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**Beyond GNP?**  
**What the New “Science” of Well-Being Can  
Contribute to Economics and to Policy**

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## A Celebration of a new science?

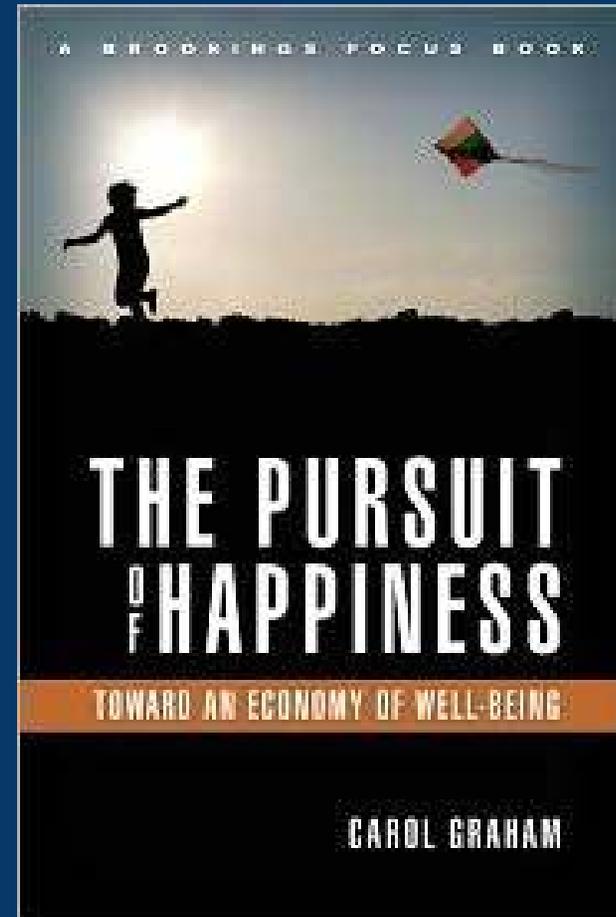
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- Until five or so years ago, I was one of a very small number of seemingly crazy economists using happiness surveys, and surely the only one working on developing economies
- Today - remarkable interest in the topic; momentum, reflects the work of many academics, and experiments like those of Bhutan (and now the UK) that have taken the science and the metrics seriously; UN; OECD guidelines; NAS panel on well-being metrics for policy and U.S. statistics.
- Three themes/questions key to policy:
  - a) Why the particular definition of well-being matters – agency issues
  - b) Adaptation and progress paradoxes
  - c) What is a meaningful change in well-being?

# From Novel Metrics to the Policy Arena

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- An introduction to both metrics and some of these policy questions is in here!



