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Political Research Quarterly, Vol. 55, No. 1 (Mar., 2002), 167-190.

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# Enabling Democracy: Disability and Voter Turnout

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> How likely are the millions of Americans with disabilities to participate in politics? What insights do their experiences provide into overall participation levels and determinants? This article reports the results of a nationally representative household telephone survey of 1,240 people stratified to include 700 people with disabilities-following the November 1998 elections. Voter turnout is found to be 20 percentage points lower among people with disabilities than among people without disabilities who have otherwise-similar demographic characteristics. Other standard predictors of turnout such as political efficacy and mobilization explain only a small portion of this gap. There is great variation within the disability sample: the lower turnout is concentrated among people with disabilities who are not employed or who are age 65 or older, who have had recent onset of a disabling condition, and who have difficulty going outside alone (despite the availability of absentee ballots). The findings suggest that disability, apart from imposing resource constraints, often has social and psychological effects that decrease voter turnout through decreased social capital and identification with mainstream society, particularly among senior citizens. The findings also support the idea that general mobility and major life transitions can be important influences on voter turnout in general, and raise questions on the causal relations among age, employment, efficacy, and voter turnout that should be a focus of future research.

NOTE: The survey upon which this study is based was funded by the New Jersey Developmental Disabilities Council through the Disability Research Consortium, Rutgers University, and received supplemental funding from the School of Management and Labor Relations, Rutgers University. Advice for constructing survey questions was provided by Michele Adler, Monroe Berkowitz, Tom Hale, Mitch LaPlante, Lloyd Leonard, Vicki Paris, Jim Robinson, Gale Whiteneck, and Barbara Wilson. We greatly appreciate valuable comments from Kent Jennings and Paul Abramson. The authors are responsible for any remaining errors or omissions.

Political Research Quarterly, Vol. 55, No. 1 (March 2002): pp. 167-190

Alienation from political activity, and electoral participation specifically, directly affects the health of democratic representation (Pitkin 1967, Conway 1991, Verba, Schlozman, and Brady 1995). Groups and individuals absent from political life are unable to express directly their needs and preferences to political elites (Verba 1996). When individuals or groups with similar needs are absent from electoral life our system fails to reach its potential for democratic governance (Key 1949: 508). The importance of electoral participation, and voter turnout specifically, is underscored by the changing governmental policies resulting from rates of political participation of different economic and political groups (Hill and Leighley 1992, Hill et al. 1995; Jennings 1999). The connection between electoral participation and public policy causes great concern in the case of the low participation rates of people with disabilities.

People with disabilities have made advances in the legal arena with the passage of the Americans with Disabilities Act (ADA) that protects the rights of persons with disabilities to participate in, and benefit from, societal institutions. While such advances might be expected to increase electoral participation as people with disabilities feel that elected officials are responsive to their needs and concerns, the few studies examining voter turnout have painted a troubling picture of comparatively low political involvement among people with disabilities, who comprise one of the largest minority groups in the United States. Investigating turnout among people with disabilities may also provide important lessons on factors affecting turnout in general, given that many disabilities constrain resources and social networks, and affect psychological variables, that can be important influences on voter turnout.

Using results of a nationally representative survey, this study examines disability and voter turnout both to understand turnout patterns among people with disabilities and to shed light on factors affecting turnout in general. The results of this study provide evidence on many unanswered questions surrounding the voter turnout of people with disabilities. The analysis, however, also raises many exciting questions that deserve to be addressed in a long term research agenda concerning the generally unexamined political participation of this neglected minority group.

# THEORETICAL FOUNDATIONS

The theoretical framework for the vast majority of prior work on voter turnout has been the rational actor model (Downs, 1957). Central to this model is the recognition that the decision to vote, at least for most citizens, is a marginal (low cost/ low benefit) action (Aldrich 1993, Jackman 1993). Consequently, answering the question of 'who votes?' has generally focused on factors that increase or decrease the costs of voting (Wolfinger and Rosenstone 1980, Rosenstone and Hansen 1993). According to Verba, Schlozman, and Brady (1995)

these factors are divided into three categories; resources ('are you able to participate?'), psychology ('do you want to participate?'), and recruitment ('did anyone ask you to participate?'). Resources include time, money, and civic skills; psychological factors include political interest, sense of political efficacy, civic values, group consciousness and commitment to specific policies; and recruitment may come through formal or informal networks in work, religious institutions, or political organizations. Rosenstone and Hansen (1993) take a similar approach, dividing the factors that affect participation into "individual influences" and "political influences." Individual influences are represented by personal costs and resources (the demands that participation makes on one's "money, time, skill, knowledge, and self-confidence") which interact with personal rewards, interests, and beliefs regarding participation. While individual influences help predict which people participate, political influences, such as social networks and strategic mobilization efforts, help predict when they participate.

Voting has been found to be strongly and positively related to the resources of education and income, as well as to employment and union membership which can represent recruitment and mobilization networks (Wolfinger and Rosenstone, 1980; Teixera, 1987). Psychological factors are also clearly important; in particular, the decline in voter turnout witnessed since the 1960s has been attributed in large part to declining levels of political efficacy and partisan identification (Teixera, 1987). Age and marital status also predict voter turnout, which may reflect a combination of resource, recruitment, and psychological factors (Stoker and Jennings, 1995). Age is strongly and positively related to voter turnout, which Miller and Shanks (1996) attribute to differences between generations, since voting rates within a generation often rise only through one's third election (age 26-29). While most studies find a positive relationship between marriage and voter turnout, Stoker and Jennings (1995) find that recent marriage has an overall depressing effect on voter turnout among young adults, which they attribute to the time and energy costs associated with recent major life transitions.

