

**Self-Reported Work Limitation Data: What They Can and Cannot Tell Us**

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### **Abstract**

Data constraints make the long-term monitoring of the working-age population with disabilities a difficult task. Indeed, the Current Population Survey (CPS) is the only national data source that offers detailed work and income questions and consistently asked measures of disability over a 20-year period. Despite its widespread use in the literature, the CPS and surveys like it have come under attack of late, with critics discounting the results of any research obtained from such data. We put these criticisms in perspective by systematically examining what the CPS data can and cannot be used for in disability research. Based on comparisons with the National Health Interview Survey (NHIS), a data set with much more information on health than the CPS, we find that the work limitation-based definition of disability available in the CPS underestimates the size of the broader population with health impairments in the NHIS, but that the employment trends in these two populations in the NHIS are not significantly different from one another. We then show that the trends in employment observed for the NHIS population defined by self-reported work limitation are not statistically different from those found in the CPS. Based on these findings, we argue (1) that the CPS and other nationally representative employment-based data sets can be used to monitor trends in outcomes of those with disabilities and, (2) that the dramatic decline in the employment of people with disabilities we describe in the CPS during the 1990s is not an artifact of the data.

## **Self-Reported Work Limitation Data: What They Can and Cannot Tell Us**

The aging of the population and the growing number of individuals supported on public disability programs has made the accurate monitoring of the population with disabilities an important research and policy issue. Indeed, a large body of research has developed documenting trends in disability prevalence and active life expectancy (see for example Bound and Waidman 1992, Crimmins, Saito, and Ingegneri 1997, Crimmins, Hayward, and Saito 1994, Hayward and Heron 1999, Kruse 1998, Lakdawalla, Bhattacharya, and Goldman 2001, McNeil 1993, 2000, and Verbrugge 1984). Other research has linked disability status to various social and economic outcomes such as labor force participation and retirement (Hayward and Grady 1990, Stern 1989, Parsons 1980) and disability benefit usage (Burkhauser and Daly 1996, Bound and Burkhauser 1999). Most recently, information on disability status has been used to examine the effectiveness of public policies targeted towards those with disabilities, e.g., the Americans with Disabilities Act (ADA) and the Social Security Disability Insurance (SSDI) and Supplemental Security Income program (SSI) (see especially Acemoglu and Angrist 2001, Autor and Duggan 2001, Bound and Waidmann 2002, Burkhauser, Daly, and Houtenville 2001, DeLeire 2000).

Information on disability status used in such studies typically comes from questions based on whether a health limitation prevents individuals from working or limits their ability to work full time or to do certain jobs. Numerous scholars have questioned the validity of such data for measuring disability, arguing that it is subject to idiosyncratic variations due to differences in skills, attitudes, and the environment (see Bound and Burkhauser 1999, and Moore 2001 for reviews of this literature). Others have argued that work limitation questions neither capture the

actual population with disabilities (Hale 2001) nor its employment trends (Kaye 2002, Kirchner 1996, Kruse and Schur 2000, McNeil 2000). Kirchner (1996) hypothesized that changes in cultural perceptions over time likely bias trends in disability status obtained from such measures. Finally, some researchers have pointed out that even if the questions are valid, their effectiveness in obtaining accurate disability information may differ depending on the design and intent of the survey. For example, a work limitation question in a health survey may illicit different answers than a work limitation question in an employment survey (Hardy and Pavalko 1986).

In this paper we examine the usefulness of work limitation measures of disability. We begin by investigating whether work limitation questions can be used to monitor trends in disability, using as a benchmark some more precise measures of health status available in the National Health Interview Survey (NHIS). We then examine whether the same work limitation question is equally effective when it appears in the employment-oriented Current Population Survey (CPS) as when it appears in the health-oriented NHIS. We test the effectiveness of work disability data on two fronts, first in its ability to track the prevalence of disability and second in its ability to track employment—an important measure of social and economic well-being for the population with disabilities. We find that although work limitation questions underestimate the size of the broader population with health impairments they can be used to monitor trends in outcomes, such as employment, for those with disabilities. Thus, we conclude that the dramatic decline in the employment of working-age people with disabilities captured by the work limitation-based disability questions in the CPS is not an artifact of the work limitation question or of the CPS data, but is consistent with trends found in the NHIS using both work limitation-based and impairment-based definitions of disability.

## Defining and Measuring the Population with Disabilities

### *Definitions of Disability*

Evaluation of the population with disabilities must start with a definition of that population. Unfortunately, unlike age or gender, which are relatively straightforward and easily determined demographic characteristics, disability has proven to be a far more controversial concept to define and measure. Although there is no universal agreement on the most appropriate definition of the population with disabilities, it is possible to place the various definitions used in a common conceptual framework. The most frequently applied model of disability comes from Nagi (1965, 1969, 1991). In the Nagi model, disability is a dynamic process in which an individual's pathology interacts with the socioeconomic environment.<sup>1</sup> The dynamic nature of the disability process is represented by the movement through three stages: pathology, impairment, and disability. The first stage, pathology, is *the presence of a physical or mental condition that interrupts the physical or mental process of the human body*. An example is deafness. This leads to the second stage, impairment, which Nagi defines as *a physiological, anatomical, or mental loss or abnormality that limits a person's capacity to function*. For example, deafness limits the ability to interpret sound. The final stage, disability, is *an inability to perform or a limitation in performing roles and tasks that are socially expected*. For example, a person with deafness is unable to use the telephone. Under the Nagi model, those with a pathology that causes a physical or mental impairment that subsequently limits one or more life activities—such as work—but who

