

# Life Course Health and Socioeconomic Profiles Of Americans Aging With Disability

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*Celebrating 60 Years of Social Science in the Public Interest*

## Aging with Disability vs. Aging into Disability

- Increased longevity for individuals with disabilities
- Coupled with global aging
- Creates challenges for societies trying to meet the needs of both populations (Toronto Declaration, Bickenbach et al. 2012)
- Growing older with disability and growing into disability are likely to be two very different experiences



# Disability and Health Data System

(CDC's Division of Human Development and Disability)

- Compared to adults without disabilities...
  - ... those with disabilities are more likely to:
    - be obese
    - be sedentary
    - be current smokers
    - experience an unmet medical need due to cost
  - ... those with disabilities are less likely to:
    - have seen a dentist in the past year
    - have received cancer screening and other preventive services

## Living with a Disability

- Over half of adults with disability do not engage in physical activity due to socio-environmental barriers (Rimmer 2004):
  - equipment barriers in recreational facilities
  - negative attitudes by persons without disabilities
  - inaccessible walking paths and sidewalks



## Life Course Perspective (Riley 1979; Elder 1994)

- Health problems over adulthood have adverse consequences for stable employment and income accumulations (Jin 1995)
- Particularly consequential during “Emerging Adulthood” (Arnett & Tabor 1994):
  - early career path
  - advanced education
  - marriage and family formation
  - asset acquisition



## Life Course Perspective

- Disrupted employment trajectories and career paths have long term consequences for health, asset, and wealth accumulation into retirement (Pavalko, Elder, Clipp, 1993)
- Cumulative disadvantage (Ferraro 2009):
  - progression of health problems
  - reinforcement of socioeconomic disadvantage throughout the life course

## Aging with Disability

- Good reason to believe that those aging with disability will experience more challenges due to the cumulative disadvantages experienced over adulthood.
- Yet we know very little about the life course histories of those aging with disabilities



## Purpose

- To compare the life course profiles of Americans aging with and without disabilities, with respect to:
  - educational attainment
  - employment patterns
  - income levels
  - family formation
  - health

## Data – Panel Study of Income Dynamics (PSID)

- Longest running longitudinal household survey in the world
- First wave in 1968
- Nationally representative sample of over 18,000 Americans
- Followed annually to 1997 and biennially since 1997

## Data

- Focus on a PSID cohort of men and women age 20-34 in 1979 (N=4425)
- Followed for 30 years to 2009 (age 50-64)

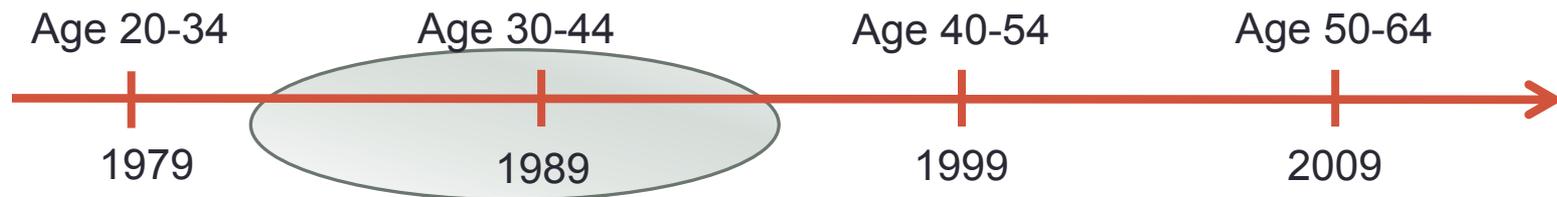


- Compare health and socioeconomic profiles across those with and without disabilities

## Measures: Defining Disability

- Since 1981:

“Do you have any physical or nervous condition that limits the type of work or the amount of work that you can do?”



- Disability = 4+ reports between 1981-1994 (age 22-49)

## Measures – Time Invariant

- Sociodemographic characteristics:
  - age
  - gender
  - minority race/ethnicity (Hispanic, non-Hispanic Black, other)
- Education - highest level completed:
  - <high school
  - high school diploma
  - college degree

## Measures – Time Varying

- Household Income
  - Inflation adjusted to 1979 dollars
  - quartiles (<\$10K, \$10-20K, \$20-30K, \$30K+)
- Employment status
  - employed
  - unemployed
  - retired
  - homemaker
  - unable to work because of disability

## Measures – Time Varying

- Self-rated Health (since 1984)

“Would you say your health in general is excellent, very good, good, fair, or poor?”

reverse-scored 1-5 (higher score = better health)

- Captures overall health and well-being that is sensitive to socioeconomic status and highly predictive of mortality (Idler & Benyamini 1997)

## Measures – Health Behaviors and Health Problems

- Since 1999 (age 40-64)
- Medically diagnosed chronic health conditions (and age at diagnosis)
  - heart disease, diabetes, hypertension, arthritis, stroke, cancer, psychiatric conditions
- Smoking
- Physical activity
  - frequency of participation in vigorous and light activities
  - sedentary = never in previous year
- Overweight (BMI=25-29) and obese (BMI>30)

## Measures – Functional Limitations

- Since 2003 (age 44-58)
- Difficulty with self care activities of daily living (ADL)
  - bathing, eating, dressing, walking, transfers, toileting, going outside
- Difficulty with instrumental ADL (IADL)
  - meal preparation, shopping, money management, using the phone, heavy housework
- Summary index captures the number of difficulties in ADL and IADL

## Statistical Analyses

- Bivariate statistics to compare characteristics across those with and without disability
  - Chi-square
  - t-test

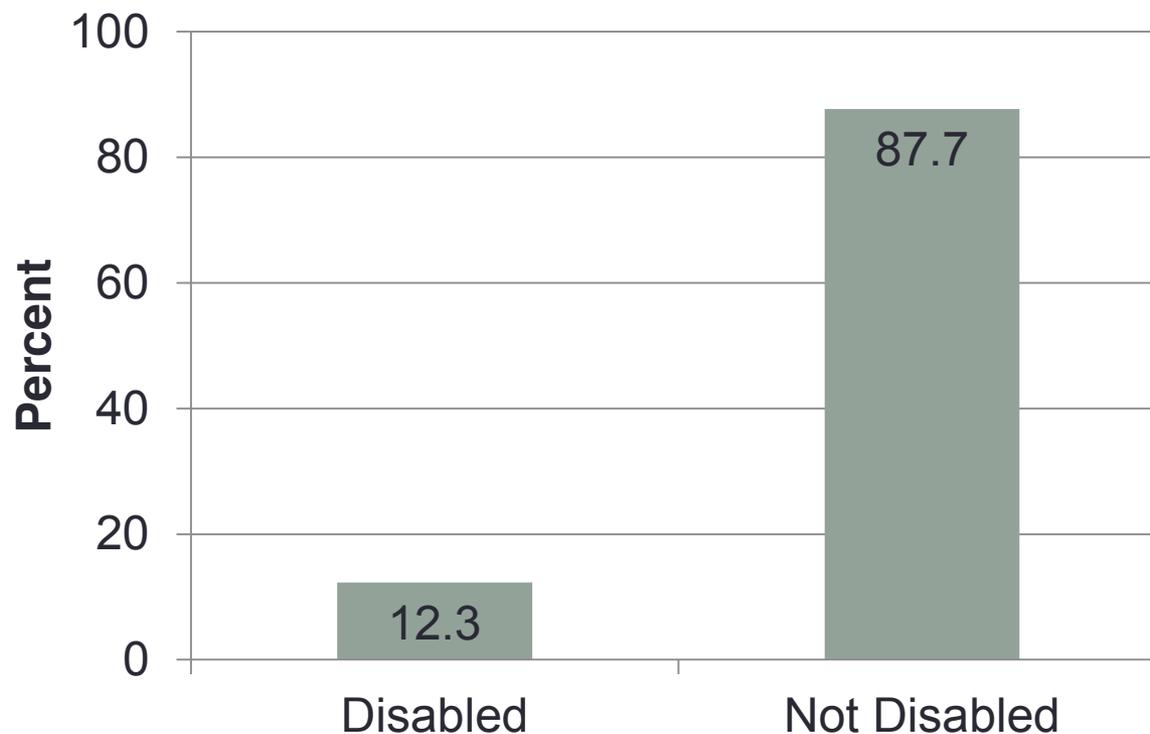
## Statistical Analyses

- Growth curve models to examine life course trajectories of self-rated health over adulthood
  - age is used as the indicator of time
- Linear models (based on normally distributed residuals)
- Estimated using full maximum likelihood using the MIXED procedure in SAS.

