MIDUS
Midlife in the U.S.

Broad Objectives:

✦ Investigate role of long-term, cumulative psychosocial influences on mid- and later-life health (mental and physical)

✦ Identify neurobiological mechanisms through which psychosocial factors contribute to health

✦ Advance knowledge of psychosocial factors as protective (i.e., promoting positive health and resilience)

“Integrative Pathways to Health and Illness”
History
Midlife in the U.S.

Timeline:

❖ 1995/96 – MIDUS I launched
   ➢ Conceived by multidisciplinary team
   ➢ Funded by MacArthur Foundation
   ➢ Recruited 7,108 participants (25-74), including national RDD sample, siblings, twins

❖ 2002-2008 – MIDUS II follow-up
   ➢ 5-Project P01
   ➢ Funded by NIA
   ➢ Added biomarkers & neuroscience
MIDUS (Midlife in the U.S.) is a national longitudinal study of how many factors (behavioral, social, psychological, biological, neurological) come together to influence health and well-being as people age from early adulthood into midlife and old age. It was conceived by a multidisciplinary team of scholars interested in understanding aging as an integrative process.

**MIDUS Samples**

In 1995, MIDUS survey data were collected from a total of 7,108 participants. The baseline sample was comprised of individuals from four subsamples: (1) a national RDD (random digit dialing) sample (n=3,487); (2) oversamples from...
"Integrative Pathways to Health and Illness"

Primary Assessment Domains

- **Life Challenges**
  - Daily Stressors (e.g., work overload, family arguments, traffic problems)
  - Chronic Stressors (e.g., caregiving, perceived discrimination, perceived inequalities, work-family spillover, childcare difficulties, unemployment)
  - Acute Events (e.g., divorce, remarriage, job change, deaths, relocation)

- **Psychological and Social Factors**
  - Psychological:
    - Personality
    - Affect
    - Coping
    - Control
    - Goal Orientations
    - Optimism
    - Religion/Spirituality
    - Health Beliefs
  - Social:
    - Social Support
    - Spousal Relations
    - Parent-Child Ties
    - Childhood Violence
    - Social Participation
    - Social Responsibility
    - Job Characteristics
    - Neighborhood Quality

- **Health Behaviors**
  - Smoking
  - Alcohol Consumption
  - Physical Activity
  - Substance Abuse
  - Hormone Therapy
  - Preventive Healthcare
  - Alternative Healthcare

- **Neurobiological Mechanisms**
  - Brain:
    - Cerebral Activation Asymmetry
    - Prefrontal Function
    - Amygdala Activation
  - Neuroendocrine:
    - Cortisol
    - DHEA-S
    - Norepinephrine
    - Epinephrine
  - Cardiovascular:
    - Blood Pressure
    - Cholesterol
    - Waist-Hip Ratio
    - Glycosyl. Hemog.
    - Heart-Rate Variability
  - Immune:
    - Interleukin6 (IL-6)
    - Receptor (sIL-6r)

- **Allostatic Load**

- **Health/Illness**
  - Mental:
    - Depression
    - Anxiety
    - Psychological Well-Being
    - Cognitive Function
  - Physical:
    - Subjective Health
    - Health Comparisons
    - Chronic Conditions
    - Symptoms
    - Disability/Functional Limitations
  - Mortality

- **Sociodemographic Factors**
  - Age
  - Gender
  - Culture
  - Race/Ethnicity
  - Marital Status
  - Education
  - Income
  - Occupation

- **Genetic Factors**
  - Twins
  - Siblings
THE MIDUS II PROJECTS
(data collection for Projects 2-5 ongoing)

Project 1 (survey)
Samples: National (RDD)
Siblings, Twins
Metro Over-Samples (OS)
Milwaukee African Americans (NEW)

Project 2 (daily diary)
Drawn from:
National (RDD), Twins
Milwaukee African Americans

Project 3 (cognitive functioning)
National (RDD), Siblings, Twins
Metro OS, Repeat Boston OS,
New Boston OS

Project 4 (biomarkers)
Drawn from:
National RDD, Twins, Metro OS
Milwaukee African Americans

