# **HOME-OWNERSHIP AND HAPPINESS**

version 2

Concept chapter in Jan Ott and Ruut Veenhoven (Eds.) A Research agenda for happiness: What we want to know do know and must get to know. To be published by Edgar Elgar in 2025

Ruut Veenhoven<sup>1</sup>

#### 1. WHAT WE WANT TO KNOW

One of the most important financial decisions we make in our life is whether to buy a house or not. In that context, it is worth knowing whether we will be happiness in a house of our own than in a rented house. There are advantages and disadvantages to both options; to name a few: buying your house is mostly economical in the long run and provides more control over your housing. Yet, renting allows for more flexibility in life and home-ownership involves mostly a mortgage debt. It is difficult to predict their relative weight of these advantages and disadvantages and how these will balance in our case.

For that reason, it is helpful to know how other people have fared in the past, people like us in particular. Were the home-owners typically happier? If so, how big was the difference with renters? Did the effect of home-ownership differ across places and social strata? How about the effect off home-ownership at the end of life?

Next to these questions on *how* home-ownership has affected the happiness of residents, we would like to know *why* that has happened, since insight in causality will allow us a better estimate of the probability that this experience of others in the past will apply to us in the future.

### 2. WHAT WE DO KNOW

How happy home-owners and renters have been in the past has been assessed in several empirical studies. Below is a review of the now available findings.

#### 2.1 Review method

I start with a definition of both 'home-ownership' and 'happiness'. On that basis I gather empirical studies that considered the relationship between these phenomena. I do that using the World Database of Happiness. This is a web-based 'findings archive' which allows for a new technique for presenting research findings in review

E-mail: veenhoven@ese.eur.nl

<sup>&</sup>lt;sup>1</sup> Emeritus professor of social conditions for human happiness at Erasmus University Rotterdam, Netherlands, Erasmus Happiness Economics Research Organization EHERO and special professor at North-West University in South Africa, Optentia Research Program.

papers like this one.

# 2.1.1 Concepts

#### Home-owner.

A home-owner holds the property right of his or her residence, property rights differing slightly across time and places. Next to full home ownership, there are several kinds of partial ownership, such as time-limited ownership (redemption), joint ownership with others, usufruct and the right to use a house free of charge. House-ownership is recoded in juridical documents and public registrations, but in survey research it is measured using self-reports.

### Happiness.

The world 'happiness' is being used for various meanings. In this book, all authors limit to happiness in the sense of life-satisfaction. Following Veenhoven (1984) happiness is defined as *the subjective enjoyment of one's life as a whole*. In short, how much one likes the life one lives. This phenomenon is also referred to by other names, such as 'subjective well-being', 'perceived quality of life' and 'life-satisfaction'. This concept is focal in the World Database of Happiness (WDH) on which I draw for this chapter. It explained in more detail in chapter 2 of the introductory text to the Bibliography of the WDH 'Concept of Happiness'

Differences with other satisfactions. Happiness in the sense of the 'subjective enjoyment of one's life-as-a-whole', should not be equated with happiness in the sense of passing pleasure. You can have good moments in your home while its ownership is actually a burden which depresses your overall life-satisfaction. Likewise, you can be satisfied with the house you own but not with your life-as-a-whole.

*Measurement.* Since happiness is something, people are aware of and can express, it can be measured using questioning. A common survey question on happiness reads: 'Taking all together, how satisfied or dissatisfied are you with your life-as-a-whole these days? Please express this in a number between 1 and 10, where 1 stands for 'dissatisfied' and 10 for 'satisfied''". Not all questions that claim to assess 'happiness', adequately measure happiness as defined here. A collection of measures that have passed a test for face-validity is available in the WDH collection Measures of Happiness.

# 2.1.2 Gathering findings on the relation between home-ownership and happiness

A usual literature search would require that different bibliographies and abstract systems are scrutinized, using different keyword and that the papers found be read to establish whether the above defined concepts are addressed.