## Results

“Do you have any physical or nervous condition that limits the type of work or the amount of work that you can do?”

- Disability = 4+ reports between 1981-1994 (age 22-49)



## Results

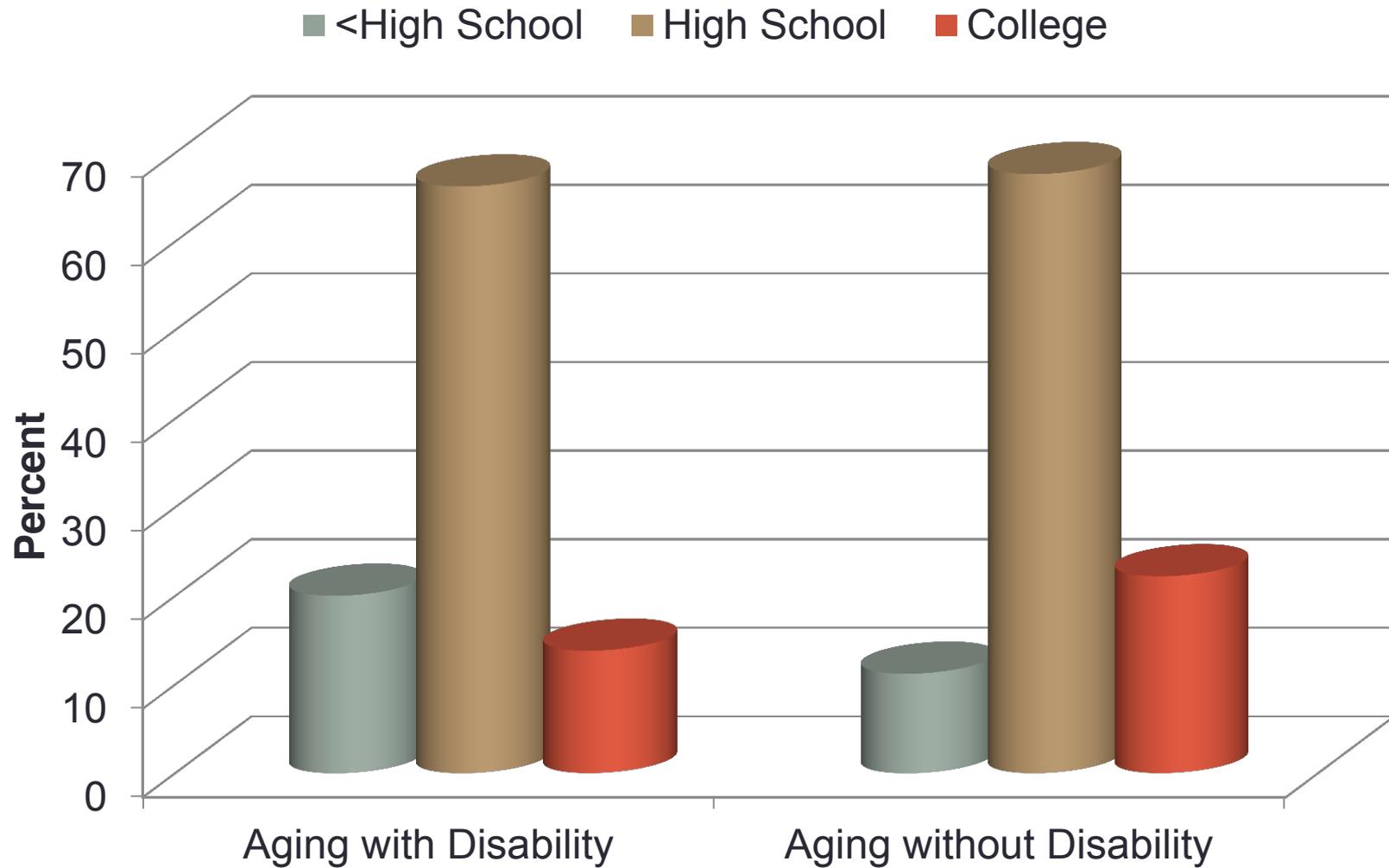
Annual Reports of Work Limitation 1981-1994 (Age 22-49)	Overall Sample (N=4425)	Aging with Disability (N=544)	Aging without Disability (N=3881)
0	66.0 %		75.2 %
1	12.6		14.3
2	5.5		6.3
3	3.6		4.2
4	2.2	18.0 %	
5	2.0	16.4	
6	2.1	17.1	
7	1.1	8.8	
8	1.3	10.7	
9	.8	6.4	
10	.9	7.0	
11	.7	5.5	
12	.5	4.2	
13	.4	3.1	
14	.3	2.8	

## Results

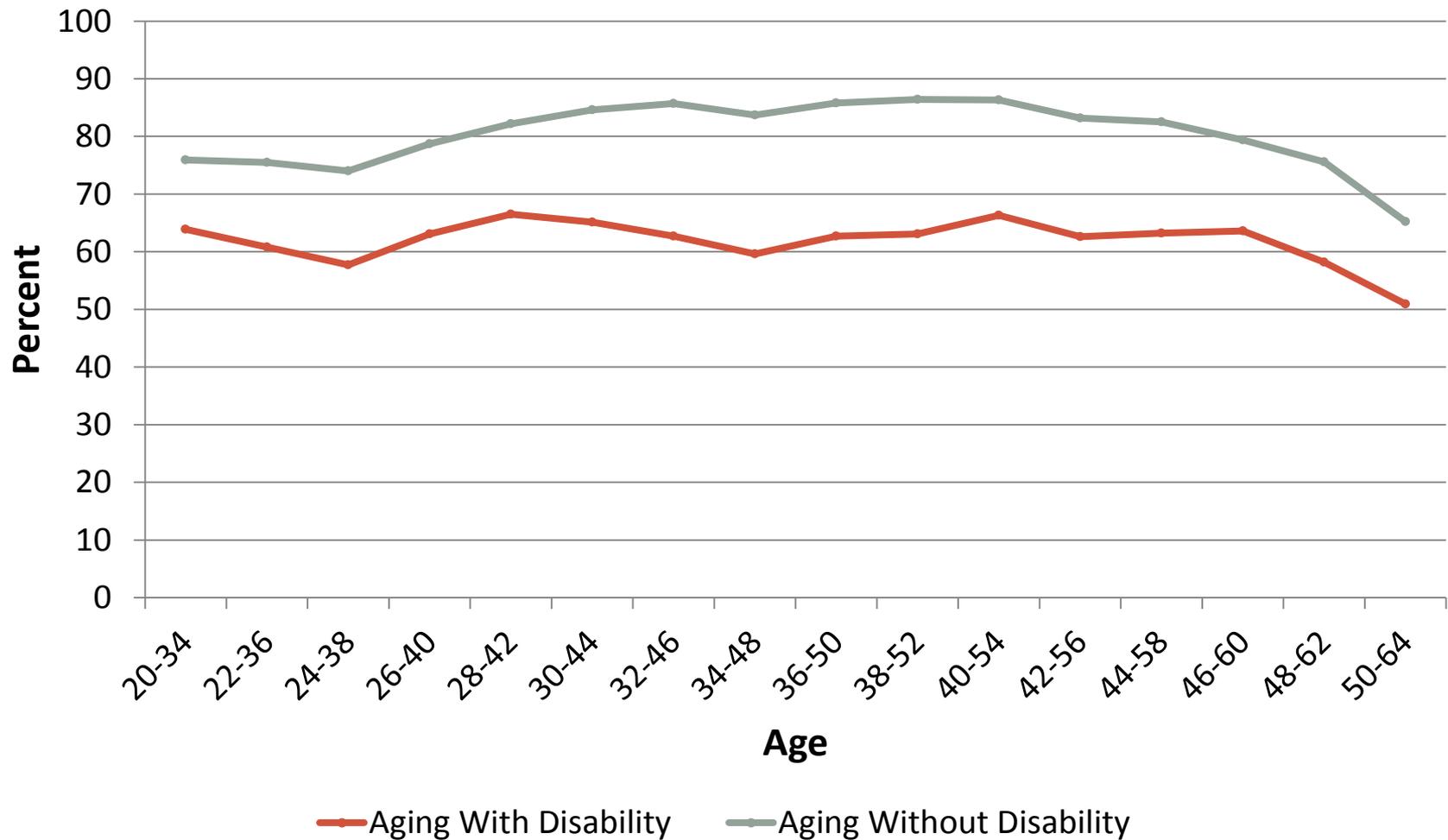
	Aging With Disability (N=544)	Aging Without Disability (N=3881)
Age in 1979		
20-24	27.9%	31.4%
25-29	38.8%	40.1%
30-34	33.3%	28.5%
Gender		
Female	57.4%	53.4%
Male	42.6%	46.6%
Race/Ethnicity		
White	64.8%	62.2%
Minority	35.2%	37.8%
Never Married	10.7%	6.7% *
Number of Marriages	1.3 ( $\pm$ 0.8)	1.3 ( $\pm$ 0.7)
Number of Children	2.3 ( $\pm$ 1.6)	2.2 ( $\pm$ 1.3)

