Bremen, 24th of August 2012

DEVELOPING A MEASUREMENT FOR HAPPINESS ON CITY LEVEL

University of Applied Sciences Bremen

Faculty 1

School of International Business (SIB)

Course: Economic Research Methods

Lecturer: Prof. Dr. Schmidt

Authors:

… (erased section) …

Table of content

List of figures

List of abbreviations

BHI	Bremen Happiness Index
BLI	Better Life Index
CS	City Structure
e.g.	exempli gratia (=for example)
GDP	Gross domestic product
GNH	Gross National Happiness
HPI	Happy Planet Index
i.a.	inter alia
i.e.	id est (=that is)
LC	Living Conditions
LTF	Leisure Time Facilities
NGO	Non-governmental organization
OECD	Organization for Economic Co-Operation and Development
OHI	Oxford Happiness Inventory
OHQ	Oxford Happiness Questionnaire
p.	Page
SC	Study Conditions
SL	Social Life
WC	Working Conditions

1 Introduction

We all live with the objective of being happy;

our lives are all different and yet the same. - Anne Frank

Thinking about the number of cities in Germany – that is the impressing figure of 12.244 (Press 1 2012) – some of you would probably ask what makes people stay in one or another city. For sure, there must be some factors that affect the attractiveness of a city from the point of view of its actual and potential inhabitants. That is the main question the effective City Marketing politics should be dealing with in order to create a satisfied living community. The city Bremen is not an exception since the City Marketing has a task to attract more people from the suburbs to move to Bremen. To be exact especially the group of people between 20 and 30 years old is meant because it can probably change and influence the future of the city. In this context, the research team has been instructed in order to support the City Marketing Bremen.

The team has been thinking about the attractiveness of the city for people and came to the decision that it would be reasonable to find out if people between 20 and 30 years old are happy about living in Bremen. This idea was formulated as the core research question of the investigation. Moreover if the target group is happy, what are the main drivers of the happiness and how could the happiness be improved? These questions were defined as additional sub-questions for our research. By knowing the level of citizens´ happiness and influencing factors the City Marketing would be able to work on the problems/weak points and in that way improve the image of the city. From the point of view of the research team it would be very helpful to make Bremen more attractive for its citizens and potential new-comers.

Based on the research questions some research objectives were defined. First of all, the state of people´s (between 20 and 30 years old) happiness in Bremen has to be identified. Secondly, the main drivers for the happiness have to be found out. Thirdly, some weak aspects and possible actions to improve the level of the happiness need to be figured out. The difficulty of the research arises from the fact that there are no comparable scientific studies on this topic at the city´s level at all. The problem is explained deeper in the chapter Literature review. Here the definition of the happiness is described and current approaches to the happiness measurement are discussed.

Particularly for Bremen no research method for the happiness measurement exists. Therefore no other scientific data could be used for this study. For this reason the research team faced up to a challenge to develop the measurement of citizens´ happiness on the city´s level, in this case on Bremen´s level. In that sense, the research described in this paper is a unique approach which is applied for the first time.

To answer the research questions a clear research strategy was formed. All stages of the strategy are described in the chapter Methodology. Here the research steps starting with the development of a questionnaire to gather data supposing the main influencing variables and formulating of hypotheses are presented in detail. After carrying out statistical tests, p-values could be observed. Further on unimportant values were eliminated and influencing values were used to compose a regression model, the Bremen Happiness Index (BHI).

The last chapter involves the interpretation of the test due to the rejection or acceptance of the built hypotheses. In addition, the answers to the research questions are presented and the fulfillment of the research objectives is controlled. Based on these results some recommendations for the City Marketing Bremen are derived. Not to forget are at the end some critical points to the study as well as its positive aspects.

2 Literature review

The basis for a research is always a literature review with the aim to identify the knowledge that is already available on the topic and to gain inside into the topic (Dawidowicz 2012, p.3). In this case, definitions of the term happiness and the state of the art regarding researches on this topic will be given.

2.1 Definitions of happiness

First of all it needs to be clarified what is meant by “happiness”. Happiness can be defined as: 1) good fortune (prosperity) and 2) *A*: a state of well-being and contentment (joy) and *B*: a pleasurable or satisfying experience (Merriam-Webster 2012). In fact, everyone knows what happiness is, but the problem comes up with the search for a universal definition. Here multiple dilemmas have to be dealt with and it is difficult to establish its essential content. The authors of this study think that the best way to understand this concept is to review some previous definitions given by the greatest minds in history. Here are some of them:

According to Aristotle (century IV BC) happiness is the highest aspiration for all human beings. It is a kind of life based on constant activity of good habits and practical wisdom. This is what sets humans apart from animals: reason. Likewise, there is the original Greek term which etymologically means *Eudaimonia*: *eu* ("good") and *daimon* (god, spirit, demon). This concept includes the notion of fortune, in other words, to be lucky. In this sense, happiness is considered as a state of being pleased with one’s life (Kraut 2012).

The English philosopher Thomas Hobbes (17th century) holds a different view of happiness. He defines the term felicity i.e. happiness in his famous book Leviathan (1651) as the “continual success in obtaining those things which a man from time to time desires, that is to say, continual prospering.” Hobbes rejects the view that perfect happiness could be a calm or tranquil state (happiness = motion) (Hobbes 2008).

In Buddhism happiness is the most significant concept to explain its philosophy. Buddhists support the idea that happiness is a mental factor. They say that we are what we think which means that dominated mind leads to happiness or, in other words, to achieve a happy life and wisdom it is essential to be aware of ourselves. In eastern cultures happiness is conceived as a result from a state of inner harmony that shows a feeling of well-being which lasts over time. This opposes generally to the western view of happiness which is usually related to a temporary mood of well-being (Berzin 2010).

2.2 State of the art

When doing a research it is important to know what the state of the art is, meaning was has already been done in this field. For the topic of this study, the happiness, a list of investigations exists. At this point, the idea of the Easterlin Paradox and some indices will be explained.

2.2.1 Easterlin Paradox

In 1974 Richard Easterlin, an economist considered the founder of happiness studies, examined the relationship between income and happiness, working with U.S. series from 1946 to1974. The data showed no definite trend. The values changed slightly, but not in a definite direction. Easterlin defended that there is no link between a society's economic development and the average level of happiness. Rising income levels initially generates more satisfaction or perception of happiness, but when people meet basic needs the impact of gross domestic product (GDP) on the level of happiness is reduced significantly (but not completely). This phenomenon is called the Easterlin Paradox (Easterlin 1974, and all subsequent literature based on the Easterlin Paradox).