## A new science: the metrics

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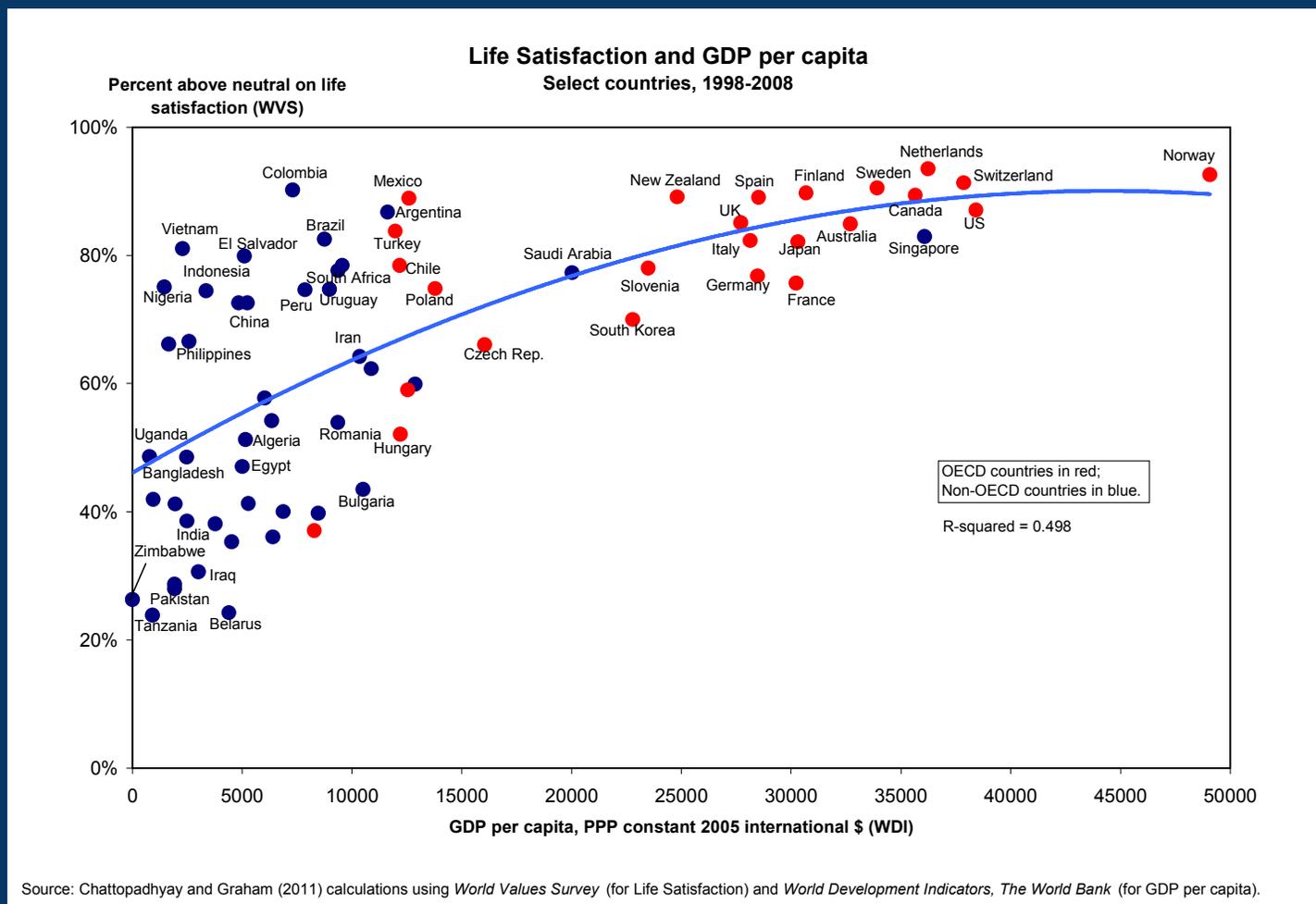
- Well-being measurement has gone from a nascent collaboration between economists and psychologists to an entire new approach in the social sciences
- Can answer questions as diverse as the effects of commuting on well-being, why cigarette taxes make smokers happier, why the unemployed are less unhappy with higher unemployment rates, and why people adapt to things like crime, corruption, and poor environmental conditions.
- Method well-suited for questions that revealed preferences do not answer - situations where individuals do not have the *agency* to make choices and/or when consumption decisions are not the result of optimal choices.
- a) macro/institutional arrangements individuals cannot change b) behaviors driven by imposed norms, addiction or self-control problems
- Is survey data really worse than income data?

# Terminology

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- “Happiness,” “well-being”, “subjective well-being”, and “life satisfaction” often used inter-changeably; yet important differences in meaning.
- **Happiness:** most open-ended of the terms; attracts the most public attention. In the U.S. Declaration of Independence. Attempts to gauge how happy feel about their life in general. Does not impose a definition on respondents.
- **Life satisfaction** – correlates very closely with happiness questions, yet correlates more closely with income. Respondents more likely to evaluate their life circumstances as a whole, in addition to happiness in general. Also Ladder of life question
- **Hedonic well-being** – measures how people experience their daily lives – what is their mood (positive or negative/ (smiling or worried yesterday) as they do different things, like commuting, spending time with friends, or working