Disability can affect many of the factors that influence participation. Most fundamentally, many disabilities limit people's physical or mental resources, often requiring that extra time, effort, and money be spent to compensate for the limitations. Securing adequate transportation can be difficult, time-consuming, and expensive, and architectural barriers can make it harder for people with disabilities to participate in public life. People with disabilities have lower employment levels, constraining financial resources and increasing the likelihood of living in poverty (Kruse 1998). Even when people with disabilities work, their earnings tend to be lower; on average, they earn only 64 percent as much as those who do not have disabilities and many who work full-time still earn only poverty-level wages (Kruse 1998). In addition, people with disabilities tend to have lower educational levels, diminishing the resource of civic skills provided through education (LaPlante et al. 1996).

Consequently, we expect Americans with disabilities to participate less not only because of their comparatively low incomes but also because of low education levels.

Further, disability is often accompanied by increased isolation and decreased social capital. Verba, Schlozman, and Brady (1995) note that people who are isolated are unlikely to learn the skills necessary for effective political participation, to develop a sense of membership in a group with a common political purpose, or to be recruited by political activists. Some previous surveys have found that people with disabilities are less likely than non-disabled people to be involved in community life, including participation in volunteer, religious, recreational, or other groups or activities (Louis Harris and Associates 1998). Isolation sometimes reflects the lack of financial resources, since it is often expensive to obtain renovations or modified vehicles that increase the ability to participate in outside activities. Clearly, the lower employment rates noted above contribute to increased isolation and fewer opportunities for political recruitment. The depreciation of social capital (Putnam 1995) is likely to lead into a self-perpetuating downward spiral as individuals are increasingly alienated from community affairs (Brehm and Rahn 1997).

Finally, disability can have psychological effects that influence participation. Many people with disabilities encounter stigma and discrimination (U.S. Commission on Civil Rights 1983; Yuker 1988), which may contribute to lower employment and earnings of people with disabilities (summarized in Johnson and Baldwin 1993; Hahn 1987; Scotch 1988). Living with a disability, however, can also motivate some people to engage in political action to fight stigma and discrimination, as shown by the growth of the disability rights movement (Shapiro 1993; Anspach 1979). This is similar to the effects of pain and loss generally on political activism, as described by Jennings (1999). People experiencing pain and loss may be disinclined toward political participation because they feel depressed, exhausted, and helpless, especially if they also face stigma by others. Experiencing pain and loss, however, can "trigger emotional and cognitive responses that provide incentives and motivations" for political action, if the pain and loss are seen as "preventable, directly attributable to the actions of others, or susceptible to relief and redress" (1999: 10, 5).

While the rational actor theoretical framework allows costs and benefits of participation to vary across groups, many previous studies and investigations of voter turnout have assumed the costs and benefits of various factors are invariant across individuals or groups (but see Wolfinger and Rosenstone 1980; Nagler 1991; Tate 1993; Huang and Shields 2000). Consequently, scholars have yet to explore fully the individual differences in the effects of various costs and benefits. For example, increased education and age have been shown to decrease the costs of casting a ballot, but we do not know if these resources have similar effects among various individuals and groups—such as people living with dis-

abilities. Consequently, in this analysis we examine not only the individual level determinants of voter turnout among a minority group about which we know very little, but also begin to examine individual differences in variables previously found to increase or decrease the probability of turnout. Understanding these individual differences not only improves our theoretical understanding of "who votes," but may also better guide policy making efforts designed to increase voter turnout.

## PRIOR LITERATURE

One of the reasons we know so little about the voting habits of people with disabilities is the nearly complete absence of data. Further, the data that do exist use very different types of samples. Results from the only existing studies of the turnout rates among people with disabilities are summarized below. <sup>1</sup>

		Disability	Non-disability	
Election year	Disability sample	turnout	turnout	Gap
(1) 1992	People w/SCI's	56%	71%	15%
(2) 1994	Non-employed	33%	54%	21%
(3) 1992-96	Non-employed	57%	71%	14%
(4) 1996	Non-employed	44%	65%	21%
(5) 1996	Disability households	33%	49%	16%

The first study is based on a survey of New Jersey residents with spinal cord injuries (SCI's) while the next three are based on participants in national surveys who report being out of the labor force due to a disability. The final study is based on participants in a national survey who said that someone in the household has a disability, and answered an intention-to-vote question just prior to the 1996 elections. Despite the different samples, methods, and limitations associated with each study, the results are surprisingly consistent. The overall picture is that the turnout of people with disabilities is 14-21 percentage points lower than that of people without disabilities. Three of these data sources contain additional variables that have been used to explore the lower overall turnout of people with disabilities. In both the 1992 and 1994 election studies turnout continues to be lower on average for people with disabilities after controlling for a variety of personal characteristics.

<sup>&</sup>lt;sup>1</sup> The first row is drawn from Schur and Kruse (2000); the second row is drawn from Current Population Survey (CPS) data analyzed by Shields, Schriner, and Schriner (1998a); the third row is drawn from National Election Studies data analyzed by LoBianca (1998); the fourth row is from CPS data analyzed by Shields, Schriner, and Schriner; and the fifth row is drawn from a National Organization on Disability press release, December 1996.