This unexpected result led to a growing interest of economists and non-economists in this issue since his findings challenged the assumption of economists and politicians that populations got happier as national wealth increased. Although there used to be consensus in reference to the small role of economic growth over the long term happiness and the relative influence of income (Easterlin 1974, and all subsequent literature based on the Easterlin Paradox), Stevenson and Wolfers (2008) reopened the debate when they found certain empirical evidences in the opposite direction. It is important to mention that although they found a positive relationship between the average income of a country and the level of happiness, this relationship was rather weak in the case of U.S. and some European countries. The article by Stevenson and Wolfers generated much discussion and had a great impact on the press. The main critique to this article argues that the positive results found by the two authors are due to the use of short-term data and the fact that it focuses on countries in transition processes that reflect a very particular situation of fall and recovery of their GDP (Easterlin, Angelescu McVey, Switek, Sawangfa and Smith Zweig 2010).

The results obtained in this research about happiness in Bremen resemble those founds by Easterlin. It is also noticed that there is no significant relationship between average income and happiness of citizens. However the Easterlin's study is based on macro comparison (between countries) and this research is made on a small scale, based on the city of Bremen.

2.2.2 Oxford Happiness Questionnaire

The Oxford Happiness Questionnaire (OHQ) was developed by psychologists Michael Argyle and Peter Hills at Oxford University in 2001. It enhances the Oxford Happiness Inventory (OHI), created by Argyle, Martin and Crossland in 1989 which was conceived as a broad measure of personal happiness, mainly for in-house use in the Department of Experimental Psychology of the University of Oxford. The OHI is a measure of well-being constructed from 29 multiple choice items. It followed the design of the Beck Depression Inventory which was developed by Beck, Ward, Mendelson, Hock and Erbaugh in 1961 (Hills & Argyle 2001).

The OHQ is a more succinct instrument which consists of a self-report questionnaire that contains similar items as the OHI but formulated in single statements about happiness. It uses a uniform six-point Likert scale which comprises roughly equal numbers of positive and negative items that can be intermingled with other items in the construction of personality questionnaires. Examples of some items included in the OHI are: *"I am not particularly optimistic about the future", "I laugh a lot", "I feel that I am not especially in control of my life"* or *"I feel I have a great deal of energy"*. The sum of the item scores is an overall measure of happiness, with high scores indicating greater happiness.

A series of tests between OHQ and OHI revealed both measures demonstrated high scale and item reliabilities. Moreover there is an inter-item correlation showed that the multiple-choice items of the OHI can be replaced with the more compact single choice items of the OHQ without detriment. Finally, a short-form version of the OHQ was created for use when time and space is limited using discriminatory analysis of the full scale (Hills & Argyle 2001).

To create this survey, the OHQ has been taken as a reference. However, the OHQ differs to this research in the sense that it is basically a measure focused on the psychological profile of individuals. The BHI takes into account other factors due to its marketing purpose.

2.2.3 Gross Happiness Index

The term "Gross National Happiness" (GNH) was coined in 1972 in Bhutan and is an indicator that measures quality of life or social progress in more holistic and psychological terms than only the economic indicator of GDP. The GNH idea emerged in response to the continuous critiques of Bhutan's economic poverty. This concept was applied due to the peculiarities of its economy whose culture was mainly based on Buddhism. The four pillars of GNH are the promotion of sustainable development, preservation and promotion of cultural values, conservation of the natural environment and establishment of good governance. There is no exact quantitative definition of GNH, but elements that contribute to GNH are subject to quantitative measurement (Centre for Bhutan Studies 2012).

The GNH Index was created in 2010 by the Centre of Bhutan Studies and consists of a single number index developed from 33 indicators categorized under nine domains. It is constructed based upon a multidimensional methodology known as the Alkire-Foster method. The index is decomposable by any demographic characteristic and so is designed to create policy incentives for the government, NGOs and businesses of Bhutan to increase GNH. The 33 indicators are statistically reliable, normatively important and easily understood by large audiences. The domains are equally weighted. Within each domain, the objective indicators are given higher weights while the subjective and self-reported indicators are assigned lower weights. The GNH Index is based on a survey of 7142 people which was completed in all 20 districts of Bhutan in the year 2010 and is representative by rural and urban area and by districts. The Centre of Bhutan Studies made a pre-pilot questionnaire in 2006 and also in 2008. The method provides three types of results: headcount, intensity and the overall GNH index. The GNH Index is 0.743 with a range from 0 to 1. A higher number is better. This result reflects the percentage of Bhutanese who are happy (Centre for Bhutan Studies 2012).

The main differences to the BHI lies in the fact that the GNH index measures the happiness in a country based on particular values (Buddhism) and also examines the happiness of a whole country when this research is made on a small scale based on the city of Bremen.

2.2.4 Happy Planet Index

The Happy Planet Index (HPI) is a global measurement of sustainable well-being in specific countries, first introduced in 2006. This index was created by Nic Marks, the founder of the Centre of Well-being which is a part of the New Economic foundation. It is the first measurement which takes sustainability and the environmental impact into account (The new economics foundation 2012).

The basis of the measurement is data on life expectancy, experienced well-being and the ecological footprint. The index is calculated with the formula:

$$\frac{experienced\ well-being\ \times\ life\ expectany}{ecological\ footprint}$$

The variables of this formula determine the outcome that is on a scale between 0 and 100, where 100 is the best (The new economics foundation 2012). The data for the variables used in the formula are taken from various other researches. The variable experienced well-being is measured by asking people directly via a questionnaire called the `Ladder of Life` built by the European Research Institution Gallup World Poll. The figures on life expectancy are taken from Human Development Report, an annual report on “key development issues, providing new measurement tools, innovative analysis and often controversial policy proposals” that is published by the UNDP United Nations Development Program (UNDP 2012).The data

on the ecological footprint of the country is taken from the WWF World Wide Fund for Nature, Nature Protection Organization.

The current HPI was implemented in 2012. It shows that Costa Rica is ranked first with a total outcome of 64.0, consisting of experienced well-being with 7.3, life expectancy with 79.3 and ecological footprint with 2.5. In comparison, Germany is ranked as 48 with a total outcome of 47.2, consisting of experienced well-being with 6.7, life expectancy with 80.4 and ecological footprint with 4.6. The last is Botswana with a total outcome of 22.6, consisting of experienced well-being with 3.6, life expectancy with 53.2 and ecological footprint with 2.8 (The new economics foundation 2012).

The approach of the HPI differs to the BHI in that way that it only observes the happiness of a whole country and not individually. Also it only takes three variables into account to measure the happiness.

2.2.5 Better Life Index

The Better Life Index (BLI) was created by the OECD, the Organization for Economic Co-Operation and Development in 2011. It compares the well-being between 34 countries which are all members of the OECD. The variables used are expected to influence the well-being in a country. These are eleven topics in the areas of material living conditions and quality of life. The variables determining the material living conditions are housing, income and jobs and the variables for the quality of life are community, education, environment, governance, health, life satisfaction, safety and work-life balance. Each of these topics has specific indicators, e.g. the topic education is based on the educational attainment, the student skills and the years in education (OECD 2011). There is no ranking of the countries because the importance of the 11 topics varies between the different countries; they could only be compared by seeing the results.

