

# How Does the Economic Crisis Influence Adolescents' Happiness? Population-Based Surveys in Iceland in 2000–2010

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**Abstract** Macroeconomic downturns have been associated with a decrease in happiness among adults. The aim of this study was to explore the secular trend in happiness among Icelandic adolescents during a period of drastic change in the national economy as well as to identify which groups were most vulnerable and most resilient during the economic crisis. The data used in this study comes from series of population-based surveys of Icelandic adolescents in 2000, 2006, 2009, and 2010. Altogether, a total of 28,484 adolescents participated in the four surveys, representing 84 % of all 14–15 year old adolescents in Iceland. Results indicated that happiness increased by 5 % in the adolescent population from 2000 to 2010 despite the economic crisis. Nevertheless, adolescents who seldom spent time with their parents or perceived difficulties in getting emotional support from parents demonstrated a decrease in happiness. Those who found it easy to get emotional support from parents were happiest at every time point (91–93 %) while those who found it difficult were unhappiest (36–50 %). The association between socio-demographic factors and happiness was explored using multiple linear regression analyses where the year of survey, gender, age, family structure, parent's education, time spent with parents and emotional support from parents altogether explained 13 % of the happiness variance. Emotional support from parents together with time spent with parents had the largest influence on adolescent's happiness. An overall increase in time spent with parents was detected which might explain the increase in adolescents' happiness over time. These

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results indicate that good relations with parents may protect adolescents from possible negative effect of a national economic crisis.

**Keywords** Happiness · Adolescents · Economic crisis · Social relations · Well-being

## 1 Introduction

Throughout the centuries, great thinkers, scientist and the general public have been interested in the concept of happiness. Aristotle wrote about what constitutes the good life and concluded that happiness depends upon ourselves. Bentham defined happiness in 1789 as “the sum of pleasures and pains” (Bentham 1789/1996) which can be interpreted in the way that happiness is not only about positive feelings, but also about how well one copes with obstacles or pain. A similar concept, well-being, constitutes positive feelings and functions, a condition that permits individuals, groups or societies to thrive and flourish (Huppert 2009; Huppert et al. 2005; Seligman 2011). Happiness and well-being have recently received increased attention from researchers and policy makers (Diener 2000, 2009; Stiglitz et al. 2009) who have emphasized its importance as a health outcome. Even though happiness and well-being are often used interchangeably in the literature [e.g. Easterlin (2006)], not everyone agrees [e.g. Raibley (2012)]. Well-being is a broader term where happiness can be seen as a component of well-being related to feelings rather than functions [(e.g. Huppert and So (2013)].

Fredrickson (2004) provided evidence that positive emotions serve to broaden and build the individual’s resources, regulate negative emotional experiences and protect health. Additionally, Lyubomirsky et al. (2005) concluded that happiness leads to good relationships, better health and longer life. Taking into account the positive benefits of happiness, it is important to study the predictors of happiness and try to find effective ways to enhance happiness for various groups. In the last decades, predictors of happiness in adult life have been the focus of numerous studies. However, predictors of children’s and adolescents’ happiness have been studied less.

In their review of the literature on youth life satisfaction, Proctor et al. (2009) point out that recently youth happiness and life satisfaction has received increased attention. According to Greene (1990) identifying predictors of happiness in children can help parents, researchers, governments and people who work with children to promote children’s happiness and enhance their well-being in life. In their review of the literature, Proctor et al. (2009) highlight the benefits of happiness and life satisfaction among children and adolescents as they can buffer against the negative effects of stress.

## 2 Correlates with Happiness

### 2.1 Demographic Factors and Happiness

Comparable to findings from studies on adults, most studies show that a greater number of children and adolescents are happy than unhappy (Proctor et al. 2009). Research findings also show that happiness tends to decline slightly with the onset and progression of adolescence (Huebner et al. 2004; Park 2005). Proctor et al. (2009) demonstrated in their

review that predictors of happiness among adolescents do not differ that much from the adult population even though social comparison and social desirability may be of more importance for adolescents than adults.

Mahon et al. (2005) found no gender difference in happiness between 14 and 18 years old boys and girls. That is in line with results from the adult population where small or no relationship has been found between gender and happiness both in Iceland (Gudmundsdottir 2007, 2013) as well as in other countries (Diener 1999).

When parents split up or divorce it may affect their children's happiness and well-being. Amato (2000) studied how parental divorce affects their children and found that the consequences of parental divorce depend on parental marital conflict prior to divorce. In high-conflict families, children have higher levels of well-being as young adults if their parents divorced than if they stayed together. On the contrary, in low-conflict families, children have higher levels of well-being if their parents stay together than if they divorce. In marriages that do not end in divorce, parental marital conflict is negatively associated with the well-being of the children.