The size of the voting gap, however, varies along several dimensions. Employment appears to be a major factor. Each of the first four studies listed above found lower turnout among non-employed people with disabilities, but the 1992 election study also measured turnout of employed people with SCI's and found that their turnout was virtually identical to that of employed people in the general population. The voting gap still existed after controlling for income in the 1992 and 1994 election studies, indicating that the importance of employment is not completely explained by the resources provided by income. Another key finding is that the voting gap varies with age. While voter turnout rises strongly with age in the general population, it rises only weakly with age in the disability population, and begins decreasing at about age 55. The result is that voter turnout is only slightly depressed among young people with disabilities, and more strongly depressed among older people with disabilities.

Transportation problems may contribute to some of this variation. The 1992 election study found that 30 percent of people with SCI's were not able to drive (more commonly among non-employed and older people), and voter turnout was 20 percentage points lower among this group. Voting clearly does not depend on driving ability (since one can vote by absentee ballot, or be taken to the polling place by others), suggesting that the greater mobility provided by driving ability may have important social and psychological effects. In addition, recruitment or contact by a political party or candidate did not explain the turnout gap among non-employed people in the 1992-96 study, nor did fewer social activities among people with SCI's in the 1992 study. Finally, the 1992-96 study found psychological factors (such as feelings of efficacy) are important predictors of voting, but did not account for the turnout gap between people with and without disabilities.

In sum, prior research provides consistent evidence of a voting gap of 14-21 points between people with and without disabilities, and several clues but no firm answers as to what accounts for the lower turnout. Further, while many scholars have presented evidence that increases in age correspond to continuous increases in the likelihood of voting, our initial examination of age differences among people with disabilities suggests that this conventional wisdom may not generalize to the entire population. In addition, the need to ensure authentic representation, and the direct relationship between political participation and the content of public policy, are more than sufficient reasons to inquire about the role of people with disabilities in the nation's electorate. Scholars have examined the role disability rights activists have played in passing federal legislation (e.g., Percy

<sup>&</sup>lt;sup>2</sup> There has been very little research on other forms of political and civic participation among people with disabilities. See Schur (1998) for an exploration of the political and group involvement of 64 people with SCIs, using in-depth qualitative interviews supplemented with questionnaire data.

1989; Scotch 1984; Watson 1993), and many researchers have analyzed the value basis of disability policy (e.g., Hahn 1985; Schriner, Rumrill, Parlin 1995) or analyzed the effects of federal policy on the lives of people with disabilities (e.g., Braddock and Hemp 1996; Nosek et al.1993). There has been very limited attention paid, however, to the most basic questions regarding the voting patterns of people with disabilities.

In the following analysis, we take a first step in a long term research agenda designed to understand the lower participation of people living with disabilities. We first examine if the gap in voter turnout between people with and without disabilities can be explained by controlling for the lower socioeconomic standing of people living with disabilities, their reduced psychological predispositions toward participation (e.g., lower levels of political efficacy), or other common predictors of voter turnout (such as recruitment from political parties or candidates). We then explore differences in the likelihood of voting within the disabilities are more or less likely to vote. Consequently, our analyses attempt to answer two questions: Can we explain the turnout gap between people with and without disabilities? Can we explain the different rates of turnout among subgroups of people living with disabilities?

#### METHODOLOGY

Since existing datasets contain insufficient data on disability to assess fully its relationship to voter turnout, we designed and commissioned a new nationally representative random-household telephone survey, conducted by the Rutgers Center for Public Interest Polling following the national elections on November 4, 1998. Standard questions on voter turnout, political efficacy, mobilization, employment, religion, and demographics were used from the Current Population Survey (CPS) and American National Election Survey (ANES), and new questions on transportation and group activities were added. Consequently, this rich and nationally representative data set allows us to examine questions surrounding voter turnout among one of the nations' largest minority groups that, until now, have remained difficult or impossible to address.

To ensure a sufficient sample for analysis of disability issues, the sample was stratified to oversample people with disabilities, resulting in a final sample of 540 adult citizens without disabilities and 700 adult citizens with disabilities. The disability screening questions were based on the six disability questions used in the 2000 Census. If the initial household respondent answered "no" to each of the Census questions, indicating that no one in the household had any of these conditions or limitations, s/he was asked two questions from the Harris disability survey regarding whether anyone considers himself or herself—or is considered by others—to have a disability. For purposes of this study, a "yes" response

to any of these questions identifies a person as having a disability.<sup>3</sup> The interviewer then asked to speak to the person with a disability, and if more than one person was identified, the interviewer asked to speak to the person with the most recent birthday.<sup>4</sup> Of all adult citizens in the contacted households (including screened-out households), 12.43 percent were identified as having a disability.

To adjust for random sampling variation, the cases were weighted to reflect the gender and regional distribution of the disability and non-disability adult populations. In addition, to account for the lower probability that any one individual in a large household was interviewed, cases were also weighted by number of adult citizens in the household (Voss, Gelman, and King 1995). For the probit regressions predicting voting, cases were additionally weighted to adjust for the oversampling, so that parameters are representative of the general population. 6

#### RESULTS

Impairments and limitations of respondents with disabilities are summarized in Table 1, based upon the screener questions and additional questions for those with disabilities. As can be seen, similar numbers report a severe vision impairment (18.7 percent) and severe hearing impairment (17.4 percent), while almost half report difficulty in walking  $^{1}/_{2}$  mile (45.9 percent) and less than one-tenth use a wheelchair (8.3 percent). Almost one-third report difficulty remembering or concentrating (30.0 percent), which is used by the Census to elicit some form of mental impairment. One-sixth report difficulty with activities

<sup>&</sup>lt;sup>3</sup> For this study people are considered to have disabilities based on their reported conditions and limitations, whether or not they consider themselves to have disabilities—as will be seen, 42 percent of those in the disability sample answered "no" to a later question concerning whether they perceive themselves to have disabilities. Using one household respondent to identify the objective health conditions and limitations of others in the household is a standard procedure used in the 2000 Census and government surveys on disability, and is unlikely to bias the resulting estimates.