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<sup>1</sup>The World Health Organization (WHO) has a model of disability very similar to that of Nagi. The key to both of these definitions is the recognition that individuals move from the presence of a health condition to a point where it begins to impinge on activities that are socially expected of them and that this movement is related to the environment in which individuals live. See Jette and Badley (2000) for an excellent comparison of the Nagi and WHO models.

nevertheless work would not be considered to have a work disability.<sup>2</sup> (This is the case whether work was possible though changes in the work environment, access to rehabilitation, or individual adaptability.)<sup>3</sup>

## **Tracking the Population with Disabilities Using National Survey Data**

### *The NHIS and CPS Data*

The National Health Interview Survey (NHIS) is an annual cross-sectional survey of approximately 100,000 non-institutionalized civilians conducted by the U. S. Centers for Disease Control and Prevention. Useful and comparable data are available from 1983 through 1996; the NHIS was changed substantially in 1997, making time-series comparisons after 1996 questionable. The NHIS contains a standard work limitations question: "Does any impairment or health problem now keep [person] from working at a job or business? Is [person] limited in the kind or amount of work [person] can do because of any impairment?" A person with an affirmative response to either question is considered to have a work limitation. This type of question is consistent with the Nagi framework of disability developing from a pathology that limits a social activity—work—but may systematically miss people with pathologies and impairments who are nevertheless working and do not consider themselves to be work-limited. This question has been used by numerous researchers to study trends in disability and active life expectancy (see, for example, Crimmins et al. 1989, 1997, Verbrugge 1991, Hayward and Heron 1999).

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<sup>2</sup>This measure closely resembles what Verbrugge (1990) calls social disability, or the intersection of an individual's physical impairment (e.g., deafness) and the environmental challenges of the activities required by a social role, such as work.

<sup>3</sup>For example, a person with deafness who is accommodated at the workplace with a TTY machine that permits him or her to use the telephone.

In addition, the NHIS contains detailed impairment-specific information (e.g., "deaf in both ears," "blind in both eyes," etc.) on a subset of survey respondents. Individuals in this NHIS subsample are asked directly about specific impairments. This allows us to capture a random sample of the population with a given set of impairments including those who, despite their impairment, report that they do not have a work limitation. These data also have been used in studies of health and disability.

Like the NHIS, the CPS is a large annual cross-sectional survey; the CPS annually surveys approximately 50,000 households (about 150,000 non-institutionalized civilians). Unlike the NHIS, the CPS was not designed specifically to follow health trends in the U.S. population, but rather is the main source of official employment and income statistics in the United States. In 1981 the March Demographic Supplement of the CPS began to ask a question about work limitations: "Does anyone in this household have a health problem or disability which prevents them from working or which limits the kind or amount of work they can do? [If so,] who is that? (Anyone else?)" The work limitation question appears as one of the screeners for the non-government disability income questions.

Although the CPS is a cross-sectional survey, it does interview respondents over the course of a year. Specifically, the CPS follows housing units over a four-month period and then returns eight months later to follow them for another four months. This allows for matching of housing units and multi-period analysis. A subsample of the households administered the March Supplement are asked the work limitation question in two consecutive years (March to March). We use these individuals to construct a "matched" CPS sample and define those with work limitation-based disabilities as those who respond positively to the question in March of two

consecutive years. We use the CPS matched sample to check the robustness of the CPS cross-sectional results based on single-period disability.

In both the NHIS and CPS analyses we restrict our sample to adults between the ages of 25 and 61, inclusively. This restriction reduces the risk of noise (due to entry from school or exits to retirement) in the employment variable we use to compare disability measures across data sets and over time. Throughout the paper we refer to our sample as working-age adults.

### *Empirical Relationships among Tractable Disability Populations*

*Differences in Levels across Disability Populations.* To begin to assess whether the population with disabilities defined by the self-reported work limitation question is a reasonable proxy for the population with significant impairments, we focus on the relationship between the broad population that reports having an impairment and the subset of this population that reports a work limitation. This analysis relies on the two components of the NHIS survey described earlier.<sup>4</sup>

Table 1 shows the prevalence of self-reported work limitations among working-age men and women with various impairments using a pooled NHIS sample (1983-1996) of these individuals.<sup>5</sup> (See Houtenville 2001 for a detailed description of the NHIS data used in our analysis.) The first cell in column one indicates the percentage of men and women who report having any of the impairments in the list. The remaining cells in column one show the percentage

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<sup>4</sup>It should be noted that there is some debate about whether self-reported pathology and impairment-based measures of disability accurately identify the true population with disabilities (Baker, Stabile, and Deri, 2001).

<sup>5</sup>The NHIS comparisons are based on a representative one-sixth subsample of respondents for the years 1983-1996. Because the prevalence of specific impairments is very low in any given year, we must pool the NHIS data over a number of years to establish a sample size sufficient for analysis.



of men and women who say they have that specific impairment. Columns three and five show the percentage of those with the listed impairment(s) who report having (column 3) or not having (column 5) a work limitation.

In general, these results show that the population with impairments is substantially understated by estimates based on the work limitation question in the NHIS. While the severity of the impairment explains much of the variance in work limitations in columns 3 and 5, it does not explain all of it. For example, among those who report being deaf in both ears or blind in both eyes—impairments many would expect to be work limiting—only 38 (69) percent, respectively, also report being “unable to work or to be limited in the kind or amount of work they do.” This is consistent with the notion that the self-report of a work limitation may be influenced by the work environment, rehabilitation opportunities, or the inner capacity of individuals to overcome both their impairments and the barriers to work.