The latest comparison is from 2012 and shows that Australia, the USA and Switzerland are the happiest countries, where Germany is at position 16. The German figures show that 72% of the population is happy about life in Germany, 93% is happy with their living conditions and 75% feels save. Another interesting outcome is that women seem to be happier than men but men are richer than women (OECD 2011).

The approach of the BLI differs to the BHI in a similar way like the HPI. It only measures the happiness of a whole country and not personally like the HPI.

2.3 Importance of research

The fundamental idea of this research is not new because measuring happiness has been already done in the past, like the literature review has shown. But despite that, the attempt to measure the happiness on a city-level is new. Cities need an index on happiness of their citizens to know what has to be improved or extended which has a great influence on citizens` happiness. In this case, Bremen really needs an index to improve the factors that influence happiness in order to increase citizens` happiness and also attract people from other regions to raise tourism and convince people to move to Bremen for living.

3 Hypotheses

Based on the collected data and the literature review, one main hypothesis and four sub-hypotheses have been created:

Main hypothesis: *The subject group in Bremen is happy*

This is the research question on which the questionnaire and the analysis of the collected data are based since the overall aim of this study is to identify the state of happiness.

Sub-hypothesis 1: *The most influencing factor is the living conditions*

This factor will be especially reviewed because according to the other studies this factor influences the level of happiness a lot. Therefore it would be interesting to find out if this is also the case for the people in Bremen.

Sub-hypothesis 2: *Women are happier than men*

The statement that women are happier than men is an outcome of the BLI. In this research the aim is to test this assumption on its validity for the people in Bremen. Consequently, if there is a difference in happiness between genders, the Bremen City Marketing will be able to incorporate this into its strategy.

Sub-hypothesis 3: *Students are happier than employees*

Since there are some universities and many students in Bremen, it is quite interesting to find out if the students in Bremen are happy, to be exact if they are happier than employees. This information could be advantageous for the City Marketing if they plan to improve studying or working conditions in Bremen.

Sub-hypothesis 4: *People who moved to Bremen are happier than people from Bremen*

This hypothesis was chosen because the main aim of the Bremen City Marketing is to attract more people from outside the city to move. In case this hypothesis turns out to be accepted it will provide a good argument for the process of convincing the people to move, since those from outside Bremen seem to appreciate the city even more.

4 Methodology & results

The methodology to create a sustainable model is condensing a numerous set of information to some significant pillars (=variables, e.g. social life, working conditions) which can explain the happiness of people living in Bremen. The pillars that are expected and tested are shown in the upcoming chapter 3.1.

The significance level for all tests is set to 90% in order to get reliable results in a small data set. First of all the single pillars which represent the variables for happiness, will be tested in the following way:

$$Y_1 = X_1 + X_2 + X_3$$

X_n	p-value
X_1	0,04
X_2	0,12
X_3	0,00

$$Y_1 = X_1 + X_3$$

Figure 1: Model to test the variables for happiness

X_n are the factors that influence the different pillars Y_n (e.g. for the pillar “social life” the number of friends and the time spent with friends are some of the factors). The test will be repeated for each pillar up to the point that all variables are significant for explaining Y_n. In this way, the factors that can explain the pillars are filtered. The same method will be used to explain the overall happiness with the help of the different pillars. In this case, the overall happiness is Y and all previously identified pillars are X_n. All regressions used in this paper will be multiple Regressions. To proof the reliability R^2 will be investigated. The hypotheses will be tested via dummy variables and will be used for a T-Test.

4.1 Data

The dataset consists of 50 observations that have been collected within a survey using a questionnaire (see appendix 1, p. V). It contains main and sub-questions: six main questions which each have four to nine sub-questions that are metric scaled. 30 women and 20 men were asked. Since all respondents were in the age group between 21 and 30 years, the average age is 26. On the basis of the findings from the literature review, six main variables were used to explain the happiness of Bremen’s citizens in this age group. Those are: leisure time facilities (LTF), living conditions (LC), city structure (CS), working conditions (WC), studying conditions (SC) and social life (SL). They were asked how happy they felt with each of these variables on a scale from 0 to 5 and had to answer questions regarding the factors

which may shape these feelings. The following table shows the average, the deviation and the number of answers for each of the six variables:

	LTF	LC	CS	WC	SC	SL	Total
Average	3,88	3,96	3,96	3,38	3,88	4,26	3,94
Deviation	0,90	0,88	0,90	1,15	0,44	0,90	0,55
Count	50	50	50	29	25	50	50

Figure 2: Average, deviation and count

4.2 Empirical results

As described, a multiple regression for each of the six variables has been conducted. Firstly the regression for leisure time facilities is examined (see figure 3 and appendix 2, p. VIII). In the end, visits of the domestic city park (Bürgerpark) and the bar and dining section on the riverside called the “Schlachte” are the only two factors explaining this pillar. Other findings might have been possible if the gender was tested individually or other age groups were asked. Also leisure time actions are probably too diverse. But under given conditions only the two out of nine tested activities guarantee an effect on happiness. To describe it mathematically: it needs 20 visits to the park or 100 visits to the Schlachte to gain one point on the 0 to 5 scale for satisfaction with LTF.

LTF	β-coefficient	Strd. error	p-value	adjusted R^2
Intercept α	1,0641			0,95
Bürgerpark	0,0492	0,0077	0,0000	
Schlachte	0,0106	0,0025	0,0001	

Figure 3: Regression results for leisure time facilities

The regression for the living conditions produced four significant factors (see figure 4 and appendix 3, p. X). The coefficient for the apartment size in m² states that every further 78 m² of living area makes a citizen of Bremen on the six points scale one point more happy. For one more point on the happiness scale, just 18 hours more spent in the sun tanning per year are needed. An explanation might be that Bremen is far in the north of Germany and sunny hours during free-time are rare. Visiting public areas comes close to apartment size. Here the visits per year are counted. Finally, calling the police makes citizens less happy, since three contacts with the police per year let the living condition scale drop by one point.

LC	β-coefficient	Strd. error	p-value	adjusted R^2
Intercept α	3,0110			0,90
Size apart.	0,0129	0,0034	0,0005	
Tanning hours	0,0579	0,0178	0,0022	
Public areas	0,0178	0,0082	0,0342	
Police	-0,3724	0,0871	0,0001	

Figure 4: Regression results for living conditions

Coming belated due to the public transportation has a strong negative impact on the feelings about the city structure (see figure 5 and appendix 4, p. XI). Being late seven times per year lets this variable shrink by one point. Visiting close cities and using the bicycle has a small but significant influence. In Bremen it is commonly known that people ride their bicycle quite often. Thus a small coefficient comes with a high value for riding the bicycle per year. The last finding in this variable is that Bremer people don't like to drive car too often, because the coefficient for driving a car has a negative impact on the happiness with the city structure.