In this case, we rely on the <u>World Database of Happiness</u>, which covers all scientific publications on happiness in the sense of life-satisfaction up to 2020. The

Structure of this archive of research findings is given in <u>Figure 1</u>. Detail about gathering of research reports is available in the introductory text to the WDH Bibliography <u>Collection and selection of publications</u>.

Publications are first selected on whether they report an empirical study on happiness, and next for empirical studies that used a valid measure of happiness. The findings obtained in these studies are then described in a standard format and terminology on electronic 'finding-pages', which are sorted by subject. An example of a finding page is given on Figure 2.

To date (July 2024) the World Database of Happiness holds 115 finding pages on the correlation between happiness and <u>ownership of current dwelling</u>.

Figure 1 about here Figure 2 about here

# 2.1.3 Presentation of the findings

Finding pages have a unique internet address and this allows for a new way of summarizing the research results. Instead of recapitulating the outcomes verbally in a text with references, I present these in tables using + and – signs. Links behind these signs lead the reader to an online finding page with full detail.

Meaning of signs: Positive relations are indicated using a +, negative correlations using a – sign. Statistical significance is reported using a **bold** sign: + or –. When the correlation is insignificant and the direction of correlation is not reported, we use a 0. When different results are reported across sub-populations or in different specifications, I use a string of symbols, e.g. +/+/0/-. Here subsequent controls have reduced an initial positive correlation to a negative correlation.

Sorting by method. In the tables 1 and 2 I distinguish between three methods used to gather data: cross-sectional studies, in which same-time relationships between home-ownership and happiness is assessed, longitudinal studies, in which changes in happiness following chances in home-ownership are assessed, and experimental studies, in which the effect of induced change in home-ownership on happiness is assessed. These methodological differences are presented horizontally in the tables.

I also distinguished *raw* (zero-order) correlations from *partial* correlations that resulted from a multi-variate analysis<sup>ii</sup>. Note: several studies report both raw and partial correlations; in such cases the same finding page appears in different columns of the tables of this review.

This technique provides a short-hand overview of the available research findings and allows a visualization of blank spots. Advantages and disadvantages are described in Veenhoven et al 2022.

#### 2.2 Results

The direction of statistical relations observed are reported in <u>Table 1</u>. Splits of the same findings are presented in <u>Table 2</u>. What does this all tell about the happiness of home-owners?

## 2.2.1 Home-owners happier

Among the cross-sectional findings summarized in <u>Table 1</u> all the bi-variate associations are positive. This pattern appears in comparisons of owners versus non-owners and of owners and renters. These findings suggest that home-ownership adds to happiness.

Next to full house ownership, there are several kinds of partial ownership, such as time-limited ownership (redemption), joint ownership with others, usufruct and the right to use a house free of charge. The correlation with happiness of these ownership modalities has been addressed in two cross-sectional studies, the results of which are summarized in the lower part of <u>Table 1</u>. These findings suggest again that home-ownership of what-ever type tends to go with greater happiness.

# Checks for spurious correlation:

Yet positive correlations can be misleading, for instance if homeowners are more often married and their greater happiness is driven by marital status. Such spurious effects can be neutralized in multi-variate analysis and the column 'partial' in <a href="Table 1">Table 1</a> shows the partial correlations that remain after control for such variables. Most of these partial correlations are positive and suggest that home ownership fosters happiness.

In 6 cases, the correlation between home-ownership and happiness disappears and in 4 cases the partial correlation is negative. A closer look at these divergent findings reveals that in 6 of the cases satisfaction with life domains has been controlled<sup>iii</sup>, which is likely to have wiped out the correlation with satisfaction with life as a whole (happiness).

In 2 cases, control did change the picture. Both studies were done in the USA, one among the general public, which controlled for age and socio-economic status<sup>iv</sup> and one among women<sup>v</sup>, which additionally controlled for family situation and average income in the neighborhood. These controls could be too severe and wash out the true effects of home-ownership on happiness, in particular the control for income. Part of the effect of income on happiness is in what income allows one to buy with it and among these expenses is a house. So, these few divergent findings do not convince.

