Social Capital: Influencer of Happiness

Is social capital the key to understanding the Latin American paradox?

- A study on social capital related to happiness in Latin America and western countries -

Bachelor Thesis

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Summary

The causes for happiness have still not been fully established. This can be exemplified by the Latin American paradox, which entails the unpredictably high happiness levels, but a poor economic status in Latin America. A potential key to this problem is implemented, social capital, which – based on past findings - would be the variable that solves the paradox. The paper tries to assess whether social capital plays a greater role for happiness in Latin America than in western countries.

The research question will be answered with the use of World Value Survey data. This study tests whether the Latin American paradox is truly present in the used dataset. Moreover, regressions included social capital variables – an overall measure of social capital and three generally accepted categories of social capital: social relations, social trust and social norms – as the independent variable and life satisfaction as the dependent variable. With the use of control variables, omitted variable bias will try to be foregone for the greatest part. In addition, t-tests on the mean levels and regression coefficients will show whether there is a significant difference in the levels of social capital or the influence of social capital across multiple regions.

The results show that social capital does have a significantly positive influence on happiness. Yet, this influence differs across regions, as it is significantly lower in Latin America compared to the average global influence or compared to the western region. Additionally, the level of social capital is significantly lower in Latin America compared to the western region or the global average. These results hold when the overall measure for social capital is studied, but also when social capital is split into the three categories.

These findings result in the following conclusion: social capital does not have a significantly greater influence on happiness in Latin America compared to the western region. This influence might even be higher in the western region. Nevertheless, it could be concluded that Latin America reports a significantly higher average happiness level, even though it appears to be caused by a different factor than social capital. Thus, the Latin American paradox cannot be explained through social capital.

Introduction

The average worldwide happiness score is reported to be only 5.310 out of 10, which indicates that the average global citizen would be rather unhappy (World Happiness Report, 2017). This is quite surprising, since we try to maximize our happiness through our everyday consumption, investments and even our savings. On top of this, governmental institutions try to create the best economic and demographic conditions for their inhabitants. Happiness levels differ greatly across major regions of the world, but often not always in line with our expectations. For instance, wealth or income are not the only factors that explain our happiness, as wealthier countries do not always show higher happiness levels.

Latin America could provide a good example of these sometimes-misleading expectations. Relative to western countries, the economic and demographic statistics in Latin America fall behind (Rojas, 2015). First, poverty levels and inequality are high with some governments on the verge of collapsing - for example, Venezuelan citizens experience extreme poverty, hunger and political instability. Second, the OECD (2017) reports that the GDP of western countries is twice the size of the Latin American GDP. Yet, their average happiness levels are quite similar and the highest worldwide: 7.046 out of 10 in Northern America, Australia and New Zealand; 6.593 in Western Europe versus 6.342 in Latin America and the Caribbean (World Happiness Report, 2017). Surprisingly, Latin American countries - with challenging economies - still report relatively high happiness levels. The Latin American circumstances are dispiriting, but individuals seem to be rather satisfied with their day-to-day lives. This phenomenon is often called the Latin American paradox, since predicted happiness is low, but reported happiness is high. Hence, this might show that a country's economic and demographic situation does not always reflect the population's actual happiness well.

Cultural differences might explain these discrepancies between expected and true happiness levels. Diener (2000) argued that correlations between certain variables and life satisfaction differ, due to dissimilarities among the core values across cultures. Another culture-related explanation stems from different manners of assessing happiness. Suh et al. (1998) found that individualistic cultures assess their happiness based on feelings, whereas collectivist cultures focus on norms and appraisal of friends and family.

It is important to closely study the factors that influence happiness. A standard set of determinants has been established, but consists mainly of socio-economic variables, like income, employment or equality. This set is often used to assess well-being. For example, the Human Development Index emphasizes individual's needs and capabilities – not just economic growth - in their evaluations (HDI, 2017). Long and healthy lives, knowledge and decent standards of living are its key dimensions. They are examined through life expectancy expected and mean years of schooling and the gross national index per capita, which together result in the HDI. Yet, security, inequality and poverty are omitted, even though they might have an important influence on well-being.