CS	β-coefficient	Strd. error	p-value	adjusted R^2
Intercept α	3,9898			0,89
Belated	-0,1470	0,0504	0,0055	
Close cities	0,0250	0,0093	0,0103	
Bicycle	0,0507	0,0127	0,0002	
Car	-0,0684	0,0169	0,0002	

Figure 5: Regression results for city structure

Working conditions (see figure 6 and appendix 5, p. XII) are shaped by the distance to the workplace in kilometers. Because the coefficient is negative, the closer always seems the better. The influence of the wage (single Euros per month after tax) is not as strong as the impacts of holidays. It needs 40 Euros more income per month (see wage coefficient of 0,0003) to substitute a single day of holidays (coefficient 0,012). The satisfaction with work is highly correlated to the working conditions itself, since both are a six point scale answer possibility. The idea is that if a worker is not satisfied with his job, he cannot enjoy living in Bremen. This is why this factor is decided to stay in the research.

WC	β-coefficient	Strd. error	p-value	adjusted R^2
Intercept α	1,1141			0,84
Distance	-0,0104	0,0050	0,0473	
Wage	0,0003	0,0001	0,0161	
Holidays	0,0120	0,0050	0,0241	
Satisfaction	0,5489	0,0749	0,0000	

Figure 6: Regression results for working conditions

For the studying conditions (see figure 7 and appendix 6, p. XII) the test was almost the same as for the working conditions. However, there is no significant outcome but the autocorrelation between satisfaction of studying and happiness through studying at all. In this case it would not make sense to answer the feelings about studying in Bremen with the question how it feels to study. The lack of significance might result from the small amount of students asked. But just four more people working were asked. Nevertheless, the study conditions will be excluded from further research in this paper.

SC	β-coefficient	Strd. error	p-value	adjusted R^2
Intercept α	2,5409			0,36
Satisfaction	0,4077	0,1217	0,0032	

Figure 7: Regression results for studying conditions

Within the survey it emerged, that just the amount of good friends and the time spent in hours with them shapes the social life variable (see figure 8 and appendix 7, p. XIV). Nevertheless, the R^2 is relatively week but good enough to accept this variable. It needs 12 close friends to feel one degree happier in this city. This is quite high, since just some peaks in the observation have more than 12 close friends at all living in the same city. But spending time with them in hours has almost the same importance.

SL	β-coefficient	Strd. error	p-value	adjusted R^2
Intercept α	2,7020			0,54
friends	0,0775	0,0282	0,0085	
hours	0,0641	0,0213	0,0042	

Figure 8: Regression results for social life

4.3 Model

The model for the BHI itself contains all previously determined variables excluding study conditions (see figure 9 and appendix 8, p. XV). Again a multiple correlation will be performed in the same way it was done in the previous chapter. All variables are significant and returned a good R^2 already in the first step of the regression:

BHI	β-coefficient	Strd. error	p-value	adjusted R^2
Intercept α	0,2913			0,91
LTF	0,2168	0,0326	0,0000	
LC	0,2350	0,0314	0,0000	
CS	0,1728	0,0301	0,0000	
WC	0,0660	0,0191	0,0013	
SL	0,2191	0,0285	0,0000	

Figure 9: Final regression model for the BHI

This produces the following function:

$$\mathbf{Y = 0,29 + \ 0,22 * LTF + 0,24 * LC + 0,17 * CS + 0,07 * WC + 0,22 * SL}$$

The model is multiple linear and determined by five variables which are shaped by already defined factors (see 3.2). This model works with a correctness of 91%. Therefore it explains the happiness of Bremen's citizens almost completely.

4.4 Calculative outcomes

To answer the hypotheses regarding the contribution of gender, profession and origin to the happiness in Bremen, a t-test for an undefined population is used:

$$t = \sqrt{n}\frac{\bar{x} - \mu_0}{s}$$

The $\bar{x}$ and the s will be calculated with the following formulas:

$$\bar{x} = \frac{1}{n}\sum_{i=1}^{n} x_i$$

and

$$s = \sqrt{\frac{\sum_{i=1}^{n}(x_i - \bar{x})^2}{n-1}}$$

The t-test compares means of samples to check if they are significantly different from each other and is used to revise hypotheses. With the formula above, t can be calculated which is the standardized difference between the means of the samples (Urdan 2005, p.89). This has been conducted for the gender, profession and origin. Figure 9 shows the results:

	$\bar{x}_1$	$\bar{x}_2$	t
Gender	3,91	3,90	0,746328
Profession	3,71	4,1	0,216212
Origin	4,11	3,58	1,282832

Figure 10: Results of the t-test

T for the gender for example states in which area around the mean for the happiness of women ($\bar{x}_1$) the mean for the happiness of men ($\bar{x}_2$) can be located, so that no significant difference between the two exists. If the mean for the happiness is outside this area the two samples are generally different.

Accordingly, women and men are equally happy; there is no difference between the gender, because $\bar{x}_2$ lies within the area from 3,54 and 4,28. The same applies for the origin: the mean for the happiness of the people who moved to Bremen ($\bar{x}_2$) is within the range from 3,47 to 4,75. Therefore the origin does not influence the happiness. Finally, the result for the profession is different: the happiness depends on whether someone is a student or an employee. This can be explained by the fact that the mean for the happiness of students $\bar{x}_2$ lies outside the area from 3,60 to 3,82.

5 Discussion

As described in chapter two, there have been previous studies dealing with the subject of happiness, the Easterlin Paradox and the Oxford Happiness Questionnaire (OHQ) are only examples. While the topic is the same, the levels of research differ. Both the level of the individual's and the countries' happiness have been examined. Therefore looking at a city the study for the BHI provides an investigation on a new level which cannot be compared to previous studies.

However, the influencing factors developed are similar. Among other things the OHQ looks at satisfaction with life, the GHI at living standard and education which is included in the BHI in the variables living conditions and studying conditions. The BLI adds the quality of life. Satisfaction with life and the quality of life are both part of the indicators for the BHI (e.g. how satisfied are the people with work and social life which influences their overall satisfaction). Overall the BHI depends on five out of six expected variables, since all of them were significant, but the studying conditions are left out due to a small number of observations. Therefore a variety of factors is considered and a comprehensive instrument has been established.

5.1 Finding answers

This instrument helps to answer the fundamental research question. Regarding the aim of identifying the age group's overall happiness the average value with 3,94 out of 5 indicates that the group is rather happy (see figure 2). But what are the (main) drivers for their happiness? As mentioned above, five variables have an influence on the overall happiness. To identify the variables with the biggest impact the general regression coefficients have to be looked at (see figure 9). Consequently, the living conditions with the highest coefficient of 0,2350 are the most relevant for the overall happiness. This variable is followed by the social life with a coefficient of 0,2191 and the leisure time facilities with a coefficient of 0,2168.