# Happiness and Income per Capita

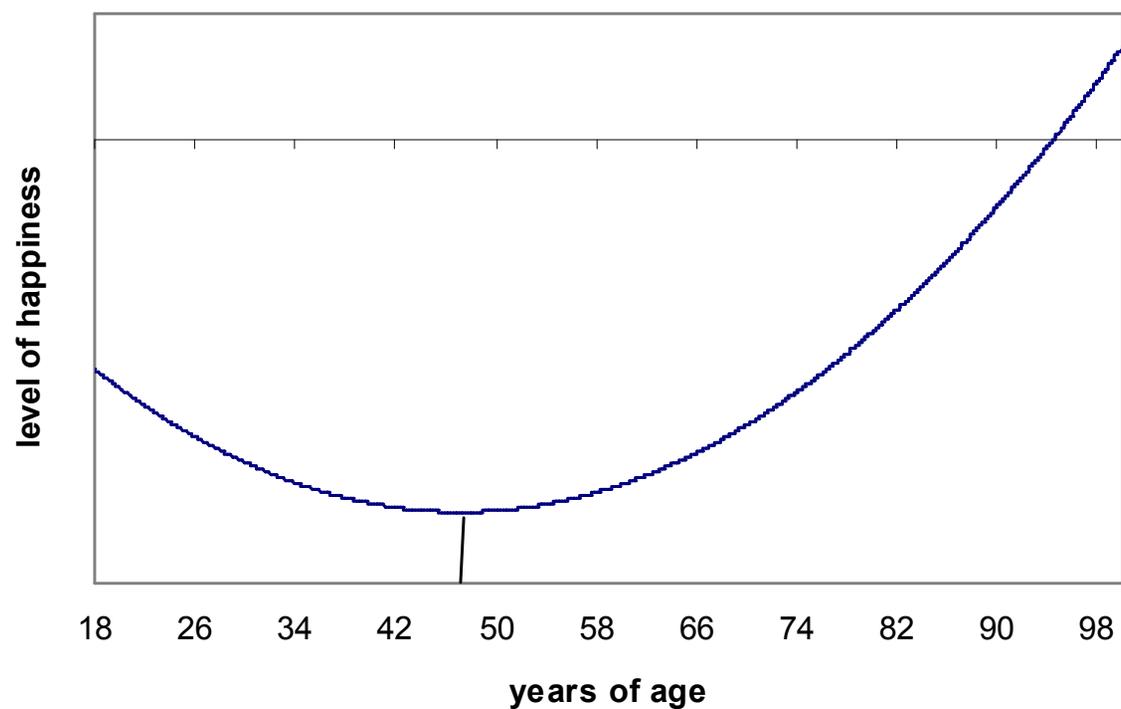


Source: Chattopadhyay and Graham (2011) calculations using *World Values Survey* (for Life Satisfaction) and *World Development Indicators, The World Bank* (for GDP per capita).

## Happiness and Age!

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**Happiness by Age Level**  
Latin America, 2000



## Happiness patterns across the world

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- Happiness and age (figure)
- Income
- Health
- Employment
- Marriage (you can't be happier than your wife...)
- Friendships
- Gender (less clear)

## The metrics we use

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- Econometric equations:  $W_{it} = \alpha + \beta x_{it} + \varepsilon_{it}$
- $W$  is the reported well-being of individual  $i$  at time  $t$ , and  $X$  is a vector of demographic and socio-economic characteristics (which have stable patterns). Unobserved traits are captured in the error term
- Can then explore “happiness” effects of things that vary or change more, such as inflation and unemployment rates, environmental quality, or personal behaviors, such as smoking, exercising, and commuting time and much more
- Do not ask people if these things make them un/happy
- Works from a research perspective. Yet policy arena is blunt and brutal – need more clarity on well-being definition

