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Measuring global progress through subjective well-being

Francis Heylighen & Jan Bernheim

Center "Leo Apostel", Free University of Brussels, Pleinlaan 2, B-1050 Brussels, Belgium
E-mail: fheyligh@vub.ac.be, http://pespmc1.vub.ac.be/HEYL.html

ABSTRACT. Progress could in principle be measured through the change over time of average scores of subjective well-being. However, the existing longitudinal data show little improvement. These survey results are intrinsically insensitive to developments over time, because SWB is typically evaluated relative to proximate, and therefore salient, reference points, such as peers or expectations based on recent experience. We propose the development of measuring instruments that are less subject to such "relativistic" distortions. One approach, ACSA, uses the best and worst periods of one's life as standards. Another approach derives more sensitive indicators from the objective variables that correlate with average SWB when different countries are compared. The "World Database of Happiness" provides extensive data on such variables. They include wealth, health, security, knowledge, freedom and equality. Various statistical data suggest that all these indicators have undergone significant improvements during the last half century. This gives strong support to the thesis that progress objectively occurs.
Keywords: progress, subjective well-being, happiness, social indicators, ACSA.

1. Introduction

Media reportage has lately been showering us with bad news of all types: wars, corruption, pollution, greenhouse effects, poverty, child abuse, etc. Commentators, both conservative and progressive, have been warning us that things cannot go on like that, and that the world may be heading towards a catastrophe unless we take drastic action (e.g. Ehrlich, 1976). Such messages of doom understandably create worry, anxiety and pessimism among the public. Optimists, on the other hand, point towards undeniable statistics according to which life expectancy and wealth increase, while child mortality and illiteracy decrease. Whom should we believe: the pessimists or the optimists?

In order to answer that question we need more than isolated facts: for every positive event or trend it is possible to find a negative one, and vice-versa. The problem is to determine the overall balance: taking everything together, is there progress or is there regress? To answer that question, however, we should be able to determine the weights of the different trends, positive and negative. For example, should we attach a higher weight to pollution or to child mortality? According to the postmodernist philosophy, it is not possible to do this in an objective way: different people and different cultures attach values to different things. Because of this relativity or culture-dependence of values, the postmodernists conclude that it is impossible to measure progress.

Yet, we can choose our fundamental value in a culture-independent way, as the utilitarian ideal of "the greatest happiness for the greatest number". This would lead us to define progress as that what increases happiness for the world population as a whole (Heylighen & Bernheim, 2000). Therefore, progress could in principle be measured as the change over time of average scores of happiness, which is roughly equivalent to terms such as "life satisfaction", "subjective quality of life", or "subjective well-being" (SWB). Since happiness is by definition subjective, it may mean different things for different people or for different cultures. Yet, in any culture people are able to estimate how happy they are on a given measuring scale (e.g. from 0 to 10), and therefore the different results can be mutually compared and averaged, independently of the particular factors or values that underlie any individual's claim of (un)happiness. Thus, the measurement of SWB evades the postmodernist predicament.

Although this solution appears simple and attractive, its practical application does not do much to clear the waters. Insofar that longitudinal scores for SWB are available, they show little change over time. One often cited example is Easterlin's (1974) analysis for the post-war decades in the USA, which found that life-satisfaction remained stable in spite of a doubling in income levels. This led many observers to conclude that there is no real progress. The apparently most encompassing study to date (Hagerty & Veenhoven, 1999), which analysed data covering the last three decades for more than a dozen countries, on the other hand, found a small, but significant, increase in average SWB, although the pattern fluctuated from country to country.

One problem with these measurements is the reliability of the SWB data. Typically, SWB scores are derived from the answers to a question such as "Everything taken together, how satisfied / happy are you with your life?".

This is a rather vague and ambiguous question, which invites rather vague answers. Especially the numerical scoring of the degree of satisfaction/SWB depends directly on the assumed extreme values of the scale: the states of maximum and minimum satisfaction conceivable. Obviously, different people will implicitly conceive of different end points: what is best/worst possible for the one, may not be so for the other. Therefore, their scores on the scale are difficult to compare. In the following section we will discuss in more detail some of the recurrent biases that may affect these answers, and argue that they make traditional SWB surveys insensitive to the measurement of progress. We will then indicate two approaches to overcome these biases: the use of fixed, internal standards (ACSA methodology), and the use of objective indicators that correlate with SWB differences between countries. In the remainder of the paper, we will apply the second method, and show that it leads to an unequivocal verdict of progress rather than regress.

