

# INEQUALITY IN HAPPINESS

## Inequality in countries compared between countries

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*Paper presented at the 12th Work Congress of Sociology in Madrid July 1990.  
Working Group Social Indicators and Quality of Life. Session 7, Social trends and Inequality.*

### **Summary**

*Cross-national studies on happiness have focused on differences in level of happiness. The focus of this paper is on spread in happiness in the nation, also called 'inequality in happiness'. Inequality in happiness in nations can be measured by the size of the standard deviation of responses to survey questions about the 'overall appreciation of one's life-as-a-whole'.*

*This paper considers spread in happiness in 28 countries around 1980. Contrary to notions of a 'divided' society none of these countries shows a bi-modal distribution of happiness. All distributions are uni-modal, but the distributions are not equally flat. There are considerable differences in size of the standard deviations. These differences are not a statistical artifact of variation in level of happiness and appear quite constant through time.*

*Inequality in happiness appears to be greater in the socio-economically most unequal countries and smaller in politically democratic and economically developed nations. Contrary to expectation, inequality in happiness appears to be more closely linked to social equality among rich nations than among not-so-rich ones.*

## 1. INTRODUCTION

### *Context*

'Happiness' or 'life satisfaction' is the degree to which an individual evaluates the overall quality of his/her life-as-a-whole positively <sup>1</sup>. This concept is now currently used in Social Indicators Research.

Social Indicators Research is concerned with the realization of valued goals in society. One of the goals is to reduce human suffering and to create a society in which people can enjoy life. <sup>2</sup> Consequently a main research line in Social Indicators Research is to assess how happy citizens are in a society and to identify social conditions that promote happiness. For that reason periodical quality-of-life-surveys in many countries involve items on happiness.

Another valued goal in present day western society is 'equality'. Various successful emancipation movements in the last century have placed this goal high in our hierarchy of values. Equality is therefore also an important topic in Social Indicators Research. In this research line happiness is not a very prominent indicator. The focus is rather on inequality in 'educational achievement', 'social prestige' and 'income'. Still survey data on happiness are sometimes used to demonstrate inequalities. For example, when workers are shown to be less happy than professionals, this is taken as an indication that workers are still 'deprived' in present

day society (e.g. Hollingshead 1965). When differences in happiness between Whites and Blacks diminish over time, this is seen as growing social equality (e.g. Manning Gibbs 1972). This paper pursues this line and focuses on differences in happiness rather than on level of happiness.

Most quality-of-life studies focus one country. Questions they typically try to answer are how happy the average citizen is, whether he becomes more or less happy over time, which kind of citizens are more happy than others and whether such differences are diminishing or grow<sup>3</sup>.

There are only a few cross-national studies on subjective appreciation of life. These studies aim typically at establishing which countries are the most livable and in identifying characteristics that mark livable societies<sup>4</sup>. This paper is in the same tradition, yet the focus is not on differences in level of happiness, but on differences in inequality in happiness.

### *Subject matter*

This paper explores the differences *between* nations in *with-in* nation inequality in happiness. 'With-in nation inequality in happiness' is the degree to which citizens in that country differ in happiness. If in a country everybody is about as happy as the neighbors, there is perfect equality in happiness: irrespective of the level of happiness. A country where everybody is unhappy is no less equal than a country where everybody is happy. If however one half of the citizens in a country are very happy and the other half are profoundly unhappy, the country can be said to be characterized by high inequality in happiness.

Note that the subject is how much people in a country *actually* differ from each other in their appreciation of life. Not how great they think happiness differences are in the country.

### *Questions*

Inequality in happiness in countries has not yet been studied comparatively. The purpose of this paper is to take a first look. Two questions are considered: First whether there are any differences in inequality in happiness between countries. Second whether these differences correspond with other aspects of inequality in nations. These questions can be elaborated as follows:

## **1.1 Do countries differ in inequality in happiness?**

It is not at all sure that countries differ in the degree to which their citizens differ in appreciation of their lives. There are good reasons to expect that there is a little variation.

One such reason is that happiness may be a largely insensitive to quality of living conditions. In this view the happy born people tend to be happy everywhere, irrespective of whether they live in a good or a bad country. Likewise difference between happy and unhappy people will be the same everywhere, irrespective of the distribution of life chances in a country. Adherents of this personality view on happiness are e.g. Costa (1987) and Tellegen (1988).

Another reason is that comparisons with fellow citizens may produce a similar pattern of happiness in countries, irrespective of their livability. This view is part of the social comparison theory of happiness (e.g. Easterlin 1974). It not only predicts that average happiness is typically the same (in fact zero) in all countries, but also implies that its distributions tend to be the identical. If people rank their life on a scale defined by the most advantaged and the least

disadvantaged compatriot, the variation will be about the same everywhere: irrespective of social inequalities in nations.

Therefore a first question is whether the distributions in happiness are actually the same or not in the various countries of this world. This question involves two issues: first whether the pattern of distribution is typically the same (f.e. all uni-modal and symmetric) and second whether there are differences in dispersion in these distributions (typically flatter in some countries than in others). Such differences are meaningful only if they represent stable country characteristics. Hence a third question is whether the pattern of difference tends to remain the same over the years.

## **1.2 Are the differences due to variation in social equality between nations?**

If there are differences in within-inequality in happiness between nations, the next question is ‘why?’ An evident hypothesis is that these differences are due to differences in social equality. Inequality in happiness is likely to be greatest in the socially most unequal countries.

‘Social inequality’ in the broadest sense concerns socially produced ‘differences in life chances’. This concept is broad enough to cover all variation in happiness that is not clearly due to genetics, chance or physical environment. Hence it makes little sense to ascribe to the differences in happiness to social inequality at large. Rather we must pinpoint the specific inequalities that are responsible for the variation in happiness.

Inequalities deemed most crucial in present society are inequality in ‘income’, ‘power’, ‘prestige’, and ‘education’: sometimes globally referred to as ‘class difference’. Recently ‘gender inequality’ has been added. In this context a first question is whether in countries characterized by high differences of this kind, citizens differ more in appreciation of their life than in more equal countries. If not, the inequalities deemed most crucial at this moment by politicians and scientists may in fact be not very crucial for the subjective quality of life of present day citizens.

Countries differ not only in specific inequalities, but also in the degree to which their structure favors the correction of inequalities. Democratic societies are reputed for creating equal chances in various domains of life (e.g. Hewitt 1977). Economic development is also said to have to work out egalitarian (e.g. Wilensky 1974, Lebraux 1965). In this context a second question is whether happiness is indeed more equally distributed in democratic and affluent nations. If so, this is an argument to go on in these directions. If not, a reorientation on current policy goals is due.

The effects of social inequality on the distribution of happiness may depend on other characteristics of the nation. One such characteristic may be the economic development of the countries. Inequality is likely to hurt less in the rich nations and hence to produce less differences in happiness. In this context a third question is whether the presumed relationships are indeed different in rich and not-rich nations.

## **2. DATA**

### **2.1 Happiness**

Happiness can be measured simply by asking people how much they appreciate their life all in all. When such a question is posed to a representative sample of the population in a country we can assess the level of happiness in that country by computing the average score and the inequality in happiness by considering the dispersion of the scores.

### 2.1.1 Suitable questions

The dispersion of happiness in countries is best visible in questions that provide a broad range of answer categories. The best available item in this respect is Cantril's (1965) 11-point 'ladder rating'. This item not only provides the broadest rating scale, but it also bypasses a main semantic problem. The questions does not use terms like 'happiness' or 'life satisfaction', but invites to a rating of present life on a ladder ranging from the 'best possible' to the 'worst possible life'. This item has been used in two world surveys in 1960 (Cantril 1965) and 1975 (Kettering/Gallup 1976). Unfortunately the distributions of the 1960 survey are not reported in full detail, because Cantril grouped the scores in three categories. The 1975 survey sampled parts of the world rather than nations. A similar question has figured in the World Value Study in the

number for a fruitful exploration.

A broader nation set is available if we turn to questions that invite the respondent to rate his happiness on a 3-point scale. Such questions are typically formulated as 'Generally speaking; how happy would you say you are: would you say you are very happy, pretty happy or not too happy?' Around 1980 such questions have figured in surveys in 28 countries. This is more than any other item. Yet this item has some disadvantages: Firstly the range is short. Secondly the word happiness and its translations may bias the responses. Thirdly the formulations are not quite identical.

Faced with the choice between perfect data on too few countries and less than perfect data from a sufficient number, I opted for the latter. These data are presented in [exhibit 1](#). The data were drawn from the 'Catalogue of Happiness Distributions in Nations', which is part of the 'World Database of Happiness' kept at Erasmus University in Rotterdam (Veenhoven 1990). This catalogue gathers the data yielded by all questions on happiness ever used in representative samples in nations.

### 2.1.2 Measure of Dispersion

Inequality in happiness can be measured by several statistical measures of variance. There are measures for the degree to which distributions are bi-modal, for the degree to which they are symmetric and for their spread (flatness). For the purpose at hand here measures of 'spread' are the most appropriate. As can be seen in exhibit 1 there are no bimodal distributions in this set and asymmetry is not what we aim at. <sup>5</sup>

The most current measure of spread is the standard deviation, which is the root of the average squared difference from the mean. Standard deviations were computed for each of the 28 countries. See once more [exhibit 1](#).

A problem with this measure is spread of happiness is that it is not independent of the level of happiness in the country. The possible variation in the standard deviation is greater when the average score is in the center of the possible range, than when at the extremes. The possible variation of the standard deviation on our three step scale is depicted in the diagram on [exhibit 2a](#).<sup>6</sup> Adjusted standard deviations were computed by transforming them all to a 0-1 scale. These adjusted standard deviations are presented in [exhibit 5](#).

## 2.2 Social equality

In order to answer the question whether happiness is more equally distributed in socially equal countries, the degree of social equality has to be measured. There is no comprehensive measure

of social equality in nations. The concept of social equality is in fact too broad to handle. Therefore the concept is specified: First distinction is made between 'specific inequalities' (life chances) and 'favorable conditions for equality'. Within these two categories the following aspects of equality are discerned:

### ***Specific inequalities***

The focus is on life chances deemed most crucial nowadays. These are: income, access to education, equal chances for men and women. Equality in this respect in countries is measured as follows.

#### *Income equality*

Income difference in countries can be measured in several ways. One-way is to consider interquintal variation. This is done by means of Gini-coefficients. Data on this matter are available from Van Dam (1988) who computed averages over the years 1970-1985 on the basis of data drawn from the World Bank Atlas (1985).