It is key to broaden and enhance the framework on happiness. Layard (2006) provides several explanations for the ineffectiveness of public policies regarding happiness. Several psychological mechanisms might hinder a successful increase in happiness. One reason includes cultural differences. Cultures differ globally, but often play an important role in our societies. Across continents, the dissimilarities between cultures become distinguishable. Cultures affect the importance of different facets of life, as well as their influence on happiness. They determine our ways of handling social interactions and even our core values. Therefore, major differences could change our values and the important factors in our lives. This includes factors concerning happiness. Western individuals derive their happiness from different sources than Latin American individuals.

One culture-specific feature of happiness entails social capital. Adler and Kwon (2002) define social capital as our sense of belonging to society and the trust, sympathy and forgiveness offered to us by close friends and acquaintances. In other words, it involves the social aspect in our lives. Cultures partly determine the way individuals deal with these social aspects (Fukuyama, 2001). This means that cultures influence our social capital through the varying importance of social interactions. Social capital in turn influences our happiness. Bjørnskov (2003) showed that the relationship between social capital and happiness is quite strong and robust. It would even be stronger than the relationship between income and happiness. The level of social capital in a country could be a strong predictor for the level of happiness. Thus, cultural differences, which are cause for different social capital levels, could make a great difference in the levels of happiness. It might even explain the discrepancies between the perceived and expected happiness levels.

Cross-culture studies on the relation between social capital and happiness might help explaining happiness paradoxes, such as the Latin American paradox. Socio-economic variables alone cannot accurately predict the current happiness levels. Some studies even showed that social capital has mistakenly been omitted, especially concerning the Latin American paradox. Social ties, relational goods and culture play an important role in Latin America and are thus vital contributors to a population's happiness (Beytía, 2016; Yamamoto, 2016; Rojas, 2016; Velásquez, 2016; Martínez Cruz and Castillo Flores, 2016). Morcillo and De Juan Díaz (2016) found a significant positive influence of social capital on happiness in Latin America and claimed that the Latin American paradox could be solved by including social capital. However, it is unsure whether this relationship holds in all continents and cultures.

This paper will study the relation between social capital and happiness across two main regions: Latin America and western countries. These regions have been selected based on two facts. First, these two regions currently report the highest average happiness levels worldwide - 7.046 out of 10 in Northern America, Australia and New Zealand; 6.593 in Western Europe versus 6.342 in Latin America and the Caribbean (World Happiness Report, 2017). Second, the socio-economic statuses greatly differ between western countries and Latin America. Economic conditions are worse in Latin America – for example, hiring employees and becoming an entrepreneur are more difficult in region. Moreover, Latin America's contribution to the global GDP growth has been smaller and inflation rates have been higher. The social conditions in Latin America fall behind as well. This is exemplified by voter confidence, which is lower in Latin American countries (IMF, 2017; OECD/ECLAC/CAF, 2016). In short, both regions report high happiness levels, but their causes might differ. The western region's happiness could be explained by its favourable socio-economic conditions. Yet, these conditions are worse in Latin America, so their high happiness level has to be caused by other factors, such as social capital or cultural effects.

This study investigates whether social capital has the same size and effect on happiness in Latin America as in western countries. Solving this puzzle will help to improve our assessments of happiness levels worldwide along with their causes. This regional comparison will indicate whether the influence of social capital on happiness is similar globally or whether it differs across cultures. Hence, the following research question is stated:

Does social capital play a similar role in Latin America and in western countries?

The aim of this study is to clarify the role social capital might play in determining happiness across cultures. The results will contribute to current research by expanding the scope to a multicontinental study and creating a comparison between cultures. In addition, knowing whether the influence of social capital on happiness is culture-specific is socially relevant. These relations could be used in forming governmental policies or for determining how to raise nationwide happiness.

Several hypotheses are constructed according to studies on social capital and its relation to happiness.

