Wisconsin Longitudinal Study Center for the Demography of Health and Aging University of Wisconsin-Madison with support from the National Institute on Aging since 1991

Socioeconomic Status, Cognitive Ability, and Later Life Outcomes in the Wisconsin Longitudinal Study
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- an overview of the WLS design and content
- who is healthy? and who dies early?
- other work in progress
  - who gets rich?
  - who prepares for the end of life?
  - does well-being change with age?
  - who is on the web?
- access to the WLS data

what the WLS offers
- public longitudinal survey data following a cohort of Wisconsin high school graduates from ages ~18 to ~65 (and beyond)
- survey data from multiple respondents
- diverse administrative record data
- information about many domains of respondent lives, and those of other family members
- high response rates
- small grants for new research (wls@ssc.wisc.edu)
- however: WLS respondents are all high school graduates and almost all non-Hispanic whites (rather like 2/3 of Americans of their cohort, but not like everyone)

a who’s who of the WLS
- J. Kenneth Little – led initial survey for the State of Wisconsin
- William H. Sewell – directed WLS from 1962 to 1980
- Robert M. Hauser – investigator/director, 1969-
- Tess Hauser – survey and data manager, 1970-
- Since 2001, Jeremy Freese, and a cast of dozens in sociology, demography, epidemiology, economics, social and cognitive psychology, industrial engineering, neuroscience, social work, psychiatry, law, nursing, and medicine

relational structure of data in the WLS

April 1957: in-school questionnaire of all Wisconsin seniors (1/3 become WLS sample, N=10,317)
the 1957 WLS survey

- social background
- courses taken in high school
- social influences (teachers, parents, peers)
- educational and occupational plans
- military and marriage plans
- parental support for college expenses

1957 graduate

1964: short mail survey of parents, 87%

the 1964 WLS parent survey

- education (college and vocational)
- military status in 1964
- 1964 occupation
- marital status in 1964
- women’s husband’s occupation in 1964

education by gender

<table>
<thead>
<tr>
<th>Men</th>
<th>Women</th>
</tr>
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<tbody>
<tr>
<td>High school</td>
<td>Some college</td>
</tr>
<tr>
<td>0%</td>
<td>10%</td>
</tr>
<tr>
<td>30%</td>
<td>40%</td>
</tr>
<tr>
<td>60%</td>
<td>70%</td>
</tr>
<tr>
<td>90%</td>
<td>100%</td>
</tr>
</tbody>
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1975: one hour telephone interview with graduates, 89%

the 1975 WLS telephone survey

- social background
- education and training update
- military history
- job history and characteristics
- earnings
- marital and childbearing history
- sibling roster and characteristics
- religion and church attendance
- social participation
the 1992-94 WLS telephone and mail surveys, 1
- social and economic variables
  - family variables and marital history
  - child roster (and selected child)
  - sibling roster (and selected sibling)
  - educational history
  - occupational history and job characteristics
  - wages, income, and assets
  - interhousehold transfers
  - insurance and pension coverage
  - retirement plans

the 1992-94 WLS telephone and mail surveys, 2
- early family relationships (abuse, encouragement)
- current social relationships
- psychological variables
- health and health practices
- social security numbers (graduates, selected siblings, [parents])

where were WLS graduates in 1992-93?

2003-2005: telephone (~81%) and 50+ pp. mail surveys (~89%) of graduates
1957 graduate in the field: spouses (for the first time), ~73%+

in the field: surveys of siblings (~70% tel, 85% mail) and their spouses (~70%)

the 2003-2005 WLS telephone and mail surveys, 1
- education, employment and retirement, work activities and conditions, earnings, income, wealth, and economic transfer
- family structure, family relations, and stressful life events, coping behavior
- health, illness, psychological well-being, and mental disorder, health-related behaviors
- cognitive functioning
- circumstances of birth and upbringing

plus: much non-survey data:
- high school standardized test scores (Henmon-Nelson Test in freshman and junior years)
- high school class rank
- parents’ occupation and income (tax records), 1957-60
- college and employer characteristics
- vital statistics matches and (planned) biomarkers
- social security earnings (men only, blind link)
- links to National Death Index
- geocodes of addresses
- high school resources (from state archives)
- high school yearbooks (for ~75% of Rs)

methodological features
- interviews by random replicates
- bracketing amounts with random anchors
- selecting special children (supplemental interview and survey)
- cognitive measurement
- health vignettes (WHS)
- recording interviews
Overview

