



How to pursue quality of life

Prof. dr G. Antonides

Farewell address upon retiring as Professor of Economics of consumers
and households at Wageningen University on 7 July 2016



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Front cover photo by The Mazeking (Gabriel Asoka) from his "Happiness Here" Art work.

"Happiness Here" is an interactive street art project started in June of 2012. To date over 189 Happiness Here installations have been placed throughout the world, 170 in New York City alone, creating a maze through the city.

ISBN 978-94-6257-373-4

How to Pursue Quality of Life¹

“To be happy, you have to do something that makes you happy”
(Johan Cruijff)

“Happy people know what they want to do and are doing it”
(Brickman & Coates 1987, p.227)

Introduction

Esteemed Rector Magnificus, dear colleagues, students, friends, and family, it is a great pleasure to look back at my scientific career, in different workplaces, especially as a Professor of Economics of Consumers and Households at Wageningen University. I would like to do so by providing a coherent lecture about contributions of behavioral economic research—including some of my own and my co-authors—in the area of well-being, or quality of life, as it is called in Wageningen.

The values, attitudes, and behaviors of consumers and households are subject to gradual change, due to increasing wealth, improving technology, and social change, with consequent changes in consumer welfare. Some of these changes take place over the lifetime of consumers and the life cycle of households, and some take place over generations. For ages, the main indicator of consumer welfare has been the national income, although also other objective indicators, such as education, and health, have been used (OECD, 2015). One of the most influential theories on how to reach maximum lifetime welfare is the economic life cycle model (Modigliani, 1988), which is based on reaching maximum lifetime utility from consumption. In the past decades, however, interest in the concept of well-being and its determinants has increased, among both economists and psychologists. The OECD (2015) and United Nations (Helliwell et al., 2016) have even developed subjective well-being indexes for countries around the world. The country of Bhutan was the first in the world to adopt the concept of subjective well-being (SWB) to measure its socio-economic

1 An adapted version of this farewell address will appear as Antonides, G., & Van Klaveren, C.P.B.J. (2017) *How to pursue quality of life*. In Lewis, A. (Ed.) *The Cambridge Handbook of Psychology and Economic Behavior*. Cambridge: Cambridge University Press.

development, as an alternative to the gross domestic product (GDP). In 2006, only 4% of countries in the world ranked higher in SWB than Bhutan (White, 2007), but 68% ranked higher in terms of GDP. Although SWB generally is correlated with GDP (Deaton, 2008), these figures indicate large discrepancies between these two measures.

The interest in SWB has led to alternative ideas about how to increase happiness or quality of life than by consumption alone. In the remainder of this contribution we will deal with several large-scale economic and cultural trends, as well as several public institutions, influencing SWB at the country level, and household and consumer behavior influencing SWB at the micro level. A number of these factors might be used in policy making aimed at increasing quality of life. Although SWB, happiness, and quality of life have different connotations in the extant literature, we will use these terms interchangeably here.

Large-Scale Trends

It is well known that a country's SWB is positively related to GDP per capita at a marginally decreasing rate, in agreement with the common shape of consumer utility functions (Dolan et al, 2008; Clark et al., 2008). This relationship explains why a higher income may increase SWB relatively fast for low-income countries (Frijters et al., 2004; Inglehart et al., 2008), and relatively slow for high-income countries (Easterlin, 2001, 2005).² Inglehart et al. (2008) explain these findings from a shift in focus on survival needs to a focus on self-expression values and free choice as countries become more wealthy³. As soon as survival needs are fulfilled, further income increases do not result in much higher SWB. Instead, at higher levels of income, more free choice and control over one's life may result in further increases in SWB. Free choice and self-expression values are part of the long-term trend from materialistic to postmaterialistic consumption values in the western world (Inglehart, 1990, 1997). Indeed, Delhey (2009) finds that in high-income societies, personal autonomy values are more important in explaining happiness differences than income, whereas the same is true for societies characterized by postmaterialistic values. A related result yielded that one's job creativity ratings are more important in explaining happiness than income.

2 Although Stevenson and Wolfers (2013) show that SWB increases in log-income at a faster rate for high-income countries than for low-income countries, their finding still supports the idea of the marginally decreasing rate of SWB in income for high-income countries than for low-income countries.

3 The emergence of higher needs after satisfaction of lower needs is consistent with Maslow's need hierarchy (1970).

Materialistic values are characterized by traditional and survival values, such as authority, obedience, national pride, economic security and economic growth. In contrast, postmaterialistic values include secular-rational and self-expression values, such as independence, democracy, freedom of expression, quality of life, and the development of new ideas and environmental values (Inglehart & Baker, 2000). Inglehart et al. (2008) used data from 88 countries included in the World Values Survey, a large sociological survey taking place about every five years, to study changes in SWB. They found that the “sense of free choice” measure positively affected SWB, especially for countries with higher GDP per capita.