H1: Social capital has a significantly positive influence on happiness levels in Latin America and in western countries

The first hypothesis tries to establish a general relationship between social capital and happiness in Latin America and western countries. A positive relationship is expected between these two variables, based on several studies that found that social capital has a positive influence on happiness (Ateca-Amestoy, Cortés Aguilar and Moro-Egido, 2014; Dolan, Peasgood and White, 2008; Frey and Stutzer, 2002).

H2: Social capital levels will be higher in Latin America than in western countries.

The second hypothesis is aimed at possible different levels of social capital between the two groups. This covers the assumption that social capital is more important in the Latin American culture than the western culture. It is treasured more by the Latin American population, which results in increased accumulation of social capital (Yamamoto, 2016). This stems from the fact that these individuals will spend more time building their social relations, trust and norms than individuals who value social capital considerably less. Thus, it is expected that social capital will show a higher level in Latin American countries.

H3: Social capital has a greater connection to happiness in Latin America than in western countries.

The third hypothesis is focused on the possible omitted variable bias caused by excluding social capital and tries to solve the Latin American paradox. Since several studies found that

social capital is strongly related to happiness levels in Latin American countries, it is expected that social capital plays a greater role in determining happiness in Latin America than in western countries (Beytía, 2016; Yamamoto, 2016; Rojas, 2016; Velásquez, 2016; Martínez Cruz and Castillo Flores, 2016).

By combining the results of these hypotheses, enough evidence will be provided to answer the research question. This paper will continue by introducing the relevant topics and regions in the theory section. Following, the dataset and methodology will be explained in order to discuss the results to the tests and regressions, used to examine the hypotheses. The paper will continue with a brief summary. After this, it will be concluded that social capital does not play a significantly larger role for happiness in Latin America than in western countries. Namely, the influence of social capital on happiness could even be higher in western countries, which clashes with many of the findings in past studies.

Theory

Happiness

The term happiness has long been discussed. Veenhoven (1991) defines happiness as the degree to which individuals positively assess the overall quality of their lives. In other words, it comprises how much individuals enjoy their life. Consequently, happiness is often paraphrased as subjective well-being or life satisfaction. Two main insights for understanding happiness exist: the eudaimonic and the hedonic insight, of which the hedonic vision is divided in cognitive and affective side (Ryan & Deci, 2001; Veenhoven, 2009).

The eudaimonic insight of happiness concerns the human potential. Capabilities and reaching one's true potential are key to a happy and perfect life. To achieve 'eudaimonic' happiness, personal growth and positive functioning on a social or psychological level (Ryan & Deci, 2001; Solano, 2014; Veenhoven, 2014). This means that one should have a good relationship with friends and family, while mastering certain skills and living according to one's aspirations in order to be truly happy.

The hedonic insight of happiness focuses on the balance between pleasant and unpleasant experiences. It can be achieved on a physical level, for instance through comfort, or on a mental level, such as the appreciation of social contact or literature (Ryan & Deci, 2001; Huta & Ryan, 2010). The subdivision of hedonic happiness builds upon the manner of assessment of happiness. The affective side of happiness depicts the self-evaluation of one's life based on emotion and experiences in the recent past. On the other hand, the cognitive side involves a self-evaluation process of one's happiness with comparisons to ideal or global standards (Veenhoven, 2009).