#### *Social security*

Another indicator of equality in nations is the degree to which governments guarantee all citizens a minimum level of living. Whereas the Gini-coefficient concerns the entire income distribution, this indicator focuses at the bottom line. The height of the guaranteed minimum level of living in a country can be measured by government spending on the following categories of welfare programs: a) old-age pensions, b) sickness benefits, c) unemployment benefits, d) compensation for injured workers, e) family allowance benefits, f) maternity benefits, g) invalidity benefits, h) widow/orphan benefits, i) benefits to war victims, j) benefits to public employees, k) public health and medical care and l) public assistance benefits (ILO 1977:1-3). Expenses on these matters are expressed as a percentage of the income per head in the country. Data are drawn from the IMF Manual on Government Financial Statistics (IMF 1986) and concern the year 1980.

#### *Equal work chances*

Differences in access to paid work can be measured in various ways. One indicator is the amount of involuntary unemployed as a percentage of the total workforce in the country: the lower this percentage, the more jobs apparently are available and hence the greater the equality in chances to get one. Unemployment ratios are available from ILO statistics (ILO 1987). The data used here concern the year 1980.

#### *Equality in education*

Equality in access to knowledge among citizens in the country can be measured in many ways as well. One indicator is the degree to which everybody receives at least a minimum level of school education. This is reflected in Estes' (1984) 'Education Subindex' which involves: first school enrollment ratio (+), first level pupil/teacher ratio (-), percent adult illiteracy (-) and percent of GNP spent on education (+). The data concern the situation in the years 1979-1980.

#### *Gender equality*

The above differences in access to work and education are also reflected in the degree to which women have equal opportunities as men. A usable indicator of women emancipation is Estes'

(1984) ‘Women status Subindex’. Next to male/female equality in participation in primary education this index also involves indicators of women suffrage. Data concern the years 1970-80

### 2.3 Promotive conditions for social equality

As mentioned in the introduction, two country characteristics are currently seen to further social development toward greater equality. These are ‘political democracy’ and ‘economic development’. In this context the following indicators are used.

#### *Democracy*

The more effective the political interest representation for common citizens in a country, the more likely that country is to get more equal in the long run. Effective interest representation for everybody is furthered by the presence of a political democracy, a high degree of political participation, strong labor unions and a free press. The following indicators are used for this purpose:

The degree to which a *parliamentary system* functions in the countries is measured by the degree to which countries guarantee political rights and civil liberties. Data are drawn from Gastri (1987) and concern the period 1970-1985. A drawback of this indicator is that it hardly differentiates among first world countries, most of which have the maximum score.

The presence of a parliamentary system alone does not guarantee effective interest representation for everybody. Organization of special interest is also required: in particular organization of the weakest in society. Bertrant (1981) calls this ‘interest democracy’. One indicator of interest democracy in countries is the *strength of labor unions*. This indicator is particularly relevant in this context because there is good evidence that trade unions have contributed significantly to the redistribution of income in industrial societies (e.g. Hewitt 1977, Stephens 1979). Strength of trade unions in the country is measured by the percentage of the working force (including work seekers) that is unionized. Data are drawn from Taylor & Jodice (1983) and concern the year 1975.

Finally *freedom of press* is also likely to contribute to greater equality in the country. Not only is freedom of press required for a proper functioning of a parliamentary system, but even in autocratic political systems a free press can give voice to deprived social categories. Freedom of press is measured by the actual (rather than legal) freedom of the media in a country to criticize their local and national government. Two native and two non-native experts were asked to rate the country on 23 aspects such as: ‘legal controls’, ‘favoritism in the release of government news’ and ‘censorship’. Data were found in Kurian (1979: 362) and concern the early 1970’s.

#### *Economic development*

This is a many faceted phenomenon. One aspect is material *affluence*. A good indicator of affluence in the country is the Real Gross National Products per head (RGDP). This indicator differs somewhat from the more commonly used GNP, which is the average income in money per head in the country, mostly converted to US dollars. The RGDP reflects the worth of the goods that are available to the average citizen. Thereby it includes non-market incomes as well. Data on RGDP in the countries mentioned in [exhibit 1](#) in 1980 were drawn from Summer & Heston (1988).

Another aspect of economic development is *growth or decline*. On the growth and decline are generally seen as detrimental to social equality. Growth is seen to create a great distance between new riches in emerging sectors of the economy and new poor in obsolete ones.

Likewise economic decline is reputed for creating a split between the citizens who survive and the ones who fail. Short-term growth and decline is measured by the percentage change in GNP compared to the last year. Country scores are derived from OECD statistics and concern the period 1975-1984. In this period a major recession took place (1980/1982). Long-term economic growth is generally seen as an equalizing force in society, because it creates new mobility chances and fosters interdependencies in the social system. Long-term economic growth is measured by in Estes' (1984) 'Economic Subindex'. This index involves four elements: economic growth in the last decades (+), GNP 1980 (+), average annual inflation rate in the last decades (-) and increase in food production in the last decade (+).

### 3. RESULTS

#### 3.1 Do countries differ in internal inequality in happiness?

##### *Patterns of distribution*

Several patterns of distribution are possible on a 3-point happiness scale. [Exhibit 3](#) presents 11 possible types. Of these the types 5 and 10 are the most frequent in this nation set. Bi-modal distributions are not observed.

##### *Degree of inequality*

As mentioned above, inequality in happiness is indicated by the spread in these distributions as measured by the standard deviation. The possible range of the standard deviation on a 3-point scale is from 0 to 1. The extremes are shown in example 1 and 2 in [exhibit 3](#). The actual range observed is between 0.46 (Finland) and 0.80 (Mexico). [Exhibit 4](#) presents the distributions in extreme cases together with a modal case (Japan). Note that the average happiness is alike in these countries, but the spread of happiness different.

##### *Dependence on level of happiness*

As we have seen standard deviations are not always independent of the level of happiness. In countries where the average level is either very low or very high, the standard deviation tends to zero. In this context a first step is to consider how the standard deviations actually distribute in the possible range depicted in [exhibit 2](#). If they lump in the center of the diagram these is little problem. If not, we are in trouble. [Exhibit 2b](#) shows we are to some extent.

This requires that we also consider the adjusted standard deviations. These are presented in [exhibit 5](#) together with the original unadjusted ones. The rank order appears to be largely the same. Yet Thailand and the Philippines move from the top to the bottom.

##### *Stability of inequality through time*

For 8 countries we have time series of 11 years on the basis of identical questions. These are Belgium, Denmark, France, Ireland, Italy, The Netherlands, UK and West Germany. Visual inspection of the standard deviations shows little variation within countries (in spite of the recessions that took place in this decade) and marked consistency of the differences between countries. See [exhibit 6](#).

### 3.2 Less spread in happiness in socially equal nations?

**Exhibit 7** presents correlations between the selected indicators of social equality in the countries and inequality in happiness as measured by its standard deviation. The correlations with adjusted standard deviations are printed between brackets. A positive correlation means that social equality goes with a greater standard deviation and hence with more inequality in happiness in the country: a negative sign means that happiness is more equally spread in the socially most equal nations. Because spread of happiness must be seen in the context of level of happiness, **exhibit 7** also presents the correlations of social inequality with average happiness (right column).

In small samples like this, correlation coefficients are not very dependable. Values must be quite high to reach significance and an atypical case or a slight variation in classification can radically change the picture. These limitations count especially in the breakdown between rich and not-so-rich countries. Hence the coefficients should be considered with some reserve.

#### 3.2.1 Specific equalities

The upper half of **exhibit 7** shows that the level of happiness tends to be higher in socially equal nations and its distribution more equal. Social equality relates more strongly to *level* of happiness than to *spread* in happiness. This general pattern is depicted schematically on **exhibit 8**. Together the five equality indicators explain 70% of the variance in level of happiness between these countries and 38% of the variation in spread of happiness.

##### *Income equality*

When the entire set of 28 nations is considered the general pattern appears: happiness is both higher in income-equal nations and more equally spread. The sign of the correlation between happiness SD and the Gini-coefficients is reversed here to indicate the relation with income equality (rather than inequality). This general pattern is in accordance with common sense theory that greater social equality makes life more pleasant for the average citizen (reflected in higher average happiness) and reduces differences in quality of life (reflected in lower standard deviation).

The not-so-rich countries deviate from the general pattern in that average happiness appears lower in the countries with the greatest income equality. A possible explanation would seem that income equality is detrimental to economic development in the take-off phase and thereby reduces the level of happiness. That would mean lower happiness at the cost of more equal happiness. However, a control for RGDP does not change the picture: (partial correlation among the not so rich nations -.50)

The rich countries deviate from the general pattern in that income equality hardly reflects in more equality in happiness. Neither the unadjusted standard deviations nor the adjusted ones correlate significantly with income equality in these nations. Probably this is because income differences do little to happiness in these countries which all guarantee their citizens a decent minimum level of living. Things are different in the not-so-rich nations, where relative poverty often means absolute poverty and income differences therefore do reflect in a greater inequality in happiness.

##### *Social security*

When we consider all 28 nations the results is in line with expectation: the more nations spend on social security, the higher the happier their citizens are on average and the more equally



happiness is distributed in society. The data are shown in full detail in the scattergrams on [exhibit 9](#).

When we take the rich and not-so-rich countries separately, the pattern is largely the same. Yet an important difference is that in the not-so-rich nations better social security goes with greater inequality in happiness rather than less. Further on we will meet more with this pattern.

#### *Full employment*

Surprisingly, equality in access to paid work (as measured by unemployment rates, correlation reversed) appears not related to happiness: neither to level of happiness nor to equality in happiness. The correlations are all non-significant and their direction is actually opposite to the general pattern sketched in [exhibit 8](#). Possibly this result reflects a tendency of unemployment rates to be higher in the otherwise equal welfare states (due to better registration, less pressure to accept work and possibly lower economic growth).

#### *Equal education*

The general pattern is reproduced in the 28-nation set: the level of happiness is again higher in the more equal countries and it's spread smaller. Again the relation with equality in happiness exists in rich nations only.

#### *Gender equality*

In line with general pattern the average level of happiness is consistently higher. However, happiness is hardly more equally distributed in the most gender-equal nations.