## Causality

A positive correlation can be due to an effect of home-ownership on happiness as well as from an effect of happiness on owning one's home. What do the available data tell about cause and effect?

Follow-up studies: Longitudinal research designs are more suited to identify reverse causation. Three longitudinal findings are available on the topic of home-ownership and all three show, that a change to home-ownership is typically accompanied by a rise in happiness. Yet, these studies do not show what came first; the buying of a house or the rise in happiness.

*Experiments:* Experimental studies provide the best evidence for causality, and two such studies show a positive effect of home-ownership on happiness. One was done among low-income Americans who participated in a home-ownership program involving soft loans<sup>vi</sup>. One and a half years after purchase of their home, these people had become happier than a matched control group who still rented their home. Likewise, in a legalization program among illegal land occupants in Brazil<sup>vii</sup> an experimental group who came to own their homes became happier than a control group, in spite of the fact that they now had to pay tax on their property.

Taken all together there is little doubt that home-ownership tends to work out positively on happiness, which is not to say that it always does.

Table 1 about here

# 2.2.2 Similar across populations

The effects of home-ownership on happiness may not be the same for everybody and for that reason we checked for differences in the populations studied. The splits we performed are summarized in <u>Table 2</u>.

The first thing that strikes the eye is that the pattern of positive associations is similar across highly developed and medium developed nations. Apparently, the positive effect of home-ownership is universal. Specification by populations within nations shows a positive correlation between the happiness of adolescent students and the home-ownership of their parents<sup>viii</sup>.

At first sight, a different pattern exists among elderly people. All the non-positive findings reported for this age category come from a 5-country study by Mollenkopf et al (2004), which involved too heavy controls as reported above. The only study among aged people that used acceptable control variables<sup>ix</sup> found a positive relationship.

A split between Britons in bad and good mental health reveals a positive correlation among the former, but not among the latter. This may mean that homeownership matters more for the happiness of vulnerable people.

Lastly, the findings among people living in rural areas suggest at first sight that home-ownership does not matter in these conditions, but again we are dealing with a side issue in the 5-country Mollenkopf study, which does not convince.

Table 2 about here

### 3 WHAT WE MUST GET TO KNOW: A RESEARCH AGENDA

#### 3.1 More moderators

The main aim of this chapter was to inform people about the probability that buying a house of their own will make them happier than living in a rented house. The message is that this was typically the case for *most* of the people investigated. Yet, for making a well-informed decision, you want to know more than what the typical effects was. You want to know how home-ownership has worked out on the happiness of people like you in particular.

This information demand was only partly met in <u>Table 2</u>, where consideration of subgroups revealed two exceptions to the general pattern, with no difference among elderly people and in rural areas. For estimating how buying a house will work out for you, you would also like to know how home-ownership has worked out on the happiness of single and partnered people, high and low educated and to what extend the effect differs across life-style, values and personality. It is a task for future research to chart such moderators.

### 3.2 Mediators

It is good to know *that* home-ownership has typically added to happiness, but even better if you also know *why*. Insight in the causal mechanisms will help to judge whether the research findings apply to you. For instance, if the main reason appears to be long-term financial advantage, home-ownership will be less relevant if you are very rich. It is a task for future research to chart these mediators.

Since causal effect are likely to vary across persons and situations, a related task is to inspect to what extend these mediators were moderated by differences as mentioned above.

### 3.3 Future context

The findings reported in this chapter date from the period 1974 to 2010. Buying a home of your own is typically an investment in the future. Hence, a well-informed choice also requires an estimate of whether social conditions will change, and if so, how that will affect the balance of advantages and disadvantages of home-ownership. Points for consideration are the growing individualization in modern society and the attendant pluralization of life-course trajectories (Izuhara 2014). It is a task for future research to establish the extend to which the pattern reported in this chapter is getting outdated.

