of EIP voting by young voters in the eight on-campus EIP treated counties to turnout and use of EIP with Lee County, the only county in the state that houses a major university (Florida Gulf Coast University in Ft. Meyers) that did not adopt on-campus early voting. Findings are consistent with those reported here, while accounting for educational differences across each of the treated counties versus Lee County. See Supplementary Appendix Tables H1 to H3 (turnout) and Supplementary Appendix Tables I1 to I3 (use of EIP).

<sup>8</sup>See Burden et al. (2017) and Neiheisel and Horner (2019) for recent applications using this method. Results are consistent when models are estimated with county fixed-effects.

<sup>9</sup>We are limited to comparing young (college-age) registrants living in a county that implemented on-campus EIP voting to those living in an adjacent county that did not since the statewide voter file does not have information on a registrant's education status. As such, we cannot identify who is a college student and who is not. Our focus on those who were 18–20 years old in 2016 is a proxy for college-age.

not consistently hold in either the DD or DDD models.<sup>10</sup> Two possible explanations for the violation of the common trend assumption are that older individuals are more likely to vote and that different elections (presidential and midterm) have different turnout rates that might affect voter behavior. Therefore, to address these compositional differences in different election years we further refine the “treated” and “non-treated” group to include only young registrants who were 18–20 years old and eligible to vote in the 2016 general election.

We estimate a series of DD models with multivariate exact matching (Heckman, Ichimura, and Todd 1997; O’Neill et al. 2016) for young college-age registrants. The estimation of the DD model with exact matching is performed in two steps. In the first step, we perform exact matching on registrants’ characteristics such as gender, race, party of registration, and turnout history prior to the introduction of on-campus early in-person voting. Matching individuals on their “pre-treatment” outcomes makes the common trend assumption more plausible, as it forces the trends to be the same prior to the adoption of the policy, making for a more precise counterfactual non-treated group. The second step simply estimates the DD model using the matched data.

Although our data cannot account for all the possible unobservable variables that may condition turnout or use of early in-person voting, we have good reason to think that any mediating effects will nonetheless be small because contextually there were no major election reforms dealing with early voting in Florida over the two-year span (2016 to 2018). So, even though our estimates of the potential effects of the adoption of on-campus early voting on turnout and the use of early voting do not account for all unobservable variables, most notably campaign or peer mobilization efforts (Burden et al. 2014; Oliver 1996; Rosenstone and Hansen 1993), we think the total effect will be mainly composed of the direct effect of the election reform policy, rather than any indirect effects, particularly with regard to young voters.

### EFFECT OF ON-CAMPUS EARLY IN-PERSON VOTING ON TURNOUT

In Figure 2, drawing from our ordinary least squares models, we plot the estimated effect of on-campus early voting sites policy on the 2018 general election turnout for all eight counties that imple-

mented the policy (Alachua through Palm Beach).<sup>11</sup> The estimated effect of the differences-in-differences (DD) models (plotted with triangles) include registered voters of all ages. All models control for a registrant’s demographics, party of registration, registration year, and the campaign competitiveness in a county. Each model estimates the policy effect on the county that implemented the policy (e.g., Alachua) compared to its adjacent counties (e.g., Bradford, Clay, Putnam, Marion, Levy, Gilchrist, Columbia, Union) that did not implement the policy. The DD estimation in Figure 2 shows that the on-campus early voting policy had a mixed effect on overall turnout across all age groups in the 2018 general election, as turnout was positive in only half of the eight counties that implemented the policy. The introduction of the on-campus early voting sites elevated turnout by 1.2 percentage points among registered voters in Alachua County relative to those registered in the surrounding counties. We also find significant and slightly positive effects of the adopted policy in Leon, Orange, and Palm Beach counties (see Supplementary Appendix Table B1 in Supplementary Appendix B).<sup>12</sup>

Even though all registered voters residing in a county that voluntarily decided to implement the policy had the opportunity to cast an early ballot on campus, the policy was intentionally designed to make voting more convenient for young voters. Therefore, we would expect the policy to have a more pronounced effect on turnout of young registrants. To assess this, our triple difference models allow us to further refine the treated and non-treated groups so as to evaluate the policy’s targeted effect on the turnout of registrants who were 18–20 years old in 2016 living in a county that passed the policy (Casico and Washington 2014).<sup>13</sup>

