



ORGANISATION FOR ECONOMIC  
CO-OPERATION AND DEVELOPMENT

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ORGANISATION DE COOPÉRATION ET  
DE DÉVELOPPEMENT ÉCONOMIQUES

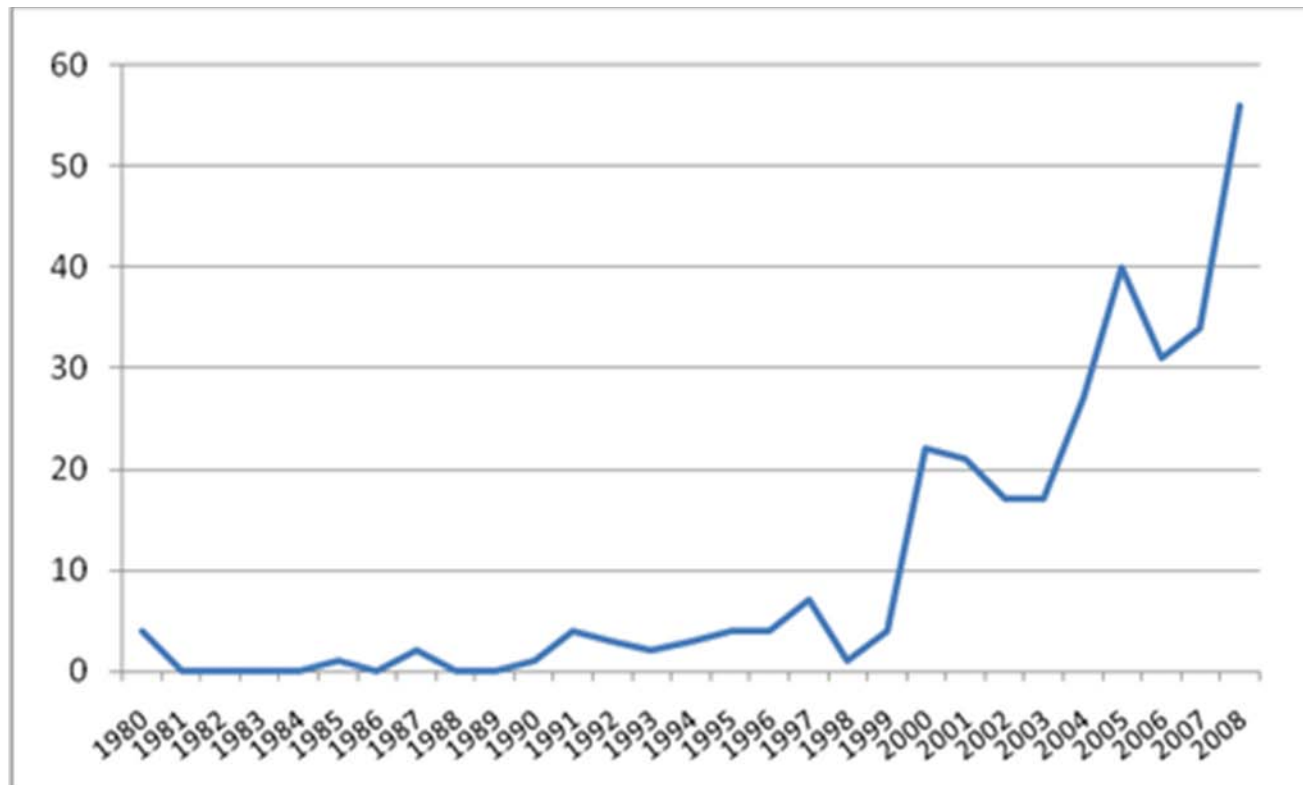
# The Policy Uses of Subjective Well-being Measures