<sup>&</sup>lt;sup>4</sup> When the person with a disability was not physically able to speak on the telephone (e.g., due to hearing or speaking difficulties), or could not be reached after three re-contacts, a proxy was used (for 144 of the 700 people with disabilities). The regressions were also run (a) omitting the proxy interviews, (b) using a dummy variable for a proxy interview, and (c) separately by proxy status (available on request), with no indication that the use of proxies substantially alters the results reported here.

<sup>&</sup>lt;sup>5</sup> Gelman and Little (1998) also explore how single-person households may be underrepresented due to a lower likelihood that someone is at home to answer the phone; in the current survey, however, the distributions of disability and non-disability household sizes are very close to those in the general population.

<sup>&</sup>lt;sup>6</sup> As will be seen, the age parameters are the only ones that are significantly different between the two populations, leading to the use of interactions between disability and age. While the other parameters are similar between the two populations, the presented regressions include weights adjusting for oversampling in order to ensure that coefficients represent the best estimates of how variables are related to voting in the general population.

■ TABLE 1.

IMPAIRMENTS AND LIMITATIONS IN DISABILITY SAMPLE

IMPAIRMENTS AND LIMITATIONS IN DISABILITY SAMPLE	
Limitation in work, housework, or other activities	59.8%
Severe vision impairment	18.7%
Blindness	6.0%
Severe hearing impairment	17.4%
Deaf	2.3%
Difficulty with walking, climbing stairs, reaching, lifting,	
or carrying	62.8%
Difficulty walking 1/4 mile	45.9%
Unable to walk 1/4 mile	22.6%
Use wheelchair	8.3%
Use cane, crutches, or walker	23.0%
Learning disability	10.0%
Difficulty remembering or concentrating	30.0%
Difficulty dressing, bathing, or getting around inside home Difficulty going outside the home alone to shop or visit	17.4%
doctor's office	25.2%
Need help with any daily activities	31.9%
Consider self to have disability	58.4%
If none of above impairments or limitations	2.8%
Others consider one to have disability	59.5%
If none of above impairments or limitations	0.8%
Age at which impairment/limitation began	
At birth or in first year	8.1%
1-17	11.1%
18-34	19.4%
34-49	20.1%
50-64	20.5%
65+	19.9%
Years since disability began (mean and std. dev.)	15.1 (16.3)
n	700

inside the home (17.4 percent), one-fourth report difficulty going outside alone (25.2 percent), and almost one-third report needing help with daily activities (31.9 percent). Almost three-fifths of those in the disability sample say they consider themselves to have disabilities. About one-fifth of the disabling conditions began at birth or before the person was of voting age, while one-fifth began after age 65. On average, people have lived with their disabilities for 15 years.

What were the voter turnout levels of people with and without disabilities in 1998? As shown in Table 2, 52.6 percent of people with disabilities reported voting, which is significantly lower than the 59.4 percent of people without disabilities who reported voting. As in other voting surveys, these results clearly reflect overreporting of voter turnout, since only 38.9 percent of eligible citizens actually voted. Reflecting mobility problems among many people with disabilities, they were more likely than people without disabilities to vote by absentee ballot.

To assess the potential role of polling place inaccessibility, the survey asked those who had voted at a polling place in the last ten years whether they encountered any problems in voting, and asked those who had not voted at a polling place in the past ten years whether they would expect any problems in voting. As shown in Table 2, among voters in the past ten years, 8.2 percent of people with disabilities but only 1.7 percent of people without disabilities reported some sort of difficulty. Among those not voting in the past ten years, over one-fourth (27.5 percent) of people with disabilities say they would expect problems, compared to 3.6 percent of people without disabilities. As can be seen at the bottom of Table 2, most of the expected (and experienced) problems involve transportation, or 'getting to the polls,' as well as mobility problems at the polling place (e.g., accessibility, difficulty standing/walking, stairs, etc.).

<sup>&</sup>lt;sup>7</sup> The 6.8 percent gap is reduced to 6.1 percent, but is still significant at the 95 percent level, if those responding "don't know" are excluded. The differences between the reported turnout rates in our study and those in prior studies are likely the result of different definitions of disability. The measures used in prior research focus on younger people and those who define themselves as having a disability. For example, the Current Population Study identifies people with disabilities by allowing respondents to claim disability as a reason for not participating in the labor force. More senior citizens are likely to label themselves as retired rather than disabled. The spinal cord injury sample was limited to people having a spinal cord injury in the previous ten years and there is a high occurrence of spinal cord injuries among the young.

<sup>8 72.5</sup> million people voted in November 1998 (http://tap.epn.org/ csae/cgans4.html), which is 38.9 percent of the 186.9 million citizens age 18 or over (computed from Census figure on voting-age population multiplied by citizenship percentage derived by authors from CPS data).

