

# D2

## Literature research on characteristics and activities that enhance happiness

Michael MADJAR, Consultrix GmbH, Zürich, Switzerland, [michael\\_madjar@consultrix.ch](mailto:michael_madjar@consultrix.ch)  
Patrick HOFSTETTER, BAO, Zurich, Switzerland, [patrick\\_hofstetter@yahoo.com](mailto:patrick_hofstetter@yahoo.com)

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## 0. Overview

One of the results of Hofstetter & Madjar (2003) was that sustainable consumption should contribute as efficient as possible to enhance ultimate utility. The rational is that consumers will always strive to maximize ultimate utility and that sustainable consumption should show pathways that help to do this in a sustainable way. We have argued that happiness is a good indicator for ultimate utility. However, in this section we will also consider literature results that consider any measure of subjective well-being (SWB).

In order identify activities, services, and products that enhance happiness we collect in this paper the evidence from the literature on what people makes more happy. This compilation should then be a first recipe book for becoming happier. In deliverable D4 we will apply these findings to sustainable consumption.

## 1. Theoretical background

In addition to the theoretical background regarding SWB in Hofstetter and Madjar (2003) we elaborate here on happiness as ultimate goal and about the influence of the genetically given set point.

### 1.1 Happiness as ultimate goal

According to Bridges (2004) Aristotle makes clear that there is something like a chief good (ultimate utility). He separates therefore three lives: the life of pleasure, the life of honor and the life of contemplation. Each of these lives has a different understanding of the chief good. Although happiness can be achieved in all three types of life he states that the life of contemplation is the superior one. People are often going through all three lives without necessarily abandoning aspects of previous lives. Happiness is thereby the good for which we do everything else.

Similarly, Seligman and Royzman (2003) describe three theories on happiness: the hedonism theory (happiness is a matter of raw subjective feeling), the desire theory (happiness is a matter of what you want) and the objective list theory (happiness is achieving certain things from a list of worthwhile pursuits). Authentic happiness is thereby a synthesis of these 3 traditions and consists of *the pleasant life* (pleasure, hedonistic sense), *the good life* (engagement, fulfilling of personal desires) and *the meaningful life* (achieving certain things from a list of worthwhile pursuits).

Regarding *the pleasant life* activities, aspects and circumstances influencing the pleasant life and their correlation with happiness and/or flow (further background information is given in Hofstetter and Madjar 2003) are described in Section 2).

To enhance subjective well-being based on desires it is important to know what desire the different persons have. Here the Maslow's hierarchy of needs (Maslow 1970) can be used to classify these needs (see table 1-1). Maslow claims that only when the more basic needs are satisfied one is able to focus on the higher-level needs.

Table 1-1: Maslow's hierarchy of needs (Maslow 1970)

level	description	examples
5	Self-Actualization	Fulfillment of one's potential, being true to one's nature
4	Esteem	Achievement, independence, self-esteem, esteem of others etc.
3	Social	Giving affection and receiving affection from others etc.
2	Safety	Security and protection from physical risk etc.
1	Physiological	hunger, thirst, oxygen, warmth etc.

*The meaningful life* is based on virtues. Seligman (2002) described 6 virtues he found by studying philosophic and religious articles from Aristotle, Plato, Aquinas and Augustine, the Old Testament, the Talmud, the Koran, Confucius, Buddha etc. These 6 virtues are: (1) wisdom and knowledge, (2) courage, (3) love and humanity, (4) justice, (5) temperance and (6) spirituality and transcendence.

All these attempts to make the meaning of happiness and the ultimate goal dependent from the circumstances and the individuals stage of life suggest that we should be careful to assume that there will be an easy recipe for happiness that fits all. These insights make also clear that certain activities or products that increase happiness for person A may not even affect the happiness of another person B who belongs to a different group of needs or is on a different stage in live.

Lu (1999) says that although subjective well-being and happiness are used interchangeable happiness is composed of following elements: (1) positive affect, (2) absence of negative affect and (3) satisfaction with life as a whole. In his longitudinal study using 581 residents of Taiwan he showed, that there was a consistently strong bi-directional relationship between overall happiness and life satisfaction.

Flow as an indicator for happiness has been described in Hofstetter and Madjar (2003). Asakawa (2004) performed a flow study using ESM with 102 students at a private university in Kagawa-ken, Japan in the years 1998-1999, 1999-2000, 2000-2001. He shows that the flow experience has positive effects on the psychological well-being. The level of Jujitsu-kan (an index of psychological well being for the Japanese) increased as the flow experience increased in complexity. Asakawa (2004) found that the students level of concentration, enjoyment, happiness, activation and satisfaction and perceived control of the situation were highest in flow condition.

The different concepts of happiness show, that happiness can be defined in a broader or narrower way. It makes a difference if e.g. the meaningful life is part of the happiness concept as described in Seligman and Royzmann (2003). This different interpretation of the word "happiness" could also lead to the differences in happiness levels among nations. For our purpose we assume that it is not very relevant if we measure happiness, life satisfaction, flow or subjective well being (as happiness in a broader view covers all these aspects), as we are more interested in looking on changing influences. Therefore it seems more important to us that we can analyze the relationship and direction of influence of happiness changes respectively changes of SWB or life satisfaction (analyze of cause and effect). Hereby, longitudinal studies can give better insights than cross-sectional studies.

## 1.2 Influence of the genes on happiness

There are different discussions about what part of happiness is genetically and therefore not changeable by willingness or habits and what part of happiness can be changed. Lykken and Tellegen (1996) performed therefore studies on twins and found that between 44 and 52% of the variance in subjective well-being is associated with genetic variations (see table 1-2).

Table 1-2: Interclass correlation on the well being scale of the multidimensional personality questionnaire for middle aged twins (Lykken and Tellegen 1996)

Type of twin pairs	Number of pairs	Interclass correlation
Twins reared together:		
• Monozygotic	647	0.44 (+/- 0.03)
• Dizygotic	733	0.08 (+/- 0.04)
Twins reared apart:		
• Monozygotic	75	0.52 (+/- 0.10)
• Dizygotic	36	-0.2 (+/- 0.17)

In a retest of a smaller sample of twins after intervals of 4.5 and 10 years Lykken and Tellegen (1996) even estimated that between 80-100% of the variance of long-term stable components of subjective well-being could be attributed to genetic variations (as the cross-time correlation of monozygotic twins is about 0.55 and the cross-time cross-twin correlation is about 0.54). Although the genetic influence is very high Lykken (2000) does not mean that there are no influence factors on enhancing happiness. Lykken (2000) believes that all people can learn to bounce along above the basic happiness set point by learning new habits and by observing some rules. He compares the set point with a lake and says the higher the lake level is, the better one feels. Persons can create waves and sail on this wave on the happiness lake. If the happiness level of an individual is below average, this means, that the genetic steersman guides the persons into situation that detract them from happiness. In this model troughs can be created without waves and vice versa (Lykken 2000).

Lyubomirsky, Sheldon, Schkade (2004) proposed out of the past well-being literature and out of own studies, that the personal chronic happiness level is governed by three major factors: *genetically determination*, *circumstantial factors* and *intentional activities* (happiness relevant activities and practices). By analyzing the literature they found that about 10% of the variance in happiness is defined by the circumstances, about 50% is defined by the genes (set-point) and that this leaves about 40% for intentional activities.

Seligman (2002) developed a similar happiness formula:

$H$  (enduring level of happiness) =  $S$  (personal set range) +  $C$  (circumstances) +  $V$  (factors of personal voluntary control).

In the next section intentional and circumstantial activities are described in more detail.

## 2. What can enhance subjective well-being?

### 2.1 Activities

Lyubomirsky, Sheldon, Schkade (2004) divide intentional activities into 3 categories: (1) behavioral activities like exercising regularly, trying to be kind to others, (2) cognitive activities like seeing situations in a more positive light and (3) volitional activities like striving for important personal goals or devoting effort to meaningful causes. They argue that intentional behavioral, cognitive and/or volitional activities offer the best route to increase chronic happiness.

Another possibility to classify activities is by structuring them in relationship to our daily structure into leisure activities, working activities and personal activities. This structure is helpful when analyzing the different activities and their influence on the happiness level by using diaries (see e.g. Gershuny 1996, Sullivan 1996, Delespaul, Reis, De Vries 2004).