Conal Smith

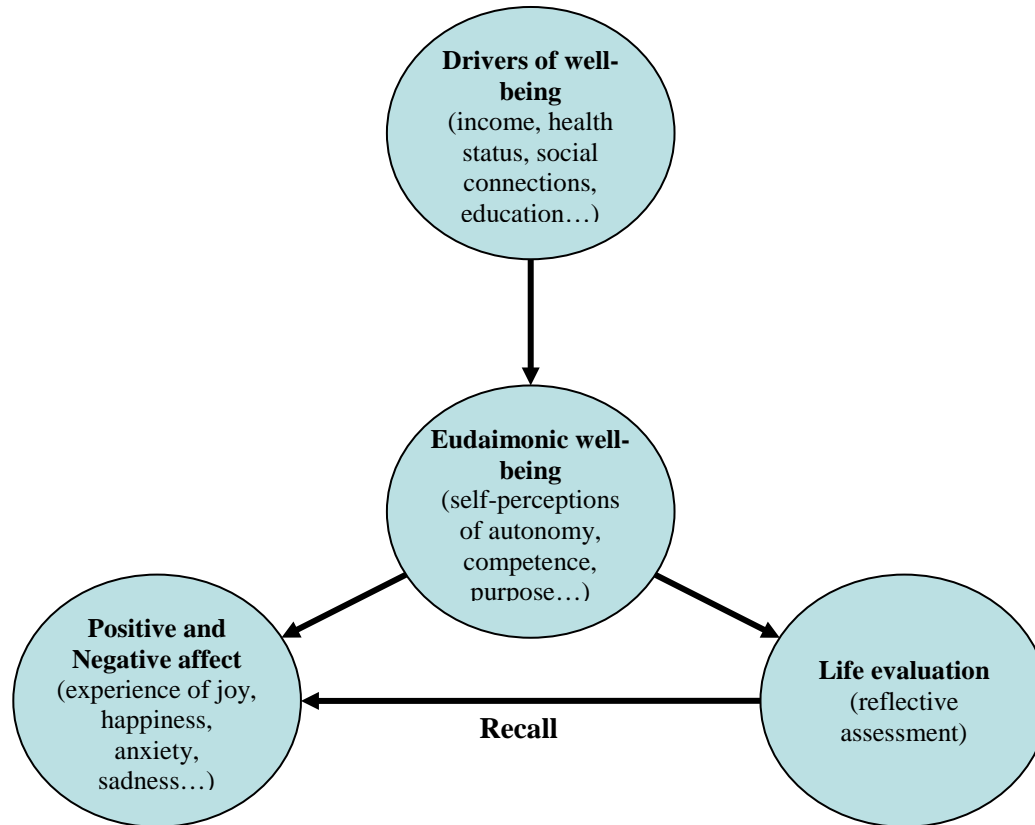
23 February 2012

# Interest in Subjective Well-being

**Number of papers in Econlit with subjective well-being or similar in title, 2008**



# A model of subjective well-being



# Subjective Well-being: validity

**Table 2. Evidence on the validity of subjective measures of well-being**

| Type of Evidence  | Sources   |
|---|---|
| Face Validity <ul style="list-style-type: none"><li>• Item-specific non-response rates</li><li>• Time to reply</li></ul>  | Rässler and Riphahn, 2006<br>Diener and Tov, 2006   |
| Convergent Validity <ul style="list-style-type: none"><li>• Self-ratings over time</li><li>• Ratings by friends and family</li><li>• Ratings from strangers</li><br/><li>• Frequency of smiling</li><li>• Changes in behaviour</li><li>• Biophysical measures</li></ul> | Krueger and Schkade, 2007<br>Frey and Stutzer, 2002<br>Scheider and Schimmack, 2009, Diener, Suh, Lucas, and Smith, 1999<br>Frey and Stutzer, 2002, Kahneman and Krueger, 2006<br>Frijters, 2000<br>Urry et al., 2004, Diener and Tov, 2006 |
| Construct Validity  | Dolan, Peasgood, and White, 2008, Lucas, 2007, Helliwell, 2010  |

# Subjective Well-being: policy uses #1

*Egypt: Recent Trends in Percentage "Thriving" and GDP per Capita (PPP)*

■ Thriving    ■ GDP per capita (PPP)