This may mean that men and women profit equally much from women-emancipation. Both sexes get happier (reflected in higher average happiness), but one not more than the other (reflected in equal spread). This result fits my earlier observation that men and women tend to be equally happy in all countries of this present world (Veenhoven 1984: 178).

### **3.2.2 Conditions for equality**

The lower half of [exhibit 7](#) shows the same pattern: the level of happiness is consistently higher in countries where favorable conditions for social equality exist, and the distribution of happiness more equal. Again the more equal distribution appears most sharp in the correlations with the adjusted standard deviations.

The breakdown between rich and not-so-rich countries results in similar patterns as well. The correlations with level of happiness are similar in rich and not-so-rich countries, but the correlation with spread of happiness is not. In the rich countries conditions for greater social equality do go with more equality in happiness, but in the not-so-rich countries such conditions are rather accompanied by greater inequality in happiness. Together the six conditions for equality explain a sizable amount of the variation in average happiness and spread.

#### *Democracy*

In the total set of 28 nations we meet again with the pattern of a higher level of happiness (significant) in equal (democratic) countries and slightly less spread in happiness (significant). Again things are differently in rich and not-so-rich nations, especially the correlations with spread in happiness.

In the rich countries democracy goes both with a higher level of happiness. The

correlations with equality in happiness are equally sizable. This may mean that democracy does indeed provide a better quality of life and a more equal distribution of chances.

Among the not-so-rich nations the pattern is different. The level of happiness is not higher in the most democratic of these (except the case of union-strength) and happiness tends to be less equally distributed in the most democratic nations rather than more. This may mean either that democracy does not work very well in not-so-rich countries, or that suffering and social inequality presses towards system change in a democratic direction.

### *Economic development*

The picture is much the same were economic development is concerned: the more developed the nation is economically, the happier its citizens are and the less they differ from each other in happiness.

The relationships with material affluence (RGDP) fit the general pattern: no difference in correlation with level of happiness between rich and not-so-rich countries (both positive), but different correlations with inequality of happiness. The correlation with spread of happiness is negative in the rich countries (that is: more equality in the more affluent nations) and positive in the not-so-rich (that is less equality in happiness in the richest of these). This pattern is visualized on [exhibit 9](#). In the discussion section we come back to this result.

The relationships *with long-term economic growth* are largely identical. Only the non-significant correlations with inequality in happiness pan out differently in rich and not-so-rich countries. Because GNP is involved in this indicator, it overlaps partly with affluence. [Exhibit 7](#) does not involve an indicator of *short-term economic growth/decline* because data on that matter are not available only for this country set.

In the context of a study on the effects of the last economic recession, Veenhoven and Chin-Hon-Foei examined changes in inequality in happiness through economic ups and downs. For that purpose the Eurobarometer surveys over the years 1973-1985 were analyzed. Standard deviations of the life-satisfaction item were analyzed for nine EC countries separately (Belgium, Denmark, France, Ireland, Italy, Luxembourg, the Netherlands, United Kingdom). The results showed that inequality in happiness tends to increase in the year after decline of the economy and to diminish in the year following growth. This tendency was stronger the less social security the country provides, in particular in the United Kingdom ( $r = + .64$ , Chin-Hon-Foei 1989: 30/31). [Exhibit 10](#) shows the trend lines of year-to-year changes in GNP and happiness standard deviations in this country.

## 4. DISCUSSION

This first exploration raise at least three questions: The first is why in the not-so-rich countries social inequalities do not reflect in greater spread in happiness. The second question is what other things can explain the observed differences in internal spread in happiness between countries. These questions merge in a third one: whether spread of happiness is a useful indicator of social inequality in nations.

### 4.1 Why less correlation in not-so-rich nations?

The expectation was that social inequality would be more closely related to spread in happiness in the not-so-rich nations than in the rich ones. The reason for this expectation was that social inequality is likely to hurt more in not-so-rich nations. Differences in social equality are

therefore more likely to reflect in the distribution of happiness in these nations. This expectation was confirmed only in the case of income equality. Adjusted standard deviation at least produced a greater correlation in the predicted direction in the not-so-rich countries than in the rich ones ( $r = -.58$   $p < .05$ , respectively  $-.22$  ns). All the other correlations appeared insignificant among the not-so-rich nations and in half the cases their direction contrary to the prediction. There are several possible explanations for this result.

The first and most trivial is that the number of nations is too small ( $N = 12$ ) and the sample too heterogeneous (Ireland and Spain next to India and Korea) to expect meaningful results. However if random variation had played us false we might expect similar low and inconsistent correlations with level of happiness. That is the case only with three indicators of democracy. In all the other cases we see sizable positive correlations.

A more substantive explanation would seem that the inequalities concerned here hurt less rather than more in not-so-rich nations. I cannot believe so, in particular not because social security is clearly related to level of happiness in these nations.

A more plausible explanation would seem that social security expenditures tend to be higher in the otherwise most unequal nations of these. The very existence of sharp inequalities in a society can press governments to greater expenditures on that matter. This policy is most likely to be followed in the relatively rich and therefore relatively happy not-so-rich nations. Seen in this light, it is not so strange that level of happiness is relatively high in the not-so-rich countries that spend most on social equality, but equality in happiness relatively low.

#### **4.2 What other things can explain the country differences in inequality in or happiness?**

The five social inequalities in [exhibit 7](#) explain together 38% of the variance in within-spread of happiness between countries. Though this is not nothing, it is less than the half. Unless the rest of the variation is due to random, other causes must be involved than the ones at hand here. One possibility is that the five indicators used do not exhaustingly describe the social inequality in countries. Another explanation is that cultural differences are involved.

##### *Other social equalities*

The indicators of social equality in [exhibit 7](#) concern socio-economic equality in the first place. There is more than that, and even socioeconomic inequality is not fully covered.

Aspects of socio-economic equality in nations not fully covered by the five indicators used here are e.g. chances for ‘upward mobility’ in society and degree of difference in ‘social prestige’ (length of the social ladder). Especially when lumped together in class differences such inequalities are likely to give rise to greater spread of happiness in society.

Social inequality is of course not limited to matters of money and prestige. Think for instance of the inequality in access to informal social support between married, and unmarried persons, which is known to have a great impact on happiness in modern western society (Veenhoven 1987). Socio-cultural differences in adequacy of socialization practices and beliefs also represent social inequality in the sense of ‘socially produced difference in life chances’. Such differences do seem to have a great impact on the distribution of happiness. Unfortunately they cannot be easily measured.

##### *Other possible causes than social equality*

Next to differences in equality of life chances between nations, the variation in spread of happiness can also result from country differences in characteristic views on life. Some cultures

may press to uniformity in the evaluation of life: f.e. by requiring that everybody is happy (said to be the American way) or by inviting to a self-definition as average (said to be typically Japanese). Other cultures may rather encourage full recognition of one's own feelings and thereby create greater variation in happiness (said to be characteristic for individualistic society and its narcissistic ideology of self actualization).

A related possibility is that the difference in spread of happiness between nations is produced by variation in internal *cultural heterogeneity*. In cultural homogenous countries the citizens view on life is likely to be the more or less the same and their evaluation of life therefore not very different. In culturally heterogeneous countries however the views on life can be so different that one part of the population defines itself as happy and another part as unhappy. If so, that results in a greater spread of happiness in the latter countries than in the former ones. A first check of this possibility did not show any difference however (Inequality in happiness was correlated with Estes' (1984) Index of Cultural Diversity,  $r = +0.2$  ns).

A last thing to mention is that the difference in spread of happiness between countries can also be produced by *response bias*. For instance: if language or custom in a country encourages extreme responses the spread of happiness in that country will appear greater than it actually is. If there is pressure to appear as average, the standard deviations will be deceptively small.

#### 4.3 Is spread of happiness a useful indicator of social inequality?

Social inequality in nations is currently measured by specific inequalities. A country is said to be unequal if incomes differ much, prestige differences are large or the social safety net is spanned low. There are several problems with these indicators: Firstly, they concern specific inequalities and not overall inequality of the nation. Adding such indicators in an index does not quite solve that problem: these few inequalities do not represent all inequality. Moreover there is the problem of awarding weights: it is not easy to decide whether income-inequality must be adjudged equal weight as gender-equality and to what degree different weights should be used in different countries. Secondly, the inequalities at hand are not quite comparable across countries: prestige ladders are not equally long everywhere and income differences matter more in developing nations than in rich welfare states. Thirdly it is not at all sure that the socio-economic inequalities that are central in present day research mark the differences that are most relevant to individual quality of life in modern society. In fact there is good reason to doubt so: at the individual level matters of income and social prestige are only dimly related to happiness in modern western nations. Happiness appears to depend more on matters of psychology and intimacy, which are less central in the political debate and therefore also marginal in research on social inequality. (See Veenhoven 1984 for a review of the literature)

In this light it is worth considering the alternative of inequality in happiness. This alternative involves a solution for all three the problems mentioned. Firstly, there is no problem of constructing an overall score out of specific inequalities, because spread of happiness indicates overall inequality right away. Secondly the problem of comparability across nations is not that great. Happiness is the same everywhere. Though sources of happiness may differ between societies (among which social equality), being either satisfied or dissatisfied with ones life is not different between one country and another. There are of course problems of cultural bias in the measurement of happiness, however these appear not so great as some expect (Ouweneel & Veenhoven 1989). Thirdly, this indicator bypasses the problem of the relevance of social inequalities considered. Unlike the traditional indicators it does not focus on variation in *potential life-quality*, but on variation in *realized life quality*. Differences in relevant but

unrecognized life chances are reflected in that variation.

Acceptance of spread in happiness as an indicator of social equality in nations requires of course validity testing. The present analysis can be considered a first test of concurrent validity. Spread of happiness tends to be greater indeed in countries characterized by great differences in income and schooling and where the political system and the economy do not favor equality. Still, concurrence is less clear in the case of the not-so-rich countries and we do not know to what extent the differences in spread of happiness are due to other things than social inequality. For the time being spread of happiness must be considered a promising indicator of inequality in nations, but no more than that.

## 5. CONCLUSIONS

1. The distribution of happiness is not the same in all countries. In some countries happiness is more equally distributed than in others. These differences are not an artifact of variation in level of happiness. They are fairly stable through time.
2. Happiness is more equally distributed in countries characterized by small income differences, high social security and equal education chances. Happiness is also more equally distributed in the politically most democratic and economically most developed nations. These effects are more pronounced in the rich nations than in the not-so-rich.
3. Spread of happiness is a promising indicator of social inequality in nations.