Besides the consumption effect of the level of GDP, also the relative income effect within a country may influence SWB. Research shows that people evaluate their own income in relation to a certain reference level, for example, the average income in their country or average income in their social reference group (Clark et al., 2008). Knight et al. (2009) show that relative income is related more to SWB than absolute income. They find that judgments of own income as being lower than average resulted in much lower SWB than a higher than average income resulted in higher SWB. The latter finding is related to the shape of the SWB/utility function, which is steeper at the lower end of the income scale than at the higher end. Less income inequality obviously will reduce the low/high disparity and will increase SWB at the country level (Clark et al., 2008; Oishi & Kesebir, 2015). Alternatively, one might consider a low income as a loss compared to the average level, and a high income as a gain. Since losses count heavier than commensurate gains in prospect theory (Kahneman & Tversky, 1979), the latter interpretation is qualitatively similar to the first.

In consumer research, consumer values have been related to consumption and life styles. A materialistic consumption style has been characterized by possessiveness, nongenerosity, and envy (Belk, 1985). Richins and Dawson (1992) define materialistic consumption as the importance a person places in acquisition centrality, acquisition as the pursuit of happiness, and possession-defined success. The well-known Values, Attitudes and Lifestyles (VALS) methodology is also based on measuring consumer value types (Mitchell, 1983). Its latest version includes eight consumer types, whose consumption is driven by three different motivational routes: achievement, ideals, and self-expression. The achievement route seems most related to materialistic values (e.g., “money as source of authority”), whereas the routes of ideals (e.g., “rely on spirituality”) and self-expression (e.g., “go against the current mainstream”) seem to be based more on postmaterialistic values. Postmaterialistic values seem to be driving consumption into directions of buying brands from companies committed to social responsibility (Nielsen, 2014, 2015), sustainable buying behavior, especially for

food (National Geographic, 2014; Greendex, 2014), shared or collaborative consumption (Hamari et al., 2015), buying services instead of goods, and buying experiences instead of goods (Pine & Gilmore, 1999). Such consumer behaviors appear to have become more common in developed countries where basic needs already have been fulfilled. Also, Verain (2015) found a 10% increase in the sustainable conscious segment of the Dutch population over a period of three years, indicating growth in sustainable food purchases.

Other large-scale trends in which postmaterialistic values may play a role are democratic political participation leading to greater happiness in Switzerland (Frey & Stutzer, 2000), and decentralized political decisions leading to increased life satisfaction (Frey & Stutzer, 2002, 2012). Mencarini and Sironi (2012) used the European Social Survey including 26 European countries to study the effect of gender inequality on women's happiness ratings. They found that women's share of household work, as indicating gender inequality, had a strong negative effect on women's happiness, taking into account a number of control variables, including the country Gender Gap (Hausmann et al., 2010). The latter variable captures a number of differences between men and women, reflecting a kind of reference level for gender inequality in a country. The country Gender Gap tended to increase women's happiness, whereas the household partners' gender inequality in household work tended to decrease it. The results show that the effect of gender inequality in household work is relative with respect to the country Gender Gap.

Household Behavior

In support of, and in addition to, the large-scale trends associated with SWB, a number of additional effects have been studied, both at the household and individual level, either in local surveys or in experiments. Such effects have been studied in relation to SWB measured as happiness or life satisfaction, but are also evident from studies related to preference, attitudes, brand evaluations, and income evaluation. Obviously, a study of preference for one situation over the other does not say much about global SWB. However, to the extent that small experiences contribute to global well-being, such a study may contribute to insights into household or consumer behavior affecting global well-being. In other words, changes in household or consumer behavior can result in changes in SWB, at least temporarily.

Sociological research shows a change in the way households have been considered in the welfare state in the western world (Beck-Gernsheim, 2007). In the middle of the 20th century the prevailing model of households comprised married couples of men and women, and a strongly gender-based division of labor. However, due to modernization and individualization processes, family structures and labor divisions

have changed substantially. These processes have resulted in non-traditional household compositions (Du & Kamakura, 2006), such as re-marriage and blended families, and a focus on individual needs and obligations, such as individual benefits and taxes, in governmental policies. Individual freedom, options and choices have replaced traditional social relations, bonds, and beliefs (Beck-Gernsheim, 2007). Van Klaveren and Maassen van den Brink (2007), Carriero et al. (2009), Van Klaveren et al. (2012) furthermore show that for these non-traditional household compositions the synchronization of labor hours, and, more generally, the intra-household decision process, have become increasingly important. The development of household economic models seems to reflect these changes in family processes. The three economic models generally used are unitary models, bargaining models, and collective household models, to be considered next.

Becker (1965) introduced household production goods in the classical economic model. Essentially, his model views households as single consumers who produce commodities by combining time inputs and market inputs. The function that transforms time and market inputs into commodities is generally referred to as the household production function. The introduction of this household production function fundamentally changed the classical economic model because households are now assumed to choose the most preferred bundle of commodities subject to both a budget *and a time constraint*.

By introducing household production and the notion of time use, Becker provided a powerful empirical tool that makes it possible to model household behavior in a simple manner. The model predicts that individuals earn more labor income if they decide to work more labor hours, but that as a consequence this implies an increase of the *shadow price of time*—making time more “expensive”—because there is less leisure time left. A general prediction of the model is that providing more labor hours increases the relative price of time-intensive commodities and, as such, individuals who earn more will substitute away from those time intensive commodities. This view is consistent with Linder (1970), who predicted a reduction of time spent per purchased product, due to increasing income, decreasing real prices of goods, and a constant amount of available time. The acceleration of consumption can be accomplished by buying more expensive models of goods, and consuming different goods simultaneously or successively.