Here we try to sort activities by the categories of Lyubomirsky, Sheldon, Schkade (2004) in Section 2.1.1 (by knowing that this is not a clear differentiation and that overlapping between these three categories exist) and related to leisure, working and personal activities in chapter 2.1.2. Overlapping between Section 2.1.1 and 2.1.2 obviously exists but we try to adhere to this mentioned classification.

#### 2.1.1 Activities structured by behavioral, cognitive and volitional activities

Below some examples of behavioral, cognitive and volitional activities and their influence on happiness are discussed.

##### 2.1.1.1 Behavioral activities

***Being/acting extraverted:*** Argyle and Lu (1990) analyzed why happiness correlates strongly with extraversion and found that extraverts are more engaged in social activities while introverts withdraw more from social situations. After the effect of extraversion had been partialled out in the regression analysis they showed that activities where sociability is primary (like social club, sports etc.) and not avoiding noisy social situations (like) dancing, meeting new people account for 5 respectively 11% of the variance in happiness.

Fleeson, Malanos and Achille (2002) performed 3 studies to analyze extraversion. In the first study, the extraversion and positive effect was reported over 2 weeks every 3 hours while in the second study participants reported over 10 weeks ones a week the extraversion and positive effect on a weekly basis using diaries. In both studies each participant was happier when acting extraverted rather than introverted. In a third study participants were randomly asked during two group discussions to act introverted or extraverted. All participants acted thereby in the second discussion in contraire to the first discussion (e. g., acting introverted when they acted extraverted in the first discussion). The result showed that acting extraverted always leads to relevant higher positive effects than acting introverted (by acting extraverted the mean positive affect on a 7-point scale was 5.16 versus 2.34 when acting introverted). For introverted participants, this effect is bigger when they first act introverted and then extraverted (see Figure 2-1).

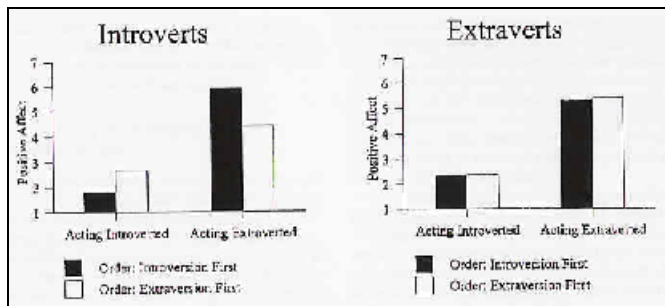


Fig. 2-1: Changes in positive affect by acting introverted and extraverted (Fleeson 2002)

**Being (acting) autotelic:** Csikszentmihalyi (1997) described that autotelic teenagers spend more waking time studying (11% instead of 6%), doing hobbies (6% instead of 3.5%), doing sport (2.5% instead of 1%) and watching less TV (8.5% instead of 15.2%) than non-autotelic teenagers. Regarding the quality of the experience of 202 autotelic and 202 non-autotelic adolescents during productive activities and active leisure activities Csikszentmihalyi (1997) showed that enjoyment, self-esteem and importance of one's activity to future goals are higher for the autotelic adolescents. In absolute figures, the enjoyment level and the happiness level in active leisure are about 30% and 12% higher in leisure activities compared to working activities, respectively.

Asakawa (2004) described the results of analyzing the time use and the quality of experiences of 26 autotelic and 26 non-autotelic Japanese college students. He found that the autotelic students reported significantly more positive experiences, they were more concentrated, felt more control of the situation and felt more importance for the future than non-autotelic students even when watching TV or doing maintenance work. Asakawa (2004) concluded also that for autotelic students the level of enjoyment, happiness, satisfaction, activation and concentration tended to go up in a stronger manner as their perceived challenge went up as compared to the level of the non-autotelic students.

For these reasons, a happiness enhancing program for introverts or non-autotelic persons may look rather different than those for extroverts or autotelic people. Such differences may empirically matter more than considering classical independent variables such as age or income.

### 2.1.1.2 Cognitive activities

**Practicing grateful thinking:** Emmons and McCullough (2003) performed 3 studies regarding practicing grateful thinking and subjective well-being. They found that daily self-guided gratitude exercises are more powerful regarding subjective well-being than weekly listing of grateful thinking events. Compared to a control group the persons practicing grateful thinking had in all 3 studies higher well-being scores regarding to "life as whole", regarding the upcoming week and regarding to the connection with others. In addition they reported to have more sleep, better sleep quality, less physical pain and greater optimism than the control group.

**Spending time socializing:** This aspect is described in chapter 2.2.2.1 part "Social activities / Maintaining relationship".

**Changes in believe:** A New Zealand's study described in Veenhoven's World Database of Happiness (2003) shows the correlation between happiness and changes in believes (see table 2-1).

Table 2-1: The 3 first columns are from Veenhoven’s database (World Database of Happiness 2003), the 4th. column is an indicator on how many energy effort is brought in by the person doing this activity (estimation)

activity	correlation	reference	Own energy input
Changes in believes	r=0.75 (r = Pearson’s product-moment correlation)	Veenhoven 2003a, P 2.1 Source: 23 persons in New Zealand in 1978 followed for 10 week, relation of difference in believes from T1 to T2 and difference in happiness between T1 and T2 (LICHT 1980/1)	high

### 2.1.1.3 Volitional activities

#### *Striving for (important) goals:*

Changes in happiness while striving for goals are described in Kasser (2002). He analyzed thereby the influence of making progress towards materialistic and non-materialistic goals and showed that making progress in materialistic goals did not enhance the well being level (high materialistic line) while achieving non-materialistic goals enhance the well-being level (see figure 2-2). On the other hand not achieving non-materialistic goals lowers the well-being level while the influence regarding to materialistic goals is minimal.

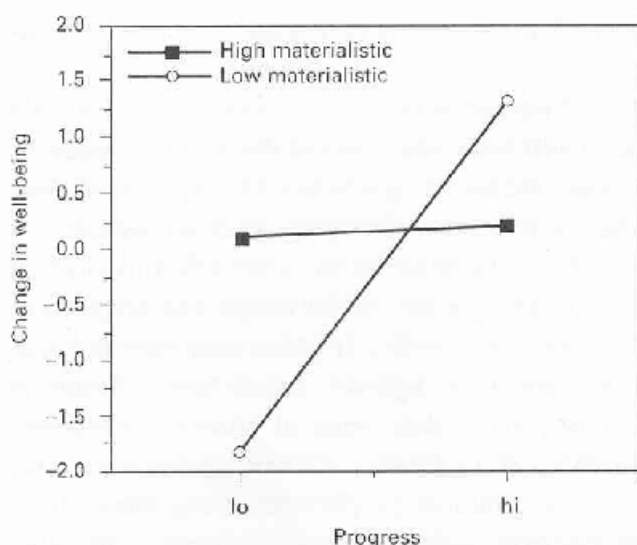


Figure 2-2: Changes in well-being as a function of the progress in materialistic and non-materialistic goals (Kasser 2002)

Oishi and Diener (2001) performed 3 studies with European Americans, Asian Americans and Japanese students to analyze cultural difference in achieving personal goals and well-being. In the first two studies they concluded that the pursuit of independent goals (for personal enjoyment and fun) and interdependent goals (to make friends and family happy) had different influence on the subjective well-being of European and Asian Americans. European Americans who pursued to make parents and friends happy enhanced their happiness level less than those who pursued independent goals. For Asian Americans it was exactly the opposite. In the third study with 70 Japanese students Oishi and Diener (2001) showed, that achieving goals to make friends and family happy enhances the well-being while achieving independent goals reduced the well-being level of the students. Students not achieving independent goals reported higher well-being than students achieving independent goals (!).

The studies described above show, that the selection of goals is important to enhance happiness and that cultural aspects have to be considered when goals are defined.

## 2.1.2 Activities sorted by leisure activities, working activities and personal activities

Before dividing into the different day activities some studies covering all activities using diaries or the experience sampling method (ESM) are summarized..

Gershuny (1996) analyzed based on personal diaries how the 1'440 minutes (24 h) of a UK adult's day were used in 1961 and 1984. As described in more detail in Hofstetter and Madjar (2003, p. 25), for men and woman highest enjoyment was in entertainment followed by playing sport, going to the pub, talking and reading newspaper. For women and men tidying came on the last place, followed by clothes washing and food shopping, for woman and followed by minor decorating work and food shopping for men.