## Bentham or Aristotle in the statistics offices?

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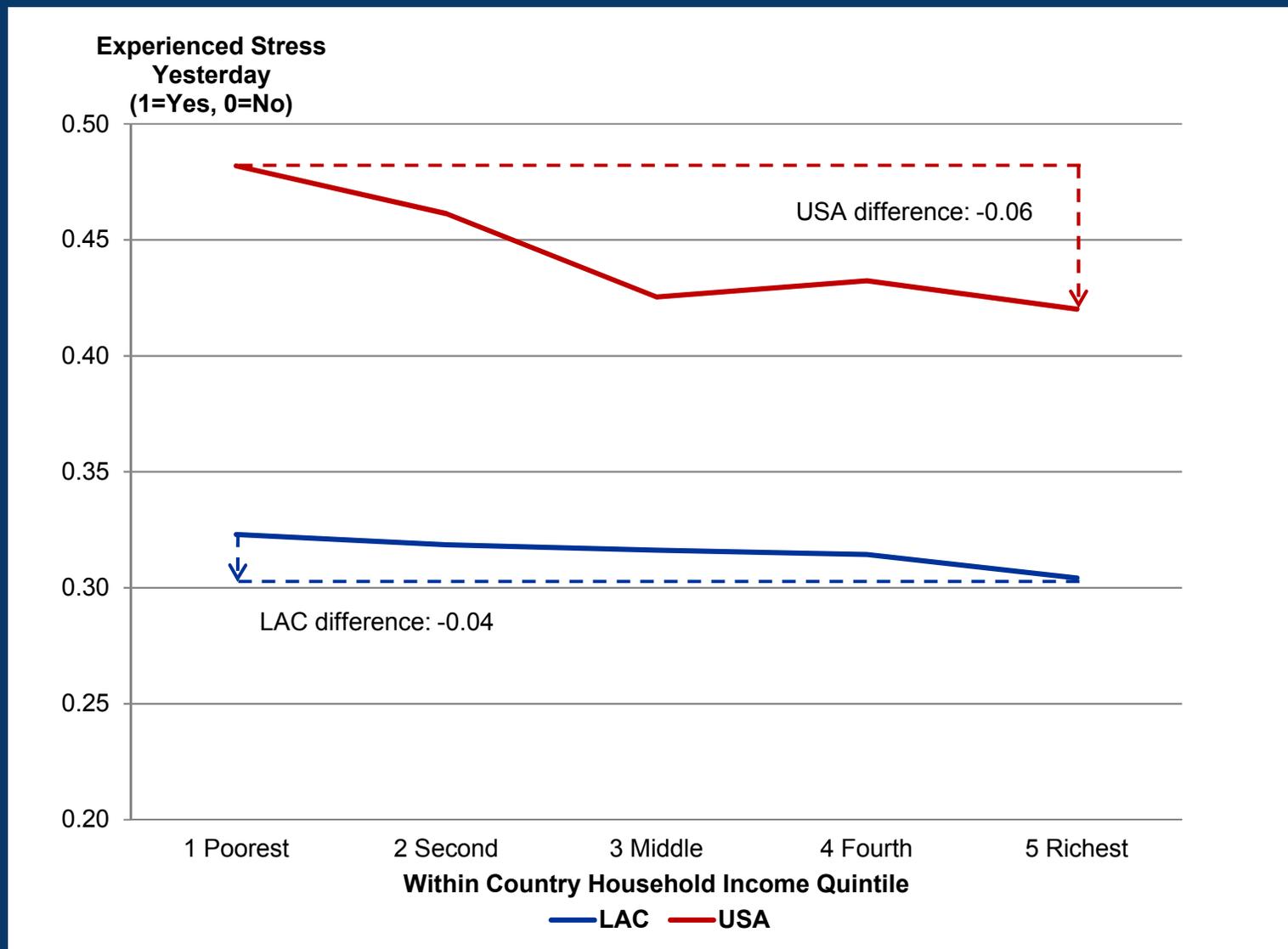
- Broad agreement among scholars on two related but distinct dimensions of well-being;
- **Jeremy Bentham:** maximizing the contentment and pleasure of the greatest number of individuals as they experience their lives on a day-to-day basis – e.g. hedonic or *experienced well-being*.
- **Aristotle:** happiness as *eudaimonia*, a Greek word that combines two concepts: “*eu*” meaning well-being or abundance, and “*daimon*” meaning the control of an individual’s destiny. Falls under the rubric of *evaluative well-being*; implicitly includes the opportunity to lead a purposeful or meaningful life.
- Hedonic well-being measures better for assessing QOL and life at the moment; evaluative well-being better for assessing people’s capacities to make choices and to seek fulfilling lives