• No longitudinal, intergenerational studies of the accumulation of wealth at maturity in the general population (but see Henretta and Campbell 1978 and Campbell and Henretta 1976, 1986).
• A few studies of young cohorts (Rumberger 1983, Conley 1999, Keister 2003)
• Wisconsin Longitudinal Study (WLS) provides longitudinal data for women and men over 45 years, from adolescence through the beginning of the retirement years.
Findings

- Most WLS graduates have home equity and financial assets, but variation in non-pension wealth stems mainly from financial assets.
- Women may have less non-pension wealth than men in the same cohort.
- Few graduates have farm or business assets, but farm origins contribute substantially to wealth accumulation.

Findings, cont.

- Family background
  - Key variables are farm origin, self employed head of house and perceptions of families economic well-being.
- Social psychological
  - More important for women than for men
  - Key variables are high school rank and friends’ college plans.
- 1975 /1993 status
  - Being married increases wealth for both men and women
  - Education increases wealth among men, but not women
  - Occupational income and family income increase later wealth

Findings, cont.

- 1975 /1993 status cont’d
  - Recent status dominates earlier status effects
  - Farming or being self employed increase wealth for both males and females.
- Spousal characteristics
  - More important for women than men.
  - Spouse’s increased educational attainment and not currently working increases men’s wealth but not women’s.
- 1993 wealth
  - Earlier wealth leads to later wealth, but it does not account for all other sources of accumulation

future extensions and amendments

- Imputation
  - Currently method tends to bias estimates downward.
  - Determine a method that will optimize estimates that incorporates bracketing.
  - Create imputed wealth data sets for public use.

Research Questions

- Who do older adults choose as their durable power of attorney for health care (DPAHC)?
- What factors affect appointment of a DPAHC?
- What factors affect the appointment of a specific person to DPAHC role?

Health Care Proxies in Later Life: Who Do We Choose and Why?

Deborah Carr
Dmitry Khodyakov
Rutgers University
Background

- Chronically ill older adults may receive futile, unwanted, and costly medical care at the end of life (e.g., Terri Schiavo incident);
- End-of-life planning may minimize distress for the dying and their loved ones. Practitioners encourage completion of advance directive:
  - Living will (poses practical challenges)
  - DPAHC

Theoretical Frameworks for Understanding EOL Planning

- Hierarchical compensatory model (Cantor, 1979)
  - Adults turn to closest kin for support.
  - Move down the hierarchy only when preferred kin are unavailable.
  - Consistent with state-imposed hierarchies for decision-making
    - Spouse
    - Child
    - Other relative
    - Friend

- Task-specific model (Litwak, 1985)
  - Adults turn to those with appropriate skills and aptitudes for support.
  - Move down the hierarchy when more distant kin are best suited to perform a task.
  - If incapacitated patient lacks living will or DPAHC, some states may not give decision-making power to the person with appropriate skills/knowledge.

Specific Aims

Evaluate the ways that family roles, socioeconomic characteristics, health, personal beliefs, and experiences with loved ones' deaths affect the likelihood that an older adult has appointed a durable power of attorney for health care (DPAHC);
- Identify who older adults select as DPAHC;
- Explore the factors that influence this choice.

Dependent Variables

- Have you made legal arrangements for someone to make decisions about your medical care if you become unable to make those decisions yourself? This is sometimes called a Durable Power of Attorney for Health Care.
  - Yes=1; 0=No [Binary logistic regression]
- Who has that authority?
  - Spouse; child; other relative; friend; professional [Multinomial logistic regression]

Independent Variables

- Marital status
- Parental status
- Can confide in family member
- SES
  - Education
- Health
  - Self-rated health (poor/fair vs. better)
  - Spent night in hospital during past year
- Personal beliefs
  - Religious denomination
  - Doctor vs. patient control over health
  - Death avoidance
- Personal experience with death
  - No parental or spousal death, past 10 years
  - Parent/spousal death in past 10 years; no pain
  - Parental/spousal death in past 10 years; pain

Who Has a DPAHC?

![Graph showing the distribution of DPAHC among different marital statuses and with or without children.](https://example.com/graph.png)
Who Is Chosen as DPAHC?