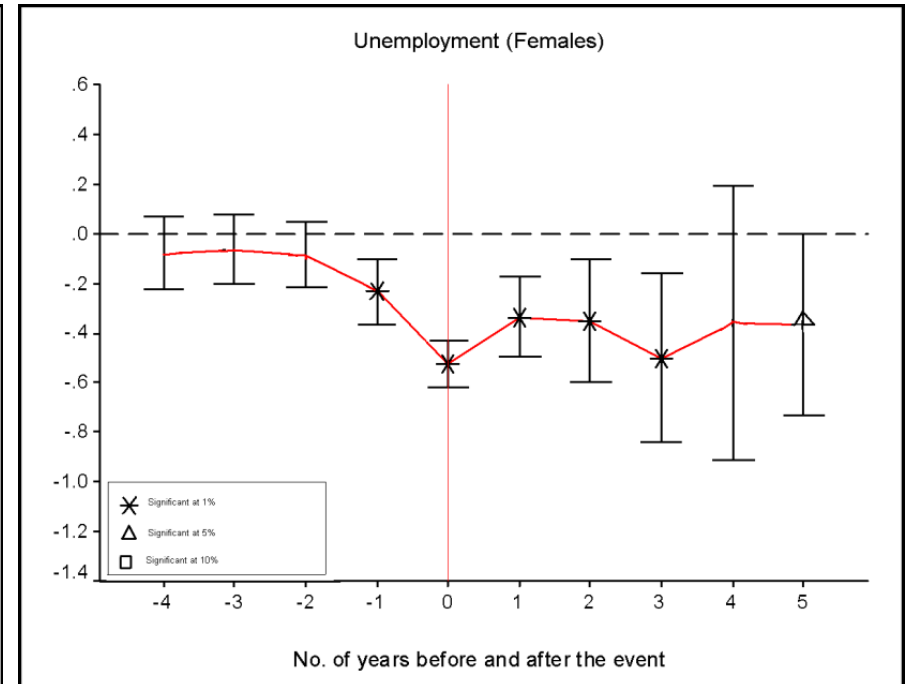
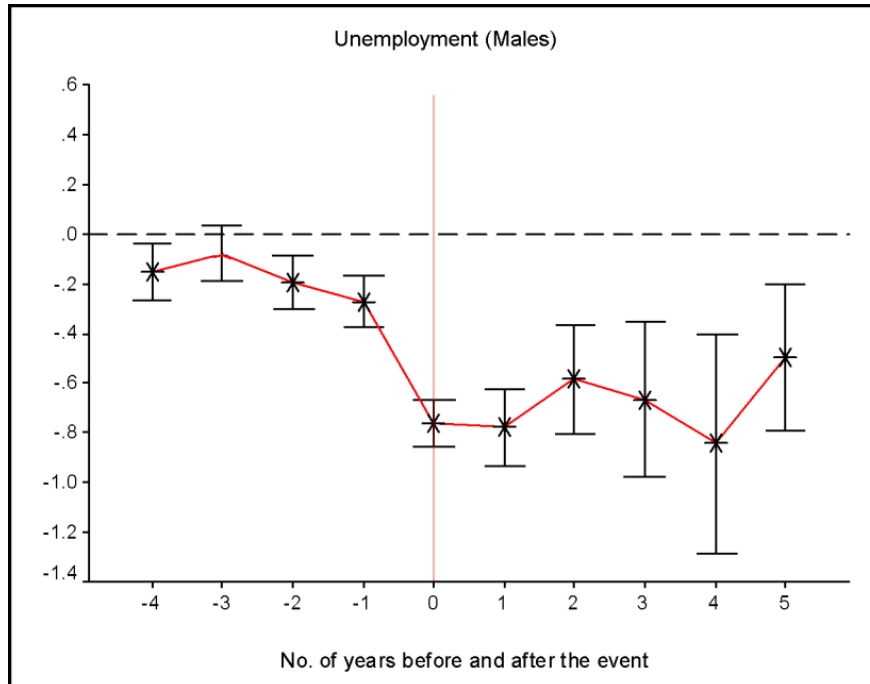


2005-2010

GDP per capita (ppp) estimates are from the International Monetary Fund's World Economic Outlook database.