## Agency and Well-being

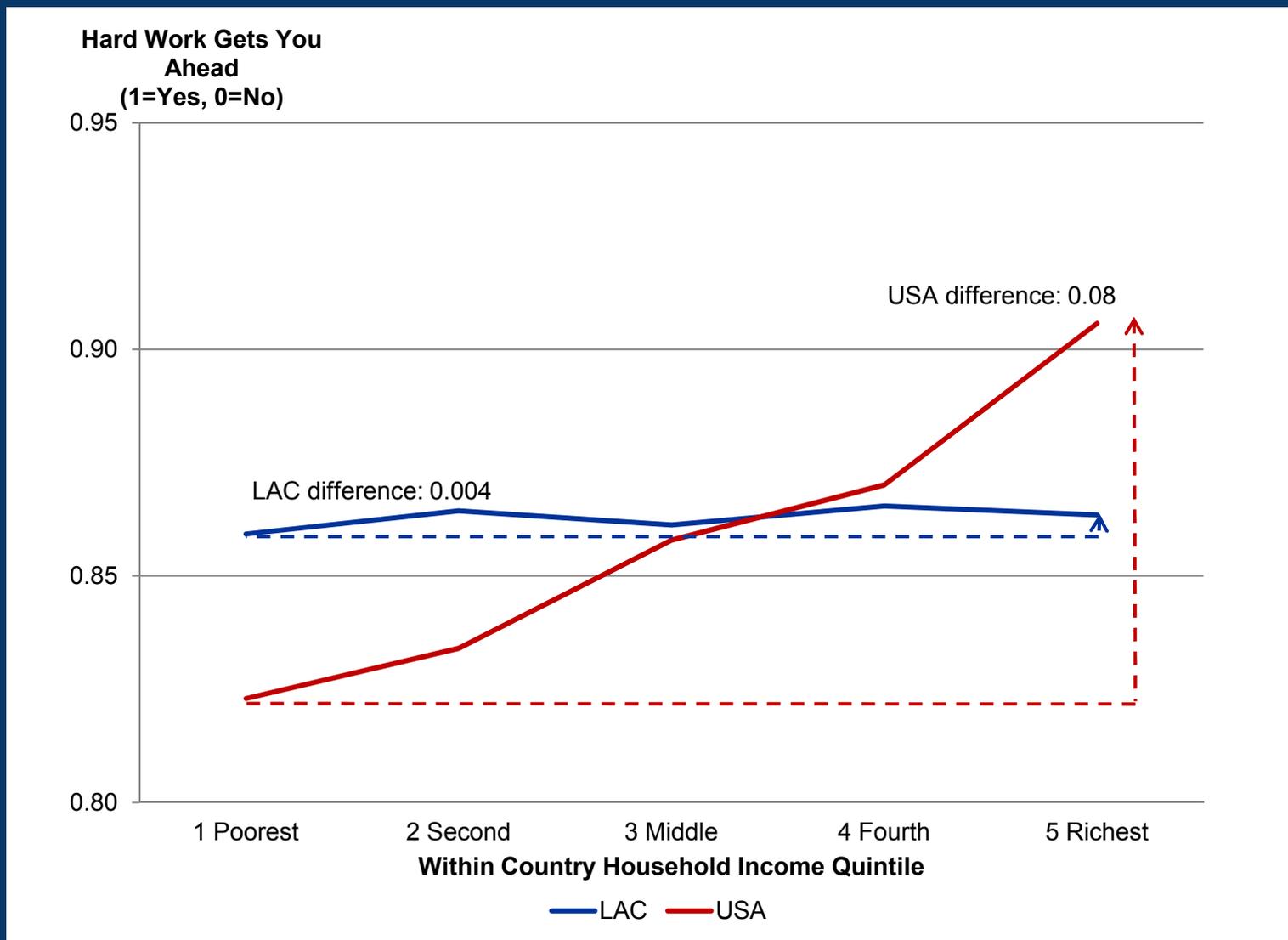
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- Which dimension matters to a particular person is in part determined by his/her *capacity* to make choices about life course.
- Lacking capacity – due to poverty or to imposed norms – people may place more value on day-to-day experiences, such as friendship and religion; daily living can be a struggle, stressful; leads to short-term time horizons.
- Those with more capacity may have less time and interest in day-to-day experiences, particularly if they are very focused on some overarching objective or achievement.
- ii) LatAm: poor and friends/family; rich and work/health (Graham and Lora); work/health = agency, friends/family = safety nets;