Project 5 (neuroscience)
Drawn from:
National (RDD), Twins
Milwaukee African Americans
Project 1 – National Survey

- Includes 30-min Phone Interview (all respondents)
- 2 fifty-page questionnaires

Strengths:
- *first national longitudinal* assessment of diverse psychosocial variables (e.g., personality traits, well-being, sense of control, work/family conflict, perceived discrimination)
- newly recruited *African American subsample* (n=592)
MIDUS Samples and Longitudinal Response Rates (9-10 yrs)

Original MIDUS 1 Sample (N = 7,108)
Main RDD (N = 4,244) RR = 71%
Sibling (N = 950) RR = 83%
Twins (N = 1,914) RR = 82%

Overall Longitudinal Response Rate (RR) = 75% (adjusted for mortality)

New to MIDUS II
Milwaukee (African Americans) (N = 592)

[Project 1]
Project 2 – Daily Diaries
(via phone interviews)

• Data: 8 days of interviews/person
• Data: 4 days of salivary cortisol/person (4 times/day)

• Strengths:
  — largest and only national study of daily experience
  — largest and most representative study of diurnal cortisol
  — longitudinal design (~1,400 respondents)
  — includes 250 twin pairs
Project 3 – Cognitive Function

• Response rate: 86%
• 20-min Phone Interview: BTACT (Brief Test of Adult Cognition by Telephone) → episodic verbal memory, working memory span, verbal fluency, inductive reasoning, processing speed, attention-switching reaction time

• Strengths:
  — first ever national assessment of above abilities
  — across 5 decades (measures sensitive to early age decline)
  — data on RDD, twins, siblings, African American
Project 4 – Biomarkers

• Protocol includes overnight stay at GCRC clinic

• Strengths:
  – comprehensive biomarkers (neuroendocrine, inflammatory, cardiovascular, bone)
  – laboratory challenge study (including heart-rate variability and salivary cortisol)
  – comprehensive data on medications
  – all across 5 decades of aging
• Protocol includes measurement of EEG and bodily responses to emotion-laden information, EEG and MRI structural and functional brain assessments during affective tasks

• Strengths:
  — *Largest study ever on neural substrates of emotion*
  — *Diversity of sample (age, ethnicity, SES)*
Unique Strengths of MIDUS

- In-depth multidisciplinary content
  - Achieved via 5 separate data collection projects

- Wide age range (25-74)
  - Facilitates focus on life course transitions

- Longitudinal change (9-10 years)
  - Enables assessment of cumulative, long-term influences

- Includes national twin sample
  - Allows for study of genetic influences

- Use of data
  - Wide presence across scientific fields
Use of MIDUS Data
[publicly available at ICPSR]

- MIDUS I data available since 1998 → 225+ publications: http://midus.wisc.edu/
  - appearing in 67 different journals
  - ~40% generated by non-MIDUS investigators
  - 6,298 data files downloaded from ICPSR

- MIDUS II → Project 1 survey data delivered to ICPSR in January, 2007
  - 2,296 data files downloaded to date
Summary Volume (2004) from MIDUS I

- 21 chapters
- Main headings:
  - Midlife Perspectives on Physical Health
  - Emotion, Quality of Life and Well-Being
  - Contexts of Midlife: Work and Family, Neighborhood and Community
Welcome

Carol Ryff, Principal Investigator of MIDUS II welcomes you to our website.

MIDUS II Investigators

A list of the Scientists who are carrying out the data collection for MIDUS II.

History and Scope of MIDUS

The first MIDUS investigation was conducted in 1994/95 with a sample of over 7000 Americans, aged 25 to 74. It was funded by the John D. and Catherine T. MacArthur Foundation. In 2002, the National Institute on Aging provided a grant to the Institute on Aging at the University of Wisconsin, Madison to carry out a longitudinal follow-up. MIDUS II is currently in progress.

Overview of MIDUS I

In 1994/95, the MacArthur Midlife Research Network carried out a national survey of over 7,000 Americans aged 25 to 74. The purpose of the study was to investigate the role of behavioral, psychological, and social factors in understanding age-related differences in physical and mental health. The study was innovative for its broad scientific scope. Its