GALLUP®

# Subjective Well-being: policy uses #2

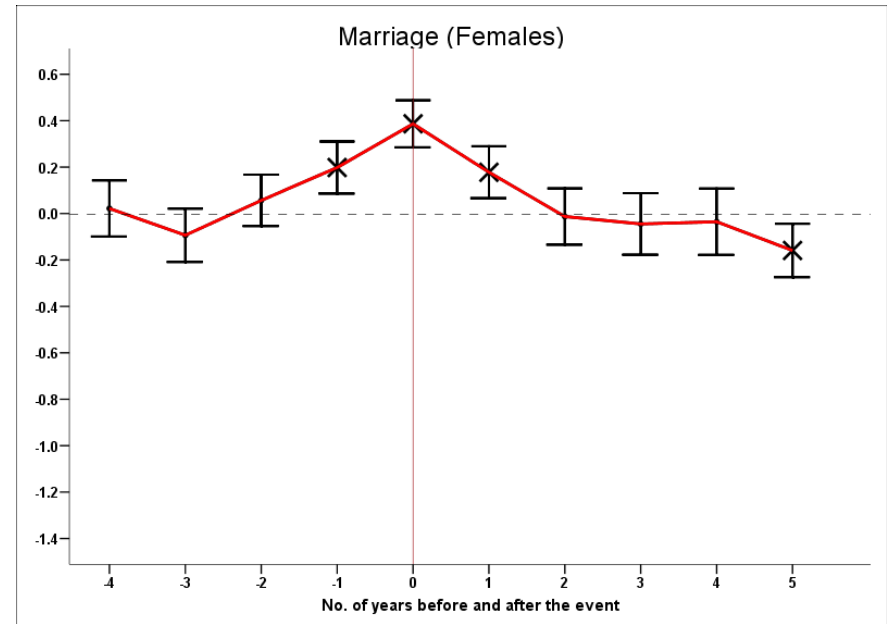
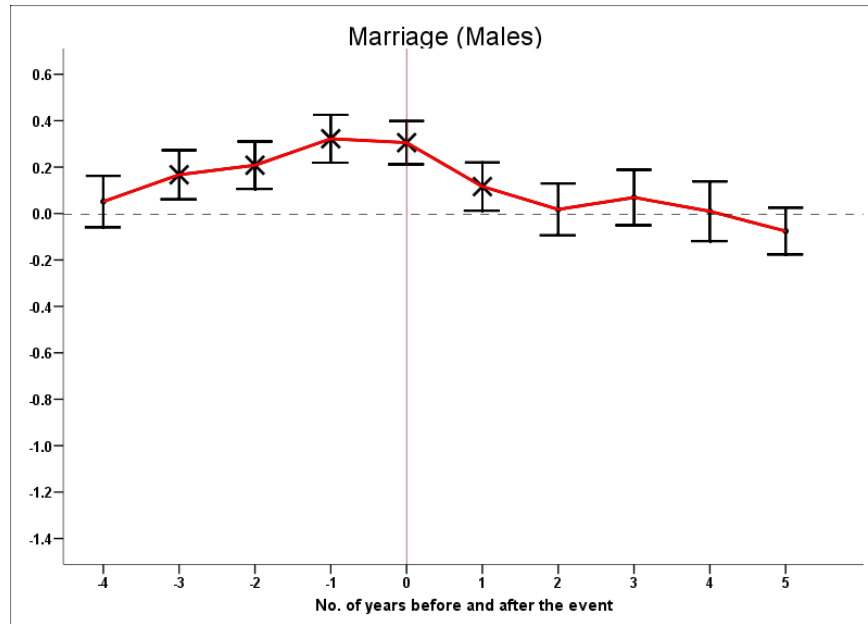


Lucas, R., Clark, A., Georgellis, Y. and Diener, E. (2003),  
"Reexamining adaptation and the set point model of  
happiness: Reactions to changes in marital status", *Journal of  
Personality and Social Psychology*.

Lucas, R., Clark, A, Georgellis, Y. and Diener, E. (2004),  
"Unemployment alters the set point of life satisfaction",  
*Psychological Science*.



# Subjective Well-being: policy uses #2



Lucas, R., Clark, A., Georgellis, Y. and Diener, E. (2003), "Reexamining adaptation and the set point model of happiness: Reactions to changes in marital status", *Journal of Personality and Social Psychology*.

Lucas, R., Clark, A., Georgellis, Y. and Diener, E. (2004), "Unemployment alters the set point of life satisfaction", *Psychological Science*.

# Subjective Well-being: policy uses #3

**Figure 3. Relative impact of different factors on life satisfaction compared to income**

| Outcome Area                      | Effect size relative to doubling of income |
|-----------------------------------|--|
| Female                            | 0.6  |
| Born abroad                       | -2.0                                       |
| Unemployed                        | -3.1                                       |
| Health problems                   | -3.1                                       |
| Secondary education               | 1.5  |
| Tertiary education                | 3.0  |
| Feel safe walking alone           | 1.2  |
| Money or property stolen          | -1.0                                       |
| Married                           | 1.6  |
| Number of children                | 0.0  |
| Have friends to count on          | 5.2  |
| Volunteering                      | 2.5  |
| Satisfied with water quality      | -0.2                                       |
| Confidence in the judicial system | 1.1  |
| Aggregate level of social trust   | 0.3  |



# Impact of policy on SWB

- Boarini R., M. Comola, C. Smith, R. Manchin and F. De Keulenaer (2012), “What makes for a better life? the determinants of subjective well-being in OECD countries: evidence from the Gallup world poll”, Unpublished
- Chapple S. and A. D’Addio (2012), “Social policy reforms and their impact on subjective well-being”, Unpublished.

