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What Makes Mexicans Happy?

Valéry Dugain, Eduardo Olaberría

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ABSTRACT/RÉSUMÉ

What Makes Mexicans Happy?

The growing literature studying the determinants of subjective wellbeing find that Mexicans report, on average, levels of life satisfaction that are above what would be predicted by the available objective measures of well-being. This paradox raises the following question: Are the drivers of subjective well-being in Mexico different from the drivers in other countries? This paper tries to answer this question using data from the World Gallup Poll and Instituto Nacional de Estadísticas y Geografía (INEGI). In particular, it investigates if the impact that key objective measures of well-being have on life satisfaction is different in Mexico than in other countries. The results show that the drivers of life satisfaction are very similar to those in other countries. In particular, as in other countries, in Mexico income, education, health, job status and other individual characteristics are significantly associated with life satisfaction. These findings suggest that the higher average level of life satisfaction in Mexico is probably related to unobserved country characteristics.

This Working Paper relates to the 2015 *OECD Economic Survey of Mexico* (www.oecd.org/eco/surveys/economic-survey-mexico.htm).

Keywords: Subjective well-being, life satisfaction, income, health, employment status.

JEL Classification: D6, I3, N3, O1, O4

Qu'est-ce qui rend les Mexicains heureux?

Les déterminants du bien-être subjectif indiquent que les Mexicains déclarent, en moyenne, des niveaux de satisfaction de la vie qui sont au-dessus de ce qui serait prévu par des mesures objectives du bien-être. Ce paradoxe soulève la question suivante: les facteurs du bien-être subjectif au Mexique sont-ils différents dans les autres pays? Cet article tente de répondre à cette question en utilisant des données de la World Gallup Poll et du Instituto Nacional de Estadísticas y Geografía (INEGI). En particulier, il examine si l'impact des mesures objectives du bien-être sur la satisfaction de la vie est différent au Mexique par rapport à d'autres pays. Les résultats montrent que les facteurs de satisfaction de vie sont très semblables à ceux des autres pays. Au Mexique, comme dans d'autres pays, le revenu, l'éducation, la santé, la situation professionelle et d'autres caractéristiques individuelles sont significativement associées à la satisfaction de vie. Ces résultats suggèrent que le niveau moyen plus élevé de satisfaction de vie au Mexique est sans doute lié à des caractéristiques de pays non observées, comme des obstacles culturels ou linguistiques.

Ce document de travail économique se rapporte à l'Étude économique 2015 de l'OCDE sur le Mexique (www.oecd.org/fr/eco/etudes/etude-economique-mexique.htm).

Mots clés: Bien-être subjectif, la satisfaction de la vie, le revenu, la santé, le statut d'emploi.

Classification JEL: D6, I3, N3, O1, O4

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WHAT MAKES MEXICANS HAPPY?

By

Valery Dugain and Eduardo Olaberría¹

Introduction

A growing literature is studying the determinants of subjective well-being. This literature finds that around 80 % of the variance in country life satisfaction can be explained by objective measures of well-being, such as income, health, job status and education (Oishi et al, 2009; Stevenson and Wolfers, 2008). However, these studies also find that Mexicans report, on average, levels of life satisfaction that are above what would be predicted by these objective measures of well-being (Leigh and Wolfers, 2006). Indeed, the OECD *Better Life Index* shows that, although Mexico performs poorly in most objective measures of well-being, it performs relatively well in terms of life satisfaction (Figure 1). This paradox raises the following question: Are the drivers of subjective well-being different in Mexico than in other countries? This paper tries to answer this question, which is essential to understand what matters to the Mexican people.

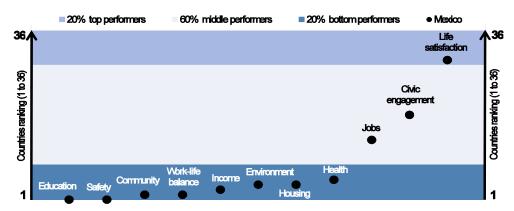


Figure 1: How is life in Mexico relative to other OECD countries?

Source: OECD, How's Life? Measuring Well-being (2014). The 36 countries include the 34 OECD member countries plus Brazil and Russia

The fact that Mexico – as well as other Latin American countries – reports higher levels of life satisfaction than what would be predicted by its level of development could be related to many factors. For example, it could be related to unobserved variables or cultural and language biases that affect response styles across countries. According to Minkov (2009), because of language differences, people could have a different evaluation of survey items, making interpretation of any discrepancies somewhat difficult; and because of cultural reasons, some societies may be predisposed to select extreme responses, whereas other societies may tend toward moderate responses. For all these reasons, systematic biases in survey responses across countries could cause differences in reported well-being, even when there may be no real difference in well-being between different countries (Kahneman and Riis, 2005).

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In sum, there could be many omitted variables that could explain why Mexicans report, on average, higher levels of subjective well-being (e.g. social contact, democracy, autonomy/freedom, social trust, crime, mental health). However, this paper is not trying to identify these variables. This paper, on the other hand, focuses on a narrower subset of the drivers of subjective well-being in Mexico. Specifically, we ask if the marginal effects of these objective measures of well-being on life satisfaction are different in Mexico than in other countries. We believe this is a relevant question from the policy point of view. Indeed, the key question for policymaking is not whether life satisfaction is higher in Mexico, but whether its drivers are different from those in other countries. The answer to this question can contribute to policymakers' understanding of what objective features that policy can influence are most important for the subjective well-being of the Mexican people.

To answer this question, this paper applies the methodology of previous empirical studies (e.g. Boarini et al., 2012; Caldera Sanchez and Tassot, 2014) to two data sources. First, it employs a panel of cross-country and time series data sourced from the Gallup World Poll (GWP), to estimate if the impact objective measures of well-being have on life satisfaction are different in Mexico than in other OECD economies. The results suggest that, in terms of the drivers of life satisfaction, there are not significant differences between Mexico and other economies. For instance, as in other economies, in Mexico individuals report to be more satisfied with their lives when their incomes are higher, when they are more educated, when they have better health, and when they are employed or out of the work force. These results hold even after controlling for all other individual characteristics. This finding is consistent with the results found by Fleche et al (2012) and Boarini et al (2012).

Then, to check the robustness of the results, this paper applies the same methodology to a different database. Although data from Gallup is the best resource to do cross-country and time-series analysis of subjective well-being, its relatively small sample size can be a limitation for comparisons across population sub-groups. Hence, this paper also uses a second database that was designed specifically to look at population sub-groups within Mexico: the *Modulo de Bienestar Autorreportado* collected by the *Instituto Nacional de Estadistica y Geografía*. The results confirm that in Mexico, as in other economies, income, education, health and employment status are important drivers of life satisfaction.

Moreover, using this second data source, this paper also studies the association between life satisfaction and other important individual characteristics. For instance, it finds that belonging to an ethnic minority does not have a significant effect on subjective well-being once income and education are controlled for. This result suggests that the fact that indigenous people report, on average, lower levels of life satisfaction and happiness is mostly explained by their lower opportunities. Similarly, the results show that Mexicans that are more satisfied with their housing are also significantly more likely to be satisfied with their life. Time spent with family and friends is significantly and positively associated with overall life satisfaction. Finally, the results show that in Mexico, regardless of the economic situation, individuals living better than their parents (e.g. had better educational opportunities, jobs or income) are significantly more satisfied with their lives than individuals that are in a similar or worse situation than their parents.

The rest of the paper proceeds as follows. Section 2 presents a brief review of the literature on the determinants of subjective well-being. Section 3 describes the data used and presents some basic statistics on life satisfaction and some objective measures of well-being. Section 4 discusses the empirical approach, and section 5 reports the results. Finally, section 6 concludes and discusses areas for further research.