Garhammer (2003) quoted a study done in Germany with 2'203 employed Germans with children and showed the satisfaction with life in general and with single living domains (see figure 2-3).

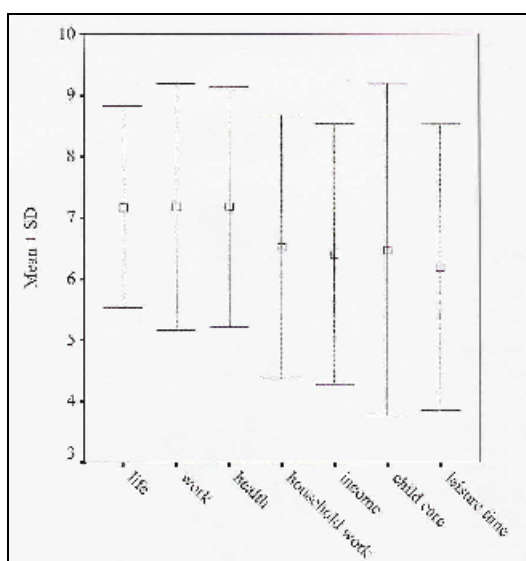


Figure 2-3 Satisfaction of 2'203 employed Germans with children Garhammer (2003)

Figure 2-3 shows that happiness with work and health is about as high as happiness with life in general. Lowest happiness is related to leisure time. Although happiness with leisure time, child care, income and household work is lower than happiness with work or health, this does not seem to lower overall happiness with life. An open question is, whether higher happiness in these last mentioned indicators would lead to higher life satisfaction in general or if happiness with work and with health are the dominant indicators for general happiness with life.

Csikszentmihalyi (2003) looked on happiness changes in everyday life of 828 students from 6<sup>th</sup>, 8<sup>th</sup>, 10<sup>th</sup> and 12<sup>th</sup> grades by using the experience sampling and showed the relationship between happiness and the different days of a week (see figure 2-4).



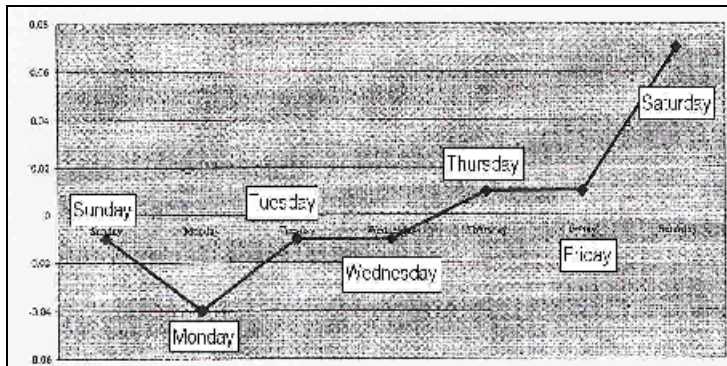


Fig. 2-4: Happiness score by day of the week (Csikszentmihalyi 2003)

Regarding weekdays Csikszentmihalyi (2003) showed, that the morning between 6-10.30 begins with lowest happiness score (between  $-0.15$  and  $-0.1$ ) rising to a first peak score of  $0.05$  between  $12.00$  and  $13.30$  going down towards zero between  $13.30$  and  $15.00$ , rising to  $0.1$  between  $15.00$ - $16.30$ , then decreasing from  $0.05$  at about  $18.00$  to  $-0.1$  at about  $22.00$ . By looking on the specific day activities Csikszentmihalyi (2003) showed that these happiness levels are linked to different activities. Positive related are eating a meal (happiness score  $0.19$ ) and talking to friends (happiness score  $0.35$ ) while individual work (happiness score  $-0.11$ ), listening to lecture (happiness score  $-0.21$ ) and unspecified homework (happiness score  $-0.30$ ) are negatively related.

The three examples show contradicting results regarding the activities with highest reported happiness scores. While in Gershuny (1996) higher happiness was reported for leisure activities, middle happiness was reported for paid work and lowest happiness was reported for household activities. In Garhammer (2003) happiness with work and even happiness with household activities are higher than leisure happiness. Both studies were done with working adults in Germany and the U.K., respectively. For students, work and housework is related to low happiness levels. It could be, that these differences appeared because happiness is also related to the expectations and personal values of the investigated persons and these expectations vary with different influence factors like age, culture etc.

### 2.2.2.1 Leisure activities

According to Csikszentmihalyi (2000) „...the reason activities with low external physical energy requirement result in greater happiness is that they usually require greater inputs in psychic energy”. Based on different studies done between 1988 and 1994 Csikszentmihalyi (1997) summarized based on day-times activities reported by representative adults and teenagers in the U.S. that active activities like talking, socializing and sex have very positive influence on happiness and on motivation and positive influence on flow. Hobbies, sports and movies have very positive influence on motivation and on flow and only positive influence on happiness and concentration. Watching TV has very positive effects on motivation but negative effects on the concentration and on the flow. Idle/resting has a positive effect on motivation but neutral effect on happiness and even negative effects on concentration and flow.

Myers (2002) concludes that the less expensive and usually more involving a leisure activity is, the happier the people are while engaging in it and that “low consumption recreation prove most satisfying”.

To have an estimation about the statements from Csikszentmihalyi (2003) and Myers (2002) in table 2-2 results of studies out of Veenhovens Database (Veenhoven 2003a) are listed and complemented by an estimation about the physical and psychic energy required by the individual as well as about the costs of the activity.

Table 2-2: The three first columns are out of the Veenhoven’s database regarding to leisure activities (italic are from Veenhoven (1994), normal text are out of the online Veenhoven database (Veenhoven 2003a), the 4th. column is an indicator on how many energy effort is brought in by the person doing this activity (estimate)

Leisure activity	Correlation with happiness	reference	Physical/psychical energy input	Cost's of the activity
<i>New hobbies</i>	<i>0.3&lt;G&lt;0.37</i>	<i>Veenhoven 1994, page 1012, Source: Employed males , England (PAYNE 1974) and 2787 U.S. persons 21-60 aged in 1963/64 (BRADB 1969)</i>	depends on activity	depends on activity
Hobbies	ns	Veenhoven 2003a, L3.4.2, Source: 422 male managers at Bell Telephone Company 40+ aged in 1978 (BRAY 1983)	depends on activity	depends on activity
<i>Watching more TV</i>	<i>ns</i>	<i>Veenhoven 1994, page 1013, Source: 62-89 aged females in the U.S. in 1967 and 1971 (GRANE 1975)</i>	low	low
Watching TV	r=-0.02	Veenhoven 2003a, L3.3.2.9, Source: 1776 people from Austria in 1984 (SCHUL 1985b)	low	low
<i>Having made new friends</i>	<i>G=0.37</i>	<i>Veenhoven 1994, page 1823</i>	medium-high	low
<i>Social activities</i>	<i>r=0.09 (r=0.17 for males)</i>	<i>Veenhoven 1994, page 1016, Source: 46+aged peoples in Duke (U.S.) in 1968 (PALMO 1972)</i>	medium	low
Doing things together with the family	r=0.45	Veenhoven 2003a, L3.4.3.2, Source: 679 adults in Australia in 1978 (HEADE 1981)	medium	low
<i>Leisure time activity like going for a walk, physical training, trekking etc.</i>	<i>r=0.14</i>	<i>Veenhoven 1994, page 1014, Source: adults Austria, 1984 (SCHUL 1985b)</i>	medium-high	depends on activity
Physical fitness activity	r=0.13	Veenhoven 2003a, S 12.2.1, Source: 1776 adults Austria in 1984 (SCHUL 1985b)	high	depends on activity
Passive involvement in sports	<i>0.07&lt;G&lt;0.33</i>	<i>Veenhoven 1994, page 1892</i>	low	depends on activity
<i>Mental work (games etc.)</i>	<i>r=0.43</i>	<i>Veenhoven 1994, page 1013, Source: school-boys London, England 1912 (WEBB 1915)</i>	high	low
<i>Reading books</i>	<i>0.14&lt;G'&lt;0.38 (depending on age and education)</i>	<i>Veenhoven 1994, page 1021, Source: 2024 16+ aged West German in 1973, NOELL1977/13236</i>	medium	Low (library) Medium (one-time use)

