

# Health Research. Perspectives in Social Sciences

Indicators of health and quality of life:  
Situation and outlook

Paolo Ghisletta

Faculty of Psychology and Educational Sciences, University of Geneva

Distance Learning University, Switzerland



# Objectives

1. Discuss health as a dynamic individualized process
2. Discuss concepts and methodologies to assess health
3. Discuss how to study individuals who do or do not manage to stabilize their health during their lifespan

# Outline

- Dynamic nature of health
- Large-scale vs. individualized measures of quality of life and health
- Assessment of change vs. level
- Between-person differences vs. within-person change
- Methods to assess within-person change
- How to implement these methods in research
- How to study how individuals manage to stabilize their health during their lifespan

## My (biased) perspective

- Ph.D. in psychology, with heavy training in quantitative methodology and data analysis
- Main research areas: methodologies and multivariate analyses to study change processes over the lifespan (life course)
- Worked on several large-scale projects focused on older individuals' psychological and physical health, cognitive capacities, social situation, personal resources, etc.

# Objectives of today's conferences

- Demonstrate the specific and innovative contribution made by the social sciences in the field of health research
- Present and discuss the central concepts of dynamic health research oriented towards living quality and the structure of everyday life, including identification of their consequences and implications as well as associated methodological challenges
- Develop new, forward-looking fields of research which have previously seen little study
- Provide momentum for a research agenda creating new focal points and consolidation of expertise

# Large-scale vs. individualized measurements of quality of life / health

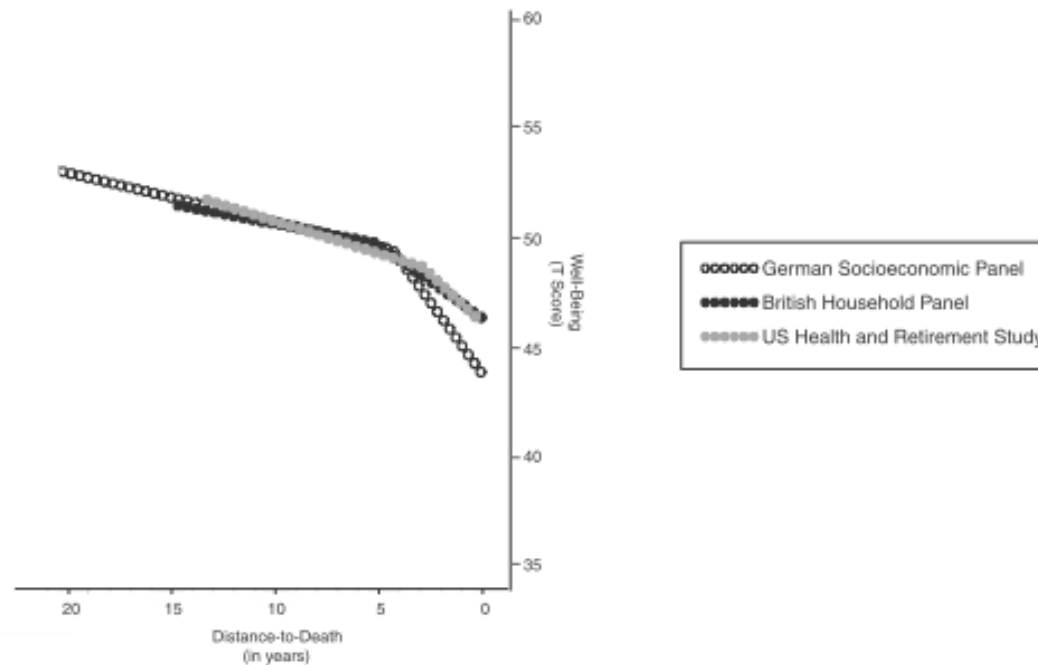
- Large-scale indicators may explain differences among countries, but not among individuals within the same country
- Many classical indicators lose relevance in today's society
- Must proceed to put the individual into discussion about health and quality of life (cf. position paper of Swiss Academy of Medical Sciences "The potential and limits of personalized medicine")
- Quantitative equivalent responses may indicate different qualitative individual functioning
- Good indicators are not enough. Measurement methods are also crucial.