A brief review of the literature

There is an increasing literature studying the determinants of subjective well-being. Researchers trying to evaluate how economic circumstances affect an individual's welfare function are increasingly turning to subjective well-being data such as measure of life satisfaction. In particular, they use evaluative

measures as indicators of individual well-being. Such measures represent a global retrospective assessment of one's life (Kahneman and Riis, 2005; Kahneman and Krueger, 2006). Life evaluations, while partly based on individuals' affective state and the immediate context of the survey, reflect the more stable circumstances of an individual's life thus making life satisfaction less vulnerable to transient conditions (Helliwell and Barrington-Leigh, 2010; Krueger and Schkade, 2007). Furthermore, evaluative measures can be elicited using a single item, for instance asking "how satisfied are you with your life as a whole these days?"

There are now numerous studies that reveal the impact of, for example, more income (Blanchflower and Oswald, 2004, Clark and Oswald, 1996, Ferrer-i-Carbonell, 2005, Ferrer-i-Carbonell and Frijters, 2004, Frijters et al., 2004, Luttmer, 2005 and Senik, 2004) and sustained employment (Clark and Oswald, 1994, Di Tella et al., 2001 and Winkelmann and Winkelmann, 1998). Also, while some studies look at the determinants of subjective well-being using a panel of countries (e.g. Fleche et al, 2012; Boarini et al., 2012; Stevenson and Wolfers, 2013), others focus on specific countries (e.g. Senik, 2004; Knight et al., 2009; Krauss and Graham, 2013; Caldera Sanchez and Tassot, 2014).

Among the studies focusing on the determinants of subjective well-being in specific countries, only a few concentrate in Mexico (Fuentes and Rojas, 2001; Rojas, 2007; Rojas, 2008; and Leyva et al., 2014). These studies use different data sources and find different results. For instance, Fuentes and Rojas (2000) analyse the relationship between subjective and economic well-being in Mexico, using a survey conducted in two Mexican cities with only 339 observations. They find that income does not have a strong influence on either wellbeing or on the happiness. On the other hand, Leyva et al. (2014), using data from INEGI and the same methodology as in this paper, find that income does affect life satisfaction in Mexico. They also find subjective well-being in Mexico is associated with a broad set of individual characteristics. However, their focus is mostly on whether these broad set of individual characteristics have a different effect on life satisfaction than in happiness, not in comparing the drivers of well-being in Mexico with those of other countries.

Data

The analysis in this paper is based on two different surveys or sources. The first source is the Gallup World Poll, which is the database used in many cross-country studies on subjective well-being (Fleche et al, 2012; Boarini et al., 2012). The Gallup World Poll is a large scale repeated cross sectional survey covering more than 150 countries. The survey is based on a common questionnaire designed with the help of some of the leading scholars in this field. The survey asks respondents a broad set of questions on socioeconomic background, civil engagement, and satisfaction of living standard among other domains. One useful feature of this survey is that it combines information on both subjective well-being, and on people's self-assessments of their objective determinants. The frequency of the survey is annual in most countries, and quarterly in some countries (i.e. Japan, Germany and the United States). The sample is designed to be nationally representative of the entire population aged 15 and over. Sample sizes are generally limited to around 1 000 respondents in each country, except India and China where the sample is 2 000.

As of 2013, eight waves of data have been collected in Mexico, one for every year between 2007 and 2013, and two for the year 2012. However, this paper does not consider the surveys of 2012 and 2013. The reason is an inconsistency with the income variable. Unlike what happened in other years, for the years 2012 and 2013 there are a large number of observations for which no income was reported. Since income is a main variable of interest in this paper, these years were dropped from our sample.

A problem with Gallup data is that the relatively small sample size allows for comparisons across countries and time, but it may not be the ideal one for comparisons across population sub-groups. Therefore, to check the robustness of the results, this paper also uses a second database that was designed

specifically to look at population sub-groups within Mexico. The second source is the *Modulo de Bienestar Autorreportado* collected by the *Instituto Nacional de Estadistica y Geografía* (INEGI). This survey was carried out in 2012 as part of the national survey of households (ENGASTO). Therefore, it provides a wide range of economic and demographic variables that are useful for the purpose of this paper. It covers 10 654 individuals between the ages of 18 and 70 years. It is representative at the national level, and is based on a stratified, cluster and multi-stage design. More importantly, it was design specifically to investigate how different dimensions of wellbeing impact on subjective wellbeing following the guidance of the OECD (2013). The problem with this database is that it does not allow for cross-country and time-series comparisons.

Life satisfaction and objective well-being in the data

This section describes simple statistics on life satisfaction and some of the objective measures of well-being using the two surveys, Gallup and INEGI.Summary statistics and the pair-wise correlation for all of the variables used in this paper can be found in the statistical annex. Simple data from the World Gallup Poll confirms that, during the period 2007-2011, Mexicans reported, on average, a higher level of life satisfaction (6.82) than the average among OECD countries (6.14). Furthermore, according to the INEGI survey, average reported life satisfaction in 2012 was even higher in Mexico (8.04).

During the same period, the average income in Mexico (US\$ 11 968) was below the average income for all the OECD countries considered (US\$ 13 250). Similarly, while only 11 % of Mexicans reported to have completed tertiary education, almost 20 % of those interviewed in other OECD countries reported to have completed this level of education. On other objective measures of well-being, the Mexican average was very similar to the average for all the countries. For instance, around 22 % of respondents reported to have health problems; around 5 % and 7 % of respondents reported to be unemployed or in part-time jobs, while around 42 % reported to be out of the labour force. In spite of these aggregate averages, the interesting thing is how life satisfaction varies across different groups within the population. To have a first grasp of this, we now describe the simple association between life satisfaction and the level of income, the level of education, and the health and job status in the World Gallup Poll and the INEGI survey.

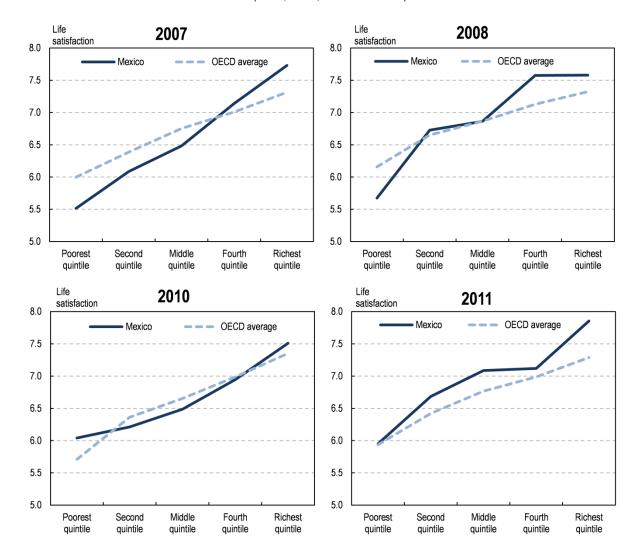
Income and subjective well-being: The relationship between income and life satisfaction has been the focus of extensive interest (Sacks, Stevenson and Wolfers, 2012; Gardener and Oswald, 2007; Di Tella et al., 2010). The relationship between income and life satisfaction is relatively clear at the individual level. There is substantial micro-evidence from lottery winners and from panel data suggesting that an increase in an individual's income results in an increase in life satisfaction (Gardener and Oswald, 2006). Basic statistics for Mexico and OECD average using Gallup data confirm that life satisfaction tends to be higher the higher the income (Figure 2). Furthermore, the association between life satisfaction and income seems to be similar in Mexico and in the OECD average. And except for the year 2010, where it's not very clear, the association seems to be steeper in Mexico than in the OECD average, suggesting that income may have a stronger effect on life satisfaction in Mexico than in the average OECD country.

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² It should be noted that Gallup and INEGI are using different questions, i.e. Cantril Ladder vs Satisfactino with Life.