Chen (2012) found that educational level is associated with happiness. Individuals who received more education had more extensive social connections as well as greater involvement with the wider world than less educated individuals; these life circumstances are positively related with happiness. By enhancing one's ability and propensity to connect with the wider social world, education may improve individual's happiness. The level of parents' education has also been shown to have impact on how well off their children are.

## 2.2 Social Relationships and Happiness

Social relationships have been found to be the strongest predictors of happiness (e.g. (Diener et al. 1999; Gudmundsdottir 2013). In their study on students who reported high levels of happiness, Diener and Seligman (2002) found that they were more social and had stronger social relationships, compared to students with lower levels of happiness. A study by Csikszentmihalyi and Hunter (2003) demonstrated that people are happiest when with friends. Several studies support a relation between happiness and friendship, closeness and social support (e.g., see (Lyubomirsky et al. 2005) for a review). Findings from other studies have also shown that social support is highly correlated with positive feelings associated with life enjoyment and can serve as a buffer for the negative consequences of stress (Argyle 2001; Cohen and Wills 1985; Reis 1984, 2001).

In recent years, the relationships between economic factors and happiness has been thoroughly studied (e.g. (Diener and Seligman 2004; Dolan et al. 2008). For adolescents, quantitative household income is not nearly as important for the level of happiness as their family structure, age, health status and parental well-being (Burton and Phipps 2011).

Population based studies on Icelandic adolescents, have demonstrated that children's relationship with their parents and family, time spent with parents and intimacy between adolescents and parents is of great importance for their development. Adolescents who are strongly integrated into their families are, for example, less likely to succumb to anomie and suicidality (Thorlindsson and Bjarnason 1998), less likely to be involved in risk behaviours (Sigfúsdóttir et al. 2009) and more likely to do better academically (Kristjansson and Sigfusdottir 2009). Spending time with parents and family shows many positive influences on the adolescents' life. In this study, it will be tested how time and support from parents are associated with adolescents' happiness.

## 2.3 Economic Crisis and Happiness

Economic crisis are often seen as a threat to happiness. The World Health Organisation (WHO) has warned that there is a risk for increase in stress, suicides and mental disorders due to economic crises and those who suffer must be the poor and vulnerable. Some evidence from past economic crises suggests that women and children may be vulnerable groups in times of crisis (WHO 2009).

In their analysis on the impact of crisis on mental well-being, Veenhoven and Hagenaars (1989) found neither a decrease in happiness nor increase in mental disorders in the OECD countries although suicide rates increased slightly. Additional analysis confirmed that for a small minority, happiness dropped significantly and did not recover entirely. 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 well-being (Petersen 1989; 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 thoughts, financial difficulties and insufficient social support were associated with mental disorders during the crises. In addition, a clear association between economic difficulties and common mental disorders has been reported (Viinamäki et al. 2000, 1995).

Results from studies around the world on the impact of the economic crises on mental health do not all point in the same direction. In Greece and Spain suicide rates have risen (Stuckler et al. 2011). Studies from Hong Kong and Canada have indicated an increase in depression while no such increase was found in Australia (Lee et al. 2010; Shi et al. 2011; Wang et al. 2010). In Iceland, an increase in stress level and depressive symptoms has been detected among women following the crises (Hauksdóttir et al. 2013; McClure et al. submitted manuscript). A small decrease was also detected in the mean happiness score among adults (Gudmundsdottir 2013).

Majority of the studies on the impact of crises on mental health have focused on mental disorders rather than mental well-being and happiness. Nevertheless, happiness was included in studies from the 1980s (Veenhoven and Hagenaars 1989) and there are some reports on positive mental health from Britain demonstrating that despite a difficult economic period, Britons continue to rate their lives as positive in 2009 and 2010 as they did in 2005 (Crabtree 2010; English 2009). A higher portion of Britons reported stress in 2009 than the year before but this fell back again in 2010. Even though confidence in the nation's economy and financial institutions dropped during the recession, both in Britain and Iceland, their personal happiness and well-being appeared to be less affected (Crabtree 2010; English 2009; Gudmundsdottir 2013).