# The impact of policy on SWB

$$U = \alpha D + \beta I + \gamma X + \varepsilon$$

**D = demographic controls**

**I = factors varying at the individual level**

**X = factors varying at the national level**

# Data

## Summary of the Gallup World Poll variables used in the empirical analysis

| Outcome Domain                  | Variable   | Number of observations | Mean value | Max value | Minimum value | Standard deviation |
|---------------------------------|--|------------------------|------------|-----------|---------------|--------------------|
| Subjective well-being           | Life satisfaction  | 51152                  | 6.61       | 10        | 0             | 2.04               |
|                                 | Affect balance   | 51152                  | 1.55       | 3         | -3            | 1.53               |
| Demographic characteristics     | Female   | 51152                  | 0.58       | 1         | 0             | 0.49               |
|                                 | Age  | 51152                  | 48.58      | 100       | 15            | 18.27              |
|                                 | Age <sup>2</sup>   | 51152                  | 2693.36    | 10000     | 225           | 1864.70            |
|                                 | No. Children   | 50769                  | 0.52       | 13        | 0             | 0.92               |
|                                 | Born abroad  | 51152                  | 0.08       | 1         | 0             | 0.27               |
|                                 | Small town   | 50753                  | 0.39       | 1         | 0             | 0.49               |
|                                 | Large city   | 50753                  | 0.31       | 1         | 0             | 0.46               |
|                                 | Suburb   | 50753                  | 0.14       | 1         | 0             | 0.35               |
| Income and Wealth               | Log income <sup>(b)</sup>  | 50153                  | 14.53      | 20.93     | 0             | 1.70               |
|                                 | Not enough money for food  | 51152                  | 0.12       | 1         | 0             | 0.33               |
| Jobs and earnings               | Unemployed   | 50552                  | 0.04       | 1         | 0             | 0.20               |
| Health status                   | Health problems  | 51152                  | 0.23       | 1         | 0             | 0.42               |
| Education and skills            | Secondary education  | 49777                  | 0.62       | 1         | 0             | 0.49               |
|                                 | Tertiary education   | 49777                  | 0.23       | 1         | 0             | 0.42               |
| Social connections              | Married  | 50882                  | 0.54       | 1         | 0             | 0.50               |
|                                 | Have friends to count on   | 51152                  | 0.90       | 1         | 0             | 0.30               |
|                                 | Volunteering   | 51152                  | 0.23       | 1         | 0             | 0.42               |
|                                 | Aggregate average social trust <sup>(d)</sup>                      | 35489                  | 30.83      | 63.1      | 8.3           | 13.85              |
| Civic engagement and governance | Confidence in judicial system                                      | 31191                  | 0.51       | 1         | 0             | 0.50               |
|                                 | Aggregate average afraid to express political views <sup>(c)</sup> | 31191                  | 0.12       | 1         | 0             | 0.32               |
|                                 | Freedom to choose what you do with your life                       | 31191                  | 0.77       | 1         | 0             | 0.42               |
| Environmental quality           | Satisfaction with air quality                                      | 51152                  | 0.79       | 1         | 0             | 0.41               |
|                                 | Satisfaction with water quality                                    | 51152                  | 0.85       | 1         | 0             | 0.36               |
| Personal security               | Safe walking alone   | 51152                  | 0.64       | 1         | 0             | 0.48               |
|                                 | Money or property stolen   | 51152                  | 0.12       | 1         | 0             | 0.32               |

**Note: The statistics refer to the sample of OECD countries in waves 4 and 5 (2009 and 2010), which is the baseline for the results presented in Table 3 and 4 (before accounting for missing values among the regressors).**