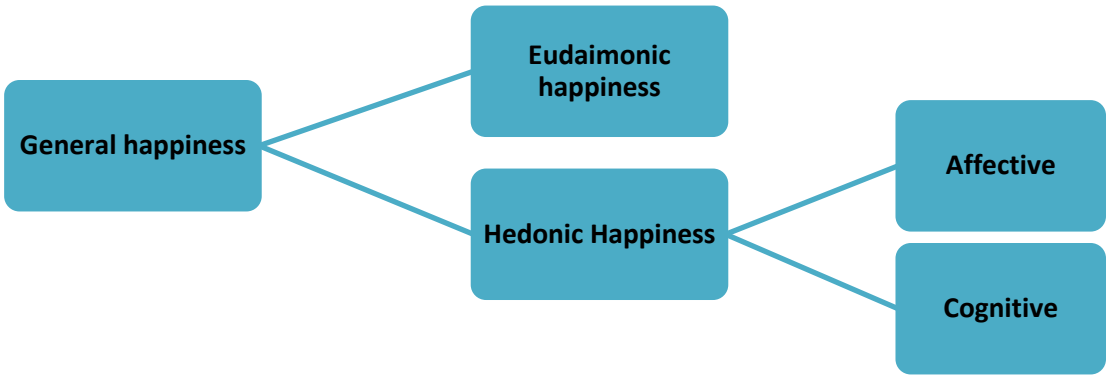

Figure 1: Main insights on happiness

In addition to the previous two insights, Veenhoven (2010) came up with four types of happiness that could be experienced. Based on two distinctions, he developed a scheme (figure 2) to explain these different types: passing and enduring happiness and occurring in part of life or life as-a-whole. Using the scheme, he explained what is understood by the type of happiness that is often researched.

	Passing	Enduring
Part of life	Pleasure	Domain-satisfaction
Life as-a-whole	Peak-experience	Life Satisfaction

Figure 2: Veenhoven's four categories of happiness

Pleasure involves happiness that only exists for a brief time and originates from a small activity, such as a having a delicious dinner or riding a rollercoaster. Veenhoven (2009) mentions that hedonism aims to maximize the amount of these experiences in order to become truly happy.

Peak-experiences are an intensified form of pleasure and are often perceived as intense, overwhelming feelings of happiness with one's life. Still, this feeling of bliss fades away and is not similar to the population's reported happiness (Veenhoven, 2009).

Domain-satisfaction concerns durable happiness in a specific part of life, such as one's marriage of career. Even though one's this type of happiness can fluctuate, there is some continuity of the general happiness with this domain (Veenhoven, 2014)

Life satisfaction concerns durable happiness with life as-a-whole. Veenhoven (2010) refers to this category when mentioning happiness. Individuals assess all their separate domains over time, which leads to their reported happiness level or their reported life satisfaction.

The definition of happiness in this paper will follow Veenhoven's description, as it will focus on life satisfaction. By doing so, the short-lived pleasant or unpleasant moments will not distort the overall assessments much and all domains in life will be regarded at once. This happiness definition can also be classified as cognitive hedonic happiness, as it concerns a deliberate self-assessment of one's life relative to one's aspirations or global standards (Veenhoven, 2009).

An important feature of happiness is its subjectivity, as it is a subjective evaluation of a person's life (Diener, Oishi & Lucas, 2003). It is internally valued and cannot be observed or judged by external parties. Therefore, happiness is only assessable through directly questioning the individual, which is mostly done through surveys. Often-asked questions include: 'How happy are you with your life currently' or 'How would you rate your life on a scale from 1 to 7?'. This single self-assessing question proves valid on large country-wide or cross-culture scales (Abdel-Khalek, 2006). Questions on different life domains, such as income, employment or marital status, often accompany these happiness questions, which might help to reveal the causes of the reported happiness levels.

Even though happiness is hard to examine without direct questioning, it is an important measure to keep an eye on. On the one hand, objective measures, such as income or public spending, might be easier to register and assess. On the other hand, subjective measures include several unobservable, yet important factors (Jahedi & Méndez, 2014). For instance, a key unobservable factor includes culture, which has major implications for society's values or mindsets. These different mentalities influence the impact on happiness of additional income or improved living conditions.

Apart from the imperceptible influencers of happiness, the effects of high levels of happiness should not be undervalued by economists either. Frey (2001) mentions that happiness is a worthwhile pursuit in and of itself. Just like income, everybody would want 'more happiness'. Therefore, happiness should not be ignored and is often used to complement objective economic measures, such as consumption levels. Moreover, high levels of happiness have positive consequences in one's life, even in the economic domain. High levels of happiness lead to higher productivity, more success in all life domains and wiser consumer expenditures (Oswald, Proto & Sgroi, 2015; Lyubomirsky, King & Diener, 2005; Guven, 2005). As less guidance would be needed to steer consumers in the right direction, governmental policies could focus on structural improvements and further enhancing happiness.

