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**Comparative analysis of sociodemographic effects
on subjective well-being in Westgermany and in Chile**

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Abstract

The debate on effects of national wealth on subjective well-being is mainly based on aggregate analysis of national data with gross national product per capita as one global wealth indicator and life satisfaction ratings as subjective well-being indicator, leading to controversial empirical and theoretical results. To overcome the weakness of this debate we decided for a comparison of a high-developed country (Westgermany) and a developing country (Chile), using the microdata set of the World Values Survey 1990 and indicating national wealth by multivariate sociodemographic characteristics. Further we modeled the effect on subjective well-being with logistic regression differentiating cognitive evaluation (happiness rating) and affective aspects of subjective well-being (positive vs. negative affect scale). The results are pointing on the interaction of several societal institutions like social security system, economic development, marriage regulation by law, status ascriptions and affective response dispositions leading together to specific experiences of basic need deprivation. Further it proved to be meaningful to consider cognitive as well as affective measures of subjective well-being, because specific differences between Chile and Westgermany got visible only by examining additionally affective responses. National wealth indicated by the level of disadvantaged group proportions in the societies of Chile and Westgermany could not explain their subjective well-being differences. Additional socio-psychological indicators of disadvantage and deprivation have to be incorporated into the model of subjective well-being.

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1. Introduction¹

In social indicators research there is a long standing debate on the relationship between national wealth and subjective well-being. In his famous "Patterns of Human Concern" Cantril (1965) reported on a first worldwide survey study. He reported that inhabitants of rich countries (with high gross national product, GNP) found more pleasure in life than people in poor countries (with low GNP). This study involved interviews with representative samples of the population in 14 countries selected to represent differences in economic development. Interviews took place in 1960. Looking at the rank correlation between average life satisfaction and his index of economic development he found reported life satisfaction to be higher in the economically most development countries (Cantril, 1965, pp. 193-195). Cantril suggested two reasons for this statistical relationship. Firstly, citizens in the poor countries would be "objectively deprived", their economic system failing to provide minimal necessities. Secondly, inhabitants of the poor countries would also be the victim of "subjective deprivation": the awareness that life is better in the rich world, lowering the appreciation of their own.

Easterlin (1973; 1974) re-examined Cantril's data and he concluded that happiness is essentially relative. Again Easterlin looked at the satisfaction rate of nations with different national gross product, ranging from poor to rich countries. He observed only little correlation between a nation's gnp per capita and its average satisfaction. So he concluded that national economic prosperity is of no consequence for the individual's appreciation of life. The enjoyment of life seemed not to depend on the actual quality of living conditions, but rather on the degree to which one considers oneself better off than others, one's compatriots in particular. He contended that people in poor countries are as happy as those of rich welfare states, and that decades of economic growth have left people no happier than before. This approach, which can be labelled as comparison theory of life satisfaction is also advocated by Inglehart/Rabier (1986) and Michalos (1985, 1986, 1989) focusing on direct subjective evaluation of life. Its basic assumption relies on the notion of a mental calculus, in which perceptions of life -as-it-is- are compared with aspirations of how-life-should-be. Because aspirations follow success or failure, the gap between aspiration standards and reality remains the same in the long run. As a result, subjective appreciation of quality of life would be unrelated to socio-economic standing producing high or low access to things people appreciate. And like Inglehart, Rabier (1986) do pose it, the time duration of being in a state of deprivation or of privation is a central moderating variable. After some time people adapt, and either they will evaluate their satisfaction with life no more that bad resp. their aspirations will grow (by comparing oneself with people with better standing or with yet unfulfilled hopes and dreams) and their satisfaction will decline.

Veenhoven (1987) rearranged Easterlin's aggregate level results by loglinear scaling of the GNP per capita scale and concluded that there is a relationship between economic wealth measured by GNP per capita and the degree to which citizens evaluate their lives as satisfied. Based on nations as units of the analysis he reports significant correlations between GNP per capita and satisfaction with life rate, the satisfaction rate in poor

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countries is lower in rich countries. But in his newly arranged diagrams one can still find nations with the same small GNP per capita showing different levels of satisfaction rate as well as nations with a high GNP per capita showing lower satisfaction rates. Based on later additional analyses of aggregate national data, Veenhoven (1993) refused the hypothesis that happiness is relative and proposed a basic need theory of subjective well-being. Its main premise, similarly formulated by Allardt (1976) is, that people have basic, anthropological constant needs, which they try to fulfill. According Allardt (1976) these are needs for having material and impersonal resources, needs for loving, companionship and solidarity and needs for being self-actualized and not alienated. Veenhoven (1993) relates to Maslow's motivation theory (Maslow 1954) underlining the needs for food, shelter, security as well as for relationship, social appreciation and personal growth as basic needs.

Veenhoven (1993) assumes that if these needs are not satisfied sufficiently, people will react with a subjective response of displeasure. Differentiating between cognitive evaluations of life quality from hedonic affective responses to deprivation, Veenhoven (1993) argues that deprivation of basic needs not necessarily leads to a negative evaluation, but will cause feelings of displeasure, determining the affective state of the person. In this point of view, people are presumed to be unhappy in bad conditions even if they know that others suffer even more.

Based on scattergrams of satisfaction rate by gnp/capita, Veenhoven (1993) observed a curvilinear relationship; above some high level of gnp/capita (indicating affluent nations) differences in gnp/capita did correspond only with small differences in satisfaction rates. This observation led Veenhoven (1993) to argue for a "law of diminishing utility", stating that after basic needs are satisfied the felt unhappiness is reduced and no need is felt any more. So after some level more additional experience or consumption will not translate into additional increase of happiness. Theoretically he find support in Zolatas (1981) who argues, that the richer the country, the more likely it is that the costs of economic growth outweigh its benefits. Thus he comes to suggest a curvilinear correlation of economic growth and quality of life resp. social welfare, a pattern which may even turn to negative correlation.

In sum, looking for evidence for the relationship between national wealth and subjective well-being one find contradictory theoretical and empirical results:

- Easterlin and Inglehart say there is no stable effect of national wealth on satisfaction
- Cantril and Veenhoven say that there is an effect of national wealth on satisfaction resp. happiness
- Veenhoven adds that the national wealth effect is curvilinear, being effective only in the area of moderate affluence level, and diminishing after some threshold.

These results are linked with several problems, making it difficult to decide between the hypotheses. **First**, aggregate data is analysed providing results which remain inconclusive, or as Veenhoven says, the results depend on arrangement. Even if one can compute significant correlations between GNP/capita and satisfactions rates, one can still find nation units with similar low gnp/capita but great difference in satisfaction, contradicting the national wealth effect hypothesis.

Second, because of the different theoretical approaches, the authors are focusing on different outcomes of nation's wealth. The comparison theory seems mainly to be oriented towards explaining cognitive evaluations of one's quality of life, whereas the basic need approach is oriented towards hedonic-affective aspects of subjective well-being. Research has shown that there is a strong general subjective well-being factor, but that there are also components of subjective well-being which may behave differently under some circumstances (Campbell, Converse, Rodgers et al. 1976). In accordance to that finding most researchers favor a definition of subjective well-being which differentiate between affect and thought, hedonic experiences and cognitive evaluations (Veenhoven 1984; Diener 1984, 1994; Campbell, Converse, Rodgers et al. 1976) . Affective well-being and satisfaction sometimes move in different directions over time and have different correlates (Beiser 1974; Campbell et al. 1976; DeHaes et al. 1987; Kushman, Lane 1980)¹ In following Diener (1994:140) this means to "conceive of subjective well-being in a more differentiated, less monolithic way. The goal will then be, not to discover *the* cause of subjective well-being, but rather to understand the antecedents of various types of subjective well-being parameters".