**Source: Author's analysis based on different waves of the Gallup World Poll**

# Core model: life satisfaction

Table 1. Regression results: life satisfaction

| Outcome Domain                  | Independent Variable   | (1)        | (2)        | (3)        |
|---------------------------------|--|------------|------------|------------|
| Demographics                    | Female   | 0.2857***  | 0.3490***  | 0.0892*    |
|                                 | Age  | -0.0830*** | -0.0628*** | -0.0528*** |
|                                 | Age <sup>2</sup>   | 0.0008***  | 0.0006***  | 0.0004***  |
|                                 | No. Children   | -0.0566**  | -0.0267    | -0.0397    |
|                                 | Born abroad  | -0.4232*** | -0.2997*** | -0.2855*** |
|                                 | Small town   | -0.0177    | 0.0369     | 0.0900     |
|                                 | Large city   | -0.0939    | 0.0399     | 0.1870**   |
|                                 | Suburb   | -0.1181    | -0.0280    | 0.2904***  |
| Income and wealth               | Log household income   | 0.1844***  | 0.1287***  | 0.1482***  |
|                                 | Not enough money for food                                      |            | -0.8568*** | -0.9226*** |
| Jobs and earnings               | Unemployment   | -1.0288*** | -0.8120*** | -0.4643*** |
| Housing conditions              | -  |            |            |            |
| Health status                   | Health problems  |            | -0.5661*** | -0.4623*** |
| Work-life balance               | -  |            |            |            |
| Education and skills            | Secondary education  | 0.4049***  | 0.2653***  | 0.2145**   |
|                                 | Tertiary education   | 0.8144***  | 0.5119***  | 0.4396***  |
| Social connections              | Married  | 0.3762***  | 0.2793***  | 0.2584***  |
|                                 | Have friends to count on                                       |            | 0.8841***  | 0.7670***  |
|                                 | Volunteering   |            | 0.3364***  | 0.3763***  |
|                                 | Aggregate average social trust                                 |            |            | 0.0453***  |
| Civic engagement and governance | Confidence in judicial system                                  |            |            | 0.1602***  |
|                                 | Aggregate average afraid to express political views            |            |            | -0.0556    |
|                                 | Aggregate average freedom to choose what you do with your life |            |            | 0.4109***  |
| Environmental quality           | Satisfaction with air quality                                  |            | 0.1140**   | 0.1253**   |
|                                 | Satisfaction with water quality                                |            | 0.2180***  | -0.0337    |
| Personal security               | Safe walking alone   |            | 0.2506***  | 0.1666***  |
|                                 | Money or property stolen                                       |            | -0.1175*   | -0.1482**  |
|                                 | Observations   | 47452      | 47452      | 12701      |
|                                 | r <sup>2</sup>   | 0.169      | 0.241      | 0.346      |

**Notes:**  
 \*\*\*p<0.01,  
 \*\*p<0.05, \*p<0.1

**Source:**  
 Author's analysis  
 based on different  
 waves of the  
 Gallup World Poll

# Core model: Affect

Table 1. Regression results: affect balance

| Outcome Domain                  | Independent Variable                                | (4)        | (5)        | (6)        |
|---------------------------------|---|------------|------------|------------|
| Demographics                    | Female  | -0.1005*** | -0.0345    | -0.0501    |
|                                 | Age   | -0.0532*** | -0.0354*** | -0.0349*** |
|                                 | Age <sup>2</sup>                                    | 0.0005***  | 0.0003***  | 0.0003***  |
|                                 | No. Children  | -0.0666*** | -0.0429**  | -0.0738*** |
|                                 | Born abroad   | -0.2405*** | -0.1384**  | -0.2633*** |
|                                 | Small town  | 0.0246     | 0.0711*    | 0.1017*    |
|                                 | Large city  | -0.0386    | 0.0929**   | 0.0782     |
|                                 | Suburb  | -0.0575    | 0.0275     | 0.1810**   |
| Income and wealth               | Log HH income                                       | 0.0956***  | 0.0493***  | 0.0427***  |
|                                 | Not enough money for food                           |            | -0.6091*** | -0.4544*** |
| Jobs and earnings               | Unemployment  | -0.4642*** | -0.2912*** | -0.1799**  |
| Health status                   | Health problems                                     |            | -0.6297*** | -0.5829*** |
| Education and skills            | Secondary education                                 | 0.1403***  | 0.0262     | 0.1661***  |
|                                 | Tertiary education                                  | 0.2449***  | -0.0055    | 0.1192*    |
| Social connections              | Married   | 0.2362***  | 0.1481***  | 0.1625***  |
|                                 | Have friends to count on                            |            | 0.7492***  | 0.6955***  |
|                                 | Volunteering  |            | 0.1775***  | 0.0616     |
|                                 | Aggregate average social trust                      |            |            | 0.0077***  |
| Civic engagement and governance | Confidence in judicial system                       |            |            | 0.0967**   |
|                                 | Aggregate average afraid to express political views |            |            | 0.0133     |
|                                 | Freedom to choose what you do with your life        |            |            | 0.5238***  |
| Environmental quality           | Satisfaction with air quality                       |            | 0.1726***  | 0.1236***  |
|                                 | Satisfaction with water quality                     |            | 0.2351***  | -0.0190    |
| Personal security               | Safe walking alone                                  |            | 0.2615***  | 0.2346***  |
|                                 | Money or property stolen                            |            | -0.2101*** | -0.1859*** |
|                                 | Observations  | 47794      | 47794      | 12792      |
|                                 | r <sup>2</sup>                                      | 0.064      | 0.170      | 0.188      |