\*  $p < .01$

## Educational Attainment by Disability Status

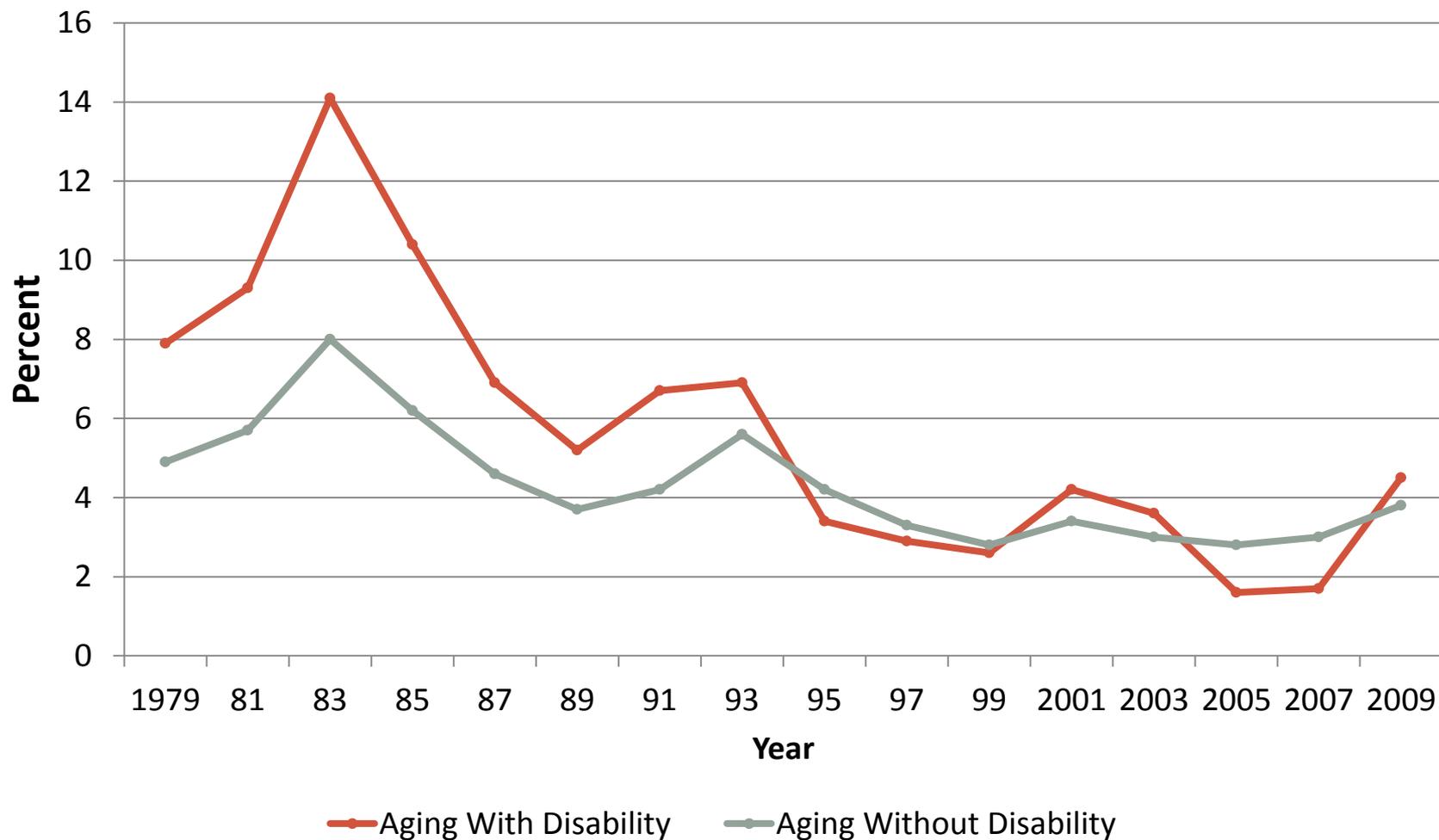


## Employment over adulthood by Disability Status PSID 1979-2009

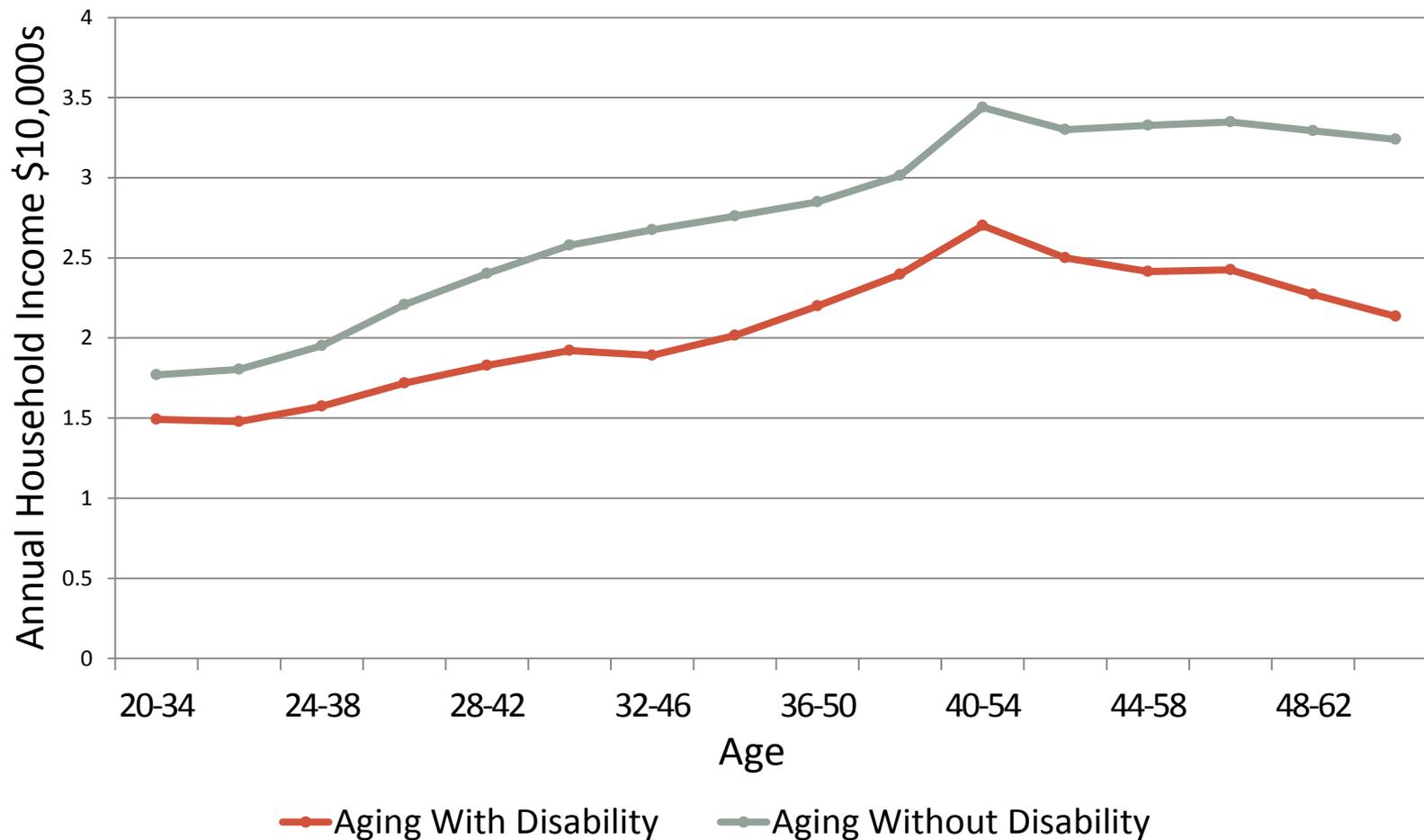


# Unemployment Rate over adulthood by Disability Status

## PSID 