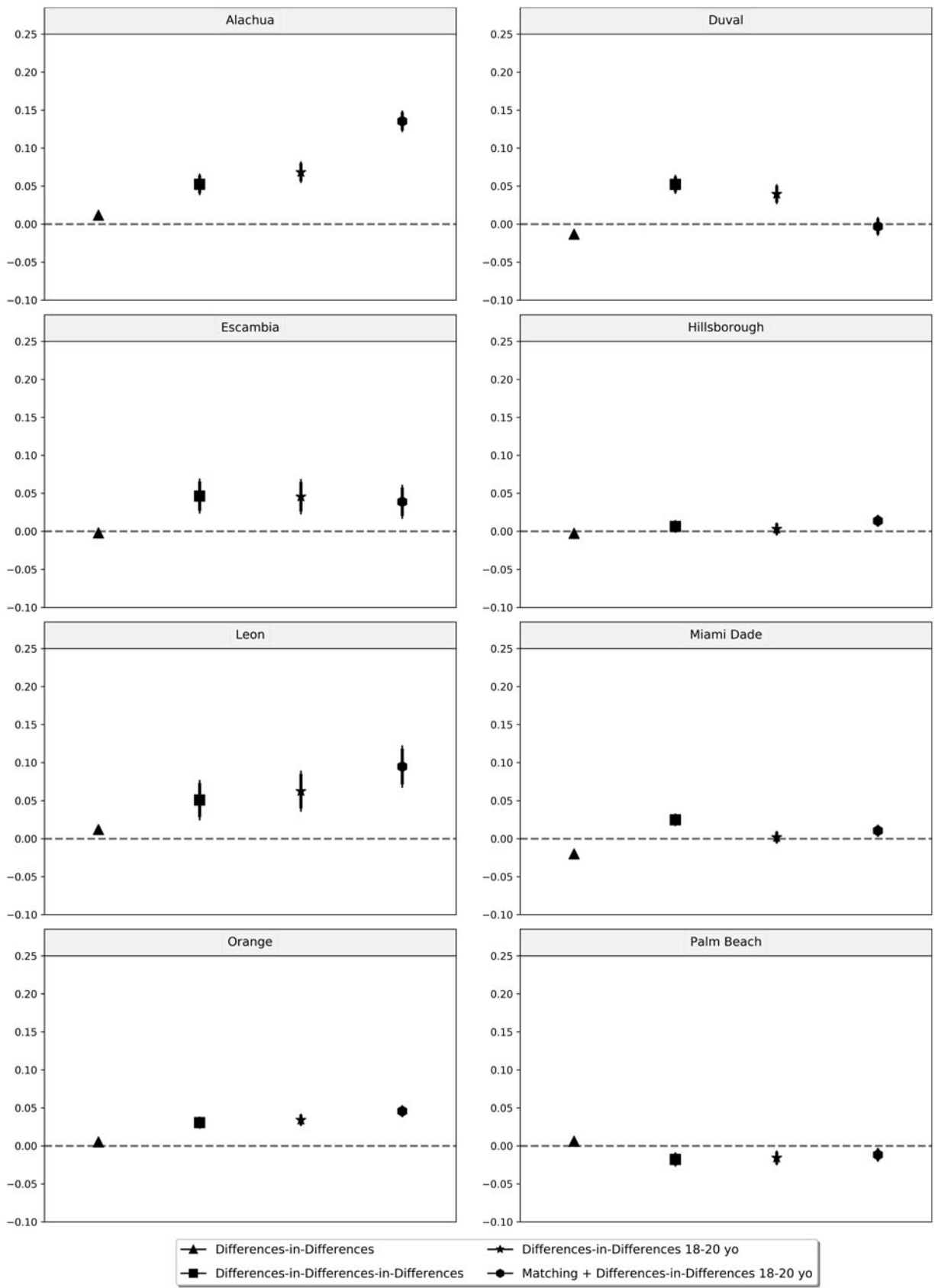
<sup>10</sup>See Supplementary Appendix Table E1.

<sup>11</sup>Full models for Figure 2 are shown in Supplementary Appendix B.

<sup>12</sup>We re-estimate the analysis using logistic regression and results are consistent. See Supplementary Appendix Tables D1 and D2.

