Vote-By-Mail Regimes and the Disability Turnout Gap: A New Survey on Voting Accessibility in the United States

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Abstract

A gap in voter turnout between people with and without disabilities has been observed for years, but has received little attention in political science literature compared to turnout gaps among other demographic groups. Studies of the disability turnout gap have largely been restricted to the Census Bureau's Current Population Survey (CPS), which asks only six questions related to disability and relies on self-reported voter turnout. We contribute to research on the disability turnout gap using data from a large-scale survey that we conducted following the 2024 election. The survey included an expansive set of disability questions and validated voter turnout responses against state voter files. Our analyses reveal a high disability incidence; large disability turnout gaps; and even greater gaps estimated with validated compared to reported turnout. We find much smaller turnout gaps and better voting experiences in the states that conduct their elections with all-mail voting. We offer policy recommendations to improve access for disabled voters and emphasize the importance of including disability questions in political surveys.

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1 Introduction

A truly representative democracy demands equitable access to voting for every citizen, no matter their race, gender, education level, language, disability status, or location. Pervasive and persistent disparities in voter turnout by race (Ansolabehere, Fraga, and Schaffner 2022; Fraga 2018; Morris and Grange 2021) and disability status (Schur, Ameri, and Adya 2017; Schur and Kruse 2023) reveal that the U.S. electoral system has never lived up to this vision. While political scientists have intensively studied causes and correlates of the racial turnout gap, there is comparatively little academic research on the suppression and mobilization of disabled voters. With the exception of the Census's Current Population Survey, few nationally representative political surveys include questions about disability; even fewer seek to understand what drives differences in the disability turnout gap across states. We present results from a 29,431-person survey that not only asks an expansive set of questions about disability and voting in 2024, but also validates respondents' turnout against state voter files.

This paper makes several contributions to our knowledge about the relationship between voting and disability. First, our survey included a battery of 24 disability questions, producing a public dataset of disability incidence that includes standard and novel questions about many disability types. Second, using voter turnout verified against states' vote history files, we present (to our knowledge) the first estimates of the disability turnout gap without self-reporting bias. We find a larger gap when using validated voter turnout compared to self-reported voter turnout, which underscores the importance of including disability questions on regularly fielded, voter file validated surveys like the Cooperative Election Study (CES). Finally, the primary focus of this paper is investigating the relationship between state-level mail voting policy and voting for people with disabilities. Previous research has found that the turnout gap between people with and without disabilities tends to be lower in states with all-mail voting (Schur, Ameri, and Adya 2017). Using our large sample, expansive disability battery, voter validation, specific questions about the voting experience, and a time-series analysis based on voter history, we are able to study this question

in greater depth than has previously been attempted. Our findings are clear: not only do states with all-mail voting have significantly smaller (or no detectable) turnout gaps across many disability types, but all-mail voting is also strongly associated with better voting experiences and fewer problems for people with disabilities.

1.1 Measuring and defining disability

Depending on what survey you use and which questions you include, U.S. government data from the Census Bureau and the CDC estimate the disabled adult population of the United States to be 42 million (American Community Survey 2025), 82 million (National Center for Chronic Disease Prevention and Health Promotion 2024) million, or 100 million (U.S. Census Bureau 2024). Measuring disability is a major challenge, as this wide range shows: estimates of disability incidence depend on the definition of disability, how that definition is operationalized in survey questions, the ability of survey modes to reach representative disabled populations, and the comfort of respondents in divulging sensitive information about their disabilities. Even that highest Census estimate may well be an undercount of the number of U.S. adults with disabling conditions.

Survey instruments are a blunt tool to measure as complex and mutable a feature as disability. For convenience and clarity, in this survey we categorize people as disabled or not disabled according to specific yes-no questions. A proper theory of disability is beyond the scope of this project, which concentrates on disability within the context of voting access. In this limited framework, we consider disability to be the interaction between citizens' access needs and the barriers that remain in the electoral process. Such a definition follows primarily from the social model of disability, which emphasizes the social construction of disability as determined by both an individual's condition and their environment (Oliver 1981). But disability is not a clearly defined category, even in the context of voting. Disability is perhaps better conceived as a continuous variable (Heffernan 2024; Zola 1993) describing a lack of accessibility, the product of human needs meeting social or environmental obstacles.

Because of this complexity in definition, we asked a wide breadth of questions about disabil-

ities that approach disability from different angles — 24 items in all. Most standard disability survey questions ask about functional limitations like difficulty performing a specific task. Many of our items take a similar approach. We began with the ACS-6 questions, the federal minimum set of 6 standard questions used to measure disability in government surveys such as the American Community Survey (ACS). These questions ask about "serious difficulty" hearing; seeing; walking or using stairs; concentrating, remembering, or making decisions (cognition); "difficulty" dressing and bathing (self-care); and doing errands alone. We also include additional questions from the Census Bureau's Survey of Income and Program Participation (SIPP) about learning disabilities, mental or emotional conditions, and more detailed questions about physical functional abilities such as grasping a pencil or sitting for an hour. Finally, we added questions about respondents' disability identity; items asking about particular health conditions; and items asking about conditions that could impede more general interactions with society, like seeking employment or planning their day. Table 1 lists all the disability questions included in our survey.

The Current Population Survey (CPS), another Census product and the only large-scale survey to ask about both voting and disability, uses the six ACS questions above (the ACS-6) to measure disability. There is good reason to think that using the ACS-6 alone is insufficient to measure disability incidence and the relationship between disability and voting. One analysis finds that the ACS-6 underestimates the number of disabled working-age adults by nearly 20% (J. P. Hall et al. 2022). Using the 2024 SIPP and its expanded questions to measure disability, we find that 37.6% of the population is disabled, compared to 24.0% in the same survey using just the ACS-6 questions (a figure which itself is substantially larger than the incidence of ACS-6 disabilities as measured by the CPS, 10.5%). Nevertheless, all of these surveys likely undercount the total population of voters who may encounter barriers to voting, and who would, because of their disabilities, be eligible for reasonable accommodations in the voting process. The Americans with Disabilities Act (ADA) uses an expansive definition of disability: "a person who has a physical or mental impairment that substantially limits one or more major life activities, a person who has a history or record of such an impairment, or a person who is regarded as having such an impairment" (U.S. Department of

Justice 2020).

Our goal is not to define disability as it is popularly or medically defined, or even to uncover a correct definition of disability. Disability is mutable, temporal, context-dependent, and societally-mediated. Rather, this study seeks to capture, as best as possible in a survey, everyone who has access needs that may plausibly go unmet by current U.S. voting systems. As this research project is largely exploratory, we would rather be over-inclusive in our disability definition even if it captures many people who do not have a condition that relates to voting.[1]

The voting process presents multifarious challenges: physical, cognitive, and logistical. Different voting policies can affect the importance of different conditions in regard to the voting experience. For example, part of this paper focuses on comparing voting systems where every registered voter automatically receives a mail ballot to systems that require an excuse to vote absentee. There are several conditions, including with mobility and cognitive limitations, that might lead to an unmet access need under restrictive vote-by-mail systems but not under all-mail voting. We are concerned with those potential unmet access needs, not with whether the particular conditions "count" as disabilities.

While we are primarily concerned in this paper with disability in relation to the voting system, there are other pathways by which disability can affect political participation rather than just how accessible voting is. For instance, disability could lead to people becoming more alienated from political life if they do not view society as taking their needs seriously. This pathway could contribute to a disability turnout gap, although it would not be directly caused by inaccessible voting procedures. The social model of disability is most applicable for this study because we concentrate on precisely the interaction between disability, policy, and the voting environment. The political/relational model of disability provides a more general framework that centers the complexity and politics of defining disability (Beckert 2013; Erkulwater 2022; Kafer 2013). Investigating

[1]If we mistakenly include people who do not have a voting-context disability in our survey recoding and analyses, our sample of disabled respondents will look artificially more similar to a group of respondents whom we label not disabled. The results of an analysis with such an over-inclusive definition of disability would reduce the estimated differences between people with and without disability, and produce conservative estimates of gaps like the disability turnout gap.

disability and voting through this framework could be a fruitful avenue for further research.

1.2 Election accessibility

Federal laws that protect access to voting for people with disabilities (as well as for racial and ethnic minorities, rural voters, non-English speaking voters, and other marginalized groups) include the Voting Rights Act of 1965 (VRA), section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act (ADA) of 1990, and the Help America Vote Act of 2002 (HAVA). These laws require accessible polling stations; assistance for disabled voters who require it; and equal opportunity for participation by disabled voters, including opportunities for privacy and independence (U.S. Department of Justice 2022). Yet the disability turnout gap persists (Burden et al. 2017; Matsubayashi and Ueda 2014; Schur, Ameri, and Adya 2017; Stum 2021). In 2020, despite historically high levels of turnout for all voters, including voters with disabilities, 11% of voters with disabilities reported facing difficulty casting a ballot — 18% among those voting in-person at a polling place (Schur and Kruse 2021). A recent analysis of the CPS estimated that closing the disability turnout gap would add around 2 million more voters (Schur and Kruse 2023) — and this estimate measures disability using the ACS-6 questions, the federal minimum. Yet since 2020, state legislatures across the United States have introduced nearly 400 bills to make voting more restrictive, not less (Brennan Center for Justice 2022).

Despite a substantial body of research observing the disability turnout gap, disability remains relatively ignored as a major factor in political participation. Commonly measured and controlled-for demographic predictors of voter turnout include age, race, ethnicity, sex, education, income, and marital status (Plutzer 2017). Studies based on the CPS indicate that disability is at least as predictive of voting as some of these variables, such as sex (Schur and Kruse 2023), but its predictive power is not commonly measured due to its absence from most major political surveys.

In this paper, because our variable of interest is disability, our primary models exclude education and income as control variables. This is because disability status can impact both education and income. Prior work finds that the disability turnout gap is still significant even when control-

ling for these variables (Schur, Ameri, and Adya 2017).

Disability can present obstacles to voting at every stage of the voting process (T. E. Hall and Alvarez 2012). In many states, voter registration is not automatic, and registering to vote can be cognitively or physically burdensome. Schur, Ameri, and Adya (2017) describe nine ways in which disability contributes to having difficulties at a polling place, including difficulty getting to the polling place, difficulty reading or writing on a ballot, and difficulty operating a voting machine. Even in states where all eligible voters are automatically registered to vote and mailed a ballot, there are many people with disabilities who will still face substantial challenges, either because of difficulty appearing at the agencies that automatically register people to vote or difficulty interpreting, filling out, and returning a mailed ballot.

1.2.1 Typology of mail voting policies

The primary goal of this paper is to study the relationship between mail voting policy and disability in the voter experience. States have a variety of mail voting rules that govern who is eligible to vote by mail, how to apply for mail voting, and the deadlines for requesting and submitting mail ballots. As this paper focuses specifically on the accessibility of obtaining a mail ballot, we group states into four categories of mail voting accessibility:

1. Excuse required: Voters who want to vote absentee must request an absentee ballot and provide an excuse.
2. No excuse: Any voter can request an absentee ballot without providing an excuse.
3. Permanent absentee: Voters can request to be put on a permanent absentee voting list, such that they will automatically receive a ballot every election.
4. All-mail voting (AMV): Every registered voter automatically receives a ballot in the mail.

In *excuse required* states, acceptable excuses vary by state but always include disability (State Legislatures n.d.).[2] We consider requiring an excuse the baseline, most restrictive mail voting policy in this paper, but it is important to remember that even states with that policy consider

[2]Many states require a doctor's note to validate a disability-related excuse.

disability to be a valid excuse. Every U.S. state currently has that minimum degree of mail voting accessibility, though many people with disabilities may not know they have the option to vote by mail or may not be sure whether their condition is legally considered a disability. In a hypothetical state with no mail voting accommodations for people with disabilities, we might expect to see an even larger disability turnout gap than we observe in any states currently.

We classify states as having *permanent absentee* voting only if all voters are eligible to enroll on the permanent absentee list without providing a specific justification. Several states maintain a permanent absentee list exclusively for individuals approved to vote absentee based on an accepted excuse. However, since these states continue to require a qualifying excuse for absentee voting, we categorized them as *excuse required*.

States with *all-mail voting* (AMV), despite our name for that category, do allow in-person voting. These states are distinguished by their automatic distribution of ballots to all registered voters. Some of our respondents in AMV states did report voting in person.

1.3 Mail voting policy and the disability turnout gap

States with all-mail voting, on average, have higher turnout than states without it (McDonald et al. 2024). But political scientists have struggled to disentangle the causal effects of state-level policies from individual-level characteristics (such as the demographic makeup of the state) and characteristics of a particular election or contest (such as the competitiveness of a race) for decades (Grimmer et al. 2018; Kim, Petrocik, and Enokson 1975). Most studies of the causal impact of all-mail voting on turnout find a small but significant positive effect of all-mail voting on turnout (Amlani and Collitt 2022; Barber and Holbein 2020; Gerber, Huber, and Hill 2013; Thompson et al. 2020), though some studies have found a smaller effect, or even a reverse effect in certain contexts (Kousser and Mullin 2009).

Research is mixed on the impacts of this increase in turnout on the demographic makeup of the electorate. Some studies suggest that universal vote-by-mail may exacerbate socioeconomic disparities in the electorate instead of reduce them (Berinsky 2005; Berinsky, Burns, and Traugott

2001), while more recent research finds that expanding vote-by-mail increases turnout particularly for young voters, blue-collar workers, and voters of color (Bonica et al. 2021). Across voting regimes, people with disabilities vote absentee or by mail more frequently than people without disabilities (T. E. Hall and Alvarez 2012; Miller and Powell 2016). These findings suggest that one way to decrease the disability turnout gap might be through policies that make it easier for people with disabilities to cast their ballot by mail.

