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The Impact of Economic Crisis on Happiness

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Abstract There is a common belief that economic crisis will lead to a decrease in subjective wellbeing. Previous studies indicate that income is correlated with happiness and unemployment with unhappiness. The relationship between increased income and happiness is well documented while the impact of decreased income has been less explored. The aim of this paper is to study how the economic downfall in Iceland, followed by reduced income and increased unemployment, affects happiness as well as to explore which groups are most vulnerable to changes in happiness and which are most resilient. The study is a longitudinal, nationally representative postal survey which assessed 5,918 individual's aged 18–79. A total of 4,092 (77.3%) answered again in 2009. The relationship between economic factors and happiness was explored using multiple linear regression to find out how much they explain of the happiness variance and the changes in happiness, together with demographic factors, health and social relationships. Results indicate that income and unemployment did not predict happiness but financial difficulties did. A decrease in happiness was detected after the collapse. The change in happiness from 2007 to 2009 was normally distributed, 40% had the same score in both years and an equal number increased as decreased. The explored factors did not explain the changes in happiness. The economic crisis had a limited affect on happiness. Those with financial difficulties were hardest hit. Changes in happiness need to be studied further since they are not well explained by the factors which influence cross-sectional levels of happiness.

Keywords Happiness · Subjective wellbeing · Economic crises · Income · Unemployment

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1 Introduction

Imagine if it was possible to study the effects of an economic crisis with experimental methods placing a whole nation on an island where their happiness was monitored before, during and after exposure to a major economic downfall. This would give a great opportunity to study how decrease in income and associated experiences such as unemployment and increased financial difficulties affect happiness. This sounds like an impossible, at least unethical task, yet this is nearly the situation with the experimental island of Iceland. In 2007, 1 year prior to the 2008 collapse of the entire banking system in Iceland, the Public Health Institute of Iceland (PHI) sent out a comprehensive questionnaire on health and wellbeing to a random sample of thousands and this was followed up with another survey in 2009. This information gives both a good baseline for the situation a year before the economic downfall, and information about its effects a year after. To monitor the wellbeing of the population even further, the PHI sent another questionnaire to four smaller samples, the first one just weeks after the collapse at the end of October 2008 with three follow ups in 2009.

The main aim of this study is to explore in detail how economic downturn affects happiness by taking advantage of the natural experiment in Iceland and the unique data collection. Much research has focused on the effects of increased income but this exceptional situation gives us the opportunity to study the neglected area of how decreased income affects happiness. Another aim of this study was to investigate both vulnerability and resilience to economic collapse through changes in happiness.

2 Happiness and Wellbeing

Wellbeing is about lives going well, about positive feelings and functions, health and happiness. Furthermore, it is a condition that permits individuals, groups or societies to thrive and flourish (Diener 2009; Huppert et al. 2005; Huppert 2009; Seligman 2011). Subjective wellbeing refers to people's own evaluations of their lives, evaluations that are both affective and cognitive where the affective part is better known as happiness and the cognitive as life satisfaction (Vittersø et al. 2005).

The idea that happiness could be a good indicator for how well a society is doing is not new. Bentham (1789/1996), one of the great thinkers of the Enlightenment in the United Kingdom, said that the best society is the one where the citizens are happiest. Happiness is also enshrined in the United States Declaration of Independence (Jefferson 1776) where the pursuit of happiness is mentioned as one of the three unalienable rights for all men. In recent decades, many prominent scientists have undertaken research on positive aspects and the matters of flourishing and wellbeing have been raised in policy making (Diener 2009; Diener and Seligman 2004; Dolan and White 2007; Huppert and Willoughby 2010; Michaelson et al. 2009; Stiglitz et al. 2009).

3 Economic Factors and Happiness

The relationship between economic factors and happiness has in recent years been studied thoroughly both from the psychological perspective (e.g. Diener and Biswas-Diener 2002; Diener and Seligman 2004 for review) and the economic (e.g. Frey and Stuzer 2002; Dolan et al. 2008 for review). This relationship seems to be a complex one as the findings are not

the same within nations and between them (Diener and Biswas-Diener 2002). In studies of personal income, small but significant correlations are often found within countries (Veenhoven 1994). For instance, Diener et al. (1993) found an average correlation of .12 in the US, although, Clark and Oswald (1994) did not find a statistically significant effect of income in a representative sample from Britain. Diener and Seligman (2004) argue that increase in income is not inevitably associated with increase in wellbeing. According to them, people adapt to a particular level of wealth and wealthy people are only somewhat happier than poor people in rich countries. One explanation can be found in the theory of hedonic adaptation which suggests that both positive and negative experiences fade with time (e.g. Diener et al. 2006; Easterlin 2006; Lyubomirsky et al. 2005b).

Recent studies also show that economic factors are associated with different aspects of wellbeing. Satisfaction with life is more strongly correlated with economic factors like income whereas happiness is more influenced by social relationships (Diener et al. 2009; Kahneman and Deaton 2010). Kahneman and Deaton (2010) conclude that money buys life satisfaction but not happiness.

The majority of studies on the subject have explored the popular question of whether money can buy happiness, or in other words whether increased income increases happiness. If there is a causal relationship between income and happiness, a decrease in income should also lead to decline in happiness. The impact of decreased income on happiness has hardly been studied except through the drop in income due to unemployment.

4 Unemployment

The negative consequences of unemployment on happiness have been demonstrated in many studies over the years. The unemployed in nearly all countries are much less happy than those at work (Argyle 2001; Clark and Oswald 1994; Frey and Stuzer 2002; Ingelhart 1990; Winkelmann and Winkelmann 1998). In a study by Huppert and Whittington (2003) which looked at positive wellbeing and psychological stress separately, unemployment was more strongly correlated with the absence of positive wellbeing than with the presence of symptoms of psychological distress.

The loss of income associated with unemployment cannot account for the effects on wellbeing since the effect holds up when other variables, such as income, have been controlled for. Individuals who are unemployed for more than a year do not seem to return to the wellbeing level they had before they lost their job (Lucas et al. 2004). Some groups have been found to suffer more than others from unemployment. Clark (2003) found that men are more affected than women. Clark and Oswald (1994) found that the middle aged and those with higher education suffered more than others. The idea that personal impact of unemployment is related in part to social norms has been more and more accepted in the growing literature on happiness. It is for example almost taken as a fact that the impact of unemployment on wellbeing is less in communities where it is more common and thus socially acceptable (Clark 2003; Frey and Stuzer 2002; Layard 2005; Warr 2007). In their analysis on panel data from Germany and Switzerland, Oesch and Lipps (2011) decided to put this question to test and found that this was not the case. On the contrary they found no evidence for mitigating effect of high surrounding unemployment on unemployed individual's happiness. Their results also indicated that the harmful impact of unemployment on wellbeing does not diminish over time.

Stuckler et al. (2009) argue that the use of measures like GDP in evaluating the effect of economic fluctuation on wellbeing has limitations. Even though GDP is a widely used

measure it is important to note that it does not capture individual experience. Therefore, measures like unemployment or household incomes might be better suited to capture the changes that individuals are facing in time of economic downturns.