1979-2009



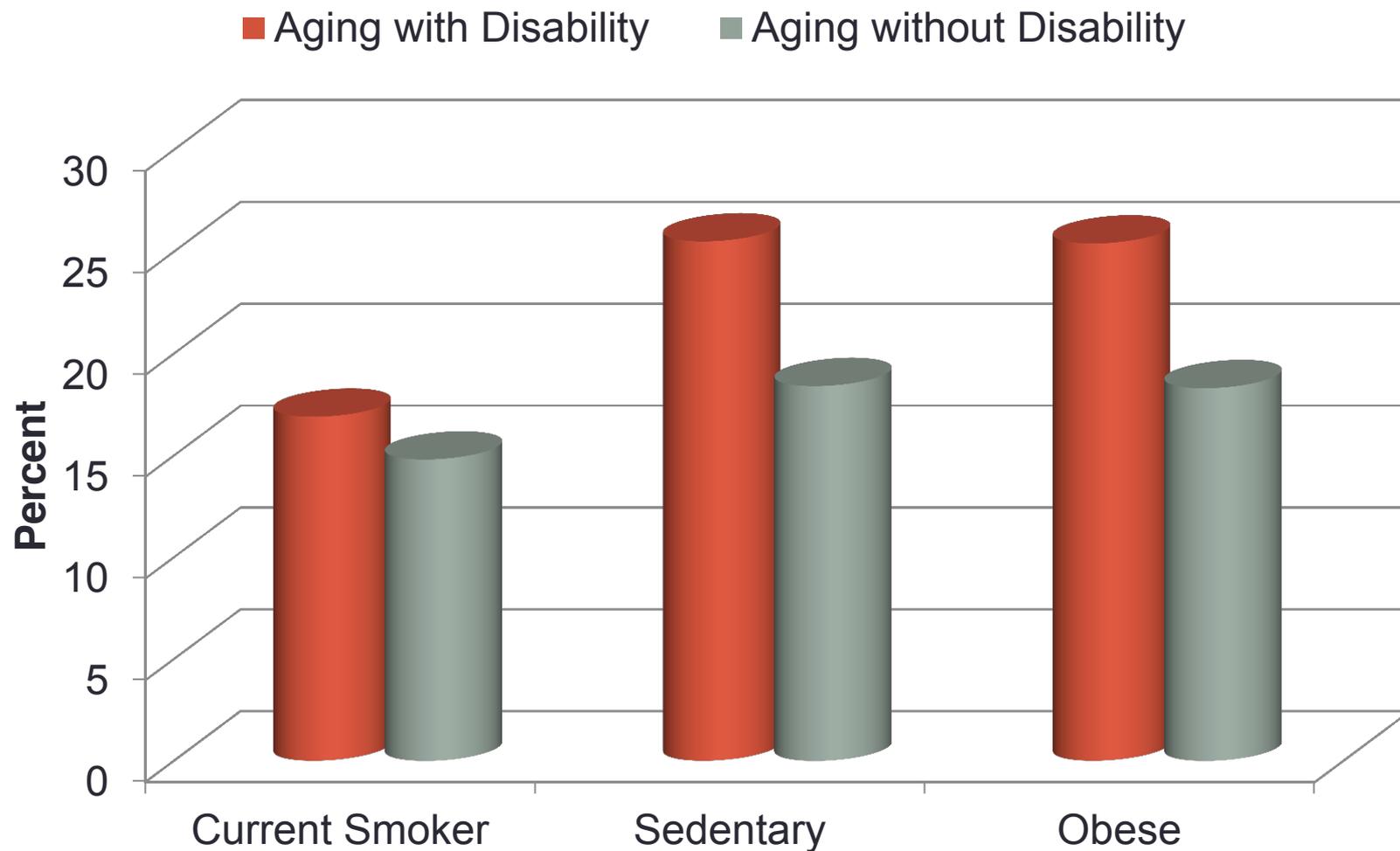
## Household Income<sup>†</sup> over adulthood by Disability Status PSID 1979-2009



† Inflation adjusted to 1979 dollars

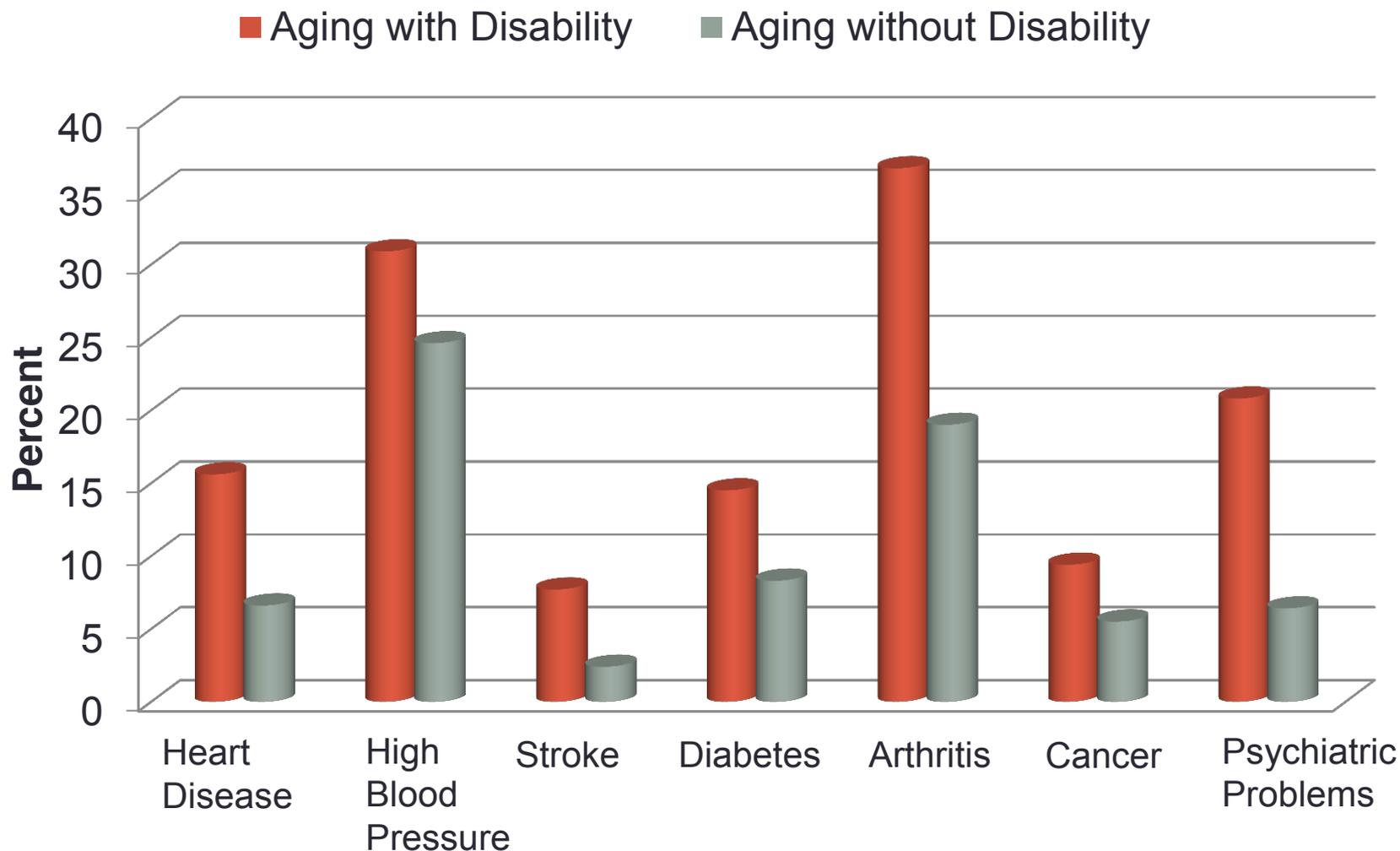
## Health Behaviors in mid-life by Disability Status