To investigate whether this misestimation of the level of disability translates to outcome measures, Table 1 also shows employment rates for the three groups. Column 2 reports the employment rates of men and women who say they have one of the impairments on the list. Columns 4 and 6 show the employment rates of those with an impairment who report having (column 4) or not having (column 6) a work limitation. As illustrated in the first row, controlling for having an impairment, those who say they *are not* work limited are much more likely to be employed (employment rate of 83.4%) than those who say they *are* work limited (employment rate of 41.5%). Returning to the specific examples of those deaf in both ears or blind in both eyes, those who report these impairments but report no work limitation are 2.07 (4.0) times more likely (ratio of column 2 to column 3), respectively, to be employed than such persons who do

report a work limitation. This suggests that using a work limitation question to define the population with disabilities systematically excludes individuals with significant impairments who are sufficiently integrated into the workforce that they do not report a work limitation. These results suggest significant bias from using work limitation data to measure the level of impairments in the overall population or the employment rates of the population with impairments

*Differences in Trends across Disability Populations.* Having established that there are significant and systematic differences in population and employment levels of those self-reporting impairments and work limitations we now turn to an examination of the trends in these variables. Figure 1 compares the trends in the prevalence of impairments and the prevalence of work limitations in the NHIS between 1983 and 1996 for men (women). Note that in this analysis we focus on two separately identified populations. The first is the population of working-age men (women) who report having any of the impairments listed in Table 1. The second is the group of working-age men (women) self-reporting a work limitation; these men (women) may or may not report a specific impairment.

Figure 1 shows that although the trends in impairment- and work limitation-based disability prevalence in the NHIS exhibit some of the same movements, they do not always follow each other. For example, in the 1990s the prevalence of impairments was falling while the prevalence of work limitations remained relatively stable. To test whether these differences are significant we regress disability prevalence rates (pooled sample across measures) on an indicator variable (indicating whether the prevalence estimate comes from the impairment or work limitations question), a higher-order polynomial time-trend, and the interactions of the time trend and the indicator variable. We then test the joint significance of the interaction terms using an F-

test. Based on this method, we find no significant differences between the time-trends in disability prevalence for men. However, we fail to accept the hypothesis that the trends for women are the same across the two measures. (A fuller discussion of the tests used here and elsewhere in this paper together with the actual results can be found in Burkhauser, Daly, Houtenville, and Nargis 2001.)

What should we make of these findings? First, based on our statistical analysis, we cannot say the trends in prevalence of impairments and work limitations for men are different, suggesting that while the work limitation question cannot capture the level of impairment-based disability, it does track the trend over time. The same cannot be said for women. However, as Figure 1 shows, the divergence in the two measures goes in a direction opposite the one in which critics of work limitations measures focus (e.g., Kirchner, 1996). Namely, during the 1990s, the prevalence of work limitation-based disability moved closer to the prevalence of impairment-based disability, suggesting that the work limitation-based measures may be capturing a greater, rather than a smaller, share of the population with significant impairments.

As a final test for trend differences in our two NHIS disability populations, Figure 2 compares the employment rates of those self-reporting impairments with those reporting a work limitation over the period 1983-1996. Again, the employment patterns across the two measures mirror each other, although with notable divergences from year to year. Most importantly for the current debate over the employment trends of working-age people with disabilities (see Acemoglu and Angrist 2001, Bound and Waidman 2002, Hale 2001, Kaye 2002), the decline in employment among men and women during the 1990s is observed in both the impaired and the work-limited

disability populations. Testing for differences in employment trends between the two populations we find no significant differences in their estimated trends.

*Differences in Trends across Data Sets.* In this section we move away from comparisons of prevalence and employment of those with disabilities across measures and consider trends in these variables across data sets. Figure 3 compares trends in the work limitation-based disability prevalence among working-age men (women) in the CPS, the matched CPS sample, and the NHIS. As the figure shows, the NHIS work limitation-based prevalence estimates are higher than those from the CPS and the CPS-matched sample for men (women) in every year. The average annual prevalence of work limitation-based disability (1983-1996) among men was 8.1 percent in the CPS-based estimates and 10.3 percent in the NHIS. The average annual prevalence of disability among women over the same period was 7.4 percent in the CPS and 10.4 percent in the NHIS. The prevalence rates for the CPS-matched sample were smaller than for the CPS. These differences are statistically significant based on a t-test in most years of our study.

The main purpose of the CPS is to determine the employment and income of the U.S. population. The main purpose of the NHIS is to determine the health characteristics of the U.S. population. The difference in focus may explain part of the level of differences in self-reported work limitations in the two data sets (Hardy and Pavalko 1986). To the extent that individuals already focused on questions about their health would be more apt to disclose a work limitation the NHIS would pick up a higher rate of reported disability. Likewise, to the extent that individuals who are not in the labor force for other reasons do not consider themselves work-limited, the question placement in the NHIS may elicit a greater response.

Again, we also are interested in the extent to which the trends in prevalence observed in the CPS are similar to those observed in the NHIS. Using the same test procedure applied earlier, we find significant differences between the trends in the work limitations-based prevalence of disability in the NHIS and the two CPS samples. Of the four comparisons, only the trends for men in the NHIS and CPS-matched sample are not statistically different. The differences in trends in the prevalence of work limitations-based disability across our three data sources is somewhat surprising and suggests that more data are needed to decide which source is best for accurate monitoring of disability levels or trends.

Although the prevalence trends clearly are different across the two data sets, we primarily are interested in whether the CPS can be used to follow employment trends for those with disabilities. Figure 4 shows employment rates for men and women with work limitation-based disabilities in the NHIS, CPS, and CPS-matched sample. As the figure shows, there is a much closer relationship between employment rates for those with disabilities than was true for the prevalence rates. We find no significant differences in the employment trends (1983-1996) for the work limitation-based populations of men (women) with disabilities in the NHIS and two CPS samples.

Thus, despite significant differences in the level of self-reported work limitations between the two data sets, the trends in employment found in the two CPS work limitation-based disability populations are not significantly different from those found in the NHIS work limitation-based disability population.