To what extent a decrease in income without losing a job affects happiness needs further exploration. The impact of debt and financial difficulties on happiness is another neglected area which deserves to be studied in more depth. Brown et al. (2005) found that debt (other than mortgages) had a negative correlation with psychological wellbeing. Furthermore, Jenkins et al. (2008) found that debt mediated the relationship between income and mental disorder, which emphasises the importance of including debt in analyses on the impact of economic factors on happiness and wellbeing.

5 Crises and Happiness

There is a common belief that economic crisis will lead to decrease in wellbeing and increase in mental disorders. The World Health Organisation (WHO 2009) has warned that the economic crisis may lead to increased stress, suicide and mental disorders and those who will be the first to suffer are the poor and the most vulnerable. Therefore, it is of great importance to identify those who are the most vulnerable, to be able to prevent the harm as much as possible. Some evidence from past economic crises suggests that women are more adversely affected than men (WHO 2009).

In their book on the effects of economic recession on satisfaction, mental health and mortality in the eighties Veenhoven and Hagenaars (1989), found that there was no general dip in life satisfaction or increase in mental disorders in the OECD countries even though suicide rates rose slightly. Further analysis demonstrated that for a small minority, satisfaction declined considerably and did not recover completely. Petersen (1989) found that during the crises in the 1980s the majority of Danes had adapted rather quickly to the changed economic environment. The underprivileged were harder hit than the more privileged groups, both with regard to life conditions and psychological wellbeing (Petersen et al. 1987).

Studies on the impact of the crisis in Finland in the 1990s on mental health demonstrate that mental disorders were more common among the unemployed and that poor health, suicidal thought, financial difficulties and insufficient social support were associated with mental disorders during the crises (Viinamäki et al. 1995, 2000). Laaksonen et al. (2009) also found a clear association between economic difficulties and common mental disorders both in Finland and Britain.

Stuckler et al. (2009) studied how economic changes have affected suicide rate from 1970 to 2007 in 26 European countries and found that every 1% increase in unemployment corresponded to .79% rise in suicides. Furthermore, they found that money spent on active labour market programmes reduced this effect. Public figures from Statistics Iceland (2011) demonstrate that there were 12 suicides per 100.000 inhabitants in 2007 and 2008 and 11.3 in 2009. Therefore, despite the steep rise in unemployment there was no increase in suicides.

As can be seen from the above, the majority of the studies on the impact of crises on mental health have focused on disorders rather than wellbeing. Even though life satisfaction is included in studies from the eighties (Veenhoven and Hagenaars 1989), the impacts on happiness seem to be less studied.

There are few published works on the relationship between crisis and happiness. Nevertheless, Gallup has measured wellbeing during the current economic crisis and

published reports on their website. Gallup has been using an index to measure wellbeing in the US on a daily basis from January 2008. Part of the index has been used in other countries, although not as regularly (Gallup 2009). The results demonstrate that emotional health dropped in the US in September 2008 when the US economy began its downward spiral and hit its lowest point in December 2008 (Mendes and Krogmeier 2010).

Gallup's results from Britain demonstrate that wellbeing in Britain has not changed significantly in recent years. Despite a difficult economic period, Britons continue to rate their lives as positive in 2009 and 2010 as they did in 2005. According to the Gallup data a higher portion of Britons reported stress in 2009 than the year before but this fell back again in 2010 (Crabtree 2010). Even though Britons' confidence in the nation's economy and financial institutions dropped during the recession, their personal wellbeing appeared to be unaffected (Crabtree 2010; English 2009).

In October 2008, all major banks in Iceland collapsed followed by a period of economic and political turmoil where the Prime Minister declared a possible national bankruptcy (Haarde 2008). As a result, Iceland became one of the OECD member countries that went into recession with negative growth in GDP. As a consequence, the International Monetary Fund (IMF) stepped in after the currency lost more than half its value.

To give a clearer picture of the situation in Iceland, a comparison of public data from November 2007 and November 2009 demonstrates that the unemployment rate in Iceland went from 1 to 8% which is an eightfold increase in unemployment (Statistics Iceland 2011). Figures from the World Bank show that GDP dropped 8% during this period while gross national income (GNI) dropped 13% and the national currency (Icelandic krona) lost more than half of its value (Statistics Iceland 2011).

Trust in all societal institution fell dramatically after the collapse of the banking system in October 2008. The biggest drop was trust in the banking system which went from 40 to 5%. Trust in the parliament went from 40 to 17% in 2008 and then down to 10% in 2009. Trust in the mass media was 16% in October 2008 (first available measure) and went down to 10% in November 2009 (Gudmundsdottir 2009). Gallup has also gathered data on trust in the banking system around the world. In their data from 2008, Iceland is on the bottom with 8% trusting the banking system compared to 25% in Ireland, 36% in Britain and 70% in Luxembourg. Gallup's results from Iceland are based on telephone interviews with 500 adults (English 2009). The sample used by Gallup is both smaller and with lower response rate that the one used by the PHI. In the Gallup World Poll, where telephone interviews are being used, the response rate can be as low as 25% (Biswas-Diener et al. 2010).

6 Happiness Predictors

Reviews of the literature on the determinants of happiness and wellbeing (e.g. Diener et al. 1999; Argyle 1999; Dolan et al. 2008; Huppert 2009) demonstrate that women are usually slightly happier than men. When analysed in more details, women do not only report higher happiness than men but are also more depressed. One of the explanations might be that women have more intense emotions which allow them to experience both more joy and more sorrow therefore to be happier in good times and more down when bad things happen (Fujita et al. 1991). The gender differences also exits when it comes to suicides and suicide attempts. While women are more likely to make unsuccessful suicide attempts, men are far more likely than women to commit a suicide (Helliwell 2007).

Many studies on the determinants of happiness and wellbeing suggest a U-shaped relationship between age and happiness where the youngest and the oldest are happiest

while the middle age groups are the least happy (Clark and Oswald 1994; Gertham and Johannesson 2001; Frey and Stuzer 2002; Helliwell 2003; Blanchflower and Oswald 2008).

Small but significant correlations between education and happiness have often been found (e.g. Diener et al. 1993; Blanchflower and Oswald 2004). Dolan et al. 2008 point out that education might lead to greater income and health and therefore affect wellbeing indirectly through other pathways.

One of the most important sources of happiness is personal relationships (Argyle 2001; Diener 1984; Myers 1992; Myers and Diener 1995; Reis 2001; Ryff 1989). A positive relation between marriage and happiness has been consistently replicated (Diener et al. 2000; Gertham and Johannesson 2001; Gove and Shine 1989; Gudmundsdottir 2007; Mastekaasa 1993). Numerous studies support a link between happiness and friendship, intimacy, and social support (e.g. see Lyubomirsky et al. 2005a, b for a review). Indeed, people are happiest when with friends (Csikszentmihalyi and Hunter 2003). Social relationship has a powerful effect on mental wellbeing, and is probably the factor that correlates most strongly with wellbeing. A number of studies suggest that close friendships can be a protective factor for the negative consequences of stress (Reis 1984; Argyle 2001).