<sup>&</sup>lt;sup>9</sup> The question wording for the former group was, "Did you experience any difficulty in getting to the polling place or in using the ballot or voting machine?" and for the latter group was "If you wanted to vote in person inside the polling place, do you think you would experience any difficulty in getting to the polling place or in using the ballot or voting machine? If "yes," respondents were asked "What type of difficulty (did you/do you think you would) experience?"

These responses may be inflated as non-voters may have rationalized their failure to vote, or be unaware of the accessibility of current polling places. We attempted to control for this potential bias by using disability characteristics to predict actual voting difficulties among voters in the past ten years, and then imputing predicted likelihood of difficulties among non-voters over the past ten years. With this method, it is estimated that 16.5 percent (rather than 27.5 percent) of the latter group would actually face some sort of difficulty with voting at a polling place.

TABLE 2.

Voter Turnout, Registration, and Difficulties with Polling Places

	Disability Sample (1)	Non- disability Sample (2)	Difference
Voted in November 1998	52.6%	59.4%	-6.8%**
At polling place	45.3%	54.7%	-9.4%**
By absentee ballot	7.3%	4.7%	2.6%*
Don't know if voted	1.5%	0.2%	1.3%**
Voted in November 1996 Last voted:	67.6%	73.2%	-5.6%**
Not in November 1998 but within			
past 10 years	21.1%	19.1%	2.0%
More than 10 years ago	2.1%	0.6%	1.5%**
Never voted	17.2%	18.3%	-1.1%
Don't know	7.0%	2.5%	4.5%**
Registered to vote for 1998 elections	78.5%	81.1%	-2.6%
Encountered problems in voting at			
polling place since 1988	8.2%	1.7%	6.5%**
If voted in 1998	5.8%	1.9%	3.9%**
Types of problems encountered: General mobility (difficulty standing/			
walking)	1.7%	0.0%	1.7%
Getting to polling place	1.6%	0.9%	0.7%
Getting inside polling place (stairs/steps)	1.0%	0.0%	1.0%
Inside polling place	2.9%	0.1%	2.8%
Long lines	0.6%	0.0%	0.6%
Difficulty with booth	0.5%	0.1%	0.4%
Can't read	0.0%	0.0%	0.0%
Difficulty seeing	1.3%	0.0%	1.3%
Difficulty understanding how to vote/			
use machine	0.5%	0.0%	0.5%
Other problem	1.4%	0.5%	0.9%
Would expect problems at polling place if haven't voted at polling place since 1988 Types of problems expected: General mobility (difficulty standing/	27.5%	3.6%	23.9%**
walking)	10.3%	0.0%	10.3%
Getting to polling place	8.8%	0.0%	8.8%

TABLE 2. (continued)

	Disability Sample (1)	Non- disability Sample (2)	Difference
Getting inside polling place (stairs/steps)	0.4%	0.0%	0.4%
Inside polling place	9.7%	3.2%	6.5%
Long lines	0.0%	0.0%	0.0%
Difficulty with booth	0.0%	0.0%	0.0%
Can't read	2.5%	0.0%	2.5%
Difficulty seeing	2.7%	0.0%	2.7%
Difficulty understanding how to vote/			
use machine	4.5%	3.2%	1.3%
Other problem	2.9%	0.5%	2.4%
n	700	540	

<sup>\*</sup>Difference between disability and non-disability samples is significant at p < .10, \*\*p < .05.

Can the voting gap between people with and without disabilities be explained by differences in demographic characteristics or other variables? Table 3 presents several probit regressions that explore this gap. 11 The first two columns of Table 3 examine how the turnout gap may be reduced through standard controls such as demographic measures, resources, political mobilization, and psychological variables. 12 The final two columns of Table 3 examine how the turnout gap varies across subgroups of people living with disabilities. Looking first at column one, we see that when demographic and resource characteristics are controlled people with disabilities were significantly less likely to have voted in 1998. The coefficients indicate a disability voting gap of 19.6 percentage points (when other variables are at mean values). Applied to the population of voting-age citizens, this implies that had people with disabilities voted at the same rate as those without disabilities, there would have been an additional 4.6 million voters in 1998, which would have raised the overall turnout rate by 2.4 percentage points. 13 Consistent with past studies, voter turnout in the general

<sup>&</sup>lt;sup>11</sup> We also examined multinomial logit models predicting registration and voting separately and the results were very similar (available on request).

Simple comparisons (not shown for space considerations, but available on request) indicate that people with disabilities have lower average levels of education, income, internal and external efficacy, political party mobilization, and regular attendance at religious services and group meetings.

As noted earlier, the population of voting-age citizens was 186.9 million and the disability rate estimated in this survey is 12.4 percent, so that the disability turnout gap represents 186.9\* .1243\* .196 = 4.55 million people.