In order for it to be the case that all-mail voting decreases the disability turnout gap, AMV would need to increase turnout among non-voting people with disabilities more than it increases turnout among non-voting people without disabilities. It is not obvious that this is true. First, vote-by-mail policies are not equally beneficial for all people with disabilities. Mail voting may be more helpful to citizens with difficulty walking or standing than to citizens who are blind, for example. Second, every state allows mail voting for at least the people who can provide medical documentation of their disability (State Legislatures n.d.). If state policies are already sensitive and responsive to disabled peoples' access needs, it is possible that the people who need accessible mail voting are already voting by mail. Finally, broad accessibility policies tend to have a curb-cut effect, helping people with and without disabilities. Since accessible mail voting tends to increase turnout across the board, these policies could actually increase the disability turnout gap if they benefit non-voters without disabilities even more than they benefit non-voters with disabilities.

Nevertheless, we hypothesize that accessible mail voting policies are associated with a smaller disability turnout gap. There are good reasons to think that all-mail voting may help people with disabilities vote at several stages of the voting process. People with disabilities vote by mail at a higher rate than people without disabilities, suggesting either greater demand or greater accessibility (Schur, Ameri, and Adya 2017). Some evidence already supports the idea that all-mail voting reduces the disability turnout gap: in a 2023 analysis, Schur and Kruse find that states that switched to all-mail voting between 2018 and 2022 saw greater increases in turnout among people with ACS-6 disabilities than among people without those disabilities (Schur and Kruse 2023).

The most obvious reason that AMV would help people with disabilities in particular is that

it removes the need to travel to a polling place for people with mobility problems or who have difficulty running errands. All-mail voting naturally extends the voting period earlier than Election Day, helping those with difficulty planning their day. It also alleviates the burden of having to go through the procedure of requesting an absentee ballot (regardless of whether an excuse is required). Eliminating additional bureaucratic steps and reducing the time investment required to vote could make voting easier for people with a wide variety of disabilities. People with an episodic condition or a condition that makes it difficult to run errands might have a harder time keeping doctor's appointments and acquiring the medical note for an absentee ballot in states that require an excuse. Disabilities can make many aspects of daily life more difficult. Any additional burdens to the voting process could make the difference between someone with a disability feeling like they have the capacity to vote and feeling like they do not.

As a result, we expect a smaller disability turnout gap in all-mail voting states than in states with less accessible systems, especially those that require an excuse to vote. Similarly, we expect that people with disabilities will be less likely to say that their disability prevented them from voting than those in excuse-required states. We also expect there to be a smaller gap in how often people with and without disabilities experience a problem while voting, as AMV removes voting steps that could be more burdensome to people with than without disabilities. We further expect AMV to be associated with higher rates of people feeling accommodated in the voting process. Finally, we expect that people with disabilities will be more likely to feel that all-mail voting would make voting easier for people like them.

2 Survey design

2.1 Asking about disability

The research team deliberated at length over our questions about disability. We began by adding the U.S. Census Bureau's SIPP questions to the standard ACS-6 battery. We included several questions from the U.S. Electoral Assistance Commission's "Study on Disability and Voting Accessibility in

the 2022 Elections" (Schur and Kruse 2023). Finally, we collaborated with disability rights lawyers and the authors of the EAC study to write new questions about disabilities. In total, we asked 24 questions to identify respondents' disability status. The text of these questions appears in Table 1 with the incidence at which respondents marked "Yes." Our survey included both difficulty- and conditions-oriented questions. We asked respondents about their mental health and chronic health issues, sometimes mentioning specific conditions; about finding and obtaining work; and about their self-identification as disabled.

2.2 Sampling and weighting

YouGov conducted this survey online with 29,431 interviews of U.S. adults. The survey comprises three samples: a base sample of 21,005 U.S. adults, an oversample of 4,262 U.S. adults residing in states with all-mail voting policies (AMV oversample), and an oversample of 4,164 U.S. adults who are Black or Hispanic (POC oversample).

The sample was sourced from a mix of the YouGov panel and pre-approved vendors. YouGov's proprietary sampling platform selected respondents to be representative of the adult population in the United States, as well as of each group represented in each oversample. Respondents who completed the survey were sampled proportionally based on a set of demographic targets. All respondents who identified as registered voters were then matched to the TargetSmart voter file. Those who said they were registered voters but did not match to the voter file were dropped from the final dataset before calculating weights.

The dataset includes three sets of weights, one for the base sample and each oversample. Variables used for weighting include gender, age, race and ethnicity, education, registered voter status, employment status, 2020 presidential vote, and a custom region variable created to capture the AMV grouping. Data to calculate these weights came from voter registration lists, the American Community Survey, Current Population Survey, and official election returns. The base sample was also weighted by estimated 2024 presidential vote, based on available results. Weights for both the base sample and the POC oversample incorporated self-reported party identification from the 2023

Table 1: Survey questions on disability

Label	Rate	Question text
Any disability	63.2%	Answered yes to any of the 24 individual disability questions.
Daily life	43.8%	Categorical variable combining Episodic, Health, Chronic pain, Planning day, Errands, and Self-care.
Mental	40.4%	Categorical variable combining Mental health, Cognition, Learning.
Mental health	35.6%	Do you have a mental or emotional condition? This could include conditions such as depression, anxiety, or some other psychological condition.
Episodic	31.9%	Do you have a physical or mental condition that 'flares up' and limits your work or daily activities at some times, but not all the time? This could include migraines, diabetes, immune disorders, or mental health conditions.
Any ACS-6	31.2%	Categorical variable combining any ACS-6 disability question.
Employment	30.6%	Categorical variable combining Work amount, Finding work, Cannot work, and Disability income.
Physical	26.7%	Categorical variable combining Sitting, Grasping, Walking, Lifting.
General health	24.9%	Do you have a long-term health condition or impairment that limits the kind or amount of work, housework, or other activities you can do?
Health	24.8%	Do you have any physical, mental, or emotional health conditions lasting 12 months or longer that limit your daily activities?
Work amount	24.6%	Do you have a physical, mental or other health condition that limits the kind or amount of work you can do?
Chronic pain	23.9%	Do you have a condition that causes frequent or chronic pain that limits your daily activities?
Self ID	23.4%	Do you consider yourself to have a disability?
Other ID	20.1%	Would other people consider you to have a disability?
Finding work	16%	Because of a physical, mental, or emotional problem, do you have difficulty finding a job or remaining employed?
Cognition	15.5%	Because of a physical, mental, or emotional condition, do you have serious difficulty concentrating, remembering, or making decisions?
Learning	14.1%	Do you have a learning or developmental disability? This could include conditions such as dyslexia, ADHD, autism, Down Syndrome, or some other learning or developmental disability.
Sitting	13.6%	Do you have any difficulty sitting for one hour?
Cannot work	13.6%	Because of a physical, mental, or emotional problem, are you prevented from working?
Planning day	13.4%	Do you have any unpredictable health condition that makes it difficult to plan your day?
Walking	12.5%	Because of a physical, mental, or emotional condition, do you have serious difficulty walking or climbing stairs?
Lifting	11.7%	Do you have any difficulty lifting or carrying something as heavy as 10 pounds (such as a bag of groceries)?
Errands	11%	Because of a physical, mental, or emotional condition, do you have difficulty doing errands alone such as visiting a doctor's office or shopping?
Disability income	8.7%	Did you receive income due to a disability or health condition at any time in the past month?
Grasping	6.8%	Do you have any difficulty using your hands and fingers to do things such as picking up a glass or grasping a pencil?
Hearing	6.5%	Are you deaf, or do you have serious difficulty hearing?
Seeing	4.5%	Are you blind, or do you have serious difficulty seeing, even when wearing glasses?
Long COVID	4.1%	Do you have any long-term effects from Covid-19 that limit your daily activities?
Self-Care	4%	Because of a physical, mental, or emotional condition, do you have difficulty dressing or bathing?
VA disability	3.1%	Did you receive Veterans Affairs payments for a service-connected disability?

Pew Research Center National Public Opinion Reference Survey.

For analysis purposes, YouGov also produced an additional weight that weights all respondents to a nationally representative frame, effectively weighting down respondents in the demographic and geographic groups that were oversampled in order to account for their higher representation in the sample. This method ensures that the weighted sample reflects the actual share of oversampled groups in the population (Frasure et al. 2025; Mercer 2016). We use these weights and the `survey` software package (Lumley 2024) to compute our marginal statistics, uncertainty estimates, t-tests, and most regressions in the programming language $\mathbb{R}$ (R Core Team 2024). A few of our regressions use multiple years of turnout data and two-way fixed effects; we fit these models using the `fixest` package (Bergé 2018).

3 Results: Disability, turnout, and the voting experience

We first attempt to replicate the disability turnout gap that has been found using Current Population Survey data in past elections using our survey data. CPS data allowed researchers to compare the self-reported turnout rates of people with and without an ACS-6 disability. Our data allow us to extend that analysis by using voting records verified on the voter file, and by asking about a much broader range of disabilities than the ACS-6.

We find that estimates of the ACS-6 disability turnout gap depend on whether the voter turnout variable was validated against state voter files. Table 2 presents the disability turnout gap estimated separately using our validated turnout variable, our reported turnout variable, and the reported turnout from the CPS. The validated ACS-6 disability turnout gap is 1.8 percentage points larger than the self-reported turnout gap in our survey. These results highlight the importance of asking about disability status on surveys like the Cooperative Election Study that validate voter turnout. Relying on reported voter turnout underestimates the disability turnout gap because people with disabilities in our survey over-report voting at a higher rate than people without disabilities.

Our estimate of the overall ACS-6 gap in self-reported turnout aligns with the CPS estimate,

which also uses reported voter turnout. There is considerable variation between the CPS and our survey among the individual ACS-6 items, however. For instance, the CPS finds much larger turnout gaps among people who have difficulties with self-care tasks or running errands.

CPS estimate	Our self-reported estimate	Our validated estimate
-4.9%	-5.5%	-7.3%

Table 2: Difference in voter turnout between people with and without an ACS-6 disability. The disability turnout gap estimated with voter-file validated turnout is larger than the estimated gap in self-reported turnout.

One contribution of this paper is studying differences in voter turnout across a wide range of disability types. As expected, we find that turnout gaps vary greatly by disability. Table 3 presents our 2024 validated turnout estimates for each of our disability questions, comparing them to our estimates of reported turnout and, for the ACS-6 questions, to the reported turnout in the Current Population Survey. Figure 1 presents those same estimates as turnout gaps, with a dotted line indicating the turnout rate of people without any disabilities. People with ACS-6 disabilities exhibit some of the lowest voter turnout rates. We find the lowest turnout rate among people who are blind or have difficulty seeing even while wearing glasses. In 2024, these respondents voted at a rate of only 44.7%. Among respondents with any of the ACS-6 disabilities, the voter turnout rate is 55.7%, compared to 63% among people without an ACS-6 disability. This difference is a disability turnout gap of more than 7 percentage points.[3]

The turnout gaps remain when controlling for respondents' demographic characteristics that are exogenous to their disability status. For each disability type, we regressed validated 2024 voter turnout on that disability status while controlling for race, gender, age group, and state fixed effects. The results are similar to those presented in Figure 1, so we omit them here.

[3]Some disabilities such as difficulty hearing or walking actually correlate with higher turnout, reducing the ACS-6 turnout gap. These two reverse turnout gaps disappear after controlling for age.

Table 3: Turnout rate by disability type, validated and reported.

Disability question	Validated	Reported	Reported (CPS)
Seeing	44.7%	57.8%	67.8%
Cognition	48.1%	58.5%	59.0%
Errands	49.1%	60.5%	59.2%
Finding work	49.8%	60.4%	
Sitting	50.3%	60.7%	
Learning	53.0%	62.0%	
Cannot work	54.2%	63.9%	
Self-Care	55.2%	67.2%	57.2%
Mental health	56.8%	65.1%	
Long COVID	57.8%	71.1%	
Other ID	57.9%	67.9%	
Planning day	58.1%	67.7%	
Lifting	58.4%	67.5%	
Health	58.8%	66.8%	
Grasping	58.8%	69.2%	
Self ID	59.1%	68.4%	
Disability income	59.3%	69.9%	
Work amount	59.5%	68.2%	
Chronic pain	62.2%	70.4%	
Episodic	62.3%	69.7%	
General health	62.7%	70.7%	
Walking	63.9%	72.4%	69.9%
Hearing	64.1%	75.7%	77.3%
VA disability	64.8%	77.2%	