Many studies have found a strong correlation between happiness and various measures of health. The World Database of Happiness summarises results from studies around the world which all show a strong positive relationship as high as .40 (WDH 2011). Results from Helliwell's (2003) cross national survey found a similar high correlation between health and happiness in 46 countries. In a review of the literature on the relationship between health and happiness, Veenhoven (2008) found that the effect of health on happiness is much weaker than the effect of happiness on health (e.g. Hawkins and Booth 2005). In a recent review of the contribution of happiness to health and longevity, Diener and Chan (2010) explore seven types of data that all suggest that happiness contributes to health and longevity.

The aim of this study is to explore what happens in a society where all major banks collapsed followed by a period of economic and political turmoil where the Prime Minister declared a possible national bankruptcy (Haarde 2008). Furthermore to study what happens in a society where unemployment rate multiplies, the currency loses more than half its value, income decreases nd debt increases, all in a relatively short period of time. The main focus will be on how these economic changes affect happiness by comparing happiness measures before, during and after the collapse of the banks, and to try to identify both those who are the most vulnerable and those who are the most resilient by analysing changes in happiness.

According to the literature it is predicted that the rise in unemployment in addition to other negative changes in the economy in Iceland due to the collapse of the banking system will lead to less happiness among Icelanders and that some groups, (the poorest, the unemployed and women) will be hit harder than others. It is also hypothesised that protective factors like good social relationships, might buffer the negative effect.

To study the effects of the economic crises on happiness in Iceland this paper:

1. investigates the predictors of happiness in Iceland by analysing the cross-sectional data on happiness from 2007
2. explores the changes in happiness score from 2007 to 2009
3. examines the short term influences by time series analyses on four independent samples gathered in 2008 and 2009 and compare them with the baseline measure from 2007

7 Methods

The main study sample comes from Health and Wellbeing, a postal health survey conducted by the PHI that was sent out in October 2007 and again in November 2009. The sample was randomly chosen from the Central Population Register to represent adults aged 18–79 years old living permanently in Iceland. The sample was stratified, to ensure sufficient participation of all age groups and person living in both urban and rural areas. The net sample in 2007 consisted of 9,807 individuals of whom 5,918 (60.3%) responded to the questionnaire. To explore if those who did not return their questionnaires differed from those who did, a random sample of 895 non-responders were contacted of whom 545 (60.9%) were willing to answer via telephone. The results indicated that there were no major differences in official statistic between the groups (Jonsson et al. 2011). All participants were asked to consent to a follow-up study, and submit that written consent with their response. A total of 5,411 agreed to take part in a follow-up study that was sent out in the beginning of November 2009 to a total of 5,294 available at that time. Of those 4,092 (77.3%) returned their questionnaire.

To explore the changes over time in more details, additional data from the study Economy and Wellbeing were used. The study consist of four independent random samples of 1,200 Icelanders with equal representation of both sexes 18–79 years old, who received the same questions in an email survey. The response rate ranged from 60 to 70%. The first sample received the questionnaire at the end of October 2008 (N = 760) right after the collapse of the banks, the second in January 2009 (N = 709), the third in June 2009 (N = 732) and the forth in December 2009 (N = 773).

8 Measures

Happiness was measured by the question "Taking all things together, how happy would you say you are?" Respondents had to indicate their answer on a scale from 1 (extremely unhappy) to 10 (extremely happy).

Socio-demographic factors that might affect the relationship between economic factors and wellbeing were taken into account in the current study.

Education indicated respondents highest level of education and was grouped into basic, intermediate and high (university) education. *Marital status* had seven categories: single, committed, cohabiting, married, divorced and widowed. *Unemployment* had two values, either unemployed or not. *Income* was measured by household income which was grouped into income tertiles: low, middle and high. *Financial difficulty* was measured with the question "How easy or difficult is it for you to make ends meet?" Possible answers were: very easy, easy, neither, difficult, very difficult. *Social relationships* were measured with two questions: "How satisfied or unsatisfied are you with your relationship with (a) family members, (b) friends?" These questions were answered on a 5-point scale from very unsatisfied to very satisfied. *Health* was measured by the question: How is your health in general? Would you say it is; very good (1), good (2), fair (3) or bad? (4).

8.1 Statistical Analyses

Prior to analysis, all variables were explored.

Descriptive statistics were calculated for the happiness variable both in 2007 and 2009. After that, the correlation between possible predictors like demographic factors, health and

social relationships with happiness was explored. To find out which factors are the best predictors for happiness and how much of the happiness variance the selected predictors accounted for, a multiple linear regression was conducted. Variables with qualitatively different categories were changed into a number of two-level variables (DUMMY variables) to meet the assumptions for linear regression (Tabachnick and Fidell 2001). Like in earlier studies on the subject (Myers and Diener 1996), the dependent variable, happiness is positively skewed and was kept like that. Since the number of participants is high enough this is considered acceptable (Tabachnick and Fidell 2001). All analyses were made using PASW Statistics 18.

To evaluate if there was a significant change in happiness score between 2007 and 2009, a paired t test was carried out on the responses from the same participants in 2007 and 2009. Additionally, the changes in happiness before, during and after the collapse of the banks were explored with time-series analysis on four independent samples together with the baseline measure from 2007 using linear regression where time was the independent variable. To be able to compare all the time points with the baseline score from 2007, a set of dummy variables for each time point after 2007 were made.

For further analysis on the changes in happiness over time, a new variable "Changes in happiness" was computed by subtracting the 2007 happiness score from the 2009 score. The distribution of the changes in happiness was explored by looking at the frequency of those who had a negative change, those who did not change and those who had a positive change. To learn more about those who had a decline or increase in happiness from 2007 to 2009, two separate multiple liner regressions were made both for decline and increase in happiness. In order to further investigate those whose scores had changed by more then one point, similar linear regressions were carried out on those whose scores were more than one point higher or lower in 2009 than 2007.

9 Results

First, the happiness scores in the 2007 and 2009 were analysed by demographic and economic factors.

Descriptive statistics on happiness by possible predictors can be found in Table 1. To compare happiness scores before and after the crises, the mean for each group of the predictors were explored both in 2007 and 2009 (see Table 1). Furthermore percentage of each group is presented for comparison of the structure of samples in 2007 and 2009. The data is weighted for gender and age to better represent the population in Iceland.

As can be seen in Table 1, those who find it very difficult to make ends meet, have the lowest happiness score both in 2007 and 2009. The percentage of those with financial difficulties rises from 14.3% in 2007 to 20.4% in 2009.

Women have only .1 higher happiness score in 2007 compared to men but their mean drops by .1 in 2009 while the happiness score for men does not change leaving both gender with the same happiness score in 2009. The relationship between age and happiness is not U-shaped but linear at both time points where the youngest age group has the lowest happiness score and then the mean happiness score increases with higher age. When it comes to marital status, the singles and divorced are the least happy at both time points whereas the married are the happiest at both time points.