Keeping in mind, that both the field of adolescents' happiness studies as well as the economic crisis and happiness are young research fields, it may not come to a surprise that there are not many studies on the impact of economic crisis on adolescent's happiness. Earlier studies on economic crisis and adolescents focus often on small minority groups that do not represent the adolescent population where the focus is on disorders rather than happiness (Conger et al. 1994; Stein et al. 2011). It can be argued that the concept of body image is related to wellbeing since it reflects how satisfied one is with its body. Studies on the trend in body image in the adolescents population in Iceland before and after the crisis demonstrate significant improvement in body image from 1997 to 2010 (Asgeirsdottir et al. 2012; Ingolfssdottir et al. 2014).

In their analysis on the impact of the economic crises on mental health, Wahlbeck and McDaid (2012) focus not only on the negative impact the crisis may have but also on the protective factors that may increase in times of crisis. They argue that less economic activities may strengthen social networking in general and that fewer hours spent at work may lead to increase in the amount of time that parents and children spend together.

Therefore, it is of great importance to take these factors into account when evaluating the impact of crisis on happiness and well-being. This could be done by exploring if there are any changes in the amount of time children spend with their parents before and after the crisis, hence, to find out if strong happiness predictors like good social relationships can serve as protective factors in times of crisis.

## 2.4 Collapse of the Banking System in Iceland

Throughout the 1990s and early 2000s, the government in Iceland adopted policy that aimed at privatization and deregulation. New elite with political and financial power was generated as a result of the privatization of Iceland's banking sector. The banking sector grew rapidly, boosted by borrowed money. Icelanders could access credit easily, housing prices escalated and consumption scaled. Following the privatization of the banking sector, Iceland moved from relying mostly on fishing industry toward having an economy based on financial services and investment banking. It was quickly becoming one of the most prosperous countries in the world (No. 1 in the United Nations' 2008 Human Development Index) but was hit hard by a major financial crisis in October 2008 when all the major banks in Iceland collapsed, followed by a period of economic and political chaos. Savings from 50,000 people were wiped out, plunging Icelanders into debt and putting 25 % of homeowners into mortgage default. Iceland's financial failure forced its government to resign, and caused citizens to re-evaluate the merits of extravagant spending, borrowing, consuming and gambling (Boyes 2009).

After the collapse of the banks, Iceland became one of the OECD member countries that went into recession with negative growth in Gross Domestic Products (GDP) and after the currency lost more than half of its value, the International Monetary Fund (IMF) stepped in. From November 2007 to November 2009, unemployment rates rose from 1 to 8 %, the GDP dropped 8 % during this period and the national currency (Icelandic krona) lost more than half of its value. Additionally, average working hours per week, among those who were still working, age 25–74, declined from around 43 in 2003 to 41 in the end of 2010 (Iceland 2007, 2008, 2009, 2010).

As a response to the situation in Iceland, a National Assembly was held in June 2009 where 1500 people, randomly selected from the national registry, participated in a discussion to create a vision for the future of the nation. The National Assembly concluded that one of the most important themes for the future was the family and that the Icelandic nation should aim for a community that recognizes that the family is the cornerstone of the society where one of the indicators was flexible and balanced working hours (Thjodfundur 2009).

## 2.5 The Welfare System and Happiness in Iceland

Iceland has been classified as a social-democratic welfare state, where the emphasis is on governmental responsibility for the welfare of citizens. The government aims at strengthening families and fostering greater individual independence, and therefore, minimising the role of the traditional family in providing welfare. At the same time, the

state minimises the role that the market plays in providing these services for citizens. The welfare system is universal where everyone has access to health care services and education and at the same time special programmes exist to protect the most vulnerable groups of the population, such as children, the elderly and single parents (Esping-Andersen 2002). The Icelandic government provides education for all citizens until the completion of a university degree (Iceland 2010).

The government that took over after the collapse of the banking system was named the welfare regime since their main goal was to protect the welfare system in Iceland through the crisis. Iceland 2020 was a governmental policy statement, for an efficient economy and society, which was developed under the lead of the Prime Minister's office (PMO), through dialogue and collaboration between hundreds of Icelanders throughout the country and in consultation with regional associations, local authorities, trade unions and economic interest groups. One of the goals was that Iceland aims to become a dynamic society capable of protecting its welfare in a manner that is sustainable and serves all members of the community. Special emphasis was on groups risking long-term unemployment in the wake of the financial crisis and on strengthening social participation and the active inclusion of all. More specific goals were also made, like to achieve greater income equality in Iceland, reduce the percentage of people with disability and increase well-being for every Icelander by 2020 (PMO 2011).

Icelanders are in general, happier with their living standards and situation in life than most countries in the world and groups that are socioeconomically disadvantaged are more satisfied in Iceland than in more than a dozen advanced, industrialized nations (Olafsson 1999).