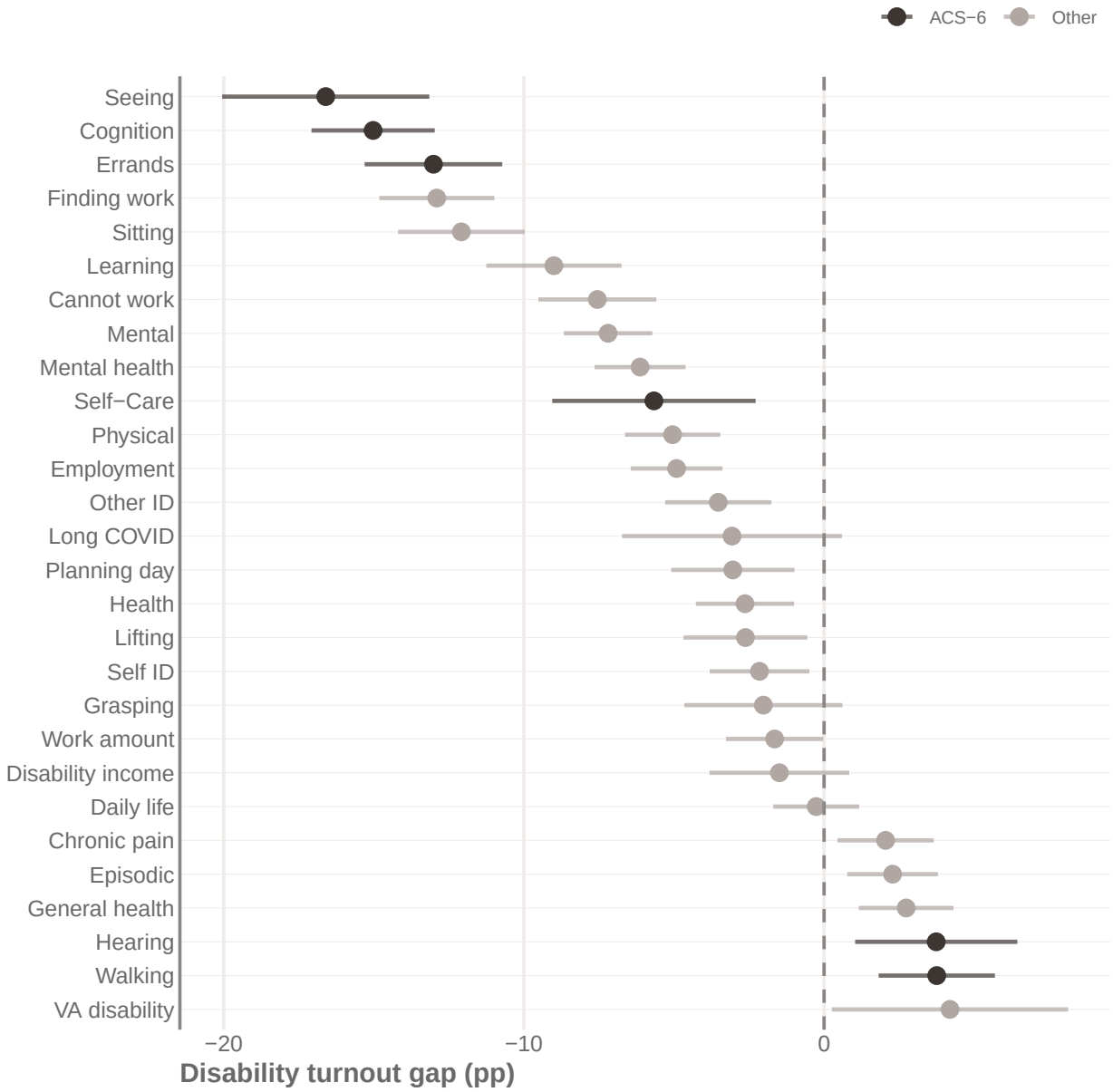

Figure 1: Difference in 2024 validated voter turnout between people with and without disabilities.

3.1 Note on gap calculations

When interpreting estimates of the turnout *gap*, keep in mind that these gaps are calculated, individually for each disability question, as the turnout rate of people with a given disability minus the turnout rate of people without the same disability. The calculation does not subtract the turnout rate of people without any disability at all. Instead, the comparison group changes for each disability question analyzed. Because the comparison group can contain many people with a different disability, the turnout gap numbers used in subsequent analyses likely underestimate the gap in turnout between people with a given disability and people without any disability.

3.2 Grouping disabilities into categories

Given the number of disability questions asked and a need for greater sample size, in some analyses we group similarly-themed questions together to study trends not only in individual functional disabilities, but in categories of disabilities. For example, we group difficulties sitting, lifting, grasping, and walking under the category of "Physical"; and we group people with difficulty working, finding work, or who receive disability payments under the category "Employment." The grouping and naming of disability categories is a fundamentally fraught exercise, as tremendous diversity of experience exists within each of these individual questions, to say nothing of the diversity within categories or within the "disability" label as a whole. Additionally, there is no clear theoretical distinction between "physical" and "mental" disabilities, and disabilities that we put in these two categories are often closely related. Nevertheless, we think these categories have some analytical use, especially in a policy context. The questions that make up those categories are also presented in Table 1, along with the incidence at which respondents marked "Yes" to at least one of the questions in each category.

We also use the ACS-6 categorization in subsequent analyses, due to its common use in government surveys. Often, disability status is flagged by a positive response to any one of the ACS-6 questions. Our results demonstrate that the ACS-6 questions can identify many disabilities that

affect a person's voting experience. However, the breadth of the ACS-6 battery can be a limitation in some analyses, because the questions ask about very different conditions and disabilities. Analyzing ACS-6 disabilities as a group combines people who are deaf or hard of hearing with people who have difficulty walking and difficulty concentrating, among others. Creating categories of related disabilities allows us to compare groups of people who face more similar barriers to voting. The differences among ACS-6 disabilities make a substantial difference in our understanding of the disability turnout gap. For example, the high turnout rate of people with difficulty hearing raises the average ACS-6 turnout rate and reduces the ACS-6 turnout gap by nearly two percentage points.

3.3 Disability and the voting experience in 2024

In addition to measuring turnout, we also asked respondents a series of questions about their voting experience, how their disability affects voting where they live, and what policy changes would be especially helpful to them. In this section, we will examine the results of a few of these questions across different types of disability. These questions provide important context for the disability turnout gap, and help reveal some of the mechanisms that might be producing the gap.

As noted below, some of these questions were asked of a subset of our sample, such as only people with disabilities, people who did not vote, or people who voted by mail. In general, responses from our full sample are included in these analyses regardless of whether they were validated as registered on the voter file, so unregistered respondents are included.

We do not have space in this paper to show results for all of the questions that we asked about voting and disability, but there is a wealth of data to explore. We encourage other researchers to use our publicly available data to investigate further.

3.3.1 Problems during the voting process

A key question for our study of voting accessibility was whether people with disabilities have more problems during the voting process than people without disabilities. We asked respondents

to indicate whether they encountered one of a series of problems during their voting experience, and tailored those questions to whether they voted by mail or in person.

Mail voters were asked whether they encountered a problem 1) registering to vote; 2) applying for or receiving a mail ballot; 3) reading or seeing the ballot; 4) completing or filling out the ballot; and 5) returning the ballot.

Respondents who voted in person were asked whether they encountered a problem 1) registering to vote; 2) arriving at the wrong polling place; 3) getting to the polling place; 4) getting inside the polling place; 5) waiting in line; 6) reading or seeing the ballot; 7) using the voting equipment or ballot; and 8) communicating with poll workers.

Our dataset allows researchers to study which problems are most likely to be encountered by people with particular disabilities. In Figure 2, though, we combine all of these problems into a single metric that indicates whether a respondent experienced any problem during the voting process. The plot shows the percentage of people with each disability who experienced any problem, regardless of whether they voted by mail or in person.

Across the board, people with disabilities were significantly more likely to encounter a problem when voting. The rate of voting problems for people with no disabilities is under 20%, while the rate of problems for people with disabilities ranges from 29% to 45%. By far the most common problem anyone experienced was waiting in line, if they voted in person. Many people without disabilities (18% of those who voted in person) had a problem with waiting in line, but lines are a much bigger problem for people with disabilities. On the high end, 38% of people who have difficulty running errands and voted in person had a problem waiting in line.

While people without disabilities did not encounter many problems other than lines, that was not the case for many people with disabilities. The most likely respondents to have a voting problem are people with seeing disabilities, 45% of whom encountered an issue. Many of those issues were line-related, but many people with vision disabilities also had difficulty reading ballots, getting to the polling place, and using voting equipment.

The disproportionate burden placed on people with disabilities by long lines and traveling to

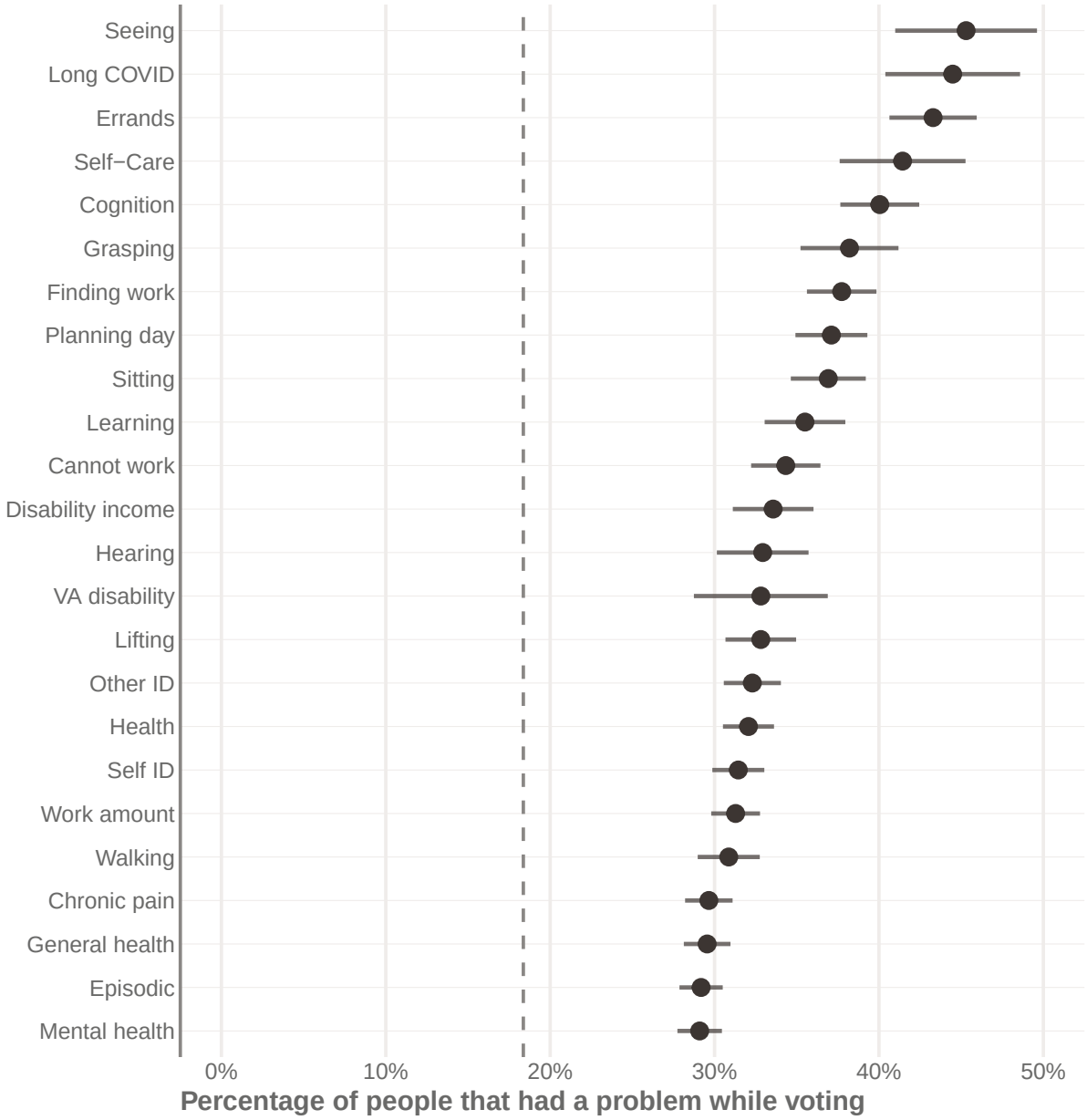

Figure 2: Percentage of all respondents who encountered a problem while voting. Vertical dashed line indicates the rate for people without any disability.

the polls suggests that mail voting could significantly reduce the difficulties people with disabilities face in voting.

3.3.2 Who thinks all-mail voting would help them?

This survey asked all respondents about a wide range of possible voting reforms that could plausibly make the process more accessible for people with disabilities. In particular, respondents were asked if each reform would make it "easier for people like you to vote." One of these improvements was described as "Having a mail ballot automatically sent to me," attempting to get at which respondents think all-mail voting would help them in particular.

Figure 3 shows the percentage of people with each disability who think AMV would help people like them. People with all types of disability are more likely to say that AMV would help them than people with no disability at all. We estimate that 29% of people without a disability say that AMV would help them, compared to 38% of people who answered yes to any of the disability questions. People with certain daily life disabilities — difficulty planning their day, running errands, or caring for themselves — are most likely to say that AMV would help them, at a rate of 44–45%. Aside from people with a military service-connected disability, people with sensory disabilities (hearing and seeing) are least likely to say that AMV would help them.

Overall, while people with disabilities are more likely to say that AMV would make it easier for them to vote, the variation is not enormous. We would not necessarily expect high rates of selection of any of the accessibility improvement items, as a clear majority of respondents reported that they already find the voting process easy. Furthermore, this question was asked of all respondents, even those who already live in AMV states, which likely depresses the percentage of people who would say that AMV would be an improvement.