<sup>13</sup>The DDD estimation, different from the DD model, adds two additional groups to the equation; (1) the sample mean difference on the turnout of young voters living in a county that did not pass the policy, and (2) the sample mean difference on the turnout of older registrants residing in a county that did not pass the policy.

$$[(\bar{y}_{y, nt, 2018} - \bar{y}_{y, nt, 2016}) - (\bar{y}_{o, nt, 2018} - \bar{y}_{o, nt, 2016})] \quad (3)$$



**FIG. 2.** Effect of on-campus early in-person voting policy on turnout in 2018. *Note:* Estimated linear models for turnout in the 2018 general election. Dependent variable is whether the respondent voted, coded as 1 or 0 otherwise. Each model controls for a registrant’s demographics and a county’s campaign competitiveness. Standard errors are clustered by county. See Supplementary Appendix B for tables.

In Figure 2, we plot (squares) the policy effect estimated using the DDD approach, which shows the policy effect on the young registrants residing in the county that implemented on-campus voting compared to its adjacent counties. As shown in Figure 2, we find that the availability of early voting sites on college campuses had a positive effect on youth turnout (18–20-year-olds). The on-campus early voting policy implementation increased turnout by 5.2 percentage points among 18–20-year-olds registered in Alachua County. Similar trends are observed in all the other counties that implemented the policy, except for Palm Beach. After the early voting period concluded, the Palm Beach County SOE noted the light turnout of students/youth at the Florida Atlantic University (FAU) on-campus polling location. SOE Susan Bucher attributed the poor turnout to the lack of time to advertise the new location, saying, “[w]e didn’t have the time to prepare.” “Normally, with a new polling site we’d get the word out, go to the clubs, put up posters, and blanket the world,” she continued, but “[w]e didn’t have time to do that this year” (Cerafino 2018). Despite negative effects of the policy adoption in Palm Beach County, there is clear evidence that on-campus early voting sites alleviated the expected turnout drop-off from the presidential to midterm elections among college-age registrants.

The main assumption in the DD and DDD estimation is the common trend assumption—in this case, that the voting behavior of the counties that implemented the policy and those that did not would be constant in the absence of the policy. To test the validity of the common trend assumption, we re-estimate the DD and DDD models using 2014 and 2016 Florida voter file data. We find that the assumption is violated; therefore, we make the treated and non-treated groups more similar so as to include only young registrants aged 18–20 years old in 2016. Conditioning on the young voter population, we re-estimate the DD models and plot the effect. As shown in Figure 2 (asterisks), the on-campus policy increased Alachua County’s youth turnout by 6.7 percentage points. In all, we observe this effect in five of the eight counties that introduced the policy.

Finally, in order to make the common trend assumption even more plausible, we estimate DD models using matched data for young voters. Estimating the policy effect using DD with matched data for Alachua County, for example, we find in

Figure 2 (circles) that the implementation of the policy had a 13.5 percentage point increase in the youth turnout. The policy’s positive effect on mitigating youth turnout drop-off is significant in six of the eight counties that introduced the policy in 2018.<sup>14</sup>

In sum, we find consistent evidence that on-campus early voting had a positive effect on reducing the drop-off in youth turnout from the 2016 presidential to the 2018 midterm election. This finding holds across different model designs. In the following section, we analyze the impact of the policy on young voters casting an EIP ballot in the 2018 general election.