The hypothesis of a nation's wealth effect on the subjective quality of life then should be considered differentiated along cognitive and affective dimensions. It might be that because of cognitive comparisons and adaptation processes no stable effects of affluence are to be observed, but that people show reliable affective responses on bad or good living conditions.

Third, national wealth is indicated by a highly aggregated indicator like GNP per capita, which in individual experience can mean nothing or different things. So it is not surprising that for example Gallup (1976:467) in a worldwide satisfaction survey replicated the finding "that the more affluent populations enjoy most aspects of life more than those that are disadvantaged", but wondering why the less wealthy Latin Americans were so happy, in some respects being even more satisfied than the West Europeans and almost as happy as the North Americans. The global and heterogeneous concept of national wealth or affluence, operationalized by a highly aggregated indicator like GNP/capita seemingly is not able to explain national differences in subjective well-being.

A more adequate approach to understand national wealth differences in subjective quality of life seem to be Veenhoven's (1993) concept of livability of nations. Veenhoven (1993:14) defines livability of a society as "... the degree to which its provisions and requirements fit with the needs and capacities of its members". That fit cannot be observed as such: the degree to which it exists must be derived from observations of livability input and output measures. Livability input measures are those societal conditions of living deemed likely to serve the needs and capacities of people (or those conditions hampering them). In satisfying resp. depriving peoples' needs these conditions produce resp. reduce their health, longevity or satisfaction, aspects which can be seen as livability output. Livability then is an unobservable characteristic of a nation, being expressed in in the relationship of a society's living conditions and their effect (output) into the flourishing of people in a society as apparent in health, satisfaction or happiness and other indicators (Veenhoven 1993:26).

In this understanding a nation's wealth or affluence then can be seen as the set of several indicators of resources and opportunities like education, healthcare, income per head and more, as was approached by Estes (1984). To determine a nation's livability it is not enough to describe its multicomponent input of wealth. To do this it would be necessary

to specify the social conditions that are required to fit the basic human needs. At the level of deficiency needs Maslows (1954) theory would allow some specifications of bad or good living conditions in relation to food and shelter. But in the case of socio-psychological needs like safety, belongingness, esteem, personal growth it is difficult to define minima. These needs are too varied to allow the specification of how much specific national conditions of living are satisfying or depriving peoples' needs. Therefore Veenhoven (1993:19) concludes that we must "... assess inductively what societal conditions appear to be livable".

For the examination of the national wealth hypothesis this approach means two things: first, one has to differentiate a nation's wealth into a profile of conditions of living (resources and opportunities) which are presumable relevant for the livability output. Second, as it is nearly impossible to deduce a nation's living conditions effects on subjective well-being (at least not in the present state of scientific research we have no idiosyncratic theory of correspondence between conditions of living and their satisfying resp. deprivation effects) it is meaningful to examine a society's conditions of living empirically to find out how much of livability output they do produce resp. they do hamper. Socio-economic variables like age, gender, income, occupational position, employment status, marital status, size of residence and self-assigned social class position, lined to unequal resources and opportunities are important 'objective' determinants of social conditions of living (Hoffmeyer-Zlotnik 1994; Hradil 1987, Glatzer, Zapf 1998). Comparing the socio-demographic and socio-economic effects on subjective well-being in different nations can help to understand if there is an universal affluence effect on subjective quality of life, and how much the national wealth influence is dependent on other societal input resp. social structures².

To examine appropriately the national wealth hypothesis, a bilateral cross-national comparison of the effect of several indicators of national conditions of living on cognitive and affective measures of subjective well-being seems to be better than a multinational comparative analysis with one national wealth and one subjective quality of life indicator. Therefore, to check Veenhovens hypothesis of diminishing effects of a nations conditions of living, one has to compare these effects in a country with high affluence with the effects of similar conditions of living do have on subjective well-being in a low affluence country. As westgermany is generally viewed as one of the most affluent societies in the world (OECD report), so it is appropriate to take it as the affluent nation case. Of the many low affluence countries, Chile seems to be an interesting comparative country because it is a relative low affluent latinamerican nation experiencing great economic development with implications for future change in livability output.

Research on the effects of socio-demographic wealth on measures of subjective well-being has been done in many studies (Diener 1994, Stock et al. 1983), but none of them was based on Chile data. Related to the westgerman population there are many more results on socio-demographic influences, but the findings are quite irresolute. Using Veenhoven's World Happiness Database we find studies reporting a negative age effect (Halman 1987, Noelle-Neumann 1977, Leisure Development Center 1980, Buchanan, Cantril 1953) as well as studies finding no effect (E.C. Commission 1975, Glatzer 1980, Cantril 1965), partly because the age effect diminishes after control for other sociodemographic and psychological variables like marital status, occupation, employment, income etc (Halman, 1987) or because subjective well-being was operationalized with satisfaction rather than happiness (Leisure Development Center

1980). At same time E.C. Commission 1975 found no effect on happiness rating nor on satisfaction rating.

Gender seems to have no or only little effect on happiness or satisfactions rating indicators of subjective well-being (Leisure Development Center 1980, Halman 1987; E.C. Commission 1975; Cantril 1965, Buchanan, Cantril 1953). Halman 1987 reports a significant surplus of happiness rating of men after control for other demographic variables, as well as E.C. Commission 1975 on satisfaction rating with no controls.

In relation to marital status Halman 1987 found positive effects on affective as well on happiness and satisfaction indicators of subjective well-being, saying that married people had a higher subjective well-being level than non-married (divorced, separated, widowed).

All studies referred in the World Happiness Database analyzing westgerman population found a positive significant correlation of income with satisfaction as well with affective measures of subjective well-being (Halman 1987, Noelle-Neumann 1977, Leisure Development Center 1980, Cantril 1965, Neuberger, Allerbeck 1978). The effect drops after control for other demographic variables like education, marital status, gender etc. (Halman 1987).

Halman 1987 also reports a significant net effect of an employment status scale (comprising full time, part time, independent, unemployed, retired, housewife, student) on affective subjective well-being, but no correlation between an employment scale without consideration of unemployed and happiness rating. Additionally the type of work ranging from military to professional function of work was low but significantly positive correlated with happiness and satisfaction ratings (Leisure Development Center 1980; Halman 1987). The Leisure Development Center study did not find any correlation of occupational status with satisfaction with life ratings. Social class as an integrated indicator of social advantage was studied in Buchanan and Cantril (1953), who reported a gain of satisfaction in life in upper social class groups in the 1948-49.

Educational degree, measured either by age if finishing school (Halman 1987) or by differentiating three categories of educational standing (primary, secondary, university Buchanan, Cantril 1953 or low, middle, high Cantril 1965) seem to have a small positive correlation with happiness ratings (Leisure Development Center 1980, Halman 1987) in relation to satisfaction. The study of the Leisure Development Center (1980) found a small positive, but Halman did not find a significant effect, replicating findings of Buchanan, Cantril 1953 and Cantril 1965. Only Noelle-Neumann (1977) reported a remarkable correlation of a dichotomous educational status (elementary versus secondary school) with affective subjective well-being measure.

A community size scale, from villages, small town, medium town, big town, was found to have only small positive effect on affective subjective well-being measure (Noelle-Neumann 1977).