### **REFERENCES**

Studies included in this research synthesis are marked with a <u>Study-code</u>, which links to description of that study in the World Database of Happiness. Use control+click.

Becchetti, L. & Pisani, L. (2014), "Family Economic Well-Being, and (Class) Relative Wealth: An Empirical Analysis of Life Satisfaction of Secondary School Students in Three Italian Cities", *Journal of Happiness Studies*, 15: 503 -525. <u>Study IT 2010</u>

Boelhouwer, J. & Stoop, I. (1999), "Measuring Well-Being in the Netherlands", *Social Indicators Research*, 48: 51 – 75. Study NL 1974

Bucchianeri, G.W. (2011), "The American Dream or the American Delusion? The Private and External Benefits of Homeownership for Women", Working Paper Series, 2011, Pennsylvania, USA. Study US Ohio 2005

Cheng, Z., Smyth, R. & Wang, H. (2013), "Housing and Subjective Wellbeing in Urban China.", Monash University, Department of Economics, Discussion Paper, 2013, No. 39, Melbourne, Australia. Study CN 2011

Cornelisse-Vermaat, J.R. (2005), "Household Production, Health and Happiness. A Comparison of the Native Dutch and Non-Western Immigrants in the Netherlands", PhD Thesis, University of Wageningen, Netherlands. <u>Study NL 2001</u>

D'Ambrosio, C. & Frick, J.R. (2012), "Individual Wellbeing in a Dynamic Perspective", Economica, 79, 284 – 302. Study DE 1992

Duffy, B. (2004), "Life Satisfaction and Trust in Other People", Publication MORI, 2004, London, UK. <u>Study GB 2000</u>

Evans, S., Banerjee, S., Huxley, P.J. & Leese, M., (2007) "The Impact of Mental Illness on Quality of Life: A Comparison of Severe Mental Illness, Common Mental Disorder and Healthy Population Samples", *Quality of Life Research*, 16: 17 – 29. Study GB 1994

Evans, S. & Huxley, P.J. (2005), "Adaptation, Response-shift and Quality of Life Ratings in Mentally Well and Unwell Groups", *Quality of Life Research*, 14: 1719 – 1732. Study GB 1999

Gaymu, J. & Springer, S. (2010), "Living Conditions and Life Satisfaction of Older Europeans Living Alone: A Gender and Cross-country Analysis", *Ageing and Society*, 30: 1153-1175. <u>Study Europe 2004</u>

Gehmacher, E. (1992b), "Coping, Happiness and Ideology. Some Suggestions for the Application of Happiness Research in Politicological Research", Paper Presented at the International Conference "Towards the Good Society: Applying the Social Sciences", 1992, Rotterdam, Netherlands. <u>Study AT 1992</u>

Halman, L.C., DeMoor, R.A., Heunks, F.J. & Zanders, H. (1987) "*Traditie, Secularisatie en Individualisering. (Tradition, Secularization and Individualisation- a Study into the Values of the Dutch within a European Context",* Tilburg University Press, The Netherlands. Studies <u>BE 1981</u>, <u>DE 1981</u>, <u>DK 1981</u>, <u>ES 1981</u>, <u>EU 1981</u>, <u>FR 1981</u>, <u>GB 1981</u>, <u>GB-NI 1981</u>, <u>IE 1981</u>, <u>IT 1981</u>, <u>NL1981</u>.

Izuhara, M. (2014). Life-course Diversity, Housing Choices and Constraints for Women of the 'Lost' Generation in Japan. *Housing Studies*, *30* (1), 60–77. <a href="https://doi.org/10.1080/02673037.2014.933780">https://doi.org/10.1080/02673037.2014.933780</a>

Knight, J.B. & Gunatilaka, R. (2010), "Great Expectations? The Subjective Well-Being of Rural-Urban Migrants in China", *World Development*, 38: 113 – 124. <u>Study CN</u> 2002

Kozcan, Z. (2013), "Does integration increase life satisfaction?", Unpublished Manuscript (No. 1314). Faculty of Economics, University of Cambridge. <u>Study DE 1984</u>