2. Reducing the relativistic biases to SWB measurement

2.1. Proximate relativity

The traditional SWB measurement methods only partially resolve the postmodernist quandary of the relativity of values: even if we believe that SWB itself is a universal value, the standards that people use to estimate their score on a SWB scale are likely to vary between individuals and countries. Nobody has any clear, objective idea of what a "best possible" or "worst possible" life could be in any absolute sense. The simplest way to estimate one's SWB in a given situation is to compare it with other situations one knows well, such as the situations other people live in, or one's own situation in the past. Because of this, SWB will always be to some degree relative.

This relativity is in fact a general feature of perception. It can be illustrated with a well-known perceptual illusion: the central white circle on the left of Fig. 1 appears definitely smaller than the central white circle on the right, even though the two circles have exactly the same size. The reason is that our perceptual apparatus unconsciously compares the central white circle with the grey circles that surround it. Since the surrounding circles on the left are much larger than those on the left, the central circle on the left seems smaller relative to its surroundings, and therefore smaller than the one on the right.

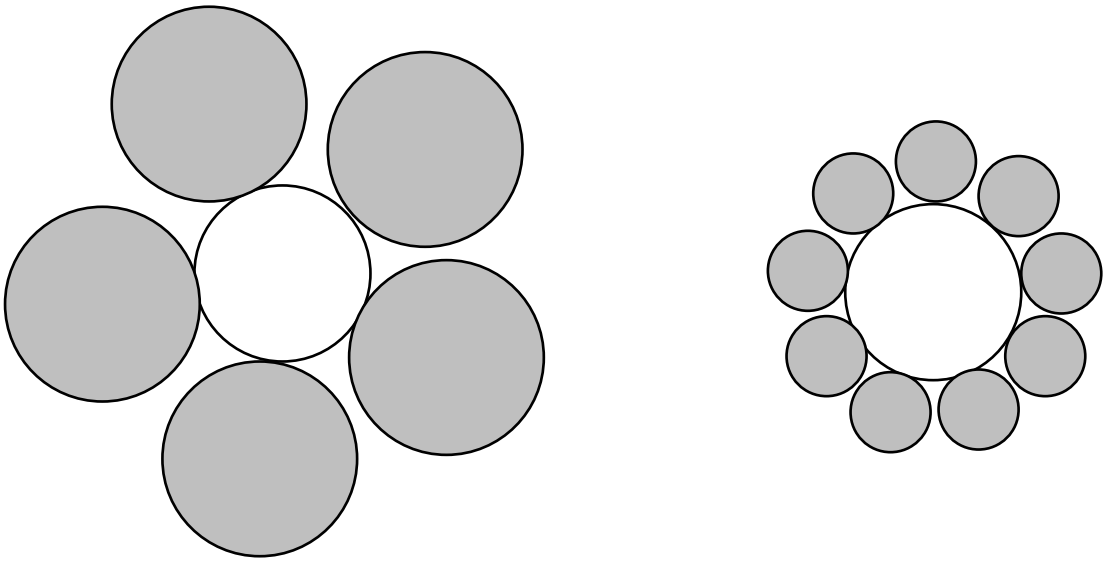

Fig. 1: a perceptual illusion due to proximate relativity: the two central white circles have the same size, yet the left one appears smaller than the right one.

The same effect applies to social comparisons: middle-class people living in a rich neighborhood will give a lower estimate of their wealth status than people with the same income that live in a poor neighborhood. It is tempting to deduce from this observation that all subjective judgments are necessarily relative, and that they can tell us nothing about the objective situation of a person. Yet, a little reflection makes it clear that this relativistic effect is limited. The apparent sizes of the two white circles in Fig. 1 are not very different: most people might estimate the right circle to be about 20% larger in diameter than the left one. Yet, the grey circles that function as the "neighborhood" of the white circles differ more than 200% in diameter.

