Does Disability Affect Unemployment Risk among Older Workers?  
A Life Course Study  
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**Summary of Results**

**Men:** In results for those with at least high school education, beginning at age 20 (through age 65 or death), Black men (White men in parentheses, all comparisons p<0.001) had, on average, 5.4 (2.9) unemployment spells, totaling 8.0 (2.7) years, each lasting an average 7.1 (4.2) months. Among Black men, percentages of years in states, ages 20-65, were: 8% (2.7%) unemployed; 70.2% (77.1%) working not disabled; 7.2% (4.9%) not working and disabled; 8.4% (9.8%) working and disabled.

- **Black men with at least high school:** 8.8% (8.9%) reported a work disability by age 60; at retirement, 27% (32.9%) worked with a disability.
- **Less educated Black men:** 14.2% (16.9%) reported a work disability by age 60; at retirement 32.6% (41.2%) worked with a disability.

**Women:** In results for those with at least high school education, beginning at age 20 (through age 65 or death), Black women (White women in parentheses, all comparisons p<0.001) had, on average, 6.0 (3.3) unemployment spells totaling 3.3 (1.3) years, lasting, on average 6.7 (4.1) months. Among Black women, percentages of years in states, ages 20-65, were: 7.9% (3.9%) unemployed; 56% (63.4%) working not disabled; 10.9% (7.2%) not working, disabled; and 8.4% (10%) working and disabled.

- **Black women with at least high school:** 9% (10.4%) reported a work disability by age 60; at retirement, 21% (24.9%) worked with a disability.
- **Less educated Black women:** 13.6% (16.5%) reported a work disability by age 60; at retirement 39% (34.1%) worked with a disability.

**Event History Models**

**Men:** (at least high school education): Among Black men with no previous disability, any unemployment increased monthly odds of becoming disabled before age 65 by 74% (OR 1.74; White 1.69); White hazard analysis showed similar results. Among Black men with no previous disability, any unemployment increased monthly odds of becoming disabled after age 65 by 86% (OR 1.86; White 1.57); White hazard analysis showed similar results. Among White men with no previous disability, any unemployment increased monthly odds of becoming disabled before age 65 by 99% (OR 1.99; White 1.91); White hazard analysis showed similar results. Among White men with no previous disability, any unemployment increased monthly odds of becoming disabled after age 65 by 99% (OR 1.99; White 1.91); White hazard analysis showed similar results.

**Women:** (at least high school education): Among Black women with no previous disability, any unemployment increased monthly odds of becoming disabled before age 65 by 56% (OR 1.56; White 1.47); White hazard analysis showed similar results. Among Black women with no previous disability, any unemployment increased monthly odds of becoming disabled after age 65 by 81% (OR 2.81; White 2.86); White hazard analysis showed similar results.

**Discussion**

- Blacks and lower-educated adults faced higher unemployment risks and more difficulty becoming re-employed than Whites and those with more education.
- People who experienced unemployment were then more likely than others to become disabled during work life, a risk that increased with each additional unemployment spell.
- Individuals with disabilities were significantly more likely than others to become unemployed.

**Limitations**

- Among those not working we have not yet distinguished homemakers, discouraged workers, students, or retired persons. For the employed, the models do not account for work hours.
- For the unemployed, there is limited data for those disabled.

**Strengths**

- We used 43 years of panel data spanning an important era of U.S. macroeconomic changes to model joint dynamics of disability and employment in a national sample representing all ages.

**Conclusions and Implications**

- Unemployment status and health status are singly important but so is their intersection: adults work with disabilities through considerable proportions of working life, particularly in later working life, and disability increases the risk of becoming unemployed.
- Our results should be considered in proposals that address employment-related issues, including raising the retirement age for Social Security solvency, and policies addressing both unemployment and disability.
- Further study of health consequences of episodic, unstable employment in midlife is needed, and also of the impacts of macroeconomic changes on the joint dynamics of unemployment, health, and mortality.

**Data and Analytical Methods**

**Data** Panel Study of Income Dynamics (1968-2013); n=16,115; 261,804 person years) and National Death Index. Study uses 33 years of participants’ reports of monthly work status (1981-2013) and analogous prior annual reports (1968-1980).

- **Disability Measures:**
  - 1. Physical or nervous problems that limited type or amount of work (1968-2013);
  - 2. Difficulty doing any of seven activities of daily living (ADLs) (1992-2013); or
  - 3. Permanent disability (1968-2013)

- **Unemployment Measure:** Not working but actively seeking work

**Analytical Methods**

1. Six-state multinomial logistic Markov models estimated monthly transition probabilities. Five states defined by employment and disability status combinations: not working (including retired), not working disabled, working not disabled, working disabled, or unemployed; separate transition probabilities from each of the five states to death (1.3 million transitions)

- **All models control for age (in years, allowing probability shifts at ages 62 and 70), age-squared, sex, race/ethnicity, and education (at least high school compared with less)

2. Using the probabilities from the Markov model, microsimulation of large populations: monthly work status; it can facilitate our life course research on the associations of employment patterns; it can facilitate our life course research on the associations of health, disability, and mortality.

- **Work life expectancy, the years of employment and the retirement age for the average individual in any given demographic group, as well as the proportions of those years with and without disability**

- **Active life expectancy, a central measure of public health combining life expectancy and the proportions of remaining life with and without disability**

**Selected Results**

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<thead>
<tr>
<th>Women</th>
<th></th>
<th>Men</th>
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<tbody>
<tr>
<td>Education</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Life expectancy, age 20</td>
<td>73.3</td>
<td>76.1</td>
</tr>
<tr>
<td>Life expectancy, age 50</td>
<td>78.3</td>
<td>80.5</td>
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<tr>
<td>Life expectancy, age 70</td>
<td>82.7</td>
<td>84.2</td>
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<tr>
<td>Retirement age, mean</td>
<td>58.3</td>
<td>60.4</td>
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<tr>
<td>Worklife unemployment spells, mean n</td>
<td>7.1</td>
<td>6.0</td>
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<tr>
<td>Unemployment spell months, mean</td>
<td>6.5</td>
<td>6.7</td>
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<tr>
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<tbody>
<tr>
<td>% years ages 20-65 not working, not disabled</td>
<td>19.8</td>
<td>16.6</td>
</tr>
<tr>
<td>% years ages 20-65 not working, disabled</td>
<td>19.4</td>
<td>10.8</td>
</tr>
<tr>
<td>% years ages 20-65 working, not disabled</td>
<td>38.8</td>
<td>56.0</td>
</tr>
<tr>
<td>% years ages 20-65 working, disabled</td>
<td>12.1</td>
<td>8.4</td>
</tr>
<tr>
<td>% years ages 20-65 unemployed</td>
<td>9.2</td>
<td>7.9</td>
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<tr>
<td>% reporting a work disability at age 60</td>
<td>13.6</td>
<td>9.0</td>
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<tr>
<td>% working at retirement with any disability</td>
<td>28.0</td>
<td>21.1</td>
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*Of course the company appreciates your years of loyalty.*