14.127 Behavioral Economics (Lecture 8)

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1 Decision utility

- Economists use the word "utility" to describe the preferences that rationalize observed choices.
- Kahneman calls these revealed preferences "decision utility".
- These are the preferences that rationalize decisions.
- These are the preferences that coincide with "wanting" and "choosing."
- For an addict the decision utility of drug consumption exceeds the decision utility of quitting.

2 Experienced utility

- Kahneman also measures the hedonic consequences of choices.
- He calls these actual hedonic experiences, "experienced utility."
- These are the preferences that coincide with "doing."
- This is how Jeremy Bentham (1748-1832) conceived of utility (pleasure and pain)
- How do you measure hedonic experiences (e.g., well-being)?
- How do you discount these experiences over time?

Measuring experienced utility:

- observer ratings
- real-time self-reports of mood, pain, pleasure, or happiness (palm pilot)
- facial measures
- autonomic measures (autonomic nervous system, including electrodermal, respiratory, and cardiovascular)
- vocal measures (pitch, loudness, tone, quality, timing)

- left brain assymetry (electroencephalogram — EEG)

- responses to emotion-sensitive tasks (e.g., Would you like to talk with a good friend?)

Why might decision utility and experienced utility fail to coincide? A couple examples:

- the decision is cognitively hard to make
- poor forecasts of preference dynamics, e.g.,
  - failures to anticipate adaptation (paraplegics, lottery winners, junior faculty turned down for tenure), Gilbert et al (psychological immune system)
  - failures to anticipate visceral effects (Loewenstein's aggression study)
- innacurate memories of past hedonic experiences (this is where we'll focus today)

- much of this course is about occassional disconnects between decision utility and experienced utility

3 Remembered utility

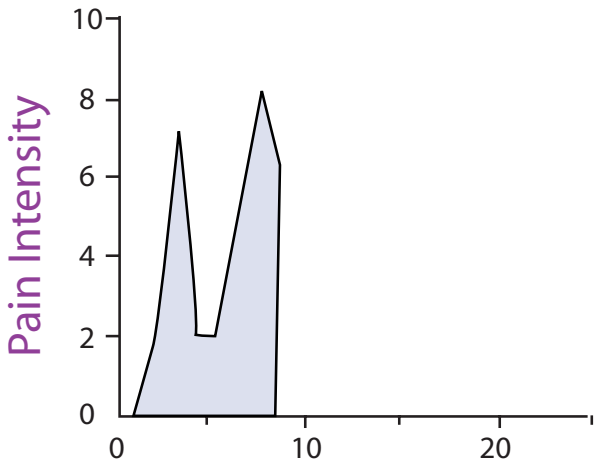
- our memory of a hedonic experience
- remembered utility exhibits duration neglect
- remembered utility follows peak-end rule: global retrospective evaluations are well predicted by an average of the peak affective response recorded during an episode and the end value recorded just before the termination of an episode

Examples of studies:

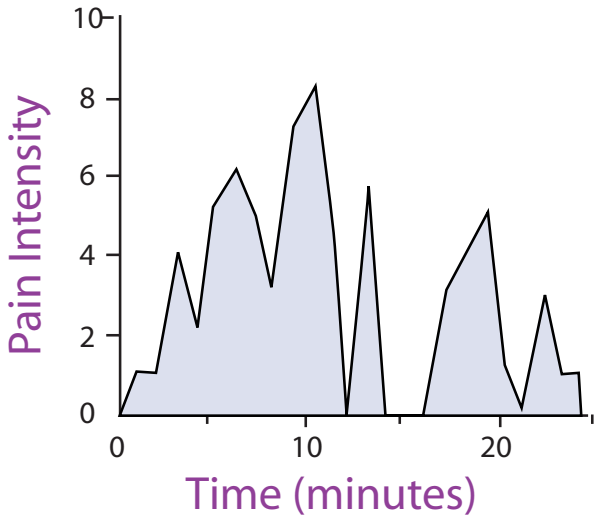
- colonoscopy
- plotless films of pleasant/unpleasant subjects (such as low-level flying over an African landscape or of amputation)
- immersion of one hand in cold water (cold-pressor)
- aversive sounds of varying loundess and duration
- shocked rats

4 Colonoscopy (Katz, Redelmeier, and Kahneman)

- control group: regular colonoscopy
- treatment group: procedure lengthened by one minute with colonoscope inside the body cavity but stationary (nature of condition was not explained to the subjects)
- treatment group had significantly better memories of the overall experience
- how could these insights be used practically?
- subjects remembered utility descibed by peak-end rule [figure]



Patient A



Patient B

Pain Intensity Reported by Two Colonoscopy Patients, adapted from Kahneman, et al. "Back to Bentham? Explorations of Experienced Utility." *The Quarterly Journal of Economics* 112, no. 2 (May 1997).