Now that the state of happiness and its main drivers have been identified, the question how to improve happiness can be dealt with. Again, the averages from figure 2 have to be looked at which show that the people are most happy with their social life with an average value of 4,26 and least happy about the working conditions with a mean of 4,26. To achieve the biggest improvement, the variable with the lowest average but at the same time relatively high impact on the overall happiness should be examined. After comparing figure 2 and figure 9, the variables living conditions and leisure time facilities seem most suitable. Although the working conditions have the lowest average, its impact is also smaller than the others. With the social life it is the reversed problem: the impact is high, but as well is the average which leaves little room for improvements. In comparison to the leisure time facilities and the living conditions, the city structure has a lower impact with about the same average which confirms

the assumption to change leisure time facilities and city structure to develop overall happiness. Suggestions how this can be implemented for the Bremen City Marketing in particular, are given in chapter 5.3.

5.2 Accept or reject

In chapter 3 the hypotheses for this study were introduced and in the following step have to be accepted or rejected which will be done one by one:

Main hypothesis: *The subject group in Bremen is happy*

The mean for the overall happiness from figure 2 conduces to make a decision about this main hypothesis. As mentioned before, the value of 3,94 indicates that the people are generally rather happy. Therefore the hypothesis is accepted.

Sub-hypothesis 1: *The most influencing factor is the living conditions*

As also described before, the variable with the highest regression coefficient has the strongest impact on the overall happiness. Since this indeed is the variable living conditions, the sub-hypothesis 1 can be accepted.

Sub-hypothesis 2: *Women are happier than men*

According to the t-test evaluated in chapter 4.4. the gender does not have an influence on the happiness. Therefore this sub-hypothesis has to be rejected. Compared with the HPI which states that women are happier than men, the BHI yields a different result.

Sub-hypothesis 3: *Students are happier than employees*

Again the t-test has to be consulted to make a statement about the sub-hypothesis 3. Correspondingly the profession (if student or employee) does affect the happiness. Students are happier; the sub-hypothesis 3 can be accepted. This result can be used for marketing purposes to convince more students to move to Bremen.

Sub-hypothesis 4: *People who moved to Bremen are happier than people from Bremen*

The sub-hypothesis 4 has to be rejected. Explanation is the outcome of the t-test which states that the origin does not have an influence on the happiness. Consequently this result can not be used to convince people to move to Bremen due to a higher happiness.

5.3 Recommendations

This research was initiated on the basis of the task of the Bremen City Marketing to attract more people from the suburbs to move to Bremen. But how does it help to actually do so? By deducing possible actions from the model that has been developed to increase the happiness within Bremen. Therefore each of the variables has to be examined and the realizable implements on the part of the city Bremen have to be elaborated.

As said, by improving living conditions and leisure time facilities a successful increase of the overall happiness is most likely. The significant factors are on the one hand the apartment size, the tanning hours, the visits of public areas and the contacts with the police (see figure 4). Since the weather cannot be influenced, the alternative actions are to offer more and bigger apartments and houses as well as to increase criminal prevention and to maintain and enhance public areas. On the other hand the visits of Bürgerpark and Schlachte are significant for the leisure time facilities (see figure 3) which leads to the possibilities to preserve the park and use advertisement and public events or extend the Schlachte to enlarge happiness.

Furthermore, the rest of the variables can be looked at to generate actions. Since the studying conditions delivered no significant variables and the social life cannot be affected by the city, there are no recommendations for these fields. However, regarding the city structure the significant variables (being late with public transport, visits of close cities, use of bicycle and driving a car, see figure 5) yield the possibilities to introduce more special tickets to visit the surrounding areas and close cities, to improve the infrastructure for bicycles and to improve the traffic flow. Finally, the Bremen City Marketing can develop the happiness via the working conditions by attracting and supporting new investors and thus offering new employment possibilities to the citizens. All those actions help to improve the overall happiness of the people since they affect the significant variables. Doing so, the attractiveness of the city is likely to increase.

5.4 Review

The means for this research were limited. Therefore the age group of the younger, future generation aged from 20 to 30 years was emphasized because this certain group was most interesting for the client, the Bremen City Marketing. However, the happiness of other age groups should not be ignored. At this point it is important to keep in mind that other age groups might have other preferences and priorities that influence their happiness. For example older generations might value the health support more which could make it significant for the city structure and at the same time make this variable more significant for the overall happiness. Studying conditions most probably will influence their happiness less. Conse-

quently, the BHI developed in this research cannot just be adopted for all age groups, but has to be generalized for all age groups or adjusted to the certain group first.

A similar critique applies for the application of the Index on other cities. This is generally possible, but again the preferences and priorities of the citizens might differ. Also each city provides other given factors. For example in Bremen there is the Bürgerpark, the Schlachte and the river Weser. Also people use their bicycles a lot and there are not that many cities close by. If it is compared for example to Berlin, Berlin is a lot bigger and therefore has a more extensive public transport system, there is harbor in the city and Berlin has a lot of German history. This comparison shows that people might feel happy in Berlin for totally different reasons than in Bremen. Consequently, an index for Berlin could be developed in the same manner, but in the end the model with the significant variables will probably look different.

In addition to those two general remarks, specific research gaps within the development of the BHI can be identified. Such as the environmental conditions like the quality of water and the cleanliness which have not been considered. Furthermore it turned out that the number of observations might have been a bit too small, since there were not enough students within the subject group to elaborate significant variables for the happiness with the studying conditions.

6 Conclusion

From the research team's point of view the research is in general succeeded. Theoretical basics of the happiness definition and previous approaches to its measurement were analyzed in detail. Based on Literature review and on the task area of the client some hypotheses were built. Further on, all steps of the research strategy were carried out one by one. The process started with the questionnaire for the target group to gather data, went on with the implementation of statistical tests and finished with the derivation of the regression model for the BHI. At the end of it the core and sub-research questions could be answered, besides the research objectives were fulfilled.

It was found out that there are some factors that make the target group in Bremen satisfied and happy. These are living conditions and leisure time activities. Taking into account influencing factors the research team tried to give the customer some general recommendations which can be definitely extended and deepened later by the marketing specialists. Looking at the study with a critical eye some shortcomings can be pointed out. Unfortunately the research cannot be implemented for all age groups and takes into account only limited number of influencing factors. But one thing is for sure, this study is the first (successful!) attempt to measure the happiness on the city´s level and concretely for Bremen in any case. In that sense the BHI is a pioneering approach in this specific field of science.