One explanation for this is that our perception uses not only the immediate neighborhood as a reference, but also elements that are farther away, and perhaps even some references that are relatively invariant. It is simply that comparison with immediate neigbors, which we will call *proximate relativity*, is easier and more likely to be accurate than comparison with more distant phenomena. Therefore, our perception has an in-built bias to give a higher weight to proximate or "near-by" comparisons in the overall judgment. Thus, the white circle on the left will be compared not only with its grey neighbors, but also with the more remote white circle on the right and its neighbors, and perhaps some in-born neural mechanisms that help us to estimate sizes. All of these will affect the overall size estimate, albeit to varying degrees. As a result, the "relativistic" effect of

the immediate neighbors, though striking, is actually not very large in absolute terms.

Similar effects can be found with evaluations of SWB. The middle-income family in a rich neighborhood will not evaluate themselves as "poor", even though they may estimate their wealth as somewhat lower than if they had lived in a poor neigborhood. Next-door neighbors will be more salient as reference points than people living far-away, but they will not be the sole reference. In general, we may conclude that SWB estimates will be somewhat distorted because the differences with proximate references or standards are amplified relative to more distant references, but that a strong, stable signal is hidden behind this "noise".

When estimating SWB, people typically use two types of references, standards or sources of comparison: other people (peer relativity)—an external or spatial standard—, and one's own, previous experience—an internal or temporal standard. Like social comparison, comparison with earlier experience will be biased to pay more attention to proximate experiences rather than those from a long time ago. Thus, a recent downturn or improvement, even though not large in absolute terms, will typically have a clearly observable effect on present SWB. This effect will not last, though, as expectations are adjusted, and what was initially an unforeseen crisis or opportunity becomes discounted as a normal situation. This may explain why the development of average SWB over time in a country, as measured e.g. by Hagerty and Veenhoven (1999), can fluctuate clearly in the short term (years), as the economic and political situation changes, while remaining practically constant in the longer term (decades).

This relativity with respect to time makes it particularly difficult to measure progress. If we assume that there is a gradual, on-going progress in domains such as income, health, comfort, education, etc., then this progress will be difficult to observe in terms of SWB, since a rising standard of living tends to be accompanied by rising expectations or aspirations. As the most recent situation has the highest weight in the comparison, and as this most recent situation, because of continuity, is the one that differs least from the present situation, the result of the comparison will be that little has changed, event though the difference with one's situation decades ago may be quite spectacular.

` This "adaptation" effect might be explained from an evolutionary point of view (Heylighen & Bernheim, 2000). An organism, such as a human being, can only survive if its basic needs, such as food, water, heat, etc. are reliably satisfied. Therefore, natural selection will produce organisms that

have good in-built detectors for these various needs, so that, e.g., a lack of food will lead reliably to a hunger signal, telling the organism that it should urgently seek food. These inherited sensitivities will function as objective sensors of the organism's state of well-being.

For an organism to be selected, though, it is not sufficient to survive in the short term: it must withstand competition with other organisms in the long term. This means that it should be able to grow or develop whenever it gets an opportunity. Otherwise, its competitors will seize the opportunity and establish dominance over the available resources, thus reducing its long term chances for survival. In that way, evolution is both conservative and progressive or opportunistic: it first of all tries to maintain what it has, but will seize any chance to improve upon that, especially insofar as it increases its standing relative to the competitors. To achieve that it must not only have detectors for stable needs, but for positive or negative changes of one's situation, so as to maximally exploit the former, and avoid or suppress the latter. This leads to a strong sensitivity for *differences*, relative to previous situations or to the situation of one's competitors. These may temporarily obscure the overall appraisal in terms of objective, stable needs. Thus, people will be sensitive both to their objective, long-term well-being and to the short-terms changes in their situation relative to what they had or what others have. The two types of signals together will determine their overall state of SWB (cf. Saris, 1996). To reliably measure progress, we need to disentangle these signals, filtering out as much as possible the proximate relativity effects, while maintaining the long-term, objective appraisal of basic need satisfaction.

2.2. Grounding external standards

Since, as we argued, short-term, proximate effects are automatically more salient, we must find a method to reduce their salience, while amplifying the contribution of the long-term, distant points of reference. As there are two types of references—spatial or external, and temporal or internal—there will be two corresponding methods to amplify the effect of distant references. The most obvious method to widen spatial standards would be to ask people to compare their situation not with their next-door neighbors, but with people living in different parts of the world. The problem, however, is that people may have a reasonably accurate idea of how their neigbors (or, at least, their close friends and relatives) live, but that their image of how people in other parts of the world live will be strongly affected

by the image they get from the media, cultural prejudices, etc., rather than by any personal experience. Therefore, we can hardly expect a reliable comparison.