These findings for the westgerman population suggest that there are socio-demographic defined groups with slightly more happiness than others (see also for northamerican context Diener et al. 1985, Campbell, Converse, Rodgers 1976), but the results are not very clearly resolute. This might be in accordance with the "diminishing utility law", as in Westgermany one should expect no or only little effects of sociodemographic conditions of

living on affective measures of subjective well-being. But to decide this question one has to take into account that only the net effect of the sociodemographic variables on subjective well-being is crucial for judging the national differences in socio-structural effects, and b) the same aspects of subjective well-being are being studied, because for example age is positively correlated with life satisfaction (Campbell et al. 1976) but negatively with ratings of happiness (Campbell et al. 1976; Andrews, Whitey 1976).

Further we do not have any results for a low affluent country like Chile. In relation to cognitive measures of subjective quality of life both approaches we would expect only little correlation with sociodemographic conditions of living in both countries, therefore little differences should be observable. As an implication of the national wealth hypothesis, one could assume, that the subjective well-being differences between a high affluent nation (Westgermany) and a low affluent nation like Chile should diminish, or even disappear after matching the countries along socio-demographic indicators of national wealth.

In the present study we will try to examine the national wealth hypothesis and its related diminishing effect hypothesis more adequately than done in previous research, by

- differentiating national wealth into several socio-demographic indicators of living conditions
- considering several subjective well-being measures, separating cognitive and affective dimensions
- comparing socio-demographic effects on subjective well-being in a high affluent society like Westgermany 1990 with the effects of comparable socio-demographic conditions in a low affluent nation like Chile.
- using individual (micro) data instead of aggregate data.

As empirical foundation we will use data of the Word Values Study 1990-1993, which we will describe in the next chapter together with the problem of functional equivalence and the statistical method of multivariate analysis. After highlighting the affluence difference between Westgermany and Chile by macro indicators, we first describe subjective well-being differences between Chile and Westgermany in satisfaction of life ratings, happiness ratings, as well as negative and positive affect scores and their intercorrelations. Thereafter we will compare the net effects of socio-demographic effects in Westgermany and in Chile in relation to happiness ratings and affect scores. At last, we will check if the subjective well-being differences between Westgermany and Chile will diminish or even disappear after matching for the socio-demographic composition of these countries. Finally we will draw some conclusion in relation to the national wealth hypotheses and the relevance of socio-demographic conditions of living for the individuals' subjective quality of life.

3. Data and Method

The analysis is based on the data of the World Value Survey 1990-93, which was organized by The European Values Group at IVA, Institute for Social Research of Tilburg

University. The group consisted of R. Inglehart (University of Michigan, Ann Arbor, USA), R. Köcher (Institut für Demoskopie, Allensbach, West Germany), R. A. de Moor (Tilburg University, The Netherlands) and others (World Values Study Group, 1994).

The data collection was designed to enable crossnational comparison of values and norms in a wide variety of areas and to monitor changes in values and attitudes of mass publics in 45 societies around the world. Broad topics covered are work, the meaning and purpose of life, family life, and contemporary social issues. The population of adults 18 and over was to be represented in the samples.

The survey in Westgermany was carried out by Institut für Demoskopie (Allensbach) in June to July 1990, the Chile survey was conducted by Centro de Estudios de la Realidad Contemporánea, Santiago in May 1990. All the surveys were carried out through face to face interviews.

In the case of Westgermany the sample was selected in two stages. First, a random selection of sampling locations was made ensuring that all types of location were represented in proportion to their population. Selection was made by quota sampling with quotas drawn up on the bases of sex, age and occupation, using census data as a guide to the distribution of each group in the population. The westgerman sample size is 2101. The size of the Chile sample is 1500. In Chile, the sample is a general population survey of the urban population, it is a three stage selection on which the first two are random and the third is quota. The Chile sample covers the central portion of the country, which contains 63% of the total population; the income level of this region was about 40% higher than the national average.

This poses a problem for the cross-cultural comparison between Chile and Westgermany, because on that data base we do compare a population homogenized by urbanization with a more heterogeneous sample. Differences between Chile and Westgermany then always are to be interpreted reflecting this heterogeneity difference. There are several reasons that in this comparison the sample difference is not a too disturbing problem, because of the following:

- in the westgerman case urbanization indicated by town size has no (partial) effect on happiness ratings (Papastefanou, Nasa 1994),
- in westgermany there is little differentiation in relation to urbanization in the meaning of high level infrastructure (labor markets, educational opportunities, transportation and good supply), because of the high level of societal developmental,
- the important question is, if in the urbanized sample there is enough variation in socio-demographic characteristics to check for socio-demographic effects. This aspect can be examined empirically using the chilean sample,
- even for an urbanized sample/population, societal arrangements and regulations in relation to age, gender and other socio-demographic characteristics do hold. So comparing urban chilean population with general westgerman population is a conservative examination of the national wealth hypothesis. If we find differences according to the national wealth hypothesis we could conclude that the true differences might even be greater.

In sum we assume that focusing on the chilean urban population is not disturbing the possible conclusion in relation to socio-demographic conditions of living as far as there is socio-demographic variation and there is no interaction effect of socio-demographic conditions of living and urbanization. Of course this assumption is not proofed

empirically, therefore interpretations must be cautiously drawn against the possibility of national differences reflecting mainly urbanization heterogeneity differences. As there is no other Chilean subjective well-being data available, we decided to accept this uncomfortable situation.

Problems of equivalence

The World Values Survey was designed as a multi-national survey with literally identical items. This poses problems of functional equivalence. From a point of view of a cross-national comparative research strategy, literal replication is a necessary, but not sufficient criterion for interpreting differences and similarities between the compared nations. Conceptual replication or functional equivalence of the items has to be assured additionally (Alwin et al. 1994).

This holds true for socio-demographic indicators as well for more "soft" variables like measures of subjective well-being. Relying on literal equivalence, we must make the assumption of "the same meaning in different national context". This assumption obviously does not hold true for sex and gender, but it seemed not to be arbitrary to assume it also for the other socio-demographic indicators like marital status, employment status and occupations status and household income position, because Chile and West Germany are based both on market economies of western civilization type.

As it is difficult to arrive at any equivalent classification scheme for measuring education degree (Braun, Müller 1994) in different educational systems in Chile and West Germany, duration of education is measured in the World Value Survey, as is practiced in international research. Overall, literal equivalence for socio-demographic variables is given, and on some level of functional equivalence can be assumed. As we are interested to describe empirically the differing effects of socio-demographic conditions of living on aspects of subjective quality of life, turning the assumption of functional equivalence into the description of specific functional meaning.

Literal equivalence is given also for items measuring subjective quality of life, but the assumption of functional equivalence is more viable. There are hypotheses that subjective evaluation of quality of life resp. satisfaction or happiness ratings may be influenced by cultural formed aspirations and response styles (Inglehart, Rabier 1986), but we have no empirical information for the cases of Chile and West Germany. The same is true for measuring positive and negative affect.

There is a study, which gives some support for the assumption that measuring cross-culturally positive affect, negative affect and satisfaction ratings by literal replication yields valid data. Sell and Nagpa (1992) developed an inventory of subjective well-being, starting with unstructured interviews and focus group discussions. They followed the process concurrently in English and Hindi, resulting in a 130 items questionnaire. The literal equivalence was established through a series of independent forth-back translations. The equivalence was later corroborated by the virtual identical outcome of factor analysis of samples in four major Indian languages, in addition to English. The factor structure revealed eleven factors, three of them were positive affect, negative affect and satisfaction in the meaning of expectation-achievement congruence (measured similar to items of the World Values Survey questionnaire) (Sell/Nagpal 1992:11).