Married w/kids
Married, no kids
Unmarried w/kids
Unmarried, no kids
Spouse/partner
Child (inc. grand & step)
Other relative
Prenatal
M.D./Hospital
Clergy
Attorney/financial planner

Findings & Implications

• Broad support for hierarchical compensatory model, but...
• Specific needs of older adult and loved ones also may guide choices.
  – Married mothers more likely than married fathers to name child as DPAHC, perhaps reflecting knowledge of gender gap in mortality.
  – Those with 1-2 children are more likely to name spouse or someone else, perhaps to protect only child from making difficult decision on their own or to avoid choosing between two children.
  – Those who witnessed painful death appear to bypass those higher in hierarchy, and go to more distant relatives or non-relatives. Adults may want to spare close loved ones of difficult choices.

Findings & Implications (cont’d)

• Heterogeneity in choices of unmarried childless persons, reflecting lack of guidelines/expectations for those violating family formation norms.
  – Health care providers can encourage conversations among “family” members, broadly defined.
• Highly educated persons more likely to appoint DPAHC.
  – Educational videos, simply worded documents may appeal to less educated persons.
• Recent hospital patients more likely to appoint DPAHC.

Findings & Implications (cont’d)

• Fear of death and endorsing patient v. doctor control reduce use of DPAHCs.
  – Beliefs and cognitions are modifiable factors. Interventions could minimize fear of death and empower patients to feel more efficacious.
• Witnessing painful death of loved one increases use of DPAHCs.
  – Discussions about EOL planning could focus on specific memories and experiences of others, rather than on abstract scenarios that patient may someday encounter.

Temporal Structures of Psychological Well-Being: Continuity or Change?

Robert M. Hauser
Tetyana Pudrovska
Kristen W. Springer

Ryff’s Model of Psychological Well-Being (RPWB)

• Drawing from the eudaimonic perspective, Carol Ryff suggested a theoretically derived model of PWB that comprises six distinct dimensions:
  • autonomy;
  • environmental mastery;
  • personal growth;
  • positive relations with others;
  • purpose in life;
  • self-acceptance.
Springer & Hauser (2005):
- Using WLS, NSFH2, and MIDUS1, we found scant empirical support for the conceptually proposed multidimensionality of Ryff’s scales.
- We estimated latent variable measurement models of RPWB using data from MIDUS, NSFH, and WLS.
- The highest latent variable correlations, well above 0.90 were among purpose in life, self-acceptance, environmental mastery, and personal growth.
- Springer and Hauser concluded that the RPWB scales do not measure six distinct dimensions.

Temporal Stability of RPWB
- This study is a complement to the work of Springer and Hauser (2005).
- We estimate change in mean levels of PWB across time – There isn’t any.
- We estimate the extent to which the six dimensions of RPWB exhibit similar factorial structure after a delay of 10 or more years.
- We estimate temporal stability of each sub-dimension of RPWB across 10 or more years.
- These are the first, large-scale longitudinal analyses of RPWB.

Latent Variable Models of Stability and Change
- Items are indicators of latent sub-dimensions of psychological well-being
- At least three indicators of each sub-dimension in each year
- At least one positively worded and at least one negatively worded item among the indicators of each sub-dimension in each year
- 12 latent PWB variables are freely correlated within and between years
- Assume ordinal categorical measurement
  - Use PRELIS to estimate polychoric correlations
  - Use LISREL to estimate structural models by weighted least squares
- Metric information lost in the analysis by this method

METHOD EFFECTS
- Correlation between errors in repeated items across years
- Correlation between errors in adjacent items within years
- Additional latent variable for negatively worded (reverse scored) items to capture failure to understand reverse scoring

FACTOR CORRELATIONS: WLS

| AUT0 | 1.00 | 0.49 | 0.46 | 0.62 | 0.56 | 0.61 | 0.69 | 0.65 | 1.00 |
| ENSM | 0.49 | 1.00 | 0.34 | 0.59 | 0.58 | 0.58 | 0.50 | 0.52 | 0.34 |
| PERM | 0.46 | 0.34 | 1.00 | 0.59 | 0.58 | 0.58 | 0.50 | 0.52 | 0.34 |
| IDEM | 0.62 | 0.59 | 0.59 | 1.00 | 0.56 | 0.56 | 0.50 | 0.52 | 0.34 |
| ENVM | 0.56 | 0.58 | 0.58 | 0.56 | 1.00 | 0.59 | 0.56 | 0.52 | 0.34 |
| SCLM | 0.61 | 0.58 | 0.58 | 0.56 | 0.59 | 1.00 | 0.56 | 0.52 | 0.34 |
| AGEM | 0.69 | 0.50 | 0.50 | 0.50 | 0.52 | 0.56 | 1.00 | 0.53 | 0.34 |
| AGEM | 0.65 | 0.52 | 0.52 | 0.52 | 0.52 | 0.56 | 0.53 | 1.00 | 0.34 |
| ACHM | 0.65 | 0.52 | 0.52 | 0.52 | 0.52 | 0.56 | 0.53 | 0.56 | 1.00 |

