

2-10-2010

Long-term Socioeconomic Status and the Experience of Preventable Disease: A Comparative Analysis of Fundamental Cause Theory

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Citation of this paper:

Willson, Andrea, "Long-term Socioeconomic Status and the Experience of Preventable Disease: A Comparative Analysis of Fundamental Cause Theory" (2010). *Sociology Presentations*. 1.

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Long-term Socioeconomic Status and the Experience of Preventable Disease: A Comparative Analysis of Fundamental Cause Theory

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Funded by SSHRC

Two Main Objectives:



- 1) Investigate changes in the relationship between health and SES as Canadians and Americans age.**
- 2) Examine whether social contexts related to policy and economic inequality are effective in buffering the negative health effects of low socioeconomic status.**

Fundamental Cause Theory



- **Why do SES disparities in health persist when proximal risk factors are eliminated?**

(Phelan et al., 2004; Phelan and Link, 2005)

Fundamental Cause Theory



- Resources are used in a purposeful way to influence health, regardless of risk factors
- Creates within-country health inequality
- Less competition for resources → fewer health disparities

(Phelan and Link, 1995; Phelan et al., 2004;
Phelan and Link, 2005)

Health Disparities: Canada & the U.S.



- Health status more polarized in U.S.
- More Americans in lowest income quintile report poor health and other health problems
- Access to care less influenced by income in Canada

The Role of Economic Inequality



- **U.S. has higher inequality than Canada**
- **Evidence of negative effect on health**
- **Differences in access to care by disadvantaged groups**
- **U.S. lags behind in many policy areas that affect health and well-being**

Testing Fundamental Cause Theory



- **Less preventable causes of death have a weaker association with SES than more preventable causes of death**
(Phelan et al. 2004)

Research Questions



Willson, A.E. 2009. “Fundamental Causes’ of Health Disparities: A Comparative Analysis of Canada & the U.S.” *International Sociology*, 2009, 24(1).

- Is low SES more strongly associated with the incidence of diseases for which preventability is high compared to diseases that are less preventable?
- If so, is the relationship weaker in Canada than the U.S.?

Analysis



- **Canadian data: National Population Health Survey (1998/1999)**
 - $N = 10,747$
- **U.S. data: Panel Study of Income Dynamics (1999)**
 - $N = 9,911$
- **Sample: 25+ years old**