## What Do Current Data Tell Us?

### *Trends in Employment among Those with Disabilities in the 1980s and 1990s*

We now focus on the current debate over the employment trends of working-age people with disabilities. Table 2 shows the sensitivity of employment rates to economic fluctuations over the past twenty years for working-age men and women with and without disabilities. To trace economic outcomes of people with disabilities over the business cycle we focus on three years representing peak or near peak points—1980, 1989, and 1999—and two years representing trough points—1982 and 1991. An ideal analysis would make peak-to-peak comparisons (1979, 1989, and the next business cycle peak). However, data constraints limit the choice of years compared to 1980 (the first year of data with disability information), 1989 (the peak of the 1980s business cycle), and 1999 (the latest year of data available). As the table shows, during the 1980s the employment of men with and without disabilities was procyclical, falling with recession and rising with recovery. In 1980, the first year the economy began to slow, employment rates of men with and without disabilities were relatively high—42.6 percent and 96.7 percent, respectively. Employment for men with and without disabilities declined as the economy moved through a recession, declining by about 2 percent for each group. Economic recovery once again boosted employment rates among men, particularly those with disabilities. Between 1982 and 1989, the employment rate among men with disabilities rose 5.1 percent, surpassing the 1980 peak. Tests for differences in the levels and trends of employment between men with and without disabilities during the 1980s show a significant difference in the level of employment, but no significant difference in the trends.

In the 1990s, the employment experiences of men with and without disabilities began to diverge. For men without disabilities, the familiar procyclical pattern continued; employment fell as the economy moved into recession in the early 1990s but rebounded over the next seven years of economic growth (1992 to 1999). By 1999, the last year of available CPS data, the employment of men without disabilities was near its 1989 peak level. In contrast, the employment pattern of men with disabilities was quite different over the 1990s. Employment rates among men with disabilities fell as the economy moved into recession, but then continued to fall during the expansion, when job growth was substantial and the employment of men without disabilities was rising. By 1999 the employment rate of working-age men with disabilities not only had failed to return to its 1989 level but also was substantially below its 1992 trough year level. Overall, between 1989 and 1999, the employment rate of men with disabilities fell from 44.0 to 34.0 percent, a decline of more than 25 percent. Tests for differences in the trends in employment during the 1990s show a significant difference in the employment trends between men with and without disabilities, unlike during the 1980s (see Burkhauser, Daly, Houtenville, Nargis 2002 for complete results from these tests).

The story for women is similar. The employment of women with and without disabilities was constant in the early recession years of the 1980s business cycle and then increased substantially through the growth years that followed. However, as was the case for men, over the 1990s business cycle the employment experience of women with and without disabilities began to diverge. For women without disabilities, employment remained near its 1989 peak through the recession years of the early 1990s and grew thereafter. In contrast, the employment rate of women with disabilities fell as the economy moved into recession and continued to fall, even over

the recovery period. Statistical tests confirm that while there is a significant difference in the level of employment rates over the entire period, there is no significant difference in the employment trends for women with and without disabilities in the 1980s. In contrast, and as for the sample of men, there is a significant difference in employment trends in the 1990s (see Burkhauser, Daly, Houtenville, Nargis 2002 for complete results from these tests).

To test for the possibility that changes in the composition of the population reporting a work disability are driving the results, we perform a simple shift-share analysis, controlling first for changes in age, race, education, and household size, and then controlling for these demographic changes and changes in employment rates. We find that if the composition of the population with disabilities was the same in 1999 as it was in 1980 or 1989 (in terms of age, race, education, and household size), the economic outcomes for those with disabilities would be worse than the ones actually found in the data (see Burkhauser, Daly, Houtenville, Nargis 2002 for complete results from these tests). This suggests that our results are not an artifact of demographic shifts, but rather the result of changing outcomes for those with disabilities.

## **Discussion and Conclusions**

Using data from the NHIS we show that a substantial share of working-age people who report serious impairment do not report having a work limitation. We further show that those with impairments who also report having a work limitation are far less likely to be employed than are people with the same reported impairment who do not report having a work limitation. This suggests that work limitation questions like those in the CPS are likely to understate the prevalence of disability in the working-age population based on a broad impairment-based conceptualization and to understate the share of that population that is employed.



However, we also find that the employment trends in these two distinct conceptualizations of the working-age population with disabilities are not significantly different from one another. Using NHIS data we find that the employment trends of this work limitation-based disability population are not significantly different from the employment trends of the larger impairment-based population. Moreover, we find that while disability prevalence and employment rates found in the CPS data for this work limitation-based disability population are significantly different from those found in the NHIS data, there is no significant difference between the trends in employment found in these data sources. Based on these findings we argue that work limitation-based questions are not the ideal way to identify the size of the working-age population with disabilities. However, we also argue that nationally representative employment focused data sets like the CPS can be used to monitor trends in the employment outcomes of the working-age population with disabilities.

With that in mind and using the work limitation-based measure of disability in the CPS, we find that during the 1980s and the 1990s, employment outcomes for those without disabilities were procyclical, falling during recessionary years and rising during years of expansion. While this also was the case for working-age men and women with disabilities during the 1980s, it failed to hold for working-age men and women with disabilities in the 1990s. During the 1990s, employment of men and women with disabilities fell continuously, declining in both recessionary and expansionary periods. These results suggest that recent studies using the work limitation-based disability population in the CPS to examine the decline in the relative employment of men with disabilities in the 1990s cannot be dismissed out of hand.