In line with the observation of a rapid increase in the proportion of women who were participating in and providing paid labor (Van Klaveren, 2009), Becker (1991) adapted his model for two-earner households by representing the household production function as a function of market inputs and *both* partners’ time inputs.

Even though this seems to be only a minor adjustment, it has major consequences for the assumptions that are imposed with respect to how persons interact within households. Before focusing on the underlying assumptions due to Becker's revision, it is important to mention that, in terms of labor market outcomes, this revised model predicts that the spouse with the highest hourly wage rate specializes in market work, while the partner specializes in household work. On average, the hourly wage of the man is higher than that of his spouse, and the model therefore predicts that the male specializes in market work and that the woman specializes in household production. Labor market data confirm the predicted labor market outcomes, in the sense that men, on average, work more labor hours than their partners, but this confirmation does not imply that Becker's model describes household behavior accurately, nor that it is an appropriate household model. Evidence of greater levels of well-being associated with specialization in the household (Stutzer & Frey, 2006), however, seems to be consistent with this type of model.

Becker's revised model of household behavior is referred to as the *unitary model* because no individual preferences are specified: there are only household decisions which can be accurately described by *one single* household utility function. An immediate consequence of modeling household behavior in this manner is that single- and multi-person households are treated similarly and, as a result, the intra-household decision process in multi-person households is considered to be a black-box. Becker (1991) justifies treating multi-person households as single-person households by the "*Rotten Kid Theorem*" (RKT). The theorem assumes that within each multi-person household there exists *one* "altruistic" person (the main income provider) who cares Becker claims that this person is not a dictator about the other family members and who divides the household income optimally over all household members such that household utility is maximized. All other family members are assumed to behave egoistically. The intuition underlying the RKT is that the altruistic household member can divide household income such that it is in the best interest of the egoistic household members to behave in the best interest of the household.

Furthermore, the *income pooling* assumption of the unitary models holds that *only* the sum of income earned by the household members affects the allocation of goods and time. Thereby, it is irrelevant which member of the household earns the income. The unitary model predicts that household demand will be similar as compared to the situation before a change in non-labor income. However, the income pooling assumption is rejected by many empirical studies. For example, Lundberg et al. (1997) examine the effect an exogenous change in the distribution of the non-labor household income has on the demand for certain goods. In order to do so they study

a policy change in the United Kingdom in the late 1970s, where a substantial child allowance was transferred from the father to the mother. The unitary model would predict that this policy change does not affect household demand since the pooled household income does not change at an aggregate level. However, Lundberg et al. (1997) find that the redistribution of income caused a shift toward greater expenditures on women's clothing and children's clothing relative to men's clothing. Hence, they claim that the income pooling assumption in the unitary model is rejected. However, we argue that the finding that the unitary model cannot rationalize the change in household demand is not sufficient to reject the income pooling assumption. It might be, for example, that the redistribution of non-labor income changes the relative bargaining position of women, because income access might be a bargaining factor in itself. Nevertheless, Lundberg et al. (1997) show that the unitary model should not be used when one wants to study the effect of non-labor income redistributions on household demand.

In the 1980s and 1990s, Manser and Brown (1980), McElroy and Horney (1981), and later Lundberg and Pollak (1993), proposed cooperative Nash bargaining models (NBM) to describe household behavior. The NBM takes into account that household members can have distinct preferences and that household members are assumed to bargain over the gains of marriage. Examples of these gains are specialization "advantages," the provision of commodities that can be consumed jointly, and economies of scale in household consumption.

The model assumes that partners bargain over the gains of marriage, but if no bargaining agreement is reached then both partners will receive a threshold utility. This threshold level has been defined differently in the literature. Manser and Brown (1980), McElroy and Horney (1981) refer to this threshold utility level as the utility level obtained if the marriage (or partnership) is dissolved and define this level as the maximum level of utility that can be obtained without considering the family (fall-back situation). Himmelweit (2013) refers to this model as a divorce threat model. Lundberg and Pollak (1993) argued that divorce might be dominated by sharing public goods within an intact but non-cooperative marriage and, as a consequence, that the threshold utility levels should be internalized rather than externalized. The latter model is referred to as the separate spheres model (Himmelweit, 2013). Threshold utility levels may be considered as reference points against which the partners' realized outcomes are evaluated. Such models may be considered as complex types of ultimatum bargaining games (Güth & Kocher, 2013) in which lack of a negotiated agreement results in zero outcomes for the negotiation parties. Common finding in ultimatum games are non-zero offers of the allocators (typically about 40% of the total outcome size) and non-minimal demands of

recipients (typically not lower than 25%). Ultimatum games point to the general preference for fairness which also plays a part in household decision making.