Outcomes



- **High preventability disease:**
 - Cardiovascular disease

- **Low preventability disease:**
 - Cancer

Variables



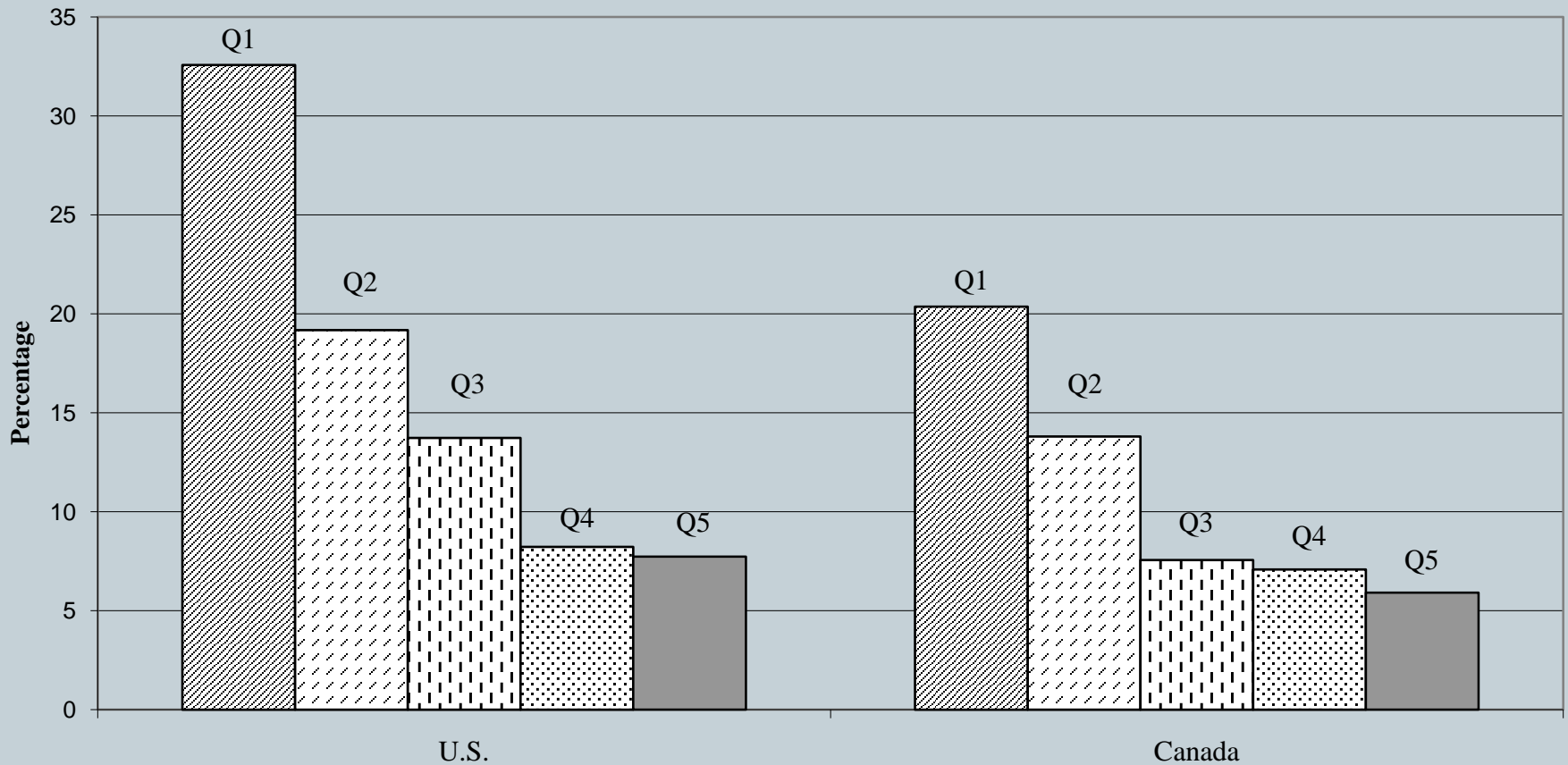
- **Independent variables**

- Education: at most a high school degree
- Household income quintile: lowest compared to all higher (adjusted for hh size)

- **Control variables**

- White (vs. nonwhite)
- Smokes
- Age (continuous)
- Male (vs. female)

Fair/Poor Health by Household Income Quintile, U.S. & Canada, 1998-1999



Multivariate Analysis



- **Sample: respondents reporting one of the diseases of interest**
- **NPHS: N = 807**
- **PSID: N = 971**
- **Selection bias**
 - Propensity scores

Multivariate Analysis



- **Logistic regression**
 - Odds of experiencing cardiovascular disease vs. cancer
 - Comparison of effects in U.S. and Canada

Multivariate Results



U.S.

- Low educ increases odds of cardiovascular disease compared to cancer (O.R. = 1.59)
- Lowest income quintile increases the odds of cardiovascular disease compared with cancer (O.R. = 1.52)

Canada

- Educ not significant
- Income quintile not significant

Conclusions



- Support for fundamental cause theory in the U.S., but not Canadian, case
- Social policies and level of inequality may buffer the association between SES and the incidence of highly preventable diseases
- Canadian social policies more effective at mitigating social determinants of disease



Socioeconomic History &
Preventable Disease:
A Comparative Analysis of
Fundamental Cause Theory

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Funded by SSHRC

Research Questions



- Is a long-term pattern of low SES more strongly associated with highly preventable diseases compared to less preventable disease in Canada and the U.S.?
- Does the relationship occur in both Canada and the U.S. in similar magnitudes?

Analysis



- U.S. data: Panel Study of Income Dynamics (1994-2003)
 - N = 16,617
- Canadian data: National Population Health Survey
 - N = 10,159
- Sample: 25+ years old

Dependent Variable



- **High preventability disease:**

- Cardiovascular disease

VS.