As it could be seen there are many different factors that affect the geographical placement of human beings and their decision to move to some other places. Some people feel happy about their place of living, some find it less attractive. The aim of this study was to measure the level of happiness in Bremen and support in this way the work of the ordering customer, the City Marketing of Bremen. Since the current level of happiness of Bremen's inhabitants is pretty high, the City Marketing can be very optimistic about its goal to attract more young people to Bremen. Of course, there are some points to improve. Although, in the research team´s opinion it´s quite realistic for the City Marketing to change these weak spots and to strengthen the image of Bremen. The research team believes in the prospective future of Bremen and happiness of its citizens as well.

Appendix

Appendix 1: Questionnaire

Happiness in Bremen

How happy are you with the <u>leisure time facilities</u> in Bremen?

^_____^	^__^	°__°	O_0	>___<

How often did you visit last year…?

The Bürgerpark _____

The Cinema _____

An Exhibition _____

The Schlachte _____

Shopping Malls _____

Restaurants & Bars _____

Freimarkt _____

Breminale _____

Osterwiese _____

How happy are you with the <u>living conditions</u> in Bremen?

^____^	^__^	°__°	O_0	>___<

Price of your apartment (in €) _____

Size of your apartment (in m²) _____

Tanning in the sun (hours per week) _____

Time spent in public areas e.g. Bürgerpark (hours per week) _____

Being treated well by a doctor (times per year) _____

Felt happy while watching the Roland (times per month) _____

Times contacted police (per year) _____

How happy are you with the <u>city structure</u> in Bremen?

^_____^	^__^	°__°	O_0	>___<

Times used public transport (per week) _____

Came belated due to BSAG (times per month) _____

Visited close cities e.g. HH for fun (times per year) _____

Days used bicycle ways (per week) _____

Travelled via Bremen Airport (times per year) _____

Hours spent in the car (per week) _____

If employee: How happy are you with the <u>working conditions</u> in Bremen?

^_____^	^__^	°__°	O_0	>___<

Working hours per week _____

Distance to work (in km) _____

Wage per month (in € after tax) _____

Holidays per year _____

Feeling satisfied after work (days per week) _____

Good colleagues (number) _____

If student: How happy are you with the <u>studying conditions</u> in Bremen?

^_____^	^__^	°__°	O_0	>___<

Studying hours per week _____

Distance to University (in km) _____

Feeling satisfied after class (days per week) _____

Good colleagues (number) _____

How happy are you with your <u>social life</u> in Bremen?

^_____^	^__^	°__°	O_0	>___<

Number of close friends in Bremen _____

Time spent with friends (hours per week) _____

Number of friends with a foreign background _____

Number of family members in Bremen _____

Time spent with family members (hours per week) _____

<u>General Information</u>

Age _____

Gender _____

Profession _____

Are you from Bremen? Yes/No

Are you German? Yes/No

Appendix 2: Regression results for leisure time facilities

1st regression

Regressions-Statistic	
Multiple R	0,98
R^2	0,96
Adjusted R^2	**0,95**
Standard error	0,20
Observations	50

ANOVA					
	df	*SS*	*MS*	*F*	*F krit*
Regression	9	37,6730824	4,18589804	104,196955	6,6775E-25
Residue	40	1,60691761	0,04017294		
Total	49	39,28			

	B coefficient	*standard error*	*t-statistic*	*p-value*	*lower 90,0%*	*upper 90,0%*
Intercept	1,2428	0,3486	3,5647	0,0010	0,6558	1,8299
Bürgerpark	0,0456	0,0089	5,1494	**0,0000**	0,0307	0,0606
Cinema	-0,0117	0,0134	-0,8738	0,3874	-0,0343	0,0109
Exhibition	-0,0229	0,0134	-1,7124	**0,0946**	-0,0454	-0,0004
Schlachte	0,0112	0,0029	3,9153	**0,0003**	0,0064	0,0160
Shopping	-0,0003	0,0012	-0,2439	0,8086	-0,0024	0,0018
Restaurant	0,0004	0,0013	0,2947	0,7697	-0,0018	0,0025
Freimarkt	0,0123	0,0159	0,7712	0,4451	-0,0145	0,0390
Breminale	0,0095	0,0279	0,3411	0,7348	-0,0374	0,0565
Osterwiese	0,0096	0,0312	0,3069	0,7605	-0,0429	0,0621

2nd regression

Regression-Statistic	
Multiple R	0,98
R^2	0,96
Adjusted R^2	**0,95**
Standard error	0,19
Observations	50

ANOVA					
	df	SS	MS	F	F krit
Regression	3	37,5783337	12,5261112	338,609934	2,3728E-31
Residue	46	1,70166631	0,03699275		
Total	49	39,28			

	B coefficient	*standard error*	*t-statistic*	*p-value*	*lower 90,0%*	*upper 90,0%*
Intercept	1,0206	0,0978	10,4379	0,0000	0,8565	1,1848
Bürgerpark	0,0504	0,0076	6,5950	**0,0000**	0,0375	0,0632
Exhibition	-0,0189	0,0120	-1,5694	0,1234	-0,0391	0,0013
Schlachte	0,0115	0,0025	4,5279	**0,0000**	0,0072	0,0157

3rd regression

Regression-Statistic	
Multiple R	0,98
R^2	0,95
Adjusted R^2	**0,95**
Standard error	0,20
Observations	50

ANOVA					
	df	SS	MS	F	F krit
Regression	2	37,4872185	18,7436092	491,3870531	3,1251E-32
Residue	47	1,79278153	0,03814429		
Total	49	39,28			

	B coefficient	*standard error*	*t-statistic*	*p-value*	*lower 90,0%*	*upper 90,0%*
Intercept	1,0641	0,0952	11,1742	0,0000	0,9043	1,2239
Bürgerpark	0,0492	0,0077	6,3777	**0,0000**	0,0363	0,0622
Schlachte	0,0106	0,0025	4,2204	**0,0001**	0,0064	0,0148

Appendix 3: Regression results for living conditions

1st regression

Regression-Statistic	
Multiple R	0,96
R^2	0,91
Adjusted R^2	**0,90**
Standard error	0,28
Observations	50

ANOVA					
	df	SS	MS	F	F krit
Regression	7	34,6109382	4,94441974	62,7566482	3,4164E-20
Residue	42	3,30906183	0,07878719		
Total	49	37,92			

	B coefficient	*standard error*	*t-statistic*	*p-value*	*lower 90,0%*	*upper 90,0%*
Intercept	2,9600	0,2983	9,9234	0,0000	2,4583	3,4617
Price apart	0,0001	0,0002	0,5904	0,5581	-0,0002	0,0005
Size apart	0,0133	0,0038	3,5063	**0,0011**	0,0069	0,0197
Tanning	0,0578	0,0185	3,1239	**0,0032**	0,0267	0,0889
Public areas	0,0171	0,0084	2,0384	**0,0478**	0,0030	0,0313
Doctor	-0,0093	0,0111	-0,8389	0,4063	-0,0280	0,0094
Roland	0,0304	0,0432	0,7044	0,4851	-0,0422	0,1030
Police	-0,3818	0,0934	-4,0863	**0,0002**	-0,5390	-0,2247