Figure 2: Life satisfaction across quintiles of the income distribution in Mexico and OECD

Life satisfaction level ranges from 0 (No satisfaction) to 10 (Totally satisfied) (2007, 2008, 2010 and 2011)

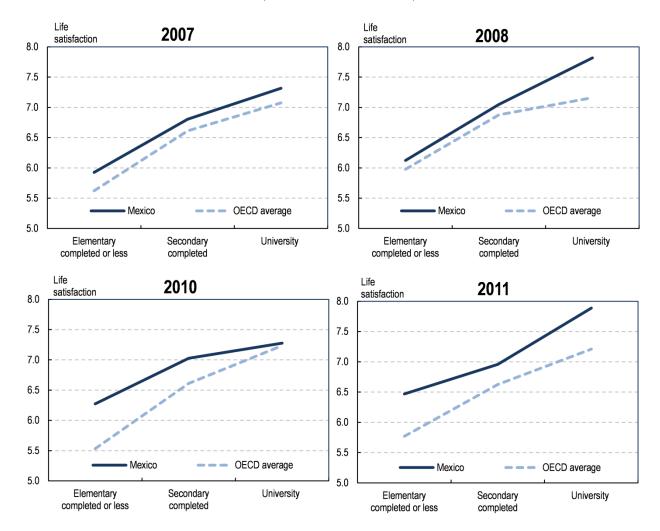


Source: the Gallup World Poll, Gallup

Education and subjective well-being: Most studies found a strong correlation between measures of education and skills and life satisfaction across people (Boarini et al., 2012). However, the evidence is mixed regarding the robustness of the result. While some studies failed to find a statistical significant association when controlling for other factors (Helliwell, 2008), other studies found a strong relationship between education and life satisfaction, even after controlling for other factors (Blanchflower and Oswald, 2011). Indeed, evidence from Gallup shows that higher educational attainment is positively associated with life satisfaction in both Mexico and in the OECD average (Figure 3). Furthermore, in terms of the strength of this association, Mexico seems be very similar to the OECD average.

Figure 3: Life satisfaction across levels of education in Mexico and OECD

Life satisfaction level ranges from 0 (No satisfaction) to 10 (Totally satisfied) (2007, 2008, 2010 and 2011)



Source: The Gallup World Poll, Gallup.

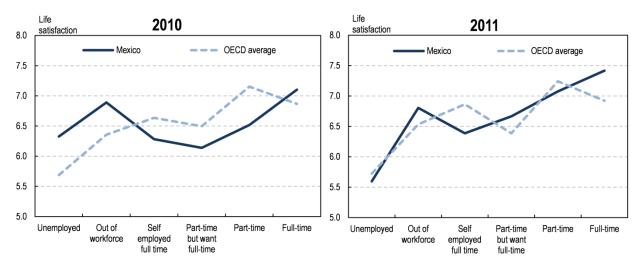
Employment and life satisfaction: in most countries the relationship between jobs and life satisfaction is very clear: Unemployment is associated with a large negative impact on life satisfaction. Moreover, studies using panel data have shown that the relationship is causal: unemployment causes a fall in life satisfaction, rather than a fall in life satisfaction causing people to quit their job (Lucas, et al., 2007). Furthermore, the evidence shows that what matters is being unemployed, not necessarily having a job: People that are out of the labour force, such as retired and students, do not consistently report lower levels of life satisfaction (Blanchflower and Oswald, 2011).

Evidence from Gallup suggests that the relationship between employment status and life satisfaction is not as clear in Mexico as in the average OECD country (Figure 4). While in the 2010 survey the unemployed people reported levels of life satisfaction similar to those reported by self-employed and people with part time jobs, but who want a full-time job, in the 2011 survey the answers were more similar to that observed in the OECD average. This result needs to be treated with caution, however, as the number of observations

for unemployed people in the GWP is very small for any individual wave, and consequently there is a high margin of error associated with estimates of outcomes for this group. What is clear is that in Mexico people with full-time jobs report levels of life satisfaction that are consistently higher than what is reported by unemployed, self-employed and part-time workers.

Figure 4: Life satisfaction and employment status in Mexico and OECD average

Life satisfaction level ranges from 0 (No satisfaction) to 10 (Totally satisfied)

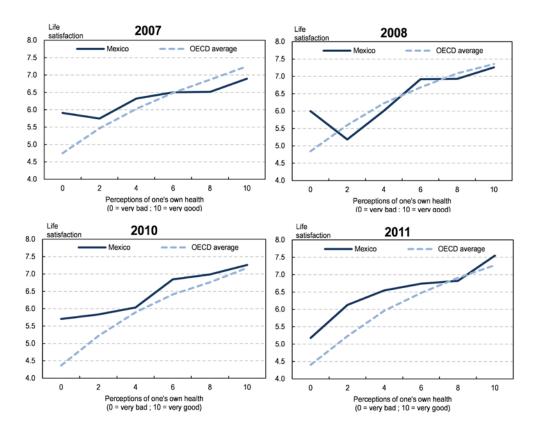


Source: The Gallup World Poll, Gallup.

Health status and life satisfaction: According to the literature, health status has a large impact on life satisfaction (Dolan et al., 2008). However, the direction of causation is not very clear. Although part of the literature finds that high life satisfaction causes good health (Diener and Chan, 2011), others find a strong causal relationship running from health to life satisfaction. For instance, Lucas (2006) shows that disability has a large and lasting causal impact on life satisfaction. Data from the Gallup survey shows that, like in the average OECD country, in Mexico people that report to be in better health also report higher levels of life satisfaction. Furthermore, life satisfaction among people that perceive themselves to be in very good health is very similar in Mexico and the OECD average. On the other hand, life satisfaction among people that perceive themselves to be in poor health is significantly higher in Mexico than in the OECD average.

Figure 5: Life satisfaction and perception of one's own health in Mexico and OECD average

Life satisfaction level ranges from 0 (No satisfaction) to 10 (Totally satisfied)

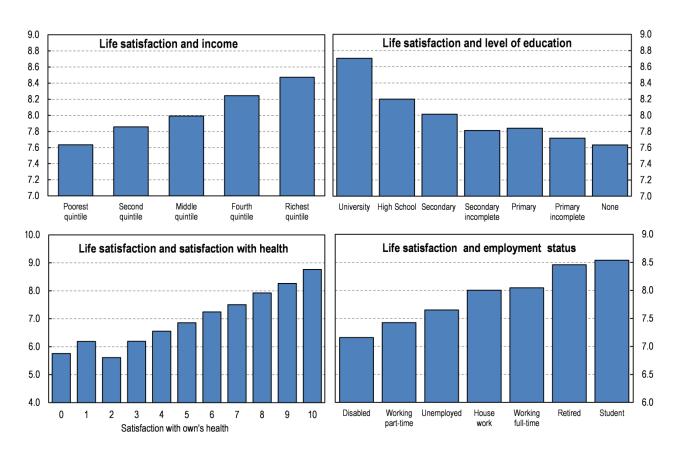


Source: The Gallup World Poll, Gallup.

Evidence from the INEGI survey points in the same direction as evidence from Gallup: In Mexico, people report to be more satisfied with their lives the higher their income, the higher their level of education, the better is their health status and when they have a full-time job or are out of the labour force (Figure 6).

Life satisfaction level ranges from 0 (No satisfaction) to 10 (Totally satisfied)

Figure 6: Life satisfaction, income, education, employment and health in Mexico in INEGI



Source: INEGI, Módulo de Bienestar Autorreportado, 2012.

Empirical methodology

We follow the wellbeing literature (see for example Fleche, Smith and Sorsa, 2012; Stevenson and Wolfers, 2013; or Deaton and Kahneman, 2010) and consider a wellbeing function of the following form:

$$SWB_{it} = \alpha_i + \beta X_{it} + T_t + N_i + \epsilon_{it} (1),$$

where *SWB* represents the subjective wellbeing measure of individual i at time t, X_{it} represents individual circumstances (e.g., income, unemployment) likely to impact her wellbeing. T_t represents time fixed effects and N_j represents country fixed effects. The coefficient α_i represents the intercept for each individual, while β represents the change in subjective well-being for a one-unit change in the individual circumstance.