The most general type of household model is the collective model (Chiappori, 1988, 1997; Apps & Rees, 1997). The only assumption imposed by the model is that the household decision process yields Pareto efficient outcomes. The intuition for this Pareto-efficient outcome is that spouses interact repeatedly with each other and that efficient outcomes emerge due to these interactions. This, first of all, makes the collective model much less restrictive than the NBM and the unitary model.

Household behaviour can be described as if the household maximized a weighted-sum of the individual utility functions subject to the budget constraint and two time constraints (one for each partner). An intuitive interpretation of the weight is that it reflects the division of bargaining power between the partners. It has been shown by Browning et al. (2006) that this utility weight is a function that must depend on commodity prices and total expenditure. If not, then the collective model collapses into a unitary model. Moreover, the utility weight function should depend on at least one distribution factor to be informative for the division of bargaining power between both partners (e.g. divorce laws or the ratio of single (wo)men to non-single (wo)men). Importantly, if no distribution factor is included then household members are assumed to pool their incomes (see, among others, Van Klaveren et al., 2008, 2011; Van Klaveren & Ghysels, 2012).

Cultural values, participation and negotiation power can be distribution factors that affect SWB of the partners. Van den Troost et al. (2006) found that the husband's (positive) valuation of traditional roles and tasks in the household negatively affected the wife's marital satisfaction, whereas the wife's familialism—valuing the family's traditional way of life—had a positive effect on her satisfaction⁴. Dia Sow (2010) has found positive effects of women's responsibility in buying food, and managing household finance, on women's income evaluation. Fofana et al. (2015) has shown that women receiving microcredit reported higher decision-making power than women not receiving microcredit. Furthermore, the spouses' perceptions of gains and losses and (behavioral) costs has been found to influence the fairness of decisions taken by husband or wife (Antonides & Kroft, 2005). For example, large expenditures made by one partner are considered relatively fair by the other partner in case the former earns more salary, but not in case the income remains the same. As noted above, marital satisfaction, income evaluations, and fairness all may contribute to general SWB.

⁴ Note that marital satisfaction can be influenced by both distribution factors within the marriage and consumption preferences.

Consumer Behavior

A plethora of research findings on consumer behavior has been obtained in the last few decades, especially in the areas of behavioral economics and social psychology, with consequences and policy implications for the pursuit of happiness (for overviews, see Altman, 2015; Antonides, 2008, 2011). These findings may be categorized as reference effects, effort spent on decision making, and values and experiences, to be discussed next.

Reference effects

A general phenomenon studied in behavioral economics is the consumer's sensitivity to changes rather than to absolute outcomes, or states (Kahneman, 2003). Since changes always occur in relation to a reference state, this phenomenon is referred to as reference effects.

A well-known behavioral economic finding is the influence of reference effects on consumer judgment and SWB. For example, Hsee et al. (1996, 2012) has shown that consumer evaluations of goods presented in isolation may be significantly different from those of goods presented jointly. In joint evaluation the goods can be compared, such that one good is evaluated relative to the other good. Such evaluations are important for consumers' SWB. One illustrative finding is an experiment by Yang et al. (2011) where consumers could choose between two digital picture frames. One frame looked ugly but had higher picture resolution, the other frame looked nice but had lower picture resolution. Under separate evaluation (isolation), 85% chose the nice but less sharp picture, whereas under joint evaluation, where the picture resolution was also stated, 53% chose the ugly but sharper model. Isolated choices yielded higher feelings of happiness, whereas choices under joint evaluation resulted in lower feelings of happiness. Hsee et al. (2012) state that most consumer choices are made under joint evaluation mode (e.g., buying a television set), whereas the experienced happiness takes place under separate evaluation mode, i.e., without comparing one's chosen television set with other sets. This situation creates ample opportunities for non-optimal consumer choice.

Also, outside of the consumption area, people usually compare a particular alternative with a reference alternative, which can be other people's outcomes, one's own previous outcomes, default options, (sense of) ownership, aspirations, etc. In general, it has been found that the choice of alternatives that are better than other people's outcomes tend to make people happier. For example, when people were asked whether they preferred A (Your current yearly income is \$50,000; others earn

\$25,000) or B (Your current yearly income is \$100,000; others earn \$200,000)⁵, 56% chose A, although its spending power was only half that of B (Solnick & Hemingway, 1998). Similar results were obtained for one's intelligence, attractiveness, education, and holidays. However, the results varied from 18% to 80%, indicating different size of the social comparison effect for different issues. This example, although hypothetical, shows that status concerns, or concerns for social comparison, may affect one's preferences. Research on income evaluation shows that the higher the average income in their social reference group, the worse people evaluate their own income (Kapteyn et al., 1978; Melenberg, 1992). Ferrer-i-Carbonell (2005) uses data from the German Socioeconomic Panel, with social reference group defined as individuals with similar education, age, and living area as the respondent in the survey. People's SWB appears to be higher the higher their income is as compared with the average income in their social reference group.