PSID 1999-2009 (age 40-64)



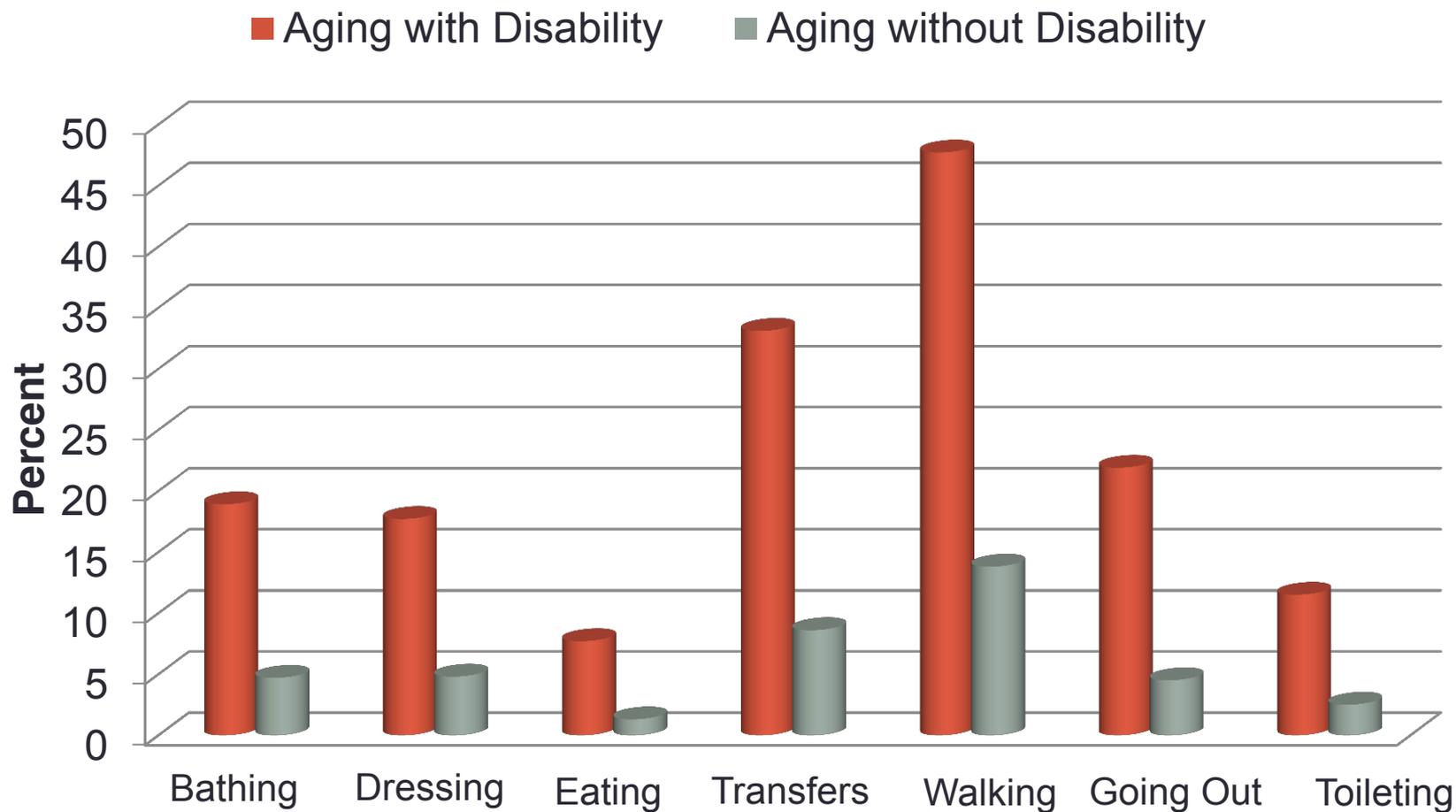
## Health Problems in mid-life by Disability Status

PSID 1999-2009 (age 40-64)



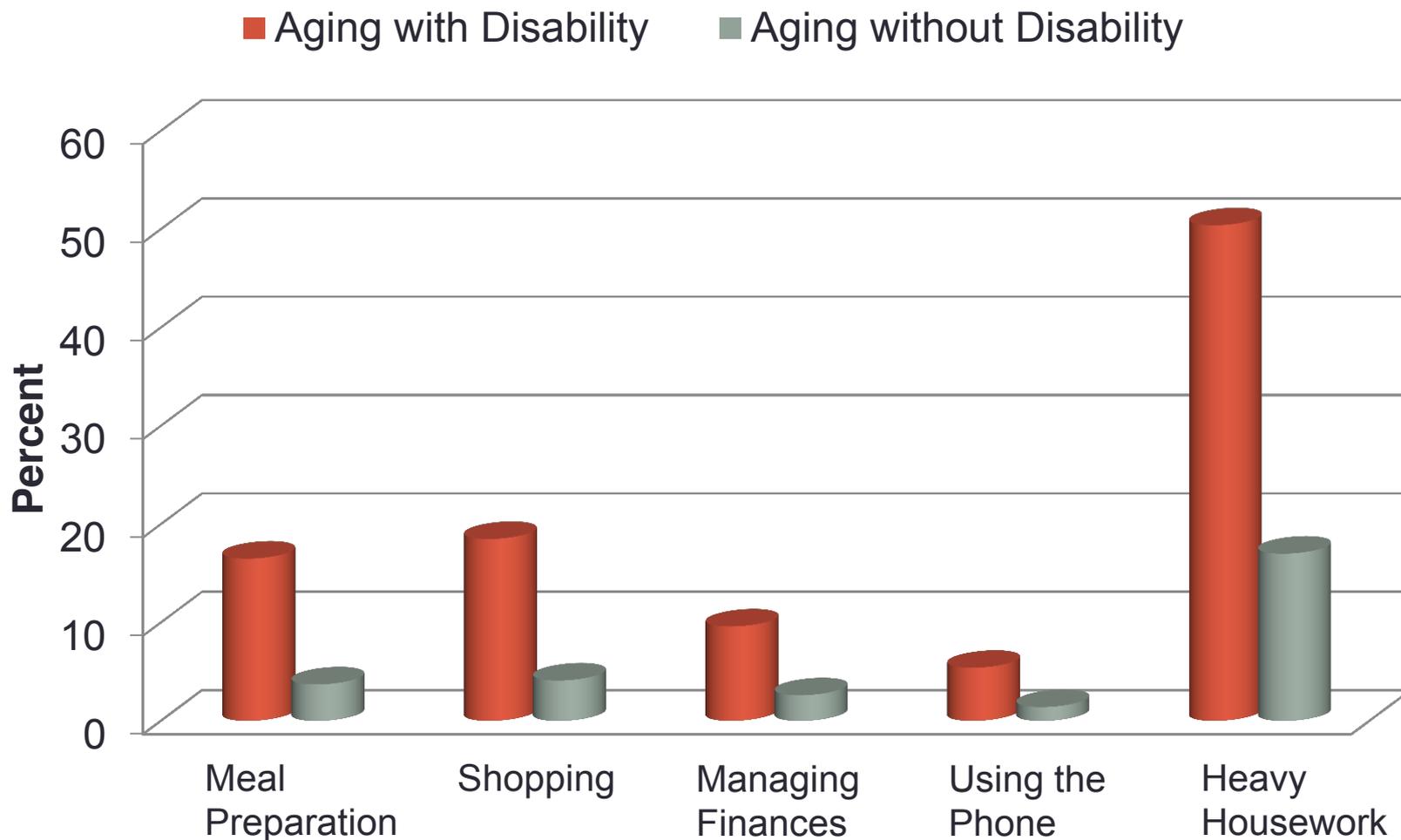
## Self Care Difficulty in mid-life by Disability Status

PSID 2003-2009 (age 44-64)