### Notes

- 1 This concept is delineated in more detail in Veenhoven 1984 chapter.
- 2 Philosophically that goal roots in the utilitarian doctrine that the ultimate goal of all moral action (including government policy) should be the 'greatest happiness for the greatest number! Contrary to that doctrine happiness is not accepted as the only and ultimate goal in present day western nations. It is considered as one of the main-end values next to matters as 'freedom', 'equality' and 'progress'. Happiness scores high in public opinion surveys on value priorities and is often mentioned as an end goal in policy statements (mostly under other names).
- 3 Classic studies of this kind are Campbell's (1981) 'The sense of well-being in America' and Glatzer & Zapf's (1984) 'Lebensqualität in der Bundesrepublik'.
- 4 See e.g. Inglehart 1977, Veenhoven 1984, Inkeless 1988.
- 5 Symmetry is the degree to which the number of very happy equals the number of very unhappy in the country. A distribution can be very symmetric but little spread: f.e. the country where 5% is very happy 90% fairly happy and 5% unhappy.
- 6 This diagram is identified by the following formulae:
 

- maximum SD (s) for any formula as average (a):	$\sqrt{-(a-s)^2+1}$
- minimum SD for a >2:	$\sqrt{(a-s)-(a-s)^2}$
- minimum SD for a < 2:	$\sqrt{-(a-s)-(a-s)^2}$

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#### **ACKNOWLEDGEMENT:**

I thank my colleague dr. Jan Koster for his statistical advice.



**EXHIBIT 1****HAPPINESS IN 28 NATIONS AROUND 1980**


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COUNTRY YEAR	QUESTION TYPE	% RESPONDING			MEAN	SD	SOURCE
		VERY HAPPY	FAIRLY HAPPY	NOT TOO HAPPY			
Australian 1975	1	37	57	6	2.31	0.58	Gallup World Survey 1)
Austria 1985	2	34	35	31	2.03	0.81	Qol Survey Austria 2)
Belgium 1979	2	45	47	6	2.40	0.60	Eurobarometer 3)
Brazil 1975	1	36	45	18	2.18	0.72	Gallup World Survey
Canada 1975	1	36	59	4	2.32	0.55	Gallup World Survey
Denmark 1979	2	34	59	5	2.30	0.56	Eurobarometer
Finland 1981	3	13	77	8	1.95	0.46	World Value Study 4)
France 1979	2	19	61	18	2.01	0.61	Eurobarometer
Greece 1982	2	10	40	48	1.61	0.66	Eurobarometer
Holland 1979	2	50	45	3	2.48	0.56	Eurobarometer
India 1975	1	6	31	62	1.43	0.61	Gallup World Survey
Ireland 1979	2	37	53	9	2.28	0.62	Eurobarometer
Japan 1975	1	9	56	23	1.84	0.58	Gallup World Survey
Malaysia 1965	5	17	64	15	2.02	0.58	Easterlin 7)
Mexico 1975	1	26	34	37	1.89	0.80	Gallup World Survey
Norway 1985	3	28	64	7	2.21	0.56	World Value Study
Philippines 1965	5	13.5	73	13.5	2.00	0.52	Easterlin
Portugal 1985	2	7	70	21	1.86	0.52	Eurobarometer
Spain 1985	2	18	61	19	1.99	0.61	Eurobarometer
South Africa 1981	3	27	55	18	2.09	0.66	World Value Study
South Korea 1980	4	11	59	30	1.81	0.61	ISSSNU 6)
Sweden 1981	3	29	66	4	2.23	0.52	World Value Study
Switzerland 1975	1	26	65	9	2.17	0.57	Gallup World Survey
Thailand 1965	5	13	74	12	2.01	0.50	Easterlin
U. Kingdom 1979	2	33	57	10	2.23	0.61	Eurobarometer
U.S.A. 1975	1	40	50	9	2.31	0.63	Gallup World Survey
West-Germany 1979	2	15	68	13	2.02	0.54	Eurobarometer

- 1) Gallup (1976)
- 2) Schutz (1985)
- 3) Eurobarometer Report no. 26, Europese Commissie, Brussel
- 4) Halman (1987)
- 5) Gallup 1976/1977
- 6) ISSSNU (1981)
- 7) Easterlin (1974)

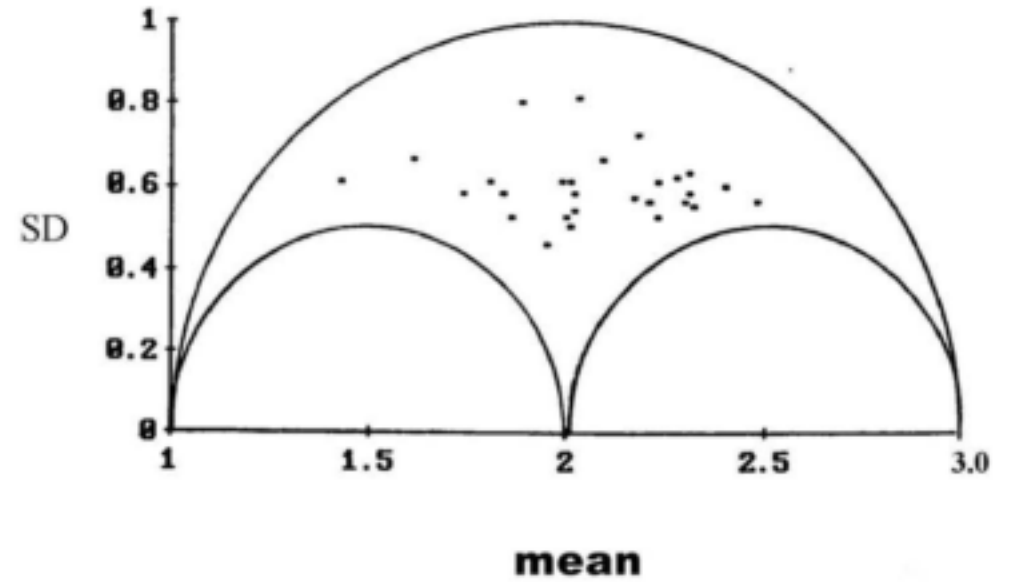
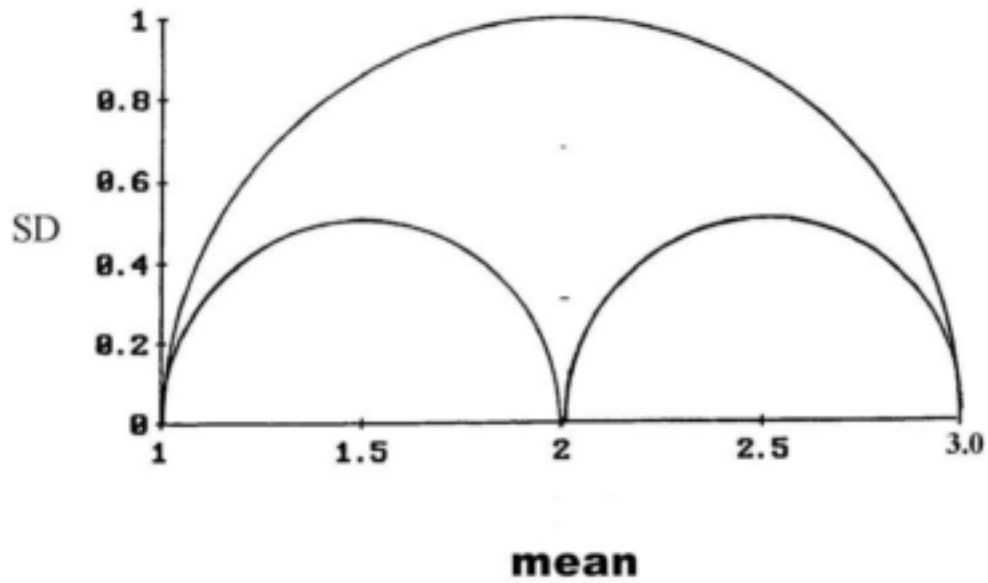
**Exhibit 2**

**Spread of happiness and level of happiness in 28 nations around 1980**

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a Possible variation of the standard deviation

b actual distribution of the standard deviation



## EXHIBIT 3

## PATTERN OF DISTRIBUTION OF HAPPINESS ON A 3 POINT SCALE

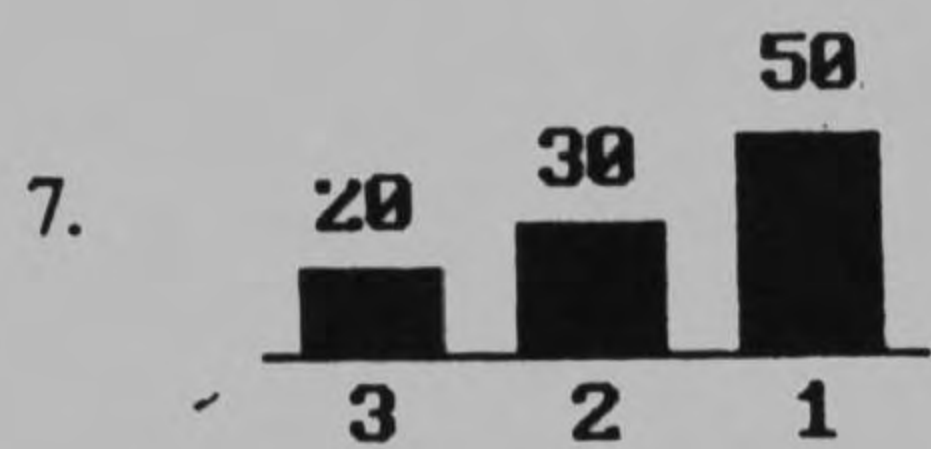
## POSSIBLE PATTERNS

TYPE	DIAGRAM	STATISTICS	COUNTRIES WHERE PATTERN OF THIS KIND IS OBSERVED
1.		mean 3.00 SD 0.00	none
2.		mean 2.0 SD 1.00	none
3.		mean 2.0 SD 0.89	none
4.		mean 2.00 SD 0.82	Austria
5.		mean 2.00 SD 0.63	France, Spain, West-Germany, Malaysia, Thailand, Philippines, South-Africa.
6.		mean 2.30 SD 0.78	none