■ TABLE 3.
PREDICTION OF VOTING

PREDICTION OF VOTING				
Probits predicting probability of voting in 1998.				
	(1)	(2)	(3)	(4)
Disability	-0.50**	-0.45**		
*employed, age 18-64			0.00	0.07
*employed, age 65+			-1.05**	-1.21**
*not employed, age 18-64			-0.53**	-0.38**
*not employed, age 65+			-1.34**	-1.29**
Demographics				
Aget	0.03	0.03	0.01	0.01
Age squared†	0.0001	0.0000	0.0003	0.0003
Female	-0.03	-0.06	-0.05	-0.06
Married	0.16	0.16	0.17	0.17
Black	0.01	-0.01	-0.05	-0.04
Other nonwhite	-0.35	-0.33	-0.30	-0.29
Hispanic	0.09	0.02	0.08	0.03
Suburban residence	-0.24*	-0.24*	-0.26*	-0.25*
Rural residence	0.02	0.09	0.05	0.11
Adult citizens in household	-0.13**	-0.15**	-0.15**	-0.17**
Resources				
Years of education	0.09**	0.07**	0.10**	0.07**
Household income (natural				
logarithm)	0.12	0.09	0.12	0.08
Psychological variables				
Internal efficacy		0.04*		0.04*
External efficacy		0.05**		0.06**
Mobilization and social networks				
Contacted by political party in				
campaign		0.30**		0.30**
Contacted by someone else in				
campaign		0.13		0.11
Encouraged to register or vote		0.13		0.13
Employed		-0.10	-0.24	-0.12
Union member		-0.12		-0.13
Regularly attend group meetings		0.15		0.16
Religious attendance 1/mo.				
or more		0.11		0.12
Constant	-3.18**	-3.44**	-2.84**	-3.02**
Log-likelihood –664.82 –619.05 –655.0 –611.2				
n 1169 1135 1168 1135				135
*n < 10 **n < 05 All actimates are visighte	J	اندورنا وونووار	f J:	1 -11- 1

p < .10, p < .05. All estimates are weighted to reflect population distribution of disability, gender, and household size.

 $<sup>\</sup>dagger$ Age and age-squared are jointly significant in all regressions at the p < .0001 level, but individually insignificant due to multicollinearity. Full results, with Z-statistics and estimated marginal effects, are available from the authors.

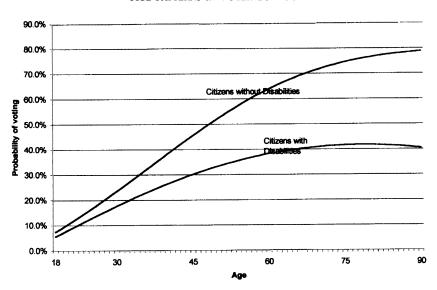
population is found to increase strongly with age and education, and increase with household income.<sup>14</sup> It is somewhat surprising that the simple voting gap of 6.8 percentage points (Table 2) widens considerably after controlling for demographic and resource variables, given that several of those variables would help to account for lower turnout of people with disabilities (e.g., lower education). The wider gap of 19.6 percentage points in the probit regression is entirely due to controlling for age: people with disabilities are older on average, and older people are more likely to vote, leading to a simple gap that is much smaller than the age-adjusted gap.

Can the lower turnout of people with disabilities be explained by other standard predictors of voter turnout, such as political efficacy, mobilization, and attendance at religious services? As seen in column two of Table 3, controlling for these other characteristics changes the disability coefficient by very little. (The estimated disability voting gap is reduced by only two percentage points.) While the overall voter turnout gap is 18-20 percentage points, this gap does vary within the disability population. In particular, there appear to be strong employment and age effects (as shown by including interaction variables between these terms in column three of Table 3). Column three shows that the voter turnout of employed working-age people with disabilities is almost identical to that of otherwise-similar people without disabilities, while there is a large gap between non-employed people with and without disabilities once we control for demographic and resource variables. Further, voter turnout drops dramatically among both employed and non-employed people with disabilities over age 65, who are 39-48 points less likely than otherwisesimilar seniors to vote. The gap narrows somewhat among working-age nonemployed people, but changes very little among those over age 65, when controlling for other standard predictors in column 4.15 The disability gaps are not explained by differential effects of the standard voting predictors for non-employed people, as shown when the regression is restricted to non-employed people. 16

A variety of specifications of income were tested. Figure 1 shows the overall predicted age patterns in voting by disability status with no greater significance of the income coefficient in the overall sample. This lack of statistical significance reflects an imprecise estimate in the non-disability sample, which has a limited sample size and receives great weight in estimating population parameters in the overall sample. When the regression is run just for the disability sample, the income variable is a strongly significant positive predictor of turnout.

<sup>15</sup> The employment effect among working-age people with disabilities may represent the positive benefits associated with participation in the workforce, and/or a selection process where certain people with disabilities are more likely to possess qualities that make them both more likely to be employed and politically active—as Schlozman, Burns, and Verba (1999) found in their analysis of the employment effect among women. These selection processes may work in a similar manner among people with disabilities, and these possibilities have been explored in a subsequent investigation (available upon request).

Since people with disabilities are less likely to be employed, the voting gap between non-employed people with and without disabilities in column four of Table 3 could be spurious and simply



■ FIGURE 1.
AGE PATTERNS IN VOTER TURNOUT

Why is disability linked to lower turnout even after controlling for standard predictors? Table 4 explores this by separating out the effects of specific disability characteristics, where each coefficient represents the difference between those with that characteristic and everyone else (with or without another type of disability). 17 As shown in columns one and two of Table 4, voter turnout is most depressed among those who report difficulty in going outside alone, both before and after controlling for psychological variables, mobilization, and social networks. Since such people may still vote by absentee ballot, this suggests an important social and/or psychological role in being able to go outside independently. This finding is amplified by the additional negative effects of mobility limitations (difficulty walking and not having a vehicle one can drive). Turnout also appears to be especially depressed among those with mental impairments (measured by difficulty remembering or concentrating). These impairments and limitations do not, however, fully explain the lower voter turnout of older people with disabilities, as shown in column three which adds interaction terms between age and disability. Consistent with Table 3's results showing low turnout

reflect the interaction of several of the predictor variables with non-employment. When we fully allow for such interactions by running the regression only on the non-employed sample, however, the estimated disability gaps are very similar.