A small increase in happiness is found with higher education at both time points but the percentage of respondents with university degree had increase from 2007 to 2009 by 5.8% which might be explained by more participants finishing their university degree within

Table 1 Descriptive statistic on Happiness by predictors in 2007 (N = 5,918) and 2009 (N = 4,092)

Predictors	2007			2009		
	% of sample[a]	Happiness Mean	Happiness (SD)	% of sample	Happiness Mean	Happiness (SD)
Gender						
Male	50.7	7.9	−1.7	50.7	7.9	−1.7
Female	49.3	8	−1.7	49.3	7.9	−1.8
Age						
18–29	23.9	7.8	−1.7	19.2	7.9	−1.8
30–39	19	7.9	−1.7	19.4	7.9	−1.7
40–49	20.6	7.9	−1.7	20.7	7.9	−1.8
50–59	17.7	8	−1.8	18.5	7.8	−1.8
60–69	11.2	8	−1.7	12.8	8	−1.8
>70	7.5	8.3	−1.8	9.4	8.2	−1.9
Marital status						
Single	15	7	−1.9	12.6	6.8	−2.1
Committed	7.3	7.9	−1.6	6.6	8.1	−1.5
Cohabiting	20.2	8	−1.5	18.6	8	−1.5
Married	50.4	8.3	−1.6	53.9	8.2	−1.6
Divorced	4.4	6.9	−1.9	5.2	7.1	−2
Widowed	2.6	7.6	−1.9	2.9	7.5	−2
Education						
Basic	37.1	7.8	−1.9	27.8	7.8	−2
Middle	35.2	7.9	−1.7	38.8	7.9	−1.7
University	27.6	8.1	−1.5	33.4	8.1	−1.5
Employment						
Not unemployed	96.5	7.9	−1.7	92.2	7.9	−1.7
Unemployed	3.5	7.1	−2.3	7.8	7.1	−2
Income						
Low	33.3	7.5	−2	30.6	7.5	−2
Medium	30.6	8	−1.6	30.7	8.1	−1.6
High	36.1	8.2	−1.5	38.7	8.1	−1.6
Financial difficulty						
Very easy	30.9	8.3	−1.5	23.5	8.2	−1.6
Easy	28.3	8	−1.6	26.6	8.1	−1.6
Neither	26.5	7.9	−1.7	29.5	8	−1.7
Difficult	11.8	7.2	−2	16.4	7.5	−1.7
Very difficult	2.5	6.1	−2.7	4	6.4	−2.3

[a] For some variables these number are slightly reduced because of missing data. The data was weighted for gender and age

those 2 years between measures. As can be seen in Table 1 there are no dramatic changes in mean happiness scores within groups between 2007 and 2009. The youngest age group has an increase while two of the oldest age groups have a decline.

The next step was to analyse how demographic and economic factors as well as health and social relationship correlated with happiness both in 2007 and in 2009.

In Table 2 the correlation between demographic and economic factors, health and social relationships with happiness is present. Because of the big sample size many of the correlations were significant even though they were very weak. In 2007, gender minimally correlated with happiness and in 2009 there was a correlation of zero between gender and happiness. Age and education had very weak correlations with happiness whereas marital status had the strongest correlation of the demographic factors. Of the economic factors, financial difficulty had the strongest correlation with happiness at both time points. Income had the same correlation with happiness in 2007 and 2009 while unemployment had weaker correlation with happiness in 2007 than in 2009. Health had a strong correlation with happiness but not surprisingly, social relationships (satisfaction with relationships with family and friends) had the strongest correlation with happiness.

To be able to see how demographic, economic and social factors together with health predicts happiness and how much these factors explain of the happiness variance when all of them are taking into account, a multiple linear regression was conducted. Variables with qualitatively different categories were changed into a number of two-level variables (DUMMY variables) to meet the assumptions for linear regression.

Table 3 presents the outcome of regression analyses when all predictors were entered together. Only eight predictors had significant associations with happiness when all the predictors were taking into account. These associations were all highly significant ($P < .001$). Being married was the strongest predictor of happiness followed by cohabiting and being committed. Other factors that predicted happiness was health, quality of relationship with family and friends and being aged 70–79. The only significant factor that was negatively related with happiness was having difficulties making ends meet. These findings might indicate that if there would be an increase among those who find it difficult to make ends meet that might lead to a decline in happiness.

Since many of the predictors were in set of DUMMY variables, these sets were entered in hierarchical linear regression where the first set was entered in first and then the next sets were added in succession until all categories were added together. Table 4 demonstrates how much each set of dummy variables described of the happiness variance.

As can be seen in Table 4, the final model with all the selected predictors accounts for 30.9% of the happiness variance in 2007. Social relationships explain the highest

Table 2 Correlations between socio-demographic factors and happiness in 2007 and 2009	Happiness	
	2007	2009
Gender	.01	.00
Age	.06**	.04*
Education	.07*	.03
Marital status	.29**	.29**
Unemployment	.09*	.13**
Income	.08**	.08**
Financial difficulty	.23**	−.19**
Health	.30**	.25**
Family	.37**	.32**
Friends	.32**	.27**

Pearson's correlation was calculated for all the relationships except for the nominal variables: gender, marital status and unemployment were eta was used

* Correlation is significant at the .01 and ** at the .001 level (2-tailed)

Table 3 Regression analyses with all predictors on happiness (N = 5,918)

	B	SE	β	t	P
(Constant)	2.148	.197		10.911	.000
Male	Reference group				
Female	.001	.052	.000	.017	.986
Age 18–29	Reference group				
Age 30–39	−.051	.085	−.012	−.607	.544
Age 40–49	−.083	.087	−.020	−.947	.344
Age 50–59	−.067	.092	−.016	−.730	.466
Age 60–69	.076	.100	.016	.758	.448
Age 70–79	.405	.115	.070	3.520	.000
Low education	Reference group				
Middle	−.102	.057	−.029	−1.785	.074
University	−.105	.068	−.027	−1.539	.124
Single	Reference group				
Committed	.644	.119	.091	5.419	.000
Cohabiting	.899	.087	.212	10.281	.000
Married	1.046	.085	.311	12.337	.000
Divorced	.218	.140	.026	1.553	.120
Widowed	.225	.166	.023	1.362	.173
Unemployed	−.218	.129	−.025	−1.685	.092
Low income	Reference group				
Medium	.072	.103	.011	.697	.486
High	−.049	.130	−.006	−.378	.706
Easy to let ends meet	Reference group				
Neither easy nor difficult	−.030	.057	−.008	−.529	.597
Difficult to let ends meet	−.560	.075	−.116	−7.457	.000
Health	.496	.033	.228	14.969	.000
Family	.423	.031	.223	13.463	.000
Friends	.284	.029	.163	9.844	.000

Table 4 Happiness variance predicted in hierarchical regression analyses by potential predictors

Predictor	Adj. R^2	R^2 change	Sig. F change
Step 1: age gender	.005	.007	.000
Step 2: add education	.012	.007	.000
Step 3: add marital status	.093	.082	.000
Step 4: add unemployment	.100	.007	.000
Step 5: add income	.101	.002	.026
Step 6: add financial difficulty	.134	.033	.000
Step 7: add health	.197	.062	.000
Step 8: add social relationships	.309	.112	.000

proportion of the happiness variance, 11.2% while all other factors are taking into account. Health explains 6.2% of the variance while age, gender and education explain only 1.2% of the happiness variance. Although some are weak, all the predictors have a significant contribution to the happiness variance due to the big sample size. Income has the weakest contribution, explaining only .2% of the variance.