(r = Pearson’s product-moment correlation; G=Goodman& Kruskal’s Gamma (rage -1;+1); G’ = Gamma computed from the crosstabs; ns = not significant). If there are several findings the spectrum of r is indicated e.g. 0.2<r<0.5)

Boelhouwer and Stoop (1999) analyzed the data from Living Condition Index in the Netherlands from 1974 to 1997 using more than 3'500 adults. The correlation of different activities out of the living condition index and happiness (using a 5-step happiness scale) are described in table 2-3

Table 2-3: correlation between happiness and living conditions (Boelhouwer and Stoop 1999), the 4th. column is an indicator on how many energy effort is brought in by the person doing this activity (estimation)

Activity	Happiness 1993	Happiness 1997	Physical/psychical energy input	Cost's of the activity
Recent holiday trip	0.11	0.21	depends on activity	depends on activity
Volunteer work	0.08	0.08	high	low
Organizational membership	0.09	0.09	medium-high	depends on activity
Sport participation	0.10	not in the index	medium-high	depends on activity
Number of hobby activities	0.11	0.13	medium-high	depends on activity
Number of non-domestic entertainment activities	0.07	0.2	depends on activity	depends on activity
Active contribution to an association or club	not in the index	0.10	medium-high	low
Number of times a week sporting	not in the index	0.13	medium-high	depends on activity
Number of different sports	not in the index	0.19	medium-high	depends on activity

In Table 2-3 the difference in physical/psychical energy input and in cost's of the activities related to happiness can not be seen clearly as the definition of the activities is mainly too broad. Below some studies of different leisure activities are described in more detail.

**Social activities / Maintaining relationship / social support:** People in de-facto relationship reported higher well-being but well-being also affects de-facto relationships. However, the effect is weaker and age specific (Marks and Fleming 1999).

Diener and Seligman (2002) analyzed that very happy students have more close friends, stronger family relationship and more romantic relationships. During day activities they spend more time with friends, family and romantic partner and less time alone than unhappy students. Diener and Seligman (2002) stated that "...out of the fact that the data are cross-sectional we do not know if rich social lives caused happiness or if happiness caused rich social lives" and "...social relationships are a necessary but not sufficient condition for high happiness".

Out of the interpretation of different longitudinal studies Diener and Seligman (2004, p. 19/20) state that the causal path from relationship to well-being goes into both directions (higher well-being leads to closer relationship and vice versa).

Lu (1999) showed in a longitudinal study of 581 residents in Taiwan that out of the variables he analyzed, social support was the only one having weight on happiness.

**Religion:** Myers (2000, p. 284) describes the relation between religious attendance and happiness out of a general social survey with 34'706 participants in the USA in the years 1972-1996. It showed that the higher the attendance is, the higher is also the percentage of very happy people (about 28% of the people with less than monthly religious attendance are very happy while about 45 % of the persons with several times a week religious attendance are very happy).

**Love:** Diener and Oishi (2000) showed by using data from 7'167 students in 41 countries those who valued love higher than money have a much higher life satisfaction than those who give priority to money (the higher the importance of love is, the higher is also the life satisfaction level (see figure 2-5).

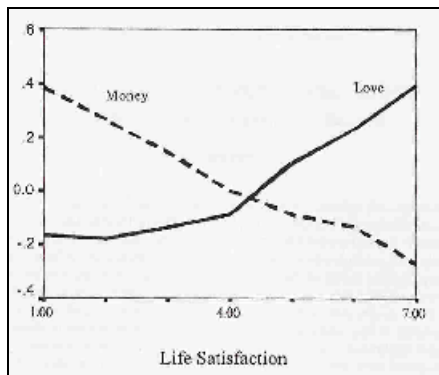


Fig. 2-5: Relation between life satisfaction and love respectively money (Diener and Oishi 2000)

In addition, love has a high influence on personal health. Ornish (1998) described several studies related to love and longevity where he showed that love respectively warm and close relationships have a big impact on longevity but also on the reduction of risk to get cancer, heart attacks etc. Love helps ill people to get recovered respectively to live longer than other ill persons that have not warm and close relationships Ornish (1998).

**Sports:** Hills & Argyle (1998) stated, that only participants of the sports group were significantly happier than non-participants. Further, a highly significant positive correlation between extraversion and sports was found.

**Stimulants:** Veenhoven (2003b) analyzed different studies using stimulants. He concluded that the correlation of alcohol consumption tends to be low and non-significant. Regarding the amount of alcohol consumption he stated a large-scale Danish survey that shows, that the relationship is like a reversed U pattern. People consuming 3-4 alcoholic drinks a week are happier than those who drink less or more than the 3-4 drinks (the difference between the highest and the lowest happiness rate is 7%).

More or less the same result can be seen for smoking (Veenhoven 2003b) while the use of psychotropic drugs is related slightly negative, specially the use of hard drugs.

**Sex:** Veenhoven (2003b) describes a Danish study from Ventegodt who compared the happiness of sexually active and sexually non-active people and found that the active ones are also the more happy ones. Further he found a positive correlation between permissive attitudes towards sex (in particular acceptance of pre-marital sex and homosexuality) and personal happiness.

Blanchflower and Oswald (1993) made, by using the 1990s data from the General Social Surveys of the United States, following conclusions: (a) Sex is strongly and positively associated with happiness (b) Sex appears to have disproportionately strong effects on the happiness of highly educated people (c) The happiness-maximizing number of sexual partners in the previous year is one (d) homosexuality has no statistically effect on happiness but strong positive effect on the amount of sexual activities (e) money buys more sexual partners but not more sex (f) men who paid for sex are considerably less happy than other people (g) Those who have ever had sex outside their marriage report markedly lower happiness scores.

#### 2.2.2.2 Personal activities (sleeping, washing, eating etc.)

Csikszentmihalyi (1997, p. 37) showed based on daytimes activities reported by representative adults and teenagers in the U.S., that housework is related negatively to happiness and flow. Grooming is neutral to happiness and flow, driving/transportation is neutral to

happiness but positively related to flow and eating is very positively related to happiness and neutral to flow.

Further personal activities are described in Table 2-4.

Table 2-4: The three first columns are from Veenhoven’s database regarding to personal activities (italic are from Veenhoven (1994), normal text from the online Veenhoven database (World Database of Happiness 2003), the 4th. column is an indicator on how many energy effort is brought in by the person doing this activity (estimate)

activity	correlation	reference	Own energy input
Paying attention on healthy food	<i>r=0.02</i>	Veenhoven 2003a, N 8.3.1, Source: 1776 adults in Austria in 1984 (SCHUL 1985b)	low-medium
Sleep (satisfaction with amount of sleep)	<i>r= 0.24</i>	Veenhoven 2003a, S 4.3.1, Source: 222 18+ aged persons the U.S. in 1973 (ANDRE 1976/5)	low

(*r* = Pearson’s product-moment correlation;; *G*=Goodman& Kruskal’s Gamma (range -1;+1);*ns* = not significant). If there are several findings the spectrum of *r* is indicated e.g. 0.2<*r*<0.5)

Boelhouwer and Stoop (1999) have also analyzed the correlation between the number of household appliances and happiness and came to a correlation *r*= 0.15 (for description of the study see chapter 2.2.2.1).

### 2.2.2.3 Work activities

Csikszentmihalyi (1997) summarized that working or studying is negative related to happiness but positively related to flow.

Diener and Seligman (2004) looked into the literature regarding well-being at work and found that although early research (1964-1985) in this field suggested that the relation between job satisfaction and productivity was small, newer research indicates that higher happiness at work leads also to better performance and to higher levels of organizational citizenship (Diener and Seligman 2004, p. 11). They quote Spector (1997), who showed that satisfied workers have lower turnover and absenteeism and are more punctual, cooperative, and helpful than unsatisfied workers. Further Diener and Seligman (2004) quote Harter, Schmidt and Hayes (2002) who found that worker’s job happiness correlates with the loyalty of customers and loyalty with customers correlates with profitability (Diener and Seligman 2004, p. 11). Regarding causality they conclude: “the causality between well-being on the job and the productivity of the organization is likely to work in both directions”. Out of the survey Diener and Seligman (2004) sum up that organizational policies can raise worker’s well-being and workers well-being result in positive organizational citizenship, customer satisfaction and possibly even greater productivity.