Stability and Change: Summary
- Both in WLS and NSFH, and in the second waves as in the first waves, error-corrected correlations among purpose in life, self-acceptance, environmental mastery, and personal growth were extremely high, calling into question the theoretical distinctions among them.
- Persistence across a decade was equally high in all sub-dimensions of PWB in the WLS, but substantially lower in the NSFH. This remains a puzzle.
WLS vs. NSFH

- Considering WLS alone, one would conclude that psychological well-being was a complex of tightly integrated personal traits – almost like personality.
- Considering NSFH alone, one would conclude that psychological well-being was somewhat persistent, but also substantially variable in response to the joys and vicissitudes of life.
- Which view is more correct? For whom? And How?

Cognitive ability, personality, and response to social change: Internet adoption among late midlife adults

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RWJ Scholars in Health Policy Research Program, Harvard University

**Salvador Rivas**

why internet adoption?

- considerable enthusiasm for potential of Internet to transform communication personal recreation, consumption, finance, social obligations, and civic participation
- protonormative and diffuse potential benefits
- enthusiasm for concern has been consistently tempered by concern for disparities in use (although it remains unclear what implications are/will be)

existing studies are said to have “made it clear that [years of education and income] are the main ways in which Internet users differ from nonusers” (Robinson, Neustadtl, and Kestnbaum 2002: 285)

![household internet adoption by education graph](https://www.example.com/health_data/household.internet.adoption.by.education.png)

- less than hs
- hs only
- some college
- college

key measures of psychological heterogeneity
measurable psychological traits that are simultaneously general and exhibit considerable midlife stability
1. “cognitive ability” as measured prior to sample educational attainment
2. personality: as measured in 1992 -- extraversion, neuroticism, openness, conscientiousness, agreeableness

why might we expect cognitive ability to be related to internet adoption?
1. implications for sorting: into education, income, occupation, etc.
2. implications for skill acquisition: expectation that cognitive ability is associated with ability to acquire computer skills more quickly
3. comfort with literacy: expectation that cognitive ability associated with comfort/enjoyment derived from reading and writing

why might we expect personality to be related to internet adoption?
1. enthusiasm for the new: openness to be positively related to adoption
2. technophobia: neuroticism to be negatively related to adoption
3. more “talk” for the talkative: extraversion to be positively related to adoption
4. refuge for the shy: extraversion to be negatively related to adoption

comparing psychological predictors of home internet use

<table>
<thead>
<tr>
<th></th>
<th>model 1</th>
<th>model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>h-n test score</td>
<td>-.53***</td>
<td>-.29***</td>
</tr>
<tr>
<td>openness</td>
<td>.38***</td>
<td>.26***</td>
</tr>
<tr>
<td>neuroticism</td>
<td>-.10***</td>
<td>-.10***</td>
</tr>
<tr>
<td>agreeableness</td>
<td>-.07*</td>
<td>-.07*</td>
</tr>
<tr>
<td>conscientiousness</td>
<td>-.06*</td>
<td>-.07*</td>
</tr>
<tr>
<td>extraversion</td>
<td>.01</td>
<td>-.05</td>
</tr>
<tr>
<td>N</td>
<td>6848</td>
<td>6848</td>
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availability/access of wls data
• commitment to easy public availability of all permissible data
• cross-reference tables on web to facilitate use of WLS codebooks
• longitudinal data with a large sampling fraction provides particular challenges for maintaining confidentiality
• CDHA at UW has and is continuing to develop a strong system for secure data analysis
WLS web resources

- respondent web
  - http://wisls.org
- public data users
  - http://www.ssc.wisc.edu/wlsresearch/
    - codebooks with marginals and documentation
    - bibliography, citations, & publications
    - variable search aids
    - downloadable data
    - listserve
- pilot project application
  - http://www.ssc.wisc.edu/wlsresearch/pilot/
    - 2003-05 codebooks
    - flowcharts
    - research proposals
- private web
  - proposals, instruments, manuscripts
- Email: wls@ssc.wisc.edu

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