Using the Gallup dataset, we estimate equation 1 for Mexico as well as for a panel that includes all the countries in the sample. In both cases, the explanatory variables (X_{it}) are classified into 5 categories. The first category, represented by one variable; household income, is computed in logarithm form to better capture differences in magnitude. The second category, which is also represented by one variable (dummy), indicates if the individual suffers from health problems. The third category refers to dummy variables indicating the individual's level of education. The fourth category refers to dummy variables

showing the employment status of the respondent. The last category is a group of dummy variables indicating the respondent's gender, age, marital status and whether the respondent lives in a rural area. Also, the number of children under 15 years of age in the household is included. (For further details on the categories, see Tables 1 and 2.)

We also estimate equation 1 using the INEGI dataset. In this case, the categories differ slightly. The income category is represented by a proxy for income: spending per capita, computed in log form. The employment status category is also classified differently, stating whether the person is employed, unemployed, retired, house working or studying. A category not present in the set using the Gallup data indicates satisfaction measures with health, housing, family and social life. Another category, also not in the Gallup set, refers to social mobility in the form of dummy variables on whether the respondent reports a same, better or worse standard of living than his/her parents. The last category, similar to the Gallup set, also include the household size, a dummy indicating if the respondent speaks an indigenous language and a dummy indicating if the respondent has a disability. This approach is the most common approach in the well-being literature when focusing on identifying the determinants of subjective well-being (Dolan, Peasgood and White, 2008).

Since this paper aims to assess if there are differences in terms of the impact the objective measures of well-being have on life satisfaction between Mexico and other economies, we also estimate an empirical model with an extra term that captures a differential effect for Mexico. Specifically, we use the following function:

$$SWB_{it} = \alpha_i + \beta_0 X_{it} + \beta_1 (X_{it} * Mexico) + T_t + N_i + \epsilon_{it} (2),$$

where $X_{it}*Mexico$ indicates the interaction between the individual circumstances (X_{it}) and a dummy variable representing Mexico. In this equation, while β_0 captures an average effect of the variable X on life satisfaction across countries, β_1 captures the differential effect for Mexico. If β_1 is positive, it means that the effect of X on SWB is stronger in Mexico than in the average country. On the other hand, of β_1 is negative, it means that the effect of X on SWB is lower in Mexico than in the average country.

Equations (1) and (2) can be estimated by ordinary least squares or by an ordered logit, given that the dependent variable is an ordinal variable. According to the literature (Ferrer-i-Carbonell, 2004; Stevenson and Wolfers, 2008), the choice of ordinary least squares or ordered logit does not lead to significantly different results when explaining life satisfaction. In the interest of providing the most intuitive coefficients, the analysis will be done using ordinary least squares. Then, the findings using the OLS methodology will be confirmed using an ordered logit.

We correct for the presence of heteroskedasticity by using Huber/White estimators, giving robust standard errors. However, the estimations still suffer from some degree of multicollinearity. The large number of dummy variables can be one reason, but also the interaction of the individual circumstance variables with the Mexico dummy ($\beta_1(X_{it} * Mexico)$) can increase multicollinearity. However, we decided to keep all the information contained in the dummies as they have important explanatory power. While we know that the greater the multicollinearity, the greater the standard errors, the OLS estimates are still Best Linear Unbiased Estimators, even under extreme multicollinearity, which is not the case here.

Results

This section reports the results of the empirical analysis discussed above. The results of the econometric models using Gallup data are presented in Tables 1 and 2 below. While Table 1 reports the results of estimating equations (1) and (2) using *ordinary least squares* (OLS), Table 2 reports the results using the *ordered logit model* (Ologit). In both tables column 1 reports the results of estimating equation (1) only for

Mexico; column 2 reports the results of estimating the same regression but with a panel of countries (incorporating country fixed effects); and column 3 the results of estimating equation (2) looking at both the average effect across countries, and the differential effect for Mexico.

Overall, the results suggest that the drivers of life satisfaction in Mexico are very similar to the drivers of life satisfaction in other countries. When we compare the coefficients in column 1 – the regression that only include Mexico – with the coefficient in column 2 – which is the regression with all countries – we see that the coefficient always have the same sign, and generally they have the same level of statistical significance. And although the size of the coefficients differ, this difference is generally not statistically significant, as reflected by the Mexico's differential effect column. Furthermore, the *Dummy Mexico* in columns 2 and 3 are positive and statistical significant. This confirms that Mexicans report, on average, a higher level of life satisfaction than the average country because of unobserved country characteristics. These country characteristics may reflect a cultural bias or some other unobserved characteristic of Mexican society; however, analysing this is beyond the scope of this paper. We now turn to describe the results for each of the independent variables.

We start analyzing the relationship between life satisfaction and income. As expected, the coefficient is positive and significant both for Mexico and for the panel of countries, suggesting that the higher the income, the higher the level of life satisfaction. Although the coefficient for Mexico (column 1) is slightly lower than the coefficient for the panel of countries (column 2), the coefficient for Mexico's differential effect shows that the difference is not statistically significant. This result also holds in Table 2, when estimating the model using OLOGIT. This means that there is not significant evidence to suggest that Mexicans value income differently than the average country.

Having health problems is associated with lower levels of life satisfaction, as the coefficient is negative and significant in all regressions. However, the results suggest that Mexicans place a lower weight on health than the average country. The coefficient for health problems has a lower absolute value in the regression that only considers Mexico (column 1), than in the regression with all countries (column 2). Furthermore, the coefficient for Mexico's differential effect confirms that the impact of health is quantitatively higher in the average country, although this coefficient is significant only at the 10% level when using the OLOGIT model.

When it comes to education, the coefficients are positive but not always significant. While having a tertiary education is significantly associated with higher life satisfaction in all regressions, the coefficient for secondary education is not statistically significant for Mexico. For the average country, on the other hand, having a secondary education is associated with improved well-being (relative to those that have not completed a secondary education). The coefficients for Mexico's differential effect confirm this finding: while having a tertiary education has a similar effect on life satisfaction in Mexico and the average country, having completed secondary education has a stronger effect on life satisfaction in the average country than in Mexico.

The results also suggest that employment status has a strong and significant association with life satisfaction in Mexico as well as in other economies. For example, being unemployed is associated with a lower level of life satisfaction than having a full-time job (the benchmark variable). This effect is stronger in Mexico than in the average country, as shown by the coefficient of Mexico's differential effect, which is negative and statistically significant. Similarly, being self-employed, or having a part-time job but looking for full-time, is associated with a lower life satisfaction in most countries. In particular, being self-employed in Mexico has a stronger negative effect on life satisfaction than in the average country. This is probably explained by the fact that most self-employed workers in Mexico work in the informal sector without access to social benefits and working under precarious conditions. Also, while in Mexico people with part-time jobs report a level of life satisfaction that is not statistically different from that reported by

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full-time workers, in the average country working part-time is associated with improved well-being. Finally, in Mexico, as well as in the average country, being out of the labour force is not associated with a higher or lower level of life satisfaction relative to being employed in a full-time job.

Other individual characteristics are also significantly associated with the level of life satisfaction. For instance, age affects life satisfaction, but the association is slightly different in Mexico relative to the average country. For example, for the average country the relationship between age and life satisfaction seems to take the form of a U-shape: while at young ages, the older people are, the lower the level of life satisfaction, after a certain threshold, aging seems to improve life satisfaction. In Mexico, on the other hand, the association is always increasing: the older people get, the less satisfied they are with their lives. This difference between Mexico and the other countries may reflect the fact that in Mexico a very large share of the old population has no access to pension benefits.