Another reference point relevant to SWB is past income. People seem to adapt to income changes just as they adapt to different kinds of sensory experiences, for example, to the taste of sweetness, the sense of darkness, or the pressure of their shoes. Although in the first few years after an income change SWB is affected, the effect seems to level off quickly. Di Tella et al. (2010) find that after four years the effect of an income change had no significant effect on SWB any more, due to adaptation. Van Praag and Van Weeren (1988) show that the evaluation of current income is affected by one's own past incomes but the effect is much lower for incomes in the more distant past than for incomes in the recent past. Interestingly, the effect is different for people at different ages. For a 20-year old individual 50% of the weight given to past income is concentrated between the present and 1.6 years in the past, thus showing a rapid decline in the effect of past income. The income evaluation of a 50-year old individual is not affected by past income at all. For a 70-year old individual 50% of the weight is concentrated between the present and 0.4 years in the past. Apparently, young people attach somewhat more weight to past incomes than older people because they may lack experience to form clear expectations about the future. Older people attach weight to the past because their future is relatively short. Either way, the effect of past income on current SWB is very limited. Antonides (2007) studied the effect of an income decline up to two years in the past. Although the length of time after the income drop did not affect income evaluation and happiness, information seeking about the consequences of the income decline had a positive effect, whereas not taking precautionary measures to mitigate the effects of the income decline had a negative effect on income evaluation and happiness, given the new (lower) income.

⁵ People were told that prices were the same in States A and B.

An important reason why happiness does not increase so much with a rise in income is the breeding of new aspirations after adaptation to the higher income level (Easterlin, 2005). It appears that, after fulfilling one's current aspirations, for example obtaining a higher income after graduation from university, new aspirations may develop, for example owning a house. The needs associated with the new level of aspiration are not yet met, so it seems as if the income is not sufficient to satisfy the new needs, leading to a relatively low level of happiness. The ever-repeating cycle of adaptation to new situations and the breeding of new aspirations is called the *hedonic treadmill* (Kahneman, 1999). However, although the hedonic treadmill tends to erode social well-being, it does not imply that people cannot be made more happy objectively. That is, they may report relatively low global well-being, although during their actual life episodes they may experience more happiness if their life circumstances improve.

The well-known endowment effect states that people place more value on their possessions when they own them, than when they did not own them (Thaler, 1980; Kahneman et al., 1990). The endowment effect is evident from a higher compensation demanded to part with a good in one's endowment than willingness to pay to acquire the same good. The implication of the endowment effect is that people may experience more wealth, and possibly happiness, after acquiring material possessions, at least temporarily. The endowment effect reflects a more general effect, associated with the reference point (Kahneman et al., 1991). In the default situation of non-ownership, any acquisition of a good counts as a gain, which is associated with a moderate increase in utility, or happiness. However, after acquisition, the default situation has become ownership, in which giving up the good counts as a loss, which is associated with a relatively high decrease in utility, or happiness. It has been shown that the endowment effect is even stronger for hedonic types of goods—goods that are emotionally appealing to one's senses—than for utilitarian types of goods—goods of practical value (Antonides & Cramer, 2013; Cramer & Antonides, 2011). The difference in utility, or happiness change, can be explained by the asymmetric value function from prospect theory, indicating aversion to losses (Kahneman & Tversky, 1979). Burchardt (2005) finds that an increase in income as compared with the previous year, had a moderate positive effect on satisfaction with income, whereas a commensurate income decrease had a relatively strong negative effect, thus supporting the asymmetric evaluation of positive and negative income changes. In order to smooth changes in well-being over time, it appears to be more important (for governments) to avoid negative changes in GDP than to aim for an average increase in GDP over the years (Greenglass et al., 2014). An extension of the loss aversion effect is the influence of default situations on people's evaluation of their own choices. A default situation generally counts as the status quo, for example, the

current practice in the US of choosing one's own pension contribution, leading to relatively low contributions (Madrean & Shea, 2001). Usually, a deviation from the status quo will be experienced as a loss, hence will be relatively unattractive. So, in the latter situation, people will be reluctant to contribute more to their pension. Conversely, changing the status quo into a new default, for example, a standard pension contribution of 6% of one's salary, will result in the relative unattractiveness of contributions less than 6%. It has been shown that a change in default status will remain effective at least for several years (Thaler & Benartzi, 2004).

Endowment effects and default effects seem to run counter to the idea of adaptation and the hedonic treadmill. The difference may occur because the two ideas usually refer to two different situations. Adaptation and hedonic treadmill effects usually pertain to gains in income or wealth, whereas endowment and default effects usually occur in situations of losses (parting with a good, or deviating from the status quo).