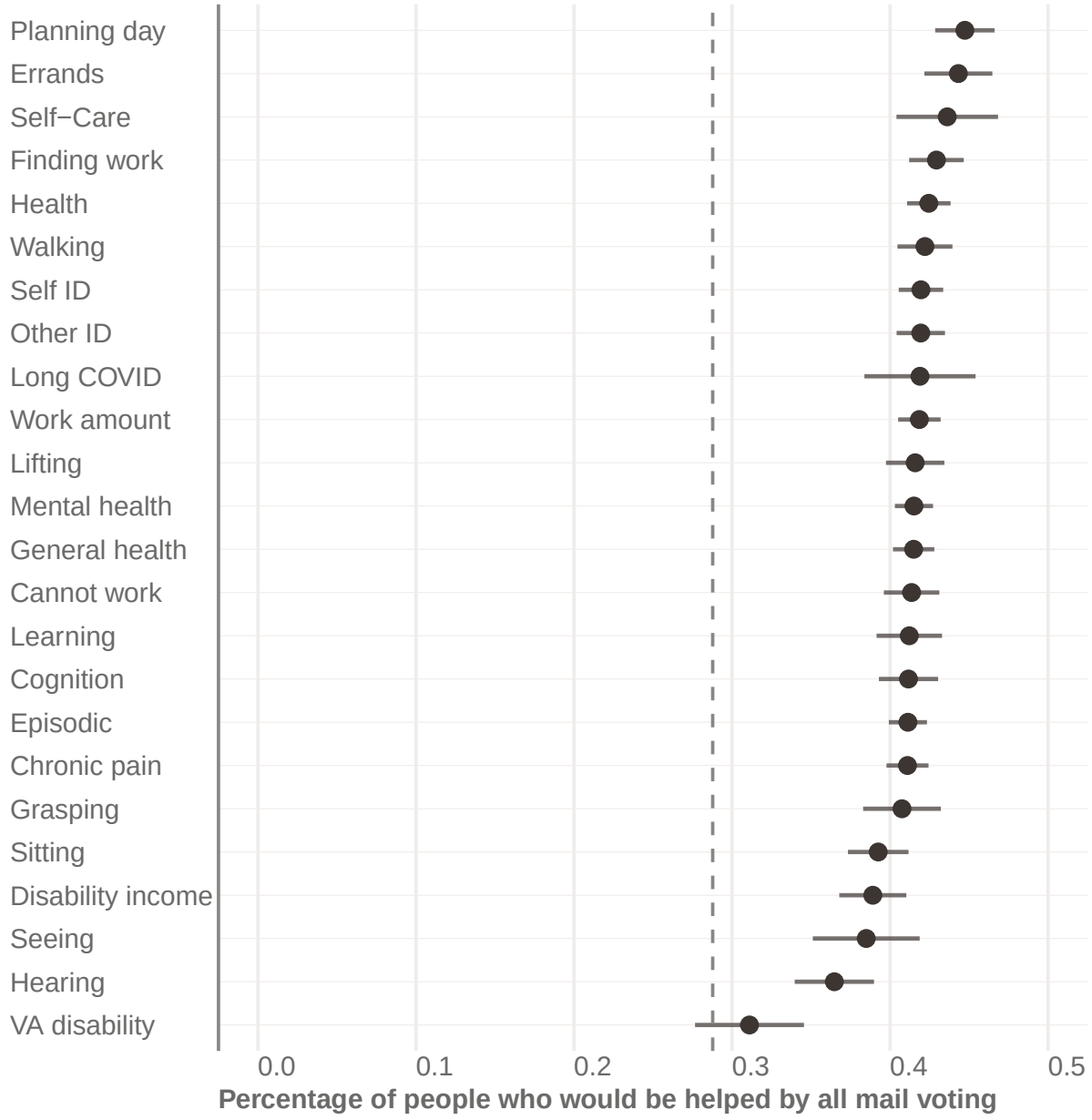

Figure 3: Percentage of all respondents who think that all-mail voting would make it easier for people like them to vote. Vertical dashed line indicates the rate for people without any disability.

3.3.3 Did disability contribute to voters' decision to vote by mail?

For those respondents with disabilities who did vote by mail, we asked whether their disabilities contributed to their decision to vote by mail rather than in person. The results of that question by disability are shown in Figure 4.

There is significant variation in responses to this question across disability type. At the high end, over 60% of respondents with daily life disabilities, like difficulties with self-care and errands, reported that their disabilities contributed to their decision to vote by mail. Respondents with physical and employment-related disabilities reported rates nearly as high. On the low end, only 30–40% of people with mental disabilities said that their disability contributed to their decision to vote by mail. As in many of these charts, people receiving VA disability payments are an outlier and are the least likely to say that their disability caused them to vote by mail.

The high rate of respondents reporting that they voted by mail at least in part because of their disabilities suggests that regardless of whether restrictive mail policy prevents disabled people from voting, it at a minimum prevents some disabled people from voting in a way that feels more accessible to them.

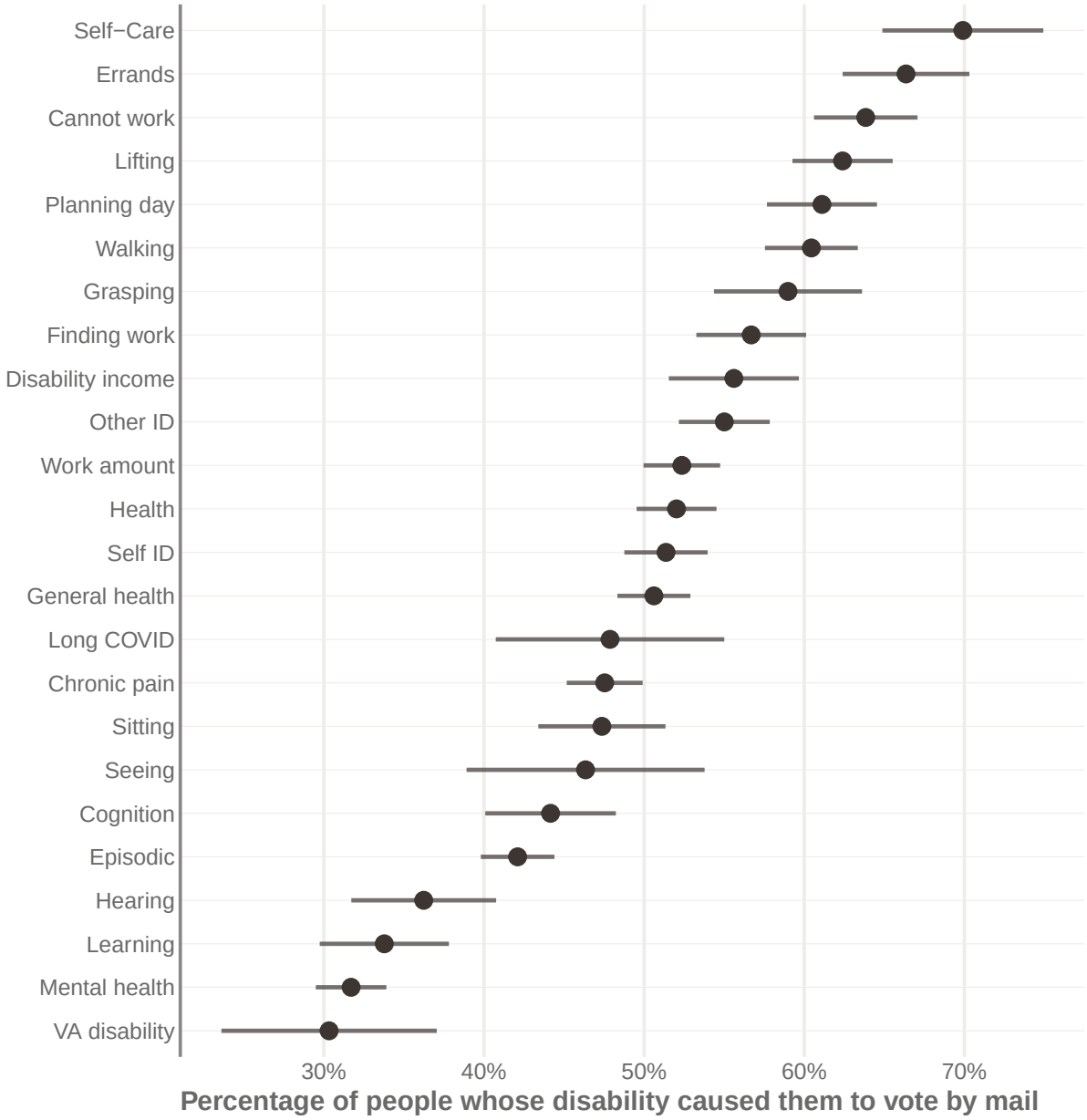

Figure 4: Percentage of all respondents with disabilities who voted by mail who said that their disability contributed to their decision to vote by mail.

3.3.4 Did respondents' disabilities prevent them from voting?

The observed disability turnout gap strongly suggests that the combination of disability and insufficient accessibility measures is causing some disabled people to not vote when, absent those conditions, they would participate. However, our measurement of the turnout gap is not causal.

To better get at causation, we directly asked respondents with disabilities who self-reported not voting whether their disabilities prevented them from voting. A plot of those responses is presented in Figure 5. As has been the case with several of these questions, daily life disabilities like difficulty running errands and self-care are at the top of the list, as are employment-related disabilities. Rates of people reporting that disabilities prevented them from voting range from 5 to 15%.

Notably, 7% of people with ACS-6 disabilities who reported not voting said that their disability prevented them from voting. This figure is very close to the verified voter ACS-6 turnout gap shown above (7.1%). This similarity provides supporting evidence that the disability turnout gap is caused by disability and lack of accommodations, rather than by disability just being correlated with an unobserved variable associated with lower turnout.

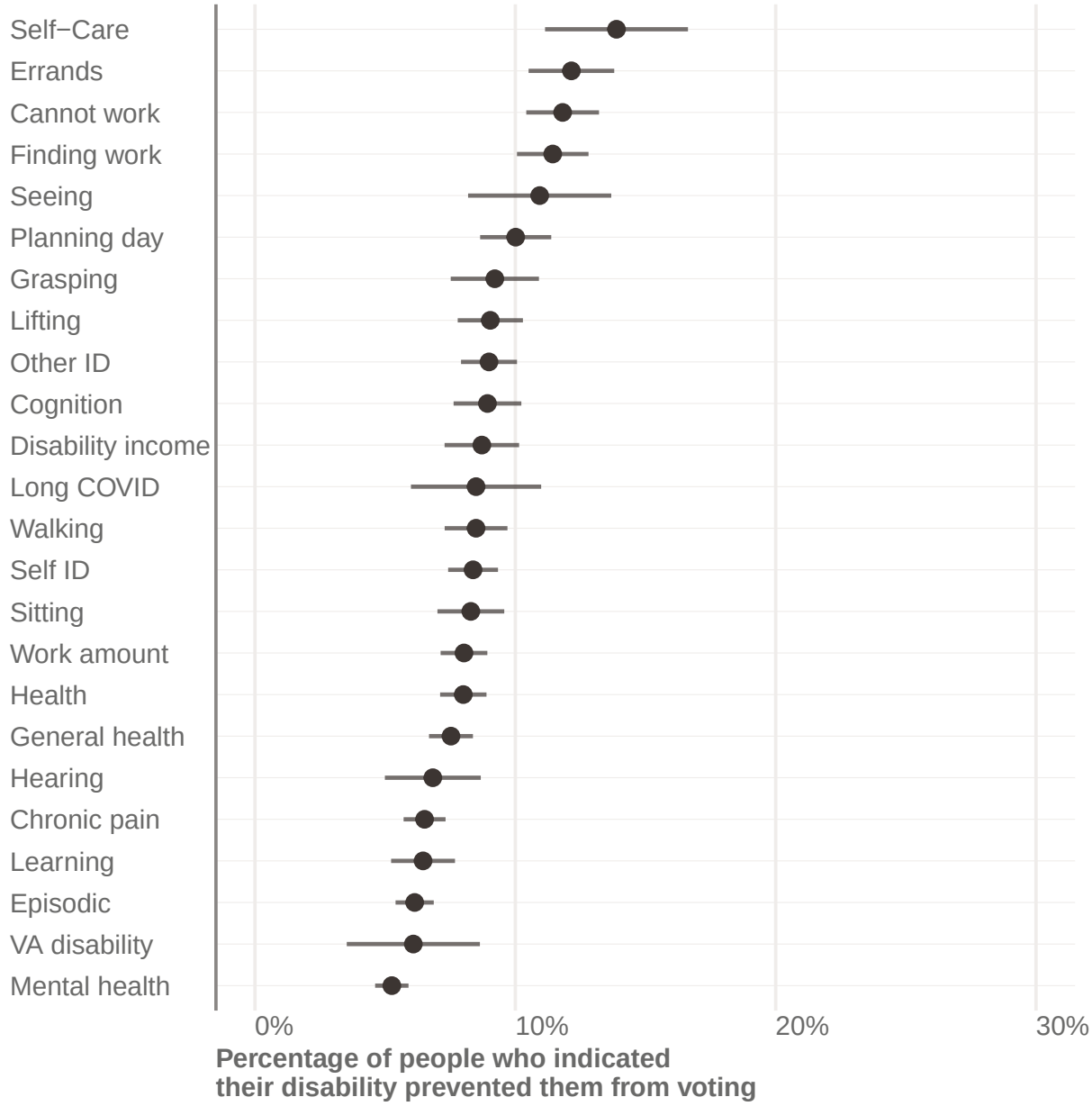

Figure 5: Percentage of all respondents who said that their disability prevented them from voting

3.3.5 Do respondents feel their disabilities are well-accommodated?

We asked respondents with disabilities how well their disabilities are accommodated by the voting process where they live. Respondents had four options: ”Very well,” ”Somewhat well,” ”Not very well,” and ”No accommodation is provided.” For ease of analysis, we combined the first two and the latter two options to create a binary variable: ”Well accommodated” or ”Not well

accommodated."

The results of this question are shown in Figure 6. From one perspective, these results are encouraging: most respondents feel that their disability is well-accommodated. Still, some 30% of respondents do not feel that way, meaning there is significant room for improvement.

Variation among disability types is not that high, ranging from 60% to 80%. There is one stark pattern: people with mental disabilities are the least likely to feel like their disabilities are well-accommodated. This lines up with research suggesting that mental disabilities are often *invisible*, less apparent to other people and consequently less accommodated by society (Kattari, Olzman, and Hanna 2018).