A comparison on happiness data from the European Social Survey gathered in 2003 in 33 European countries, demonstrated that Icelanders, age 15–89 years old had the highest mean happiness score with over eighty per cent of the respondents describing themselves as very happy. In this study, gender, age and education did not have significant impact on happiness in Iceland and income had a little impact when other factors were taken into account, while marital status, social relationships and health had a strong impact (Gudmundsdottir 2007). In another study on the impact of the economic crisis on happiness in Iceland, Gudmundsdottir (2013) found that income still had little impact on happiness while financial difficulties had stronger negative impact on happiness and social relationships had the strongest positive impact on happiness.

## 2.6 Aim

The aim of the current study was to explore how the economic crisis in Iceland affected adolescents' happiness by

1. Exploring secular trends in happiness in the 14 and 15 year old population, overall and in socio-demographic subgroups, in 2000, 2006, 2009 and 2010.
2. Investigating the association between socio-demographic factors, and adolescents' happiness in Iceland before and after the collapse of the banks to find out how much of the happiness variance the socio-demographic factors explain at every time point and if that changes over time.

According to the literature, it is predicted that the economic crises should have led to decrease in happiness among adolescents in Iceland. It is also hypothesised that protective factors like good social relationships may buffer potential negative effects of economic

crises on happiness, therefore, changes in social relationships between adolescents and parents will be analysed.

### 3 Methods

#### 3.1 Data and Participants

The data used in the study comes from national surveys of Icelandic adolescents; *Youth in Iceland*, previously described by Sigfúsdóttir et al. (2009). The sample is retrieved from four repeated cross-sectional, national population-based surveys of Icelandic adolescents age 14 and 15 years old. The participants in the study were students in all 9th and 10th grades in the years 2000, 2006, 2009 and 2010 that were present in class during the days of data collection. Anonymous questionnaires were distributed to students in sealed envelopes by teachers and research assistants. The number of the total population of 14 and 15 year old adolescents in Iceland was as follows: 7702 in year 2000, 9128 in year 2006, 8999 in year 2009, and 8404 in year 2010. The whole population in these 4 years were in total 34.233 of whom 28.484 (84 %) responded to the questionnaires.

#### 3.2 Measures

*Happiness* was measured with the question: “How well does the following statement “I’m happy” apply to you?” The response range was from 1 to 4 (1 = describes me very well, 2 = describes me quite well, 3 = does not describe me well enough, 4 = does not describe me at all). For evaluating the prevalence of happiness, categories 1 and 2 were used. For the linear regression analysis all responses (1–4) were used.

##### 3.2.1 Age

School year was used as a proxy for age; Year 9 indicates 14 years old and year 10 indicates 15 years old.

##### 3.2.2 Family Structure

To evaluate the effects of different family structure, the following question was used: “With whom do you live with?” Answers were (0 = Not with both of my parents and 1 = With both of my parents).

*Parental education* was combined by responses to the following questions: “What is your mother’s education?” and “What is your father’s education?” were responses for each were 0 = basic, 1 = middle, 2 = high (university) which made the combined parent’s education on a scale from 0 to 4 with 0 indicating both parents with basic education and 4 indicating both with university degree.

##### 3.2.3 Time Spent with Parents

Respondents were asked how often they spent time with their parents during weekends. Answers ranged from (1 = almost never, 2 = seldom, 3 = sometimes, 4 = often, 5 = almost always).

### 3.2.4 Emotional Support from Parents

Regarding received emotional support, respondents were asked: “How easy or difficult is it for you to get emotional support from your parents?” Answers ranged from (1 = very difficult, 2 = rather difficult, 3 = rather easy, to 4 = very easy).

## 3.3 Statistical Analyses

Standard frequencies for all variables were calculated describing the sample with respect to age and gender. To analyse trends in happiness over time, prevalence of happiness at each time tested was calculated for the whole population as well as within strata of different socio-demographic factors. Trends in happiness were explored within each strata with Chi Square and then changes within each strata was compared with each other to find out if the changes in happiness over time differed between groups. Changes in time spent with parents were also analysed to see if the crisis had any impact on strengthening social relationships.

To investigate the association between socio-demographic factors and happiness a series of multivariate linear regressions were conducted. The dependent variable, happiness, was used here with all four categories. There is a strong tradition for using linear regression in happiness studies and like in earlier studies on the subject, the dependent variable was skewed and was kept like that (Helliwell et al. 2013; Myers and Diener 1996). Since the number of participants are high enough here, this is considered acceptable (Tabachnick and Fidell 2001).