# The dynamic nature of health

- Vulnerability, resilience, and quality of life are dynamic by nature
- A person's lifespan is marked by several changes (e.g., individual resources, social resources)
- In particular, a person's cognitive health changes across the lifespan
- Thus, health is an ever fluctuating, dynamic construct that most of us wish to stabilize
- Yet, we largely ignore what contributes to the individual stabilization of health because almost all large-scale studies regard health as a generalized, constant construct

# Need to study health repeatedly, not once

- Very often it is not the level of functioning that matters but the change (over a given amount of time) in functioning
- Much evidence for terminal decline (e.g., in cognitive health, well-being)

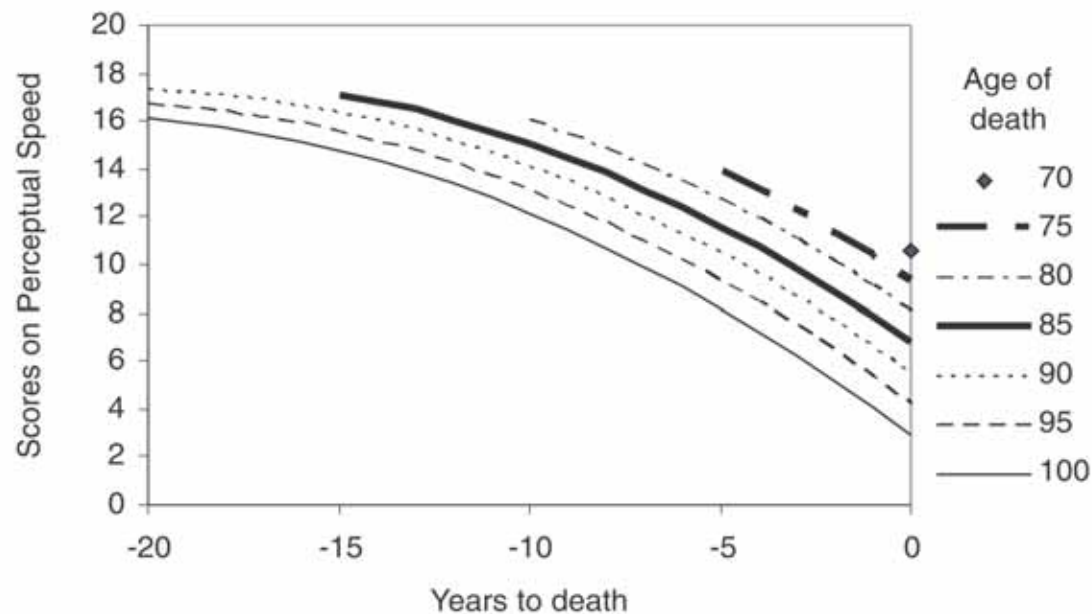


Gerstorf et al. (2010). *Psychology and Aging*, 25 (2).



## Need to study health repeatedly, not once

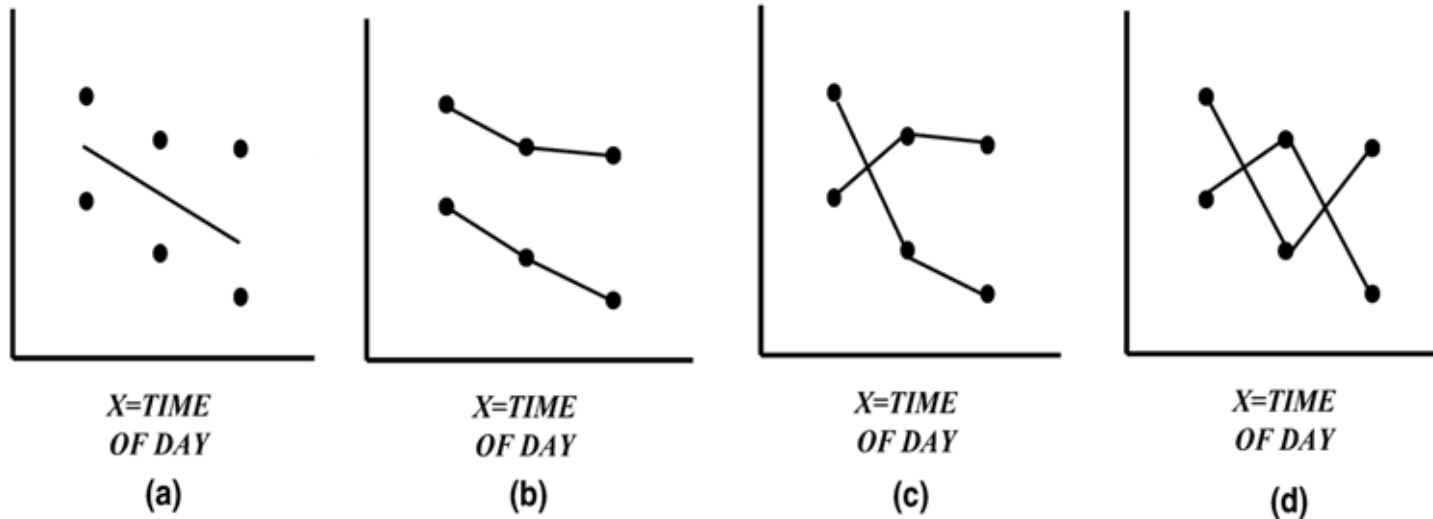
- Very often it is not the level of functioning that matters but the change (over a given amount of time) in functioning
- Much evidence for terminal decline (e.g., in cognitive health)



