



United Nations
University

WIDER

World Institute for Development Economics Research

Research Paper No. 2004/29

Well-being and the Complexity of Poverty

A Subjective Well-being Approach

Mariano Rojas *

April 2004

Abstract

This investigation studies human well-being from a subjective well-being approach. On the basis of a Mexican database the investigation shows that there is a weak relationship between subjective well-being and indicators of well-being such as income and consumption. Therefore, subjective well-being provides additional useful information to study human well-being and, in consequence, poverty.

Three reasons for the existence of a weak relationship are studied: First, the fact that a person is much more than a consumer; second, the role of heterogeneity in human perceptions; and third, the existence of heterogeneity in purposes of life.

The understanding and abatement of poverty would be better served by a concept of human well-being which incorporates subjective well-being indicators and which is based on the wholeness and complexity of human beings.

Keywords: socioeconomic indicators, subjective well-being, happiness, poverty

JEL classification: I31, I32, J10

Copyright © Author(s) 2004

* Dept. of Economics, Universidad de las Américas, Puebla, Mexico; email: mrojas@mail.udlap.mx

This is a revised version of the paper originally prepared for the UNU-WIDER Conference on Inequality, Poverty and Human Well-Being, 30-31 May 2003, Helsinki.

UNU-WIDER acknowledges the financial contributions to the research programme by the governments of Denmark (Royal Ministry of Foreign Affairs), Finland (Ministry for Foreign Affairs), Norway (Royal Ministry of Foreign Affairs), Sweden (Swedish International Development Cooperation Agency—Sida) and the United Kingdom (Department for International Development).

ISSN 1810-2611

ISBN 92-9190-616-6 (internet version)

The World Institute for Development Economics Research (WIDER) was established by the United Nations University (UNU) as its first research and training centre and started work in Helsinki, Finland in 1985. The Institute undertakes applied research and policy analysis on structural changes affecting the developing and transitional economies, provides a forum for the advocacy of policies leading to robust, equitable and environmentally sustainable growth, and promotes capacity strengthening and training in the field of economic and social policy making. Work is carried out by staff researchers and visiting scholars in Helsinki and through networks of collaborating scholars and institutions around the world.

www.wider.unu.edu

publications@wider.unu.edu

UNU World Institute for Development Economics Research (UNU-WIDER)
Katajanokanlaituri 6 B, 00160 Helsinki, Finland

Camera-ready typescript prepared by Liisa Roponen at UNU-WIDER
Printed at UNU-WIDER, Helsinki

The views expressed in this publication are those of the author(s). Publication does not imply endorsement by the Institute or the United Nations University, nor by the programme/project sponsors, of any of the views expressed.

1 Introduction

The lessening of poverty is a central concern. Many resources are allocated to the study of poverty and to the design of abatement policies. The definition of poverty is critical in this concern. It is reasonable to accept that a poor person is one whose well-being is low; thus, poverty depends on the specific concept of human well-being. It is, therefore, imperative to study human well-being before measuring poverty and designing policies towards its abatement.

This paper borrows from the literature on subjective well-being to expand and enrich the concept of poverty. Subjective well-being refers to the well-being as declared by a person. It is understood and measured from a subjective well-being/happiness approach, which is common in the relevant literature.

The investigation shows that the relationship between subjective well-being and the traditional indicators of well-being (income, consumption, socioeconomic situation and access to public services) is weak. Therefore, subjective well-being has additional information, not contemplated in the traditional indicators, which is useful for studying human well-being and, in consequence, poverty.

The investigation goes then to explore some possible reasons for the existence of a weak relationship between subjective well-being and some socioeconomic indicators. Three topics are studied. First, the fact that a person is much more than a consumer is studied through the domains-of-life literature; second, the role of human perceptions; and third, the existence of heterogeneity in the purpose of life is studied through the *conceptual-referent theory of happiness*.

The domains-of-life literature allows for the introduction of a multidimensional approach to human well-being and, in consequence, to poverty. The recognition that human beings are much more than economic agents leads to the study of life satisfaction in domains different than the economic one. It is shown that human well-being comes from a person's condition in all domains of life, while traditional indicators of poverty are related only to the satisfaction in the consumption domain. Thus, poverty, as a situation lacking in well-being, is better understood as a multidimensional phenomenon.

There are also important differences across persons in the perception of objectively identical circumstances. Perceptions play an important role in subjective well-being; therefore, the common practice of associating traditional poverty indicators to the lack of human well-being is questionable on the basis of heterogeneity of perceptions across people.

In addition, people do have different life purposes, and a person's evaluation of his well-being is contingent on his life purposes. Thus, when evaluating their well-being, people tend to focus on different considerations. The conceptual-referent theory of happiness studies the conceptual referent which is behind a person's subjective well-being. It states that people have different conceptual referents in the subjective evaluation of their well-being. This heterogeneity in the well-being conceptual referent across persons implies that socioeconomic indicators, which are commonly used as proxies of well-being, are not equally pertinent for everybody.

An empirical investigation is done in Mexico. A large survey was applied in five states of south-central Mexico and in the Federal District. The empirical findings suggest that the improvement in human well-being would be better served by a well-being concept which is based on the wholeness and complexity of human beings. The investigation suggests that subjective well-being indicators can enrich the understanding of the concept of poverty, at least if it is meant to reflect a situation lacking in well-being.

2 The literature on subjective well-being

2.1 On the approach

Human well-being is measured from a subjective well-being (SWB) approach. SWB refers to the well-being as declared by a person. It is based on a person's answer to either a single question or a group of questions about his/her well-being. It is a self-reported measure of well-being.

Subjective well-being has been extensively studied in disciplines such as psychology (Kahneman *et al.* 1999; Argyle 2002) and sociology (Veenhoven 1988, 1993, 1995 and 1997). It is a relatively new area of study in economics (Easterlin 1974, 1995, 2001; Clark and Oswald 1994; Di Tella *et al.* 2001; Frey and Stutzer 2000; McBride 2001; Oswald 1997; Pradhan and Ravallion 2000; and van Praag and Frijters 1997). It has some noteworthy advantages over alternative well-being measures and concepts:

The well-being of a person

SWB is the well-being as declared by a person; hence, it is a measure of a person's well-being that incorporates all life events, aspirations, achievements, failures, emotions and relations of human beings, as well as their neighbouring cultural and moral environment. Hence, SWB differs substantially from alternative well-being concepts that are inspired on academic-discipline approaches. The academic-discipline concepts, such as economic well-being, psychological well-being, political well-being, and so on, are inherently incomplete because they are based on an analytical theory of knowledge. Thus, they cannot entirely capture the well-being of a human being.¹ SWB constitutes an enhancement in the understanding of human well-being because it provides a direct measure of the well-being of a person.