## POSSIBLE PATTERNS

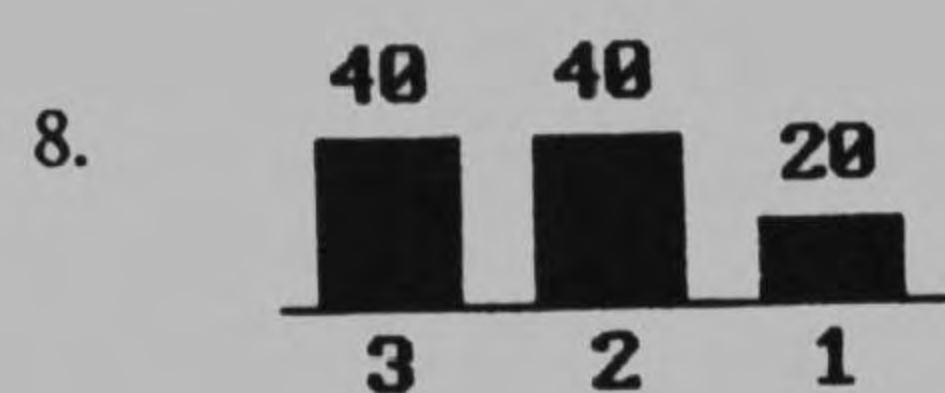
TYPE DIAGRAM

STATISTICS

COUNTRIES WHERE PATTERN OF THIS  
KIND IS OBSERVED

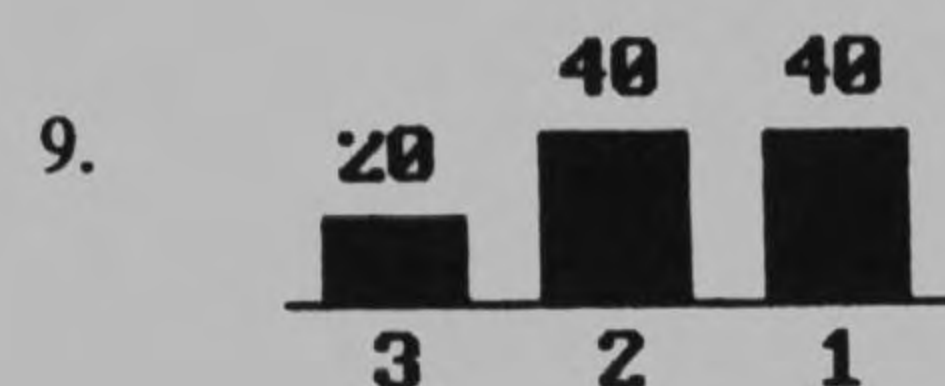
mean 1.70  
SD 0.78

India



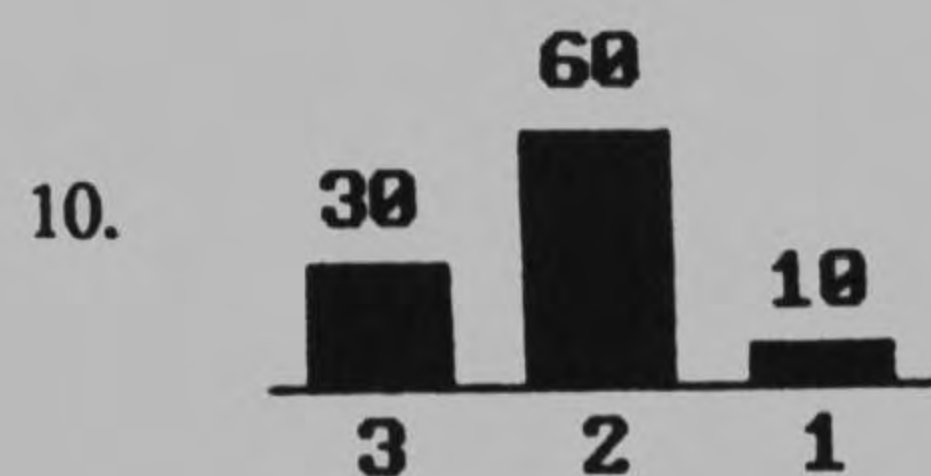
mean 2.20  
SD 0.75

Belgium, Holland, Brazil

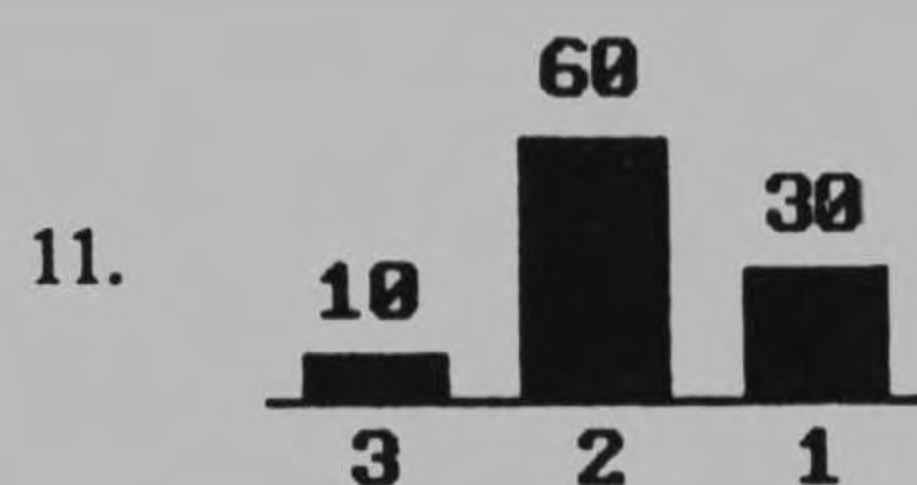


mean 1.80  
SD 0.75

Greece, Mexico



mean 2.2  
SD 0.60

Australia, Canada, Denmark, Ireland, UK, USA,  
Finland, Norway, Sweden, Switzerland