These results support the assumption that indicators of subjective well-being like positive affect, negative affect and satisfaction (among others) might be cross-culturally equivalent. This turns the assumption that there is also functional equivalence in Chile and West Germany, not to arbitrary. Nevertheless, as we have no empirical information, in the

present analysis we have to keep in mind problems of maybe culturally formed happiness ratings and affect reports, being attentive to implausible results. Further we will examine the intercorrelations of subjective judgement and reports of hedonic experiences to see if there are totally different structures of subjective well-being in Westgermany and Chile.

To minimize the effects of culturally driven response errors as well as random response errors (Sell/Nagpal (1992:5) decided for a three reponse categories scale because more would not be acceptable to a large number of respondents of low educational standard), we decided to collapse the interval scale information on subjective well-being into dichotomous variables. Logistic regression analysis then was used as the appropriate statistical method of analysing dichotomous dependent variables (see Hoshmer, Lemeshow 1989).

4. Results

Socio-economic differences between Chile and Westgermany

First we want to describe some macro economic and social differences between Chile and Westgermany 1990, compared to other latinamerican and european countries.

Table 2: Selected Latinamerican and European countries, social and economic indicators in 1990

	Argentina	Chile	France	Fed. Rep. Germany	Greece	Spain
current prices gnp per capita (us \$)	2 380.	1 940	19 420	22 360	5 980	11 010
Consumer Price Index (1987=100)	340010.62	169.17	109.89	106.88	155.42	119.47
Total Fertility Rate	2,86	2.69	1.78	1.44	1.45	1.33
Infant Mortality Rate (per 1000 infants)	30.20	17.40	7.30	7.30	9.70	7.60
Life Expectancy at Birth (years)	71.06	71.79	76.80	75.41	77.01	76.67
Labor Force, Female (%)	28,90	28.49	39.88	40.51	26.66	24.45

We see that Chile as well as for example Argentina differ markedly from Germany or France, or even from Greece or Spain, the more marginal countries of Europe. Comparing the gnp per capita it is easily seen the big gap between Chile and Westgermany. Also the high inflation rate (which was then in Argentina extremely high) in Chile contributes to the poorer economic standing of the chilean economy. The infant mortality of Chile which was half as high than that of Argentina was still twice as large as in the Westeuropean countries. Also the life expectancy at birth confirms the gap between Chile and other european countries, which on the average show a five years longer life expectancy.

In sum these indicators of national wealth and welfare underline the gap between Chile and Westgermany, describing Germany as very rich country on the one side, Chile as a relative poor country on the other side. But it should not be forgot that Chile ranks high compared to other latinamerican countries.

Using the World Value Survey sample information on sociodemographic groups (see table 3) one can see that Westgermany has a higher standing than Chile as far as the proprotion of disadvantaged groups in Westgermany is significantly smaller than in Chile: In Westgermany there are about 20 percent semi-skilled and unskilled occupied people, in

the Chile sample we find about 53 percent; in Westgermany there are 18 percent of the population in disadvantaged groups like unemployed, students and housewives, in Chile 30 percent, adding the chilean self-employed to this groups the difference between Chile and Westgermany would be even greater.

Table 3: Size of sociodemographic groups in Chile and Westgermany
World Values Survey 1990 samples, in percent

	Westgermany	Chile
gender		
male	52	52,4
age groups		
18 to 35	37	50,2
36 to 41	11	11,7
42 to 63	31	27,5
64 and older	21	10,6
occupational status		
	0	0
>10emp	2,9	0,6
<10emp	4,7	1,3
Prof	2,1	7
Middle	11	18,5
Junior	37	11,4
Superv	3	1,7
Skilled	16	4,7
Semi-Skilled	8	16,7
Unskilled	4,5	11,7
Farmer	2,5	0,4
Farm Wkr	0,8	1
Arm Frce	0,6	0,6
Never Wk	6,9	24,4
employment		
>30HR/WK	46,6	33,3
<30HR/WK	6,9	6,4
Self-Emp	3,2	13,8
Retired	20,7	8,1
Hwife	14,9	25,9
Student	4,5	8,1
Unemp	3,2	4,4

Finally, based on the interviewer social class description one can find in Westgermany about 8 percent in the lowest class, but about 26 percent in Chile.

Table 3: Size of sociodemographic groups in Chile and Westgermany
World Values Survey samples, in percent
continued

	Westgermany	Chile
duration of occupational education		
zero years	1,6	3,1
1 -5 years	41,5	25,9
more than 5 yrs	56,9	71
income group		
lowest group	11,7	2
grp 2 - 3	37,7	10
grp 4 - 6	24,9	23,4
grp 7- 9	12,7	36,5
highest group	5	23,5
no response	8	4,6
subjective social class		
Upper	2,6	9,1
Middle	28,7	28,3
Skilled	61,1	37,1
Unskilled	7,6	25,5
marital status		
Married	46,1	54,4
Living together	7,5	5,7
Divorced	4,5	0,6
Separated	9	4,7
Widowed	11,1	5,4
Single	21,8	29,2
size of residence		
>2000	6,5	-
2-5000	7,2	-
5-10000	14,7	-
10-20000	12,2	-
20-50000	18,7	-
>50000	8,8	15,1
>100000	17,7	35,2
>500000	14,2	46,7
n of cases	2101	1500

On the other side in Westgermany the size of the group with companionship disadvantages like being divorced, separated or widowed is with 17 percent greater than that in Chile. But as we will see later, the transformation of defective marital status translates different into subjective well-being in Chile than in Westgermany. In relation to religiousness, assuming that self-describing as religious might be an advantage in society, we find that Westgerman population has with 35 percent atheistic and not religious people a higher burden than the chilean population with 20 percent.

Happiness, unhappiness and satisfaction

The WVS data offers several indicators of subjective well-being. There are two direct measures of overall subjective well-being, by asking people to evaluate their present life. First the respondents sure answer to this question: *Taking all things together, would you say you are ..very happy, quite happy, not very happy, not at all happy, don't know ?* And later in the questionnaire there was the question: *All things considered, how satisfied are you with your life as a whole these days?* People were asked then to give an answer by using a ten point scale, with labels "dissatisfied" at the first scale point and "satisfied" at the last scale point.

Preceding the satisfaction question there was a series of question related to emotional or affective states of subjective well-being being introduced by *"We are interested in the way people are feeling these days. During the past few weeks, did you ever feel .."*. The following questions were aimed on measuring positive affects or positive experiences:

- *particularly excited or interested in something*
- *proud because someone had complimented you on something you had done*
- *pleased about having accomplished something*
- *on top of the world / feeling that life is wonderful*
- *that things were going your way*

Negative feelings were measured by five items to be answered by yes or no:

- *so restless you couldn't sit long in a chair*
- *very lonely or remote from other people*
- *bored*
- *depressed or very unhappy*
- *upset because somebody criticized you*

Because there are theoretical reasons (see above) to assume a two-dimensional structure of subjective well-being, and because most comparative subjective well-being research is focused only on direct measures of happiness or satisfaction, we decided to analyze also the indirect measures of subjective well-being. We first counted the yes-answer in each group of items and then recoded this sum variable into a dichotomic variable. By this we got a variable "positive affect feelings" differentiating between those having no or one positive feeling and those with more than one reported affecture experience, and a variable "negative emotional feelings" differentiating between those no or one negative versus more than one negative affect.

Additionally we dichotomized the rated happiness measure and the rated satisfaction measure. By the dichotomization of the metric variables we tried to lower measurement error; this seem to be necessary especially in cross-cultural comparison analysis.

First let us look at the metric information of these measures comparing subjective well-being in Westgermany and Chile (see table 4).