Reference effects also may occur in dynamic choices, i.e., choices with consequences that occur over time. For example, Hsee (1996) found that people tend to prefer an increasing series of four annual salaries to a decreasing series, although the decreasing series offered \$1,000 more salary per year than the increasing series. Obviously, people did not like the year-on-year negative changes in the decreasing series due to loss aversion. For the same reason, people tend to prefer more attractive events to occur later than earlier in a series (Loewenstein & Prelec, 1991; Ross & Simonson, 1991). Such preferences can be explained by the peak-and-end rule, stating that a series of events is mainly evaluated on the basis of the most extreme outcome (the peak) and the final outcome of the series (Kahneman, 1994). Also, the evaluation of single events can be evaluated differently, depending on the timing of such events. Loewenstein (1987) shows people's eagerness to experience unattractive events (e.g. an electric shock) sooner rather than later, thus indicating the effect of dread. Conversely, people value the prolonged anticipation of positive events (e.g., a kiss of one's favourite movie star). Reference effects in dynamic choices have direct implications for the timing of events, and the design of series of events, or even of events during one's entire life. For example, financial planners may advise people to aim for increasing their expenditures over time, rather than keeping a stable expenditure flow. Likewise, it is advisable to overcome dreadful events, such as medical procedures, as quickly as possible. Alternatively, nice events such as a round-the-world trip, or the purchase of one's dream car, should be delayed in order to savour these events.

Effort

An important factor in creating well-being is the reduction of effort. Both industrialization and product innovations have been important in reducing physical effort, cognitive effort and the time spent on effort. For example, consumer product innovations such as the washing machine, vacuum cleaner, and furnace have made life much easier for consumers, in addition to creating time savings. Also, apart from layoffs and the demand for different skills, automatization and robotization in the industry has made life more comfortable for workers, leading to increased leisure and work satisfaction (Bii & Wanyama, 2001; Gombolay et al., 2015). Still, cognitive effort has to be spent on consumer decision making, with consequent implications for consumer well-being.

Behavioral economics has come up with distinctions in several types of cognitive effort that may affect consumer decision making. One class of cognitive effort types is dual processing (Kahneman, 2011), basically consisting of two types of thinking. System I type of thinking is intuitive and fast, using decision heuristics which may produce errors and biases in decision making. For example, when asking people the following question: "If it takes 5 machines 5 minutes to make 5 widgets, how long would it take 100 machines to make 100 widgets?" the intuitive answer is 100 minutes (Frederick, 2005). However, the answer is wrong. System I type of thinking is the default type of thinking, according to Kahneman (2011), unlike standard economic assumptions. Only when something appears wrong, people engage in System II type of thinking, which is more rational, rule-based and slow, but will lead to the correct answer. The rule-based answer to the problem above could be: The number of widgets equals the number of machines times the number of minutes time "the number of widgets per machine per minute." The latter term equals $1/5$ from the first part of the information. By the same rule, inserting $1/5$, we can calculate that it takes 5 minutes for the 100 machines to produce 100 widgets. A number of cognitive heuristics, or rules of thumb, have been investigated, including, for example, relying on readily available information (availability), plausible representations of the world (representativeness), and relying on arbitrary numbers (anchoring) (see Kahneman, 2011; Kahneman & Tversky, 2000; Kahneman et al., 1982).

System I type of thinking saves cognitive effort and in many cases leads to the correct judgments or decisions, which makes life relatively easy. However, in a number of cases System I leads to systematic errors, the circumstances of which have been investigated in research. Then, by using these insights, practical interventions may be used to avoid the errors or to use System I type of thinking to the benefit of decision makers. The latter type of intervention is also known as nudging (Thaler & Sunstein, 2008). Examples of popular types of nudging (see Antonides, 2011) are changing the

status quo (playing on the default effect), framing (playing on asymmetric valuation), and self-control devices (limiting the effects of impatience). The above-mentioned example of pension contribution uses the default effect to the advantage of decision makers using System I type of thinking.

A specific type of cognitive effort is involved in self-control problems, an illustrative example of which is shown in the famous Marshmallow experiments at Stanford University (Mischel, 1972). Children were presented with a few Marshmallows and were told that they could obtain more Marshmallows if they did not eat them in the absence of the experimenter. Then the experimenter left the room for some time. The children used different techniques for not eating the Marshmallows, including not paying attention, counting the Marshmallows over and over again, clapping their hands, etc. This situation is quite similar to economic saving to gain future benefits. Thaler and Shefrin (1981) conceptualized the situation as a principal-agent problem in which a planner (the agent) could influence the behavior of the doer (the principal) by limiting the actions of the latter. The planner is the part of one's personality which may be considered as the ego (acting consciously) in Freudian terminology, whereas the doer is considered the id (acting on instincts). The doer is impatient and wants to gratify immediate desires. The planner is more realistic and oversees the future consequences of the doer. That is why the planner can limit the actions of the doer by, for example, precommitments. Precommitments may be irreversible measures to reduce impatience, for example, a formal contract to arrange monthly saving of a fixed amount of one's salary. Alternatively, a precommitment can be an arrangement which is costly to break, for example, a public promise on the web site Stickk.com to pay an amount to an undesirable goal if one does not meet a certain aim (e.g., losing 10 kilos of weight). The planner-doer distinction has some support in neurological evidence for different brain functions for long-term and short-term types of decision making (McClure et al., 2004). Although pre-commitments limit one's free choice, they make life easier because one does not face so many situations in which to exert active self-control.

Another device to limit one's cognitive effort is mental accounting in which people's expenditures on different categories of goods are separated, such that money reserved for one category will not be spent on another one (Antonides & Ranyard, forthcoming; Thaler, 1999). The standard microeconomic assumption that consumers' marginal utility of spending is the same for all different ways of spending (e.g., Frank & Cartwright, 2013) cannot be applied in this case, since it requires fungibility of money. Mental accounting facilitates one's overview of expenditures because the marginal utility of a purchase does not have to be compared with that of all other purchases, but only with purchases in the category of interest (Antonides et al., 2011).