5 Cold Pressor (Schreiber & Kahneman)

- short trial
  - hand in 14 degree water (60 sec)

- long trial
  - hand in 14 degree water (60 sec)
  - temp rises to 15 degrees (30 sec)

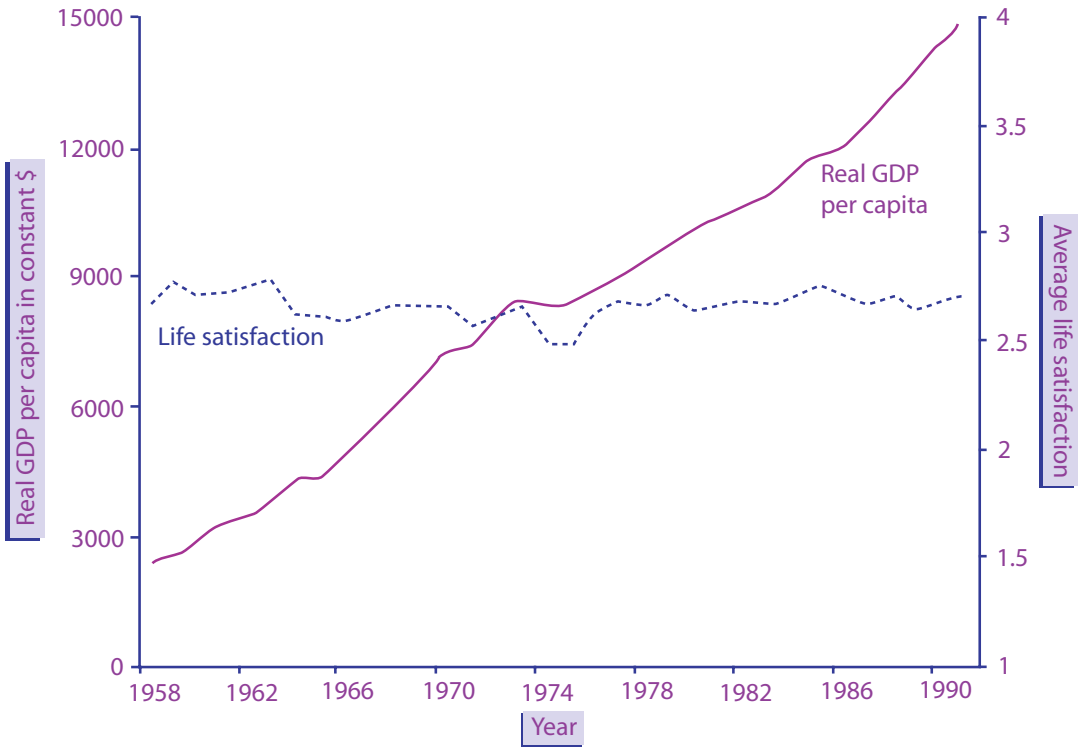
- 65% of subjects chose to repeat the long trial (so decision utility $\neq$ experienced utility)