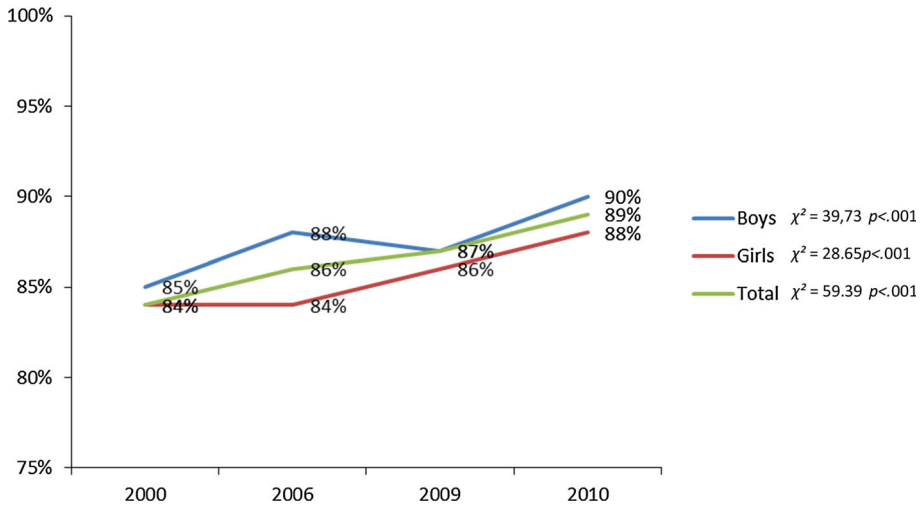
First, we tested zero order effects of all independent variables by running each of them exclusively in corresponding number of regression models. Then all the independent variables were entered simultaneously (entry method) for all years tested (2000, 2006, 2009 and 2010). Third, we entered independent variables to two regression models in blocks; first with year of survey, gender, parents' education and family structure (model 1) and then adding time with parents and emotional support from parents (model 2). Additionally, four multivariate linear regressions were made for each year tested where all independent variables were entered simultaneously.

The first regression model included all four surveys with year of testing as one of the predictors together with the socio-demographic factors. Then four multivariate linear regressions were conducted (one for each survey) to explore the strength of the association between the socio-demographic factors and happiness at each time point and to find out how much of the happiness variance the selected predictors accounted for.

## 4 Results

The number of participants and response rate of the total population of 14 and 15 year old adolescents in Iceland was as follows: 6346 (82.4 %) in year 2000, 7430 (81.4 %) in year 2006, 7514 (83.5 %) in year 2009, and 7194 (85.6 %) in year 2010. Altogether, a total of 28.484 (83.2 %) answered the questionnaires.





**Fig. 1** Percentages of Icelandic adolescents reporting that they are happy in 2000, 2006, 2009 and 2010

#### 4.1 Trends in Happiness

Figure 1 demonstrates the prevalence of happiness in 2000, 2006, 2009 and 2010, both total and gender specific prevalence. There was a 5 % increase detected in happiness among the adolescents from 2000 to 2010. In 2000, 84 % of the adolescents defined themselves happy, 86 % in 2006, 87 % in 2009 and 89 % in 2010. There was a 5 % increase among boys (85–90 %) and 4 % among girls (84–88 %). The increase in happiness was significant for the total group ( $\chi^2 = 59.39, p < .001$ ) as well as for both boys ( $\chi^2 = 39.73, p < .001$ ) and girls ( $\chi^2 = 28.65, p < .001$ ).

Further information on the happiness trend from 2000 to 2010 can be found in Table 1, which indicates prevalence of happiness among Icelandic adolescent by socio-demographic factors in 2000, 2006, 2009 and 2010. The prevalence of those who defined themselves happy within each demographic group is demonstrated in Table 1.

As can be seen in Table 1, there is an increase in happiness from 2000 to 2010 within most of the subgroups. A significant increase in happiness was detected both among 14 and 15 years old adolescents. There is a significant increase both among those who were living with both parents as well as those who were not. When analyzing the trend in happiness by parents' education, the change in happiness over the years among those who had both parents with basic education is not significant while there is a significant increase in happiness among those who had parents with higher education.

A significant *decrease* in happiness was detected among those who almost never spent time with their parents on weekends (74–66 %,  $\chi^2 = 8.98, p < .05$ ) while there was a significant *increase* among those who spent often (89–92 %,  $\chi^2 = 13.06, p < .01$ ) or almost always (87–91 %,  $\chi^2 = 8.25, p < .05$ ) time with their parents on weekends.