Furthermore, while in most countries males report lower levels of life satisfaction than females, in Mexico the difference is not statistically significant. Similarly, while in most countries having more children under 15 years-old is associated with lower life satisfaction, in Mexico having more children of this age group is associated with higher levels of life satisfaction. Finally, in contrast to most countries, where being married is associated with higher levels of life satisfaction, in Mexico being married is associated with a lower level of life satisfaction.

Table 1: Determinants of subjective well-being in Mexico and in a panel of countries

	(1)	(2)		(3)				
VARIABLES	Mexico	All countries	Average effect	Mexico's differential effect				
Income (in logs)	0.376***	0.437***	0.437***	-0.055				
	[0.059]	[0.007]	[0.007]	[0.059]				
Health problems	-0.306**	-0.579***	-0.581***	0.255**				
Treatur presierne	[0.119]	[0.012]	[0.012]	[0.119]				
Level of education:	[]	[0.0.2]	[0.0.2]	[0]				
Secondary education	0.136	0.348***	0.351***	-0.225*				
	[0.118]	[0.014]	[0.014]	[0.118]				
Tertiary education	0.431***	0.607***	0.609***	-0.201				
	[0.158]	[0.017]	[0.017]	[0.158]				
<u>Employment status:</u>								
Self-employed	-0.760***	-0.069***	-0.060***	-0.666***				
	[0.170]	[0.017]	[0.017]	[0.169]				
Part-time	-0.259	0.151***	0.156***	-0.410**				
	[0.189]	[0.019]	[0.019]	[0.190]				
Unemployed	-0.959***	-0.600***	-0.594***	-0.361*				
	[0.209]	[0.026]	[0.026]	[0.210]				
Part-time but wants full-time	-0.440**	-0.249***	-0.247***	-0.167				
	[0.176]	[0.022]	[0.023]	[0.177]				
Out of the workforce	-0.063	0.006	0.007	-0.083				
	[0.109]	[0.013]	[0.013]	[0.109]				
<u>Other variables:</u>	-	-	-	-				
Lives in rural area	0.083	-0.042***	-0.044***	0.116				
	[0.092]	[0.010]	[0.010]	[0.092]				
Age group: 30-44	-0.180	-0.353***	-0.357***	0.160				
	[0.113]	[0.015]	[0.015]	[0.113]				
Age group: 45-59	-0.244*	-0.422***	-0.426***	0.162				
	[0.130]	[0.017]	[0.017]	[0.130]				
Age group: 60-65	-0.483**	-0.288***	-0.288***	-0.188				
	[0.241]	[0.023]	[0.023]	[0.241]				
Age group: over 65	-0.752***	-0.195***	-0.191***	-0.537***				
	[0.201]	[0.021]	[0.021]	[0.202]				
Married	-0.267**	0.030**	0.034**	-0.290***				
	[0.111]	[0.014]	[0.014]	[0.112]				
Separated	-0.320	-0.257***	-0.257***	-0.076				
	[0.213]	[0.037]	[0.037]	[0.213]				
Divorced	0.206	-0.243***	-0.246***	0.462				
	[0.297]	[0.026]	[0.026]	[0.294]				
Widowed	-0.327	-0.219***	-0.219***	-0.111				
	[0.233]	[0.025]	[0.025]	[0.234]				
Defacto	-0.470***	-0.190***	-0.185***	-0.269				
	[0.163]	[0.022]	[0.022]	[0.164]				
Sex (Male = 1; Female = 0)	0.057	-0.140***	-0.144***	0.197**				
Son (Maio – 1, 1 cinaio – 0)	[0.091]	[0.010]	[0.010]	[0.092]				
Number of children under-15	0.005**	-0.001*	-0.002**	0.007***				
variber of Children Under-19	[0.002]	[0.001]	[0.001]	[0.002]				
Dummy Mavica	[0.002]	0.242***		[0.002] 0.985*				
Dummy Mexico								
Constant	3.927***	[0.056] 2.888***		0.578] .877***				
Constant	[0.587]	[0.079]		.87 <i>7</i> 0.079]				
	[0.307]	[0.079]		U.U17]				
Observations	2,666	167,431	1	67,431				
Country fixed effects	No	Yes		Yes				
Year fixed effects	Yes	Yes	Yes					
R-squared	0.087	0.243		0.244				

Robust standard errors in brackets
*** p<0.01, ** p<0.05, * p<0.1

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Table 2: Estimating the determinants of life satisfaction using ordered logit model

	(1)	(2)	(3)						
VARIABLES	Mexico	All countries	Average effect	Mexico's differential effect					
Income (in logs)	0.276***	0.410***	0.411***	-0.080					
income (in logs)	[0.050]	[0.006]	[0.006]	[0.060]					
Health problems	-0.238**	-0.526***	-0.528***	0.204*					
пеанн ргошента	[0.102]	[0.011]	[0.011]	[0.124]					
Level of education:	[0.102]	[0.011]	[0.011]	[0.124]					
Secondary education	0.107	0.321***	0.323***	-0.190					
,	[0.100]	[0.013]	[0.013]	[0.121]					
Tertiary education	0.377***	0.574***	0.575***	-0.137					
5	[0.135]	[0.016]	[0.016]	[0.158]					
Employment status:									
Self-employed	-0.659***	-0.039**	-0.031**	-0.714***					
	[0.136]	[0.015]	[0.015]	[0.162]					
Part-time	-0.228	0.159***	0.164***	-0.432**					
	[0.158]	[0.017]	[0.017]	[0.189]					
Unemployed	-0.822***	-0.537***	-0.530***	-0.470**					
	[0.167]	[0.023]	[0.024]	[0.204]					
Part-time but wants full-time	-0.314**	-0.211***	-0.210***	-0.116					
	[0.141]	[0.020]	[0.021]	[0.170]					
Out of the workforce	-0.055	0.022*	0.023*	-0.103					
	[0.092]	[0.012]	[0.012]	[0.108]					
<u>Other variables:</u>									
Lives in rural area	0.068	-0.035***	-0.037***	0.101					
	[0.077]	[0.009]	[0.009]	[0.093]					
Age group: 30-44	-0.169*	-0.331***	-0.333***	0.119					
	[0.096]	[0.014]	[0.014]	[0.115]					
Age group: 45-59	-0.206*	-0.388***	-0.391***	0.130					
	[0.108]	[0.015]	[0.015]	[0.129]					
Age group: 60-65	-0.404**	-0.256***	-0.255***	-0.228					
	[0.196]	[0.021]	[0.021]	[0.235]					
Age group: over 65	-0.598***	-0.182***	-0.179***	-0.493**					
	[0.163]	[0.019]	[0.019]	[0.196]					
Married	-0.246**	0.039***	0.044***	-0.314***					
	[0.097]	[0.013]	[0.013]	[0.115]					
Separated	-0.383**	-0.239***	-0.234***	-0.247					
·	[0.184]	[0.033]	[0.034]	[0.223]					
Divorced	0.208	-0.216***	-0.217***	0.474					
	[0.265]	[0.024]	[0.024]	[0.307]					
Widowed	-0.254	-0.201***	-0.200***	-0.075					
	[0.188]	[0.022]	[0.023]	[0.229]					
Defacto	-0.413***	-0.169***	-0.164***	-0.296*					
	[0.136]	[0.020]	[0.020]	[0.164]					
Sex (Male = 1; Female = 0)	0.035	-0.131***	-0.134***	0.168*					
•	[0.076]	[0.009]	[0.009]	[0.090]					
Number of children under-15	0.005**	-0.001*	-0.002**	0.007***					
	[0.002]	[0.001]	[0.001]	[0.003]					
Dummy Mexico	[5.002]	0.299***		.334**					
<i>y</i>		[0.055]		0.583]					
Constant	-2.382***	-1.511***		.498***					
	[0.522]	[0.075]	[0.076]						
	[0.022]	[0.070]	ı	S.S. 01					

Observations

Country fixed effects

Year fixed effects

Robust standard errors in brackets

^{***} p<0.01, ** p<0.05, * p<0.1

Robustness check

Although the Gallup World Poll is the most useful database for cross-country and time-series comparisons, the relatively small size of the sample may limit comparability across groups within the same country. Therefore, to check the robustness of the results presented in the previous section, we estimate a similar model with data from the INEGI survey which was designed specifically to look at difference across groups of the Mexican population. A problem with this data is that the coefficients obtained are not directly comparable to other countries. Therefore, it is only useful to confirm if the sign and statistical significance of the results is the same as when using the Gallup survey.