In order to reap the full benefits of happiness, its key determinants are important to know. Socio-economic variables, such as income, inequality and education, have long been considered to be the main drivers of our happiness (Bjørnskov, 2008; Frey and Stutzer, 2000). Nevertheless, just these variables sometimes fail to correctly predict or influence happiness.

For instance, France, Italy and Japan have relatively smoothly running economies, but their citizens report low levels of happiness. This would suggest that some variables are overlooked when only considering socio-economic variables. New variables have been considered that might explain happiness better, such as human capital, social capital, culture, religion and even genes (De Neve, Christakis, Fowler & Frey, 2012; Dolan, Peasgood & White, 2007; Peiró, 2006; Bjørnskov, Dreher & Fischer, 2008; MacKerron, 2012; Diener & Diener, 2009; Helliwell, 2003; Vemuri & Costanza, 2006). These considerations for a new set of happiness determinants might prove useful in solving the remaining happiness puzzles.

Several studies already try to assess happiness or well-being by including other factors besides the socio-economic variables. One example includes the Better Life Index, which assesses a country's quality of life through eleven key dimensions, among which the environment, health and safety (OECD, 2017). It neglects to directly ask citizens about their well-being, but uses only objective, indirect measures, which are considered to influence well-being. A second example considers the World Happiness Report, which measures happiness directly through surveys and links the reported happiness levels to objective measures (World Happiness Report, 2017). In yearly reports, researchers try to assess the causes for changes in happiness levels in order to aid policy-makers in their decisions on possible improvements for society.

Social capital

Social capital is an important feature in our lives, as it entails all social interactions and networks. It is more formally defined as the supply of social networks, trust and norms that people can depend on in times of need (Lang & Hornburg, 1998; Woolcock & Narayan, 2000). These social networks include family, friends or acquaintance, who offer compassion, pleasure and assistance (Adler & Kwon, 2002). A network's power stems from the accumulation of interpersonal relations – thus, knowing not only the right people, but the right amount of people (Glaeser, Laibson & Sacerdote, 2002). Nevertheless, the strength of social capital only perseveres if both parties respect the concept of social capital and its benefits (Brehm & Rahn, 1997).

Mostly, three distinct groups of social capital are recognized, following a famous research by Coleman in 1988. He tried to explain the strength of social capital by defining three main dimensions that would prove useful capital sources for individuals: obligations and trust,

information channels and social norms. Obligations and trust concern the value of confiding in one another, information channels concern the importance of transferring information across social networks and social norms ensure that the networks remain strong and powerful by guiding or constraining individuals (Coleman, 1988). These dimensions combined allow for social capital to maintain its power in society.

Social capital and happiness are found to be positively correlated (Ateca-Amestoy, Cortés Aguilar and Moro-Egido, 2014; Dolan, Peasgood and White, 2008; Frey and Stutzer, 2002). Especially cooperation and trust are important features that influence happiness positively (Bjørnskov, 2003). Fukuyama (2001) found that the level and importance of social capital are culturally determined. Therefore, culture might be a strong determinant of happiness through social capital. This might explain why certain countries report higher levels of happiness, while it would not be predicted through their socio-economic conditions.

To investigate social capital and its influence on happiness, this paper will divide social capital into three separate categories: social relations, social trust and social norms (figure 3). This division follows that of Morcillo and De Juan Díaz (2016), who studied the Latin American paradox as well and based their categories on the three social capital dimensions of Coleman (1988). Social relations represent Coleman's information channels through bonds and activities with friends, family and acquaintances that form the channels. Social trust and norms are directly representing Coleman's dimensions of obligations and trust and social norms. Since social capital is comprised of many separate factors, these categories will create more accurate results.