<sup>&</sup>lt;sup>17</sup> An individual may have more than one of these disability characteristics.

■ TABLE 4.

PREDICTION OF VOTING WITH DISABILITY CHARACTERISTICS

Probits predicting probabilit	y of voting i	n 1998.	
	(1)	(2)	(3)
Disability characteristics			
Difficulty going outside alone	-0.58**	-0.55**	-0.33*
Difficulty walking	-0.25*	-0.26*	0.01
Severe vision impairment	-0.27	-0.21	-0.09
Severe hearing impairment/deaf	-0.11	-0.05	0.17
Difficulty remembering/concentrating	-0.32**	-0.34**	-0.25
Learning disability	0.04	-0.04	-0.20
Difficulty inside home	-0.22	-0.07	-0.06
Other type of disability	-0.09	-0.04	0.18
Need help with daily activities	0.07	0.08	-0.02
Disability*age	0.02*		
Disability*age squared	-0.0005*	*	
Years since disability began	0.01**		
Have vehicle one can drive	0.35*	0.39**	0.35*
Demographics			
Age†	0.02	0.03	-0.00
Age squared†	0.0002	0.0001	0.0005
Female	-0.01	-0.05	-0.04
Black	0.28	0.29	0.29
Other nonwhite	0.05	0.02	0.00
Hispanic	-0.33	-0.32	-0.29
Married	0.06	-0.00	0.02
Suburban residence	-0.25	-0.26	-0.27
Rural residence	0.01	0.08	0.09
Adult citizens in household	-0.13**	-0.15**	-0.17**
Resources			
Years of education	0.09**	0.07**	0.07**
Household income (natural logarithm)	0.10	0.07	0.08
Psychological variables			
Internal efficacy		0.04*	0.03
External efficacy		0.06**	0.06**
Mobilization and social networks			
Contacted by pol. party in campaign		0.29**	0.29*
Contacted by someone else in campaign		0.11	0.11
Encouraged to register or vote		0.14	0.14
Employed		-0.13	-0.09
Union member		-0.13	-0.14

TABLE 4. (continued)

Probits predicting probability of voting in 1998.				
	(1)	(2)	(3)	
Regularly attend group meetings Religious attendance 1/mo. or more		0.16 0.10	0.16 0.10	
Constant	-3.18**	-3.48**	-3.09**	
Log-likelihood n	-652.89 1164	-608.10 1130	-579.12 1092	

<sup>\*</sup>p < .10, \*\*p < .05. All estimates are weighted to reflect population distribution of disability, gender, and household size.

of older people with disabilities, this regression shows the strong negative effect of the age-squared term for people with disabilities. 18

The regression reported in column 3 also includes a term representing the number of years since the disabling condition began, which shows that long-term disabilities appear to discourage voter turnout much less than recently acquired disabilities. This is consistent with Stoker and Jennings (1995), who make the case that recent major life transitions (marriage, in their analysis) have a dampening effect on political participation as time and energy is drawn toward personal needs. It is also consistent with the point raised by Jennings (1999) that pain and loss can have a de-politicizing effect, which may wear off as people learn to cope with their new situations. <sup>19</sup>

We also estimated the regressions separately for the non-disability and disability samples (results available by request, but not shown for space considerations). Among people with disabilities, voter turnout is positively linked to internal

<sup>†</sup>Age and age-squared are jointly significant at the p<.0001 level, but individually insignificant due to multicollinearity. Full results, with Z-statistics and estimated marginal effects, are available from the authors.

Also, supplementary regressions (available on request) show strongly depressed turnout even among those age 65 or older who have disabilities but no difficulty in going outside alone. In fact, several additional analyses were conducted exploring interactions between age and other variables in an attempt to explore the lower turnout among the elderly. We found no consistent patterns to the results and we specifically find that difficulty going outside is important regardless of interactions with other variables. We believe this to be an exciting question for additional research. As the American population continues to age, understanding the nuances of disability, age, and voter turnout will grow in importance. It is important to note, however, that the probability of voting does not decline as people with disabilities grow older; rather, the voting probability increases at a much slower rate than among people without disabilities

<sup>19</sup> This is also consistent with results from Schur (1998), who finds that disability activists typically take an extended period to become politically active after the disability occurs.

efficacy, being contacted by a political party, being a union member, having a vehicle one can drive, regular attendance at group meetings or religious services, education, and income. The results suggest that internal and external efficacy play different roles among people with and without disabilities. While internal efficacy plays a strong role in predicting turnout among people with disabilities, external efficacy plays a more important role among people without disabilities. Tests cannot, however, reject the equality of most coefficients between the disability and non-disability samples, except for the age coefficients: the effect of age tapers off with increased age among people with disabilities but not among people without disabilities. This suggests that previous studies of the general population that found a decreased age effect at older ages may largely reflect the increased likelihood of disability as people age. The strikingly different age patterns between the disability and non-disability samples, which are not explained by the distribution of impairments, limitations, and need for help, are discussed in the final section.

# SUMMARY AND CONCLUSIONS

Overall, people with disabilities were 20 percentage points less likely to vote than people without disabilities who had similar demographic characteristics. If people with disabilities had voted at the same rate as those without disabilities, there would have been about 4.6 million more voters in 1998, raising the overall turnout rate by 2.4 percentage points. The low turnout among those with recent onset of disability supports the idea that pain and loss can be de-politicizing as people feel overwhelmed by their new situation (Jennings 1999), and more generally that major life transitions have a dampening effect on political participation as time, energy, and other resources are drawn elsewhere (Stoker and Jennings 1995).