# Experienced Stress – USA vs LAC



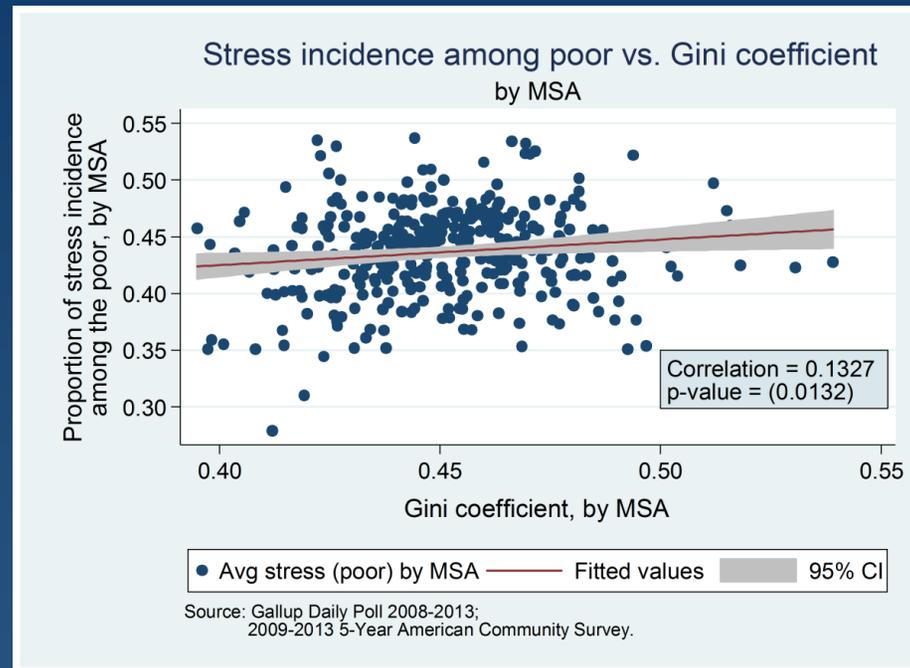
# Belief in Hard Work – USA vs LAC



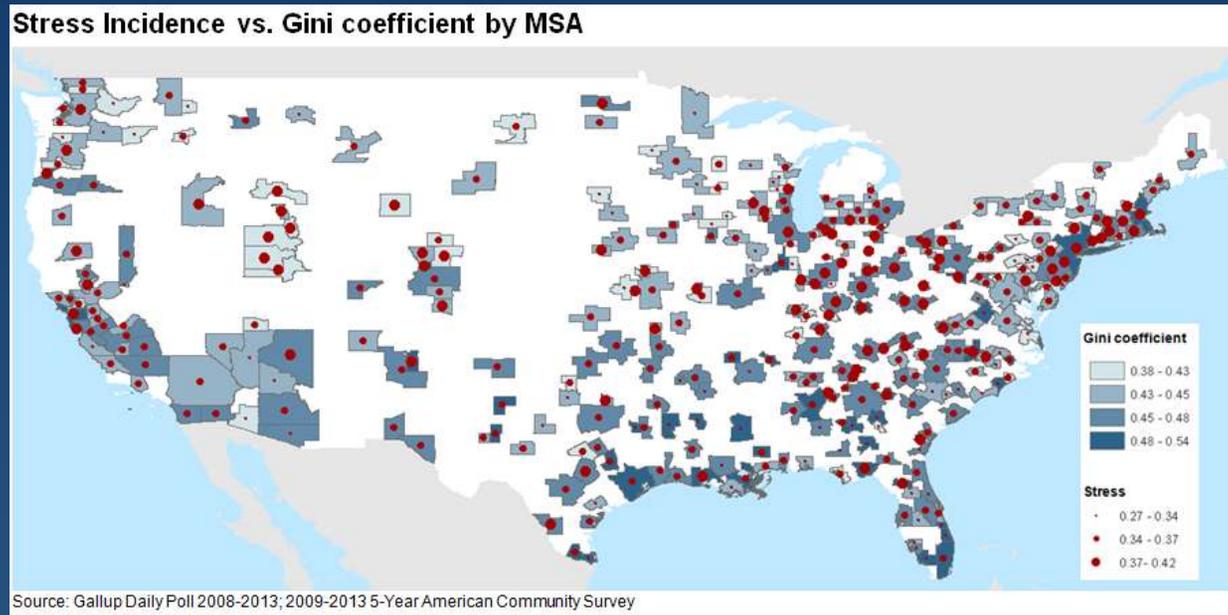
# Good Stress, Bad Stress?

