

**Press Summary: ‘Objective Confirmation of Subjective Measures of Human Well-being: Evidence from the USA’, published in Science (online 17 December 2009) by AJ Oswald and S Wu**

Research finds the happiest US States match a million Americans’ own happiness states

New research by the UK’s University of Warwick and Hamilton College in the US has used the happiness levels of a million individual US citizens to discover which are the best and worst states in which to live in the United States. New York and Connecticut come bottom of a life-satisfaction league table, and Hawaii and Louisiana are at the top.

The analysis reveals that happiness levels closely correlate with objective factors such as congestion and air quality across the US’s 50 states.

The new research published in the elite journal Science on 17<sup>th</sup> December 2009 is by Professor Andrew Oswald of the UK’s University of Warwick and Stephen Wu of Hamilton College in the US. Its chief contribution is to provide the first external validation of people’s self-reported levels of happiness.

“We would like to think this is a breakthrough. It provides an justification for the use of subjective well-being surveys in the design of government policies, and should be of value to future economic and clinical researchers across a variety of fields in science and social science” said Professor Oswald.

The authors examined a 2005- 2008 *Behavioral Risk Factor Surveillance System* random sample of 1.3 million United States citizens in which life-satisfaction in each U.S. state was measured. This provided a league table of happiness by US state -- reproduced below. The authors decided to use the data to try to resolve one of the most significant issues facing economists and clinical scientists carrying out research into human well-being.

Researchers in many disciplines have to rely on people’s self declared levels of happiness – but how can one trust those self declarations? There have been studies that try to match declared levels of happiness to clinical signs of stress such as blood pressure. That has been useful, but one cannot know for sure whether those physiological signs are driving happiness or whether the reverse is true. Researchers have, for decades, wished for a more clearly external scientific check on, and corroboration of, well-being survey answers.

The two researchers stumbled on a parallel approach that allowed them to do such a check. They discovered research by Stuart Gabriel and colleagues from UCLA published in 2003 which considered objective indicators for each individual State of the USA such as: precipitation; temperature; wind speed; sunshine; coastal land; inland water; public land; National Parks; hazardous waste sites; environmental ‘greenness’; commuting time; violent crime; air quality; student-teacher ratio; local taxes; local spending on education and highways; cost of living. This allowed the creation of a rank order of US states showing which should provide the happiest living experience. This was a truly external data source that could be used to check the self declared levels of happiness; Gabriel’s team had no happiness data in 2003 that could allow the check to be completed.

But Professors Oswald and Wu were able to do the first state-by-state USA happiness calculations. They then obtained Gabriel’s numbers. When the two rankings were compared,

they found a close correlation between people's subjective life-satisfaction scores and objectively estimated quality of life.

The lead author on the study, Professor Andrew Oswald from the University of Warwick, said:

"The beauty of this statistical method is that we are able to look below the surface of American life -- to identify the deep patterns in people's underlying life satisfaction and happiness from Alabama to Wyoming. The type of study is new to the United States. We are the first to be able properly to do such a calculation -- partly because we are fortunate enough to have a random anonymized sample of 1.3 million Americans. But we could not have done it without the early painstaking work by Gabriel's team."

"The state-by-state pattern is of interest in itself. It also matters scientifically. We wanted to study whether people's feelings of satisfaction with their own lives are reliable, that is, whether they match up to reality -- of sunshine hours, congestion, air quality, etc -- in their own state. And they do match. When human beings give you an answer on a numerical scale about how satisfied they are with their lives, you should pay attention.

People's happiness answers are true, you might say. This suggests that life-satisfaction survey data might, in the long run, be tremendously helpful for governments to use in the design of economic and social policies." said Oswald.

Professor Oswald expressed caution in how some of the exact results should be interpreted – for example, for the state of Louisiana in the survey following the disruption in caused by Hurricane Katrina, but was confident that the data on most states was a true reflection of well-being levels saying:

"We have been asked a lot whether we expected that states like New York and California would do so badly in the happiness ranking. Having visited and lived in various parts of the US, I am only a little surprised. Many people think these states would be marvellous places to live in. The problem is that if too many individuals think that way, they move into those states, and the resulting congestion and house prices make it a non-fulfilling prophecy. In a way, it is like the stock market. If everyone thinks it would be great to buy stock X, that stock is generally already overvalued. Bargains in life are usually found outside the spotlight. It seems that exactly the same is true of the best places to live."

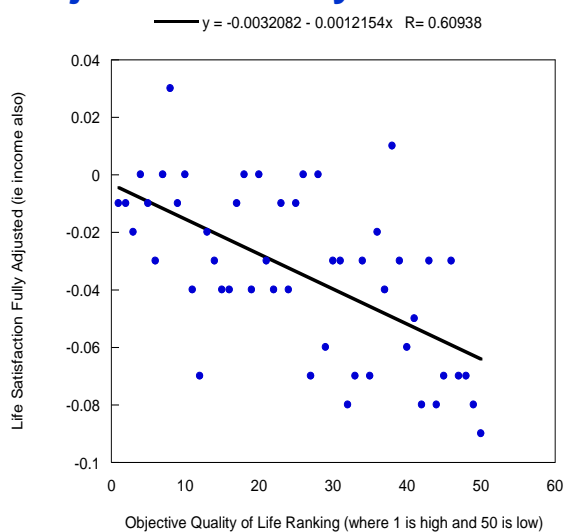
Oswald/ Wu Approximate Ranking of Happiness Levels by State for a Representative American on Average Income

- |    |                |
|----|----------------|
| 1  | Louisiana      |
| 2  | Hawaii         |
| 3  | Florida        |
| 4  | Tennessee      |
| 5  | Arizona        |
| 6  | Mississippi    |
| 7  | Montana        |
| 8  | South Carolina |
| 9  | Alabama        |
| 10 | Maine          |

11	Alaska
12	North Carolina
13	Wyoming
14	Idaho
15	South Dakota
16	Texas
17	Arkansas
18	Vermont
19	Georgia
20	Oklahoma
21	Colorado
22	Delaware
23	Utah
24	New Mexico
25	North Dakota
26	Minnesota
27	New Hampshire
28	Virginia
29	Wisconsin
30	Oregon
31	Iowa
32	Kansas
33	Nebraska
34	West Virginia
35	Kentucky
36	Washington
37	District of Columbia
38	Missouri
39	Nevada
40	Maryland
41	Pennsylvania
42	Rhode Island
43	Massachusetts
44	Ohio
45	Illinois
46	California
47	Indiana
48	Michigan
49	New Jersey
50	Connecticut
51	New York

This table adjusts statistically for the type of person living in each state; it is not a raw average.

## One Million Americans' Life Satisfaction and Objective Quality-of-Life in 50 States



### Note for Editors:

Professor Oswald was able to conduct this research thanks to an ESRC Professorial Fellowships at the University of Warwick. These ESRC Professorial Fellowships are aimed at leading senior social scientists. These awards are intended to push back the frontiers of social science by allowing the UK's leading scholars the time and opportunity to carry out cutting edge research that will deepen our understanding of a number of critical social scientific questions in areas that will have an impact on the future of our society. The provision of salary support, research assistant support and the linking of the Fellowships with PhD studentships is designed to foster high quality and innovative advances in the social sciences. The Economic and Social Research Council (ESRC) is the UK 's largest organisation for funding research on economic and social issues.

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