Luttmer, E.F. (2005), "Neighbours as Negatives: Relative Earnings and Well-Being", *Quarterly Journal of Economics*, 963-1002. Study US 1987

Michalos, A.C. & Zumbo, B.D. (2000), "Criminal Victimization and the Quality of Life", *Social Indicators Research*, 50: 245 – 295. <u>Study CA Prince George 1997</u>

Mollenkopf, H., Kaspar, R., Marcellini, F. & Ruoppila, I. (2004) "Quality of Life in Urban and Rural Areas of Five European Countries: Similarities and Differences", *Hallym International Journal of Aging,* 6: 1 – 36. Studies <u>DE 2000</u>, <u>FI 2000</u>, <u>HU 2000</u>, <u>IT 2000</u>, <u>NL 2000</u>

Mollenkopf, H. & Kaspar, R. (2005), "Ageing in Rural Areas of East and West Germany: Increasing Similarities and Remaining Differences", *European Journal of Aging*, 2: 120 – 130. <u>Study DE 2000</u>

Moller, V. (2007), "Satisfied and Dissatisfied South Africans: Results from The General Household Survey in the International Comparison", *Social Indicators Research*, 81, 389 – 415. <u>Study ZA 2002</u>

Near, J.P.; Hunt, R.G. & Rice, R.W (1978), "Work and extra-work correlates of life and job satisfaction", *Academy of Management Journal* 21, 248-264. Study US New York 1975

Obucina, O. (2013), "The Patterns of Satisfaction Among Immigrants in Germany", Social Indicators Research, 113 1105-1127. Study DE 1994

Okulicz-Kozaryn, A. (2015), Luxury car owners are not happier than frugal car owners. International Review of Economy: 12 1- 141 DOI I 0.1007ls12232-015-0223-2 Study US 2011

Oswald, A.J. & Powdthavee, N. (2007) Death Happiness and the calculation of compensatory damages, IZA Discussion Paper 3195, Bonn, Germany <u>Study GB</u>

## 1999

Rohe, W.M. & Stegman, M. (1994), "The Effects of Homeownership: on the Self-Esteem, Perceived Control and Life Satisfaction of Low-Income People", *Journal of the American Planning Association*, 60: 173 – 184. <u>Study US 1992</u>

Rohe, W.M. & Basolo, V. (1997), "Long-Term Effects of Homeownership on the Self-Perceptions and Social Interaction of Low-Income Persons", *Environment and Behavior*, 29. 793-819. Study US Baltimore Maryland 1989

Rossi, P.H. & Weber, E. (1996), "The Social Benefits of Homeownership: Empirical Evidence from National Surveys", *Housing Policy Debate*, 7: 1- 35. <u>Study US 1988</u>

Ruprah, I.J. (2010), "Does Owning Your Home Make You Happier? Impact Evidence from Latin America", Working Paper OVE/WP-02-10, Inter-American Development Bank, 2010, Washington DC, USA. <u>Study ZZ Latin America</u> 1997

Sabatini, F. (2011), "Can a Click buy a Little Happiness? The Impact of Business-to-Consumer E-Commerce on Subjective Well-Being", MPRA Paper no. 32393, 2011, München, Germany. <u>Study IT 2008</u>

Serpa Barros de Moura, M.J. & De Losso da Silveira Beuno, R. (2013), "Land Title Program in Brazil: Are there any Changes to Happiness?", *The Journal of Socio-Economics*, 45: 196 – 203. Study BR São Paulo 2007

Shields, M.A., Price, S.W. & Wooden, M. (2009), "Life Satisfaction and the Economic and Social Characteristics of Neighbourhoods", *Journal of Population Economics*, 22: 421 – 443. <u>Study AU 2001</u>

Shin, D.C. (1986), "Education and the quality of life in Korea and the United States: A cross-cultural perspective", *Public Opinion Quarterly*, 50: 360 – 370. Studies <u>KR</u> 1980, <u>US 1986</u>