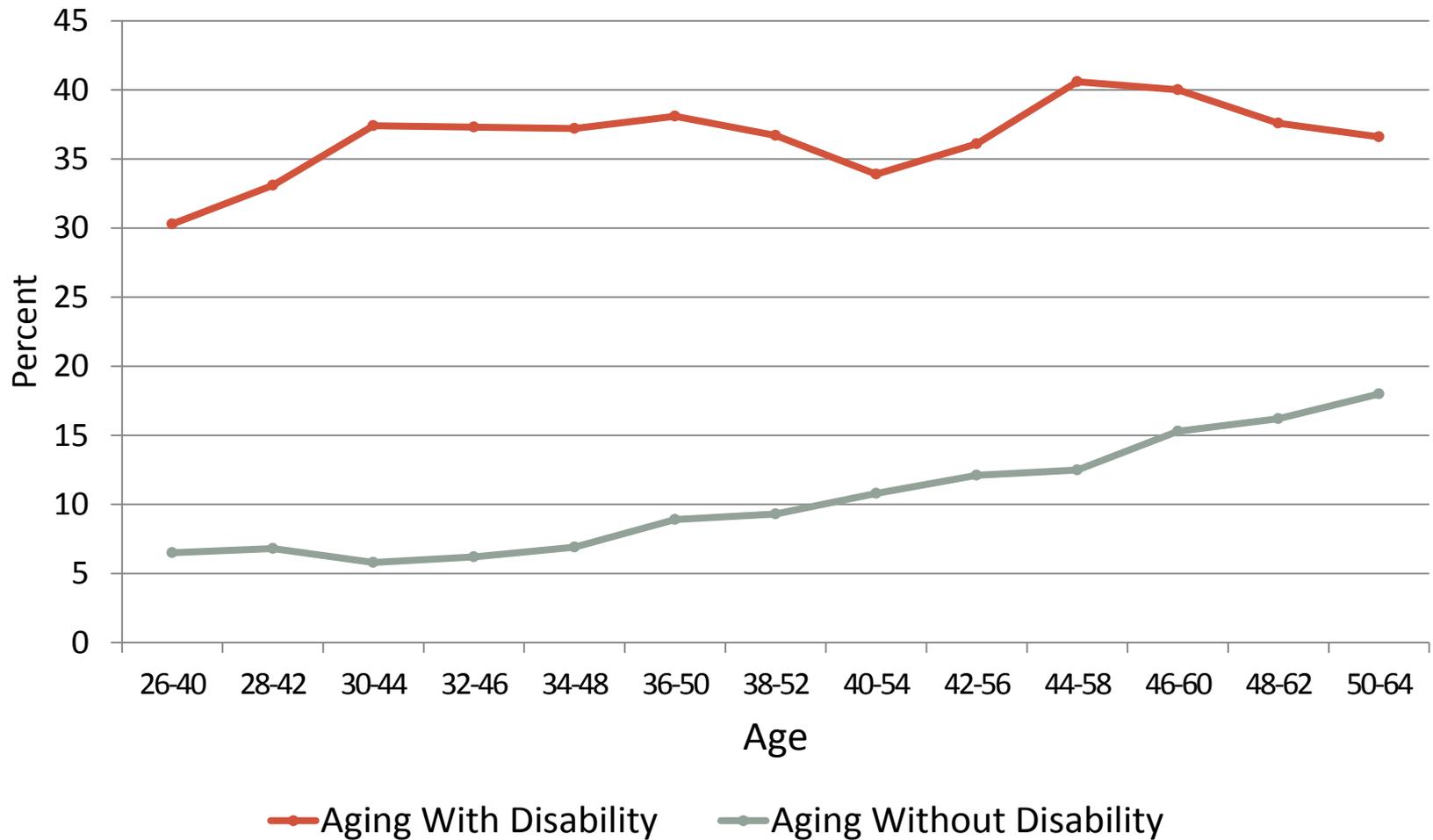


## IADL Difficulty in mid-life by Disability Status

PSID 2003-2009 (age 44-64)



## Percent Reporting Poor Health by Disability Status PSID 1984-2009



# Growth Curve Models for Self-Rated Health

## PSID 1984-2009

	Unconditional Growth Model	+ Disability Status
Intercept	3.92*	
Disabled		
<b>Rate of Change</b>		
Age	-.0149*	
Age <sup>2</sup>	-.0003*	
Age x Disabled		
Age <sup>2</sup> x Disabled		
<b>Goodness of Fit</b>		
R <sup>2</sup>	.01	

\* p<.01

# Growth Curve Models for Self-Rated Health

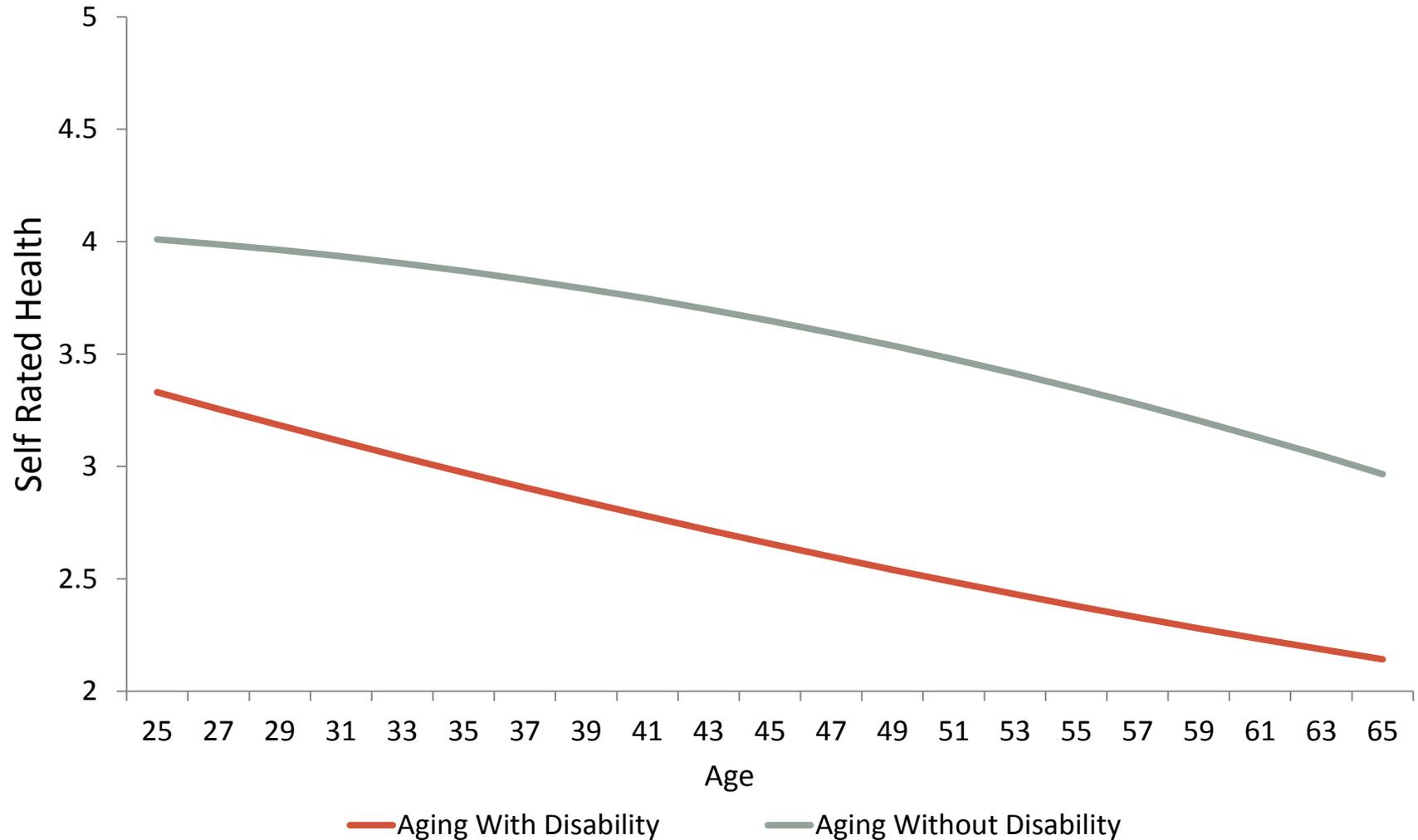
## PSID 1984-2009

	Unconditional Growth Model	+ Disability Status
Intercept	3.92*	4.01*
Disabled		-.68*
<b>Rate of Change</b>		
Age	-.0149*	-.0101*
Age <sup>2</sup>	-.0003*	-.0004*
Age x Disabled		-.0276*
Age <sup>2</sup> x Disabled		.0006*
<b>Goodness of Fit</b>		
R <sup>2</sup>	.01	.10