The results using the INEGI survey – which are reported in Table 3 below – confirm most of the previous findings of Tables 1 and 2. For example, as before, we find that income – proxied by household spending per capita – is positively and significantly associated with life satisfaction. Similarly, being unemployed is associated with lower levels of life satisfaction relative to having a job, whereas being out of the labour force is positively associated with the level of life satisfaction.

Regarding education, there are some differences with the previous results. Unlike what we found with the Gallup survey, now the coefficient for tertiary education is not always statistically significant. Specifically, it is not statistically significant when we estimate the model with the OLOGIT methodology and control for the level of satisfaction with the person's own health, satisfaction with housing and family and social life. This result could suggest that having a tertiary education does not increase life satisfaction *per se*. Tertiary education increases opportunities to have better health, housing, and family and social life, and through that it can increase life satisfaction; but when one controls for those factors, the effect of tertiary education on life satisfaction is no longer statistically significant. This result is consistent with the evidence found for other countries (see Helliwell, 2008)

For other individual characteristics, the results are, qualitatively, similar to those in Tables 1 and 2. However, the INEGI survey also allows to look at other individual characteristics that can affect life satisfaction. For instance, the results suggest that belonging to an ethnic minority does not have a significant effect on subjective well-being once income and education are controlled for. This result suggest that the fact that indigenous people report, on average, lower levels of life satisfaction and happiness is mostly explained by their lower opportunities.

Moreover, the results suggest that Mexicans that are more satisfied with their housing are also significantly more likely to be satisfied with their life. Also, time spent with family and friends are significantly and positively associated with overall life satisfaction. Mexicans more satisfied with their family and social life are significantly more likely to be very satisfied with their life than Mexicans not having good family and social life.³

Finally, we find that intergenerational mobility is also significantly associated with life satisfaction. In particular, results show that in Mexico, regardless of the objective economic situation, individuals who live better than their parents (e.g. had better educational opportunities, jobs or income) are significantly more satisfied with their lives and happier than individuals that are in a similar or worse situation than their parents.

³ These results should be taken with care, as it could be driven by a shared method bias given that is another subjective measure.

Table 3: Determinants of life satisfaction in Mexico (based in INEGI data, 2012)

VARIABLES	(1) OLS	(2) OLOGIT	(3) OLOGIT
Income:		0.05	
Spending per capita (in logs)	0.097***	0.224***	0.071***
-,	[0.025]	[0.025]	[0.025]
Education:	0.040	0.074	0.047
Preparatory	0.060	0.074	-0.016
Dankalan danna - Dankara duation	[0.043]	[0.046]	[0.046]
Bachelor degree + Postgraduation	0.087*	0.129***	-0.009
	[0.046]	[0.050]	[0.049]
Employment status:	0.220*	0.202*	0.154
Unemployed	-0.220*	-0.202*	-0.154
Dating d	[0.123]	[0.110]	[0.108]
Retired	0.229**	0.339**	0.302**
	[0.109]	[0.137]	[0.137]
Housework	0.080	0.073	0.129***
	[0.049]	[0.051]	[0.050]
Student	0.196**	0.312***	0.222**
	[0.079]	[0.088]	[0.091]
Health, housing, family and social life:	0.470***		0.470***
Satisfaction with health	0.169***		0.179***
2 " 6 " " " " .	[0.014]		[0.014]
Satisfaction with housing	0.104***		0.123***
3	[0.009]		[0.009]
Satisfaction with family life	0.184***		0.235***
	[0.016]		[0.016]
Satisfaction with social life	0.124***		0.147***
	[0.011]		[0.012]
<u>Social mobility:</u>			
Better standard of living than parents	0.082**	0.273***	0.118***
	[0.036]	[0.037]	[0.038]
Norse standard of living than parents	-0.379***	-0.617***	-0.246***
	[0.077]	[0.073]	[0.071]
Other factors:			
Age group: 18-29 years old	0.099*	0.205***	0.050
	[0.052]	[0.053]	[0.053]
Age group: 30-44 years old	0.088*	0.126***	0.052
	[0.045]	[0.047]	[0.046]
Age group: 60 and over years old	0.113*	0.142**	0.086
	[0.068]	[0.070]	[0.070]
Sex (Male=1; Female=0)	-0.008	0.009	-0.002
	[0.037]	[0.039]	[0.039]
Defacto	-0.009	-0.051	0.026
	[0.051]	[0.053]	[0.053]
Nidowed	-0.190*	-0.325***	-0.178*
	[0.098]	[0.096]	[0.100]
Separated	-0.282***	-0.468***	-0.253***
	[0.074]	[0.074]	[0.072]
Divorced	-0.497***	-0.622***	-0.514***
	[0.105]	[0.100]	[0.101]
Single	-0.151***	-0.176***	-0.124**
	[0.048]	[0.050]	[0.050]
Household size	-0.025**	-0.002	-0.025**
	[0.011]	[0.011]	[0.011]
Speaks indigenous language	-0.108**	-0.085	-0.048
,	[0.051]	[0.053]	[0.052]
Disabled	0.178	-0.345	0.170
- 	[0.282]	[0.302]	[0.293]
	[0.202]	[0.302]	[0.273]
Constant	2.591***	3.219***	7.334***
50.104.11	[0.260]	[0.247]	[0.278]
	[0.200]	[0.247]	[0.270]
Observations	10,653	10,653	10,653
R-squared	0.240	10,000	10,000

Robust standard errors in brackets
*** p<0.01, ** p<0.05, * p<0.1

Conclusions and directions for future research

This study used data from the *World Gallup Poll* and the *Modulo de Bienestar Autorreportado* from the *Instituto Nacional de Estadistica y Geografía* (INEGI), to study the determinants of subjective wellbeing in Mexico, and compare them with other countries. In particular the focus of this study has been on how income, employment, health status, education and other individual characteristics affect people perception of well-being in Mexico. The results are in line with the existing literature on subjective well-being: life satisfaction in Mexico is positively associated with the level of income, level of education, health status and employment status, as well as other individual characteristics. Furthermore, this paper presented evidence suggesting that, in Mexico, the association of these variables with life satisfaction is not different to the association in other economies.

Further research should focus on analyzing how policy can contribute to increase life satisfaction in Mexico, and in understanding the causes of high subjective well-being in Mexico. For this purpose, studies that use data for Mexican states could be a good complement to cross-country studies like the one in this paper. Although cross-country studies provide valuable information, they are not the ideal approach to address the within-country variance, which is very important when trying to derive policy recommendations. Understanding the extent to which regional differences in well-being in Mexico exist, and the factors associated with these differences, would be a great asset and also a very important goal both for theoretical (i.e. solve the potential bias of cross-country estimations) and applied reasons (i.e. to determine the most appropriate policy recommendations for Mexico).