Regarding unemployment Marks and Fleming (1999) found that unemployment has one of the largest effects on well-being but he stated that the effect goes also in the opposite direction: Well-being has substantial effects on unemployment. In all cohorts the effect was significantly and remarkably consistent. Respondents scoring one standard deviation above the mean on the well-being index were 1.3 times less likely to be subsequently unemployed net of prior unemployment status (Marks and Fleming 1999).

Unemployment leads accordingly to Frey and Stutzer (2002) to a loss of subjective well-being of 0.33 units in the satisfaction scale (range from 1 “not at all satisfied” to 4 “very satisfied”).

Lucas et al. (2004) analyzed if unemployment alters the set point for life satisfaction by doing a 15-years longitudinal study of more than 15'000 German individuals. They found that people were less satisfied in the years after unemployment even though they eventually regained employment. The trend shows that the lower level seems stable even after many years.

#### **2.2.2.4 Activities with impact in other spheres**

Diener and Seligman (2004) quote different studies that show correlation between life satisfaction and work satisfaction. Further, they found that positive experiences at work reduced conflictual marital interactions on the same day and marital conflicts lead to less positive work experiences on the next day.

A meta-analysis on personality and job satisfaction conducted by Judge, Heller and Mount (2002) showed, by using 163 independent samples, that the correlation between personality and job satisfaction is  $r=0.41$ .

### **3 Circumstances**

In this chapter a selection of individual and non-individual circumstances and their effect on happiness is described. Out of Lyubomirsky, Sheldon, Schkade (2004) happiness is influenced to about 10% by circumstances. Therefore, it seems that this section is less relevant than section 2 but still some interesting information can be gained regarding the influence of circumstances on happiness.

#### **3.1 Individual circumstances**

**Gender:** According to Marks and Fleming (1999) women show higher well-being than men and the gender difference even increases with age.

Michalos (1991) reported very small sex differences in life satisfaction and happiness by analyzing over 18'000 students from 42 countries.

Seligman (2002) states that although there are no differences in happiness between genders on average, women are both happier and sadder than men.

**Marital status:** Lee, Seccombe and Shehan (1991) show that the percentage of married adults who report to be “very happy” was between the years 1972 and 1989 about 10 to 15% higher compared to the never married adults.

According to Marks and Fleming (1999) marriage significantly increases well-being levels as well as well-being affects the likelihood of being married.

Lucas et al. (2003) analyzed the happiness set point and the reaction to change in marital status using data from a 15-years longitudinal study including 24'000 individuals. They found that people on average get only a very small boost from marriage and go then back towards the base line. However, by analyzing individuals they found that many individuals reported substantial long-term changes in life satisfaction to both sides: many people end up happier but about a same amount of persons end up unhappier than they started.

**Children:** According to Marks and Fleming (1999) children have a negative effect on well-being.

**Education:** Easterlin (2001) shows that happiness varies directly with socio-economic status as measured by education. Higher educated persons are happier.

Seligman (2002) says that education has an influence on higher income but not on higher happiness except a slight influence by people with low income.

**Health/longevity:** A good overview about physical health and well-being is given in . Diener and Seligman (2004). Searching for literature regarding to this issue they came to following conclusions:

- a) Health is related to well being but there are also evidences that causalities might run from well-being to health (Diener and Seligman 2004 p. 13/14).
- b) Happiness is positively correlated with longevity (Diener and Seligman 2004 p. 14)
- c) Happiness is positively correlated with the immune system (happy people have a better immune system than unhappy ones, as described in Diener and Seligman 2004 p. 15).

Further, Seligman (2002) describes that objective health is barely related to happiness, whereas subjective perception on health is related to happiness. When an illness is severe and long-lasting this can diminish happiness but this happens slower than one normally expects, moderate illnesses does not bring unhappiness (Seligman 2002).

Danner, Snowdon and Friesen (2001) analyzed autobiographies of 180 catholic nuns between age 22 and 75 to 95 years. They found a very strong association between the positive emotions written in their biographies in early adult and their longevity 60 years later (probability rate of survival for a happy 90 years old nun is more than 2 times higher as for an unhappy 90 years old nun). Levy et al. (2002) found by analyzing 660 individuals aged 50 and older in Ohio that positive self-perception of aging measured 23 years earlier increased the lifetime by 7.5 years compared to those with less positive self-perception of aging.

**Race:** According to Seligman (2002) race is at least in the U.S. not related to happiness.

**Intelligence:** Seligman (2002) says that intelligence is not related to happiness

**Rush:** Lane (2000) analyzed the change of the well-being and the satisfaction with non-work time. He found that people who report they are never rushed as well as people who are always rushed are dissatisfied with their non-work time and their index of well-being is negative while people in the middle between always rushed and never rushed report satisfaction with non-work time and have a high index of well-being.

**Money:** Myers (2000) shows that although personal income in the USA more than doubled from 1957 to 1998 the percentage of very happy people has declined from 35% to 30% and the percentage of Americans saying that they are pretty well satisfied with their financial situation dropped from 42% to 30% (Myers 2000, p. 137). Asking new collegians in the USA (annual survey of more than 200'000 new collegians) about what is very important to them the percentage of persons that answered "be very well off financially" rose from about 42% in 1966 to about 74% in 1999 while the percentage of persons that answered "developing a meaningful philosophy of life declined from about 82% in 1966 to about 40% in 1999 (Myers 2000).

A longitudinal study done by Malka and Chatman (2003) about income, subjective well-being and job satisfaction showed that income is only weakly associated with these two subjects but by dividing the respondents into extrinsic and intrinsic individuals work oriented persons the result shows that for individuals high on extrinsic work orientation higher income is positively related to subjective well-being, job satisfaction and life satisfaction, while for

people with high intrinsic work orientation higher income is negatively related to subjective well-being and life satisfaction (see table 3-1)

Table 3-1: Relation between higher income and subjective well-being (SWB) / job satisfaction / life satisfaction for different work orientations (Malka and Chatman2003)

Work orientation	SWB	Job satisfaction	Life satisfaction
High extrinsic	0.11	0.32	0.16
low extrinsic	-0.28	-0.08	-0.28
High intrinsic	-0.41	0.02	-0.39
Low intrinsic	0.05	0.18	0.07

The relation between purchasing power and happiness for different countries in the world is described in Veenhoven (2004) and can be seen in figure 3-1.

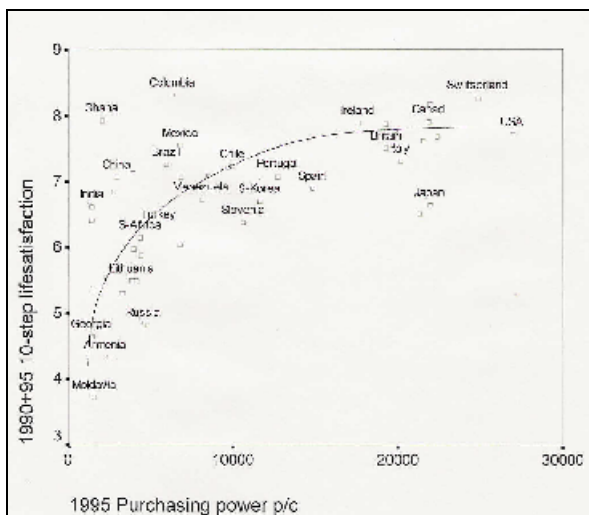


Figure 3-1: Relation between purchasing power and happiness in the 1990s (Veenhoven 2004)

For additional reviews of studies on money and happiness see Hofstetter and Madjar (2003).

### 3.2 Non-individual circumstances

**Region of residence:** The living region seems to have little impact on happiness when comparing regions in the same country. Schkade and Kahneman (1998) e.g. showed that life satisfaction was the same in the two U.S. regions Midwest and Southern California.

**Climate:** According to Seligman (2002) climate is not related to happiness. As living in Southern California with a nice climate does not make people much happier (see Schkade and Kahneman 1998 just above) this could be an additional indicator that the climate effect on happiness is small.

**Democracy:** Frey and Stutzer (2000) analyzed based on a survey in Switzerland with 6'000 persons spread over all 26 Swiss cantons, that the more developed the institution of direct democracy is, the happier the individuals are (due to the federal structure of Switzerland major competencies remain with the cantons).

Inglehart and Klingemann (2000) analyzed the data from the 1990-1995 World Values Survey on the relationship between well-being and democratic institutions (see figure 3-1).