Inferential approach

The SWB literature is based on an inferential, rather than doctrinal, approach. Because SWB refers to the well-being as declared by a person, it is neither the researcher nor the philosopher who assesses a person's well-being, but the person himself.² In other words, SWB implies a bottom-up rather than a top-down approach. Thus, SWB differs

¹ These well-being concepts are based on an analytical theory of knowledge, which compartmentalizes the way of understanding human beings and generates partial and incomplete knowledge about his well-being (see Capra 1983).

² Thus SWB avoids the subjectivity, the arbitrariness and the paternalistic approach of the so-called objective indicators of well-being.

substantially from other approaches that put forward sophisticated arguments to justify an assessment of a person's well-being on the basis of an external set of criteria. Doctrinal approaches, rather than inferential ones, have dominated the history of well-being studies. The doctrinal approaches have had little interest for testing its empirical validation, rather they assume both the specific concept of human well-being and its explanatory factors.

SWB approaches just require a person to be able to assess his/her life satisfaction or happiness level; the rest of the analysis, for example, the importance of some presumed well-being explanatory factors, is based on inferential techniques.³

Inherently subjective

A person's well-being necessarily implies a subjective appraisal, because it is based on a person's assessment of his life. Academic disciplines such as economics have always stressed the use of objective measures of well-being for the sake of objectivity itself. However, from a SWB point of view, objective indicators of well-being can be deceiving, because well-being is inherently subjective. Besides, objective indicators, being chosen by researchers and public officers, are based on subjective, arbitrary, and somewhat paternalistic criteria. In addition, objective indicators do tend to impose the same standards to everybody, while SWB does not face this problem, allowing for heterogeneity across persons in this respect.

Transdisciplinary approach

Academic disciplines focus on partial aspects of a person's life, since they do not really use the human being as their unit of study. SWB measures a person's well-being and not the well-being of an academically constructed agent. Thus, it is difficult to seize the complexity of SWB measures from any single discipline, and a transdisciplinary, or at least an interdisciplinary approach, is preferred.

2.2 On the measurement of SWB

SWB is associated to the concept of *life satisfaction* or *happiness in life* (Ferrer-i-Carbonell 2002; Cummins 1997, 1999; Veenhoven 1988).⁴ Veenhoven (1984) states that subjective well-being can be measured only on the basis of a person's answer to a

³ Fuentes and Rojas (2001) found that people may underestimate or overestimate the impact that different factors have in their subjective well-being. Loewenstein and Schkade (1999) also argue that people have difficulties to estimate the well-being impact of some actions. Thus, it is not convenient to ask people to assess which factors contribute the most to their well-being and what changes they would benefit the most from. If a person takes decisions on the basis of their (wrongly) estimated well-being impact, then it is incorrect to use a person's behaviour to reach well-being conclusions. Therefore, the revealed preference theory has limitations as an inferential tool to assess human well-being.

⁴ In the psychological literature, the SWB concept is also associated to a person's psychological health.

direct question about his well-being; there is no room for speculation based on a person's possessions, facial expressions, or either extrinsic behaviour.⁵

This investigation uses the happiness approach to measure a person's well-being.⁶ The following direct question was applied, 'taking everything in your life into consideration, how happy are you?' A Likert ordinal scale with seven options from very unhappy to extremely happy was used to capture people's answers.⁷

2.3 On the main findings in the literature and their explanations

Since the pioneer study of Easterlin (1974) several investigations have studied the topic of subjective well-being or happiness and its relationship to economic variables. Recent studies include Mullis 1992; Veenhoven 1988, 1993, 1995 and 1997; Heady 1991; Douthitt *et al.* 1992; Diener *et al.* 1993; Diener 2002; Diener and Oishi 2000; Diener and Suh 1997; Frey and Stutzer 2000; Fuentes and Rojas 2001; Rojas *et al.* 2001; Oswald 1997; van Praag *et al.* 2000, 2002; and Argyle 1999, 2002.

A weak relationship between income and happiness is a common finding in the literature.⁸ Thus, traditional objective indicators of well-being, such as income, do not seem to pass an external validation as good proxies of well-being on the basis of the SWB approach.⁹ In consequence, a low income level is not necessarily associated to a lack of human well-being, nor do high income levels necessarily imply high well-being levels. As a result, traditional measures of poverty, which are based on a person's income or purchasing power, would not necessarily imply lack of well-being according to a SWB approach. Different theories have been advanced to explain the existence of a weak relationship between SWB and income.

The *relative theory* states that the impact of income on a person's subjective well-being depends on changing standards based on his/her expectations and social comparisons. (Meadow *et al.* 1992; Diener and Diener 1996; Parducci 1968, 1995; Easterlin 1974, 1995; Diener *et al.* 1993; Hagerty 1999).

⁵ It is common within economists to reject the direct-question approach on the basis of the revealed preference theory, which states that well-being can be studied from a person's actions. For a critique on the former and a justification for the later, see van Praag and Frijters (1997). Kahneman *et al.* (1999) state that 'questions can be raised about the accuracy of people's predictions of their future pleasures and pains, and about their intuitive understanding of the rules of hedonic psychology' 'The evidence available suggests that people may not have the ability to predict their future tastes and hedonic experiences with the accuracy that the economic model requires' Kahneman *et al.* 1999: x).

⁶ The research project also has information on life satisfaction approach; however, it is not used in this paper.

⁷ For a discussion of subjective well-being measures, see Cummins (1999).

⁸ A logarithmic specification has a better goodness of fit and it increases the significance of income with respect to a linear specification.

⁹ There are no previous studies going beyond income to comprise other socioeconomic indicators such as possession of durable goods, access to public services, and so on.

The *absolute theory* assumes that basic-needs satisfaction is related to subjective well-being; it suggests the existence of a threshold beyond which the impact of income on subjective well-being is not important.

The *adaptation theory* focuses on the ability of persons to adapt to positive and negative events; thus, persons with higher adaptation capabilities tend to be happier, even in situations where income is low (Brickman *et al.* 1978).

The *aspiration theory* states that the degree of satisfaction/dissatisfaction experienced by a person is related to the ratio of his satisfied to total desires. Persons who believe that their desires are fully satisfied tend to be happier than persons who have unsatisfied desires, regardless of their income levels (Michalos 1985).

The *conceptual-referent theory* stresses the importance of heterogeneity in the SWB conceptual referent; because of this, the relevance of some explanatory factors of happiness differs across persons. Thus, while for some people income would be a relevant proxy for well-being, for others it would be completely irrelevant (Rojas 2003a, 2003b).