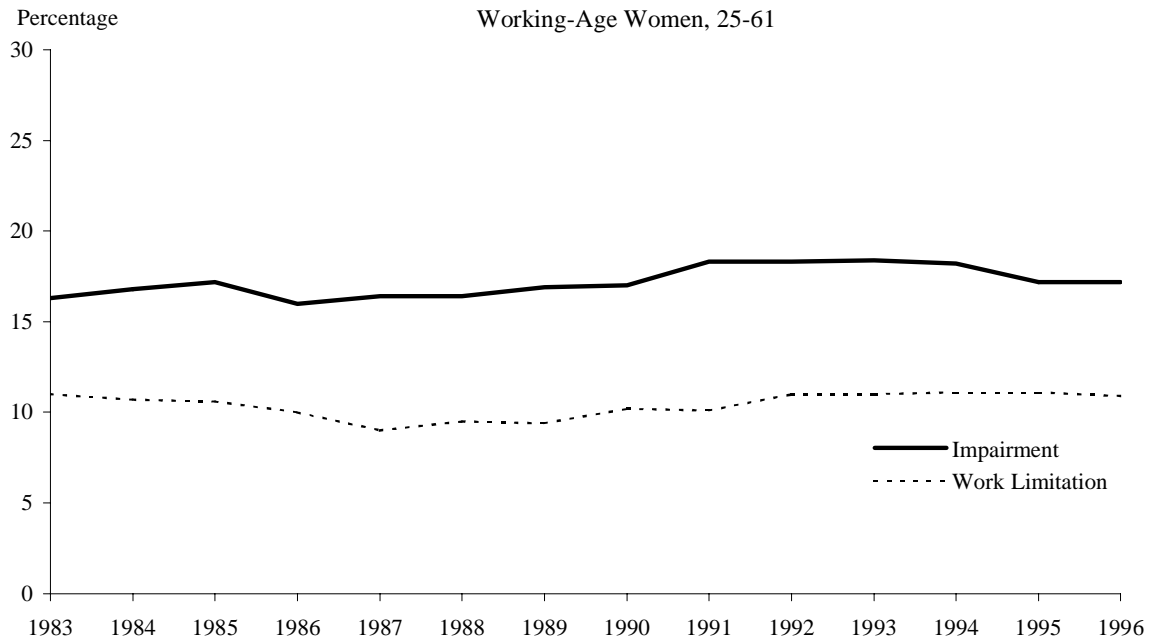
## References

- Acemoglu, D. and J. Angrist. 2001. "Consequences of Employment Protection? The Case of the Americans with Disabilities Act." *Journal of Political Economy*, 109 (5): 915-57.
- Autor, D. and M. Duggan. 2001. "The Rise in Disability and the Decline in Unemployment." Mimeo, Department of Economics. Cambridge, MA: Massachusetts Institute of Technology.
- Baker, M. M. Stabile, and C. Deri. 2001. "What Do Self-Reported, Objective, Measures of Health Measure?" National Bureau of Economic Research Working Paper 8419.
- Bound, J. and R.V. Burkhauser. 1999. "Economic Analysis of Transfer Programs Targeted on People with Disabilities." In *Handbook of Labor Economics*, Vol. 3. Edited by Orley Ashenfelter and David Card. New York, Amsterdam: Elsevier Science, pp. 3417-3528.
- Bound, J. and T. Waidmann,. 1992. "Disability Transfers, Self-Reported Health, and the Labor Force Attachment of Older Men: Evidence from the Historical Record." *Quarterly Journal of Economics*, 107(4), pp: 1393-419.
- Bound, J. and T. Waidmann. 2002. "Accounting for Recent Declines in Employment Rates among the Working-aged Men and Women with Disabilities." *Journal of Human Resources*, 37(2), pp: 231-250.
- Burkhauser, R.V. and M.C. Daly. 1996. "Employment and Economic Well-Being Following the Onset of a Disability: The Role for Public Policy." In *Disability, Work, and Cash Benefits*, Jerry Mashaw, Virginia Reno, Richard V. Burkhauser, and Monroe Berkowitz, eds. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research, pp. 59-102.
- Burkhauser, R.V., M.C. Daly, and A. Houtenville. 2001. "How Working-Age People with Disabilities Fared over the 1990s Business Cycle." In *Ensuring Health and Income Security for an Aging Workforce*. Edited by P. Budetti, R.V. Burkhauser, J. Gregory, and A. Hunt. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research, pp. 291-346.
- Burkhauser, R.V., M.C. Daly, A. Houtenville, and N. Nargis. 2001. "The Employment of Working-Age People with Disabilities in the 1980s and 1990s: What Current Data Can and Cannot Tell Us." *Federal Reserve Bank of San Francisco Working Paper* 2001-20.
- Crimmins, E.M., M.D. Hayward, and Y. Saito. 1994. Changing Mortality and Morbidity Rates and the Health Status and Life Expectancy of the Older Population." *Demography*, 31: 159-75.