\* p<.01

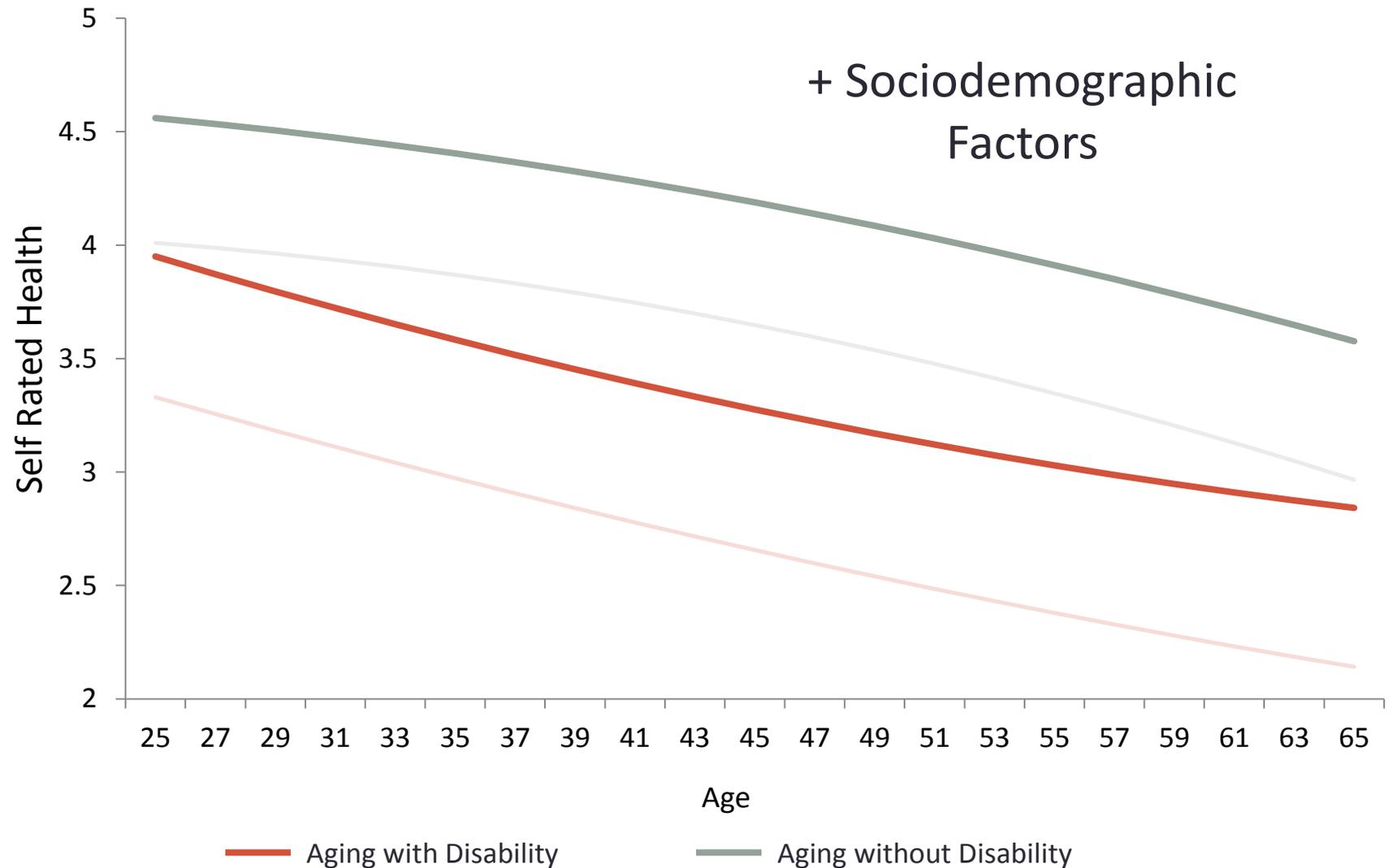
# Growth Curve Models for Self-Rated Health

## PSID 1984-2009



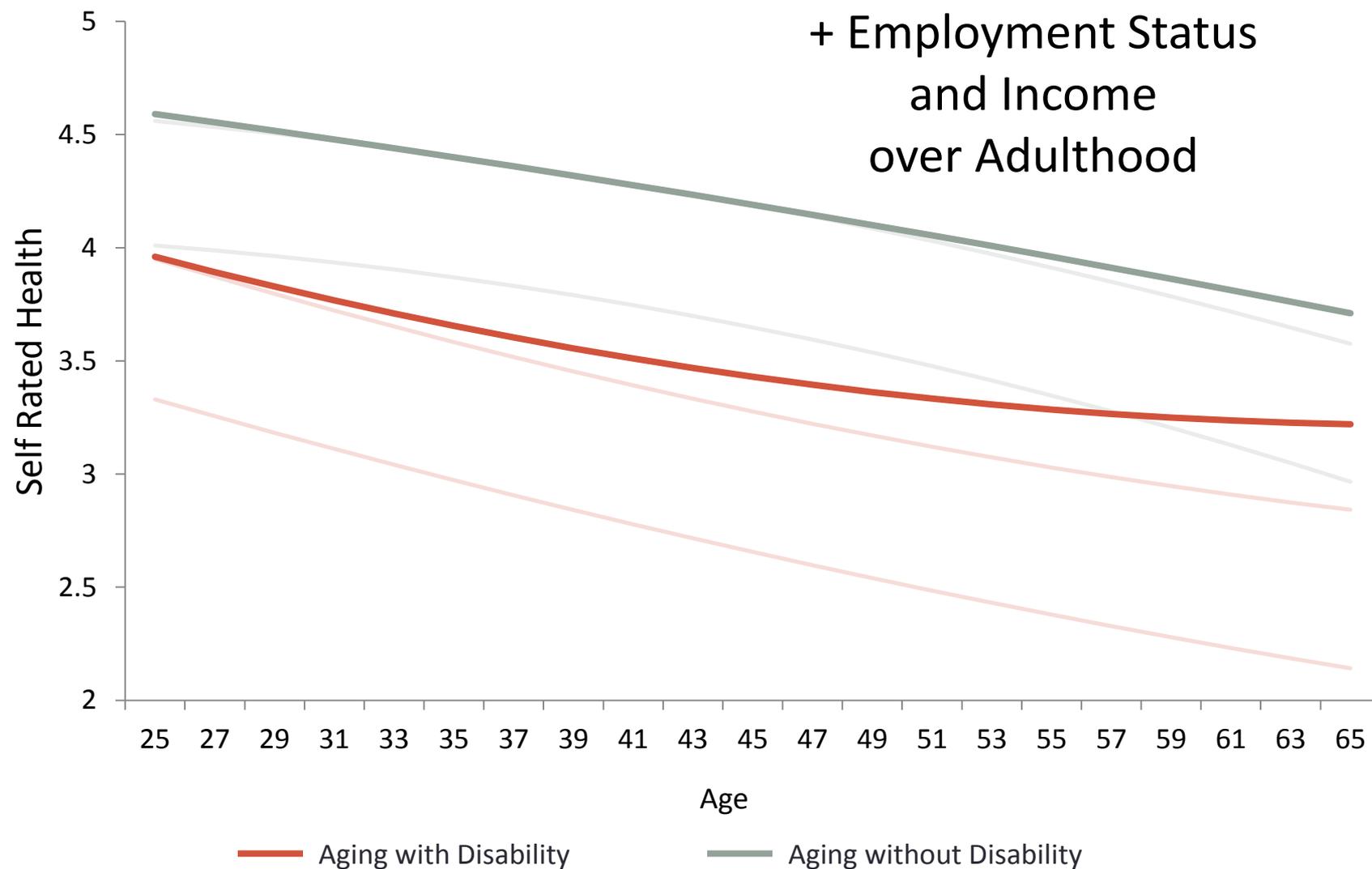
# Growth Curve Models for Self-Rated Health