This can be avoided by directly comparing the average SWB scores in different countries, and trying to find objective differences between the populations that correlate with the differences in SWB. By adding together the SWB scores for a representative sample of a country's population, we are likely to average out most individual fluctuations that are due to proximate relativity (such as middle-class people living in a rich neighborhood). If, as we assumed, SWB scores to some degree reflect the degree of satisfaction of stable, objective needs, then significant differences between populations will point to differences in need satisfaction, which themselves can be measured by indicators such as standard of living, life expectancy, etc (cf. Veenhoven, 1991, 1996b). Since these objective indicators do not suffer from proximate relativity, they may offer us a more accurate and reliable measure of progress. This is the approach that will be developed in the further sections of this paper.

2.3. Grounding internal standards: ACSA

The other method to reduce proximate effects is to widen temporal standards. The advantage here is that adult people do have personal experiences stretching over several decades that can serve as points of reference. These experiences form the basis of the ACSA (Anamnestic Comparative Self-Assessment) method developed by us (Bernheim & Buyse, 1984; Bernheim, 1999a). Instead of asking subjects merely to evaluate their present life situation, we ask them to evaluate it *with respect to the best and worst moments of their life*.

These explicit points of reference bring several advantages. First, since the best and worst events in one's life typically happened years, if not decades, ago, this forces subjects to widen their temporal reference frame, suppressing the natural tendency to judge the present situation on the basis of the most recent events and expectations. Second, by requiring subjects to reflect on the whole of their life span, in order to determine the best and worst moments, it provides a measure of solemnity, thus avoiding the kind of trivialisation where people answer the question "How are you?" invariably by "Fine!", however lousy they may feel at the moment. Third, by explicitly asking people to compare their situation with their own, previous situations, we circumvent the problem of peer relativity: external reference

points, which are difficult to control, should no longer affect the evaluation. Fourth, by setting the best and worst periods in one's life experience as the maximum, respectively minimum, of the scale, a universal, standard measurement scale is erected.

The question remains in how far distant, internal standard points, such as the best moment of one's life, are relative too. There would be no problem if all people would have experienced during their life a maximum level of happiness / distress, where feelings would reach a point of *saturation*, so that whatever happens additionally they could not feel better or worse. If people can be expected to have reached these maximum / minimum levels of satisfaction at least once in their previous life (and remember them as such), then their scores on ACSA would all be comparable. Such saturation levels exist for all physiological perceptions, such as physical pain, and are therefore also plausible for the mental domain. Still, even if such maximum and minimum levels either vary from person to person, or if different people have experienced different degrees of saturation, the results of ACSA are likely to suffer less from proximate relativity and therefore register objective differences more accurately than the more conventional methods.

This is borne out by the results of an extensive study made with ACSA at the Charité Hospital in Berlin, where it turned out that differences between the SWB levels of patients suffering from different types of diseases were much larger when measured with ACSA than when measured with more conventional life-satisfaction questionnaires (Rose, Scholler, Klapp & Bernheim, 1998). Most impressively, after a life-saving liver transplant the ACSA scores of patients with a life-threatening liver disease showed a much higher increase than their conventional SWB scores. This provides evidence that ACSA, although based on a intrinsically subjective appraisal, is much more sensitive to objective improvements in one's situation than conventional instruments, which suffer from proximate distortions such as peer relativity, where e.g. cancer patients compare their present life with the one of other cancer patients, rather than with their long-term experience of what a good or bad life is (Bernheim, 1999).

Unfortunately, in order to measure progress at the world level, we would need data on the ACSA scores of representative populations in different countries of the world, and this over several decades. Since ACSA has only been used until now in a few, health-related situations, these data are as yet not available. (at best, we may note that in pilot studies with ACSA biographical interviews, a majority of elderly Belgian cancer patients

reported that since World War II, the overall quality of their lives had considerably improved.) Therefore, the present paper will further focus on the spatial comparison of SWB scores to estimate progress.