mean 1.8  
SD 0.60

Japan, Italy, Portugal, South Korea

- 1) 3 = very happy  
2 = fairly happy  
1 = not too happy

- 2) Data exhibit 1\_

## EXHIBIT 4

## DISTRIBUTION OF HAPPINESS IN COUNTRIES AROUND 1980

SMALLEST SPREAD

MODAL SPREAD

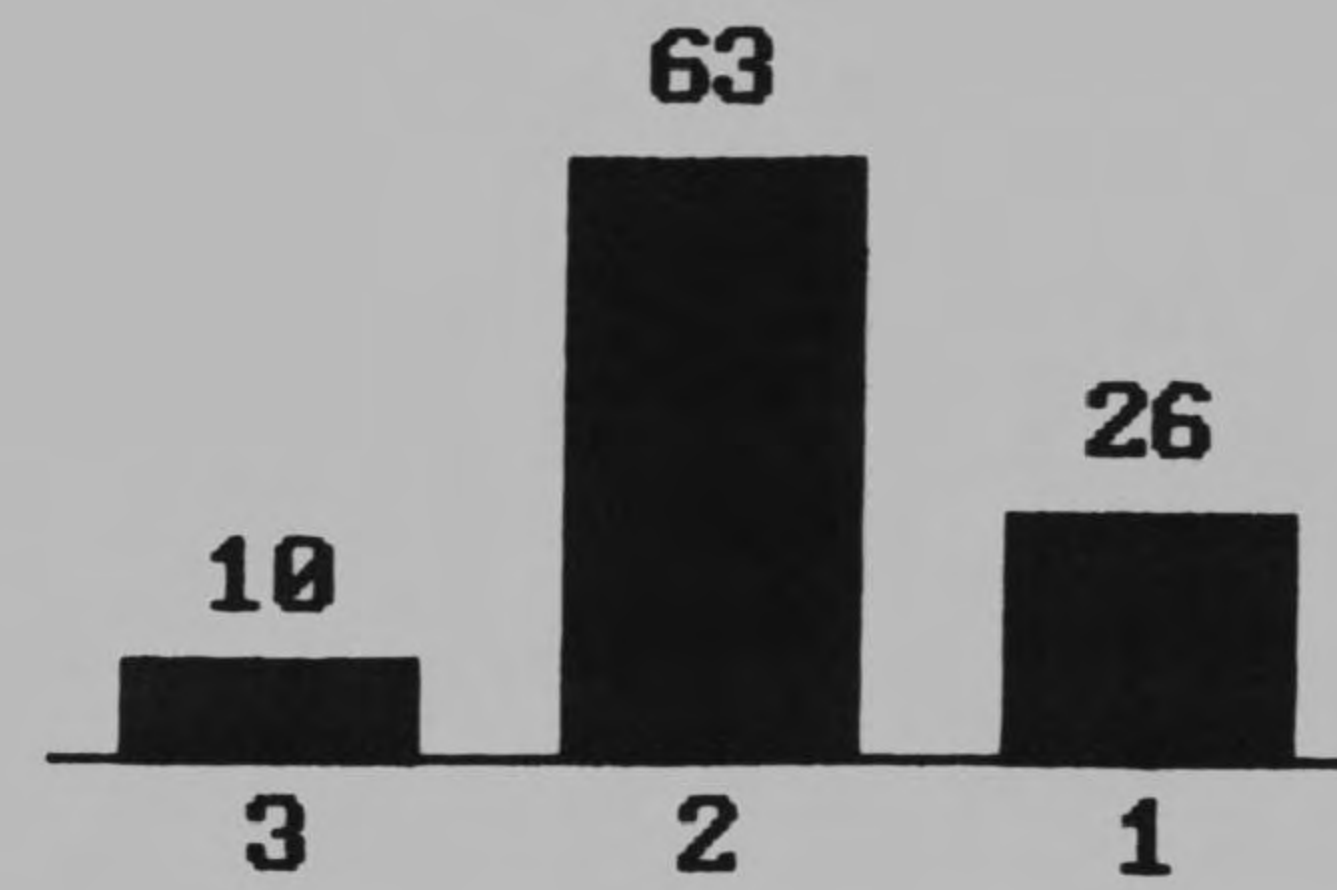
GREATEST SPREAD



FINLAND

M = 1,95

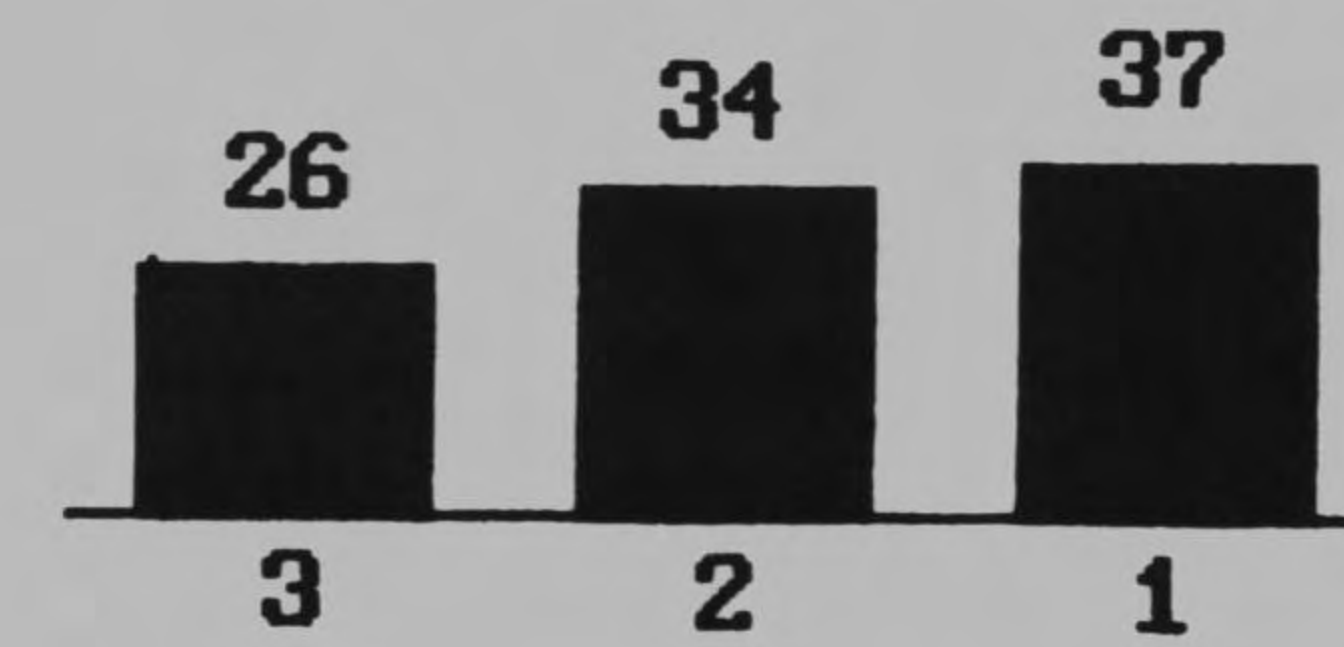
SD = 0,46



JAPAN

M = 1,84

SD = 0,58



MEXICO

M = 1,89

SD = 0,80

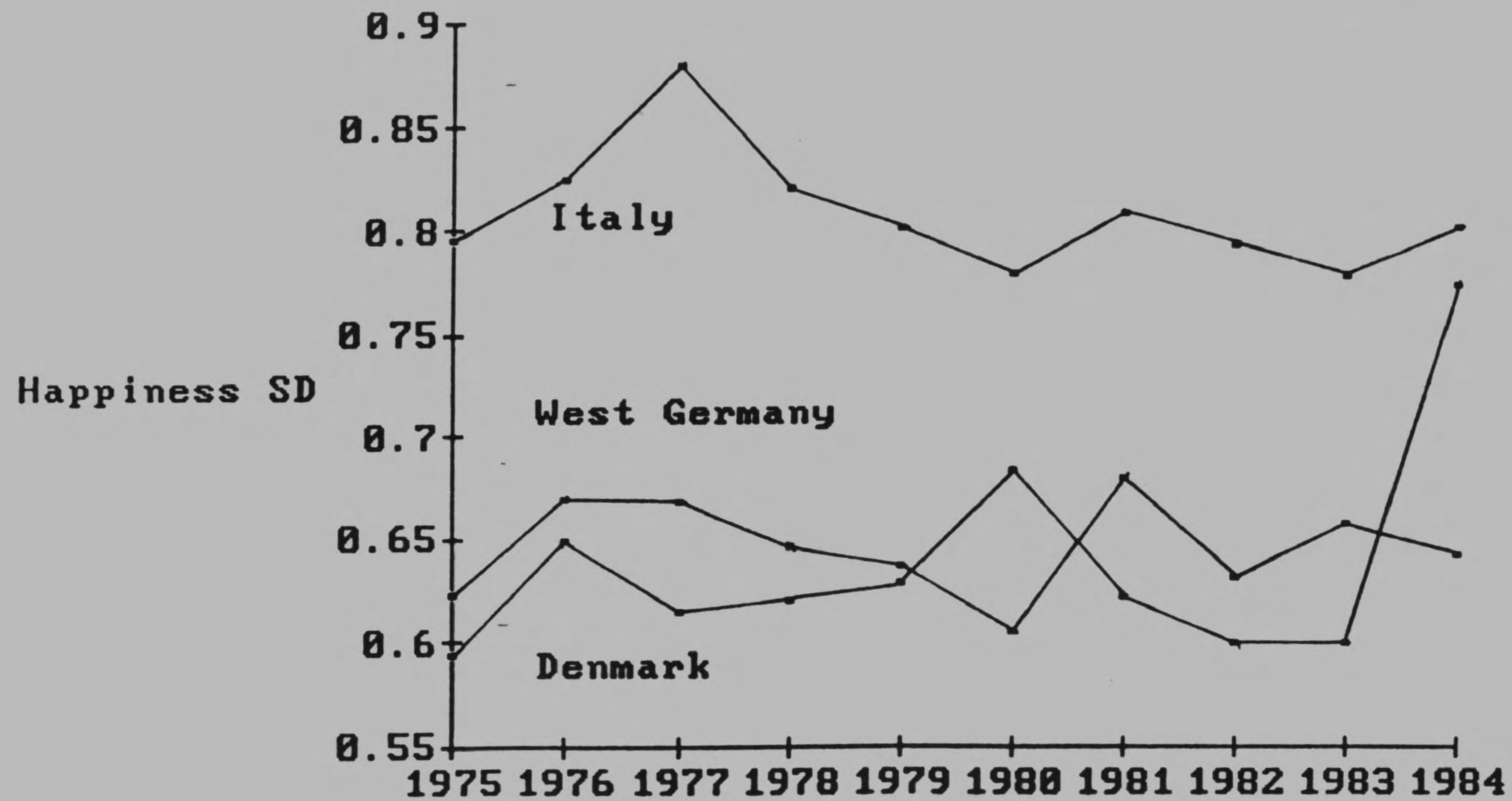
**EXHIBIT 5**  
**SPREAD OF HAPPINESS IN 28 NATIONS AROUND 1980.**  
**COUNTRIES IN RANKORDER OF SIZE OF STANDARDDEVIATION.**

<b>simple standard deviation</b>		<b>adjusted standard deviation</b>	
1. Finland	0.46	1. Netherlands	0.16
2. Thailand	0.56	2. Canada	0.17
3. Philippines	0.52	3. Sweden	0.18
4. Portugal	0.52	4. Denmark	0.21
5. Sweden	0.52	5. Australia	0.24
6. W-Germany	0.54	6. Belgium	0.26
7. Canada	0.55	7. Italy	0.27
8. Denmark	0.56	8. Norway	0.27
9. Netherlands	0.56	9. Portugal	0.27
10. Norway	0.56	10. Finland	0.31
11. Switzerland	0.57	11. Switzerland	0.32
12. Austria	0.58	12. Ireland	0.33
13. Italy	0.58	13. Japan	0.34
14. Japan	0.58	14. Und Kingdom	0.34
15. Malaysia	0.58	15. USA	0.34
16. Belgium	0.60	16. India	0.35
17. Spain	0.61	17. South Korea	0.37
18. France	0.61	18. Greece	0.40
19. Und Kingdom	0.61	19. Thailand	0.44
20. India	0.61	20. W. Germany	0.47
21. South Korea	0.61	21. Malaysia	0.51
22. Ireland	0.62	22. Philippines	0.52
23. USA	0.63	23. South Africa	0.53
24. Greece	0.66	24. Brazil	0.56
25. South Africa	0.66	25. France	0.57
26. Brazil	0.72	26. Spain	0.57
27. Mexico	0.80	27. Mexico	0.72
28. Austria	0.81	28. Austria	0.77

Rank order correlation:  $r_s = + 0.55$   $p < .05$

## EXHIBIT 6

## STANDARD DEVIATIONS OF HAPPINESS IN THREE COUNTRIES 1975-1984



Data Eurobarometer Survey. Standard deviations reported in Chin-Hon-Foei (1989:34)

Happiness item: On the whole are you satisfied, not very satisfied or not at all satisfied with the life you lead?

**EXHIBIT 7****Happiness (spread and level) and indicators of social equality in 28 nations around 1980**

	<b>SOCIAL EQUALITY INEQUALITY IN HAPPINESS (<u>SD</u>)</b>			<b>LEVEL OF HAPPINESS (<u>MEAN</u>)</b>		
	all countries	rich countries	not-so-rich countries	all countries	rich countries	not-so-rich countries
<b>SPECIFIC EQUALITIES</b>						
1. Income equality	-0.28(+0.55)	+0.23(+0.27)	-0.36 (-0.58)	+0.36	+0.54	-0.48
2. Social security	-0.45(-0.28)	-0.49 (-0.33)	+0.01 (+0.61)	+0.36	+0.26	+0.66
3. Full employment	+0.14(+0.07)	+0.15(+0.34)	+0.16 (-0.37)	-0.05	-0.13	-0.66
4. Equal education	-0.22(-0.46)	-0.08 (-0.42)	-0.00 (-0.10)	+0.70	+0.70	+0.49
5. Gender equality	-0.05(-0.25)	-0.14 (-0.22)	+0.28 (+0.22)	+0.69	+0.48	+0.74
6. R <sup>2</sup>	.38(.35)	.35 (.38)	X X	.70	.65	X



**PROMOTE CONDITIONS FOR SOCIAL EQUALITY**

## 1. Democracy

- parliamentary system	-13 ( <u>-.49</u> )	X	+ 22 (+.05)	<u>+.55</u>		+ .08
- high pol. participation	-00 ( <u>-.46</u> )	-.08 (-.41)	+53 (+.01)	<u>+.50</u>	<u>+.47</u>	- .07
- strong labourunions	-.11 (-.22)	<u>-.54 (-.47)</u>	+ 23 (+.28)	<u>+.54</u>	<u>+.49</u>	<u>+.62</u>
- free press	-.14 (-.34)	-.46 (-.60)	+20 (+.24)	<u>+.55</u>	<u>+.68</u>	+13