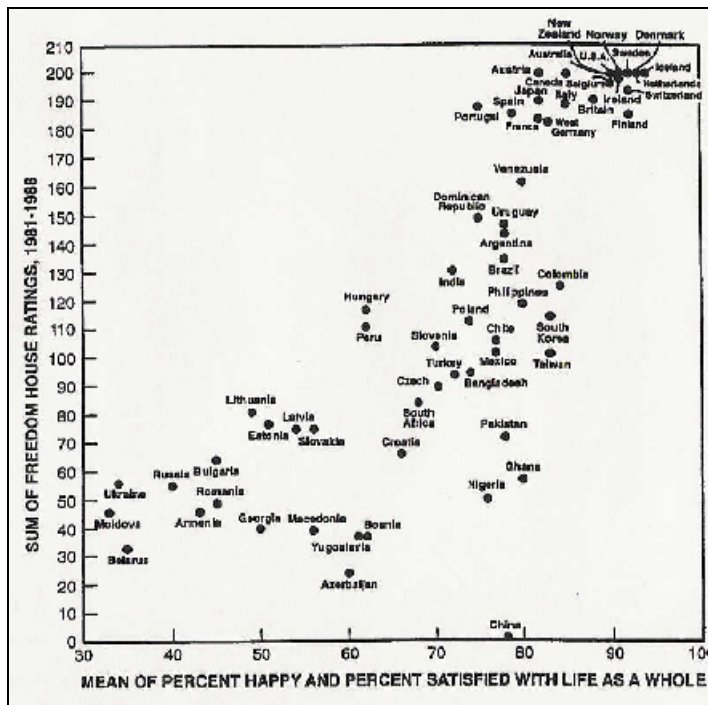


Fig 3-1: Subjective well-being and democratic institutions (Inglehart and Klingemann 2000)

Inglehart and Klingemann (2000) stated that the correlation between happiness and democracy is 0.78, but they cautioned that the reality is not as simple and that democratic institutions do not necessarily make people happy as other factors like GDP, work force employed in the industrial sector and society’s education could be relevant. Out of their analysis Inglehart and Klingemann (2000) concluded that “although democracy and well-being are strongly linked, the interpretation that democracy determines well-being does not stand up: other factors - particularly the number of years of communistic rule and the society’s level of economic development – seem to play much more powerful roles”.

**GDP:** Different studies (e.g. Myers 1993, Easterlin 2001, Frey and Stutzer 2002) show that after a certain limit of GDP, happiness does not arise but stays stable while GDP increases (see also Hofstetter and Madjar 2003 for further information).

## 4 Sustainable consumption

### 4.1 Materialism

One possible characteristic of individuals is their attitude towards materialism. Sirgy et al. (1998) found that for the materialistic group economic independence and material satisfaction significantly affect their overall life satisfaction while in the low materialism group education, friends and associates, leisure life and cultural life significantly affect their overall life satisfaction. In addition he showed, that for high materialism subjects the dissatisfaction with the possession is greater than for the low materialistic group.

Kau et al (2000) analyzed 153 households in Singapore found as well that low materialistic people were more satisfied with life overall. High materialistic people were less satisfied with friends, job, material comfort and money compared to low materialistic people.

Further studies going into the same direction are described in Sirgy et al. (1998), Diener and Biswas-Diener (2001) and Diener and Seligman (2004). In Diener and Biswas-Diener (2001, p. 144) materialism and life satisfaction is also analyzed in relationship to income. They showed that with low income level the difference in happiness from materialistic people and non-materialistic people is bigger and becomes smaller with higher income.

Diener and Seligman (2004) discussed the causal way of happiness and materialism and suggested that although most studies concluded that materialism tend to decrease happiness it could also be that unhappiness could drive people to focus on extrinsic goals such as material wealth. Further they state that “longitudinal data indicate that part of the typical correlation between income and well-being is due to well-being causing higher incomes rather than the other way round”.

Malka and Chatman (2003) found that intrinsically oriented people were less happy at higher income level than extrinsically oriented people (as money is not the main motivator for intrinsically oriented persons). Further, business students who were most motivated by money were happier on a job years later the higher their earning is where happiness of intrinsically oriented people decreases years later the more income they earned (Malka and Chatman 2003).

Kasser (2002) stated, that many different studies show that a materialistic orientation will be developed when individuals (especially in childhood) had experiences that fail to support their needs for security, safety and sustenance. His understanding is, that if people experience situations like non-nurturing parents, poverty, death etc. this leads them to feel insecure. Insecurity causes unhappiness and unhappiness leads people to pursue materialistic aims by thinking that possession gives them security. When people then feel the emptiness of their decision they often persist in thinking that more will be better and therefore they have to continue to strive for materialistic aims without making them happier (Kasser 2002).

Tatzel (2003) showed that well-being is associated with lower financial aspirations and with moderat disposition (persons tight with money and persons loose with money are less happy than persons with moderate disposition). Persons with high financial aspirations have totally lower well-being levels (see figure 4-1).

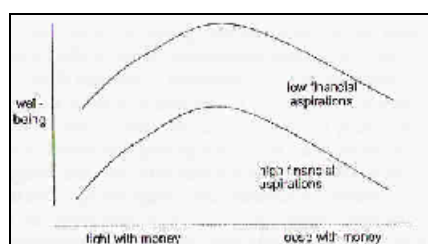


Fig. 4-1: Schematic relationships among money dispositions, financial aspirations and well being

Based on money disposition and materialism Tatzel (2003) defines four categories of consumer lifestyles:

- a) the value seeker (tight with money and materialistic)
- b) the big spender (loose with money and materialistic)
- c) the non-spender (tight with money and non-materialistic)
- d) the experienter (loose with money and non-materialistic)

A meta-analysis on materialism and life satisfaction conducted by Wright and Larsen (1993) showed by using 39 studies of materialism done by Belk, Dawson and Barnossy, Richins and

Dawson, Cole et al. and Sirgy et al. during the years 1985-1993 that the average relationship between materialism and happiness was  $r=-0.25$ .

Although materialism is negatively related to happiness as seen in the different studies above, some consumer goods are positively related to happiness. Boelhower and Stoop (1999) have analyzed the relationship between happiness and the number of hobby articles (correlation  $r=0.19$ ) respectively about happiness and owning a car (correlation  $r=0.17$ ).

The causal way of happiness as described in Diener and Seligman (2003) seems to be important for our study as we are interested to see the effect of changing behavior on happiness and effects of changing happiness on behavior. Therefore, as described in Section 1.1, longitudinal studies will be more relevant for us than cross-sectional studies. The only longitudinal studies used here are Malka and Chatman (2003), some studies described in Diener and Seligman (2004) and Diener and Biswas-Diener (2001). For deeper insight further research with longitudinal studies are needed.

If the findings in Diener and Seligman (2004) that higher well-being causes higher income hold then it would be interesting to analyze what influence enhancing subjective well-being and higher income will have on the personal behavior. Will this lead to higher materialism or higher consumption? Will this possibly higher consumption be sustainable? Would this lead to a negative effect (rebound effect) on happiness?

## 4.2 A look into programs to enhance happiness and into studies about performed programs

If you want to be happy for an hour, drink a beer.  
If you want to be happy for a week, kill your pig and eat it.  
If you want to be happy for a year, then marry  
But if you want to be happy all your life, become a gardener.  
(Chinese saying)

Based on results from happiness studies different happiness researchers defined steps or items to become happier. Different studies showed the success of these programs.

### 4.2.1 Happiness programs

In table 4-1 is a selection of these steps/items from different happiness researchers are shown. We tried to sort the different items so that similar items are on the same line. In addition we tried to estimate the material impact of these items (high or low material intensive activities/items).