- Crimmins, E.M., Y. Saito, and D. Ingegneri. 1989. "Changes in Life Expectancy and Disability-Free Life Expectancy in the United States." *Population and Development Review* 15:235-67.
- Crimmins, E.M., Y. Saito, and D. Ingegneri. 1997. "Trends in Disability-Free Life Expectancy in the United States, 1970-1990." *Population and Development Review* 23:555-72.
- DeLeire, T. 2000. "The Wage and Employment Effects of the Americans with Disabilities Act." *Journal of Human Resources* 35(4): 693-715.
- Hale, T. 2001. "The Lack of a Disability Measure in Today's Current Population Survey." *Monthly Labor Review*. June: pp. 38-40.
- Hardy, M. and E. Pavalko. 1986. "The Internal Structure of Self-Reported Health Measures Among Older Male Workers and Retirees." *Journal of Health and Social Behavior*, 27(4): 346-357.
- Hayward, M. and W. Grady. 1990. "Work and Retirement Among a Cohort of Older Men in the United States, 1966-1983." *Demography*, 27(3): 337-356.
- Hayward, M. and M. Heron. 1999. "Racial Inequality in Active Life among Adult Americans." *Demography* 36(1): 77-91.
- Houtenville, A. J. 2001. "The Economic Experience of Working Persons with Chronic Vision-Related Impairments." Report prepared for the National Research Council, Commission on Behavioral and Social Science Education.
- Jette, A. and E. Badley. 2000. "Conceptual Issues in the Measurement of Work Disability." in *Survey Measurement of Work Disability*, edited by Nancy Mathiowetz and Gooloo Wunderlich. Washington DC: National Academy Press.
- Kaye, S. 2002. "Employment and the Changing Disability Environment." Mimeo, Disability Statistics Center, University of California, San Francisco.
- Kirchner, C. 1996. "Looking Under the Street Lamp: Inappropriate Uses of Measures Just Because They are There." *Journal of Disability Policy Studies* 7(1): 77-90.
- Kruse, D. 1998. "Persons with Disabilities: Demographic, Income, and Health Care Characteristics, 1993." *Monthly Labor Review*, September.
- Kruse, D. and L. Schur. 2000. "Employment of People with Disabilities Following the ADA." Mimeo, School of Management and Labor Relations. New Brunswick, NJ: Rutgers University.

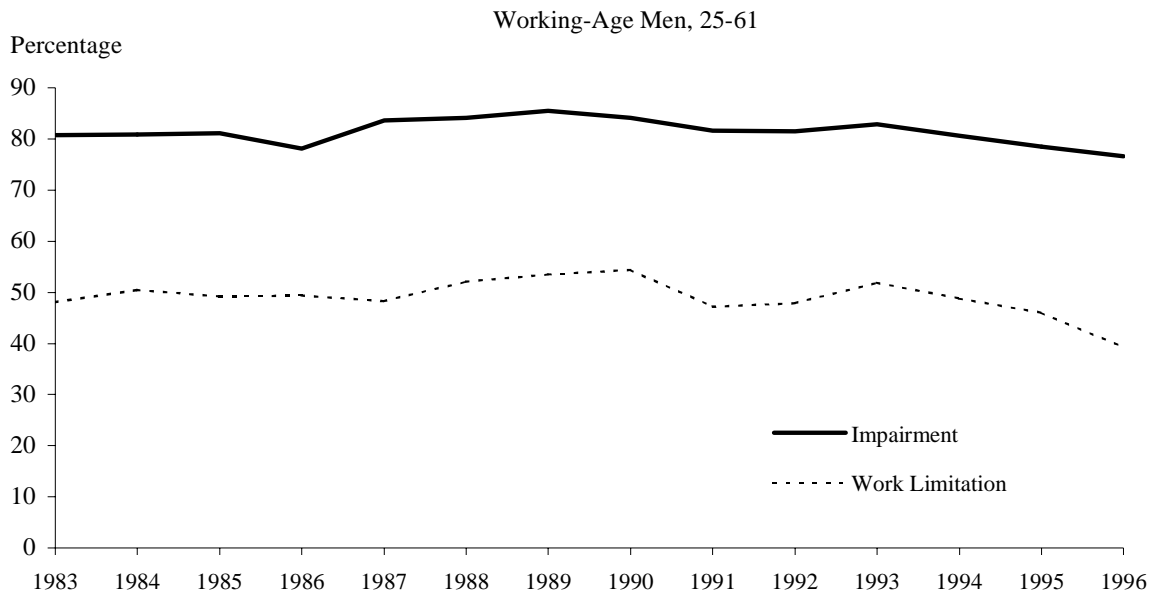
- Lakdawalla, D., J. Bhattacharya, and D. Goldman. 2001. "Are the Young Becoming More Disabled?" NBER Working Paper 8247.
- McNeil, J. 1993. "Americans with Disabilities: 1991-1992." Bureau of the Census, Current Population Reports, Household Economic Studies p70-33.
- McNeil, J. 2000. "Employment, Earnings, and Disability." Presented at the 75<sup>th</sup> Annual Conference of the Western Economic Association. Available at <http://www.census.gov/hhes/www/disable/emperndis.pdf>.
- Moore, K. 2001. "Raising the Social Security Retirement Ages: Weighing the Costs and Benefits." *Arizona State Law Journal*, 33(2): 544-612.
- Nagi, S. 1965. "Some Conceptual Issues in Disability and Rehabilitation." In *Sociology and Rehabilitation*, M.B. Sussman, ed. Washington, DC: American Sociological Association.
- Nagi, S. 1969. *Disability and Rehabilitation: Legal, Clinical and Self-Concepts of Measurement*. Columbus: Ohio State University Press.
- Nagi, S. 1991. "Disability Concepts Revisited: Implications to Prevention." In *Disability in America: Toward A National Agenda for Prevention*. Edited by A.M. Pope and A.R. Tarlove. Washington, DC: National Academy Press.
- Parsons, D. O. 1980. "The Decline of Male Labor Force Participation," *Journal of Political Economy*, February, 88, pp. 117-34.
- Stern, S. 1989. "Measuring the Effect of Disability on Labor Force Participation," *Journal of Human Resources*, 24(3)(Summer): 361-395.
- Verbrugge, L.M. 1984. "Long life but worsening health? Trends in health and mortality of middle-aged and older persons." *Milbank Memorial Fund Quarterly/Health and Society*, 62:475-519.
- Verbrugge, L.M. 1990. "Disability." *Epidemiology of Rheumatic Disease*, 16:741-61.
- Verbrugge, L.M. 1991. "Physical and Social Disability in Adults." In *Primary Care Research: Theory and Methods*, edited by H. Hibbard, P.A. Nutting, and M.L. Grady. AHCRP Publication No. 91-0011. Rockville, MD: Agency for Health Care Policy and Research, U.S. Department of Health and Human Services.