3 The database

A survey was conducted in five states of central and south Mexico¹⁰ as well as in the Federal District (Mexico City) during October and November of 2001. A stratified-random survey was designed to collect information from a sample of persons. The survey was controlled by household income, gender and urban-rural areas. The sample size is acceptable for inference in central Mexico, 1540 questionnaires were properly completed.

The survey gathered information regarding the following quantitative and qualitative variables:

- Demographic and social variables: education, age, gender, civil status, religion, family composition, health condition, occupation and working situation;
- Economic variables: current household income,¹¹ consumption expenditure, access to public services, size of house, and possession of durable commodities;
- Subjective well-being: a seven-options happiness-with-life scale is used. The following are the scale's answering options: extremely happy, very happy, happy, somewhat happy, neither happy nor unhappy, unhappy, and very unhappy. Happiness was handled as an ordinal variable, with values between

¹⁰ The states considered are Oaxaca, Veracruz, Puebla, Tlaxcala and the State of Mexico. The survey was applied in both rural and urban areas.

¹¹ Household income is used as a proxy of income. Other proxies such as personal income and per capita household income were also calculated and used, with relatively similar conclusions.

one and seven; where one was assigned to the lowest level of happiness and seven to the highest;¹²

- Life domains: a large set of questions was used to inquiry about satisfaction in life domains. Six life domains were constructed on the basis of principal-component techniques: health satisfaction, material/consumption satisfaction, job satisfaction, family satisfaction, interpersonal/friendship relations, and personal satisfaction;
- Perception variables: the survey inquired on perceptions about poverty, social class, capacity of income to satisfy material needs, and economic well-being;
- Conceptual referent for happiness: the survey also asked about the conceptual referent to the happiness question.¹³

4 Poverty and sample inference

National deciles for household income distribution were constructed on the basis of the 2001 National Income and Expenditure Survey. Table 1 shows the sample distribution along the national deciles. It is observed that the sample distribution follows closely the Mexican income distribution and it is, thus, a representative sample.

Approximately 55 per cent of the persons in the sample could be considered as poor according to the traditional measures of poverty used by the *Mexican Social Development Secretariat*. Do these persons declare low levels of well-being? Are they poor from a SWB approach? In addition, do persons considered as non-poor declare high levels of well-being?

5 Subjective well-being in the survey

The distribution of happiness in the survey is not very different from most findings in the literature (Argyle 1999, 2002; Veenhoven 1993; Diener and Diener 1996). Most of the people are either happy or very happy. Table 2 shows the happiness distribution in the survey according to the original seven-options scale. A four-categories scale is constructed for simplification in the presentation of the information.

Less than 5 per cent of the persons in the sample declared having a not happy life. Almost 90 per cent of the persons in the survey declared that their life is either happy or very happy. This finding, together with the fact that more than 50 per cent of the people in the survey could be considered as poor according to their household income, suggests that the relationship between income (a conventional indicator of poverty) and

¹² The survey also inquired about happiness using a 1-to-10 scale. Results using the 1-to-10 scale do not differ substantially from the results from the 1-to-7 scale, which are shown in this paper.

¹³ Section 9 explains this variable further.

subjective well-being (an indicator of human well-being) is not strong. The following section explores this relationship further.

6 Subjective well-being and socioeconomic indicators

Socioeconomic indicators such as income, possession of durable goods, and access to public services have commonly been used as proxies of well-being. Section 5 hints that the relationship between these indicators and subjective well-being is not strong. This section, using different objective indicators, studies the relationship further.

6.1 Subjective well-being and income

Table 3 shows the subjective well-being situation for every income quintile. This table enables for a comparison of well-being to be made across different income groups. A strong relationship between income and subjective well-being should imply that most happy and very happy people are in the higher quintiles, and most not happy and somewhat happy people are in the lower quintiles.

As can be seen in Table 3, a relationship between income and subjective well-being exists. Higher income quintiles have more people located in the happy and very happy categories. For example, 80 per cent of the people in the lower quintile declare themselves to be happy or very happy while in the higher quintile, the figure rises to 94 per cent. Thus, income does seem to have a positive influence on subjective well-being. However, the influence is not a determinant, as is shown by the fact that even in the lower quintile (where according to conventional measures of poverty all people are poor), 80 per cent of the people express high SWB levels.

In consequence, income does have an influence on SWB, but income, by itself, is not a good proxy of SWB. There are persons who are happy with their lives at all income levels, and an increase in income does not ensure greater happiness. Therefore, income is not a good proxy of well-being; it is just a mean for well-being, and as such, its effectiveness to increase well-being should not be presumed, but should be empirically validated.

6.2 Subjective well-being and other socioeconomic indicators

Socioeconomic indicators are also used as proxies of well-being. This investigation constructs three indicators of a person's socioeconomic position on the basis of a large group of questions about quality of housing, ownership of durable goods, and so on. Principal component techniques were used to obtain the three socioeconomic indicators. *Soc₁* is associated to the ownership of traditional electronic commodities such as radio, TV, and refrigerator. *Soc₂* is related to the ownership of commodities such as computer, microwave ovens, and cable/satellite TV, as well as size of house (measured by number of bedrooms and number of lights). *Soc₃* relates to access to services such as potable water and electricity.

Table 1
Sample distribution across national deciles of income

National decile	Sample percentage	Cumulative percentage
1	9.0	9.0
2	11.5	20.5
3	9.5	30.0
4	11.8	41.8
5	11.8	53.6
6	9.5	63.1
7	4.7	67.8
8	13.2	81.0
9	12.6	93.7
10	6.3	100.0
Total	100.0	

Table 2
Subjective well-being distribution

Simplified four-categories scale	Original seven-options scale	Percentage
Not happy	Very unhappy	0.2
	Unhappy	1.1
	Neither happy nor unhappy	3.6
Somewhat happy	Somewhat happy	6.0
Happy	Happy	37.4
Very happy	Very happy	46.3
	Extremely happy	5.5
Total		100.0

Table 3
Subjective well-being and household income in percentages, simplified SWB scale

Quintile of income	Not happy	Somewhat happy	Happy	Very happy	Total
1	1.3	18.2	42.6	37.9	100
2	2.0	8.5	44.6	44.9	100
3	1.6	8.0	38.8	51.6	100
4	0.7	7.4	33.7	58.2	100
5	0.7	5.4	23.6	70.4	100

Table 4
Subjective well-being and socioeconomic position* in percentages

Quintile	Not happy	Somewhat happy	Happy	Very happy	Total
1	3.3	16.0	45.4	35.3	100
2	1.3	8.9	44.4	45.4	100
3	0.3	9.0	36.9	53.8	100
4	0.7	5.9	31.9	61.5	100
5	0.8	7.2	26.4	65.6	100

Note: * Socioeconomic position measured with variable Soc₁, which is related to the ownership of traditional electronic commodities such as radio, TV, and refrigerator.