Thorvaldsson, Hofer, & Johansson (2006). *European Psychologist*, 11(3).

# Between-person differences vs. within-person change

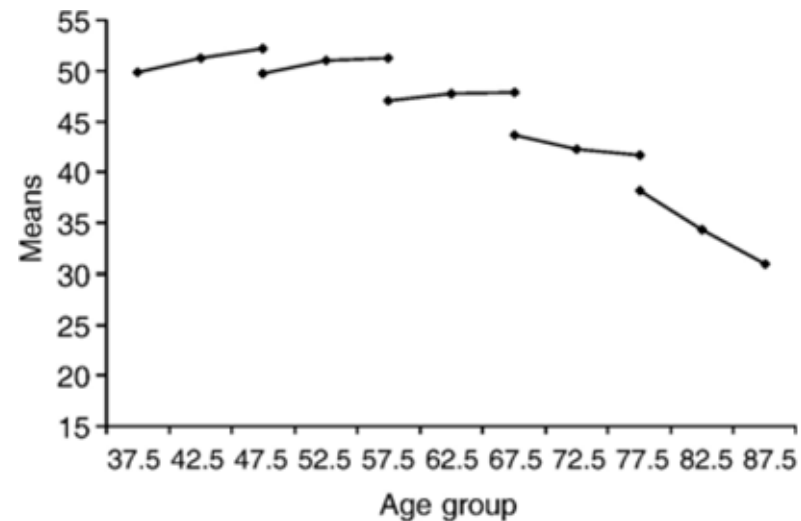
- When interested in age effects, we can study
  1. how people of different ages are different/similar (between-person differences)
  2. how people change as they age (within-person change)



# Methods to assess within-person change

- Well-established sets of techniques in psychology (e.g., individual differences (differential) psychology, lifespan psychology)
- These methods must be paired with statistical techniques capable of accounting for drawbacks