2nd regression

Regression-Statistic	
Multiple R	0,95
R^2	0,91
Adjusted R^2	**0,90**
Standard error	0,28
Observations	50

ANOVA					
	df	SS	MS	F	F krit
Regression	4	34,4988426	8,62471066	113,4446445	6,7018E-23
Residue	45	3,42115735	0,07602572		
Total	49	37,92			

	B coef-ficient	standard error	t-statistic	p-value	lower 90,0%	upper 90,0%
Intercept	3,0110	0,2727	11,0396	0,0000	2,5530	3,4691
Size apart	0,0129	0,0034	3,7615	**0,0005**	0,0072	0,0187
Tanning	0,0579	0,0178	3,2528	**0,0022**	0,0280	0,0877
Public areas	0,0178	0,0082	2,1838	**0,0342**	0,0041	0,0316
Police	-0,3724	0,0871	-4,2750	**0,0001**	-0,5186	-0,2261

Appendix 4: Regression results for city structure

1st regression

Regression-Statistic	
Multiple R	0,95
R^2	0,90
Adjusted R^2	**0,89**
Standard error	0,30
Observations	50

ANOVA					
	df	SS	MS	F	F krit
Regression	6	36,0184377	6,00307295	66,1612235	4,1986E-20
Residue	43	3,90156232	0,09073401		
Total	49	39,92			

	B coefficient	standard error	t-statistic	p-value	lower 90,0%	upper 90,0%
Intercept	3,9116	0,1503	26,0199	0,0000	3,6589	4,1643
Public trans-port	0,0078	0,0054	1,4282	0,1605	-0,0014	0,0169
Belated	-0,1497	0,0511	-2,9308	**0,0054**	-0,2356	-0,0639
Close cities	0,0272	0,0095	2,8776	**0,0062**	0,0113	0,0431
Bicycle	0,0502	0,0127	3,9344	**0,0003**	0,0287	0,0716
Airport	-0,0122	0,0222	-0,5468	0,5873	-0,0496	0,0252
Car	-0,0632	0,0175	-3,6105	**0,0008**	-0,0927	-0,0338

2nd regression

Regression-Statistic	
Multiple R	0,95
R^2	0,90
Adjusted R^2	**0,89**
Standard error	0,30
Observations	50

ANOVA					
	df	SS	MS	F	F krit
Regression	4	35,8223523	8,95558808	98,349467	1,2061E-21
Residue	45	4,09764766	0,09105884		
Total	49	39,92			

	B coefficient	*standard error*	*t-statistic*	*p-value*	*lower 90,0%*	*upper 90,0%*
Intercept	3,9898	0,1346	29,6385	0,0000	3,7637	4,2158
Belated	-0,1470	0,0504	-2,9185	**0,0055**	-0,2315	-0,0624
Close cities	0,0250	0,0093	2,6788	**0,0103**	0,0093	0,0407
Bicycle	0,0507	0,0127	3,9962	**0,0002**	0,0294	0,0720
Car	-0,0684	0,0169	-4,0397	**0,0002**	-0,0969	-0,0400

Appendix 5: Regression results for working conditions

1st regression

Regression-Statistic	
Multiple R	0,93
R^2	0,87
Adjusted R^2	**0,83**
Standard error	0,47
Observations	29

ANOVA					
	df	SS	MS	F	F krit
Regression	6	31,8978726	5,3163121	23,7252863	1,4845E-08
Residue	22	4,92971359	0,22407789		
Total	28	36,8275862			

	B coefficient	*standard error*	*t-statistic*	*p-value*	*lower 90,0%*	*upper 90,0%*
Intercept	1,1192	0,4464	2,5075	0,0200	0,3528	1,8857
Hours	0,0013	0,0067	0,1903	0,8508	-0,0103	0,0128
Distance	-0,0112	0,0052	-2,1435	**0,0434**	-0,0202	-0,0022
Wage	0,0003	0,0001	2,5838	**0,0169**	0,0001	0,0006
Holidays	0,0121	0,0053	2,2907	**0,0319**	0,0030	0,0211
Satisfaction	0,5531	0,0798	6,9264	**0,0000**	0,4160	0,6902
Colleagues	-0,0141	0,0189	-0,7459	0,4636	-0,0467	0,0184

2nd regression

Regression-Statistic	
Multiple R	0,93
R^2	0,86
Adjusted R^2	**0,84**
Standard error	0,46
Observations	29

ANOVA					
	df	SS	MS	F	F krit
Regression	4	31,7302418	7,93256046	37,34914447	5,6057E-10
Residue	24	5,09734436	0,21238935		
Total	28	36,8275862			

	B coefficient	*standard error*	*t-statistic*	*p-value*	*lower 90,0%*	*upper 90,0%*
Intercept	1,1141	0,3142	3,5456	0,0016	0,5765	1,6516
Distance	-0,0104	0,0050	-2,0909	**0,0473**	-0,0190	-0,0019
Wage	0,0003	0,0001	2,5895	**0,0161**	0,0001	0,0005
Holidays	0,0120	0,0050	2,4073	**0,0241**	0,0035	0,0205
Satisfaction	0,5489	0,0749	7,3254	**0,0000**	0,4207	0,6771

Appendix 6: Regression results for studying conditions

Regression-Statistic	
Multiple R	0,68
R^2	0,47
Adjusted R^2	**0,36**
Standard error	0,35
Observations	**25**

ANOVA					
	df	SS	MS	F	F krit
Regression	4	2,16247274	0,54061819	4,36417548	0,01066251
Residue	20	2,47752726	0,12387636		
Total	24	4,64			

	B coefficient	*standard error*	*t-statistic*	*p-value*	*lower 90,0%*	*upper 90,0%*
Intercept	2,5409	0,4157	6,1130	0,0000	1,8240	3,2578
hours	-0,0141	0,0117	-1,2107	0,2401	-0,0342	0,0060
Distance	0,0275	0,0139	1,9850	0,0610	0,0036	0,0515
Satisfaction	0,4077	0,1217	3,3491	**0,0032**	0,1978	0,6177
Colleagues	-0,0025	0,0142	-0,1746	0,8632	-0,0270	0,0220

Appendix 7: Regression results for social life

1st regression

Regression-Statistic	
Multiple R	0,76
R^2	0,58
Adjusted R^2	**0,53**
Standard error	0,62
Observations	50

ANOVA					
	df	SS	MS	F	F krit
Regression	5	22,8698718	4,57397437	12,0151243	2,3057E-07
Residue	44	16,7501282	0,38068473		
Total	49	39,62			