Table 4: Aspects of subjective well-being in Chile and Westgermany, average scores

	Westgermany	Chile
Life satisfaction	7.2	7.6
Happiness in life	2.0	2.0
number of negative feelings	1.8	1.8
number of positive feelings	3.2	2.8

We cannot find clear results, at least not as clear as one would expect having in mind the macroindicator differences between Chile and Westgermany. In relation to the direct rating of subjective well-being we find in Chile more satisfaction with life than in Westgermany, but no difference in relation to general happiness. Both results are not very plausible.

Looking at the indirect indicators of happiness we observe no differences in relation to negative feelings, but more positive feelings in Westgermany.

But these results might hide some important differences between the two countries because the mean is a statistic assuming homogeneous subgroups to be compared. Therefore we look at the dichotomized indicators extreme groups of subjective well-being in both countries.

Table 5: proportion of people with high subjective well-being in Chile and Westgermany, in percent

	Westgermany	Chile
satisfaction rating greater 5 ¹	80.5	80.5
very happy or quite happy	88.6	72.5
more than one negative feeling	51.8	50.2
more than one positive feeling	87.7	80.7

The results seem to be more consistent and more plausible. In Westgermany 1990/91 there are about 89 percent of the people very or quite happy (this corresponds to other data like Eurobarometer; Papastefanou 1996), in Chile about 73 percent. This seems to be a pretty high level of rated happiness compared to that in Greece (55 %) or France (71 %). There are more westgermans reporting more than positive feelings than chilean people but the difference is not so big. Furthermore in Chile and in Westgermany there is about the same proportion of people with more than one reported negative feeling. In sum these small difference between Chile and Westgermany might be the result of the specific chilean sample, representing the central portion of the country, which contains 63 % of the total population with an income level which is about 40 % higher than the national average.

To get a better understanding of the subjective well-being differences in Chile and Westgermany we look at the intercorrelation of the subjective well-being measures in each country.

Table 6: intercorrelations of subjective well-being indicators in Westgermany

	happiness rating	satisfaction rating	negative affect score
satisfaction	0,53		
negative affect score	-0,28	-0,40	
positive affect score	0,35	0,45	(-0,10)

note: pairwise correlations; all except those correlations in brackets are significant at $p < 0.05$

In the westgerman case we can find that satisfaction rating is significantly correlated with the happiness rating, as well as with the positive or negative effect indicators. The same is true for happiness but the correlations with positive affect and negative affect is smaller. This is surprising as we would expect that feelings should translate more into the happiness rating. The correlation between negative and positive affect variables is not significant, indicating that they are two independent affecture dimensions of subjective well-being.

Table 7: Intercorrelations of subjective well-being indicators in Chile

	happiness	satisfaction	negative affect
satisfaction rating	0.34		
negative affect score	-0.25	-0.29	
positive affect score	0.18	0.27	(0.02)

note: see above

In the Chile data, in sum the intercorrelations are smaller than in Westgermany. The difference of correlations between happiness rating and positive affect or negative affect versus satisfaction rating and positive affect/negative affect is similar to that of germany, but on a lower correlation level in Chile.

It seems that there is a greater separation of cognitive and affective responses in Chile than in Westgermany. But overall, finding that the determination coefficients between the subjective well-being indicators are of about 10 %, in both countries affecture and cognitive appraisals of subjective well-being are mostly separated.

Sociodemographic determinants of subjective well-being

The results of the multivariate logistic regression of the different measures of subjective well-being on sociodemographic determinants are shown in table 8

Table 8: Sociodemographic effects on measures of subjective well-being in Chile and Westgermany, exp(b), logistic regression

referenz group	correlate	subjective happiness evaluation, dichotomized ¹⁾		unhappiness score, dichotomized ²⁾		happiness score, dichotomized ³⁾	
		Westgermany	Chile	Westgermany	Chile	Westgermany	Chile
gender							
(1) Male							
	Frauen	1,39	1,11	1,42	<i>1,41</i> ⁴⁾	0,97	1,04
agegroup							
18-26							
	27 to 35	0,89	1,01	0,87	1,05	0,78	1,13
	36 to 41	0,38	0,98	0,87	0,80	0,67	1,23
	42 to 63	0,41	0,69	0,74	0,70	0,54	0,97
	64 and older	0,60	0,84	0,63	0,34	0,54	1,30
occupational status							
employer/manager of establishment with 10 or more employees >10emp							
	<10emp	0,09	0,00	2,22	1,08	0,02	0,02
	Professional	0,03	0,01	2,75	1,25	0,01	0,03
	Middle	0,04	0,01	2,87	1,11	0,04	0,03
	Junior	0,04	0,01	2,15	2,67	0,02	0,03
	Superv	0,07	0,00	0,88	2,37	0,04	0,08
	Skilled	0,03	0,00	2,10	1,10	0,03	0,02
	Semi-Sk	0,04	0,01	3,10	1,35	0,02	0,02
	Unskill	0,02	0,01	3,30	1,64	0,01	0,02
	Farmer	0,01	1,73	1,31	2,23	0,09	0,02
	Farm Wkr	0,02	0,02	1,11	2,97	0,01	0,01
	Arm Frce	0,02	0,01	6,67	4,73	0,01	0,05
	Never Wk	0,03	0,00	3,10	1,26	0,01	0,03
employment status							
more than 30 hours per week >30HR/WK							
	<30HR/WK	0,69	<i>0,67</i>	1,11	0,97	1,66	0,89
	Self-Emp	1,17	<i>0,71</i>	0,66	1,30	0,94	0,91
	Retired	0,66	0,56	0,71	1,68	0,46	0,52
	Hwife	0,58	0,97	1,13	1,10	0,72	0,95
	Student	1,17	1,58	0,59	0,93	<i>6,19</i>	0,81
	Unemp	0,12	0,44	3,13	1,07	0,23	0,49
	Other		1,99		2,16		0,50
occupational education							
zero years							
	1 -5 years	<i>3,34</i>	1,95	1,78	1,01	0,67	1,23
	more than 5 yrs	2,29	2,45	1,95	0,73	1,21	1,33
income group							
lowest group							
	grp 2 - 3	1,23	<i>1,41</i>	0,72	0,76	1,07	1,27
	grp 4 - 6	1,62	1,74	0,77	0,80	1,54	1,43
	grp 7- 9	<i>2,12</i>	3,38	<i>0,62</i>	0,66	1,96	1,64
	highest group	<i>3,08</i>	3,01	0,51	0,66	2,94	1,78
	no response	1,89	3,07	0,50	0,67	0,66	1,35
subjective class position							
subjective upper class							
	Middle	0,56	0,89	0,86	1,25	0,49	0,76
	Skilled	0,46	0,86	1,23	1,69	0,40	0,85
	Unskill	<i>0,24</i>	0,59	1,83	1,95	0,47	1,09
marital status							
Married							
	Living	1,06	0,61	1,15	1,08	1,19	1,46
	Divorced	0,22	0,41	1,48	1,22	0,89	1,77
	Separate	0,08	0,35	11,93	1,08	1,11	0,75
	Widow	0,34	0,54	2,25	1,38	0,61	1,58
	Single	0,61	0,41	1,53	1,20	1,16	0,86
size of residence							
more than 2000 inhabitants >2000							
	2-5000			5			
	5-10000						
	10-20000						
	20-50000	0,95		1,00		1,01	
	>50000	1,15	1,02	1,03	0,79	0,99	0,81
	>100000	1,20	1,12	0,89	0,89	0,90	0,68
	>500000	0,88	1,03	0,99	0,79	0,90	0,73
constant		1,5569	1,4801	0,5149	0,3843	2,9141	1,6447
model chi-square improvement		123,010	176,424	137,787	122,514	151,782	48,273

note: 1) categories "very happy" and "happy" are collapsed to one group=1, group 0="very unhappy" and "unhappy"; 2) group 1=unhappiness scores less or equal 1, group 0=unhappiness scores greater than 1; 3) group 1=unhappiness scores less or equal 1, group 0=happiness scores greater than 1; 4) bold characters indicate significance level below or equal 0,05, italic characters are indicating significance levels below 0,15 and above 0,05

gender effect

Looking first for gender differences in happiness we don't find any net significance comparing the happiness rating responses of men and women. If we look at the sex effect in relation to the positive affect indicator this result is confirmed, saying that men and women have reported the same frequency of positive feelings. This result is the same in Chile and Westgermany. But in relation the negative affect responses we find that women tell more negative feelings than men and this difference we can find in Chile and in Westgermany. This gender effect is a net effect, even if we would match women and men according income position, occupational status, employment and marital status, there seem to remain some difference leading women to report more negative affect than men.