PSID 1984-2009



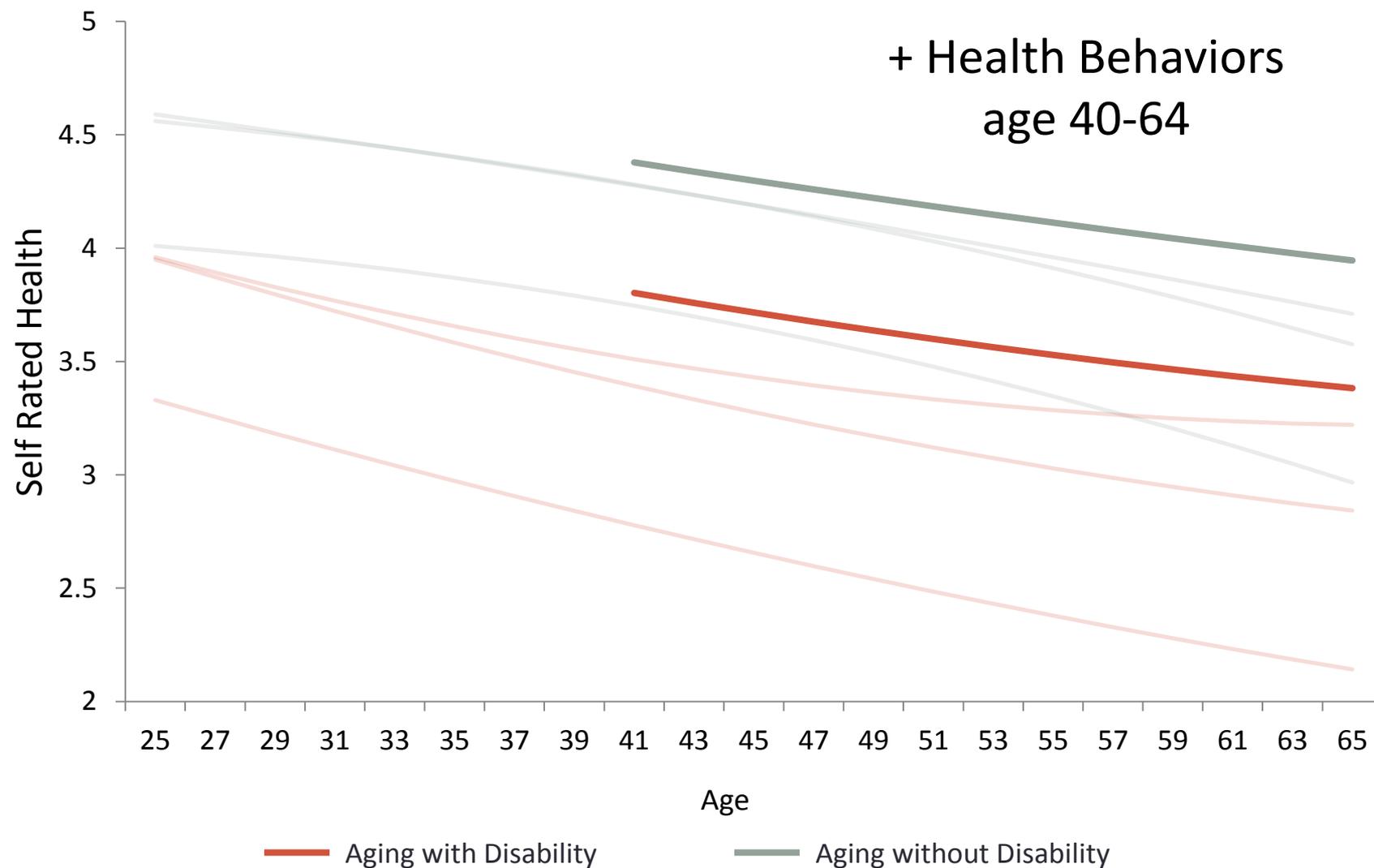
# Growth Curve Models for Self-Rated Health

## PSID 1984-2009



# Growth Curve Models for Self-Rated Health

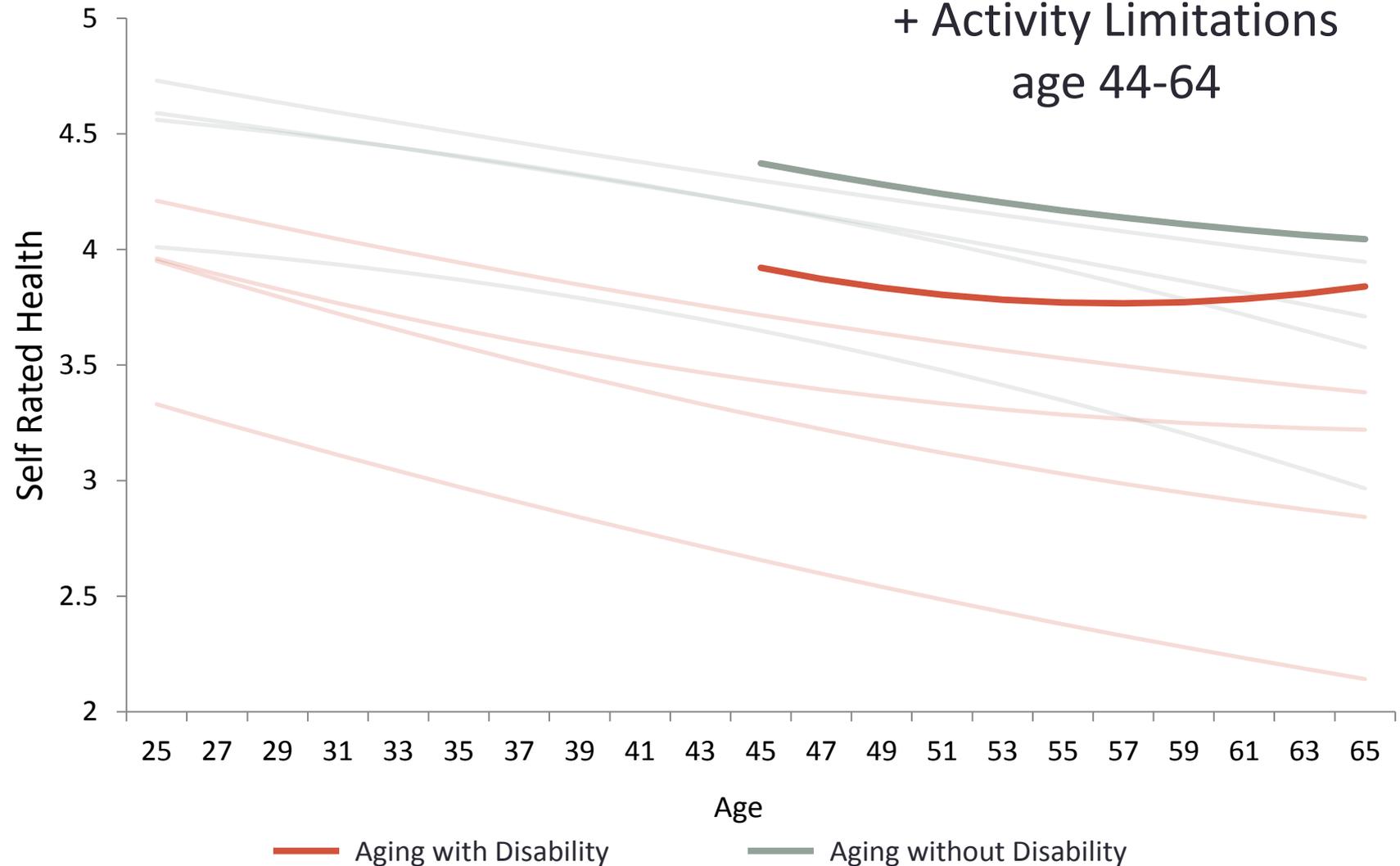
## PSID 1984-2009



# Growth Curve Models for Self-Rated Health

PSID 1984-2009

+ Activity Limitations  
age 44-64



## Summary and Implications for Health Disparities

- Considerable insights are gained by looking at the experiences over the whole life course (PSID age 20-64).
- Some of the differences in adult self-rated health between those with and without disability are due to socioeconomic factors established early in life (childhood SES).
- Different opportunity structures with respect to employment and income accumulation also account for disparities throughout adulthood.
- Disparities in self-rated health in mid-to-late life are largely due to poor health behaviors and activity limitations among those with disabilities.



## Summary and Implications

- Were it not for their lower employment rates, lower incomes, poor health behaviors, and activity limitations, Americans aging with disability would report very similar health to those aging into disability.