- result replicated with aversive noise

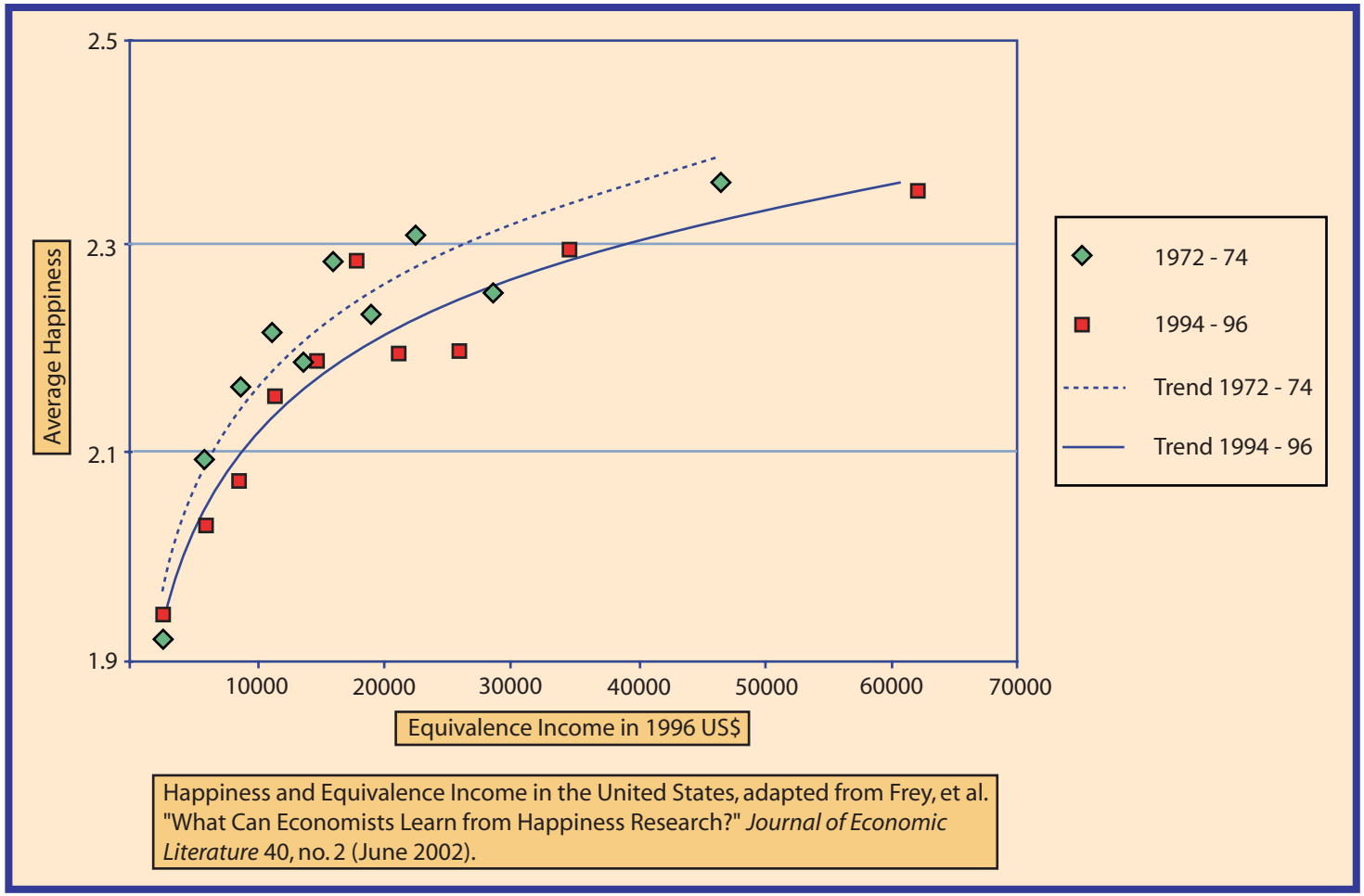
6 Macro happiness

- Easterlin paradox. In the second half of XX century Japanese GDP/capita goes up while happiness stays roughly constant [2 Figures]

- Interpretations:
  - money does not buy happiness
  - it's relative consumption that matters
  - hedonic treadmill: changes matter not levels
  - negative externalities (pollution, crowded cities)
  - the meaning of 7 on the scale 1,2,...,10 changes.



Satisfaction with Life and Income Per Capita in Japan between 1958 and 1991, adapted from Frey, et al. "What Can Economists Learn from Happiness Research?" *Journal of Economic Literature* 40, no. 2 (June 2002).



Happiness and Equivalence Income in the United States, adapted from Frey, et al. "What Can Economists Learn from Happiness Research?" *Journal of Economic Literature* 40, no. 2 (June 2002).

* Similarly, if you ask people how high they are on the scale 1,2,...,10 then the average answer may not differ across years even if height goes up

- Happiness and wealth:
  - in the 70s same real income meant more happiness than in the 90s. An argument for
    * relative consumption?
    * or for habit formation?
    * or for changes in the perception of the scale?

- Problems with
  - relative consumption: people don't take steps to change locations to be ahead of others
  - hedonic treadmill:
    - people should start with low consumption, but they take credits to consume lots early on
    - what is time interval: 5 minutes of cold pressor or a year
  - expectation based utility: people don't flock to safe badly paid vocations like elementary school teacher