Table 4 shows the subjective well-being situation for every socioeconomic position as measured by variable *Soc*₁.¹⁴ The observations are divided in quintiles according to the person's socioeconomic position, with quintile 1 for the worst situation and quintile 5 for the best situation. Results are quite similar as in the case of income. Socioeconomic position does have an influence on SWB; it is not, however, a determinant influence. Moving towards higher socioeconomic quintiles implies a rise in the percentage of people who are happy and very happy with their lives. However, even in the lower quintiles a very large percentage of people declare to have happy and very happy lives.

6.3 Subjective well-being and access to public services

The provision of more and better public services is considered to be a fundamental social task. Access to these public services is presumed to be highly correlated to well-being. To study this issue, a variable that captures the access to public services and their perceived quality was constructed. The public services considered are trash collection, public transport, potable water, public lights, drainage, neighbourhood safety and road conditions. Principal component techniques were used to create a single variable of access to public services (*Serv*) This variable ranks people from those in the worst situation to those in the most favourable.

Table 5 shows the SWB distribution for every access-to-public-services quintile. The first quintile includes the 20 per cent of population in the worst situation, and the fifth quintile refers to the 20 per cent in the most favourable situation. Results do not differ substantially from previous ones. Access to more and better public services tends to increase subjective well-being, but it is not a strong impact.

6.4 Subjective well-being and socioeconomic indicators: correlation analysis

Table 6 shows the correlation matrix between the socioeconomic indicators and the SWB indicator. All correlations are positive, indicating a direct relationship between each socioeconomic indicator and SWB.¹⁵ Thus, it seems that SWB tends to increase with a rise in the socioeconomic position. However, all correlations are relatively low; in the case of income and SWB the correlation is 0.12.

6.5 Subjective well-being and socioeconomic indicators: regression analysis

The following regression was estimated to further explore the relationship between socioeconomic indicators and SWB:

$$H = \alpha_0 + \alpha_1 Y + \alpha_2 Soc_1 + \alpha_3 Soc_2 + \alpha_4 Soc_3 + \alpha_5 Serv + \mu$$

¹⁴ Similar results are obtained when using other proxies of socioeconomic position such as *Soc*₂ and *Soc*₃.

¹⁵ Some authors have expressed doubts on the issue of causality. Is it because a better socioeconomic position leads to an increase in SWB, or is it because people with greater SWB tend to achieve better socioeconomic positions? See Argyle (2002) and Diener (2000).

where H stands for the happiness level, Y for household income, Soc_1 , Soc_2 , and Soc_3 for the principal components constructed socioeconomic variables, and $Serv$ for the principal components constructed access-to-public-services variable.

Table 7 presents the results from the linear regression analysis.¹⁶ It is noteworthy that the R^2 is 0.067. In other words, the group of socioeconomic variables, which is commonly used as proxies of well-being, explains less than 7 per cent of the variability in SWB. Thus, it is clear that SWB and the socioeconomic position are not only different concepts, but that they are not strongly correlated. In consequence, SWB indicators can make an important contribution to the study of well-being and poverty, beyond the traditional socioeconomic indicators provide.

The following sections study three factors that partially explain the nature of subjective well-being and its weak relationship to socioeconomic indicators.

7 Subjective well-being and heterogeneity in perceptions

Perceptions play an important role in SWB. As stated by Lin Yutang (1940: 9): ‘What matters is everyone’s point of view’.

A person’s SWB is closely related to their own perception of life’s conditions. The relationship between socioeconomic indicators and SWB is meddled by a person’s perception of his socioeconomic situation. If a person’s perception of his socioeconomic situation follows closely the objective conditions, then a strong relationship between socioeconomic indicators and SWB would be expected. However, two persons can perceive differently certain objectively identical socioeconomic situations, while some socioeconomic situations that are objectively different can be perceived as identical (Parducci 1984).

To study the existence of heterogeneity in perceptions, people were asked in the survey about the following perceptions: (i) poverty perception (do you consider yourself to be a poor person?); (ii) economic well-being perception (how is your economic well-being?); and (iii) perception of material needs satisfaction (what is the capacity of your income to satisfy your material needs?).

Personal expenditure is used as a socioeconomic indicator,¹⁷ and quintiles are constructed to study the role of a person’s socioeconomic position. The first quintile includes the 20 per cent of people with the lowest personal expenditure, while the fifth quintile includes those with the largest personal expenditure.

¹⁶ A logarithm specification has better goodness of fit. See Fuentes and Rojas (2001) and Rojas (2003c) on the issue of specification.

¹⁷ Results do not differ substantially when using household income or socioeconomic position.

Table 5
Subjective well-being and access to public services in percentages

Quintile	Not happy	Somewhat happy	Happy	Very happy	TOTAL
1	2.6	15.5	36.8	45.1	100
2	1.6	8.5	40.0	49.8	100
3	1.6	9.8	38.7	49.8	100
4	0.0	5.7	37.0	57.2	100
5	0.0	9.1	30.0	60.9	100

Table 6
Correlation matrix—socioeconomic indicators and SWB

	SWB	Income	Soc ₁	Soc ₂	Soc ₃	Serv.
SWB	1					
Income	0.1257	1				
Soc ₁	0.1509	0.5635	1			
Soc ₂	0.1847	0.2468	0.4509	1		
Soc ₃	0.2202	0.1964	0.3392	0.5222	1	
Serv.	0.1341	0.0805	0.0995	0.1400	0.2210	1

Table 7
Regressions analysis—socioeconomic indicators and SWB

Parameter	Variable	Coefficient	Prob.> <i>t</i>
α_0	Intercept	1.617	0
α_1	Income	0.004	0.074
α_2	Soc ₁	0.004	0.377
α_3	Soc ₂	0.037	0.030
α_4	Soc ₃	0.263	0.000
α_5	Serv.	0.051	0.002
R ²	0.0676		

Table 8
Personal expenditure and poverty perception in percentages

Quintile of personal expenditure	Poor	Not poor	Total
1 (lower)	47.4	52.6	100
2	27.7	72.3	100
3	27.8	72.2	100
4	27.7	72.3	100
5 (higher)	16.2	83.8	100

7.1 Personal expenditure and poverty perception

Table 8 shows the relationship between personal expenditure and poverty perception. It is remarkable that most people, even in the lower quintiles of personal expenditure, do not consider themselves as poor. For example, 72 per cent of those in the second quintile do not consider themselves poor even though according to conventional

measures, these persons would be considered poor. It is also surprising that 16 per cent of those in the fifth quintile (those with higher expenditures) do consider themselves poor. It suggests that the concept of poverty used by people is not similar to the concept used by economists. There may be many reasons for this. People, for example, may evaluate their situation on the basis of their relative rather than absolute position, or they may take into account other aspects of life that are not considered in the traditional definition of poverty, or may even assess their situation on the basis of different life purposes.