The order in which these sets of dummies were entered does have an impact on the explained variance. However, it does not affect the total variance explained by all the variables. For example, if financial difficulty is entered prior to income then the variance explained by income is ruled out. Also if marital status is added after the social relationship variables, then marital status only explains 5% of the variance compared to 8.2% if it is entered prior.

The correlation between the two happiness scores in 2007 and 2009 for those who answered at both times was $r = .57 \ P < .001$. The mean happiness score for the whole sample in 2007 (N = 5,918) was 7.9 while the mean for those who answered at both time points (N = 4,092) was 8.1 in 2007.

A paired-samples t test was conducted to compare happiness in 2007 and 2009 for those who answered at both time points. There was a significant decrease in happiness scores from 8.1(SD = 1.7) in 2007 to 7.95 (SD = 1.8); in 2009; t (3,871) = 4.328, $P < .001$.

Additionally, the changes in happiness before, during and after the collapse of the banks were explored on five independent samples in linear regression where time was the independent variable. To be able to compare all the time points with the baseline score from 2007 a set of dummy variables for each time point after 2007 were made.

Compared to the happiness score in 2007, there is a significant decline in happiness at all time points, except for the last measure in December 2009 ($P = .073$) as can be seen in Table 5.

For further analysis on the changes in happiness over time, a new variable "Happiness change" was computed by subtracting the 2007 happiness score from the 2009 score. The distribution of the change was explored.

As can be seen in Fig. 1, almost half of the participants did not change in happiness from 2007 to 2009 and about as many had a decline in happiness as had an increase.

In Table 6 are the results from the regressions on both the decline and the increase in happiness. The predictors that predicted 30.9% of the happiness variance in 2007 described nothing of the decline in happiness and only 2.3% of the increase in happiness from 2007 to 2009. Only three factors, marital status, financial difficulty and social relationships did have a significant contribution to the upward change in happiness.

When those who had declined or increased more than 1 point in happiness between 2007 and 2009 were analysed, none of the predictors gave a significant contribution to either of the variance.

Table 5 Regression analyses for happiness over time	Time	B	SE	β	t	P
	Nov-07	7.9	.0		339.6	.000**
	Nov-08	−.1	.1	.0	−2.1	.033*
	Feb-09	−.1	.1	.0	−2.0	.041*
	Jun-09	−.2	.1	.0	−3.0	.002*
	Dec-09	−.1	.1	.0	−1.8	.073
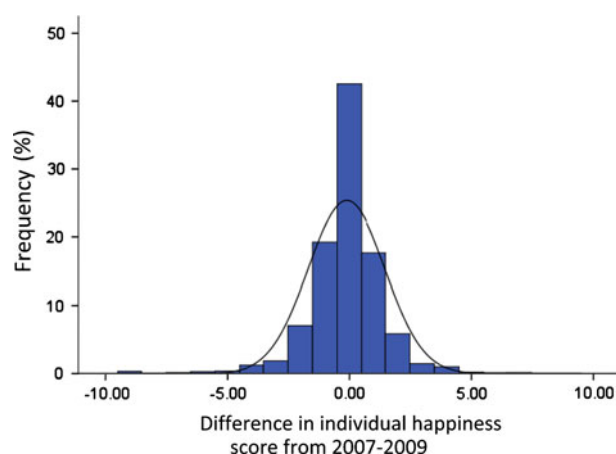
Fig. 1 Histogram of changes in happiness score from 2007 to 2009

Table 6 Variance predicted in happiness changes from 2007 to 2009 by socio-demographic factors

	Decrease in happiness			Increase in happiness		
	Adj. R^2	R^2 change	Sig. F change	Adj. R^2	R^2 change	Sig. F change
Predictor						
Gender	.00	.00	.393	.00	.00	.591
Age	.00	.01	.270	.00	.01	.562
Education	.01	.01	.097	.01	.01	.036
Marital status	.00	.01	.545	.01	.02	.148
Unemployment	.01	.00	.190	.01	.00	.348
Income	.00	.00	.976	.02	.01	.084
Financial difficulty	.00	.00	.428	.02	.00	.570
Health	.00	.00	.637	.02	.00	.329
Social relationships	.00	.01	.356	.03	.02	.011

10 Discussions

Several questions were addressed in this study about the impact of the economic crisis on happiness in Iceland. The size of the crisis, measured by changes in macro-economic factors from 2007 to 2009, was quite dramatic. Whether the focus is on negative growth in GDP, rapid increase in unemployment and financial difficulties or decreased income, the situation in Iceland encompassed all.

Unemployment rate went from 1 to 8% which is not only an increase by 7%, but also an eightfold increase. According to the literature, unemployment is one of the strongest predictors of unhappiness (e.g. Argyle 2001; Clark and Oswald 1994; Huppert and Whittington 2003). Those who were unemployed had a lower happiness score (M = 7.1, SD = 2) both in 2007 and 2009 compared to those who were not unemployed (M = 7.9, SD = 1.7).

In this study, demographic and economic factors together with social relationships and health, predicted all together 30.9% of the happiness variance in cross-sectional data from 2007. Economic factors (unemployment, income and financial difficulty) only accounted for 4.2% of the happiness variance, which may support Kahneman and Deaton's (2010) conclusion that money does not buy happiness.

When other factors were taken into account, income and unemployment did not predict happiness in cross-sectional data from 2007. Financial difficulty was the only economic factor that predicted happiness, as those who found it difficult to make ends meet, were less happy. Those who had financial difficulties were not necessarily with low income or unemployed which might indicate a new vulnerable group. Financial difficulties were highly correlated with having debts in this study as the majority of the participants in this study, who reported financial difficulties, also reported debts. Even though debt has been found to predict mental distress (Brown et al. 2005; Jenkins et al. 2008) the relationship between debt and happiness has been less studied.

Other factors that predicted happiness in this study were likely expected, being married or committed, health and quality of relationships with family and friends (e.g. Lyubo-mirsky et al. 2005a, b) and being older (age 70–79). All these factors had a highly significant contribution to the happiness variance. A U-shape with age was found with happiness when other factors like marital status were accounted for.