## 2. Economic development

- material affluence	-14 ( <u>-.39</u> )	-.12 (-.15)	+41 (+.24)	+66	+39	<u>+.53</u>
- long term growth	-13 (-.23)	+15 (+.00)	-.19 ( -.02)	<u>+.62</u>	<u>+.60</u>	+34
- R <sup>2</sup>	.16 (.29)	-.75 ( .39)	.83 ( .13)	.74	.93	.83

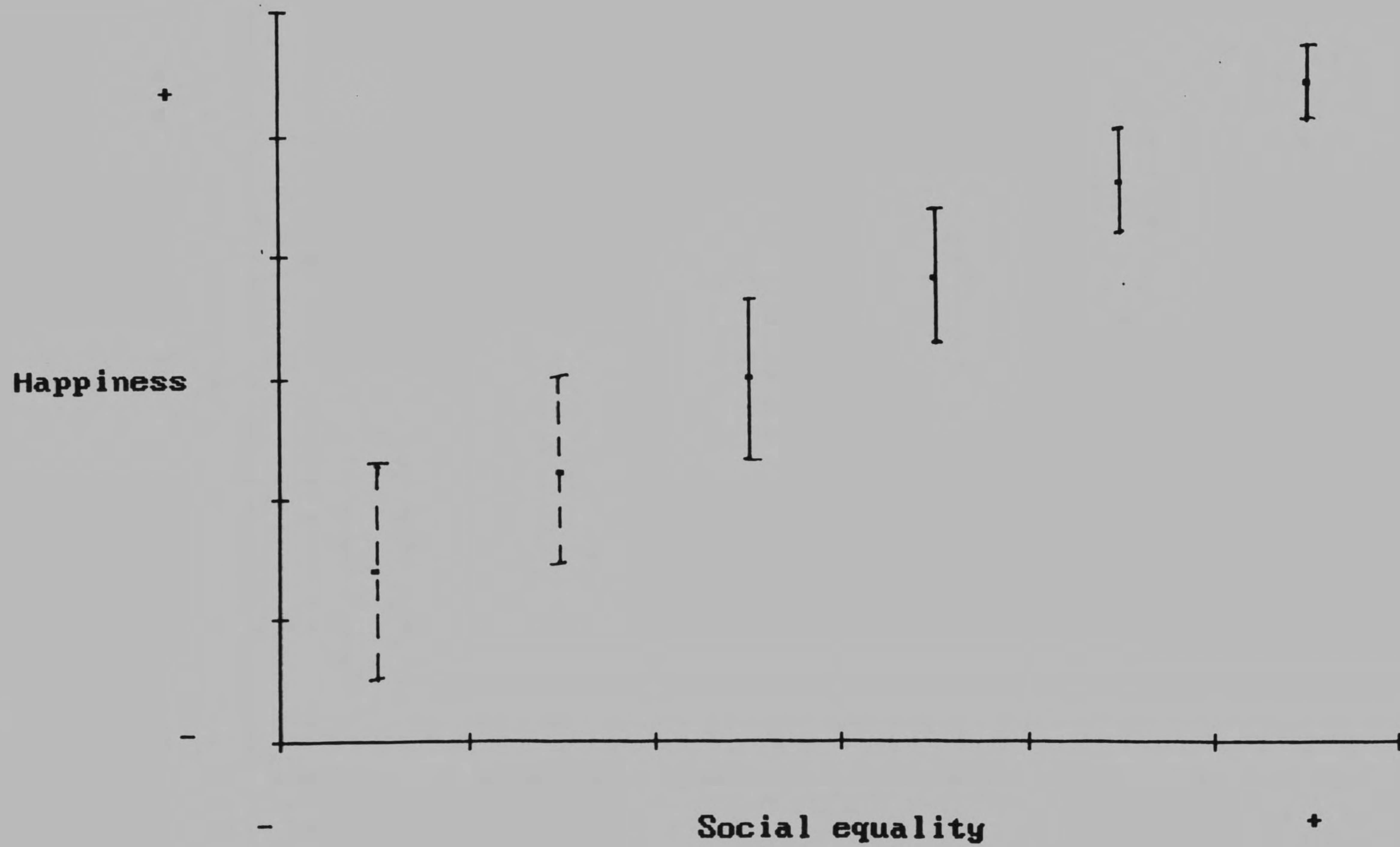
Happiness data from exhibit 1. Between brackets adjusted standard deviations.

Rich nations RGDP > \$ 7000	Austria, Australia, Canada, Denmark, Finland, France, W-Germany, Italy, Japan, Netherlands, Norway, Sweden, Switzerland, UK, USA.
Not so rich RGPP < \$ 7000	Brazil, Greece, India, Ireland, Malaysia, Mexico, Portugal, Philippines, South Korea, Spain, Thailand, South-Africa

**EXHIBIT 8**

**HAPPINESS (AVERAGE AND SPREAD) AND SOCIAL EQUALITY IN NATIONS.**

**THE STYLIZED PATTERN.**



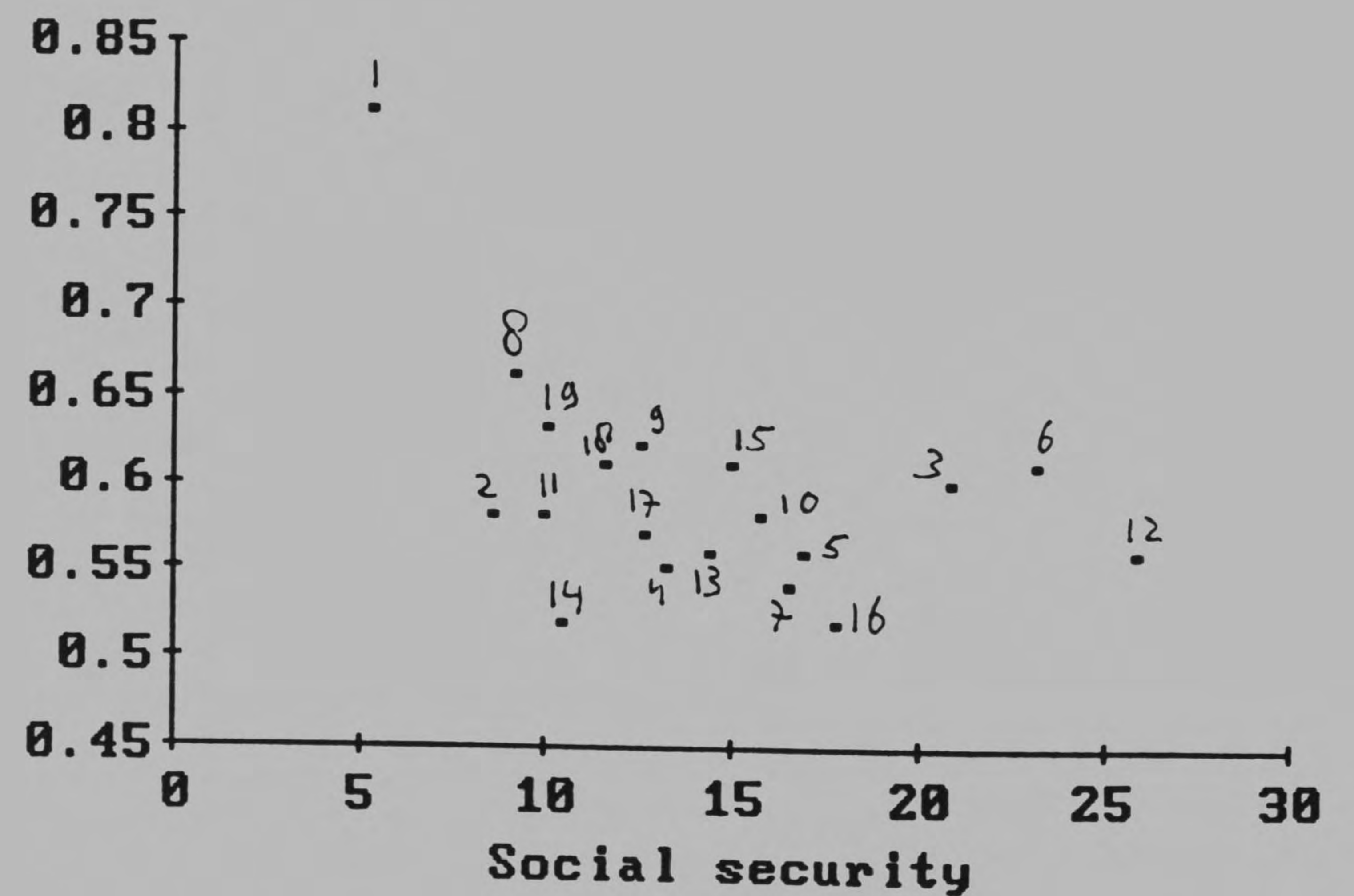
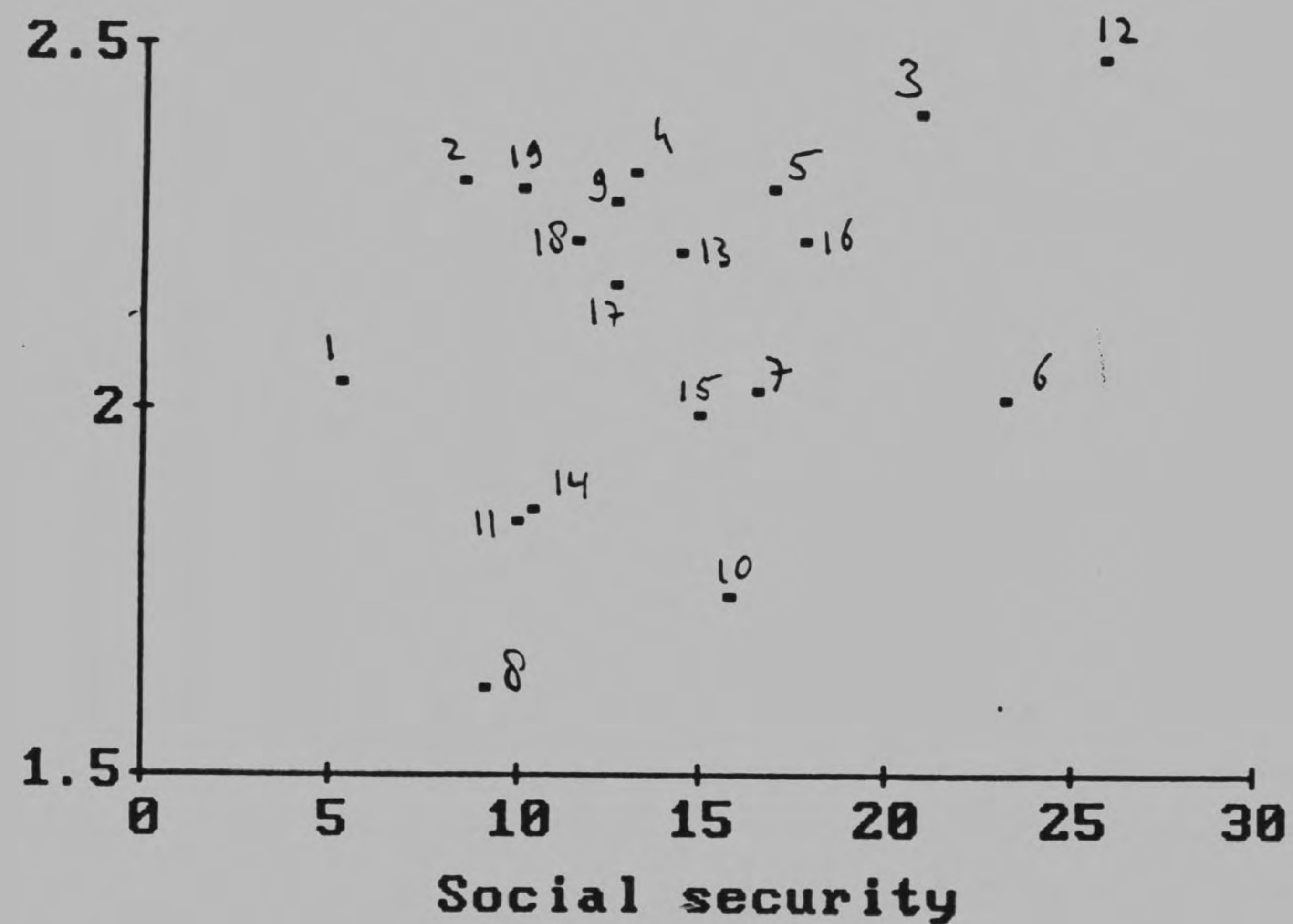
Data: exhibit 7