7.2 Personal expenditure and perception of economic well-being

Similar results show up in a question about economic well-being perception. Table 9 indicates that the perception of having a good or very good economic situation tends to increase with personal expenditure. However, what is really noteworthy is that 70 per cent of the people in the first quintile of personal expenditure perceive their economic well-being to be good or very good. The figure goes up to about 85 per cent for people in the second quintile. Hence, there is no strong correlation between the economic situation of a person and their own perception of that situation.

7.3 Personal expenditure and perception of material needs satisfaction

Fuentes and Rojas (2001) find that the perception of unsatisfied material needs is an important explanatory variable for SWB. They also note that as a person's income increases, their own perception of satisfied needs does not rise significantly.

Results from Table 10 corroborate these findings. There are persons in the lower quintiles of expenditure who state that most or all their needs are being satisfied, while almost 40 per cent of the persons in the higher quintile say that their income is insufficient or very insufficient to satisfy all their material needs. Consequently, it seems that the fact that a person has high expenditure levels is not enough to ensure a perception of satisfying all material needs.

7.4 On perceptions, subjective well-being and socioeconomic indicators

SWB is influenced by a person's perception of their own socioeconomic position and satisfaction of material needs.¹⁸ Nonetheless, perceptions are not strongly related to the objective socioeconomic indicators, which are commonly used as indicators of well-being.

There are disparities between the information provided by objective socioeconomic indicators and a person's perception of his socioeconomic condition. For example, a number of people who, according to conventional indicators, are considered poor, do not consider themselves as such. If the understanding of human well-being is a main

¹⁸ Regression analysis shows that there is a stronger relationship between SWB and perception variables of socioeconomic position than between SWB and socioeconomic variables. Hence, a person's perception of their own socioeconomic position, rather than the socioeconomic position itself, has much greater capacity to explain SWB.

objective, then it is necessary to go beyond the apparent neutrality of objective indicators to recognize and study the large heterogeneity that exists in human perception.

8 Domains of life and subjective well-being

The fact that there is more to life than the standard of living is captured by the concept of subjective well-being and not by the socioeconomic indicators. A person is much more than an economic agent, and the construct of *domains of life* constitutes an attempt to study the complexity of a person's being.¹⁹ A person's well-being is related to their own situation in all domains of life, and this relationship is neither a linear nor a single-equation one.²⁰

8.1 A taxonomy of domains of life

The classification of a person's activities, feelings, and thoughts into a set of domains of life is inherently arbitrary. Some authors argue in favour of having just a few categories, while others prefer to have an extended the number of categories (Cummins 1999). Nevertheless, independently of the demarcation used, recognition of the multidimensionality in human lives allows for a better understanding of human well-being.

On the basis of a large set of questions about life satisfaction in many areas, and using factor analysis and principal-component techniques,²¹ this investigation constructs six domains of life, which are measured on a 1 to 7 scale (from *very unsatisfied* to *very satisfied*).

- Health, associated to a person's perceived health and access to medical services;
- Consumption, associated to the capacity of purchasing goods and services, to the financial situation and to house ownership;
- Job, associated to a person's relationship with his boss and colleagues, his job responsibilities, and his job environment;
- Family, which is divided into three areas: relationship with partner, relationship with own children, and relationship with rest of the family;
- Friendship, associated to the existence of interpersonal relations and the access to a social network;
- Personal, associated to the possibility of pursuing one's own goals and of having time for personal interests.

¹⁹ For an explanation of the domains of life and their relationship to happiness see van Praag *et al.* (2000, 2002).

²⁰ See Rojas (2003c).

²¹ A variable-replacement technique was used in this case. See Hair *et al.* (1999).

Table 9
Personal expenditure and perception of economic well-being in percentages

Quintile of personal expenditure	Very bad	Bad	Good	Very good	Total
1 (lower)	2.2	25.8	64.7	7.3	100
2	1.8	12.5	77.1	8.6	100
3	1.5	17.5	71.5	9.5	100
4	0.9	15.6	75.5	8.1	100
5 (higher)	0.4	4.9	72.4	22.4	100

Table 10
Personal expenditure and perception of degree of satisfaction of material needs in percentages

Quintile of personal expenditure	Very insufficient	Insufficient	Some needs	Most needs	All needs	Total
1 (lower)	30.4	49.2	4.2	10.7	5.5	100
2	20.5	44.3	9.2	16.5	9.5	100
3	19.3	37.4	10.7	23.0	9.6	100
4	18.7	39.9	13.4	19.3	8.7	100
5 (higher)	12.6	26.6	15.5	28.1	17.3	100

Table 11
Satisfaction in the domains of life average and standard deviation in a 1-to-7 scale

Domain of life	Average	Standard deviation
Health	5.07	1.02
Consumption	4.45	1.21
Job	4.65	2.23
Family		
Partner	5.14	2.44
Children	5.53	2.80
Rest of family	5.24	1.12
Friendship	4.69	1.18
Personal	4.43	1.33
Subjective well-being	5.40	0.95

Table 12
Subjective well-being and domain satisfaction correlation coefficients

Domain of life	Correlation coefficient
Health	0.30
Consumption	0.30
Job	0.21
Family	
Partner	0.35
Children	0.31
Rest of family	0.24
Friendship	0.18
Personal	0.25

8.2 Satisfaction in the domains of life

Table 11 shows the average satisfaction in each domain of life. It is in the *family* domains where people in the survey declare, on average, to be more satisfied. People are less satisfied in the consumption, personal and job domains. These results provide a hint about the sources of SWB; it seems that well-being comes from having not only a high standard of living but also from good interpersonal relations, which could be more important than income in the generation of well-being.²²

8.3 Life domains and subjective well-being

Are all domains of life equally important for well-being? Table 12 presents the correlation coefficients for SWB and satisfaction in the domains of life. All correlations are positive, which indicates that greater satisfaction in any domain is associated to greater SWB. However, correlation coefficients are relatively low; thus, even though all domains are important; none of them, by themselves, is an important determinant of SWB. It seems that family satisfaction, at least with respect to the satisfaction with partner and with children, is important; followed by health and consumption.