**Figure 1. Trends in Impairment- and Work Limitation-Based Disability in the NHIS**



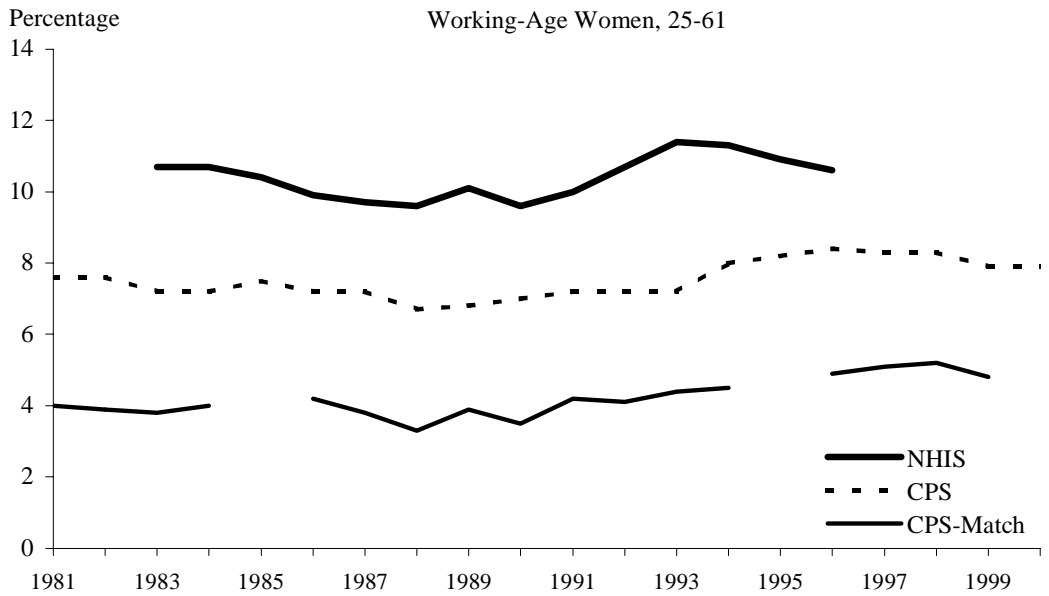
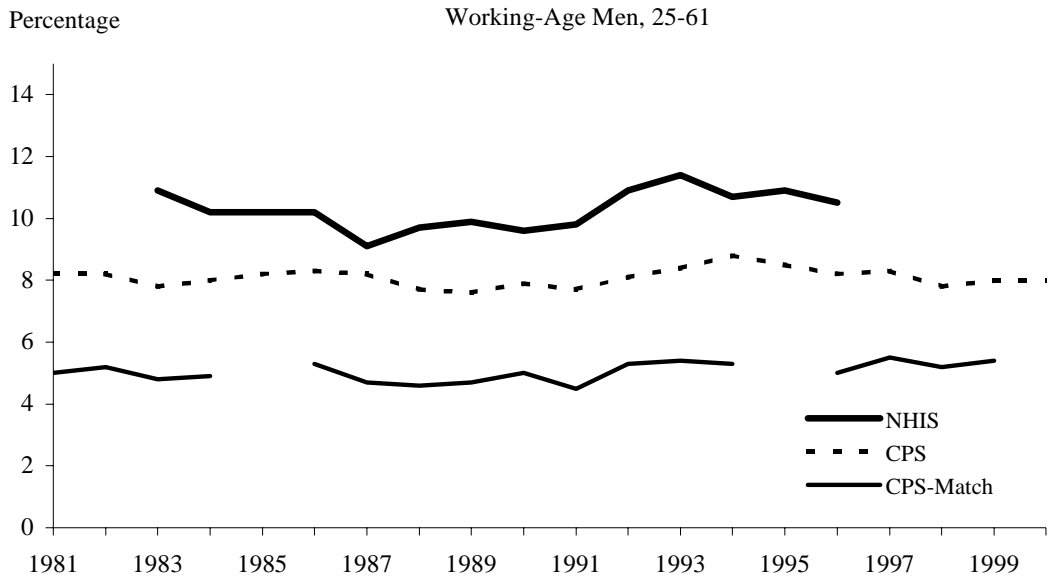
Source: Authors' calculations using the National Health Interview Survey, 1983-1996.