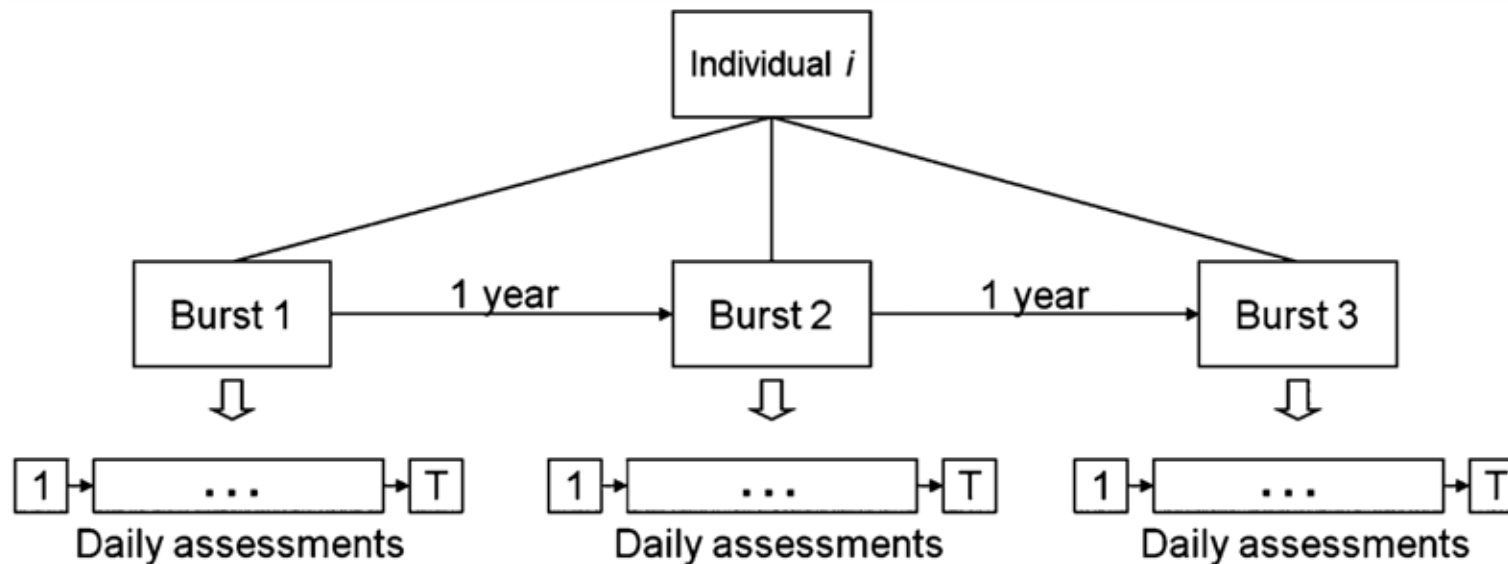
## 1. Multi-cohort designs



de Frias et al. (2007). *Intelligence*, 35 (4).

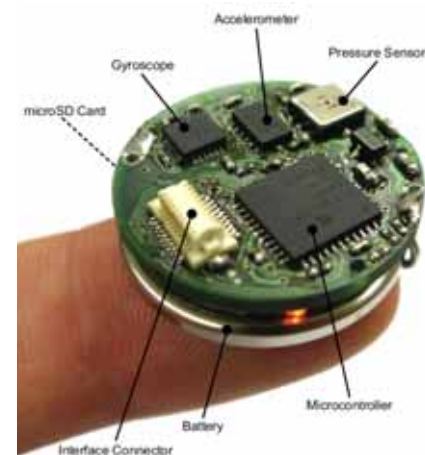
# Methods to assess within-person change

## 2. Measurement-burst designs (Nesselroade, 1991)



# Methods to assess within-person change

## 3. Non-invasive measurement devices



Examples from Riener (2013).

## Methods to assess within-person change

- Change format of administration (e.g., cognitive assessment in the Health and Retirement Study in USA)

TABLE 2. Scores in Six Cognitive Telephone Screening Instrument (COGTEL) Subtests Across Administration Forms and Age Groups

Subscale	Younger adults <sup>a</sup>				Older adults <sup>b</sup>			
	Telephone		Face-to-face		Telephone		Face-to-face	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Verbal short-term memory	5.16	1.79	5.22	1.96	3.93	1.92	4.02	1.74
Verbal long-term memory	5.64	1.85	5.98	1.77	4.27	1.92	4.49	1.73
Working memory	6.56	2.18	6.77	2.06	6.28	2.20	5.67	1.76
Verbal fluency	28.25	8.19	29.73	9.12	24.56	7.41	25.51	6.66
Inductive reasoning	5.01	1.94	4.93	1.97	4.35	1.96	4.11	1.98
Prospective memory <sup>c</sup>	0.77	0.43	0.72	0.045	0.39	0.49	0.25	0.44

<sup>a</sup>*n* = 81, <sup>b</sup>*n* = 83, <sup>c</sup>Represents the percentage participants who remembered to perform the intended action.

## How to implement in research

- Clearly, this individual-based within-person assessment implies greater costs → if well planned costs do not necessarily increase!
- Include carefully planned sub-samples within a large panel study for more intensive measurements
- Must join expertise across disciplines to maximize the final research product → interdisciplinary collaboration is required
- Such a joint venture allows for
  1. a general understanding in a large-scale population
  2. a fine-grained understanding of individual processes in a representative sample

## Ambitious (but feasible!) goal

- Rather than focus solely on group comparisons, which
  - are limited to average predictions
  - are often associated to weak effect sizes
  - encourage global interventions that are misguided for many individuals

we need to put the individual at the center of discussions

- Formulate and test a research model of age-related individual stabilization, which will increase the efficacy of today's health interventions (Martin, Jäncke, & Röcke (2012). *GeroPsych*, 25 (4))



# Health Research. Perspectives in Social Sciences

Indicators of health and quality of life:  
Situation and outlook

Paolo Ghisletta

Faculty of Psychology and Educational Sciences, University of Geneva

Distance Learning University, Switzerland