8.4 Socioeconomic indicators and satisfaction in the domains of life

A regression analysis was used to study the impact of a person's socioeconomic position in each domain-of-life satisfaction. Eight regressions were estimated using the following specification:

$$D_i = \alpha_0 + \alpha_1 Y + \alpha_2 Soc_1 + \alpha_3 Soc_2 + \alpha_4 Soc_3 + \alpha_5 Serv$$

where D_i stands for satisfaction in domain of life i .

Table 13 shows the R^2 obtained from the regression analysis. It is noted that the socioeconomic indicators have a mutual explanatory power only in the *consumption*

Table 13
Socioeconomic indicators and domain satisfaction regression coefficient: R^2

Domain of life	R^2
Health	0.047
Consumption	0.147
Job	0.070
Family	
Partner	0.016
Children	0.022
Rest of family	0.021
Friendship	0.034
Personal	0.038

²² Rojas (2003c) studies the impact of each domain of life on subjective well-being.

domain of life. Their impact in the other domains of life is negligible. These results suggest another explanation for the weak relationship between socioeconomic indicators and the well-being as declared by the person. While SWB depends on the situation in all domains of life, a person's socioeconomic position has an impact in only one domain of life: *consumption*. Besides, *consumption* is not a central domain in explaining SWB (Rojas 2003c). Consequently, it is possible to state that there is more in life than the standard of living.

9 Heterogeneity in the purpose of life: conceptual-referent theory

SWB refers to the degree to which a person appraises the overall quality of his life favourably (Veenhoven 1984). A subjective judgement or evaluation of life as a whole is involved in this appraisal. The conceptual referent theory studies what is appraised when a person makes a judgement about his happiness. The conceptual referent theory also stresses the importance of heterogeneity; that is, the conceptual referent may vary considerably across persons.²³ This heterogeneity in the conceptual referent extends to the explanatory structure of SWB. Rojas (2003b) finds that the relationship between socioeconomic variables and SWB is contingent on a person's conceptual referent. Thus, income and other socioeconomic variables are significant explanatory variables of SWB for only some people, while for others they are completely irrelevant.

9.1 A conceptual-referent-theory study

Rojas (2003a, 2003b) studies the conceptual referent for happiness. What do people have in mind when they appraise their life as a whole in order to answer a typical subjective well-being question? Does everybody have the same conceptual referent?

A typology of conceptual referents was created on the basis of an extended survey of philosophical essays on happiness.²⁴ The typology defines eight conceptual referents for happiness. Each conceptual referent is associated to a group of philosophical schools of thought.²⁵ Simple phrases associated to each conceptual referent were used in the survey

²³ The reasons for heterogeneity in the conceptual referent for happiness need further examination. Why do very similar people have different conceptual referents? Is there a role played by sociodemographic and economic variables? Is it a matter of culture or family raising? Nevertheless, the existence of heterogeneity in human values, ideas and conceptual referents should not be a surprise to any human being. Rojas (2003a) studies the relationship between the conceptual referent of happiness and socio-demographic and economic variables.

²⁴ The author is grateful to Lourdes Rodríguez for his work in the construction of the philosophical survey (2001). Being a topic so widely discussed, this survey cannot claim to be exhaustive.

²⁵ One of the main advantages in the study of happiness is that it is a common word in many cultures. People easily understand the word; common wisdom talks about what happiness is, about true and deceiving happiness, and about how to be happy. The subject is central in both romantic and tragic songs; it is also common in movies and soap operas, as well as in poetry, literature, theater plays and even in fairy tales. Being such an important aim, it attracts a lot of human attention. Having such a strong magnetism, it has also got the attention of philosophers everywhere and anytime. Thousands of pages have been written by philosophers about what happiness is and about the proper way to pursue it. Being a main topic of reflection and debate for almost 3000 years, it is of no surprise that philosophers do not agree on happiness is and about how to achieve it.

to inquire about what people have in mind when appraising their lives and expressing a SWB level.²⁶ Once a person answered the happiness-level question, they were presented with eight phrases and asked to identify the phrase they relate to happiness in life.

Table 14 presents the distribution of the conceptual referent for happiness across the sample. It is noted that not everybody has the same referent when they respond to the happiness question. In the Mexican case, approximately one-quarter of the people in the survey related happiness to the concept of satisfaction ('happiness is being satisfied with what I have and what I am'). Following in importance are referents related to stoicism ('happiness is accepting things as they are') and enjoyment ('happiness is to enjoy what I have in life'). However, what really matters is not what referents are selected most often, but that there exists a large dispersion across persons in the conceptual referent for happiness. This finding proves the hypothesis of heterogeneity in the conceptual referent.

The existence of heterogeneity in the conceptual referent for happiness partially explains the weak relationship between socioeconomic indicators and subjective well-being. Rojas (2003b) studies the relationship between subjective well-being and socioeconomic indicators, showing that their explanatory power is contingent on a person's conceptual referent for happiness. In other words, for some people income and other socioeconomic variables are significant explanatory variables and, hence, good proxies for subjective well-being. However, for other persons these socioeconomic variables are irrelevant in explaining SWB and, therefore, they are not good proxies of SWB.

A common implicit assumption in most of the well-being literature is that everybody has the same conceptual referent for a happy life, and that there is universality in the explanatory factors of well-being. The conceptual referent theory of happiness stresses the idea of heterogeneity and rejects the universality assumption; it states that the understanding of human well-being and its causes is better served if heterogeneity is recognized.

9.2 Subjective well-being by conceptual referent

The following question emerges once heterogeneity in the conceptual referent for happiness is recognized, 'is there a dominant conceptual referent?' A conceptual referent is said to be dominant if it is associated to greater SWB levels. Table 15 shows the average SWB (in a 1-to-7 scale) for people embracing every conceptual referent. It is clear that there is not a definite dominant conceptual referent. Conceptual referents such as *satisfaction*, *enjoyment*, *tranquillity* and *virtue* show slightly greater SWB averages; while referents such as *carpe diem* and *utopian* are a little bit lower. Thus, it can be stated that the nature of heterogeneity is horizontal rather than vertical; in other words, it is incorrect to argue in favour of a particular conceptual referent on the basis of the pursue of greater happiness. Hence, recognition, tolerance, and even encouragement, of heterogeneity in the conceptual referent for happiness seem to be an appropriate attitude.

²⁶ It was a difficult task to translate the intricate philosophical arguments into simple phrases people can understand and relate to. A focus group approach was used to design simple phrases that were easily understood by common people while keeping an essence of the philosophical school of thought.