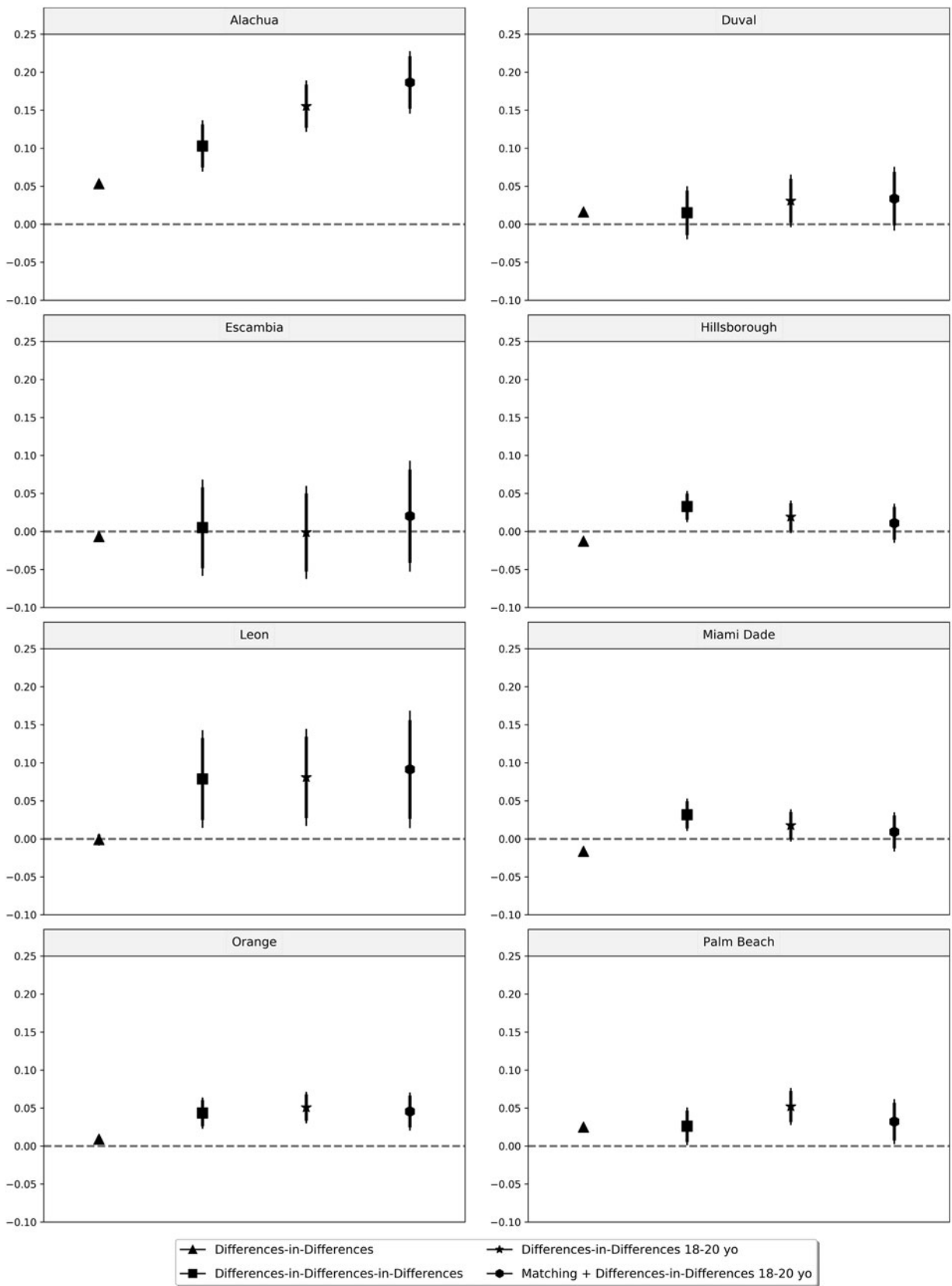
### EFFECT OF ON-CAMPUS EARLY IN-PERSON VOTING ON VOTING EARLY IN PERSON

In Figure 3, we plot the on-campus EIP voting policy effect on the rate of voting early in-person in the 2018 General Election. The models are similar to those in Figure 2. The dependent variable is coded 1 if the registrant voted EIP and 0 otherwise. Figure 3 plots the estimated effect of voting early using DD models for all Florida registrants in the eight counties that introduced the policy. In all eight estimated models (triangle) we control for registrant’s demographics, party of registration, registration year, and the campaign competitiveness in a county.<sup>15</sup> For example, as we show in Figure 3, on-campus early voting raised EIP voting by 5.3 percentage points among all registered voters in Alachua County relative to its adjacent counties. The positive effect on a county’s method of voting is significant in half of the counties that implemented the policy (see Supplementary Appendix Table C1 in Supplementary Appendix C).

Our DD estimates show that on-campus EIP voting increased the utilization of voting early in person in four of the eight counties that implemented the policy. Given the aim of the policy to mobilize young voters to cast ballots early and in person, in Figure 3 we also show DDD estimates to visualize whether the implementation of the on-campus

<sup>14</sup>In Supplementary Appendix F, Supplementary Appendix Tables F1 and F2, we estimate the policy effect using coarsened exact matching (CEM).

<sup>15</sup>Full models for Figure 3 are shown in tables in Supplementary Appendix C.