Table 4-1: How to become happier (step/items to become happy from different authors)

No	Fordyce (1993) <sup>1</sup>	Myers (2004)	Wieseman <sup>2</sup> (2003)	Varughese (2004)	Montier (2004)	Material intensity/costs
1	keep busy and be more active	join the “movement” movements (body movement)			Exercise regularly	Low (high)
2	spend more time socializing		Maximize the lucky chances by creating a luck-network and look after it			Low - medium
3	be productive at meaningful work	seek work and leisure that engages your skills			Seek work that engages your skills, look to enjoy your job	Low
4	get better organized and plan things out					Low
5	stop worrying					Low
6	lower your expectations and aspirations					Low
7	develop positive, optimistic thinking		Transform unlucky events into lucky events by being convinced that bad luck turns to luck			Low
8	become present oriented		Transform unlucky events into lucky events by not brood over past unlucky events	Be in the moment	Don’t pursue happiness for it’s own sake, enjoy the moment	Low
9	work on healthy personality					Low-Medium
10	develop an outgoing social personality		Maximize the lucky chances by being open for new experiences			Medium
11	be yourself			Know thyself		Low
12	eliminate negative feelings and problems		Transform unlucky events into lucky events by discern the luck in the bad luck			Low
13	close relationships are the number one source of happiness	give priority to close relationships			Devote time and effort to close relationship	Low
14	put happiness as your most important priority	act happily		Prioritize happiness	Pause for reflection, meditate on the good things in life	Low
15		be grateful				Low
16		focus beyond self		Recognize the Other		Low
17		nurture your spiritual self		Go within		Low
18		realize that enduring happiness does not come from financial success			Don’t equate happiness with money	Low
19		give your body the sleep it wants			Give your body the sleep it needs	Low
20		take control of your time	Count with a lucky future by trying to reach the goals even if the success seems low		Take control of your life, set yourself achievable goals	Low
21			Transform unlucky events into lucky events by preventing actively			Not applicable

<sup>1</sup> The fundamentals are based on over 300 previous happiness studies and were further reduced by experiments.

<sup>2</sup> Wieseman talks about luck and shows that lucky people are happier than neutral people or unlucky fellows

			unlucky situations			
22			Follow the lucky inspirations by listening to the inner voice/ supporting the own intuition the interactions with others will be positive			Not applicable
23			Count with a lucky future by expecting that <ul style="list-style-type: none"> <li>• luck will also be there in future time</li> <li>• the interactions with others will be positive</li> </ul>			Low
24				Enhance your self-esteem		Low
25				Transcend happiness		Low
26					Have sex (preferably with someone you love)	Low

Lyubomirsky, Sheldon and Schkade, D. (2004) describe several conditions to pay attention on by initiating a new activity that enhances the happiness level:

- 1) the activity has to fit to the person
- 2) a first effort is required to initiate an activity and the second effort is required to carry out and maintain the activity
- 3) making out a habit out of the activity but be aware not making the “how” of the activity to a habit (e.g. jogging can be a habit but by running always the same route, the same time with the same speed can be problematic regarding to an increase of happiness) and
- 4) accumulations of need-satisfying activities as well as greater feelings of competence and relatedness regarding to the activity are mediators of happiness increase.

Kasser (2002) describes 17 possibilities to change materialistic thinking distinguishing the personal, family and society level (see Table 4-2). Kasser (2002) assumes that a reduction of materialism is related to higher subjective well-being (see Section 4.1).

Table 4-2: Changing materialistic thinking (Kasser 2002)

level	activity	Explanation (out of Kasser 2002)
Personal changes	Contemplate the meanings of the materialism research	To be confronted with concrete information about the negative consequences of materialism can lead people to change their values and their behavior
	Look what is scaring you	Many studies show that when needs for security, safety, and sustenance are not fully satisfied, people place a strong focus on materialistic values and desires
	Get off the materialistic treadmill	By striving for materialistic values we constantly measure ourselves against unrealistic or ever-rising yardsticks and are rarely satisfied with what we have attained
	Ask yourself why you really want money, looks, or fame	Money is good for buying food, shelter and other necessities but can not buy self-esteem, love, freedom etc.
	Rethinking your relationships	Look if you put enough time and energy into the relationship, check if relationship is characterized by empathy, mutuality and sharing
	Change your activities	Perform activities that are congruent with intrinsic values and those to which you feel drawn by your individuality
Family changes	Remember the saying “Monkey see, monkey do”	When parents behavior reflects materialistic values, their children are likely to imitate them
	Change children’s activities	Limit child’s exposure to materialistic measures

	Talk to your child about materialism	Talk to children about money and how to use it responsibly. Teach children about the messages and motives of advertisements
	Band together with other parents	
	Change what happens at school	Discuss with teachers about advertisements and media in schools. Check about alliances or exclusive contracts of the school with companies (e.g. computer offers, contracts with soft-drink manufactures etc.)
Society changes	Regulate advertisements	
	Pursue legal strategies against advertising and media industries	Advertisement can also be seen as a kind of pollution, feelings are manipulated to increase the motivation to purchase the advertised product. Therefore strategies like against the tobacco industry can be considered
	Support corporations that are more intrinsically oriented	Socially responsible companies should be supported
	Vote for governmental officials who realize that increasing national wealth will not increase happiness	As citizens we must recognize that that a national agenda focussing on economic growth will not improve the quality of our lives. One step would be to reconsider the national measure of "progress"
	Work to ensure everyone's security	Help to eliminate poverty as failing to satisfy people's need for safety and sustenance will lead to higher materialism and lower well-being
	Experiment with alternative economic systems	Possible examples are Local Exchange trading Systems (LETS) or alternative money systems (e.g. Ithaca) etc.

#### 4.2.2 Success of the happiness programs

Fordyce (1993) described four studies with students about programs for happiness increase. In the first study he showed that students working with the full program of his 14 fundamentals (see table 4-1, first column) demonstrated statistically relevant happiness increase compared to students who received only an introduction of the program (6% claimed extreme happiness increase, 30% reported much happiness increase, 39% reported that happiness increased "somewhat", 6% reported a slight increase, 17% reported no effect and 2% reported a decrease in happiness). In the next study he compared the full program versus a control group receiving almost half of the information and showed also slightly statistical relevant happiness increases (4% reported extremely happiness increase, 26% much happiness increase, 42% reported that happiness increased "somewhat" and 10% a little happier). In the third study, the changes in happiness of students receiving the full program was compared to students receiving only partial instructions and compared to a control group receiving "placebo instructions". He showed that after 6 weeks all three groups compared to the placebo group increased their happiness level significantly (4% claimed extreme happiness increase, 22% reported much happiness increase, 36% reported that happiness increased "somewhat" and 12% a little happier). To check if the happiness level increase last over longer time than the 2 weeks up to 4 month the first three studies lasted, the next study involved a 9-18 month follow-up from past participants. Out of the 150 mailings 40 were returned undeliverable and 69 questionnaires were completed (about 63% of the received mails). 96% of the respondents continued to think about the happiness information (39% of them nearly daily, 28% sometimes, 20% only when they hit "down times", 8% rarely and 5% never. Regarding happiness increase 24% claimed that they were fare more happy than they might have been, 25% reported they became a good deal happier and 23% claimed them somewhat happier. Out of the remaining 28%, for 11% the program helped only in the beginning, 8% felt too happy as the program could increase their happiness and 8% claimed no effect.

Seligman (2004) described the teaching he did with students regarding happiness and he concluded that "... teaching this subject has been the most gratifying teaching I have done in my forty years as an instructor. I have seen young lives change before my eyes, and more importantly, I have never seen such engagement and such mature intellectual performances by undergraduates.

Fava (1999) developed a well-being therapy over 8 sessions based on Carol D. Ryff's multidimensional model of psychological well-being. In the initial session patients are asked to rate the circumstances surrounding the episodes of well-being on a scale from 0 to 100 and to report this in a structured diary. If the instances of well-being are recognized the patients are asked to identify thoughts and beliefs that lead to premature interruption of well-being. The main focus lies thereby on the self-monitoring. In the final sessions the analyst realizes out of the diaries impairs of well-being and helps the client to change errors in thinking. By a study with major depression patients it was seen that the group that had received well being therapy had a significant lower level of residual symptoms after discontinuing antidepressant drugs and after a two years follow-up they had a 25% lower relapse rate.

Sheldon and Lyubomirsky (2004) performed 3 studies on achieving sustainable gains in happiness. to show that changes in activities will improve sustainable gains in happiness while changes in circumstances will not be as successful. In study 1 they showed that less hedonic adaptations and greater increase in positive effects is reported by activity based changes than by circumstantial based changes. In study 2 and 3 they showed that while positive changes for activity and circumstantial changes will enhance well-being in short time (time 1 after 6 weeks) only activity changes will enhance happiness on longer times (time 2 after 12 weeks later). In study 3 in addition to study 2 participants completed the 4-items happiness scale at each time period. Sheldon and Lyubomirsky (2004) suggests out of study 3 "... that activity changes can lead to sustainable gains in absolute levels of well-being as well as sustainable rank-order gains in well-being.