When comparing changes in happiness by levels of emotional support from parents, a significant *increase* in happiness was only detected among those who found it very easy to get emotional support from their parents (91–93 %,  $\chi^2 = 20.00, p < .001$ ). The changes in happiness for those who found it very difficult to get emotional support from their parents went up and down between these time points, (36 % in 2000, 50 % in 2006, 63 % in 2009

**Table 1** Prevalence of happiness among Icelandic adolescents by socio-demographic factors in 2000, 2006, 2009 and 2010

	2000 (N = 6346)	2006 (N = 7430)	2009 (N = 7514)	2010 (N = 7194)	$\chi^2$	<i>p</i>
Total happy						
Gender	84 %	86 %	87 %	89 %	59.39	<.001
Boys	85 %	88 %	87 %	90 %	39.73	<.001
Girls	84 %	84 %	86 %	88 %	28.65	<.001
Age						
Year 9 (14 years old)	85 %	88 %	88 %	90 %	30.57	<.001
Year 10 (15 years old)	83 %	84 %	86 %	88 %	32.64	<.001
Parents' education						
Basic	83 %	82 %	84 %	86 %	3.07	=.381
Middle	85 %	87 %	88 %	89 %	23.89	<.001
University	87 %	90 %	90 %	92 %	11.04	<.05
Family structure						
Not living with both parents	80 %	81 %	81 %	84 %	11.55	<.01
Living with both parents	86 %	88 %	89 %	91 %	66.50	<.001
Time spent with parents						
Almost never	74 %	73 %	70 %	66 %	8.98	<.05
Seldom	80 %	83 %	80 %	84 %	6.35	=.096
Sometimes	86 %	88 %	88 %	88 %	6.48	=.091
Often	89 %	91 %	92 %	92 %	13.06	<.01
Almost Always	87 %	88 %	89 %	91 %	8.25	<.05
Emotional support from parents						
Very difficult to get	36 %	50 %	63 %	46 %	15.20	<.01
Rather difficult to get	58 %	53 %	47 %	57 %	9.60	<.05
Rather easy to get	82 %	79 %	78 %	82 %	12.98	<.01
Very easy to get	91 %	92 %	92 %	93 %	20.00	<.001

and 46 % in 2010, (91–93 %,  $\chi^2 = 15.2$ ,  $p < .01$ ) indicating a decrease from 2006 to 2010 and from 2009 to 2010.

As can be seen in Table 1, the majority of adolescents in Iceland defined themselves happy within all subgroups at each time point except among those who found it very difficult to get emotional support from their parents. The subgroup who reported highest prevalence of happiness at every time point was the group who found it very easy to get emotional support from parents (91–93 %). The subgroup who reported the lowest prevalence of happiness at every time point was the group who found it very or rather difficult to get emotional support from parents (36–50 %).

Additional analysis on changes in the amount of time the adolescents spent with their parents on weekends demonstrated a significant increase in the prevalence of those who spent often or almost always time with their parents on weekends from 37 % for both 2000 and 2006 to 45 % in 2009 and 55 % in 2010 ( $\chi^2 = 682.13$ ,  $p < .001$ ).

In Table 2, the results of the multivariate linear regression with all predictors of happiness from all four surveys together are presented. The multivariate analyses showed that

**Table 2** Multivariate linear regression analyses testing the association between socio-demographic factors and happiness in 2000, 2006, 2009 and 2010

	Zero order effects		Model 1		Model 2	
	B*	SE	B*	SE	B*	SE
Constant			-18.13	1.96	-7.38**	1.88
Year of survey	0.01**	0.00	0.01**	0.00	0.01**	0.00
Gender	-0.02***	0.01	-0.03***	0.01	-0.07**	0.01
Age	-0.07**	0.01	-0.08**	0.01	-0.06**	0.01
Parents education	0.07**	0.00	0.05**	0.00	0.02**	0.00
Family Structure	0.20**	0.01	0.18**	0.01	0.12**	0.01
Time with parents	0.12**	0.00			0.06**	0.00
Emotional support from parents	0.41**	0.00			0.37**	0.01

\* Unstandardized B, \*\*  $p < 0.001$  \*\*\*  $p < 0.05$ ;  $R^2$  for model 1 = .026; and  $R^2$  for model 2 = .129

the overall increase in reported happiness over time was significant ( $B = 0.01$   $p < .05$ ). The coefficient for gender is significant ( $B = -0.06$ ,  $p < .01$ ). The small difference between ages is significant, where the younger ones are slightly happier. Those living with both parents are happier, those who have better educated parents as well as those who spent more time with their parents and those who found it easy to get emotional support from their parents. The whole model explains 12.9 % of the happiness variance. The first model including year of survey, gender, age, parents education and family structure explains 2.6 % of the happiness variance which means that time with parents and emotional support from parents adds 10.3 % to the variance explained.