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STATISTICAL ANNEX

Table A1: Summary statistics variables from Gallup (years 2007-2011)

		-	All countrie	s		Mexico								
Variable:	Obs.	Mean	Std. Dev.	Min	Max	Obs.	Mean	Std. Dev.	Min	Max				
Life satisfaction	259,875	6.14	2.19	0	10	4,629	6.82	2.14	0	10				
Income (in logs)	261,666	9.46	1.21	4.6	14.5	4,629	9.39	0.86	6.1	12.1				
Health problems	263,358	0.22	0.42	0	1	4,629	0.21	0.41	0	1				
Livesin rural area	263,358	0.45	0.50	0	1	4,629	0.35	0.48	0	1				
Age group: 30-44	263,358	0.27	0.44	0	1	4,629	0.24	0.42	0	1				
Age group: 45-59	263,358	0.24	0.43	0	1	4,629	0.19	0.39	0	1				
Age group: 60-65	263,358	0.07	0.26	0	1	4,629	0.04	0.19	0	1				
Age group: over 65	263,358	0.16	0.37	0	1	4,629	0.29	0.45	0	1				
Married	253,873	0.51	0.50	0	1	4,629	0.53	0.50	0	1				
Separated	253,873	0.03	0.16	0	1	4,629	0.04	0.19	0	1				
Divorced	253,873	0.05	0.21	0	1	4,629	0.02	0.15	0	1				
Widowed	253,873	0.08	0.27	0	1	4,629	0.06	0.24	0	1				
Defacto	253,873	0.07	0.26	0	1	4,629	0.07	0.26	0	1				
Secondary education	263,358	0.55	0.50	0	1	4,629	0.57	0.49	0	1				
Tertiary education	263,358	0.19	0.39	0	1	4,629	0.11	0.32	0	1				
Sex (Male = 1; Female = 0)	263,358	0.44	0.50	0	1	4,629	0.48	0.50	0	1				
Self-employed	168,044	0.11	0.31	0	1	2,666	0.07	0.26	0	1				
Part-time	168,044	0.07	0.26	0	1	2,666	0.06	0.24	0	1				
Unemployed	168,044	0.05	0.21	0	1	2,666	0.05	0.22	0	1				
Part-time but wants full-time	168,044	0.06	0.23	0	1	2,666	0.07	0.26	0	1				
Out of the workforce	168,044	0.41	0.49	0	1	2,666	0.43	0.49	0	1				
Number of children under-15	257,239	0.01	0.08	0	1	4,629	0.08	0.25	0	1				

Table A2: Summary statistics variables from INEGI (year 2012)

Variable	Obs.	Mean	Std. Dev.	Min	Max
Life satisfaction	10,654	8.04	1.94	0	10
Housing spending per capita (in logs)	10,653	8.97	0.89	5.5	12.7
Secondary education completed	10,654	0.18	0.39	0	1
University degree	10,654	0.19	0.39	0	1
Satisfaction with health	10,654	8.22	1.91	0	10
Satisfaction with housing	10,654	7.13	2.50	0	10
Satisfaction with family life	10,654	8.53	1.76	0	10
Satisfaction with social life	10,654	7.72	2.24	0	10
Age group: 18-29 years old	10,654	0.29	0.45	0	1
Age group: 30-44 years old	10,654	0.36	0.48	0	1
Age group: 60 and over years old	10,654	0.11	0.31	0	1
Sex (Male=1; Female=0)	10,654	0.44	0.50	0	1
Defacto	10,654	0.17	0.38	0	1
Widowed	10,654	0.04	0.20	0	1
Separated	10,654	0.07	0.25	0	1
Divorced	10,654	0.03	0.17	0	1
Single	10,654	0.22	0.42	0	1
Household size	10,654	3.86	1.84	1	17
Speaks indigenous language	10,654	0.16	0.36	0	1
Unemployed	10,654	0.03	0.16	0	1
Retired	10,654	0.02	0.14	0	1
Housework	10,654	0.21	0.41	0	1
Student	10,654	0.04	0.19	0	1
Disabled	10,654	0.00	0.07	0	1
Better standard of living than parents	10,654	0.57	0.50	0	1
Worse standard of living than parents	10,654	0.08	0.28	0	1

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Table A3: Matrix of pair-wise correlation for All countries using Gallup data (years 2007-2011)

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
(1)	Life satisfaction	1.00																					
(2)	Income (in logs)	0.38	1.00																				
(3)	Health problems	-0.15	-0.10	1.00																			
(4)	Livesin rural area	-0.08	-0.14	0.03	1.00																		
(5)	Age group: 30-44	-0.02	0.00	-0.09	0.01	1.00																	
(6)	Age group: 45-59	-0.02	0.07	0.05	0.03	-0.35	1.00																
(7)	Age group: 60-65	0.01	0.04	0.07	0.01	-0.17	-0.16	1.00															
(8)	Age group: over 65	0.00	0.00	0.17	-0.01	-0.27	-0.25	-0.12	1.00														
(9)	Married	0.01	0.09	0.00	0.08	0.14	0.17	0.07	0.00	1.00													
(10)	Separated	-0.03	-0.05	0.02	-0.03	0.03	0.04	0.00	-0.01	-0.17	1.00												
(11)	Divorced	-0.01	0.04	0.03	-0.04	-0.02	0.09	0.05	0.02	-0.23	-0.04	1.00											
(12)	Widowed	-0.06	-0.07	0.13	0.00	-0.15	-0.05	0.06	0.39	-0.30	-0.05	-0.06	1.00										
(13)	Defacto	-0.01	-0.04	-0.02	-0.01	0.08	-0.03	-0.05	-0.09	-0.29	-0.05	-0.06	-0.08	1.00									
(14)	Secondary education	0.10	0.15	-0.05	-0.06	-0.02	-0.03	-0.03	-0.07	-0.07	-0.02	0.03	-0.05	-0.02	1.00								
(15)	Tertiary education	0.16	0.30	-0.06	-0.12	0.06	0.02	0.00	-0.03	0.04	-0.01	0.03	-0.06	-0.02	-0.53	1.00							
(16)	Sex (Male = 1; Female = 0)	-0.02	0.02	-0.04	0.01	-0.01	-0.01	-0.01	-0.01	0.03	-0.03	-0.05	-0.14	-0.01	0.00	0.03	1.00						
(17)	Self-employed	-0.09	-0.14	-0.03	0.09	0.07	0.07	-0.01	-0.08	0.11	0.00	-0.03	-0.06	0.00	-0.07	-0.05	0.14	1.00					
(18)	Part-time	0.05	0.05	-0.01	0.01	0.00	0.02	0.03	-0.01	0.03	0.01	0.00	-0.01	-0.01	0.00	0.03	-0.05	-0.10	1.00				
(19)	Unemployed	-0.07	-0.07	-0.01	-0.01	0.01	-0.02	-0.04	-0.08	-0.08	0.01	-0.01	-0.04	0.03	0.03	-0.03	0.00	-0.08	-0.06	1.00			
(20)	Part-time but wants full-time	-0.03	-0.06	-0.02	0.01	0.03	0.01	-0.03	-0.08	-0.04	0.03	0.00	-0.05	0.03	0.00	-0.02	0.00	-0.09	-0.07	-0.06	1.00		
(21)	Out of the workforce	-0.02	-0.09	0.16	-0.01	-0.24	-0.16	0.10	0.37	-0.07	-0.03	-0.02	0.22	-0.05	-0.01	-0.12	-0.20	-0.29	-0.23	-0.19	-0.21	1.00	
(22)	Number of children under-15	-0.02	-0.04	0.00	-0.01	0.03	-0.03	-0.02	-0.01	0.01	0.01	-0.02	-0.02	0.00	-0.01	-0.01	0.00	0.01	0.00	0.00	0.01	-0.01	1

Table A4: Matrix of pair-wise correlation for All countries using Gallup data (years 2007-2011)