Shin, D.C. & Johnson, D.M. (1978), "Avowed Happiness as the Overall Assessment of the Quality of Life", Social Indicators Research, 5: 475 – 492. Study US 1975

Shu, X. & Zhu, Y. (2009), "The Quality of Life in China", *Social Indicators Research*, 92: 191 – 225, Study CN 2006

Veenhoven, R. (1984) Conditions of Happiness, Reidel (now SpringerNature) Dordrecht, Netherlands

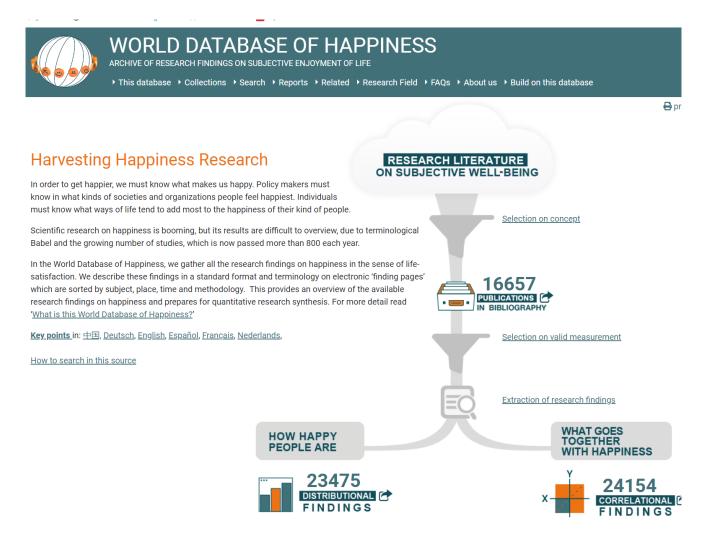
Veenhoven, R. Buijt, I, & Burger, M. (2022). On-line 'findings archive': A new tool for research synthesis. *International Journal of Innovation Scientific Research and Review*, 4 (5) 2774-278 **Open Access** 

Wunder, C. (2008), "Adaptation to Income over Time: A Weak Point of Subjective Well-Being", SOEP Paper no 130, 2008, DIW, Berlin, Germany. Study DE 1985

Zhang, J. (2012), "Households' Multidimensional Mobilities Over Life Course and QOL: A case Study in Japan", Paper presented at the 11<sup>th</sup> conference of the International Society for Quality of life Studies (ISQOLS), track 43, 2012, Japan, Study JP 2010

Zumbro, T. (2011), "The Relationship between Home-Ownership and Life Satisfaction in Germany", CAWN Discussion Paper no. 44, 2011, Münster, Germany, Study DE 1992

Figure 1
Structure of the World Database of Happiness





The World Database of Happiness is based in the <u>Erasmus Happiness Economics Research Organization</u> EHERO of <u>Erasmus University Rotterdam</u> in the Netherlands. Director: <u>Ruut Veenhoven</u>.



# Figure 2

# Example of a finding page



## Study Tiefenbach & Kohlbacher (2011): study JP 2011

😝 print

 Public
 15-79 aged, Japan, 2011

 Survey name
 JP-LifeStylePref2011

Sample

Respondents N = 3578
Non Response 28,4%

Assessment Questionnaire: Paper & Pencil Interview (PAPI)

Questionaire is explained in person to the respondents in their homes. They are left a few days to complete the survey, before the

questionaires are finally collected from them again.

Correlate

Authors's Label Homeowner

Our Classification HOUSING >> ••• >> Ownership of current dwelling

Remarks N/A = 10

Distribution N=3568; 0: 0,22; 1: 0,78

Operationalization 0: non-homeowner
1: homeowner

# **Observed Relation with Happiness**

Happiness Measure	Statistics	Elaboration / Remarks
O-HL-c-sq-n-11-f	<u>DM_</u> = +	0: non-homeowner M = 6,17 1: homeowner M = 6,54 difference +0,37

#### Cite as

R. Veenhoven, Correlational finding in study "Tiefenbach & Kohlbacher (2011): study JP 2011", World Database of Happiness, Erasmus University Rotterdam, The Netherlands.