In Table 3 the results from the multivariate linear regression analyses is presented for each time point separately. The results at any time point is mostly in line with each other and the results from all time points together presented in Table 2, with the exception that

**Table 3** Multivariate linear regression analyses testing the association between socio-demographic factors and happiness in 2000, 2006, 2009 and 2010

	2000		2006		2009		2010	
	B*	SE	B*	SE	B*	SE	B*	SE
Constant	1.83**	0.08	1.81**	0.08	1.80**	0.08	1.94**	0.08
Gender	-0.07	0.02	-0.07**	0.02	-0.03	0.02	-0.07**	0.02
Age	-0.05	0.02	-0.09**	0.02	-0.02	0.02	-0.08**	0.02
Parents education	0.01	0.01	0.04**	0.01	0.03**	0.01	0.03**	0.01
Family structure	0.12**	0.03	0.10**	0.02	0.12**	0.02	0.13**	0.02
Time with parents	0.05**	0.01	0.05**	0.01	0.06**	0.01	0.06**	0.01
Perceived emotional support from parents	0.39**	0.02	0.40**	0.02	0.36**	0.02	0.37**	0.02

\* Unstandardized B, \*\*  $P < .001$   $R^2$  for 2000 = .133;  $R^2$  for 2006 = .131;  $R^2$  for 2009 = .107;  $R^2$  for 2010 = .124

the difference in happiness by gender is significant in 2006 and 2010 but in 2006 and in 2009 there is neither a difference by gender nor age and there is not a significant difference in happiness by different level of parent's education in the year 2000. The whole model in 2000 describes 13.3 % of the distribution of variance in happiness, 13.1 % in 2006, 10.7 % in 2009 and 12.4 % in 2010.

## 5 Discussion

The present study assessed how the economic crisis affected happiness among Icelandic adolescents by exploring the trends in happiness prevalence and analysing the association between socio-demographic factors and happiness in the Icelandic adolescent population at four time points, before and after the 2008 collapse of the Icelandic banking system.

Our results demonstrate that over eighty percent of Icelandic adolescents described themselves happy at every time point. This proportion has increased by five percent from 2000 to 2010 despite the economic crisis in Iceland. The fact that the majority of the adolescents defined themselves happy are in line with findings from studies on adults' happiness in Iceland (Gudmundsdottir 2007, 2013) However, unlike the trend among adults' happiness in Iceland, where a small decrease in happiness was detected between 2007 and 2009 (Gudmundsdottir 2013), happiness among adolescents did increase from 2000 to 2010 despite the crisis. This may support Bentham's definition of happiness as the sum of pleasure and pain (Bentham 1789/1996) and that there was a bigger portion of pleasure than pain in the adolescents' equation during this period of economic crisis.

These results of increased happiness among adolescents during a period of economic crisis in Iceland are not fully in line with findings about negative impact of economic crises on mental well-being in Finland (Viinamäki et al. 2000, 1995) nor on women in Iceland (Hauksdóttir et al. 2013). Additionally, it does not harmonise with reports from WHO (2009), based on experiences from the economic crises in the past, suggesting that children may be especially vulnerable in times of crises. The results are more in line with results from Veenhoven and Hagenaars (1989) where neither a decrease in happiness nor increase in mental disorders were found during economic crises, and with findings from Britain where the economic crisis did not strongly affect personal well-being (Crabtree 2010; English 2009). The results also harmonise with findings from studies on trends in body image among Icelandic adolescents during the same time period which demonstrated significant improvement in satisfaction with own body from 1997 to 2010 (Asgeirsdottir et al. 2012; Ingolfssdottir et al. 2014).

When exploring the happiness trend over time in more detail, the increase in happiness was detected among all groups except those with parents who had only basic education, who almost never spent time with their parents and those who found it difficult to get emotional support from their parents. Not only is there a lack of increase in happiness among those who almost never spent time with their parents and found it difficult to get emotional support from their parents, but on the contrary, there was a *decrease* in happiness from 2000 to 2010.

To find out if the crisis might have increased social bonds between parents and their children as Wahlbeck and McDaid (2012) assumed, the time adolescents spent with their parents were analysed. In 2000 and 2006 the same percentage of adolescents, 37 % reported that they often or almost always spent time with their parents on weekends but this increased to 45 % in 2009 and further to 55 % in 2010 which support this assumption.