Table 14
Conceptual referent for happiness sample distribution across referents

Conceptual referent	Associated phrase	Percentage
Stoicism	Happiness is accepting things as they are.	14.6
Virtue	Happiness is a sense of acting properly in our relations with others and with ourselves.	8.2
Enjoyment	Happiness is to enjoy what I have got in life.	14.0
<i>Carpe diem</i>	Happiness is to enjoy every moment in life. Seize the day.	11.6
Satisfaction	Happiness is being satisfied with what I have and what I am.	24.2
Utopian	Happiness is an unreachable ideal we can only try to approach.	7.7
Tranquillity	Happiness is in living a tranquil life, not looking beyond what is attainable.	8.1
Fulfilment	Happiness is in fully developing our abilities.	11.7
Total		100.0

Table 15
Subjective well-being by conceptual referent for happiness average and standard deviation in a 1-to-7 scale

Conceptual referent	Average	Standard deviation
Stoicism	5.32	1.03
Virtue	5.41	0.89
Enjoyment	5.47	0.83
<i>Carpe diem</i>	5.25	0.92
Satisfaction	5.54	0.92
Utopian	5.19	0.96
Tranquillity	5.45	0.86
Fulfilment	5.35	1.09
Total	5.40	0.95

9.3 Conceptual referent heterogeneity, subjective well-being and socioeconomic indicators

Rojas (2003b) shows that socioeconomic variables are strongly related to subjective well-being for those persons with conceptual referents such as *satisfaction* and *carpe diem*. However, the socioeconomic variables are completely irrelevant for persons with conceptual referents such as tranquillity and virtue. Thus, it is not proper to use the same well-being proxies for everybody.

10 Conclusions

This investigation uses the subjective well-being approach, well-being as it is described by the person himself, to measure the well-being of a persons. The investigation finds out that subjective well-being and socioeconomic position are not only different concepts, but they are also not strongly correlated. In consequence, subjective well-being indicators can make an important contribution to the study of well-being and poverty, because they can provide new information, beyond what traditional socioeconomic indicators provide.

It is not correct to assess a person's well-being only on the basis of income and other socioeconomic indicators. It is clear that human well-being depends on many factors beyond the ordinary standard of living indicators, such as income, consumption, wealth, socioeconomic position and access to some public services. Thus, income (and its rate of growth over time) must be considered as one of the many alternative available for increasing well-being, and its capacity to generate well-being is a matter of empirical corroboration rather than of presumption. The effectiveness of income to generate well-being, in comparison to other alternative means, must also be empirically studied.

This investigation studied three potential explanations for the existence of a not-so-strong relationship between well-being and the socioeconomic indicators which are traditionally used as its proxies: (i) the perceptions that people have about their objective socioeconomic conditions; (ii) the role of heterogeneity in life purposes, this heterogeneity extends to the sources of well-being; and (iii) the fact that well-being depends on satisfaction in many domains of life, not just on the consumption domain.

There are discrepancies between the information provided by objective socioeconomic indicators and a person's perception of his socioeconomic condition. For example, many people, who are considered poor according to conventional indicators, do not consider themselves as such. If the understanding of human well-being is a main objective, then it is necessary to go beyond the apparent neutrality of objective indicators to recognize and study the large heterogeneity that exists in human perception. It seems that people employ a different concept of poverty than economists. There may be many reasons for this. For example, a person may evaluate their situation on the basis of a relative rather than absolute position; one may also consider other aspects of life that are not considered in the traditional definition of poverty; and it is possible that not everyone evaluates their own situation on the basis of the same life purpose.

A person is much more than an economic agent. The construct of *domains of life* constitutes an attempt to study the complexity of a person's life. Subjective well-being is related to a person's situation in all the domains of life. Independent of the demarcation used, the recognition of multidimensionality in human domains of life allows for a better understanding of human well-being. Thus, another explanation for the weak relationship between socioeconomic indicators and the personal declaration of well-being is that while subjective well-being depends on the situation in all domains of life, a person's socioeconomic position is just related to a few domains. In consequence, it can be stated that there is more in life than the standard of living.

It is common in the literature to assume that everybody has the same life purpose. However, the conceptual referent theory of happiness stresses the idea of heterogeneity and rejects the universality assumption. This heterogeneity extends to the explanatory factors of subjective well-being. The importance of a person's socioeconomic position on their well-being is contingent on their conceptual referent. Income and other socioeconomic variables could be significant explanatory variables, and good proxies, of well-being for some people, but not for everybody. For other people these socioeconomic variables are irrelevant in explaining subjective well-being and thus are not good proxies of well-being.

The empirical findings from this investigation suggest that the understanding and abatement of poverty would be better served by a concept of well-being which is based on the wholeness and complexity of human beings, and that subjective well-being indicators do provide useful information on this respect.

Bibliography

- Argyle, M. (1999). 'Causes and Correlates of Happiness', in D. Kahneman, E. Diener, and N. Schwarz (eds), *Foundations of Hedonic Psychology: Scientific Perspectives on Enjoyment and Suffering*. New York: Russell Sage Foundation Publications.
- Argyle, M. (2002). *The Psychology of Happiness*. London and New York: Routledge.
- Brickman, P., D. Coates, and R. Janoff-Bulman (1978). 'Lottery Winners and Accident Victims: Is Happiness Relative?'. *Journal of Personality and Social Psychology*, 36 (8): 917-27.
- Capra, F. (1983). *The Turning Point: Science, Society and the Rising Culture*. New York: Bantam Books.
- Clark, A. E., and A. J. Oswald (1994). 'Subjective Well-Being and Unemployment'. *The Economic Journal*, 104: 648-59.
- Cummins, R. (1997). 'Comprehensive Quality of Life Scale', in *Adult Manual Fifth Edition*. Melbourne, Australia: Deakin University.
- Cummins, R. (1999). *Directory of Instruments to Measure Quality of Life and Cognate Areas*. Melbourne, Australia: School of Psychology, Deakin University.
- Di Tella, R., R. J. MacCulloch, and A. J. Oswald (2001). 'Preferences over Inflation and Unemployment: Evidence from Surveys of Subjective Well-Being'. *American Economic Review*, 91: 335-41.
- Diener, E. (2002). 'Will Money Increase Subjective Well-Being?'. *Social Indicators Research*, 57: 119-69.
- Diener, E., E. Sandvik, L. Seidlitz, and M. Diener (1993). 'The Relationship Between Income and Subjective Well-Being: Relative or Absolute?'. *Social Indicators Research*, 28: 195-223.
- Diener, E., and C. Diener (1996). 'Most People are Happy'. *Journal of Psychological Science*, 7: 181-85.