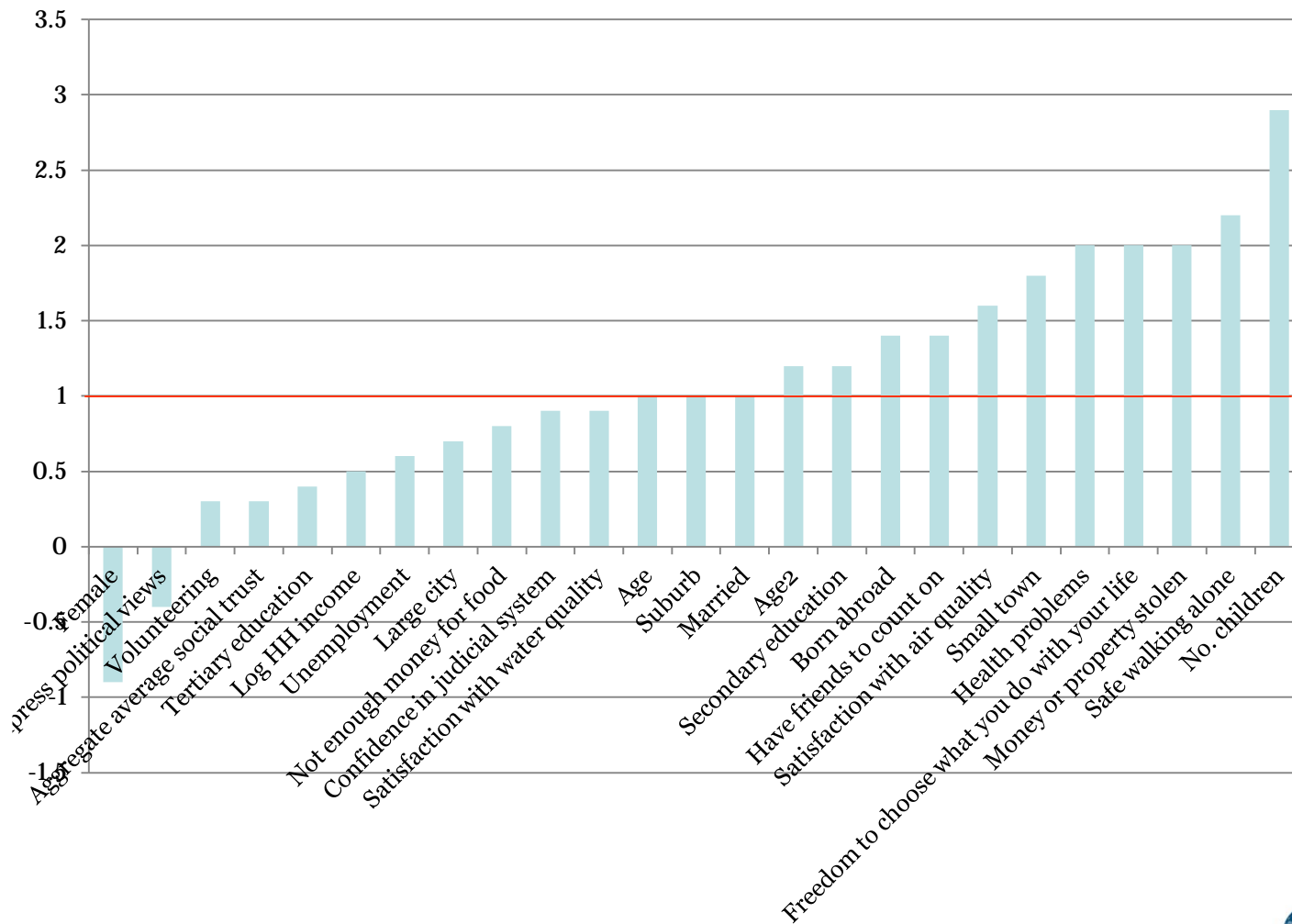
**Notes:**  
 \*\*\*p<0.01,  
 \*\*p<0.05, \*p<0.1