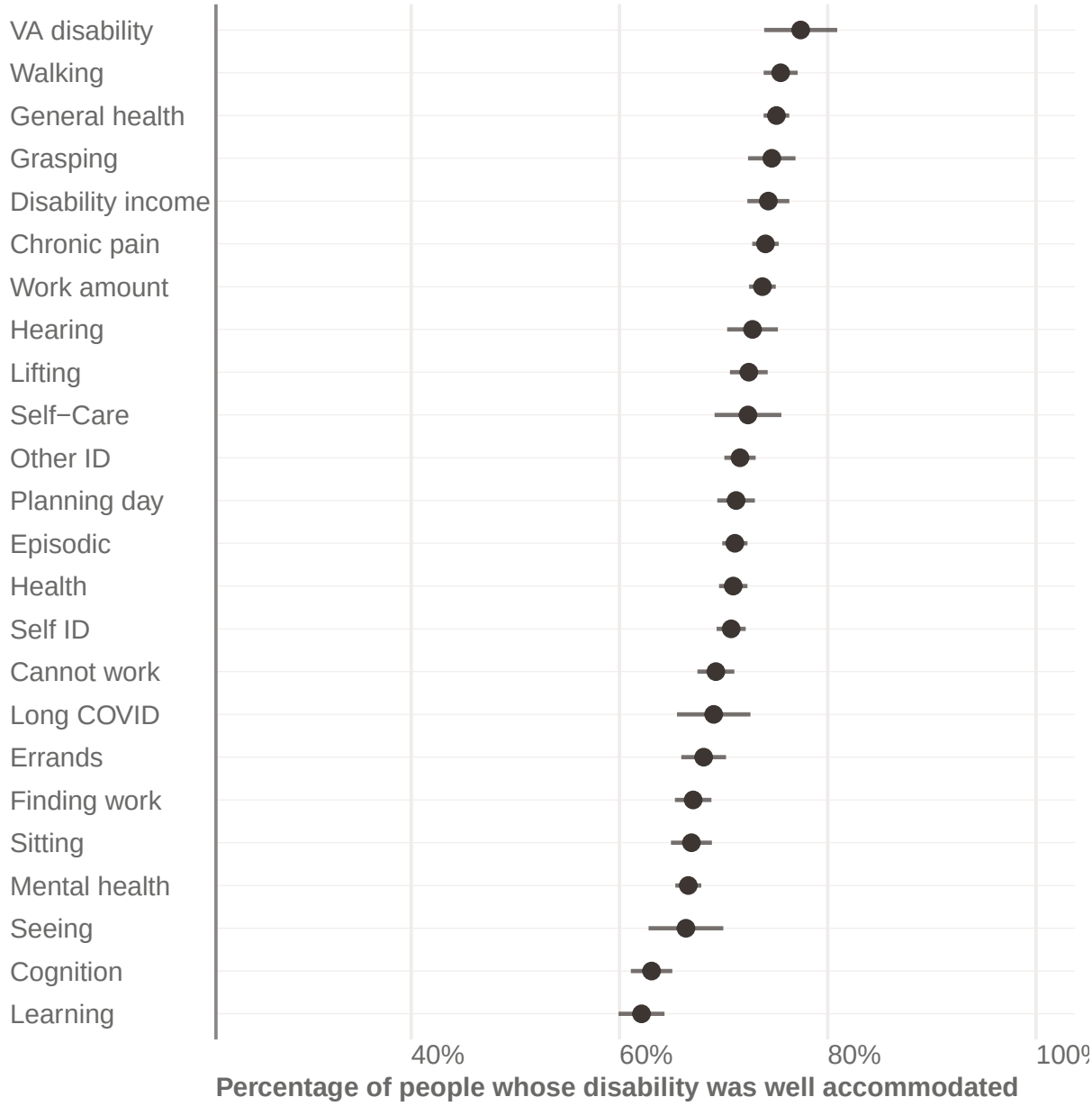

Figure 6: Percentage of respondents with disabilities who said that their disability was ”somewhat well” or ”very well” accommodated by the voting process.

4 Results: Disability and all-mail voting

4.1 Mail voting and the disability turnout gap

Our sampling strategy over-sampled respondents from states that use all-mail voting, allowing us to produce reliable subnational estimates of the disability turnout gap in that set of states. We estimated the disability turnout rate separately in states that use all-mail voting, in order to compare these gaps to states with other mail-voting policies.[4]

For several disability categories, discussed above, we regress 2024 validated voter turnout on the interaction between a respondent's disability status and their state's mail or absentee voting policy.[5] We code the state's mail or absentee voting policy as a four-level categorical variable: Excuse required (reference group), No excuse required, Permanent absentee, and All-mail voting. Table 4 presents coefficient estimates for each policy's interaction with disability status in our first model,

$$Voted_i = \beta_1 Disabled_i + \beta_2 Policy_j + \beta_3 Disabled_i \times Policy_j + X_i + \gamma_j + \varepsilon_i, \quad (1)$$

in which $Voted_i$ is an indicator of respondents' validated voter turnout; $Disabled_i$ is an indicator of respondents' disability status, for the given disability type under analysis; $Policy_j$ is the state-level variable coding respondents' mail policy regime into four categories; X_i is a matrix of categorical demographic control variables — race, gender, and age group; γ_j is a vector of state fixed effects; and ε_i is an error term.

The fixed effects model acts as a "within" estimator, calculating the turnout gaps using respondents within the same state, then averaging across states to compare policies. Respondents in the same state are subject to many of the same electoral administration policies, and by using within-state comparisons, the fixed effects absorb such state-level differences. Because the model

[4]Because voter access policies vary widely in the non-AMV group of states, a comparison between AMV and non-AMV would be muddled. Therefore, we compare AMV states directly to states with the most restrictive policy, excuse required. No excuse and permanent absentee states are also separately compared to excuse required states.

[5]For sample size reasons, we use disability categories rather than individual disabilities for regression analyses in this section in which groups of states are compared.

in Equation (1) analyzes just 2024 voter turnout, with no variation over time, this model uses only cross-state variation to estimate the relationship between turnout gaps and mail voting policies.

For certain disability categories, we find a large and statistically significant relationship between all-mail voting and the disability turnout gap. Table 4 presents our estimates of the interaction term, β_3, in Equation (1). Among the three policy alternatives to excuse-required absentee voting, all-mail voting stands out as having the greatest association with the disability turnout gap for almost all disability categories. The differences are largest and are statistically significant for Employment, with a 6 percentage point smaller turnout gap in AMV states compared to excuse required states; Any disability, with a 5 percentage point difference; and Daily life, 4 percentage points. We find a weaker association between ACS-6 disability, mail voting policy, and the turnout gap: a non-significant 2 percentage points.

Our results in the category of Mental disabilities—which comprises people who have learning difficulties, cognitive difficulties, or a mental health condition—are somewhat surprising. We find that AMV states do not have a significantly smaller Mental disability turnout gap, but there is a large and statistically significant relationship for permanent-absentee (6 percentage point smaller turnout gap compared to excuse required states) and no-excuse policies (4 percentage point difference). The category of Mental disabilities is roughly defined, but the pattern is striking in the table as the largest and only statistically significant results for states with no-excuse-absentee or permanent-absentee voting. Our point estimates indicate a sizable but not statistically significant relationship between permanent absentee voting and the turnout gap for the Any disability and Daily life categories. Physical disabilities are least associated with mail voting policies. Two of the estimates are negative, and all of their confidence intervals are large and overlap with zero by a few percentage points.

The state fixed effects, without repeated observations over time, do not control for all omitted variables that correlate with turnout and mail voting policies. For a wide range of disabilities, states using all-mail voting have smaller turnout gaps than states requiring an excuse to vote absentee, but it is impossible to know whether the difference in mail voting policy caused the difference in

	Disability category					
	Any disability	Any ACS-6	Employment	Daily life	Mental	Physical
Disabled x No excuse required	0.01	0.02	0.03	0.00	0.04*	−0.02
	[−0.02; 0.05]	[−0.02; 0.05]	[−0.01; 0.06]	[−0.03; 0.04]	[0.00; 0.07]	[−0.05; 0.02]
Disabled x Permanent absentee	0.04	0.01	0.01	0.03	0.06*	−0.02
	[−0.01; 0.08]	[−0.04; 0.06]	[−0.04; 0.06]	[−0.02; 0.07]	[0.01; 0.11]	[−0.07; 0.03]
Disabled x All-mail voting	0.05*	0.02	0.06*	0.04*	0.03	0.02
	[0.01; 0.09]	[−0.03; 0.06]	[0.01; 0.10]	[0.00; 0.08]	[−0.01; 0.07]	[−0.03; 0.06]
$\bar{Y}$|Disabled, Excuse req.	0.53	0.49	0.50	0.54	0.49	0.52
Num. obs.	28803	28951	28783	28910	28821	29002

* Null hypothesis value outside the confidence interval.

Table 4: Disabled voter turnout in 2024, by policy regime. Reference group is respondents without disabilities, in states that require an excuse to vote by mail. Coefficient estimates come from an individual-level regression of turnout on the interaction between disability status and mail policy. Results show that for many disability types, disabled turnout is higher in states with all-mail voting than in states that require an excuse to vote by mail.

turnout gap when looking at only one election. It could be that an unobserved difference between AMV and excuse required states, having nothing to do with mail voting policy, causes people with disabilities to vote more often in the former than the latter.

In an attempt to tease out the relationship between the disability turnout gap and mail voting policies, we implement a two-way fixed effects (TWFE) design that takes advantage of states changing their policies over time. Matching our respondents to state voter history files validated their turnout back to the 2016 election cycle. We transform our cross-sectional dataset with 2024 turnout into a dataset of observations for each respondent-election year. Our survey included a question asking disabled respondents when they acquired their primary disabling condition.[6] This question allows us to turn our cross-sectional disability variable into one that indicates the election year in which the respondent first made a turnout decision with a disability.[7].

We present the results of our time-series cross-sectional analysis in Table 5. Estimates that use year fixed effects, with data going back to 2016, are very similar to our results about the 2024 disability turnout gap. The confidence intervals shrink with the larger sample size, and the point

[6] Inspecting the responses to this survey question, we had concerns about its accuracy in measuring the year in which people acquired their disability. There are spikes indicating people rounded their age to the nearest decade. Many responded with their current age. We dropped anyone who responded with their current age from this analysis.

[7] Adding a time dimension, t, and year fixed effects, ς_t, to the model in Equation (1), we estimate the TWFE model $Voted_{it} = \beta_1 Disabled_{it} + \beta_2 Policy_{jt} + \beta_3 Disabled_{it} \times Policy_{jt} + X_i + \gamma_j + \varsigma_t + \varepsilon_{it}$. We cluster standard errors by state and year.

estimates remain largely the same. All-mail voting remains significantly associated with a reduced disability turnout gap for several disability categories including Any disability.

Table 5: Disabled voter turnout by policy regime, estimated with state and year fixed effects. Reference group is respondents without disabilities, in states that require an excuse to vote by mail. Coefficient estimates come from a regression of respondent's voting history on the interaction between disability status and mail policy. Standard errors clustered by state and year. These findings show that compared to policies requiring an excuse to vote by mail, all-mail voting and, to a lesser extent, permanent absentee voting are associated with significantly greater turnout among people with disabilities. Estimates are similar in magnitude to the cross-sectional results with some differences in statistical significance.

	Any disability (1)	Any ACS-6 (2)	Employment (3)	Daily life (4)	Mental (5)	Physical (6)
Disabled × No Excuse Required	0.02	0.007	0.02	0.01	0.02	0.002
	[-0.01; 0.04]	[-0.03; 0.04]	[-0.02; 0.06]	[-0.02; 0.04]	[-0.01; 0.05]	[-0.04; 0.05]
Disabled × Permanent Absentee	0.04**	0.003	0.004	0.03**	0.04	0.01
	[0.005; 0.07]	[-0.03; 0.03]	[-0.04; 0.05]	[0.009; 0.06]	[-0.03; 0.10]	[-0.05; 0.08]
Disabled × All-Mail Voting	0.05**	0.01	0.05*	0.04**	0.03*	0.03
	[0.006; 0.09]	[-0.03; 0.06]	[-0.01; 0.11]	[0.008; 0.08]	[-0.004; 0.06]	[-0.01; 0.07]
State fixed effect	X	X	X	X	X	X
Year fixed effect	X	X	X	X	X	X

There are limitations in our two-way fixed effects analysis. First, we do not have a true survey panel, but rather a single wave of respondents with historical voting data for those respondents who have been on voter files in previous elections. Our dataset is the result of a single merge to the TargetSmart voter file, not multiple merges to different voter file snapshots. Not all respondents in our survey were eligible to vote in the 2020 or 2016 elections. Most notably, respondents aged 18-26 could not possibly have voted in the 2016 election. Furthermore, there are many people who were eligible to vote in 2016 who were not eligible to be sampled in our survey because they died or otherwise left the voter pool. Our sample for studying earlier voting behavior therefore has a somewhat different makeup than the sample for the 2024 election. A related problem is that our survey was designed to be representative of the 2024 population only. The weights we use were not meant for inferences about voter behavior in 2016, 2018, 2020, and 2022.

The second challenge with this analysis is the limited variation in mail voting policy that we have seen since the 2016 election. There were a number of changes to mail voting policy between 2016 and 2024, but these changes were typically not drastic. Some states switched from requiring

an excuse to vote absentee to allowing absentee voting with no excuse (or vice versa), while other states switched from not requiring an excuse to all-mail voting. Many of these changes took place for the 2020 election as COVID accommodations, which further complicates our interpretation of results as 2020 was an unusual election in many ways.[8] Finally, like other designs using two-way fixed effects, ours is vulnerable to time-varying state-specific confounders, like a state's policy changes that coincide with their changes to mail voting policies.

[8] Appendix Table 8 shows changes to mail voting policy in this time period. Hawaii, the District of Columbia, Nevada, and Vermont switched to all-mail voting in 2020. In 2013, Utah began rolling out all-mail voting by county; in 2018, select California counties piloted all-mail voting. We code these two states as instituting AMV in 2018 and 2020, respectively, at which points the vast majority of their populations automatically received a mail ballot. New Jersey used AMV in 2020 but then switched back to a no-excuse policy for the 2024 election. Many states switched from requiring an excuse to not requiring an excuse in 2020, before switching back to requiring an excuse in 2024. Others, such as Pennsylvania and Michigan, switched away from requiring an excuse in 2020 and never switched back. New York continued to require an excuse in 2020 but switched to a no excuse policy for 2024.