### **4.3 Sustainable consumption**

Veenhoven (2004) wondered whether sustainable consumption is likely to result in a "greater happiness of a greater number" (utilitarian moral). Therefore he analyzed the consumer behavior and happiness on a micro and on a macro level. He distinguished sustainable consumption by following notions:

- 1) Less consumption (call for zero growth or net decrease)
- 2) Eco-friendly consumption (reduction of pollution and CO<sub>2</sub> emission)
- 3) Tradition friendly consumption (e.g. buying organic food products locally from small farmers)

On a micro level (individual consumer behavior) he concluded that the correlation between possession of consumer goods and happiness is typically small but positive. On a macro level (consumer society) he looked on the purchasing power of a nation and happiness (see Figure 3-1) and on the ecological foot print and happiness (see Figure 4-2).

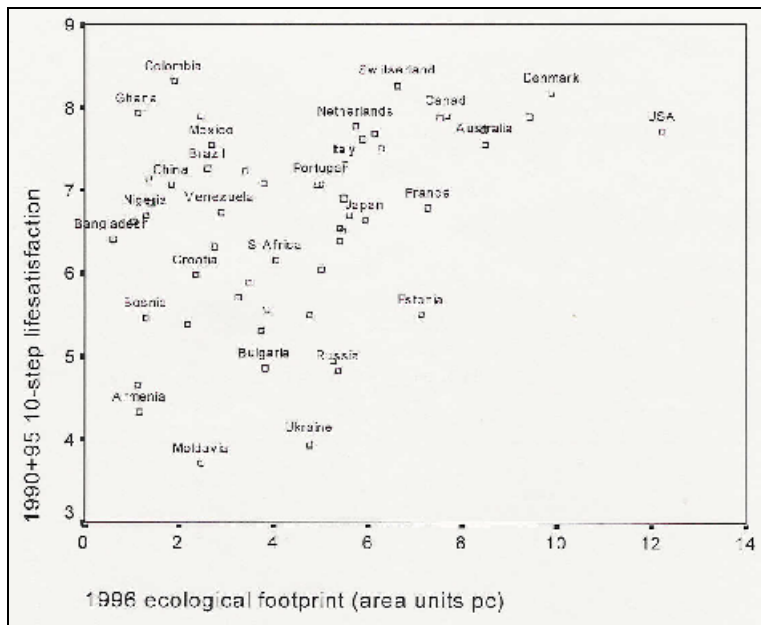


Figure 4-2: Ecological footprint and happiness in nations in the 1990s (Veenhoven 2004)

Out of the micro-level and macro-level analysis Veenhoven (2004) summarized, that these data do not suggest that the turn to sustainable consumption will make people happier. His conclusions were, that the data rather show modest positive effects of material wealth and therefore a shift to sustainable consumption will not result in greater happiness for a greater number in present generation. On the other hand he concluded that the Mexicans were as happy as the British although they consume less than half of the amount British do (see Figure 3-1) and that 30 years ago British and the Americans lived equally happy with half of the consumption of today. Veenhoven's conclusion based on Figure 4-2 does not seem so clear to us, as the figure shows that the USA, Canada, the Netherlands Mexico and Ghana are on the same happiness level although the difference in footprint is huge. But still the contradiction between the positive correlation of happiness and single consumer goods on one hand and the negative correlation of happiness and materialism seems to remain open (see discussion in Section 5).

The success of the described happiness programs in Section 4.2.2 suggests that by changing the focus towards "inner aspects" as described in Table 4-1 happiness can be increased. As these aspects are not related to materialism, living these values will automatically lead towards less focus on consumption and probably towards less consumption absolutely. It could be, that happy people are more alert towards ecology and therefore consume also more eco-friendly (this assumption has to be further analyzed). Additionally it could be that happy people also tend to consume more tradition friendly (this assumption has to be further analyzed, too).

## 5. Discussion

The provided literature research suggests that changes in non-materialistic or low materialistic activities are correlated with happiness increase (see Section 2). The different programs to enhance happiness confirm that most of the activities described are activities with low material and external energy input but with higher personal energy input (Table 4-1). Materialism itself is negatively related to happiness and explanations regarding this



negative effect are given (Section 4.1). This conclusion is in accordance with Myers (2002) who stated that "...the things that make for genuinely good life – close relationship, a hope-filled faith community, positive traits, engaging activity – are enduring sustainable". According to Myers (2002) the trap is, that this knowledge helps only to endure sustainability if people realize this conclusion and start to change their life.

On the other hand possession of durable goods is slightly positive related with happiness (Boelhower and Stoop 1999, Veenhoven 2004).

For the three analyzed consumption items (cloth dryer, computer, mobile phones) it can be seen in report D1 (Literature Research on empirical data exploring the relationship between the three cases and subjective well-being) that the correlation with happiness is in most of the quoted studies statistically not significant. But, e.g., regarding the question if the overall conditions of computer and mobile phone users are excellent, Anderson (2004) showed that the overall conditions decreased for people who did not have a computer or mobile phone on time 1 but owned a computer or a mobile phone at time 2. Further, it has to be kept in mind, that computers and mobile phones are not only possessions but also useful for social activities (talking together, having contact with new persons etc.). As described in Kraut and Kiesler (2003) the internet use was associated with increase in community involvement and self-esteem and declines in loneliness, negative effect and time pressure among extraverted. The opposite was the case for introverts. Kraut and Kiesler (2003) made also a distinction between using the internet for entertainment and information search and using the internet for communication with friends and family and meeting new people. Persons using the internet for social purposes are more socially involved in normal life but their use of the internet for social purposes predicts declines in some measures of social engagement. Therefore, analyzing the purchase reason of computers or mobile phones seems to be important.

One general problem regarding the interpretation of the quoted studies is that most of them are cross-sectional studies and not longitudinal studies. Therefore, the direction of the causation cannot be identified. Other influences can be relevant as well, as it was argued in the example about happiness and democracy. The described correlation can easily lead towards wrong interpretations. Most of the studies do not span long periods. Therefore, we do not know if, e.g., an increase in happiness by buying a car will endure or if an adaptation occurs. In the latter case this would mean, that either a new car or a bigger car will be needed after a certain time to keep the achieved level of happiness.

Most of the studies described in this review used college students in the United States of America as subjects. Oishi and Diener (2001) showed that cultural differences exist and that, e.g., goals that enhance happiness have to fit to the culture as well as to the individual person. Therefore, we have to be careful in generalizing all the results described in this article. In spite of this fact, some general conclusions are, e.g., to focus on activity changes, rather than on circumstantial changes or acting more extraverted.

As Myers (2000) mentioned, it is important to help people realizing the relationship between happiness and materialism or material wealth. Ways have to be found to spread the information through the different media like school, internet, TV, books etc. But realizing the relationship is only the first step.

The second step is to implement this knowledge. As performing personal changes requires a lot of discipline (not to fall back into the old pattern) structures have to be established that keep the learners on track.

In summary, to enhance happiness on a long term, some more general points in addition to the happiness programs are described in Table 5-1.

Table 5-1: Summary of some general important points to enhance happiness

	<b>What is important?</b>	<b>What could help?</b>	<b>What is contrary?</b>
1	to understand cognitively the relationship between happiness and materialism	a) Reading the happiness literature. This should be part of lectures in school at all levels and disciplines. b) Create a happiness game	
2	to feel that happiness is something that is important to one's life	Having models (idols) that show how happiness can be lived	
3	to believe (to know) that one is able to change the situation and to get to the result	happiness circles (self helping groups) could be built	a) Thinking that nothing can be changed as all happens by chance b) Scare of changes
4	to have guidance in changing the situation	Using one of the described programs and either set and control the program by oneself or by being in a happiness circle (it is easier to learn together)	
5	to make positive experiences and to see that progress is achieved	a) Setting achievable goals b) Being attentive on happy situations c) Writing down daily happy situations and the personal level of happiness	To focus on consumption
6	To have discipline, self-control		always start with new ideas

Further studies are needed to analyze the change in the amount of consumption of people that enhance their happiness with happiness programs and regarding to the possible change in consumption style (towards eco-friendly consumer products and towards tradition friendly consumer products).

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