**Source:**  
 Author's analysis  
 based on different  
 waves of the  
 Gallup World Poll



# Affect vs Life Satisfaction

## Affect Balance/Life Satisfaction





# The impact of policy on SWB

$$U = \alpha D + \beta I + \gamma X + \varepsilon$$

**D = demographic controls**

**I = factors varying at the individual level**

**X = factors varying at the national level + OECD policy variables**

# Impact of Policy: replacement rates

Table 1. Regression results: effects of unemployment replacement rates on life satisfaction

| Independent Variable      | (17)       | (18)           | (19)               | (20)       | (21)                  |
|---------------------------|------------|----------------|--------------------|------------|-----------------------|
|                           | All sample | People working | People not working | Aged       | People of working age |
| Female                    | 0.2308***  | 0.2388***      | 0.2728***          | 0.1595*    | 0.2227***             |
| Married                   | 0.4233***  | 0.3679***      | 0.4836***          | 0.1310     | 0.5331***             |
| Age                       | -0.0811*** | -0.0641***     | -0.1044***         | -0.0248    | -0.1263***            |
| Age squared               | 0.0008***  | 0.0006***      | 0.0010***          | 0.0002     | 0.0013***             |
| Log income                | 0.2600***  | 0.2539***      | 0.2358***          | 0.2528***  | 0.2607***             |
| Secondary education       | 0.3708***  | 0.4092***      | 0.3454***          | 0.3562***  | 0.3603***             |
| Tertiary education        | 0.6470***  | 0.6722***      | 0.6453***          | 0.5037***  | 0.7042***             |
| No. Of children           | -0.0601*** | -0.0421*       | -0.0782**          | -0.2263    | -0.0319               |
| Rural                     | 0.0777     | 0.0706         | 0.0904             | 0.1686     | 0.0556                |
| Replacement rate          | 0.0592***  | 0.0876***      | 0.0449             | 0.0976***  | 0.0504***             |
| Country unemployment rate | -0.0949*** | -0.0464**      | -0.1310***         | -0.1092*** | -0.0867***            |
| Observations              | 53850      | 27819          | 22141              | 11,376     | 42,474                |
| r <sup>2</sup>            | 0.175      | 0.185          | 0.158              | 0.214      | 0.178                 |

# Impact of Policy: EPL and health

**Table 1. Regression results: effects of employment protection legislation and health co-payments on life satisfaction**

|                     | (22)       | (23)           | (24)               | (25)                 | (26)      | (27)                  |
|---------------------|------------|----------------|--------------------|----------------------|-----------|-----------------------|
| VARIABLES           | All sample | People working | People not working | People with children | Aged      | People of working age |
| Female              | 0.1268***  | 0.1404**       | 0.1134             | 0.1126               | 0.1620*   | 0.0979*               |
| Married             | 0.3538***  | 0.3047***      | 0.4289***          | 0.4435***            | 0.1276    | 0.4656***             |
| Age                 | -0.0762*** | -0.0575***     | -0.1034***         | -0.0719***           | 0.0733    | -0.1181***            |
| Age squared         | 0.0007***  | 0.0006***      | 0.0010***          | 0.0006***            | -0.0004   | 0.0013***             |
| Log income          | 0.2770***  | 0.3057***      | 0.2066***          | 0.2688***            | 0.2879*** | 0.2725***             |
| Secondary education | 0.3097***  | 0.2276*        | 0.2585**           | 0.3561**             | 0.3695*** | 0.2522***             |
| Tertiary education  | 0.4731***  | 0.3523***      | 0.4661***          | 0.7876***            | 0.3989**  | 0.5108***             |
| No. Of children     | 0.0211     | 0.0495         | -0.0179            | 0.0807*              | -0.0611   | 0.0493                |
| Rural               | 0.1037     | 0.0882         | 0.1946*            | 0.0639               | 0.0739    | 0.1213                |
| Unemployment rate   | -0.5033*** | -0.5314***     | -0.3238            | -0.8694***           | -0.1321   | -0.5468***            |
| Health co-payments  | -0.0046**  | -0.0053**      | -0.0024            | -0.0081**            | 0.0005    | -0.0051**             |
| Epl                 | 0.8933***  | 0.9643***      | 0.5391             | 1.5493***            | 0.1633    | 1.0432***             |
| Observations        | 29620      | 16251          | 11903              | 8900                 | 6263      | 23357                 |
| r <sup>2</sup>      | 0.163      | 0.143          | 0.155              | 0.170                | 0.225     | 0.164                 |

# Wellbeing and Public Policy Conference

June 13-15, 2012, Victoria University of Wellington

The conference will bring together world experts and policy makers in order to discuss recent advances in wellbeing research and their application to policymaking at all levels of government.

The conference is being organised under the auspices of the ***International Journal of Wellbeing*** which is edited through VUW and the Open Polytechnic of New Zealand.

The conference is now **calling for abstracts** – due **March 31** this year. Details of how to submit can be found in the first conference bulletin – being circulated in this lecture theatre.

Organisers: Prof. Philip Morrison, Dan Weijers & Aaron Jarden (Open Polytechnic of NZ)