Despite this dramatic changes in the economy and rapid increase in unemployment rate, happiness only slightly decreased from 7.9 in 2007 to 7.8 in 2008 just after the collapse of the banks. It dropped a little further to 7.7 in June 2009 and then back to 7.9 at the end of 2009 when independent samples were compared. When the repeated measures from the same participants were explored, the correlation between their happiness score in 2007 and 2009 was .57 and their mean dropped from 8.1 to 7.95. This group had a happiness mean score of 8.1 in 2007 when the mean of the whole sample was 7.9 so there is always a chance that the decline would have been more if all respondents had answered again in 2009. Nevertheless if it is taken into account how big the sample is together with the high response rates and the four additional independent samples, these results are quite reliable.

The majority of the people in Iceland are happy, which is in consistent with results from other studies who find that most people are happy in general (Biswas-Diener et al. 2005; Myers and Diener 1996). Results from a number of studies found in the World Database of Happiness also demonstrate that mean happiness scores within countries are quite high and do hardly change over time (Veenhoven 2011). This is relevant as Iceland has been rated the happiest country in the world in several studies (Argyle 2001; Veenhoven 2011) and the mean happiness score in earlier surveys in Iceland had never gone below 7.9 before the economic collapse in 2008. For a comparison, the average rating for happiness for 47.250 participants in 33 European countries from the European Social Survey (ESS) in 2005 was 7.2, (SD = 2.3) (Gudmundsdottir 2007).

Due to the fact that the whole banking system in Iceland collapsed, Iceland was perhaps harder hit by the economic crises than many other countries. One of the consequences can be seen in much lower trust in the banking system after the collapse in Iceland, than in other European countries (English 2009). Even though the consequences can be detected in people's trust in their societal institutions the impact on people's own wellbeing seems to be minimal. The wellbeing results for Iceland keep with the results from UK reported by Gallup where a small decline in emotional health as well as other wellbeing measures was detected by the end of 2008 and beginning of 2009 with a recovery in 2009 (English 2009; Crabtree 2010). This is also in line with studies on the impact of the crises in the eighties, for example in Denmark where people adopted rather quickly to difficult economic

environment (Petersen 1989). One possible explanation can be found in the theory of hedonic adaptation which suggests that both positive and negative experiences fade with time (e.g. Diener and Seligman 2004; Easterlin 2006; Diener et al. 2006; Lyubomirsky et al. 2005b).

Given that income only predicted .2% of happiness in 2007, it may seem intuitive that a decrease in income from 2007 to 2009 had little effect on happiness. This is consistent with recent studies by Gallup in US and Britain which show that despite economic difficulties, increased stress and less trust in financial institutions, personal wellbeing was not affected in the long run (Gallup 2009; Crabtree 2010; English 2009). Similar findings were reported earlier by Veenhoven and Hagenaars (1989) on the impact of economic crises on life satisfaction.

Even though the unemployed are less happy than those who are not unemployed, their mean happiness score is still above seven (M = 7.1) which is close to the happiness mean in Europe of 7.2 (Gudmundsdottir 2007). If the results from Stuckler et al. (2009) applied in Iceland that every 1% increase in unemployment would correspond to .79% increase in suicide, it would equal a 5.53% increase in suicide in Iceland. The fact is that the suicide rate in Iceland did not increase from 2007 to 2009. Stuckler et al. (2009) might also have the explanation for why the rise in unemployment did not increase suicide rate in Iceland, since they found that money spent on active labour market programmes, which are strong in Iceland, reduces this effect. The majority of those who lost their job in Iceland get unemployment benefits as well as an offer to be engaged in some activities. The programmes try to give the unemployed the chance to stay active and engaged, feel useful and have a role and meaning (Directorate of Labour 2008). As theories of flourishing have emphasised, functioning is as important to wellbeing as emotions (Seligman 2011). Having the opportunity to participate in meaningful activities, being active and engaged might therefore reduce the negative affect of being unemployed and be crucial to the wellbeing of the unemployed.

Despite the fact that the value of the money is less, the average happiness score in Iceland is still quite high. If basic needs are met, and people have the possibility to be socially engaged they are more likely to be able to cope with the crises and adjust to the new economic environment. According to this study, the happiest groups after the collapse of the banks and therefore the most resilient ones are those who are committed or married or with good social relationships. The most vulnerable group according to the results are those who find it difficult to make ends meet and that group has become larger after the collapse. In 2007, it included 14.3% compared to 20.4% in 2009. Those who find it very difficult to make ends meet have the lowest happiness score both in 2007 (M = 6.1, SD = 2.7) and 2009 (M = 6.4, SD = 6.4, SD = 2.3).

It is possible that a prior knowledge of the vulnerability of the unemployed and those with low income has served as a protection. It has affected the reaction of the government in Iceland, since their official goal has been to protect the underprivileged defined as those without jobs and with the lowest income.

Better knowledge of this vulnerable group which is not necessarily with the lowest income or unemployed might be of importance. The majority of those with financial difficulties are also in debt. Therefore, governmental actions that help people to adjust to the changed economic environment, making it more manageable to make ends meet and pay off their debts might be beneficial actions in the long run.

Women have been found to be worse affected during crises than men (WHO 2009) while other results demonstrate that the negative impact of unemployment is worse for men

than women (Clark 2003). No significant differences in happiness were detected at any time point between men and women in this study.

The results from the analysis on the changes in happiness, that more than 40% of the participants had the same happiness score in 2007 and 2009 was not as surprising as detecting that the happiness change variable was normally distributed with as many increases as decreases in happiness from 2007 to 2009. The fact that 25% of the participants reported higher happiness score in 2009 than 2007 can possibly be explained by positive effects of crises where people feel the need for staying close together to deal with the consequences of the crises.

The most surprising results was that the variables that predicted 30.9% of the happiness variance cross-sectionally, did only predict 2.3% of the increase in happiness, and nothing of the variance in the decrease in happiness. This indicates that something else predicts whether people's happiness will increase or decrease and needs to be studied further.

11 Conclusion and Future Suggestions

Even though Iceland has been through an economic breakdown and people have lost trust in financial and social institutions, the evaluation of the citizens' own lives seems to be less affected. One explanation might be that some protective factors, like closer social relationships, have reduced the negative affect of the breakdown. Another explanation could be that economic factors do not influence people's wellbeing as much as economists and politicians have suggested. In previous decades, progress has been defined and measured solely by economic indicators such as GDP. It is therefore recommended to include wellbeing measures in the evaluation of government's progress.

It would be of interest to analyse in more detail which factors are most protective during crises and how much impact they have all together. Having in mind that economic factors can affect different aspects of wellbeing differently, it would also be of interest to study the impact of economic crises on other aspects of wellbeing, such as life satisfaction and mental wellbeing, which includes measures on both emotions and functions.

Conflict of interest None.

References

Argyle, M. (1999). Causes and correlates of happiness. In D. Kahneman, E. Diener, & N. Schwarz (Eds.), *Well-being: The foundations of hedonic psychology* (pp. 392–412). New York: Russell Sage Foundation.

Argyle, M. (2001). *The psychology of happiness* (2nd ed.). London: Routledge.

Bentham, J. (1789/1996). *An Introduction of the principles of morals and legislation*. Oxford: Clarendon Press. (Originally from 1789).