	B coefficient	*standard error*	*t-statistic*	*p-value*	*lower 90,0%*	*upper 90,0%*
Intercept	2,7740	0,2233	12,4230	0,0000	2,3988	3,1492
friends	0,0765	0,0302	2,5308	**0,0150**	0,0257	0,1274
Hours	0,0643	0,0224	2,8695	**0,0063**	0,0267	0,1020
Foreign	-0,0019	0,0207	-0,0908	0,9281	-0,0367	0,0329
Family	0,0314	0,0248	1,2669	0,2119	-0,0103	0,0731
Hours	-0,0188	0,0178	-1,0534	0,2979	-0,0487	0,0112

2nd regression

Regression-Statistic	
Multiple R	0,75
R^2	0,56
Adjusted R^2	**0,54**
Standard error	0,61
Observations	50

ANOVA					
	df	SS	MS	F	F krit
Regression	2	22,2199502	11,1099751	30,009617	3,999E-09
Residue	47	17,4000498	0,37021383		
Total	49	39,62			

	B coefficient	*standard error*	*t-statistic*	*p-value*	*lower 90,0%*	*upper 90,0%*
Intercept	2,7920	0,2084	13,3981	0,0000	2,4424	3,1417
Friends	0,0775	0,0282	2,7449	**0,0085**	0,0301	0,1249
Hours	0,0641	0,0213	3,0089	**0,0042**	0,0283	0,0998

Appendix 8: Regression results for the overall happiness

Regression-Statistic	
Multiple R	0,96
R^2	0,92
Adjusted R^2	**0,91**
Standard error	0,17
Observations	50

ANOVA					
	df	SS	MS	F	F krit
Regression	6	13,6347163	2,27245272	79,1392564	1,3028E-21
Residue	43	1,23472814	0,02871461		
Total	49	14,8694444			

	B coefficient	*standard error*	*t-statistic*	*p-value*	*lower 90,0%*	*upper 90,0%*
Intercept	0,2913	0,1803	1,6150	0,1136	-0,0119	0,5944
Leisure time facilities	**0,2168**	0,0326	6,6391	**0,0000**	0,1619	0,2717
Living condi-tions	**0,2350**	0,0314	7,4724	**0,0000**	0,1821	0,2878
City Structure	**0,1728**	0,0301	5,7324	**0,0000**	0,1221	0,2234
Working cond	**0,0660**	0,0191	3,4484	**0,0013**	0,0338	0,0981
Studying cond	**0,0654**	0,0183	3,5813	**0,0009**	0,0347	0,0961
Social life	**0,2191**	0,0285	7,6829	**0,0000**	0,1712	0,2671

List of literature

Berzin, A. 2010. *The Sources of Happiness According to Buddhism*. The Berzin Archives, Berne, viewed 17 August 20120, avalable at: www.berzinarchives.com/web/en/archives/sutra/level2_lamrim/initial_scope/karma/sources_happiness_according_bsm.html.

Centre for Bhutan Studies 2012. *Bhutan GNH Index: GNH Concept.* Bhutan, viewed 17 August 2012, available at: www.grossnationalhappiness.com/articles/.

Dawidowicz, P. 2010. *Literature Reviews made easy: A Quick Guide to Success*, Information Age Publishing Inc., North Carolina.

Easterlin, R. 1974. *Does economic growth improve the human lot? Some empirical evidence*. University of Pennsylvania, viewed 19 August 2012, available at: http://graphics8.nytimes.com/images/2008/04/16/business/Easterlin1974.pdf.

Easterlin, R., Angelescu McVey, Switek, Sawangfa & Smith Zweig 2010. *The happiness–income paradox revisited*. Department of Economics, University of Southern California, Los Angeles, viewed 17 August 2012, available at: www.pnas.org/content/107/52/22463.full.pdf+html.

Haybron, D. 2011. *Happiness.* The Stanford Encyclopedia of Philosophy, Edward N Zalta (ed), viewed 17 August 2012, available at: http://plato.stanford.edu/archives/fall2011/entries/happiness/.

Helliwell, J., Layard, R. & Sachs, J. 2012. *World Happiness Report*. The Earth Institute, Columbia University, New York, viewed 17 August 2012, available at: www.earth.columbia.edu/sitefiles/file/Sachs%20Writing/2012/World%20Happiness%20Report.pdf.

Hills, P. and Argyle, M. 2001. *The Oxford Happiness Questionnaire: a compact scale for the measurement of psychological well-being.* Pergamon Press, Oxford, viewed 20 August 2012, available at: www.louisianaparadox.com/wp-content/uploads/2011/01/Hills-Argyle-2002.pdf.

Hobbes, T. 2008. *Leviathan.* Forgotten Books, viewed 19 August 2012, available at: http://books.google.es/books?id=-Q4nPYeps6MC&lpg=PP1&ots=_wUw4CoIT8&dq=Leviathan&pg=PP1#v=onepage&q=Leviathan&f=false.

Knight, K. & Rosa, E. 2010. *The environmental efficiency of well-being: A cross-national analysis*. Social Science Research, Washington State University, viewed 18 August 2012, available at: http://mahb.stanford.edu/wp-content/uploads/2012/02/The-environmental-ef%EF%AC%81ciency-of-well-being-A-crossnational-analysis.pdf.

Kraut, R. 2012. *Aristotle's Ethics.* The Stanford Encyclopedia of Philosophy, Edward N. Zalta (ed.), viewed 19 August 2012, available at: http://plato.stanford.edu/archives/spr2012/entries/aristotle-ethics/.

Kreeft, P. 2012. *Happiness: Ancient and Modern Concepts of Happiness.* Catholic Education Resource Centre, viewed 18 August 2012, available at: www.catholiceducation.org/articles/philosophy/ph0086.htm.

Merriam-Webster, 2012. *Happiness.* Massachusettes, viewed 28 July 2012, available at: www.merriam-webster.com/dictionary/happiness.

OECD 2011. *Better Life Index.* Paris, viewed 16 August 2012, available at: www.oecdbetterlifeindex.org/about/better-life-initiative/.

Press 1, 2012. *Immer weniger Städte in Deutschland: Anzahl schrumpft auf 12.244*. High Text Verlag, Munich, viewed 15 August 2012, available at: www.press1.de/ibot/db/press1.IW130_1148461440.html.

Stevenson, B. & Wolfers, J. 2008. *Economic Growth and Subjective Well-Being: Reassessing the Easterlin Paradox*. University of Pennsylvania, viewed 18 August 2012, available at: http://bpp.wharton.upenn.edu/jwolfers/Papers/EasterlinParadox.pdf.

The new economics foundation 2012. *The Happy Planet Index.* London, viewed 16 August 2012, available at: www.happyplanetindex.org/.

UNDP 2012. *UNDP - A world of development experience.* New York, viewed 15 August 2012, available at: http://hdr.undp.org/en/contacts/about/undp/.

Urdan, T. 2005. *Statistics in plain English*. 2nd edition, Lawrance Erlbaum Associates Inc., New Jersey.