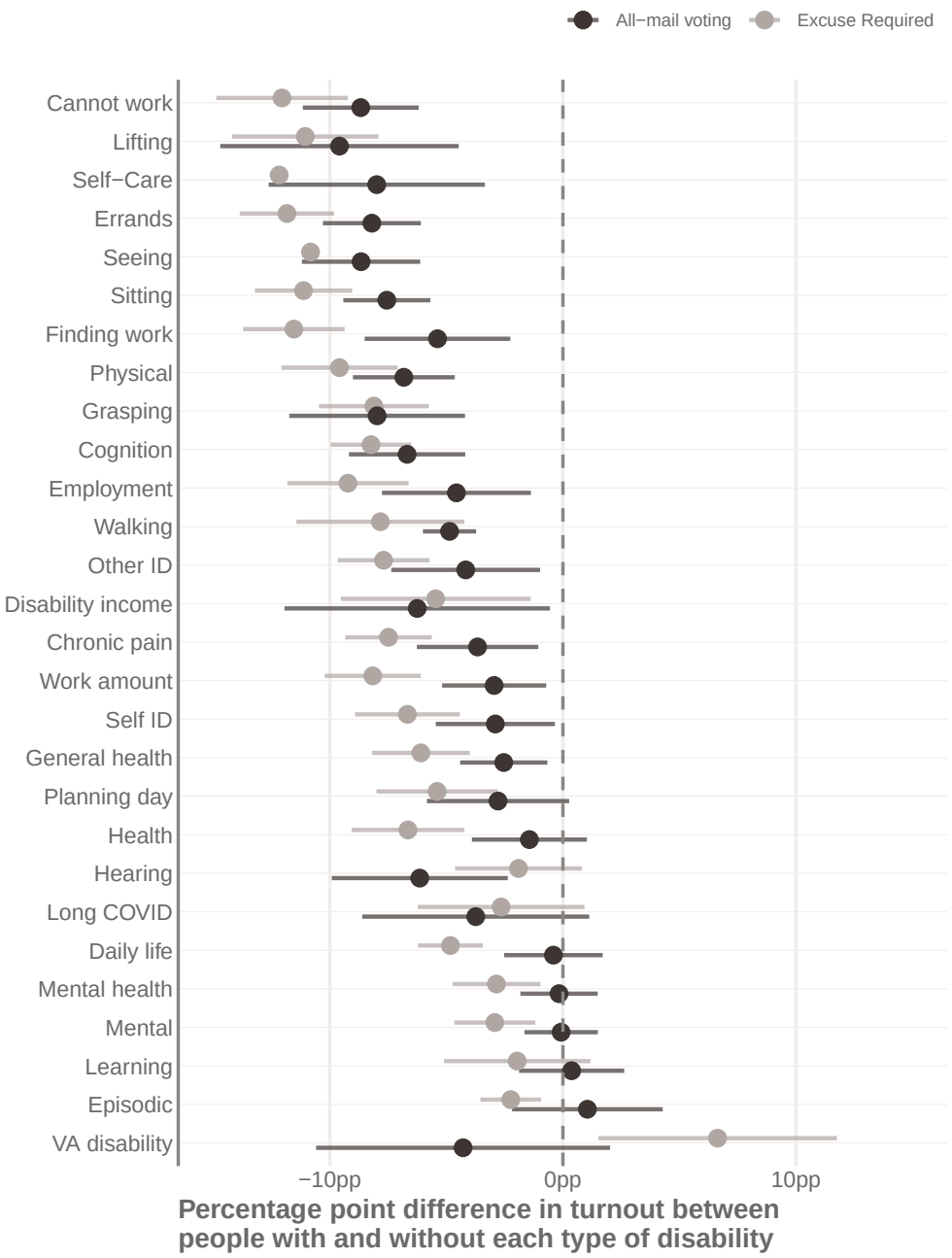

Figure 7: Lower disability turnout gap in all-mail voting states

These limitations in our TWFE analysis call for supporting analyses. Appendix E presents our first robustness check, in which we match respondents according to their prior voting history. For each election, we create categories that group respondents according to the number of prior elections (within the 2016–2024 study period) in which they voted. By including fixed effects for

these vote history groupings, our analysis compares turnout rates for similar types of voters. The results presented in Table 9 are somewhat attenuated, perhaps due to a lack of variation within these vote-history groups. Yet all-mail voting remains positively associated with a smaller disability turnout gap, and the relationship is a statistically significant 2 percentage points for the Any disability category.

Finally, in Appendix F we replicate the analysis using data from the Current Population Survey. The CPS is an excellent complement to our survey because its strengths match our limitations, and vice versa. The CPS includes only the ACS-6 disability questions and does not validate voter turnout; however, it offers true survey snapshots of the changing electorate with appropriate weights for each election year. The results of the CPS analysis, presented in Table 10 again demonstrate that all-mail voting is significantly associated with a smaller disability turnout gap. This relationship is significant for any ACS-6 disability and four of the individual ACS-6 items, but not for people with hearing and vision disabilities.

4.2 Mail voting and the experiences of people with disabilities

The additional questions that we asked respondents about their voting experience allow us to measure more directly the effects of all-mail voting on the voting experience. These questions have the disadvantage of being based on self-reports, as they cannot be verified with a voter file. But they do give us a direct window into voters' perceptions of how their disabilities interact with the voting process. We can compare those perceptions between states with all-mail voting and states with restrictive excuse-required regimes.

4.2.1 AMV and the disability voting problem gap

First, we look at whether mail voting policy is related to how often disabled and non-disabled voters encounter problems while voting. As discussed above, we asked mail voters whether they experienced any of five problems related to mail voting, and in-person voters whether they experienced any of eight possible problems. For this analysis, respondents are coded as having experienced a

problem if they selected any of the listed problems.

Just as we call the percentage point difference in turnout rates between people with and without disabilities the *disability turnout gap*, we can call the percentage point difference in encountering a problem voting between people with and without disabilities the *disability voting problem gap*. We see a stark difference in the disability voting problem gap between AMV and excuse required states. As Figure 8 shows, AMV states have a significantly lower gap (5 to 10 percentage points lower) than excuse required states across all categories of disability.

This graph is based on percentage point gaps. It's worth noting that people in our data who voted by mail in general encountered problems at a much lower rate than people who voted in person: 31% of in-person voters encountered a problem compared to just 7% of mail voters. A large part of this difference is the fact that the most common problem is waiting in line, although mail voters experienced fewer problems than in-person voters even on issues where both could have had a problem, such as registering or reading the ballot. Mail voting is extremely helpful to people without disabilities as well; only 3% of non-disabled mail voters encountered a problem compared to 10% of disabled voters. But the percentage point reduction in problems among mail voters is greater for people with disabilities than for people without, and that pattern is reflected in the smaller "disability problem gap" in all-mail voting states compared to excuse required states.

4.2.2 AMV and disability accommodation

Next, we compare the rate at which people with disabilities perceive that the voting process where they live accommodates their disability across mail voting policies. As shown in Figure 6, a majority of respondents with a disability feel that their disability is well-accommodated, but a sizable minority do not. Because we asked this question only of respondents with a disability, we adjust our regression models to fit them only on the subset of disabled respondents, removing the disability status term. Our coefficient of interest is then the mail policy coefficient, which estimates the difference in disability accommodation across policy regimes. The results in Table 6 show that state mail voting policy is strongly associated with whether voters feel their disability is

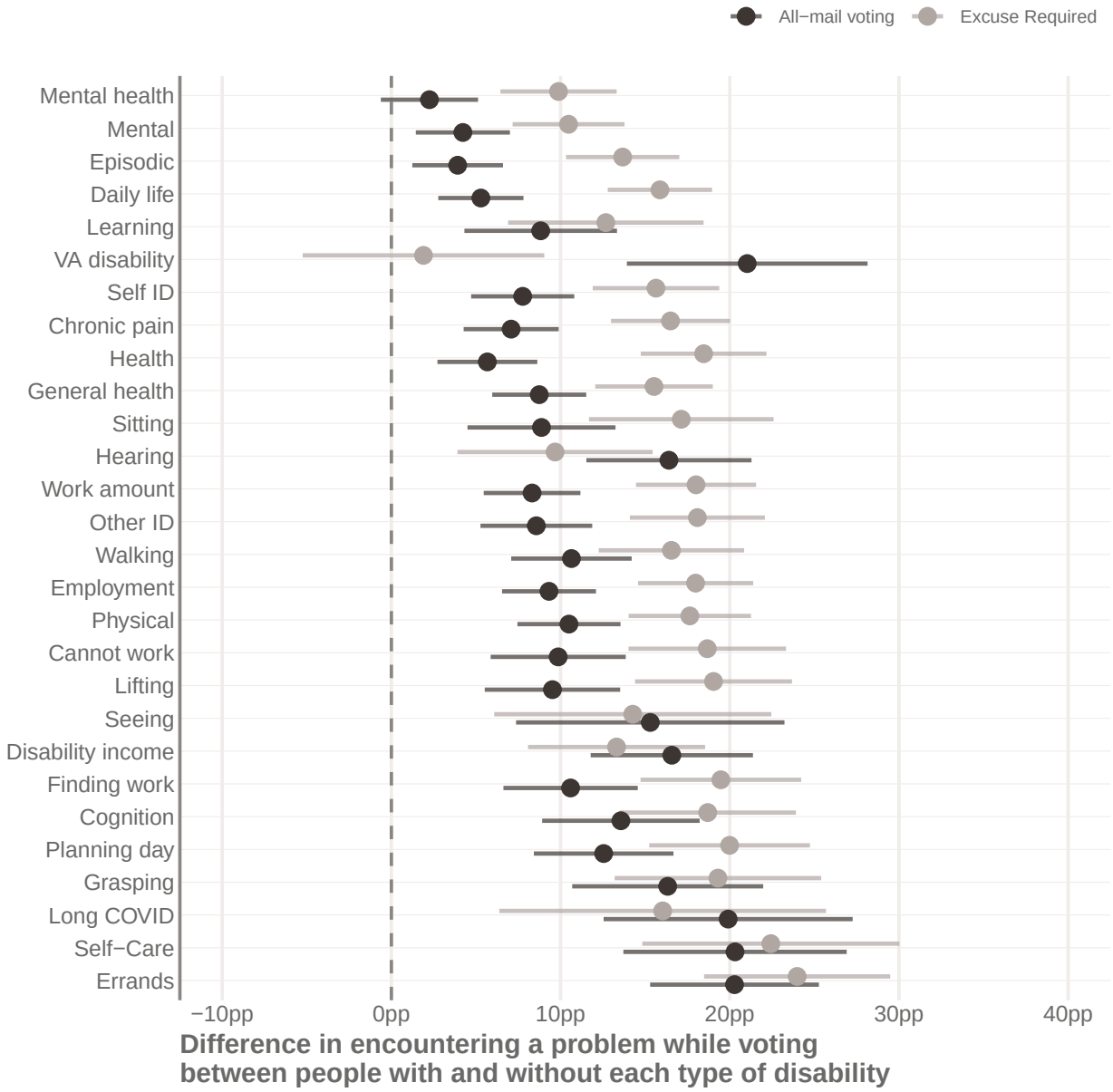

Figure 8: Lower disability gap in encountering voting problems in all-mail voting states

accommodated.

Respondents in AMV states are about 30 percentage points more likely to say that the voting process accommodates their disability than respondents in excuse required states across all disability categories. Disabled respondents in permanent absentee states are also significantly more likely to feel accommodated in the voting process across disability categories, though the coefficient size is about a third lower than for all-mail voting states. We see a similar pattern in no excuse states,

	Disability category					
	Any disability	Any ACS-6	Employment	Daily life	Mental	Physical
No excuse required	0.25*	0.16	0.31*	0.22	0.27	0.18
	[0.02; 0.49]	[−0.21; 0.53]	[0.02; 0.60]	[−0.06; 0.49]	[−0.02; 0.56]	[−0.14; 0.49]
Permanent absentee	0.22*	0.18*	0.23*	0.24*	0.21*	0.31*
	[0.10; 0.35]	[0.00; 0.36]	[0.08; 0.38]	[0.10; 0.38]	[0.06; 0.36]	[0.15; 0.47]
All-mail voting	0.28*	0.29*	0.32*	0.29*	0.33*	0.32*
	[0.16; 0.40]	[0.12; 0.46]	[0.18; 0.46]	[0.15; 0.42]	[0.19; 0.47]	[0.16; 0.48]
$\bar{Y}$ |Disabled, Excuse req.	0.64	0.65	0.67	0.66	0.60	0.66
Num. obs.	16509	8485	8724	11941	10002	7575

* Null hypothesis value outside the confidence interval.

Table 6: Disability well accommodated, by policy regime. Question asked only to disabled respondents. Reference group is respondents with the given disability type, in states that require an excuse to vote by mail. Coefficient estimates come from an individual-level regression of accommodation on mail policy. Results show that disabled people feel much better accommodated in states with more permissive mail voting policies.

though there is not a significant relationship for all disability categories.

Ensuring that people with disabilities feel accommodated in the voting process is an important goal in itself, beyond whatever effects this feeling might have on voter turnout. The standard caveats about causation apply here, as there may be other aspects of the voting process in AMV states not captured by our model that contribute to voters feeling the system accommodates them. Still, 30 percentage points is an enormous coefficient size, strongly suggesting that mail voting is having an impact.

Interestingly, when we just look at the mean rate of reported accommodation in AMV vs. excuse required states, we see a substantial but smaller difference of 11 percentage points: 75% of people in AMV states report feeling accommodated compared to 64% in excuse required states. Adding state fixed effects to our model dramatically increases the estimated relationship between accommodation and mail policy.