Viewed on 6/24/2024 at worlddatabaseofhappiness.eur.nl



The World Database of Happiness is based in the <u>Erasmus Happiness Economics Research Organization</u> EHERO of <u>Erasmus University Rotterdam</u> in the Netherlands. Director: <u>Ruut Veenhoven</u>.



Table 1
75 RESEARCH FINDINGS ON HAPPINESS AND HOME-OWNERSHIP
All findings

	RESEARCH METHODS					
	Cross-sectional		Longitudinal		Experimental	
	Zero-order	partial	Zero-orde	Partial	Zero-order	Partial
Owned (vs Not)	+ + + + + ±	+ + +/+ + + + + + +/+ +/ +/+ + + 0 + 0 0 0 0/ + + + + +				
Owned (vs Rent)	+ + + + + +/+ +/+ +/+ +/+ +/+ +/+ +/+ +/+	+/+ + + + + + + 0 +/+ + +/0 + + + + + + +/+/+ +/+/+ +		+ + + +	+ +	
Owned partially (vs not)		<del>-</del> /- +				
Owned (vs used free of charge)		+				
Rented (vs used free of charge)		+				
Redemption (vs used free of charge)		-				
Usufruct (vs used free of charge)		+				

Used free of charge (vs not)

+

Signs link to finding page in <u>World Database of Happiness</u>. Use control+click to view the page.

Table 2
46 RESEARCH FINDINGS ON HAPPINESS AND HOME OWNERSHIP
Split by populations

	RESEARCH METHODS					
	Cross-sectional		Longitudinal		Experimental	
	Zero-order	partial	Zero-order	Partial	Zero-order	Partial
GENERAL POPULATION						
In all countries		+				
Developed countries	+ + + + + + + + + + + + + + + + + + + +	+ + + - + + + + 0 + + + + +/+	+	+ + +	+	
Developing countries	+	+ + + + + -			+	
SPECIAL POPULATIONS Age groups	I					
Students		+				
Working age		+ + + -/+ +/+ -/- +/+ -/+ - +//- +// +/+ - + + +/+/- +/+ -//-				

Elderly	<b>+ -</b> /0 0 0 0 0 0 0 0 0
Health status	
Mental health	+ 0
Marital status	
Marrieds	+ + + -/+ +/+ -/- +/+ -/+ - +//- +// +/+ - + + +/+/- +/+ -//-
Husbands	+
Wives	+
Region	
Rural areas	- <b>-</b> 0 0 0 0 + +

Signs link to finding page in <u>World Database of Happiness</u>. Use control+click to view the page.

- + = positive correlation, significant
- + = positive correlation, not significant
- 0 = direction of correlation not reported and not significant

<sup>&</sup>lt;sup>i</sup> This question is in the core questionnaire of the World Values Surveys

ii In all these methods, there is the possibility of spurious relationships, such as that a positive correlation between consumption and happiness is driven by a third factor, e.g. marriage, where marriage affects both consumption and happiness, while consumption and happiness are otherwise unrelated. This problem is most pressing in cross-sectional studies, but it can also exist in longitudinal and experimental studies. To weed out such false relationships, most studies compute partial correlations, using different methods of multi-variate analysis. This approach comes with the danger of over-control, in which true variance is removed, for example when control for marital status wipes out the correlation between house-ownership and happiness, while having a house actually adds to happiness through better marriage chances.

iii Shu & Zhu (2009) in China, Mollenkopf et al (2004) in 6 nations.

iv Rossi & Weber (1996)

<sup>&</sup>lt;sup>v</sup> Bucchcaniari (2011)

vi Rohe & Stegman (1994)

vii Serpa Barrow (2013)

viii Bechetti & Pinasi (2014)

ix Gaimu & Springer (2010)