3. Progress in objective SWB indicators

3.1. SWB differences between countries

As we noted, the dominance of proximate effects in peer relativity may be overcome by comparing average SWB scores for complete nations, while looking for the objective factors that correlate with the differences. Since these variables are in general easy to measure in an objective way, do not suffer from proximate relativity, and in general do not have intrinsic saturation levels, they will be much more sensitive to improvements in the quality of life of a society. Therefore, they seem to propose more fine-grained measures of social progress than SWB itself.

A very extensive analysis of these correlates has been carried out by the sociologist Ruut Veenhoven (1991, 1994, 1995, 1996a,b, 1997) and his co-workers at the University of Rotterdam. They have compiled a comprehensive *World Database of Happiness* (Veenhoven, 1994, 1995), which contains the data from hundreds of surveys testing for something akin to global SWB. These polls, carried out by different institutions in different countries using different methodologies, have been recompiled to a common standard so that the results are largely comparable. The quality of input data varies somewhat, but no systematic biases can be found in the methodology. Although the wording of these polls can vary (using keywords such as "happiness", "SWB" or "satisfaction", which are distinct only among professionals in the field), the basic question they all ask is: "How satisfied are you with your present situation?"

The answers to this question seem comparable to the results of an ACSA score of global SWB, except that there is no explicit reference to the best and worst moments for comparison. As such, the "life satisfaction" questions may be more sensitive to cultural biases, and other biases that ACSA seeks to avoid (Bernheim, 1999a). Although Veenhoven (1991) convincingly argues that his results are largely independent of culture, other researchers have found minor effects of cultural differences, such as American students consistently overestimating their average SWB over an extended period, in contrast to Japanese students, whose estimate precisely matched the average

of all the moment-to-moment SWB scores they had recorded during the measurement period.

The average SWB scores for up to 48 different countries were correlated with a number of objective variables that describe various socio-economic characteristics of these countries, such as GNP per head of the population, average education level, freedom of expression, etc. Not surprisingly, life satisfaction turned out to have strong ($R > 0.5$; $p < 0.01$) positive correlations with most of the factors which we would intuitively consider as "good". For example, using data for 1990, correlation of SWB with purchasing power was +0.64, with number of lethal accidents -0.67, with corruption -0.73, and with absence of prejudice +0.58 (Veenhoven, 1997). Although we will focus on the results of Veenhoven, because they seem most detailed, it is worth mentioning that other researchers (e.g. Diener & Suh, 1998) using different data have found essentially similar correlations.

It must be noted that some of these variables characterizing a country as a whole—e.g. wealth or education level—can also be used to differentiate individuals *within* a country. However, the correlations between SWB and such individual differences tend to be more subtle. Part of the reason may be that people normally do not choose the country in which they live, whereas their situation (occupation, wealth, education, etc.) within that country to some degree depends on their personal traits and preferences. Thus, individual characteristics will interact with social conditions in determining overall SWB, making correlations more difficult to interpret in terms of controllable factors. For example, intrinsically greedy people are likely to have amassed more wealth than their less materialistic compatriots, without therefore being happier. This may in part explain Veenhoven's (1996) observation that wealth is strongly correlated with SWB when different countries are compared, but less so when different individuals within the same country are compared—at least if this country is rich enough to allow everyone the chance to amass wealth.

More generally, the complicating effect of personal characteristics may explain why objective, external factors can explain up to 81% of the variance in SWB between countries (Veenhoven, 1996b), but a much smaller part of the variance in SWB between individuals. Because we want to measure global progress rather than the effect of personality on life-satisfaction, our discussion will therefore focus on differences in SWB *between* countries, rather than *within* countries.

3.2. Health

The most obvious objective factor correlated with SWB is physical well-being or *health*. There seems to be a two-way relation between health and happiness: on the one hand, healthy people will suffer less physical discomfort and therefore be able to enjoy life more; on the other hand, there are indications that people who have many pleasant feelings are more likely to live a long and healthy life than people who feel bad (cf. Grossarth-Maticek & Eysenck, 1995), possibly because chronic stress, through mechanisms such as the raising of cortisol levels, has a negative effect on health. Health can be measured on the national level by indicators such as life expectancy and child mortality. These have all strong correlations with life satisfaction (Veenhoven, 1996a,b).