4.2.3 Disabilities preventing people from voting

Finally, we repeat the analysis using the question that directly asks respondents whether their disability prevented them from voting. As the results in Table 7 show, every policy more accessible than requiring an excuse is associated with a decrease in the number of people saying that their disability prevented them from voting. The coefficient sizes are large, ranging from a decrease of

	Disability category					
	Any disability	Any ACS-6	Employment	Daily life	Mental	Physical
No excuse required	-0.10^*	-0.18^*	-0.12	-0.12^*	-0.12^*	-0.23^*
	$[-0.18; -0.02]$	$[-0.33; -0.03]$	$[-0.26; 0.01]$	$[-0.22; -0.02]$	$[-0.23; -0.01]$	$[-0.40; -0.06]$
Permanent absentee	-0.09^*	-0.18^*	-0.10	-0.11^*	-0.11^*	-0.21^*
	$[-0.16; -0.01]$	$[-0.33; -0.03]$	$[-0.23; 0.02]$	$[-0.21; -0.01]$	$[-0.21; -0.01]$	$[-0.38; -0.04]$
All-mail voting	-0.07	-0.18^*	-0.12	-0.09	-0.10^*	-0.21^*
	$[-0.15; 0.00]$	$[-0.33; -0.03]$	$[-0.24; 0.01]$	$[-0.19; 0.00]$	$[-0.21; -0.00]$	$[-0.38; -0.05]$
$\bar{Y}$|Disabled, Excuse req.	0.05	0.08	0.09	0.07	0.06	0.09
Num. obs.	16500	8269	8442	11843	9959	7338

* Null hypothesis value outside the confidence interval.

Table 7: Disability prevented voting, by policy regime. Question asked only to disabled respondents. Reference group is respondents with the same disability type, in states that require an excuse to vote by mail. Coefficient estimates come from an individual-level regression of voting barriers on mail policy. Results show that permissive mail voting policies are associated with fewer barriers for people with disabilities.

6 to 17 percentage points.

The standard errors in this model are also large, however, since the absolute number of people reporting that their disability prevented them from voting is small (4% of all people with disabilities). As a result, while all disability categories have substantively important coefficient sizes, only the ACS-6, Mental, and Physical categories are significant for all-mail voting. We see similar coefficient sizes for no excuse and permanent absentee states. As in the accommodation model, the addition of fixed effects substantially increases the coefficient size.

5 Conclusion

Disability is an important determinant of political behavior. The lack of disability questions on most major political science surveys is a serious oversight. It is difficult to survey disability, as the discrepancies in disability incidence across official surveys show. But that difficulty does not justify ignoring the importance of disability as a determinant of both voting behavior and inequality in political participation.

Disability is not clearly associated with partisan preference in the way that race or gender are in American politics, but it does have significant effects on political participation. This survey illustrates how disability can affect every part of the voting process: from registering, to obtaining

the proper ID, to obtaining a mail ballot, filling out the ballot, and delivering the ballot, or to traveling to a polling place, waiting in line, and operating a voting machine. Each of these stages can be a greater or lesser challenge for a given disability. But managing a disability is a major part of voting for millions of U.S. citizens.

We find that people with disabilities are significantly more likely to encounter a problem when voting than people without disabilities. Roughly a third of people with disabilities say their disability is not well-accommodated by their local voting system. And a non-trivial percentage of our respondents reported that their disability directly prevented them from casting a ballot.

We also find that policies that allow easier mail voting make significant strides toward addressing these access needs. This paper highlights in particular how all-mail voting helps voters with disabilities: the overall disability turnout gap is eliminated in states that automatically send registered voters a ballot, though gaps remain for certain disability types. Disabled voters in AMV states are less likely to encounter a problem voting, more likely to feel accommodated, and less likely to say their disability prevented them from voting than people in excuse required states. While we lack the statistical power to assess whether all-mail voting is significantly better for disabled turnout and voting experiences than no excuse and permanent absentee policies, the coefficient sizes we find generally follow the expected order based on degree of accessibility: moderately better results for no excuse states than excuse required states, better still results in permanent absentee states, and best results in all-mail voting states.

That said, we recognize that all-mail voting alone is not a panacea for all currently unmet voting access needs. Even in AMV states, we still find a substantial number of people with disabilities who do not feel accommodated or encounter problems voting, as well as turnout gaps for several disability types. Those implementing AMV systems must ensure that all aspects of the voting process are accessible for all people with disabilities.

We conclude with a call for political scientists to take disability more seriously as a key factor in mass politics. Disability questions should be included in political science surveys as a matter of course, as other demographic items are.

Because of the complexity of defining disability and the differences in peoples' understandings of what disability means, one generalized disability question is insufficient to capture the effect of disability on political behaviors such as voting. Indeed, our general disability question did not show a disability turnout gap. Given that the ADA requires the six disability questions from the American Community Survey across surveys such as the SIPP and the BRFSS, these six questions are a strong starting point for researchers conducting surveys on political participation. But this survey shows that asking only those six questions obscures much of how disability interacts with voting and voting systems. We encourage researchers when they are able to include a more expansive conception of disability in their questionnaires. Furthermore, it is important when studying the disability turnout gap to verify respondents on the voter file when possible, as we find that self-reported turnout underestimates the disability turnout gap. In future research, we plan to use this dataset to undertake a deeper analysis of the complexities of measuring disability using surveys in the context of political participation.

By making the study of disability a common practice in political science, we can better understand the political effects of disability and progress toward the goal of making voting accessible for all.

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A Validated vs. reported turnout gap

Figure 9 shows the effect of validating voter turnout on the disability turnout gaps for each disability. While we do not see a significant difference between the self-reported and validated turnout gaps for many disabilities, there is a general pattern of turnout gaps being higher in validated estimates in most cases. That is especially true for the disabilities with the largest gaps: seeing, cognition, errands, finding work, and sitting. These results suggest that people with the disabilities that show the largest turnout gaps may be the most likely to overreport having voted. Overreporting could occur either because there is a social desirability bias leading people to say that they voted even when they didn't (DeBell et al. 2024), or because people believe that they cast a valid ballot but, for whatever reason, their ballot was not counted.

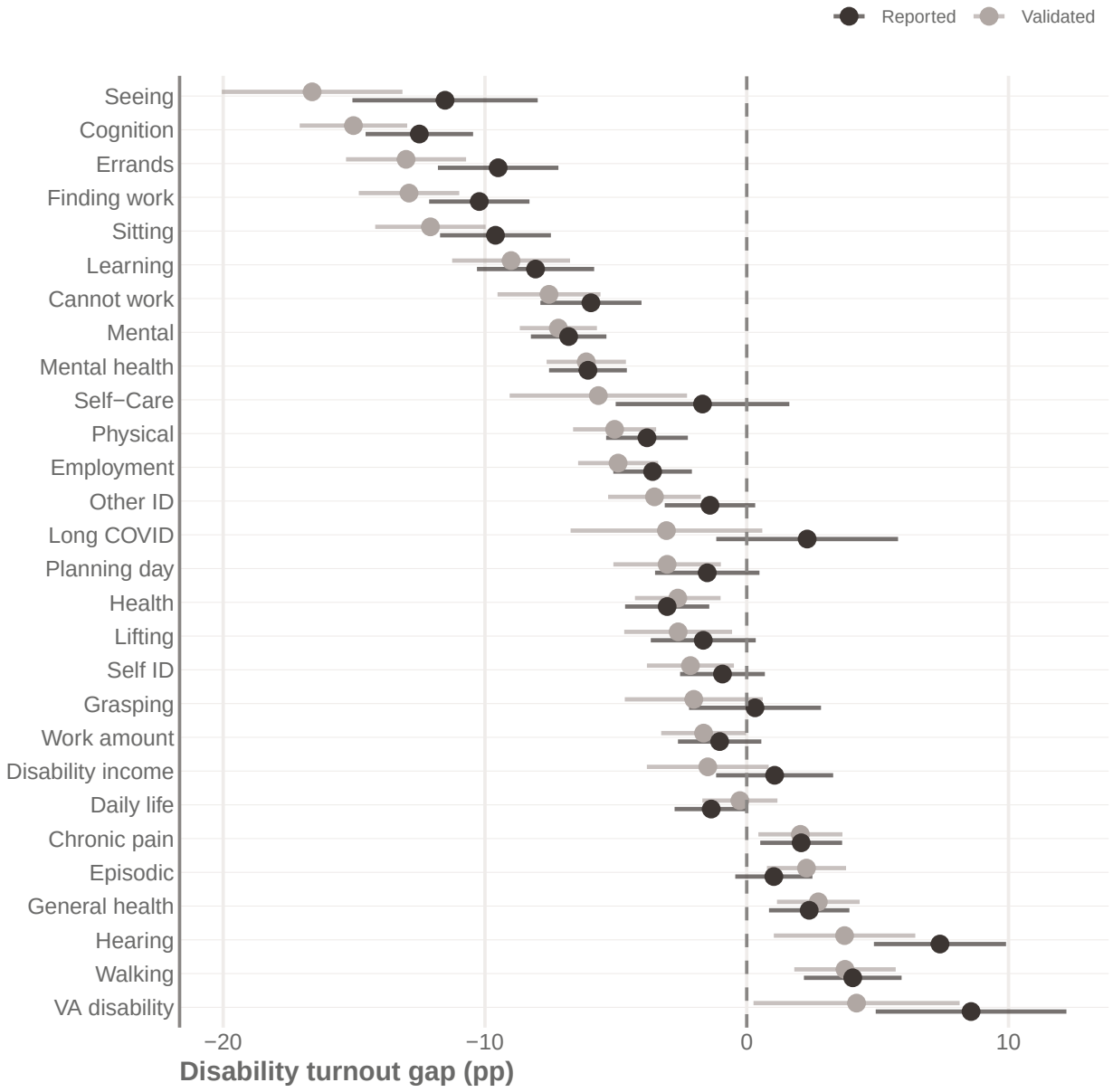

Figure 9: Disability turnout gaps are larger when estimated using validated voter turnout, especially for disabilities with the largest gaps.

B Turnout gap estimates with controls

Here we present OLS estimates of the turnout gap by disability type, controlling for variables that are exogenous and endogenous to disability. Each point estimate and confidence interval plotted in Figure 10 comes from a regression of voter turnout on an indicator for disability status. We

fit a separate model for each disability type, meaning each regression compares people with one specific disability to people without that one disability.[9] The models presented here included controls for race, age group, gender, as well as state fixed effects. One set of models includes additional controls for family income and education.

[9]Due to the coincidence of disabilities, our results are likely underestimates of the difference in turnout between people with a disability and people without *any* disability.

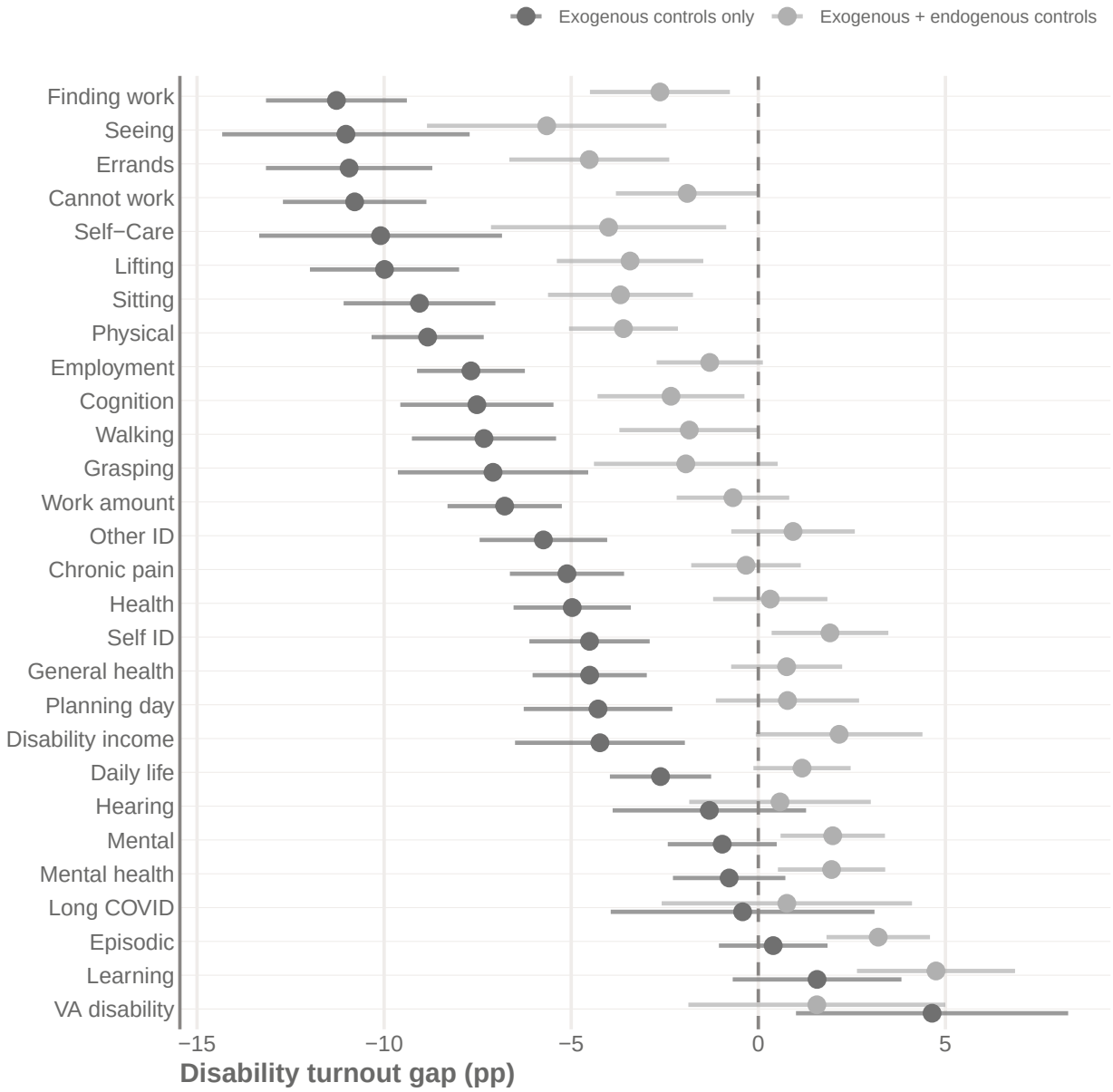

Figure 10: Large disability turnout gaps remain after controlling for exogenous variables. Gaps are attenuated after controlling for variables endogenous to disability. Points are the coefficient estimates from separate regressions of voter turnout on each disability variable. Error bars are 95-percent confidence intervals. Models include state fixed effects and controls for race, gender, and age group. Models with endogenous controls add binned family income and education as predictors.