**FIG. 3.** Effect of on-campus early in-person (EIP) voting policy on EIP voting in 2018. *Note:* Estimated linear models for use of early in-person voting in the 2018 general election. Dependent variable is whether the respondent voted early in-person, coded as 1 or 0 otherwise. Each model controls for registrant’s demographics and a county’s campaign competitiveness. Standard errors are clustered by county. See Supplementary Appendix C for tables.

policy increased the rate of early in-person voting among young voters. As shown in Figure 3 (square), the availability of on-campus voting sites before the 2018 election had a statistically positive effect on early voting of 18–20-year-olds in six of the eight counties that voluntarily implemented the policy. For example, on-campus early voting in Alachua County is associated with a 10.3 percentage point increase in the use of EIP voting among young registrants.

Limiting our analysis to only young voters, we re-estimate the DD models and plot the effect on the early voting turnout in Figure 3 (asterisks). As shown in Figure 3, the policy inflated Alachua County's early voting by young voters by 15.5 percentage points. We find a positive effect on the mode of voting in four of the counties that introduced the policy. Finally, we estimate the effect on the method of voting using DD models with matched data for all eight counties compared with registrants in surrounding counties. In Alachua County, for example, we find (circle) that the implementation of the policy increased by 18.7 percentage points the rate of the youngest cohort of voters casting a EIP ballot during the two-week early voting period. Although the effects are smaller in magnitude, overall we find that the policy had a positive effect on younger voters casting EIP ballots in the 2018 midterm election in at least half of the counties that introduced the policy.<sup>16</sup>

## DISCUSSION

“If we build it, will they come?” This was a question some local election supervisors and college and university administrators in Florida asked themselves after the U.S. District Court ruled in the late summer of 2018. Judge Walker's order lifted a statewide prohibition on locating polling stations on the campuses of public colleges and universities during the early in-person voting period. Would registered voters in general, and younger voters in particular, be more likely to turn out to vote if barriers to voting were lowered? Would they be more likely to cast ballots in person at early voting sites? Early press reports cast doubts about the impact on the reform, suggesting that on-campus voting did little to bring young voters to the polls. “[I]n almost every case,” according to a *South Florida Sun Sentinel* report immediately after the end of the early voting period, early voting sites on public campuses

“were among the poorest performing” in a county (Sweeney 2018).

Turnout, of course, is relative. Comparing EIP turnout on college campuses to other early voting locations in a county that adopted the policy might not be a good indicator as to whether or not the reform affected youth turnout. To assess the impact of the policy, it is important to compare the turnout of young voters over time with other voters exposed to the new opportunity, as well as with the turnout of young voters in jurisdictions that did not adopt the policy. This is true more generally when trying to assess the impact of any election reform (Erikson and Minnite 2009). There is certainly evidence that expanding the opportunity to vote prior to Election Day, at least in isolation of other election reforms, might dampen turnout, as Burden et al. (2014) and other scholars suggest. In contrast to studies that use national surveys or state-level cross-sectional data to assess whether the adoption of early in-person voting might affect turnout, however, our research design leverages a series of econometric techniques (DD, DDD, and DD with matching) and uses statewide administrative voting data to isolate whether the implementation of on-campus EIP voting locations in eight Florida counties mitigated the expected drop-off from the 2016 presidential to the 2018 midterm election particularly among young voters. We find evidence that many young registrants, who tend to be low-

<sup>16</sup>The turnout effects for EIP on-campus voting Alachua County are higher than expected. In Supplementary Appendix G, Supplementary Appendix Tables G1 and G2, we replicate the analysis using two similar clusters of precincts within Alachua County as a robustness check. One cluster has always had an EIP location—Alachua County's Tower Road Branch Library. The other (the Reitz Union) is located on the University of Florida (UF) campus and was used for early voting for the first time in the 2018 election. We find that the magnitude of the effect is consistent with what is reported above. Using precinct proximity to the University of Florida on-campus EIP location at the Reitz Union as a dosage “treatment,” consistent with our county-level results we find voters registered in the precincts on the UF campus and those immediately adjacent to the UF campus had a higher turnout among young voters in 2018 compared to a control set of registered voters with the same demographic controls in precincts clustered about two miles west of campus, but who had an existing EIP location (Tower Road Branch Library) in both 2016 and 2018. We also find that use of EIP voting was higher among young voters registered in precincts on and adjacent to the UF campus, compared to the non-treated group of young voters who had an in-person early voting location (Tower Road Branch Library) either within or adjacent to their assigned precinct.

propensity voters especially in non-presidential elections, turned out in 2018 because information and transportation barriers were lowered, making the voting process more convenient.