If we consider the changes over time in these indicators, we see clear progress. It turns out that life expectancy for the world is increasing with over 3 years every 10 years, while in the developed countries it has slowed down to little over 1 year, showing that the poor countries are quickly catching up with the rich ones in this respect (United Nations Population Division, 1994). Yet, further medical advances and more healthy life styles promise a continuing increase even in the richest countries for the foreseeable future. Thus, a child born now in a developed country has an estimated life expectancy of about 120 years. The most spectacular improvement is perhaps the steep decline in child mortality, which appeared first in the most developed countries, and now has reached even the poorest countries. Needless to say, these mortality statistics also indicate an immense decrease in the emotional suffering caused by the loss of loved ones.

3.3. Wealth

Adequate nutrition and health care, and thus health, require a certain level of wealth. Veenhoven (1996a,b) found that real income per inhabitant is strongly correlated with life satisfaction. Yet, he noted that the correlation diminishes once a certain level of wealth (about the level of Mexico) is reached. It seems that once people have sufficient money, further earnings contribute little to their SWB, implying that wealth is a need that can reaches a saturation level.

Again, this indicator shows incontrovertible progress. The average increase in wealth for most countries is well-documented. Poverty on the world level has decreased from over 70% in 1960 to 30% at present. Averaged over the different decades, a yearly increase in GNP of about 2%

seems normal for the developed countries. This increase is primarily due to an increase in productivity of about the same amount. Although more difficult to measure, the underlying increase in productivity is more stable or reliable, as it is less dependent on the "boom and bust" cycles of the economy than GNP, where periods of stagnation or recession are followed by increases of 6% or more.

3.4. Safety

Peacefulness, safety and political stability seem to be important requirements for a society to have high SWB. It seems obvious that the SWB will be lower in countries involved in external or civil wars, or which are at the mercy of crime, terrorism and political upheaval. Available data indeed show significantly lower life satisfaction in countries with high murder rates or high accident rates (Veenhoven, 1996, 1997). Veenhoven also found a negative, albeit weaker, correlation between happiness and the importance of the military in a nation.

Clear longitudinal data are available about the number of people killed in accidents and through homicide (Holen, 1995). They show a steady decrease in the number of lethal accidents, with the present rate less than half the rate at the beginning of the century. For deaths caused by homicide, which are but a small fraction of the accidental deaths, there is also a long term tendency toward decrease (Chesnais, 1995). A similar pattern, although subject to strong fluctuations depending on the number and intensity of conflicts, can be found for the number of victims of war: in the half century after WWII, for the world as a whole, the number of war deaths per capita has more than halved (cf. White, 1999).

3.5. Knowledge

Perhaps the most important variables contributing to SWB are those which determine the general level of knowledge. Veenhoven (1996, 1997) found that the factor of education (as measured by literacy and school enrolment) has a strong positive correlation with SWB when different countries are compared. Media attendance, the number of people getting information through radio, TV or newspapers, too shows a strong correlation.

For these cognitive variables, there are plenty of data that show a fast and consistent improvement. Illiteracy has virtually disappeared in the developed world, and is quickly receding in the developing countries. In

practically every country of the world, the average time spent in school has been constantly increasing over the past century. Both the percentage of people enrolled in school and the number of years people stay in school are continuously increasing (Simon & Boggs, 1995). Never have so many people known so much about so many subjects (Bernheim, 1999b). With the increasing importance of permanent education, there does not seem to be a limit to this growth in the amount of education received. At the same time, the explosive spread of communication media, from telephones to newspapers, and TV to computer networks, has made access to information much easier. This is also reflected in the growing number of books and journals that are published and read everywhere in the world.

3.6. Freedom

People's social position and the organization of the society in which they live also play an important role in their SWB. Veenhoven found clear correlations with personal and economic freedom, freedom of the press and political democracy. Unlike wealth, freedom does not reach a saturation level, where further increases do not increase SWB, implying that it would be a growth need rather than a deficiency need (Heylighen & Bernheim, 2000).

Freedom is clearly on the increase, all around the world. With the collapse of the communist block and the gradual disappearance of right wing dictatorships (Spain, Portugal, Philippines, Latin America, etc.), the last decades have witnessed a quite spectacular increase in democracy and general freedom of expression. The number of countries that can be broadly called "democratic" has risen from 6 (out of 43) in 1900, to 37 (out of 121) in 1980, and 117 (out of 193) in 1998 (Emmott, 1999).