As we did not hold constant other deprivation indicators which are correlated with gender, like career possibilities, job discrimination because of pregnancy, family division of labour etc. Therefore one can expect more negative affect response by women than by men. Further it is plausible to find no difference in positive affect but in negative affect because women's discrimination might result in basic deprivation but not only in reduction of privileges or experiences of success. Alternatively the observed results could be interpreted by a gender specific disposition towards perception and report of affective states. But this kind of gender specific sensitivity hypotheses is not consistent with the finding that there is no gender difference in relation to positive affect reports. So there might be more sensibility in women's feeling, but there is also more experience giving reason for negative affect.

age effect

In westgerman data we find a nonlinear age effect on cognitive happiness rating probability. Westgermans between 36 and 63 years old express more unhappiness with their life than below 36 or above 63 people. This might be a reflection of midlife crisis or establishment in job career or family relations etc. We do not find this general effect in Chile. In Chile only people between 42 and 63 years show a reduced probability of happiness rating net of sociodemographic characteristics.

On the other side both in Chile and in Westgermany ageing seems to change people's life by experiencing less and less negative affects. In Westgermany after some middle age of beginning forties show a reduced rate of negative affect. This holds true also for people older than 63. The same pattern we can observe in the Chile data, but it seems that Chilean people older than 63 show a greater reduction of negative affect than those in Westgermany.

In relation to the positive affect we cannot find a reciprocal age pattern. Neither in Chile nor in Westgermany there is age specific gain of positive affect, except in one age group. People between 42 and 63 years old in Germany seem to report less positive affect experiences, as their positive affect rate drops below the youngest one's. (at $p \leq 0,11$).

In sum, ageing seems to reduce negative affect, both in Chile and Westgermany. Middle aged groups (between 42 and 63) evaluate their happiness in life lower than younger ones, both in Chile and Germany. Only in Germany this corresponds to lower positive affect in this age group, only in Germany the reduction of happiness evaluation is observed also

with those between 36 and 41. So evaluation reduction is middle age phenomenon, both in Chile and Westgermany, in Westgermany this middle age comprises more ages.

effects of occupation and employment

Occupation as an indicator of long-term opportunities in labour market we expected to produce differences in subjective well-being. Occupational groups with better economic career prospects like professionals, supervisors, skilled workers should experience a greater satisfaction of security needs than small employers, semi and unskilled workers, farmers, farm workers and those never worked. But in the data we could not observe any net differences between these or other groupings of occupational status, both in Westgermany and in Chile. This result means that occupational subjective well-being differences which might be observable in the bivariate case, might not be due to economic prospects but to differential composition of occupational groups with age, educational status and relative income position. As these characteristics are hold constant and as far as the market position of occupational positions is not relevant for subjective well-being, we do not find a net occupational effect on any indicator of subjective well-being.

Employment seems to be much more relevant for subjective well-being. As we can expect from the point of view the basic need theory unemployed experience a loss of their rated happiness, this is effective both in Westgermany and in Chile, but the german unemployed show a greater reduction of rated happiness than chilean unemployed. This unemployment effect is paralleled by a reduction of positive affect as it is accompanied with more negative affects like depression, loneliness etc. This result we can find in Germany as well in Chile, but with a special difference. The reduction of rated happiness and of positive affect is smaller in Chile than in Westgermany, and only westgerman unemployed experience significant more negative affect than full-time working people. In Chile these groups do not differ in relation to negative affects.

This pattern of cross-cultural unemployment effect difference could be interpreted with the assumption that germans suffer more from unemployment than chilean people do possibly because of different social security systems. Because in Chile there is no governmental unemployment insurance and because firing regulations are liberal, getting unemployed in Chile means a shorter waiting time without a job than in Germany. As the deprivation of basic needs by not having a job like social estimation, self-fulfillment, economic security lasts longer in Germany, the deprivation is resulting in a higher level of negative affect as well of rated unhappiness. Being unemployed for shorten time in Chile chilenos do not develop negative affect dispositions. Of course this change of living conditions means the loss of opportunities for positive affect. This unemployment duration effect might be also amplified by a cultural difference between germans and chilenos. As the germans are more identified with their job as a central part of their self-identity a loss of this important part of self should produce more negative feelings compared to the chilenos, who might be more losely tied to their jobs.

Being retired as another kind of reduced employment seems to be also connected with a reduction of subjective well-being in Chile as well as in Westgermany. Both german and chilenos retired rate their lives to a less extent being happy than fully employed people but not in Chile.

The retirement effect we can found on positive affect retired in Germany and Chile report less positive feelings than the fully employed. But in relation to the rate of negative affects

there is a difference between chilean and german retired. Only retired chilenos show more negative affect, german retirees even seem to feel less negative affect than full employed.

These results point at cross-cultural differences in the consequences retirement for living and subjective well-being. In Westgermany with a high standard pension system, retirement means a reduction in occupational activities which are very important to self-identity in germany reducing peoples' experiences of success and subsequently positive affect accompanied by a lower rating which might result in a moderate rating of their overall happiness in life. In Chile with a highly liberal economic sysem with a less strong pension system retirement means deteriorating conditions of living leading to more negative affect. The situation of retired people in Chile is like this: pension funds are organized by private insurances, so people have to rely on insurance contracts based on a one year acceptance. Each year the insurance company decides ot prolonge the contract or not to prolonge. The older people get the less the insurance's willingness to prolonge because of a increased morbidity costs. Further the affiliation to a firm or another institution gives you in Chile the necessary background stability, which is a prerequisite for having an insurance contract. After retirement losing this background stability you lose also the material grounds of your position in society. After retirement in Chile you are isolated, you dont get any benefits or easings as in Germany. For example it is not easy to get bank credit, by law you lose your driver's license. So being or getting refered a "jubilado" is an event making people sad because they now drop out of the material advantages of the chilean society. Additionally, there might be are higher rate of illness amnog the retired in Chile compared to those in Westgermany, adding further experience of negative affect.

