Acculturation and Filing for Bankruptcy in the United States: Is Health a Mediating Factor?

American Public Health Association Annual Conference

Paul D. Creswell
University of Wisconsin, Madison
Department of Population Health Sciences
School of Medicine and Public Health

10.30.2012

Healthy Immigrant Effect

- Recent immigrants are healthier on average
- This ‘healthy immigrant effect’ is robust across domains
  - Disease Incidence
  - Disease mortality
  - Self-reported health
  - Activity limitations
Bankruptcy and Medical Care

- Health care costs contribute to financial difficulties
- Personal bankruptcies are rising
- Medical debts contribute to the frequency of bankruptcy
- Bankruptcy is associated with negative outcomes
  - Shame and social stigma
  - Market participation restrictions
  - Decreased economic prospects

HIE and Bankruptcy

- Considering:
  - The healthy immigrant effect
  - The connections between medical costs and bankruptcy
- Acculturation may increase the likelihood of bankruptcy via its contribution to ill health
Hypotheses

- The *primary hypothesis* of this study is:
  ✓ that indicators of acculturation will be associated with a higher likelihood of declaring bankruptcy

- The *secondary hypothesis* is:
  ✓ that the association between acculturation and bankruptcy will be mediated by changes in health

Data Source

- The National Longitudinal Survey of Youth (NLSY79)
- Nationally representative sample of Americans (n=12,686)
- Followed annually or biannually since 1979
Measures: Dependent variable

- Dependent variable: bankruptcy 1979 to 2004
  - In 2004, participants were asked if they – or their spouse or partner – had ever declared bankruptcy (n=7,609)
  - 13.9% of this group reported bankruptcy
  - For this analysis the final sample size was N=5,078

Measures: Independent variables

- Indicators of acculturation:
  - Participants were be coded as:
    1. Recent immigrants
       (one of R’s parents were born outside the US)
    2. First generation
       (R born in US, but one of R’s parents were born outside the US)
    3. Second generation (plus)
       (both of R’s parents were born in the US)
Measures: Independent variables

- Indicators of acculturation:
  - Use of foreign language in the home at baseline
  - Identification with an origin or descendance
    1. Black/African-American
    2. White/European
    3. East Asian/Pacific Islander
    4. Latin/Spanish
    5. American Indian/Alaska Native
    6. “American”
    7. Other

Measures: Covariates

- Covariates:
  - Participant sex
  - Participant age
  - Parental education level
  - Academic proficiency (ASVAB)
  - Region of the country at baseline
  - Urbanicity at baseline
Measures: Mediating variable

- Potential mediator
  - Any health limitation that restricted ability to work between 1979-2004
  - Limitations that were normal pregnancies were excluded

Methods

- Bivariate analyses using chi-square and t-tests
- Staged multiple logistic regression
  - The initial logistic model excluded health limitations
  - The final stage model included health limitations as a potential mediator (presented here)
# Results: Logistic Regression

**Table 1. Odds of bankruptcy: Staged multiple logistic regression analyses**

<table>
<thead>
<tr>
<th>Stage 2 Model</th>
<th>Dependent variable: Bankruptcy 1979-2005 (Yes=1)</th>
<th>Odds Ratio</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total: n=7,039</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>(Female=1)</td>
<td>1.34</td>
<td>1.17 - 1.55</td>
</tr>
<tr>
<td>Immigration recency</td>
<td>Second generation (plus)</td>
<td>1.43</td>
<td>1.10 - 1.88</td>
</tr>
<tr>
<td></td>
<td>First generation or recent immigrant REF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-reported origin or descent</td>
<td>Other</td>
<td>0.74</td>
<td>0.48 - 1.14</td>
</tr>
<tr>
<td></td>
<td>Black</td>
<td>1.06</td>
<td>0.88 - 1.28</td>
</tr>
<tr>
<td></td>
<td>“American”†</td>
<td>1.54</td>
<td>1.11 - 2.13</td>
</tr>
<tr>
<td></td>
<td>East Asian/Pacific Islander</td>
<td>0.75</td>
<td>0.29 - 1.95</td>
</tr>
<tr>
<td></td>
<td>Latin/Spanish</td>
<td>0.94</td>
<td>0.67 - 1.29</td>
</tr>
<tr>
<td></td>
<td>American Indian/Alaska Native</td>
<td>1.20</td>
<td>0.84 - 1.73</td>
</tr>
<tr>
<td></td>
<td>White/European REF</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

† This response was volunteered by participants

---

**Table 1 (Cont.) Odds of bankruptcy: Staged multiple logistic regression analyses**

<table>
<thead>
<tr>
<th>Stage 2 Model</th>
<th>Dependent variable: Bankruptcy 1979-2005 (Yes=1)</th>
<th>Odds Ratio</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total: n=7,039</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parents’ Education</td>
<td>≥ 12 years</td>
<td>2.04</td>
<td>1.37 - 3.04</td>
</tr>
<tr>
<td></td>
<td>12 years</td>
<td>1.77</td>
<td>1.20 - 2.60</td>
</tr>
<tr>
<td></td>
<td>13 to 16 years</td>
<td>1.49</td>
<td>1.01 - 2.22</td>
</tr>
<tr>
<td></td>
<td>17 or more years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic proficiency†</td>
<td>Lowest Tertile</td>
<td>1.16</td>
<td>0.94 - 1.44</td>
</tr>
<tr>
<td></td>
<td>Middle Tertile</td>
<td>1.45</td>
<td>1.20 - 1.76</td>
</tr>
<tr>
<td></td>
<td>Highest Tertile</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Region of the US</td>
<td>North East</td>
<td>0.69</td>
<td>0.55 - 0.87</td>
</tr>
<tr>
<td></td>
<td>North Central</td>
<td>1.02</td>
<td>0.85 - 1.23</td>
</tr>
<tr>
<td></td>
<td>West</td>
<td>1.65</td>
<td>1.35 - 2.01</td>
</tr>
<tr>
<td></td>
<td>South</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health Limitation (1979-2004)</td>
<td>(Yes=1)</td>
<td>1.31</td>
<td>1.13 - 1.51</td>
</tr>
</tbody>
</table>

† Measured using the Armed Services Vocational Aptitude Battery (ASVAB)
Conclusions

- Acculturation is associated with a increased likelihood of bankruptcy
- Health conditions do not appear to mediate this relationship
- Future research:
  - Timing of relevant factors
  - Socio-demographic risk factors for bankruptcy

Strengths & limitations

- Limitations
  - The timing of health conditions
  - Generalizability to current immigrant populations
  - Cohort-specific effects
- Strengths
  - Rare event amassed overtime
  - Demographic characteristics assessed at baseline
Acknowledgements

• Co-authors:
  • Whitney P. Witt, PhD, MPH
  • Debanjana Chatterjee, MA

• Other support and contributors:
  • UW Department of Population Health Sciences
  • Agency For Health Care Research and Quality
  • UW Institute for Research on Poverty
  • UW Center for Financial Security
  • Life Course Epidemiology and Family Health (LEAF) Lab Group

Questions