There are surprisingly few differences in the results after controlling for exogenous variables. The ACS-6 turnout gap changes from -7.3pp to -7.4pp with controls. A few more differences to note: We no longer observe a reverse turnout gap among people with difficulty hearing or

walking. The chronic pain turnout gap increases substantially from 2pp (a reverse gap) to −5pp. Long COVID and mental health disabilities no longer exhibit a statistically significant turnout gap. Altogether, these results demonstrate that after controlling for variables exogenous to disability, like age, race and gender, nearly all disability turnout gaps remain large and statistically significant.

We rerun each regression after adding categorical control variables for respondents' education and family income, two strong predictors of voter turnout. Unlike individuals' race, their education and family income are endogenous to their disability status. Disability can affect people's ability to complete formal schooling and their ability to find and maintain steady work. Accordingly, the regressions with endogenous controls find attenuated point estimates on the disability status term. While this analysis cannot provide a test of mechanisms, the results suggest that disability's depressing effects on income and education access explain part of the disability turnout gap.

C Mail voting policy over time

Table 8: Mail voting policy regimes by state and year

	2016	2018	2020	2022	2024
Alabama	Excuse required	Excuse required	No excuse required	Excuse required	Excuse required
Alaska	No excuse required	No excuse required	No excuse required	No excuse required	No excuse required
Arizona	Permanent absentee	Permanent absentee	Permanent absentee	Permanent absentee	Permanent absentee
Arkansas	Excuse required	Excuse required	No excuse required	Excuse required	Excuse required
California	No excuse required	No excuse required	All-mail voting	All-mail voting	All-mail voting
Colorado	All-mail voting	All-mail voting	All-mail voting	All-mail voting	All-mail voting
Connecticut	Excuse required	Excuse required	No excuse required	Excuse required	Permanent absentee
Delaware	Excuse required	Excuse required	No excuse required	Excuse required	Excuse required
District of Columbia	No excuse required	No excuse required	All-mail voting	No excuse required	All-mail voting
Florida	No excuse required	No excuse required	No excuse required	No excuse required	No excuse required
Georgia	No excuse required	No excuse required	No excuse required	No excuse required	No excuse required
Hawaii	No excuse required	No excuse required	All-mail voting	All-mail voting	All-mail voting
Idaho	No excuse required	No excuse required	No excuse required	No excuse required	No excuse required
Illinois	No excuse required	No excuse required	No excuse required	No excuse required	No excuse required
Indiana	Excuse required	Excuse required	Excuse required	Excuse required	Excuse required
Iowa	No excuse required	No excuse required	No excuse required	No excuse required	No excuse required
Kansas	No excuse required	No excuse required	No excuse required	No excuse required	No excuse required
Kentucky	Excuse required	Excuse required	No excuse required	Excuse required	Excuse required
Louisiana	Excuse required	Excuse required	Excuse required	Excuse required	Excuse required
Maine	No excuse required	No excuse required	No excuse required	No excuse required	Permanent absentee
Maryland	No excuse required	No excuse required	No excuse required	Permanent absentee	Permanent absentee
Massachusetts	Excuse required	Excuse required	No excuse required	Excuse required	No excuse required
Michigan	Excuse required	Excuse required	No excuse required	No excuse required	Permanent absentee
Minnesota	No excuse required	No excuse required	No excuse required	No excuse required	No excuse required
Mississippi	Excuse required	Excuse required	Excuse required	Excuse required	Excuse required
Missouri	Excuse required	Excuse required	No excuse required	Excuse required	Excuse required
Montana	Permanent absentee	Permanent absentee	Permanent absentee	Permanent absentee	Permanent absentee
Nebraska	No excuse required	No excuse required	No excuse required	No excuse required	No excuse required
Nevada	No excuse required	No excuse required	All-mail voting	All-mail voting	All-mail voting
New Hampshire	Excuse required	Excuse required	No excuse required	Excuse required	Excuse required
New Jersey	Permanent absentee	Permanent absentee	All-mail voting	Permanent absentee	Permanent absentee
New Mexico	No excuse required	No excuse required	No excuse required	No excuse required	Permanent absentee
New York	Excuse required	Excuse required	Excuse required	Excuse required	No excuse required
North Carolina	No excuse required	No excuse required	No excuse required	No excuse required	No excuse required
North Dakota	No excuse required	No excuse required	No excuse required	No excuse required	No excuse required
Ohio	No excuse required	No excuse required	No excuse required	No excuse required	No excuse required
Oklahoma	No excuse required	No excuse required	No excuse required	No excuse required	No excuse required
Oregon	All-mail voting	All-mail voting	All-mail voting	All-mail voting	All-mail voting
Pennsylvania	Excuse required	Excuse required	No excuse required	No excuse required	No excuse required
Rhode Island	Excuse required	Excuse required	No excuse required	No excuse required	No excuse required
South Carolina	Excuse required	Excuse required	Excuse required	Excuse required	Excuse required
South Dakota	No excuse required	No excuse required	No excuse required	No excuse required	No excuse required
Tennessee	No excuse required	Excuse required	Excuse required	Excuse required	Excuse required
Texas	No excuse required	Excuse required	Excuse required	Excuse required	Excuse required
Utah	No excuse required	All-mail voting	All-mail voting	All-mail voting	All-mail voting
Vermont	No excuse required	No excuse required	All-mail voting	All-mail voting	All-mail voting
Virginia	Excuse required	Excuse required	No excuse required	Permanent absentee	Permanent absentee
Washington	All-mail voting	All-mail voting	All-mail voting	All-mail voting	All-mail voting
West Virginia	No excuse required	Excuse required	No excuse required	Excuse required	Excuse required
Wisconsin	No excuse required	No excuse required	No excuse required	No excuse required	No excuse required
Wyoming	No excuse required	No excuse required	No excuse required	No excuse required	No excuse required

D All-mail voting and the disability turnout gap

Our main results concentrate on a handful of disability categories. Here we summarize the results of our analyses across individual disability types. Figure 11, plots the coefficient estimates from Equation 1's interaction between disability status and all-mail voting policy. The estimates presented here suggest that all-mail voting is associated with lower disability turnout gaps across almost all disability types; however, the results are not statistically significant and emphasize a need for more data and further research into disabled political behavior.

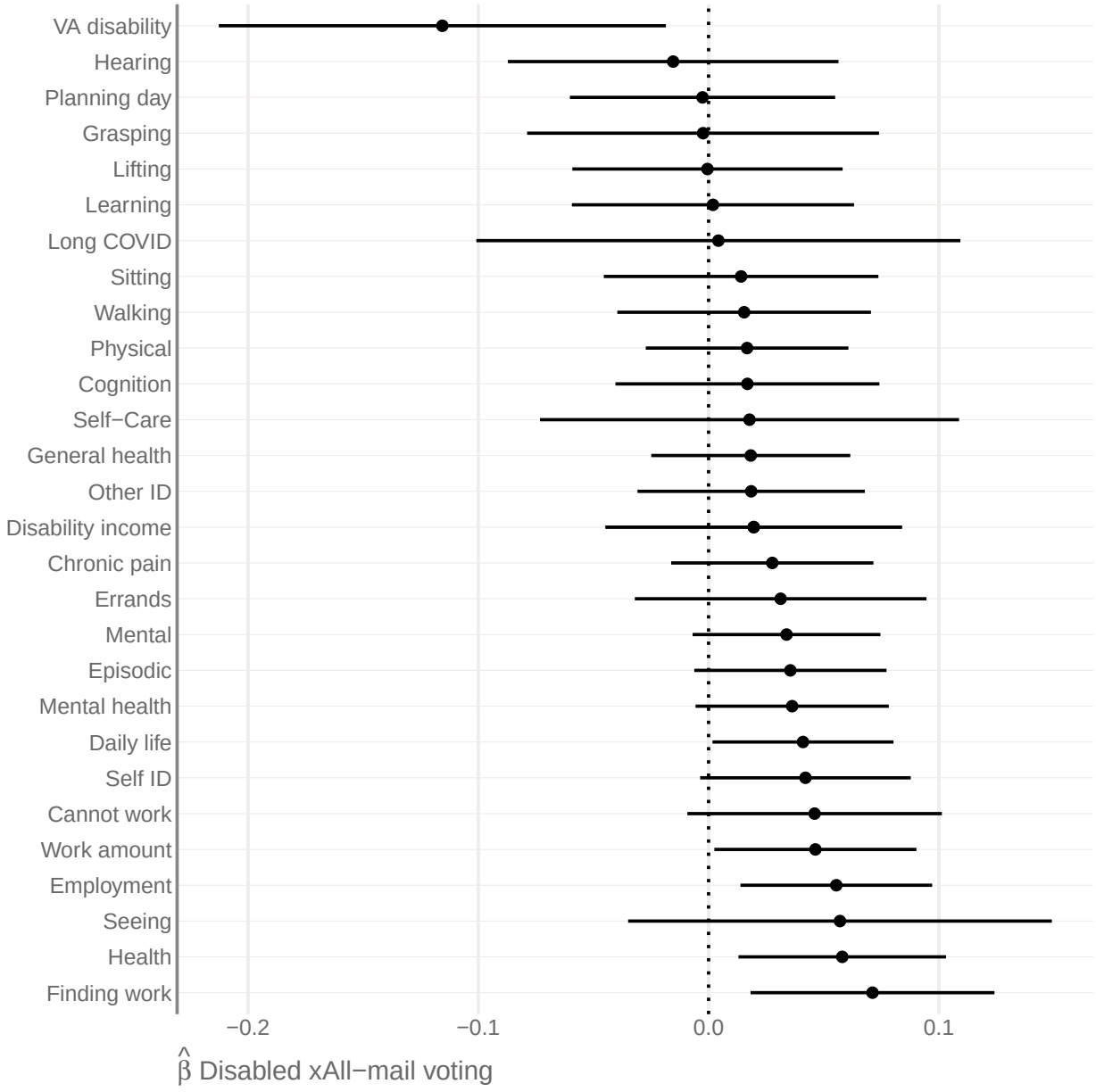

Figure 11: Coefficient estimates come from an individual-level regression of turnout on the interaction between disability status and all-mail voting policy. Results show that only for people with seeing disabilities is election-day registration is associated with a significantly lower disability turnout gap.

E Turnout gap and mail voting time series: Matched on prior vote history

Table 9: Disabled voter turnout by policy regime, estimated with state, year, and voter history and fixed effects. Reference group is respondents without disabilities, in states that require an excuse to vote by mail. Coefficient estimates come from a regression of voter turnout on the interaction between disability status and mail policy. Standard errors clustered by state and by year.

	Any disability (1)	Any ACS-6 (2)	Employment (3)	Daily life (4)	Mental (5)	Physical (6)
Disabled × No Excuse Required	0.007	-0.0006	0.006	0.005	0.005	0.005
	[-0.004; 0.02]	[-0.01; 0.01]	[-0.010; 0.02]	[-0.01; 0.02]	[-0.02; 0.03]	[-0.02; 0.03]
Disabled × Permanent Absentee	0.009	0.002	-0.009	0.006	0.02	0.002
	[-0.02; 0.04]	[-0.01; 0.02]	[-0.03; 0.01]	[-0.02; 0.04]	[-0.005; 0.04]	[-0.04; 0.05]
Disabled × All-Mail Voting	0.02***	0.01*	0.01	0.01	0.02*	0.01
	[0.008; 0.03]	[-0.002; 0.02]	[-0.004; 0.02]	[-0.004; 0.03]	[-0.001; 0.04]	[-0.01; 0.04]
State fixed effect	X	X	X	X	X	X
Year fixed effect	X	X	X	X	X	X
Vote history fixed effect	X	X	X	X	X	X

F Turnout gap and mail voting time series: Current Population Survey data

Table 10: Disabled voter turnout by policy regime, estimated with state and year fixed effects. Reference group is respondents without disabilities, in states that require an excuse to vote by mail. Coefficient estimates come from a regression of respondent's voting history on the interaction between disability status and mail policy. Standard errors clustered by state. These findings show that compared to policies requiring an excuse to vote by mail, all-mail voting and, to a lesser extent, permanent absentee voting are associated with significantly greater turnout among people with disabilities. Estimates are similar in magnitude to the cross-sectional results with some differences in statistical significance.

	Any ACS-6 (1)	Hearing (2)	Seeing (3)	Cognition (4)	Walking (5)	Self-Care (6)	Errands (7)
Disabled × No Excuse Required	0.01	0.007	0.02	0.01	0.01	0.02	0.03
	[-0.02; 0.04]	[-0.03; 0.05]	[-0.01; 0.05]	[-0.007; 0.04]	[-0.02; 0.05]	[-0.01; 0.06]	[-0.01; 0.07]
Disabled × Permanent Absentee	0.05*	0.05***	0.05**	0.06	0.06*	0.07	0.07*
	[-0.003; 0.10]	[0.03; 0.08]	[0.001; 0.11]	[-0.04; 0.15]	[-0.01; 0.13]	[-0.06; 0.20]	[-0.01; 0.14]
Disabled × All-Mail Voting	0.04***	0.03	0.02	0.05**	0.04***	0.04**	0.06***
	[0.02; 0.07]	[-0.01; 0.07]	[-0.01; 0.04]	[0.02; 0.09]	[0.02; 0.07]	[0.01; 0.07]	[0.03; 0.09]
State fixed effect	X	X	X	X	X	X	X
Year fixed effect	X	X	X	X	X	X	X