Further we find being self-employed to be a living condition producing disadvantages reflected in a loss of subjective well-being, but only in Chile. In Chile, self-employed people show a lower probability to rate their happiness in life than fully employed, they also tend experience more negative affect. In relation to positive affect they do not differ. This is understandable if one konws that being self-employed in Chile means a very marginal employment of people selling small things in the street, with low material security and bad working conditions. In Germany this kind of employment is very seldom, self-employment means much jobs of academic degrees or skilled workman.

effect of occupational education

Before interpreting these results some cautionary remarks are necessary. For the german and the chilean dataset of the World Value Data there are no qualitative information on the educational degrees people have reached in these countries. This information could indicate the educational position as a kind conditions of living with different career and/or job opportunities. Looking at the education effect net of the occupational position, employment and income level, one could interprete it as the influence of bad versus good career or job conditions. As this information on education is not available we used the number of years people stayed in the educational system. As higher degrees of education usually are linked to a longer eduational duration this might be an adequate indicator of educational status. Of course dependent on the educational system, there can be educational degrees with different duration time, but with similar positive career and job opportunities. Sometimes the relation might be even reversed. For example in Germany people with a high secondary degree and an three year occupational training in the banking sector sometimes have better career opportunities compared to those with an

academic degree after 6 or 9 years of training. So one mainly would expect happiness differences between those groups with bad opportunities because of very little educational training (say with no or only one year training). Therefore we categorized the amount of years having stayed or will staying in some educational institution in three educational duration groups: group 1 comprising those with no educational activities, group 2 of those having been up to 4 years in some educational institution and the third group of those have 5 year or more educational training.

(Additionally one has to remark, that there is some confusion in this variable because the question wording points at the age of having left full time education, but the values of this variable are ranging from 0 to 10 obviously reflecting some duration time transformation of the age variable).

We found little net educational effect on happiness. In Chile, and with same tendency in Germany, education raises the probability of rating the life as happy. In relation to positive affect and negative affect we don't find any differences between the educational groups. So one could say that Chilean people with more education see more life chance than those with less education, by they do not feel better. There is no affecture consequence. In Germany there is some tendency for a similar cognitive effect of educational status, but there is no linear relation to the time amount of educational activities. Only those with a training between 2 and 4 years tend more to say that they are happy with their lives, people with a longer education, which normally is accompanied with academic training show no more happiness rating than those who have no education.

This result shows that education degree is necessary for specific needs in relation to career development, like perspective or having access to good or bad jobs. So in both countries educational system is a sorting mechanism also in relation to subjective relevant job opportunities. This sorting function seems to be stronger in Chile than in Germany, maybe because in Chile there is a greater differentiation between bad and good jobs.

income effects

The available family income is one central indicator of the wealth of people as money determines consumption opportunities provides basic material security and possibilities to satisfy needs of material comfort. But one has to be cautious comparing income effects in Chile and in Germany, because there are different income scales for the two countries. The income scale in Germany ranges in ten intervals from below DM 2000.- to the last interval 8000.- DM and more. The Chile income scale also consists of ten intervals ranging from 18 000 pesos or below to the interval of more than 250 000 pesos. Obviously in both countries the categorization of income is related to the majority of very small or small and middle income groups, higher incomes are all collapsed in one group not differentiating between normal wealthy and rich households. Having this in mind, the income effects in both countries are to be understood as relative income effects, showing the subjective well-being differences between lower and higher income level groups.

Net of sociodemographic correlations we found that the German's happiness evaluation of life is independent of their household income position, there are no significant differences between the income groups. In Chile the financial situation of the household seems to be more relevant for the happiness in life rating. After some specific income rank (the three lowest income groups do not differ) one can see that a higher income position makes the Chileans to rate their lives as happy. By this rated happiness difference between Chile and Westgermany the welfare difference of these countries is expressed. In a poor country

(with low governmental money transfer) the money available in the household is necessary to fulfill some basic material needs for comfort. Using the rated happiness difference one can differentiate in Chile between three groups of people: very poor with lowest happiness because of problems related to basic needs like eating and shelter, poor people with low standard of living with some more rated happiness, and people with money above 80 000 pesos with even more rated happiness.

But do these results mean that money buys happiness, as some authors are asking is this true at least in Chile? Looking at the affective indicators of subjective well-being the answer is: no. In Germany we find that money does not buy rated happiness, but money does reduce negative affect. But this is true only for some basic income difference: those who are in the lowest income group (the German poor) have more negative feelings (depression etc.) than those in higher income groups, which do not differ to each other. Surprisingly this is not true for Chile. Chileños' rated happiness in life depends on the level of the household income, but their positive affect and negative affect do not! This might be because the total level of income in Chile is lower than in Germany, therefore negative feelings might be not reduced by some more money in Chile. Only after some level, in the income groups of 7 to 9 there tends to be a reduction of negative feelings and an increase of positive affect experiences. But it remains unexplained why then the highest income group in Chile does not show nor less negative affect and neither more positive affect than the poor?

social class effect

After having incorporated family income position, educational level, occupational position, employment and marital status into the models of subjective well-being, the main indicators of social class as socio-economic status are considered. So the social class of the household rated by the interviewer would not give any further information on the socio-economic standing of the household people live in. But in assuming that social class indicates also differences in social prestige, as well as differences housing and wealth of the household, one could expect social class as additional source of differentiation in subjective well-being, especially because lowest social class members are deprived of social acknowledge and positive evaluation. In Germany we do not find a net effect on subjective well-being measures, but there might be a tendency that the lowest rated social class (unskilled) rate their happiness in life at least. In Chile the net social class differences in happiness are significant. Those being rated as members of the low unskilled show a lower probability of rating their lives as happy, they also show a higher rate of negative affect (this seems to be also true for the skilled worker class).

marital status effects

The variable "marital status" indicates whether people do have a stable intimate relationship or whether they have experienced a loss of companionship accompanied with a lot of distress. In applying the basic needs theory of subjective well-being, one would expect that people in some damaged or deprived intimate relationship show more negative affect and judge their life situation as less happy than those having a stable marital relationship. The results in relation to the net differences of the marital status groups confirm this hypothesis. In Germany and in Chile having lost an intimate relationship is experienced as deprivation of the basic need for loving resulting in a bad evaluation of happiness in life. People living in separation, people who are widowed and those who are single, report less happiness than those who are married. One can find this deprivation

effect in Westgermany as well as in Chile. But there is one important marital difference between Chile and Westgermany. In Westgermany divorced people judge their lives less happy than married people, those who live with a partner but without legal contract do not differ to those legally married. In the liberal german society of the 90s the legal marriage is no more a condition for a better, happier life. In 1990 Chile things are different. We find that chile people living together rate their happiness in life worse than married people whereas those who are divorced do not differ with the married people. This is to be understood as an effect of legal marriage regulations in Chile, where is no legal possibility for divorce. By law there are no divorced, the only few saying they are divorced are immigrants. This legal regulation means problems for those who dissolved their marriage companionship especially if they are now living together in a new relationship. This means a stress situation for both because of insecurity and distress by being involved into two marriage line relationships. This leads them to evaluate their life more unhappy as people living married together. In sum, marriage status is important for happiness in life evaluation both in Chile and Germany, except of the legal regulation of divorce leading to subsequent problems for those who live together without the possibility to marry.

The marital status influences also affective measures of subjective well-being. In our analysis we find that in Germany those who are divorced, separated and widowed report more negative affect than married people. Especially those who are separated report much more feelings of unhappiness, maybe the loss related distress is not coped yet, compared to the widowed (who being usually old and remaining longer in this state) and to the divorced, who usually do the legal dissolution after some time of separation. Interestingly singles, judging their life less happy than the married do not feel unhappier than the married. Maybe because they are experiencing a kind of deprivation of needs for loving, without the distress of intimate relationship dissolution. Furthermore widowed people who report more negative affect than married people, also show less positive affect. Their needs for loving deprivation seem to lead to a reduction of positive affect. The other marital deprivation groups do not differ in relation to positive affect.