	[1]	[2]	[3]	[4]
	Ordered logit regressions			
	Dependent Variable: Best Possible Life (0-10 scale)			
Age	-0.048*** (0.000)	-0.050*** (0.001)	-0.058*** (0.001)	-0.058*** (0.001)
Age Squared /100	0.048*** (0.000)	0.050*** (0.001)	0.058*** (0.001)	0.058*** (0.001)
Gender (1=Men, 0=Women)	-0.289*** (0.002)	-0.300*** (0.002)	-0.289*** (0.002)	-0.289*** (0.002)
Marital status: 1=Married/Living w/ partner 0=Other	0.497*** (0.002)	0.354*** (0.004)	0.357*** (0.004)	0.354*** (0.004)
Body Mass Index	-0.022*** (0.000)	-0.020*** (0.000)	-0.020*** (0.000)	-0.020*** (0.000)
DV: Experienced stress yesterday 1=Y 0=N	-0.892*** (0.002)	-0.864*** (0.002)	-1.869*** (0.024)	-1.260*** (0.010)
Highest Education Level, 1<HS 2=HS 3=Tech/Voc 4=Some college 5=PGrad	0.164*** (0.001)	0.124*** (0.001)	0.128*** (0.001)	0.098*** (0.001)
Ln(Household Income)		0.278*** (0.002)	0.218*** (0.002)	0.277*** (0.002)
Interaction: Stress and Ln(Household Income)			0.122*** (0.002)	
Interaction: Stress and Education Level				0.095*** (0.002)
Year: 2009	0.292*** (0.004)	0.252*** (0.005)	0.252*** (0.005)	0.252*** (0.005)
Year: 2010	0.282*** (0.004)	0.295*** (0.004)	0.295*** (0.004)	0.295*** (0.004)
Year: 2011	0.218*** (0.004)	0.230*** (0.005)	0.230*** (0.005)	0.230*** (0.005)
Year: 2012	0.208*** (0.004)	0.211*** (0.005)	0.212*** (0.005)	0.212*** (0.005)
Observations	1,659,166	1,246,967	1,246,967	1,246,967
Standard errors in brackets				
*** p<0.01, ** p<0.05, * p<0.1				