Other than the implementation of the on-campus early voting policy lowering the costs of voting, as with other observational studies we lack data on the specific mechanisms or political psychology of why young voters in the eight counties that adopted the policy were more likely to turn out and utilize EIP voting locations than their peers in other counties. Perhaps they were more easily targeted by GOTV (get out the vote) efforts to mobilize them to the polls during an extended early voting time-period than young voters in surrounding counties who were not afforded similar electoral convenience.

Overall, with respect to all registered voters in the eight counties who were exposed to the last-minute policy implementation, we find mixed effects as to whether on-campus early voting affected voter turnout in 2018. With respect to the subset of young registered voters, though, we find a broad decrease in the expected drop-off of young registrants afforded the option of casting a ballot before Election Day on a public campus. There is little doubt that after the eight SOEs and the participating college and university administrations built the new early voting locations, young voters in those counties came out to vote, relative to their peers in surrounding counties. We also find that in the counties that implemented the policy, young voters were more likely to cast an EIP ballot, regardless of location. In short, we find convincing evidence that the extension of early in-person voting on college campuses in Florida in 2018 mitigated expected drop-off in the turnout of young voters. Our study should be of interest to policymakers in other states, as we show that on-campus early voting sites can bolster youth turnout. The addition of on-campus EIP voting sites in future election cycles might have an even greater impact on diversifying the electorate.

We would be remiss if we did not acknowledge limitations of our study. First, we have examined a single reform in a single state in a single election. There is no guarantee that our findings are generalizable to other settings or elections. But this sacrifice might be a reasonable trade-off, at least for those interested in isolating and measuring the effects of a single institutional election reform. We have no reason to believe that such effects might not also be observable in other settings. Stories abound about

the negative effects on turnout—especially among young voters—when voting opportunities on campuses are reduced or removed. In 2018 in Waller County, Texas, local election officials cut back on early in-person voting at Prairie View A&M University, a historically black college, spawning a federal voting rights lawsuit and resulting soon thereafter in Elections Administrator Christy Eason announcing that the county would expand early voting hours on the university's campus (Zdun 2018). Four years earlier, the Watauga County Board of Elections in North Carolina voted to eliminate an early voting site on the campus of Appalachian State University, despite that “[t]he majority of Watauga County’s voting age population (students, faculty, and staff) are on campus during weekdays” (Brown 2014). Battles over early voting on college campuses continue today, with voting rights groups like the Andrew Goodman Foundation leading the way.

Second, the reduction in turnout drop-off we attribute to the opportunity to cast one’s ballot on a college campus prior to Election Day might be a novelty effect. Any turnout increase might fade over time, as the thrill of voting early in-person on a college campus wanes. But the excitement of students voting on campus during the early voting period should not be underestimated. “It definitely makes me feel empowered,” Sabrina Ochoa, a psychology major, said after she was the first University of Florida student to cast a ballot at the Reitz Union early voting location at 9:00 a.m. on October 22, 2018, noting that it was “convenient, to be able to vote here then go to class” (Brockway 2018).

Whether or not the turnout effect of on-campus in-person voting in Florida proves to be epiphenomenal, its effects are notable. Turnout among young registered voters in the Sunshine State, as with the turnout of young voters across the country, continues to lag behind other age cohorts. Our study is the first to provide evidence that the adoption of on-campus EIP voting can mitigate the drop-off in turnout of young registrants who have yet to become habituated to cast ballots in midterm elections. Just as placing early voting locations in retirement communities makes voting easier for residents, allowing early voting on college and university campuses unabashedly makes voting easier for students to cast a ballot. As we show, the convenience of on-campus EIP voting has differential effects: not every registered voter in a county that adopts the policy takes advantage of voting on a public campus. On-campus

early in-person voting is specifically targeted to lower the cost of casting a ballot for young registrants. Like experimental studies that provide “evidence that increasing the ease of voting will produce higher turnout” (Shineman 2018), our study offers a way for scholars to better isolate the specific effects of convenience voting reforms and provides evidence to voting rights activists and election officials who are interested in reversing the turnout gap among young registered voters.

## SUPPLEMENTARY MATERIAL

Supplementary Appendix A  
 Supplementary Appendix B  
 Supplementary Appendix C  
 Supplementary Appendix D  
 Supplementary Appendix E  
 Supplementary Appendix F  
 Supplementary Appendix G  
 Supplementary Appendix H  
 Supplementary Appendix I

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