Biswas-Diener, R., Vitersø, J., & Diener, E. (2005). Most people are pretty happy, but there is cultural variation: The Inughuit, the Amish, and the Maasai. *Journal of Happiness Studies, 6*, 205–226.

Biswas-Diener, R., Vitterso, J., & Diener, E. (2010). The Danish effect: Beginning to explain high wellbeing in Denmark. *Social Indicators Research, 97*(2), 229–246.

Blanchflower, D. G., & Oswald, A. J. (2004). Well-being over time in Britain and the USA. *Journal of Public Economics, 88*, 1359–1386.

Blanchflower, D. G., & Oswald, A. J. (2008). Is well-being U-shaped over the life cycle? *Social Science and Medicine, 66*(8), 1733–1749.

Brown, S., Taylor, K., & Price, S. W. (2005). Debt and distress: Evaluating the psychological cost of credit. *Journal of Economic Psychology, 26*, 642–663.

Clark, A. E. (2003). Unemployment as a social norm: Psychological evidence from panel data. *Journal of Labor Economics, 21*, 323–351.

Clark, A. E., & Oswald, A. J. (1994). Unhappiness and unemployment. *Economic Journal, 104*, 648–659.

Crabtree, S (2010). *Britons' wellbeing stable through economic crisis: Life ratings, health measures prove resilient during recession*. Retrieved February 2, 2011, from http://www.gallup.com/poll/144938/Britons-Wellbeing-Stable-Economic-Crisis.aspx.

Csikszentmihalyi, M., & Hunter, J. (2003). Happiness in everyday life: The uses of experience sampling. *Journal of Happiness Studies, 4*(2), 185–199.

Diener, E. (1984). Subjective well-being. *Psychological Bulletin, 95*, 542–575.

Diener, E. (Ed.). (2009). *The science of well-being*. New York: Springer.

Diener, E., & Biswas-Diener, R. (2002). Will money increase subjective well-being? *Social Indicators Research, 57*(2), 119–169.

Diener, E., & Chan, M. (2010). *Happy people live longer: Subjective well-being contributes to health and longevity*. Paper being revised. Retrieved November 10, 2011, from http://internal.psychology.illinois.edu/∼ediener/.

Diener, E., Gohm, C. L., Suh, E., & Oishi, S. (2000). Similarity of the relations between marital status and subjective well-being across cultures. *Journal of Cross-Cultural Psychology, 31*, 419–436.

Diener, E., Lucas, R. E., Schimmack, U., & Helliwell, J. (2009). *Well-being for public policy*. New York: Oxford University Press.

Diener, E., Lucas, R. E., & Scollon, C. N. (2006). Beyond the hedonic treadmill: Revising the adaptation theory of well-being. *American Psychologist, 61*(4), 305–314.

Diener, E., Sandvik, E., Seidlitz, L., & Diener, M. (1993). The relationship between income and subjective well-being: Relative or absolute? *Social Indicators Research, 28*, 195–223.

Diener, E., & Seligman, M. E. P. (2004). Beyond money: Toward an economy of well-being. *Psychological Science in the Public Interest, 5*, 1–31.

Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective well-being: Three decades of progress. *Psychological Bulletin, 125*, 276–302.

Directorate of Labour. (2008). *The Right to unemployment benefits*. Retrieved June 22, 2011, from http://www.eures.is/files/Rau%C3%B0i%20b%C3%A6klingurinn%20%C3%A1%20ensku_1575575153.pdf.

Dolan, P., Peasgood, T., & White, M. (2008). Do we really know what makes us happy? A review of the economic literature on the factors associated with subjective well-being. *Journal of Economic Psychology, 29*, 94–122.

Dolan, P., & White, M. P. (2007). How can measures of subjective well-being be used to inform public policy? *Perspectives on Psychological Science, 2*, 71–85.

Easterlin, R. A. (2006). Life cycle happiness and its sources: Intersections of psychology, economics and demography. *Journal of Economic Psychology, 27*, 463–482.

English, C. (2009). *Crisis hurts financial institutions' credibility in Europe: Confidence declines in 10 of 12 nations since economic downturn*. Retrieved February 2, 2011, from http://www.gallup.com/poll/123482/Crisis-Hurts-Financial-Institutions-Credibility-Europe.aspx.

Frey, B. S., & Stuzer, A. (2002). *Happiness and economics*. New Jersey: Princeton University Press.

Fujita, F., Diener, E., & Sandvik, E. (1991). Gender differences in negative affect and well-being: The case for emotional intensity. *Journal of Personality and Social Psychology, 61*, 427–434.

Gallup. (2009). *Gallup-healthways well-being index: Methodology report for indexes*. Retrieved January 22, 2011, from http://www.well-beingindex.com/files/Gallup%Healthways%20Index%20Methodology%20Report%20FINAL%203-25-08.pdf.

Gertham, U. G., & Johannesson, M. (2001). The relationship between happiness, health, and socioeconomic factors: Results based on Swedish microdata. *Journal of Socio-Economics, 30*, 553–557.

Gove, W. R., & Shine, H. (1989). The psychological well-being of divorced and widowed men and women. *Journal of Family Issues, 10*, 122–144.

Gudmundsdottir, D. G. (2007). *Subjective well-being in Iceland: The impact of demographic factors, social relationships, health and depression on subjective well-being in Iceland*. Aarhus University, Psykologisk Institut.

Gudmundsdottir, D. G. (2009). *Happiness in times of crises*. The Public Health Institute of Iceland. Retrieved June 22, 2011, from http://www2.lydheilsustod.is/frettir/afstofnuninni/nr/2827.

Haarde, G. (2008). *Address to the Nation by H.E. Geir H. Haarde, Prime Minister of Iceland. October 6th 2008.* Prime Minister's Office. Retrieved June 22, 2011, from http://eng.forsaetisraduneyti.is/news-and-articles/nr/3035.

Hawkins, D. N., & Booth, A. (2005). Unhappily ever after: Effects of long-term, low-quality marriages on well-being. *Social Forces, 84*, 452–471.

Helliwell, J. F. (2003). How's life? Combining individual and national variations to explain subjective wellbeing. *Economic Modelling, 20*, 331–360.

Helliwell, J. F. (2007). Well-being and social capital: Does suicide pose a puzzle? *Social Indicators Research, 81*, 455–496.

Huppert, F. A. (2009). Psychological well-being: Evidence regarding its causes and consequences. *Applied Psychology: Health and Well-being, 1*(2), 137–164.

Huppert, F. A., Baylis, N., & Keverne, B. (Eds.). (2005). *The science of well-being*. Oxford: Oxford University Press.

Huppert, F. A., & Whittington, J. E. (2003). Evidence for the independence of positive and negative well-being: Implications for quality of life assessment. *British Journal of Health Psychology, 8*(1), 107–122.

Huppert, F. A., & Willoughby, A. (2010). *The big flourishing society*. Government Briefing document, September 2010.