- **Low preventability disease:**

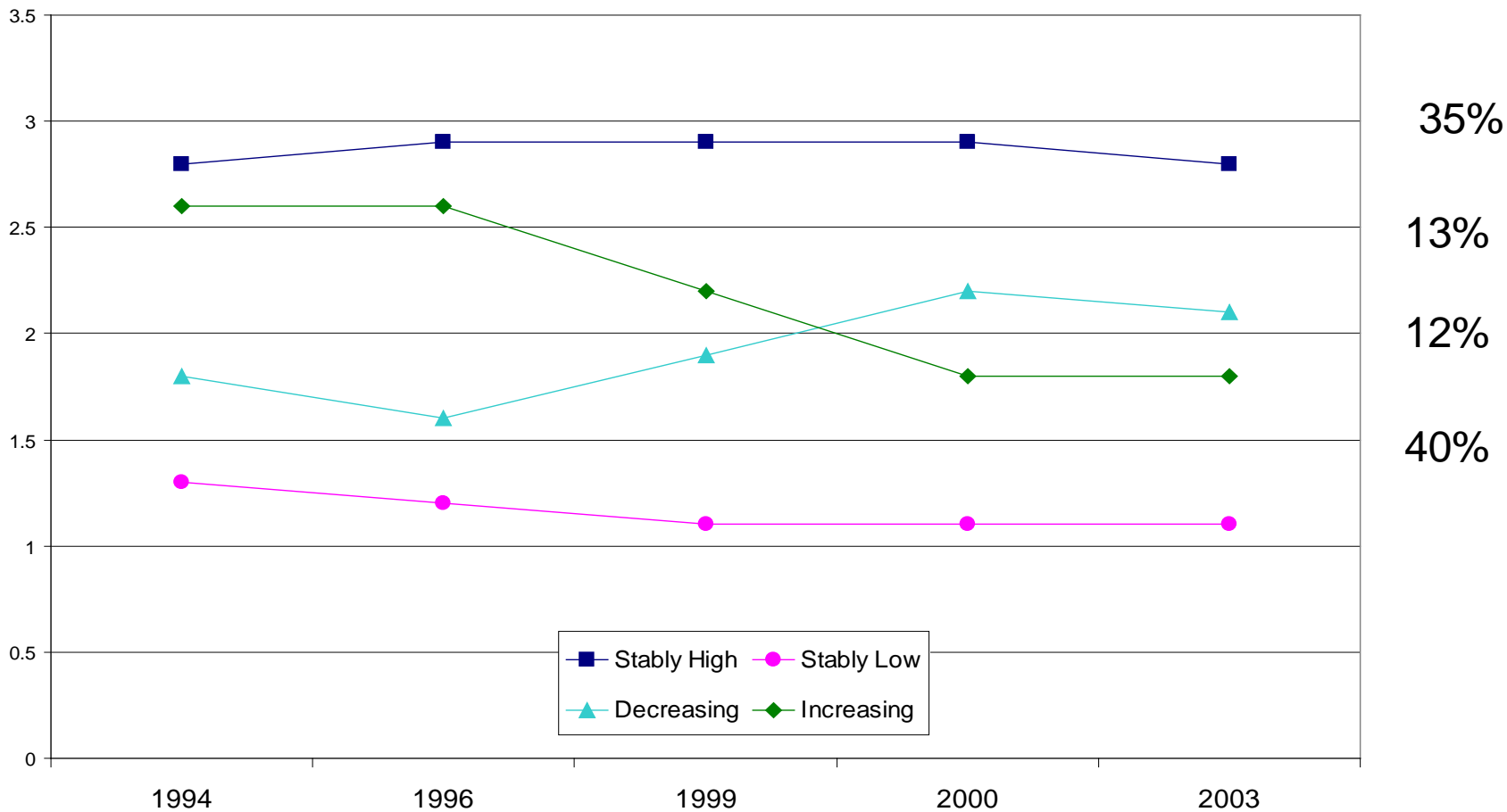
- Cancer

Variables

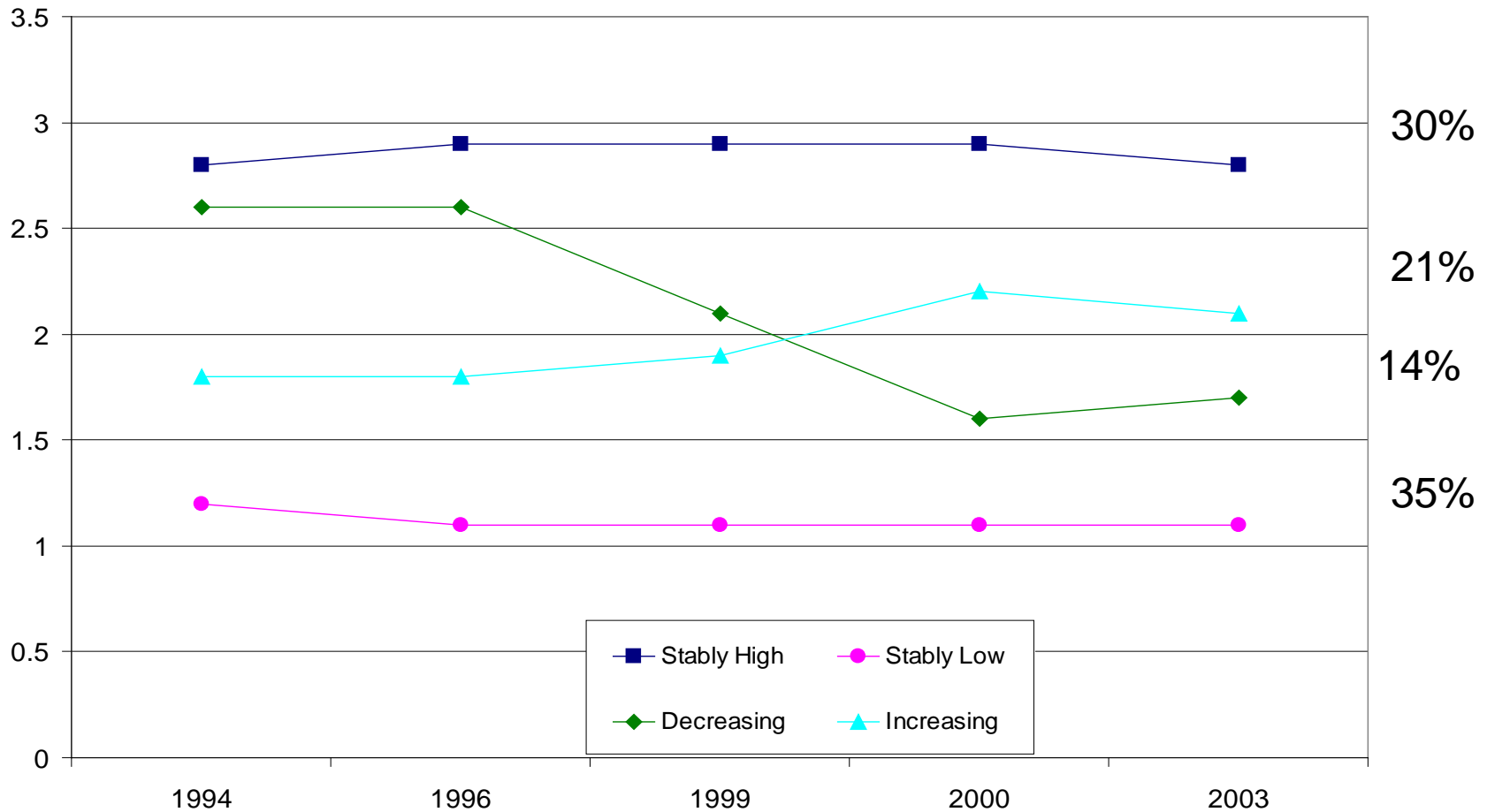


- **Independent variables**
 - **Income History:**
 - Household income quintile measured in each cycle
 - Bottom 2 and top 2 quintiles combined
 - **Latent class analysis: Four clusters**
 - Stably high income
 - Stably low income
 - Increasing
 - Decreasing

Income History Clusters: NPHS



Income History Clusters: PSID



Variables



- **Independent variables (continued)**
 - **Education**
 - < high school
 - High school
 - University

Variables



- **Control variables**
 - White (vs. nonwhite)
 - Age
 - Young (25-44)
 - Middle (45-64)
 - Old (65+)
 - Female (vs. male)

Variables



- **Control variables**
 - **Marital History:**
 - Marital status measured in each cycle
 - **Latent class analysis:**
 - Stably married
 - Never married
 - Marital transitions
 - **Smoking History**
 - Smoking measured in each cycle
 - **Latent class analysis:**
 - Smoker (2+ cycles)
 - Non-smoker (< 2 cycles)

Multivariate Analysis



- **Sample: respondents reporting one of the diseases of interest**
- **NPHS: $N = 726$**
- **PSID: $N = 1,737$**
- **Selection Bias**

Multivariate Analysis



- **Logistic regression (weighted)**
 - Odds of experiencing cardiovascular disease vs. cancer
 - Comparison of effects in U.S. and Canada

Multivariate Results



U.S.

- History of low income increases the odds of cardio vs. cancer (O.R.=1.39)
- Low educ increases the odds of cardio vs. cancer (O.R.=1.88)

Canada

- Income history not significant
- Low educ increases the odds of cardio vs. cancer (O.R.=1.95)

Conclusions



- **Support for fundamental cause theory**
- **Canadian social policies are more effective than U.S. in altering the social conditions related to low income that affect the determinants of disease**

Conclusions



- **Support for fundamental cause theory**
- **Canadian social policies are more effective than U.S. in altering the social conditions related to low income that affect the determinants of disease**
- **Social policies may buffer income inequality to a greater extent than inequality in education**

Conclusions



- **Fundamental cause theory emphasizes focus on social conditions**
- **Relationship between health disparities and economic disparities reflects policy choices**