- Diener, E., and E. Suh (1997). 'Measuring Quality of Life: Economic, Social and Subjective Indicators'. *Social Indicators Research*, 40: 189-216.
- Diener, E., and S. Oishi, (2000). 'Money and Happiness: Income and Subjective Well-Being across Nations', in E. Diener and E. Suh (eds), *Subjective Well-being Across Cultures*. Cambridge, MA: MIT Press, 185-218:
- Douthitt, R. A, M. MacDonald, and R. Mullis (1992). 'The Relationship between Measures of Subjective and Economic Well-Being: A New Look'. *Social Indicators Research*, 26: 407-22.
- Easterlin, R. A. (1974). 'Does Economic Growth Improve the Human Lot? Some Empirical Evidence', in P. A. David and M. W. Reder (eds), *Nations and Households in Economic Growth*. New York: Academic Press.
- Easterlin, R. (1995). 'Will Raising the Incomes of all Increase the Happiness of All?'. *Journal of Economic Behavior and Organization*, 27 (1).
- Easterlin, R. (2001). 'Subjective Well-Being and Economic Analysis: A Brief Introduction'. *Journal of Economic Behavior and Organization*, 45 (3): 225-6.
- Ferrer-i-Carbonell, A. (2002). 'Subjective Questions to Measure Welfare and Well-Being: A Survey'. Tinbergen Institute Discussion Paper TI2002-020/3. Amsterdam: Tinbergen Institute.
- Frey, B., and A. Stutzer (2000). 'Subjective Well-Being, Economy and Institutions'. *Economic Journal*, 110: 918-38.
- Fuentes, N., and M. Rojas (2001). 'Economic Theory and Subjective Well-Being: Mexico'. *Social Indicators Research*, 53: 289-314.
- Hagerty, M. (1999). 'Unifying Livability and Comparison Theory: Cross-National Time-Series Analysis of Life Satisfaction'. *Social Indicators Research*, 46 (June).
- Hair, J., R. Anderson, R. Tatham, and W. Black (1999). *Análisis Multivariante*. Englewood Cliffs, NJ: Prentice Hall.
- Heady, B. (1991). 'An Economic Model of Subjective Well-Being: Integrating Economic and Psychological Theories'. *Social Indicators Research*, 28: 97-116.
- Kahneman, D., E. Diener, and N. Schwarz (eds) (1999). *Well-Being: The Foundations of Hedonic Psychology*. New York: Russell Sage Foundation Publications.
- Lin, Yutang (1940). *La Importancia de Vivir*. Buenos Aires: Editorial Sudamericana.
- Loewenstein, G., and D. Schkade (1999). 'Wouldn't it be Nice? Predicting Future Feelings', in D. Kahneman, E. Diener, and N. Schwarz (eds), *Foundations of Hedonic Psychology: Scientific Perspectives on Enjoyment and Suffering*. New York: Russell Sage Foundation Publications.
- McBride, M. (2001). 'Relative-Income Effects on Subjective Well-Being in the Cross Section'. *Journal of Economic Behaviour & Organization*, 45: 251-78.
- Meadow, H. L., J. Metzger, D. R. Rahtz, and J. Sirgy (1992). 'A Life Satisfaction Measure Based on Judgement Theory'. *Social Indicators Research*, 26: 23-59.

- Michalos, A. (1985). 'Multiple Discrepancy Theory'. *Social Indicators Research*, 16: 347-413.
- Mullis, R. (1992). 'Measures of Economic Well-Being as Predictors of Psychological Well-Being'. *Social Indicators Research*, 26: 119-35.
- Oswald, A. J. (1997). 'Subjective Well-Being and Economic Performance'. *Economic Journal*, 197: 1815-31.
- Parducci, A. (1968). 'The Relativism of Absolute Judgments'. *Scientific American*, 219: 84-90.
- Parducci, A. (1984). 'Perceptual and Judgmental Relativity', in V. Sarris and A. Parducci (eds), *Perspectives in Psychological Experimentation: Toward the Year 2000*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Parducci, A. (1995). *Happiness, Pleasure, and Judgment: The Contextual Theory and Its Applications*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Pradhan, M., and M. Ravallion (2000). 'Measuring Poverty Using Qualitative Perceptions of Consumption Adequacy'. *Review of Economics and Statistics*, 82 (3): 462-71.
- Rodríguez, L. (2001). 'Bienestar e Ingreso: Un Estudio sobre el Concepto de Felicidad'. Puebla: Universidad de las Américas. Licentiate thesis.
- Rojas, M., N. Fuentes, and Z. Oplotnik (2001). 'Economic Growth and Prosperity'. *Our Economy*, 47 (1-2) 29-43 (Slovenia).
- Rojas, M. (2003a). 'A Conceptual-Referent Theory of Happiness: Heterogeneity and its Consequences'. Puebla, Mexico: Dept. of Economics, Universidad de las Américas Mimeo.
- Rojas, M. (2003b). 'Income and Happiness: A Conceptual-Referent-Theory Explanation'. Puebla, Mexico: Dept. of Economics, Universidad de las Américas Mimeo.
- Rojas, M. (2003c). 'Happiness is such a Complex Thing: The Need for a Transdisciplinary Approach'. Puebla, Mexico: Dept. of Economics, Universidad de las Américas Mimeo.
- Veenhoven, R. (1984). *Conditions of Happiness*. Boston: Kluwer Academic.
- Veenhoven, R. (1988). 'The Utility of Happiness'. *Social Indicators Research*, 20: 333-54.
- Veenhoven, R. (1993). 'Happiness in Nations: Subjective Appreciation of Life in 56 Nations, 1946-1992'. RISBO. Rotterdam, Studies in Social and Cultural Transformation, Erasmus University.
- Veenhoven, R., C. DenBuitelaar, and H. de Heer (1995). 'World Database of Happiness. Correlates of Happiness'. Rotterdam: Dep. of Social Sciences, Erasmus University.
- Veenhoven, R. (1997). 'Quality-of-life in Individualistic Society: A Comparison of 43 Nations in the Early 1990s'. *Social Indicators Research*, 48 (2): 91-125.

- van Praag, B. M., and P. Frijters (1997). 'Choice Behaviour and Verbal Behaviour: A Critical Assessment of their Relevance for Practical Policy'. Tinbergen Institute Discussion Paper TI1997-119/1. Amsterdam: Tinbergen Institute.
- van Praag, B. M., P. Frijters, and A. Ferrer-i-Carbonell (2000). 'A Structural Model of Well-Being'. Tinbergen Institute Discussion Paper TI2000-053/3 Amsterdam: Tinbergen Institute.
- van Praag, B. M., P. Frijters, and A. Ferrer-i-Carbonell (2002). 'The Anatomy of Subjective Well-Being'. Tinbergen Institute Discussion Paper. Amsterdam: Tinbergen Institute.