Ingelhart, R. F. (1990). *Culture shift in advanced industrial society*. Princeton, NJ: Princeton University Press.

Jefferson, T. (1776). *The declaration of independence*. USA.

Jenkins, R., Bhugra, D., Bebbington, P. E., Brugha, T., Farrell, M., Coid, J., et al. (2008). Debt, income and mental disorder in the general population. *Psychological Medicine, 38*, 1485–1493.

Jonsson, S. H., Gudlaugsson, J. O., Gylfason, H. F., & Gudmundsdottir, D. G. (2011). *Health and well-being of icelanders—Project report*. Public Health Institute of Iceland, Reykjavik. Retrieved May 24, 2011 at http://www.lydheilsustod.is/media/lydheilsa/heilsufarskonnun/Heilsa.og.lidan.Islendinga.2007.Framk vaemdaskyrsla.pdf.

Kahneman, D., & Deaton, A. (2010). High income improves evaluation of life but not emotional well-being. *Proceedings of the National Academy of Sciences of the USA, 107*, 16489–16493.

Laaksonen, E., Martikainen, P., Lallukka, T., Lahelma, E., Ferrie, J., Rahkonen, O., et al. (2009). Economic difficulties and common mental disorders among Finnish and British white-collar employees: The contribution of social and behavioural factors. *Journal of Epidemiol Community Health, 63*(6), 439–446.

Layard, R. (2005). *Happiness: Lessons from a new science*. London: Penguin.

Lucas, R. E., Clark, A. E., Georgellis, Y., & Diener, E. (2004). Unemployment alters the set point for life satisfaction. *Psychological Science, 15*(1), 8–13.

Lyubomirsky, S., King, L., & Diener, E. (2005a). The benefits of frequent positive affect: Does happiness lead to success? *Psychological Bulletin, 131*(6), 803–855.

Lyubomirsky, S., Sheldon, K. M., & Schkade, D. (2005b). Pursuing happiness: The architecture of sustainable change. *Review of General Psychology, 9*, 111–131.

Mastekaasa, A. (1993). Marital status and subjective well-being: A changing relationship? *Social Indicators Research, 29*, 249–276.

Mendes, E., & Krogmeier, M. (2010). *One million surveys reveal portrait of Americans' well-being: Surveys tell a story of economic devastation, increasing health problems, American resiliency*. Retrieved June 22, 2011 from, http://www.well-beingindex.com/findings.asp.

Michaelson, J., Abdallah, S., Steuer, N., Thompson, S., & Marks, N. (2009). *National accounts of well-being: Bringing real wealth onto the balance sheet*. London: New Economics Foundation.

Myers, D. G. (1992). *The pursuit of happiness*. New York: William Morrow and Company.

Myers, D. G., & Diener, E. (1995). Who is happy? *Psychological Science, 6*, 10–19.

Myers, D. G., & Diener, E. (1996). The pursuit of happiness. *Scientific American, 274*, 54–56.

Oesch, D., & Lipps, O. (2011). *Does unemployemnt hurt less if there is more of it around? A panel analysis of life satisfaction in Germany and Switzerland*. SOEPpaper on Multidisciplinary Panel Data Research. Retrieved November 9, 2011 from, http://www.diw.de/documents/publikationen/73/diw_01.c.377 429.de/diw_sp0393.pdf.

Petersen, E. (1989). Did the crisis really hurt the Danes? In R. Veenhoven & A. Hagenaars (Eds.), *Did the crisis really hurt? Effects of the 1980–1982 economic recession on satisfaction, mental health and mortality* (pp. 64–93). Rotterdam: Universitaire Pers.

Petersen, E., Kristensen, S. O., & Sabroe, K. E. (1987). *Danskernes tilvaerelse under krisen (The Danes during the crisis), Vol. I: Studier i krisens psykologiske virkninger (Studies in the psychological effects of the crisis)*. Aarhus: Aarhus Universiteitsforlag.

Reis, H. T. (1984). Social interaction and well-being. In S. Duck (Ed.), *Personal relationships* (Vol. 5, pp. 21–45). London: Academic Press.

Reis, H. T. (2001). Relationship experiences and emotional well-being. In C. D. Ryff & B. H. Singer (Eds.), *Emotion, social relationships, and health* (pp. 57–86). New York: Oxford University Press.

Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology, 57*, 1069–1081.

Seligman, M. (2011). *Flourish*. New York: Simon & Schuster.

Statistics Iceland. (2011). *Statistical yearbook of Iceland*. Retrieved January 25, 2011 from, http://www.statice.is/pages/2532.

Stiglitz, J., Sen, A., & Fitoussi, J. P. (2009). *Report by the commission on the measurement of economic performance and social progress*. Retrieved May 25, 2011 from, http://www.stiglitz-sen-fitoussi.fr/documents/rapport_anglais.pdf.

Stuckler, D., Basu, S., Suhrcke, M., Coutts, A., & McKee, M. (2009). The public health impact of economic crises and alternative policy responses in Europe. *Lancet, 374*(9686), 315–323.

Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics* (4th ed.). Boston: Allyn & Bacon.

Veenhoven, R. (1994). Is happiness a trait? *Social Indicators Research, 32*, 101–160.

Veenhoven, R. (2008). Healthy happiness: Effects of happiness on physical health and the consequences for preventive health care. *Journal of Happiness Studies, 9*(3), 449–469.

Veenhoven, R. (2011) *World database of happiness*, Erasmus University Rotterdam. Available at http://worlddatabaseofhappiness.eur.nl. Accessed at 25 June 2011.

Veenhoven, R., & Hagenaars, A. (Eds.). (1989). *Did the crisis really hurt? Effects of the 1980–1982 economic recession on satisfaction, mental health and mortality*. Rotterdam: Universitaire Pers.

Viinamaki, H., Hintikka, J., Kontula, O., Niskanen, L., & Koskela, K. (2000). Mental health at population level during an economic recession in Finland. *Nordic Journal of Psychiatry 54*, 177–182. http://informahealthcare.com/doi/abs/10.1080/080394800750019079.

Viinamäki, H., Kontula, O., Niskanen, L., & Koskela, K. (1995). The association between economic and social factors and mental health in Finland. *Acta Psychiatrica Scandinvica, 92*, 208–213.

Vittersø, J., Diener, R., & Diener, E. (2005). The divergent meanings of life satisfaction: Item response modelling of the satisfaction with life scale in Greenland and Norway. *Social Indicators Research, 74*(2), 327–348.

Warr, P. (2007). *Work, happiness, and unhappiness*. New Jersey: Lawrence Erlbaum Associates.

WDH (2011) *World database of happiness, continuous register of scientific research on subjective appreciation of life*. Erasmus University Rotterdam, The Netherlands. http://worlddatabaseofhappiness.eur.nl.

WHO. (2009). *Financial crisis and global health: Report of a high-level consultation*. Geneva: World Health Organization.

Winkelmann, L., & Winkelmann, R. (1998). Why are the unemployed so unhappy? Evidence from panel data. *Economica, 65*, 1–15.

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