# The Gatsby Curve, Part I - Stress



# The Gatsby Curve on a Map

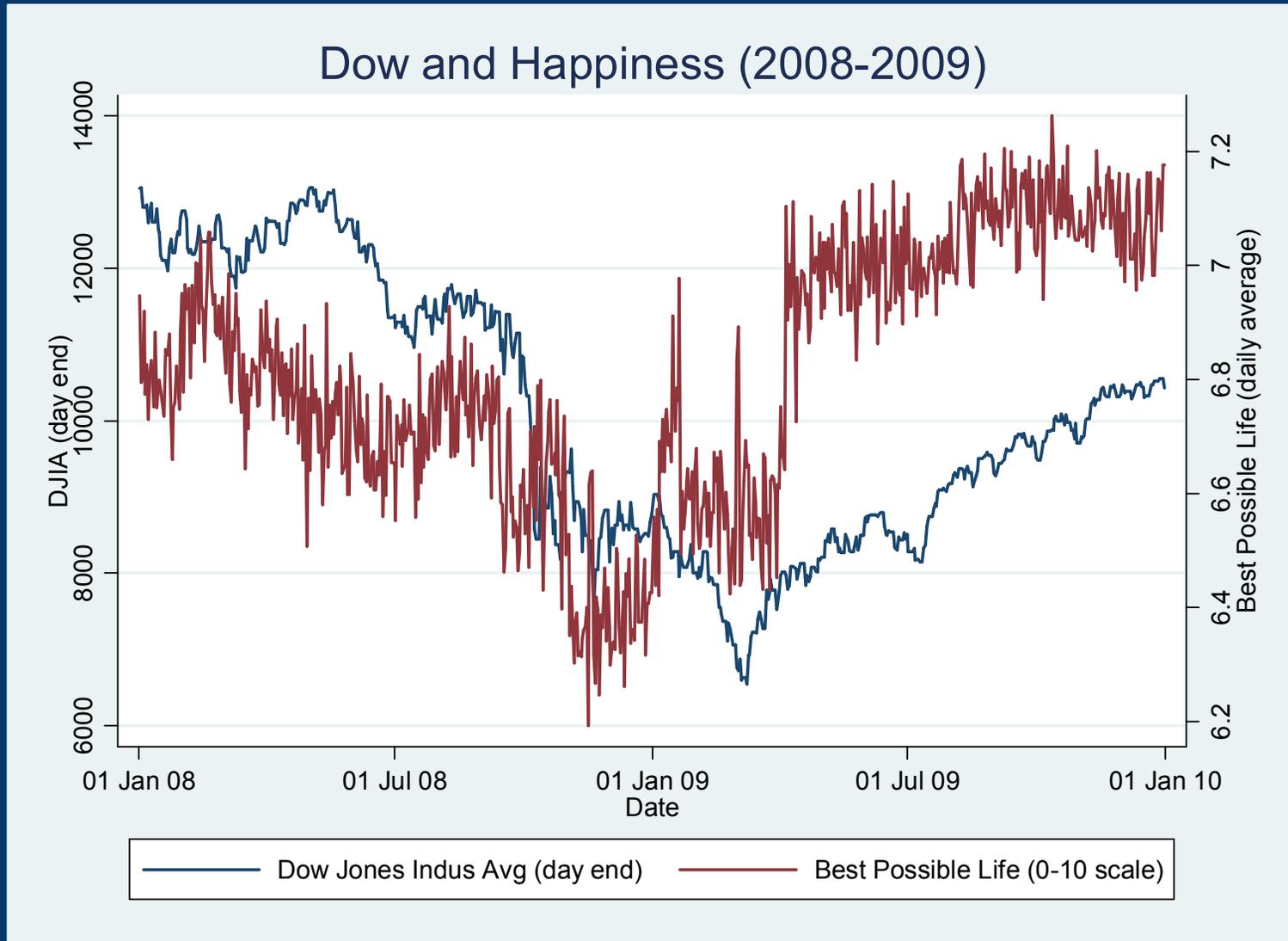


# The Adaptation Conundrum

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- Adaptations are psychological defense mechanisms;
- Those with limited means may emphasize the daily experience dimension of well-being over life evaluation; is this a way to preserve psychological well-being in the face of adverse conditions and low expectations?
- This may be good from an individual perspective but may also result in collective tolerance for bad equilibrium, such as high levels of corruption or poor norms of health or environment.
- Individuals are better able to adapt to unpleasant certainty – poverty, crime and corruption – than to uncertainty – pain and anxiety, volatile economic growth, and *changes* in crime rates

# Best Possible Life and the Dow Jones Industrial Average



## Progress Paradoxes: Changes versus Levels

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- We know that people are, on average, happier in countries with higher levels of GDP per capita, BUT.....
- a) happy peasants and frustrated achievers; unhappy migrants
- b) paradox of unhappy growth (rapid growth - rising aspirations, uncertainty? OR lower levels in t-0 – e.g. the unhappy, fast-growing countries started off at lower levels of income and well-being to begin with)
- Some uncertainty is often necessary to achieve progress; so does frustration/unhappiness necessarily underlie the development process?

# Research on the causal channels of different dimensions of well-being

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- A) Different dimensions of well-being and major change (e.g. unhappiness and progress?)
  - *i) unhappiness and intent to migrate;*
- B) Well-being and longer-term outcomes/behaviors
  - *i) job satisfaction/meaningful work/productivity;*
  - *ii) well-being dimensions, future outlooks, and discount rates; stress and time horizons of the poor versus the rich*
- C) Different behaviors depending on where in the well-being distribution people are?
  - *i) happiest respondents value income/employment least but learning and creativity more, for example; unhappiest value \$*
  - *li) averages versus the outliers*

## Well-Being Metrics in the Policy Realm

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- Much to resolve before agreeing on a single measure of well-being as a benchmark; single measure may never be appropriate.
- Low risk step: adding a few robust questions to our statistics (as the British have done and the OECD is recommending).
- Four tried and true questions:
  - » General life satisfaction (happiness or life satisfaction)
  - » Two hedonic questions a) one on positive affect, such as smiling yesterday and b) one on negative affect, such as worried yesterday
  - » Happiness in the Aristotelian or life purpose sense

## Remaining Questions

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- a) Cardinality versus ordinality – e.g. reducing misery or raising aggregate levels of well-being?
- b) What is a meaningful change in well-being? Do we know? How do we translate this for the public?
- c) Hedonic metrics and policy? a) daily experience can undermine longer term objectives (job searches) b) QOL issues, such as end of life decisions
- d) Evaluative/eudemonic well-being – e.g. people's capacity to lead fulfilling lives – measures the extent to which people have *opportunities* for life fulfillment, a natural objective of policy?

## Concluding Thoughts

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- Happiness is a much more complicated concept than is income. We can compare income across people with clarity on what it seeks to measure. But it took us years to get GNP right.....
- More to do still, but we are not far from a world in which governments around the world will be collecting well-being metrics to complement those that are in GDP, and in the same time period, so that we can compare trends across both indicators, both within and across countries
- It is already happening in many countries and cities! (like Sta Monica)