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
(1)	Life satisfaction	1.00																					
(2)	Income (in logs)	0.26	1.00																				
(3)	Health problems	-0.11	-0.11	1.00																			
(4)	Livesin rural area	-0.07	-0.25	0.02	1.00																		
(5)	Age group: 30-44	0.03	0.03	-0.08	-0.03	1.00																	
(6)	Age group: 45-59	-0.02	-0.03	0.03	0.02	-0.27	1.00																
(7)	Age group: 60-65	-0.03	-0.04	0.08	0.00	-0.11	-0.10	1.00															
(8)	Age group: over 65	-0.12	-0.07	0.15	0.03	-0.35	-0.30	-0.13	1.00														
(9)	Married	-0.04	0.02	0.02	0.03	0.17	0.15	0.07	0.00	1.00													
(10)	Separated	-0.03	-0.02	0.00	0.00	0.04	0.04	-0.03	-0.02	-0.21	1.00												
(11)	Divorced	0.02	-0.01	0.01	-0.04	0.02	0.03	0.01	0.03	-0.16	-0.03	1.00											
(12)	Widowed	-0.08	-0.13	0.18	0.02	-0.12	0.06	0.09	0.15	-0.26	-0.05	-0.04	1.00										
(13)	Defacto	-0.04	-0.06	-0.03	0.00	0.04	-0.05	-0.03	-0.05	-0.30	-0.06	-0.04	-0.07	1.00									
(14)	Secondary education	0.10	0.13	-0.14	-0.10	0.06	-0.11	-0.11	-0.14	-0.07	-0.01	-0.01	-0.19	0.02	1.00								
(15)	Tertiary education	0.13	0.26	-0.07	-0.14	0.05	-0.01	-0.02	-0.08	-0.03	0.02	-0.01	-0.05	-0.05	-0.41	1.00							
(16)	Sex (Male = 1; Female = 0)	0.01	0.09	-0.01	-0.02	-0.01	0.01	0.02	0.02	0.03	-0.02	-0.02	-0.10	-0.01	0.00	0.08	1.00						
(17)	Self-employed	-0.08	-0.02	-0.01	0.06	0.02	0.04	0.01	0.01	0.04	0.02	0.01	-0.02	0.01	-0.04	-0.01	0.10	1.00					
(18)	Part-time	-0.02	-0.01	0.01	-0.03	0.00	0.03	0.02	0.03	-0.01	0.04	0.00	0.02	0.00	-0.02	0.01	0.01	-0.07	1.00				
(19)	Unemployed	-0.08	-0.04	0.01	0.00	-0.04	-0.02	0.00	-0.02	-0.08	0.00	-0.01	-0.01	-0.02	0.02	-0.01	-0.04	-0.06	-0.06	1.00			
(20)	Part-time but wants full-time	-0.03	-0.07	-0.03	0.04	0.03	-0.02	-0.02	-0.04	-0.06	0.06	0.00	-0.01	0.02	0.02	-0.01	0.06	-0.08	-0.07	-0.06	1.00		
(21)	Out of the workforce	-0.01	-0.13	0.14	0.05	-0.13	-0.02	0.07	0.17	0.02	-0.09	-0.03	0.13	-0.01	-0.09	-0.10	-0.34	-0.24	-0.22	-0.20	-0.24	1.00	
(22)	Number of children under-15	0.01	0.03	0.02	-0.03	-0.08	-0.09	-0.03	0.27	-0.05	0.01	-0.01	0.02	-0.03	-0.05	0.05	0.02	0.00	0.05	-0.02	0.00	0.00	1.00

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Table A5: Matrix of pair-wise correlation using INEGI data (year 2012)

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)
(1)	Life satisfaction	1																									
(2)	Housing spending per capita (in logs)	0.16	1																								
(3)	Secondary education completed	0.04	0.10	1																							
(4)	University degree	0.10	0.41	-0.23	1																						
(5)	Satisfaction with health	0.35	0.11	0.08	0.11	1																					
(6)	Satisfaction with housing	0.32	0.23	0.03	0.12	0.28	1																				
(7)	Satisfaction with family life	0.37	0.12	0.01	0.08	0.41	0.38	1																			
(8)	Satisfaction with social life	0.35	0.16	0.05	0.11	0.43	0.35	0.42	1																		
(9)	Age group: 18-29 years old	0.03	-0.03	0.18	0.09	0.15	-0.06	0.01	0.04	1																	
(10)	Age group: 30-44 years old	0.01	-0.03	0.01	-0.01	0.05	-0.03	0.01	-0.01	-0.47	1																
(11)	Age group: 60 and over years old	0.00	-0.01	-0.13	-0.07	-0.14	0.07	0.00	-0.01	-0.22	-0.26	1															
(12)	Sex (Male=1; Female=0)	0.02	0.05	0.03	0.05	0.06	0.00	0.00	0.04	0.01	-0.02	0.00	1														
(13)	Defacto	-0.02	-0.14	-0.01	-0.09	0.01	-0.10	-0.01	-0.04	0.11	0.02	-0.10	0.02	1													
(14)	Widowed	-0.03	-0.01	-0.08	-0.05	-0.09	0.00	-0.02	-0.03	-0.12	-0.11	0.25	-0.10	-0.10	1												
(15)	Separated	-0.07	0.01	-0.03	-0.05	-0.05	-0.04	-0.10	-0.03	-0.09	0.00	0.03	-0.05	-0.12	-0.06	1											
(16)	Divorced	-0.03	0.11	0.01	0.04	0.00	0.01	-0.03	0.00	-0.08	0.01	0.01	-0.03	-0.08	-0.04	-0.05	1										
(17)	Single	0.01	0.08	0.11	0.18	0.08	0.05	-0.03	0.04	0.35	-0.14	-0.10	0.04	-0.25	-0.12	-0.15	-0.09	1									
	Household size	-0.02	-0.36	0.02	-0.11	0.03	-0.06	0.04	-0.02	0.08	0.14	-0.20	-0.04	0.08	-0.13	-0.13	-0.12	-0.09	1								
(19)	Speaks indigenous language	-0.04	-0.12	-0.03	-0.08	-0.03	-0.06	-0.02	-0.01	-0.01	0.01	-0.01	0.03	0.01	0.00	-0.02	-0.01	-0.06	0.06	1							
(20)	Unemployed	-0.03	-0.04	0.03	0.02	0.00	-0.01	-0.02	-0.03	0.09	-0.04	-0.02	0.08	-0.01	-0.01	-0.01	-0.01	0.12	0.01	-0.01	1						
(21)	Retired	0.03	0.09	-0.03	0.03	-0.03	0.07	0.02	0.00	-0.09	-0.10	0.28	0.06	-0.04	0.07	0.00	0.03	-0.03	-0.07	-0.01	-0.02	1					
(22)	Housework	-0.01	-0.14	-0.05	-0.17	-0.07	-0.03	0.00	-0.06	-0.01	-0.03	0.07	-0.44	0.04	0.03	-0.06	-0.06	-0.18	0.08	0.00	-0.08	-0.08	1				
(23)	Student	0.05	0.08	0.11	0.17	0.06	0.05	0.01	0.06	0.29	-0.13	-0.06	0.00	-0.06	-0.04	-0.05	-0.03	0.30	0.01	-0.02	-0.03	-0.03	-0.10	1			
(24)	Disabled	-0.03	-0.05	-0.02	-0.03	-0.11	-0.02	-0.02	-0.04	-0.03	-0.03	0.06	0.04	-0.02	0.05	0.00	0.00	0.02	-0.02	0.01	-0.01	-0.01	-0.04	-0.01	1		
(25)	Better standard of living than parents	0.11	0.13	-0.03	0.02	0.04	0.18	0.13	0.10	-0.15	0.02	0.07	0.04	-0.07	0.02	-0.04	0.01	-0.05	0.00	0.00	-0.03	0.06	-0.04	-0.02	-0.01	1	
(26)	Worse standard of living than parents	-0.15	-0.09	0.00	-0.03	-0.08	-0.18	-0.15	-0.11	0.03	-0.01	-0.01	-0.03	0.03	0.01	0.05	0.01	0.01	-0.03	0.01	0.01	-0.02	0.00	0.00	0.03	-0.34	1

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