**Figure 2. Trends in Employment Among Impaired and Work Limited Working-Age Adults**  
**NHIS Data**



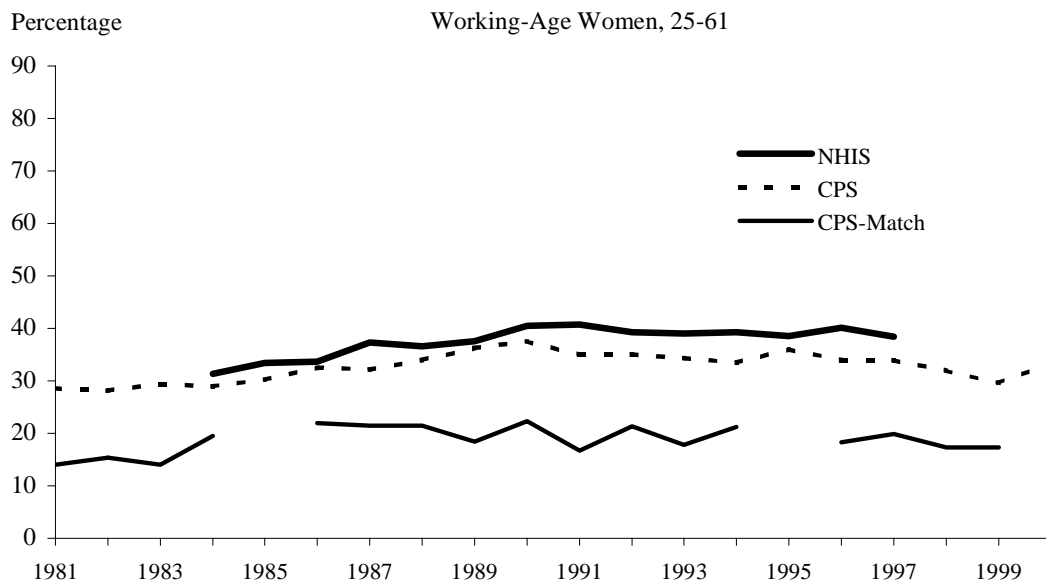
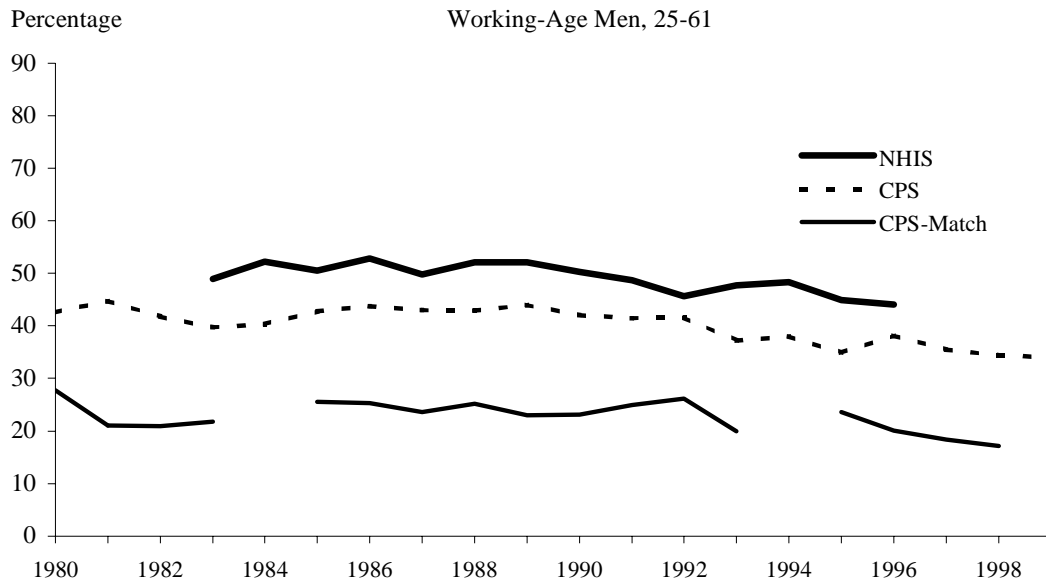
Source: Authors' calculations using the National Health Interview Survey, Condition List #2, 1983-1996.

**Figure 3. Work Limitation-Based Disability Prevalence in the NHIS, CPS, and Matched CPS**



Source: Authors' calculations using the NHIS, 1983-1996, and CPS 1981-2000.

**Figure 4. Trends in Employment Among Working Age Persons with Work Limitations-Based Disabilities**



Source: Authors' calculations using the NHIS, 1983-1996, and CPS 1981-2000.



**Table 1. Impairment, Work Limitations, and Employment in the NHIS  
Men and Women aged 25-61**

Group	(1)	(2)	(3)	(4)	(5)	(6)
	Reporting an impairment		<u>Of those reporting an impairment</u>			
	Percent	Employment Rate	Reporting an impairment and a work limitation		Reporting an impairment and no work limitation	
	Percent	Employment Rate	Percent	Employment Rate	Percent	Employment Rate
Any Impairment	19.52	72.5	25.9	41.5	74.1	83.4
Blind-Both Eyes	0.15	39.1	69.0	20.3	31.0	81.1
Other Visual Impairments	1.83	63.0	36.2	31.6	63.8	80.9
Deaf-Both Ears	0.37	68.0	38.0	40.8	62.0	84.6
Other Hearing Impairments	7.49	73.6	23.4	39.6	76.6	83.9
Stammering and Stuttering	0.42	65.4	33.4	23.7	66.6	86.3
Other Speech Impairments	0.26	44.0	64.9	29.1	35.1	71.6
Paraplegia, Hemiplegia, Quadriplegia	0.11	25.1	90.3	20.2	9.8	72.4
Paraparesis or Hemiparesis	0.05	31.2	88.6	26.6	11.5	66.7
Cerebral Palsy	0.09	42.4	74.5	32.4	25.5	71.7
Mental Retardation	0.29	30.6	90.2	28.4	9.8	51.6
Other Impairments	11.74	72.6	27.2	45.2	72.8	83.3

Source: Authors' calculations using the NHIS pooled over 1983-1996.

**Table 2. Employment Rates of Working-Age Men and Women, by Disability Status  
1980, 1982, 1989, 1992, and 1999**

Work Year	Employment Rate			
	Men		Women	
	Without Disability	With Disability	Without Disability	With Disability
1980	96.7	42.6	69.2	28.5
1982	95.0	41.7	69.2	29.3
1989	96.0	43.9	77.0	37.4
1992	94.7	41.6	77.6	34.2
1999	95.1	33.9	81.5	33.3
	Percentage Change			
1980-1982	-1.8	-2.1	0.0	2.8
1982-1989	1.0	5.1	10.7	24.3
1980-1989	-0.7	3.0	10.7	27.0
1989-1992	-1.4	-5.4	0.8	-8.9
1992-1999	0.4	-20.4	4.9	-2.7
1989-1999	-0.9	-25.7	5.7	-11.6

Source: Authors' calculations based on the March CPS, 1981-2000.