**EXHIBIT 9**

**HAPPINESS AND SOCIAL SECURITY IN 19 RICH NATIONS AROUND 1980**

a. average happiness

b. spread in happiness

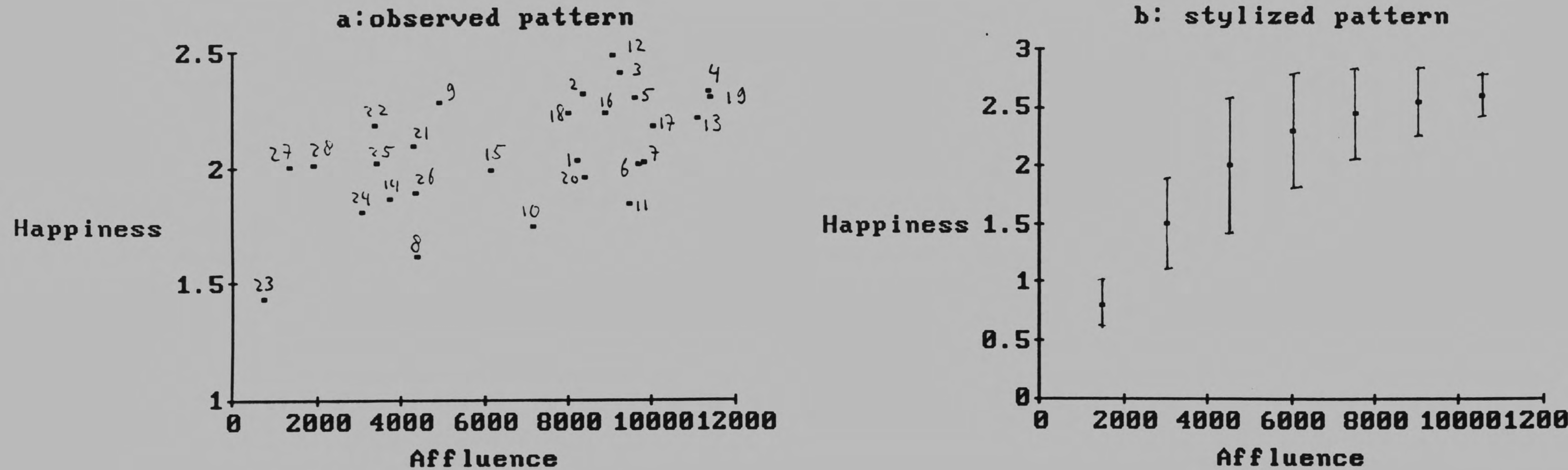


- |              |                |                 |                 |
|--------------|----------------|-----------------|-----------------|
| 1. Austria   | 6. France      | 11. Japan       | 16. Sweden      |
| 2. Australia | 7. Germany (W) | 12. Netherlands | 17. Switzerland |
| 3. Belgium   | 8. Greece      | 13. Norway      | 18. UK          |
| 4. Canada    | 9. Ireland     | 14. Portugal    | 19. USA         |
| 5. Denmark   | 10. Italy      | 15. Spain       |                 |

Happiness: data exh.1      Social security: expenditures in % SUP per head

**EXHIBIT 10**

**HAPPINESS AND ECONOMIC DEVELOPMENT IN 28 NATIONS AROUND 1980**

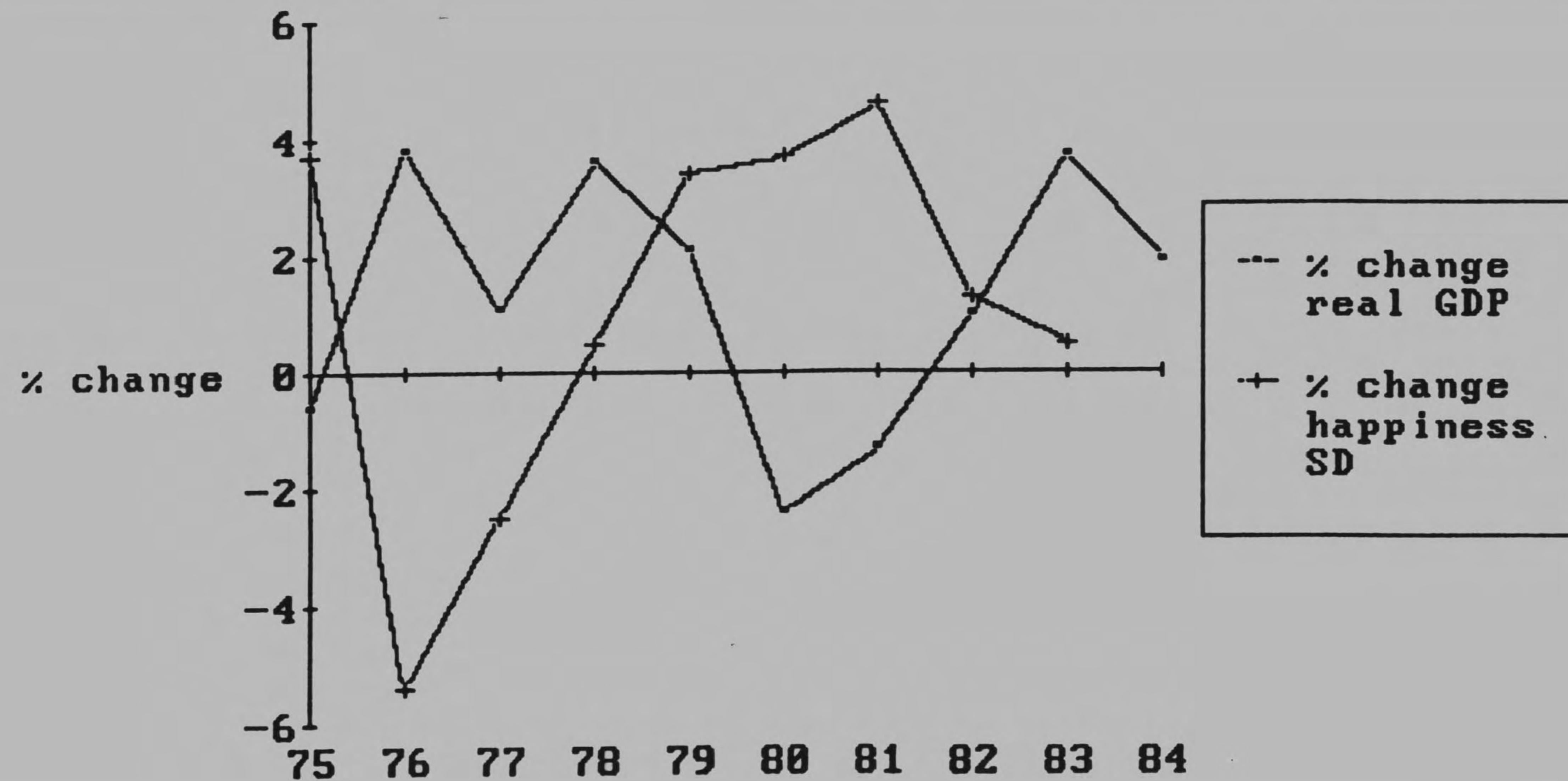


Data: Happiness: exhibit 1 Economic Development: Real Gross National Income per head.

Countries:	1. Austria	6. France	11. Japan	16. Sweden	21. S-Africa	26. Mexico
	2. Australia	7. Germany	12. Netherlands	17. Switzerland	22. Brazil	27. Phillipines
	3. Belgium	8. Greece	13. Norway	18. UK	23. India	28. Tailand
	4. Canada	9. Ireland	14. Portugal	19. USA	24. S-Korea	
	5. Denmark	10. Italy	15. Spain	20. Finland	25. Malaysia	

## EXHIBIT 11

CHANGES IN INEQUALITY IN HAPPINESS THROUGH ECONOMIC RISE AND DECLINE.  
UNITED KINGDOM 1975-1986.



Happiness On the whole are you satisfied, not very satisfied or not at all satisfied with the life you lead? Data Eurobarometer. Standard deviations reported in Chin-Hon-Foei 1989:34. Change expressed in % difference with foregoing year.

Rise/decline Change in SUP per head, expressed in % difference with foregoing year. Data from OECD Economic Outlook.