3.7. Equality

Veenhoven (1996a,b) noted a clear correlation between average happiness in a country, and social equality, which is measured by equality between sexes, and equality between classes. There is also a positive correlation with the amount spent on social security, but this correlation disappears when the income per capita is held constant.

Over the longer term, there indeed does seem to be a clear increase in equality between the sexes (world-wide) and a less pronounced increase in equality in income (although this trend presently seems to be reversed in

the developed countries). Even though the wealth gap between rich and poor countries does not seem to decrease, the gap in other SWB indicators such as life expectancy, child mortality and literacy has definitely been reduced (cf. Easterly, 1998).

3.8. Conclusion

Practically all factors that are intuitively seen as measuring improvement, from wealth, safety and health, to knowledge, freedom, and equality, are strongly correlated with SWB, as measured through life satisfaction questionnaires. They can therefore be used as objective indicators of progress.

It is worth noting that these factors largely correspond to the basic values formulated in the Universal Declaration of Human Rights. Although human rights discussions tend to focus on the violations of the rights to freedom and to physical security, the Declaration also includes the rights to equal treatment, adequate standard of living, social security, health care, and education. The emphasis of Western governments and media on the freedom-related rights often leads to the accusation that the declaration is culturally biased. However, if the other rights are taken into due account, the World Database of Happiness data can be taken as empirical evidence that the Universal Declaration provides a pretty accurate, culture-independent inventory of the basic conditions for happiness. This indicates that the postmodernist focus on the relativity of values, although an important reminder that there are many different contexts or points of view from which to consider a statement, is misguided if it is used to deny the possibility of progress.

Each of these basic factors that correlate with SWB shows a consistent, on-going improvement over the last century. Unless we would have overlooked essential components of SWB—which seems unlikely—this proves the objective existence of progress over at least the past century.

This general trend may be exemplified by the probability of accidental death (Holen, 1995). This factor is both strongly correlated with SWB, and consistently decreasing. Unlike the increases in some more ideologically-loaded factors, such as wealth, equality, or freedom, nobody would deny that a decrease in accident rates constitutes an objective improvement. Yet, there is not any single, obvious cause for this decline. It is rather a combined effect of a multitude of small improvements in the most diverse domains, from seat belts in cars to better fire detection, more reliable technologies, higher

awareness of objective risks, more stringent regulations for dangerous work, and more responsible behavior by better educated citizens. The only thing these diverse developments have in common is that they decrease the probability of serious misfortune, and thereby improve the control people have over their fate.

4. Conclusion

Cultural relativism has led post-modernist thinkers to argue that the 18th century concept of progress has become meaningless. At the same time, the emphasis by the media on social and environmental problems has fostered an atmosphere of gloom and doom. This paper set out to show that both the relativist and the pessimist positions are flawed. This means that we had to: 1) define progress in a universally acceptable, culture-independent manner; 2) find a method to measure such process that does not suffer from relativistic distortions; 3) collect enough data to show that progress defined in this way effectively occurs.

We defined progress as increase in SWB, but noted that conventional methods to measure such SWB are quite insensitive to longitudinal changes because of proximate relativity: comparisons with recent experiences and with neighbors or peers get a much higher weight in intuitive SWB estimates, but tend to emphasize the status quo, since progress only becomes visible when situations are compared that are sufficiently distant in space and time. One way to tackle this problem is the ACSA methodology, which explicitly focuses the subjects' attention to more distant, temporal reference points, thus avoiding the distorting influence of recent memory or peer relativity. Although this method produced some promising results in recent studies, as yet it provides insufficient data to study global progress.

This led us to another approach, which avoids proximate relativity by comparing SWB scores for different countries. The extensive data from the World Database of Happiness allowed us to determine which objective social, economic and psychological variables have a significant correlation with SWB. The results confirm the values that most people intuitively hold, which are also the values underlying the Universal Declaration of Human Rights: health, wealth, security, knowledge, freedom, and equality all seem to contribute to our feelings of well-being. We then checked to what extent each of these factors has increased for the world population as a whole. Representative data for roughly the last half century seem to indicate

that all these factors have indeed progressed. This makes a strong case for the objective existence of progress.

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