As more research is conducted in this area, particular attention must be given to the possibility that negative influences associated with major life transitions are exaggerated and/or conditioned among people already living with the pain and loss associated with a disability. In this respect, focusing specifically on people with disabilities provides a unique opportunity to begin creating and testing a theoretical synthesis of the two perspectives of "pain-and-loss" and "major-life-transitions" that are often treated separately.

In addition, the particularly low turnout among people who have difficulty going outside alone, even though absentee ballots are available, suggests that while mobility limitations may directly influence the likelihood of voting, there may also be important indirect social and/or psychological components associated with general mobility that encourage voting. Greater mobility may expose

<sup>&</sup>lt;sup>20</sup> These differences are explored in Schur, Shields, and Schriner (forthcoming).

people to a wider set of potential recruitment networks. It may also have psychological effects by providing more potential for social interaction and facilitating a stronger sense of connection and identification with the larger society, thereby making people more likely to participate in mainstream activities like voting. Along the same lines, voter turnout may be discouraged by actual and expected difficulties in voting at a polling place, making it harder for some people with disabilities to enjoy the social, demonstrative value of publicly joining with other citizens in exercising the right to vote. Inaccessibility of polling places may be perceived by some people with disabilities as evidence that they are not welcome in civic society and are seen as second-class citizens. Consequently, recent efforts at registration reform, such as increased ease of registration and availability of absentee registration and voting may not be accompanied by the expected increases in voter turnout. If millions of people with disabilities perceive these alternative avenues of voting as indicators of their marginalization from mainstream society generally and electoral involvement particularly, they are unlikely to see these avenues of participation as legitimate alternatives. As MacManus (2000: 72) finds, "many . . . thoroughly enjoy going to the polls and prefer voting in person to voting absentee." Efforts may be better spent on insuring that polling places and ballots are more fully accessible to all citizens. Despite legislation such as the National Voter Registration Act of 1993 which requires government agencies to allow voter registration, people with disabilities still face substantial barriers that may range from inaccessible polling or registration sites to inaccessible voting systems such as punchcard ballots and mechanical levers (which are difficult for individual who are blind or have mobility impairments to use) (National Organization on Disability 2000). Many of these problems were evident in the 2000 presidential election.

The depressed turnout of older people with disabilities, controlling for social standing and mobility impairments, also appears to be a large factor in the turnout gap between people with and without disabilities. Rosenstone and Hansen (1993: 139-40) offer three hypotheses for the positive age-voting relationship in the general population. The generational hypothesis focuses on the socializing experiences of different cohorts—the lower turnout of people with disabilities may be confined to the older generation, who were socialized at a time when people with disabilities were typically marginalized and frequently segregated from mainstream society. In contrast, many younger people with disabilities were integrated into the mainstream educational system due to the Education for all Handicapped Children Act (signed in 1975 but implemented several years later), which helped produce leadership for the disability rights movement.

The life-experience hypothesis for the age-turnout relationship focuses on the information, skills, and attachments gained with age—lower turnout among older citizens with disabilities may be due to decreased social contact that can cause atrophy of political knowledge and skills (especially among those whose disabilities began after age 65). Finally, the life-cycle hypothesis focuses on social and psychological involvement—lower turnout among senior citizens with disabilities may be due to social isolation and lower psychological involvement with mainstream society, relative to their non-disabled peers. Disability may, in a sense, "rob" age of some of its positive effects on voter turnout by restricting increases in social contact, political knowledge, skills, and/or psychological involvement that are gained with age according to the life-experiences and life-cycle hypotheses.

These potential explanations are very relevant to the problem of low turnout in American electoral politics, and the decline in voter turnout since the 1960s. Particularly, as elderly people become a larger proportion of the American electorate, understanding the relationships between age and disability will become fundamental for an understanding of the dynamics of electoral participation. While numerous studies have attempted to explain the 'puzzle of participation' associated with an increasingly educated electorate coupled with steadily declining turnout rates, students of electoral behavior may be soon confronted with a different puzzle as an increasingly older electorate may not vote at increasing rates. While some have already begun to address these questions (Miller and Shanks 1996) we believe that disability must play a central role in future research if we expect to have a full understanding of the relationships between age and voter turnout.

Finally, a recurrent finding with substantial implications for studies of voter turnout generally, and of other minority groups specifically, is that the effects of disability are closely intertwined with some of the common determinants of voting. At a minimum, the findings concerning the effects of age and employment suggest we do not fully understand the nuances associated with these predictors—particularly among people living with disabilities. At a theoretical level, these findings suggest that scholars should increasingly consider individual differences in the costs and benefits associated with variables traditionally included in models of voter turnout. It seems likely that examining individual differences in the effects of various predictors will have dramatic impact on not only our understanding of voter turnout among people with disabilities—who represent a large and growing minority group in the United States, and whose voter turnout has a noteworthy impact on overall turnout figures—but also on our general understanding of voter turnout among the general population. Given some of the important questions raised by these findings, we believe the study of voter turnout among people with disabilities provides a rich and unique opportunity not only to increase our understanding of the political behavior of this neglected minority group, but to greatly refine and expand our understanding of "who votes," and why.

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Received: November 11, 2000

Accepted for publication: April 27, 2001

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