In this respect, mental accounting helps to prevent overspending, and serves as a self-control device. Mental accounting may be considered as a financial capability factor contributing to financial management and preventing debts, especially among lower-educated and lower-income consumers.

A factor that increases the cognitive load in making economic decisions is poverty. Mullainathan and Shafir (2013) present evidence for the effects of poverty on the availability of cognitive resources, leading to the so-called scarcity hypothesis. Because the poor focus very much on the fulfilment of immediate needs, they have less resources available to pay attention to other issues. Hence, they perform less well on cognitive performance tasks and pay less attention to future consequences of their decisions than more wealthy people, even when controlled for background factors such as education, etc. One psychological mechanism behind cognitive scarcity is cognitive depletion, in which cognitive resources are considered as limited (Vohs, 2013). Since the poor have to make many trade-offs in spending limited amounts on necessary goods, their cognitive resources are gradually depleted, and are unable to use them for other issues such as self-control (Hofman et al., 2012).

Values and experiences

In addition to the sociological study of the postmaterialistic trend, economic psychologists have conducted research into the experiential and motivational effects of consumption. Van Boven (2005) has made a distinction between *experiential purchases* defined as “those made with the primary intention of acquiring a life experience: an event or series of events that one encounters, lives through, and ‘consumes’” (p. 134), for example, dinners and travels, and *material purchases* defined as “those made with the primary intention of acquiring a material possession: a tangible object physically retained in one’s possession” (p.134), for example, clothing, jewellery and televisions. It turned out that people who had purchased any of these items were more happy thinking about experiential than material purchases, and thought that experiential purchases had contributed more to their overall happiness in life, that the money was spent well, and that the money could not have spent better on something else, than material purchases. In addition to the effect that experiential purchases made people more happy than material purchases, the effect was stronger for people at higher income levels. The latter finding seems to support the idea that at higher income levels other needs have to be satisfied by consumption than at lower income levels. This finding provides opportunities for suppliers to increase the attractiveness of their products and services.

Issues of sustainability and the environment are associated with higher values and higher needs, as opposed to survival values. Also, it is likely that such values become

important at higher levels of income, such that sustainability and environmental conditions may affect SWB in developed countries. Indeed, relationships between environmental issues and SWB have been found. Welsch (2007) finds a negative effect of the level of nitrogen dioxide pollution on SWB in 54 countries across the world. Nitrogen dioxide pollution may eventually lead to respiratory illness and lung damage. Van Praag and Baarsma (2005) estimate a negative effect of perceived noise from aircrafts around Schiphol airport in the Netherlands on SWB. Welsch and Kühling (2010, 2011) show that SWB is positively affected by consumers' own consumption of sustainable appliances and lighting, green household products, recycling, and water conservation, given their attitudes towards the environment. Furthermore, Welsch and Kühling (2010) find that these effects are larger for materialistic consumers. They consider these effects as decision errors, since especially materialistic consumers might become more happy by consuming more sustainably than they currently do.

Onwezen et al. (2013, 2014) have shown that consumers' anticipated emotions of pride and guilt, being more specific experiences of SWB, guide consumers' sustainable purchase intentions. That is, consumers intend to purchase more organic and fair trade food products if they expect to be proud of such behavior, or feel guilty if they would not buy such products. The influence of these emotions has been found in both individualistic and collective types of countries (Onwezen et al., 2014).

Another factor associated with postmaterialism is consumer participation, which can be accomplished, among other possibilities, in paid labor and volunteer work, household decision making, and consumer activities, in addition to political participation studied by Frey and Stutzer (2000, 2002, 2012). Warr (1999) points to the effect of having a job on SWB. Especially the fact that work is related to goals that transcends one's own personal goals contributes to SWB (see also Van Raaij & Antonides, 1991). Cantor and Sanderson (1999) state that all kinds of activities in which individuals can freely choose to pursue their personal goals, which are intrinsically valued, performed at a feasible level, and facilitated in their daily life context, lead to SWB. In addition to paid jobs, such activities may include, for example, volunteer work and care giving. In the consumer area, activities such as co-creation (e.g., Van Dijk et al., 2014), chat groups, and blogs may provide such features.

Conclusions and Limitations

In addition to implications for individual decision making, and advisors such as financial planners, the research findings presented above suggest a number of policy measures of different type in order to increase the well-being of developed countries, their households and their consumers. A general conclusion is that behavior frequently deviates from expectations of policy makers and standard economic models because potentially important mechanisms are not recognized. Next, the main conclusions will be drawn, and limitations of this overview will be indicated.

Conclusions

When policies are aimed at maximizing SWB, then reference effects must be taken into account, which may contradict the core economic principle of Pareto efficiency (*more is better*). Given that prices adapt to new situations (become higher) and SWB-increases are frequently temporary (hedonic treadmill), the current economic chase of working more, and stimulating this with policy measures to earn more capital, will eventually make individuals and households less happy. This is also why GDP as the main indicator of welfare is insufficient.