The affective reactions to a loss or deprivation of intimate relationship we find in Westgermany, not in Chile. One should be carefull not to misinterpret this result saying Chilenos suffer less than westgermans when they lose an intimate relationship. The chilean behavioral reaction might be understood in the context of a specific cultural attitude, called "machismo". This means, that people especially men, do suffer, when they experience a deprivation of loving and needs, but they suppress these uncomfortable feelings, they don't show their depressive feelings of unhappiness, nor themselves neither to other people like interviewers. Close to that attitude it might be another attitude of "taking it easy" working towards coping with that kind of bad feelings in life. Maybe also of the social context which in Chile provides more affective support after having lost an intimate partnership, we can find less reported affective reactions. In Westgermany however a general attitude of taking things more serious might be responsible for expressing more feelings of sadness.

size of residence effects

The population density in Westgermany is higher than that of Chile, leading there to a more uneven distribution of people in different residence settings in Chile. In Westgermany the size of residence scale ranges from 2000 inhabitants to more than 500 000 inhabitants, whereas in Chile almost half of the selected population resides in Santiago de Chile.

Nor in Westgermany neither in Chile there are any net subjective well-being differences between groups living in different size of residence. This might be the result of the multivariate analysis, having controlled for many determinants of subjective well-being being correlated with the size of residence, like age, income, education etc. On the other side there might be several countervailing forces producing contradictory outcomes of subjective well-being with no resulting difference. For example in large towns the subjective well-being of people is reduced on one side by high unemployment, high pollution, but is heightened by a better infrastructure and better paid jobs.

Explaining the subjective well-being differences between Chile and Westgermany by sociodemographic population structure difference

On a bivariate level of association we found that Chile no judge they happiness in life lower than Westgermans, they report less positive affective experiences of happiness. But we did not find negative affect differences between Chile and Westgermany (see table 9). After controlling for the sociodemographic variables discussed above the subjective well-being differences between Chile and Westgermany gets greater. These means that the lower subjective well-being in Chile is not due to the greater proportion of disadvantages groups in Chile. Contrary, less negative affect in Chile is hidid by higher proportions of disadvantaged groups in Chile. Chilenos report more positive affect but less negative affect than Westgermans, judging their lives less happy than Westgermans.

Table 9: Gross and net differences between Chile and Westgermany, in relation to different subjective well-being measures, exp(b), logistic regression

	gross differences between Chile and Westgermany	net ¹⁾ differences between Chile and Westgermany
rated happiness	0,34	0,24
positive affect	0,59	0,45
negative affect	0,94	0,82

note: 1) net of proportions of age, gender, employment, occupation, family income position, social class, educational status and marital status composition.

5. Summary and conclusion

In table 10 we summed up the results of the sociodemographic model of subjective well-being.

In Chile and Westgermany we could find similar effects sociodemographic based deprivation of basic needs on subjective well-being: Women report more negative affects than men, but men and women do not differ in relation to happiness rating and positive affect, ageing is reducing negative affect, but people aged between 42 and 63 rate their

lives less happy than those aged below 36 or above 63, unemployment is connected with a lower rating of happiness in life as well as with reduced positive affect, retirement is related with lower happiness rating and lower positive affect probability, education degree seems to heighten happiness in life evaluation, family income position reduces negative affect, low social class is connected with low happiness in life reports, marital dissolution or deprivation like separation, widowhood and being single show a reduced happiness judgment.

These similarities between Chile and Westgermany are pointing on subjective well-being responses on depriving economic and demographic conditons of living which seem to be culturally independent, or which indicate a similarity in cultural and economic societal organization in both countries. As the Chile sample is restricted to a part of population with a higher standard of living we can not disentangled these explanations.

table 10: Summary of results: net influences of socio-demographic disadvantaged groups on measures of subjective well-being

disadvantaged groups	measures of subjective well-being					
	happiness rating		negative affect		positive affect	
	Chile	West-germany	Chile	West-germany	Chile	West-germany
women			+	+		
age between 36 and 41		-	-	-		
age between 42 and 63	-	-	-	-		-
older than 63			--	-		
unemployed	-	--		+	-	--
retired	-	-	+	-	-	-
self-employed		-	+			
more education	+	+				
household income ranking	++			--		
lower social class	-	-	+			
living together	-					
divorced		-		+		
separated	-	-		++		
widowed	-	-		+		-
single	-	-				

Divergence between Chile and Westgermany is found in relation to the following effects: the negative ageing effect on happiness rating is in Germany more general than in Chile, in Germany also those aged between 36 and 42 show reduced happiness ratings, and those being between 42 and 63 in Germany show also a reduction of positive affect. A negative unemployment effect also in relation to affects is only found in Germany but not in Chile, retirement in chile also means more negative affect, but not in Germany, on the contrary german retired people show a reduction of negative affect, self-employed only in Germany have a worse evaluation of their happiness in life, not in Chile, but only in Chile they report more negative affect, like those do who have part-time employment, a higher family income ranking only in Chile leads to a higher happiness rating, whereas only in Germany it is related to a reduction of negative affect, low social class only in Chile is connected with more negative affect. Under the specific conditions of Chile divorce law only there

people living together estimate their happiness in life lower than married people, whereas only in Germany distressing marital situations are reflected in rising probability of negative affect.

The divergence of sociodemographic effects on subjective well-being between Chile and Germany seem to be rooted in different institutional arrangements, several aspects of societal organization might be important for understanding the differences between Chile and Westgermany: **first**, marriage regulation in Chile is more restrictive than in Westgermany, **second**, because of a stronger orientation towards ascriptive status attribution socio-demographic groups like self-employed, retired and low social class members experience a deeper deprivation with more negative affect, **third**, a greater social and personally based identification with job and employment in westgermany's professionalized occupational system might amplify deprivation experiences by job loss, **fourth**, a greater income inequality in Chile in combination with a lower level of family income wealth makes money important for subjective evaluation of good living, money in Chile seem to have also a symbolic function of status, but not in Germany. In Germany its function seem to be mainly of economic security by reducing fears and sorrow, **fifth**, affective responses are different in Chile and Westgermany, on the one side because of the severity of economic disadvantages and on the other side because of culturally formed dispositions to handle affects as it might be indicated by cognitive reactions but no affective reactions on marital distress in Chile.

In relation to the cognitive responses on sociodemographic disadvantages the similarity between Chile and Westgermans is greater than in relation to affective response, especially if one looks on negative affect reports. Worse living conditions lead chilenos as well as westgermans to worse happiness-in-life judgements. Divergence between chilean and westgerman responses on depriving sociodemographic situations we found mainly in relation to affect reports, especially on negative affects.

On the background of these results it is not possible to explain subjective well-being differences between Chile and Westgermany by simple national wealth differences indicated by some economic indicator. The results are pointing on the interaction of several societal institutions like social security system, economic development, marriage regulation by law, status ascriptions and affective response dispositions leading together to specific experiences of basic needs deprivation. Further it proved to be meaningful to consider cognitive as well as affective measures of subjective well-being, because specific differences between Chile and Westgermany got visible only looking additionally on affective responses. Finally, the result of having not reduced the mean differences in subjective well-being measures between Chile and Westgermany after controlling for the level of sociodemographic disadvantaged groups is a further argument against the simple national wealth hypothesis. National wealth indicated by the level of disadvantage in the societies of Chile and Westgermany can not explain their subjective well-being differences. Maybe other socio-psychological indicators of disadvantage and deprivation have to be incorporated into the model of subjective well-being.

6. References

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¹ Research on dimensionality of subjective well-being is still controversial, as there are different results on the number of dimensions (Heady et al.), or as Liang 1985; McNeil et al. 1986 showed, that life satisfaction and affective well-being tend to fall together on a common well-being factor when a second order factor analysis is performed.

² By this cross-national comparison we can also get some hints on to what extent specific needs are working as anthropological constants in the evaluation of a nation's livability.