The happiest group at every time point was those who found it very easy to get emotional support from their parents and the least happy group was those who found it difficult to get emotional support from parents. Over 90 % of those who found it very easy to get emotional support from parents were happy at every time point whereas, only 36 % of those who found it very difficult to get emotional support from parents were happy in year 2000.

The fact that those who “almost always” spent time with their parents was not stronger than “often” may indicate that those who almost always spent time with their parents might have lacked good friends and since friends are so important during adolescence (Davis-Kean 2005), this might reduce their happiness a little, even though they had good relations with their parents.

Results from the multivariate linear regression analysis on the relationship between socio-demographic factors and happiness demonstrate that perceived emotional support from parents had the strongest relation with happiness, followed by time spent with parents. Altogether gender, age, family structure and parents education explained 2.6 % of the happiness variance while time spent with parents and perceived emotional support from parents added 10.3 % to the explained variance, so altogether these variables explained about thirteen percent of the happiness variance. These results are in harmony with previous studies on the relationship between socio-demographic factors and happiness, both in Iceland as well as in other countries (Diener et al. 1999; Dolan et al. 2008; Gudmundsdottir 2007, 2013). Like for the adult population in Iceland (Gudmundsdottir 2013), no gender difference in happiness was detected among the adolescents in 2000 and 2009 which is in line with results from Mahon et al. (2005) who found no gender difference among adolescents.

The fact that the majority of Icelandic adolescents did have good emotional relationships with parents and that their time spent with parents increased throughout the period, might have served as a protective factor or a buffer for the negative impact of the crises. As mentioned before, this is in line with the conclusion from Wahlbeck and McDaid (2012) that crises may have positive impact related to more time spent with children, family and friends. Additionally, if a decrease in parents' working hours leads to more time spent with their children, it might end of being beneficial for the society. Not only does that increase the quality of their children's lives but reduce as well, the cost of treatment or therapy related to unhappiness.

It is of importance to take into account the social environment of this study. Iceland is a small welfare state which aims at strengthening families and the society where everyone has access to health care services and education and at the same time there are special programmes to protect the most vulnerable groups such as children and single parents (Esping-Andersen 2002; Iceland 2010). Furthermore, the main goal of the government that took over after the collapse of the banks was to protect the welfare system in a way that serves all members of the community with special emphasis on vulnerable groups. More specific goals were also made and one of them was to increase well-being for every Icelander by 2020 (PMO 2011). Results from this study demonstrate an increase in happiness among 14 and 15 year old adolescents over time. Nevertheless, a small vulnerable group of those that did not have good emotional relationships with their parents and spent almost no time with their parents had a decrease in happiness over time. These results may support the idea that social relationships might be a buffer for the negative consequences of stress during crises (Argyle 2001; Cohen and Wills 1985; Reis 1984, 2001).

The strength of this study is that the data includes almost the whole population or 84 % of Icelandic adolescents age 14 and 15 years old at four different time points. This gives quite good accuracy in making conclusions for 14 and 15 years Icelandic adolescents. The weakness is that we do not have any information on those 16 % who did not show up in

school on the day of the survey. It is possible that the happiness rate among those 16 % is different. Therefore, it would be interesting to try getting answers from those who did not show up in school at that specific day. The strength of several cross sectional data gathered over time compared to longitudinal data is that the error due to measuring the same individuals is lower but the weakness is that it is only possible to observe trends but not changes within individuals as can be done with longitudinal data.

## 6 Conclusion and Future Suggestions

Good social relations are strongly associated with happiness, and may be protective in reducing the negative impact of adversity, like economic crises. The good news from this study is that the majority of Icelandic adolescents seem to belong to the resilient group with good social relationships with their parents. The bad news is that there is a small vulnerable group of adolescents who do not have good relations with their parents and this is associated with less happiness and less resilience when faced with adversity. Additionally, they are more vulnerable and do not get the protection from the negative impact of crisis, resulting in their happiness being at risk for declining even further.

It would be interesting to study further the relationship between working hours of parents and the amount of time they spend with their children. Policy makers may be able to build on these results and emphasise the importance of looking at the whole picture. It is of great importance to create a society where it is possible for parents to be able to give their children both time and emotional support. For the most vulnerable group that does not have good relations with parents, it is of importance that the system can provide them support and understanding as well as good evidence based, universal approaches, for example in schools, which promotes happiness and wellbeing of all adolescents.

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