Following from the above, policies based on real income gains seem to be relatively ineffective as compared with policies based on postmaterialistic values. One type of relatively successful policy measures may be based on postmaterialistic values, such as increasing personal autonomy by promoting free choice, political participation and creativity, reducing government and employer regulations, and reducing income inequality. The latter value obviously may be influenced by redistributive taxes, the effect of which has been found positive (Akay et al., 2012). Also, diminishing gender inequality in the bargaining power of household partners might increase SWB of an individual within multi-person households, either directly or indirectly (via the partner's SWB). Such policies may be aimed at increasing SWB by pursuing normative beneficial goals without paternalistic measures, but rather by nudging people into desired directions. Actually, such libertarian paternalistic policy measures have been promoted in Thaler and Sunstein (2003, 2008).

With regard to product offerings, a trend towards more sustainable, collaborative, and experiential types of consumption seems to exist. One way of promoting the consumption of experiences is using consumer ratings or likings for such consumption on the internet and social media. Also, consumer participation might be increased by customer-driven innovations such as co-creation, customization and crowdsourcing (Prahalad & Ramaswamy, 2000). An important way of increasing SWB is facilitating consumer information processing by reducing the effort spent on decision making. This may be accomplished by policies aimed at providing easily

accessible information (e.g., labels) and product comparisons, nudging (e.g., by employing status quo alternatives), and self-control devices.

Limitations

Finally, some limitations of this overview of research should be mentioned. Since adaptation may result in happiness “leaking away,” one might ask whether the pursuit of happiness is worthwhile at all. Also, some of the variation in happiness is genetically determined or at least stable in the long run. On the other hand, adaptation to life events is incomplete in many cases (Lucas, 2007). The processes of adaptation and the existence of a set point of happiness are still not well-understood and deserve future research effort.

A number of different happiness measures exist (see, for example, OECD, 2013), objective or subjective, predicted or experienced, global or specific, verbal or numeric, with or without anchor points, focused on positive or negative feelings, verbal or neurological, etc. These measures may tap different aspects of well-being and might lead to different results (see, for example, Kahneman & Deaton, 2010), for example, concerning the effects of positive or negative life events. The adequacy of these measures in different situations still has to be investigated.

Much SWB results come from surveys and laboratory experiments, and their validity in the field still has to be assessed. Field studies may comprise a number of different methodologies, including, for example, experiments (Harrison & List, 2004), qualitative methods, and observations (see, for example, Antonides, forthcoming). A fascinating new methodology in this respect is the study of happiness expressions on social media (Brandwatch, 2015; Dodds et al., 2011).

Since our overview mainly deals with economic behavior, other factors influencing happiness have been left out. For example, the effect of risk attitudes on SWB has not been considered. However, many factors have been described elsewhere, for example in Kahneman et al. (1999), Diener and Biswas-Diener (2008), and Powdthavee (2010).

Words of Thanks

Although professors sometimes are considered to live a life as in an ivory tower, such a life would be impossible without the help and support of many people outside of the “tower.” First of all, I would like to thank the former rectors Bert Speelman and Martin Kropff, and the current rector Arthur Mol, the former heads of the department of Social Sciences, Piet de Visser, Vinus Zachariasse, Jan Blom, Ruud Huirne, Laan van Staalduinen, and the current head, Jack van der Vorst, directors of the graduate school, the education institute, and liaison office, and all of their staff. I also thank the chair group heads of the subdepartment of Economics, Ekko van Ierland, Erwin Bulte, and Justus Wesseler. I thank my chairgroup members, Johan van Ophem, Michel Handgraaf, and Pierre van Mouche, secretary and support staff Karen van der Heide, Dineke Wemmenhove, Betty de Haan, Gre Schurink-Heitkonig, and former secretaries Annelies Coppelmans and Margaret van Wissen, for their very friendly and loyal collaboration. I also enjoyed the work with our Doctoral, Master and Bachelor students; thank you for that and I hope you learned something valuable from our group.

Outside the department of Social Sciences I have enjoyed many contacts, both nationally and internationally. I mention here the scientific board members of the Society for the Advancement of Behavioral Economics, the International Association for Research in Economic Psychology, the people from Elsevier, and other publishers I have worked with, my colleagues at the Agricultural Economics Research Institute (LEI), Behavioral Economics Network, and the Council for the Environment and Infrastructure, my co-authors, and journalists interested in my work.

Finally, I thank my family and friends for their support throughout the years. I also thank Manon for being my perpetual source of happiness. I thank you all very much for your presence at this event. Now it is time to party.

I have spoken.

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'Well-being, happiness, or quality of life is a desirable life goal which can be pursued in many different ways. It appears that high income and the acquisition of material possessions often do not lead to the desired goal. Alternatively, the realization of postmaterialistic values and consumption, such as personal autonomy, participation in society, reduction of income inequality and gender inequality, experiential consumption, and sustainable and collaborative consumption, contributes substantially to the achievement of happiness, especially in developed countries.'