

An Introduction to Demographic Analysis and Life Course Research

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Who Am I? And What Do I Do?

A population data scientist with many interests:



- Educational inequality;
- Sociogenomics;
- More macro-orientated demographic analysis;
- Network analysis;
- and many more...

- With methodological focus and 'Open' approach.

But what does a data scientist do?

guess_what_this_does.py

```
import json, io, imageio, requests
from PIL import Image

def get_cat_bounded(url):
    api_ret = requests.get(url)
    if api_ret.status_code==200:
        text = json.loads(api_ret.text)
        while (text[0]['width']<=400 or text[0]['width']>=600) or \
            (text[0]['height']<=400 or text[0]['height']>=600):
            api_ret = requests.get(url)
            if api_ret.status_code==200:
                text = json.loads(api_ret.text)
            r = requests.get(api_text[0]['url'])
            return Image.open(io.BytesIO(r.content))

url = 'https://api.thecatapi.com/v1/images/search'
images = []
for _ in range(0, 50):
    images.append(get_cat_bounded(url))
imageio.mimsave('CATS.gif', images, fps=1)
```

Thats right: Cats!



Just kidding! They use quantitative and computational techniques to analyze populations.

1. This can either be at the 'macro'-orientated level
(Demographic Analysis: MT)

or

2. At the 'actor'-orientated (or 'micro') level
(Life Course Research: HT).

These are **deliberately** highly complimentary modules, sharing a rigorous approach to modern demography.

Moving From DA to LCR

In recent years, the scientific interest of many demographers has shifted from studying “demographic regimes” and large-scale processes to analysing longitudinal micro-data in the form of “life courses”

Kok, J. (2007/1)
in *Dans Annales de démographie historique* 2007

- One of the main early commentators on micro vs. macro approaches to Demography was a former HoD!

Structure

The two are by now almost identically structured.

Both DA and LCR will:

- Contain eight lectures;
- Contain four computer labs (R);
- Contain four 'flipped classroom' reading groups;
- Have one 'essay' style assessment;
- Have one 'quantitative' style assessment.

What will we cover in DA?

1. Trends & Transition (CR)
2. APC, Rates (CR)
3. Mortality I (CR)
4. Mortality II (JM)
5. Fertility I (RK)
6. Fertility II (RK)
7. Migration (RK)
8. Projections (CR)

N.b.: **not** likely to change from this plan.

What will we cover in LCR?

1. An Introduction
2. Early Years & TTA
3. Health & the Life Course
4. Family & the Life Course
5. Aging & the Life Course
6. Predicting the Life Course
7. Hazard Models
8. Sequence Analysis

N.b.: **somewhat** likely to change from this plan.

- How about a preview of LCR?
- On following slide is my favourite from last year:
 - An early hollistic view of the life course.
- By painter Hendrik Frans Diamoer, b. 1685.
- Title: Trap des Ouderdoms.

"Hoe hy van trap tot trap verandert"

or

"How he changes from stair to stair"