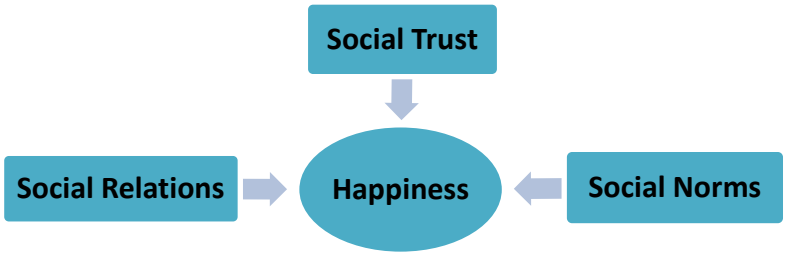

Figure 3: Happiness and its three influencing groups

The first category, social relations, consists of close bonds with family and friends, as well as contacts with colleagues or other social connections. Haller and Hadler (2006) discovered that social relations have a positive influence on happiness.

The second category, social trust, is explained by trust in other individuals or the political system. As an example, Kuroki (2011) found that social trust increases individual happiness levels in Japan. A positive relationship between happiness and trust is assumed (Dolan et al., 2008).

The third category covers social norms, which ensure that individuals obey societal rules and show responsibility for society. If one acts in line with society's norms and rules in favour of society, one could feel better about himself. Nevertheless, Bjørnskov (2006) found an insignificant positive relationship between social norms and life satisfaction.

Unlike the abovementioned studies, some researchers refuted any positive relationship between social capital and happiness and showed a negative relationship. Ram (2010) found that the combination of variables used in defining social capital determines its relationship with happiness. He used generalized trust levels to measure social capital, which showed no influence on happiness in some models. He argues that social capital measures are rather fragile and any change to the model could result in a different influence on life satisfaction (Ram, 2010). It becomes clear that a representative measure of social capital is necessary, in which all relevant influencers are represented, before a model can be considered trustworthy.

Lastly, relational goods are an important, yet distinct element of social capital. It focuses on solidarity, emotional support, friends or family to connect with and social acceptance (Becchetti, Pelloni & Rossetti, 2008). Put simpler, it comprises the general communal feeling. Human interaction has a key role in the concept of relational goods, since it is created through social interactions (Becchetti, Trovato & Londono Bedoya, 2011). Similar to social capital, it is impossible to consume this good solitarily and communication with others is necessary. Gui and Stanca (2010) mentioned relational output, such as being entertained or recognized by others, as an imperative aspect of relational goods. Thus, relational goods are outcomes of social interactions, not the interaction itself (Becchetti, Giachin & Pelloni, 2009).

Relational goods should not be confused with social capital, as their value and focus differ. Social capital is often used as an instrumental value to reach specific goals, such as additional happiness or income, but relational goods are consumed for their intrinsic value through their direct influence on well-being (Rojas, 2011). Moreover, social capital is a much wider concept as it comprises multiple categories - social relations, trust and norms -. Yet, relational goods cover only one specific element of social capital, namely social interactions similar to the social relations category. Velásquez (2016) studied the influence of relational goods on happiness in Latin America and found a strong, positive relationship. Likewise, Morcillo and De Juan Díaz (2016) reported that the greatest part of the positive influence of social capital stems from the social relations category. In short, it is important not to confuse relational goods with social capital, nor to conclude a positive influence of social capital, if only relational goods – measured through the social relations category - cause this relationship.

Latin American versus Western Culture

Cultural differences have been studied mostly by Hofstede and Meyer. Both researchers determined several frameworks on cultural differences across countries or business in different countries (Hofstede, 1984; Meyer, 2014). Each framework includes several dimensions that influence cultures, among which uncertainty avoidance and individualism. Hofstede's and Meyer's works indicate how someone might respond or act by taking into account cultural differences and prove useful in cross-country economic activities.

Cultural factors are hard to measure, even though it has major influences in society, for example through social capital. (Fukuyama, 2001). As mentioned earlier, a different value is attached to social capital across cultures, which causes its level and influence to differ in different regions. Fortunately, social capital is assessable through cross-country surveys, which indirectly displays the culture of a certain region. Since the influence of social capital on happiness might differ considerably across cultures, two fairly different cultures will be used to examine social capital in this paper: the Latin American culture and the western culture.

Both cultures differ considerably. On the one hand, the western culture originated from centuries with colonialism, governmentality, political and economic development and power (Pels, 1997). Pels (1997) noted that the western societies were formed under the pressure of colonialism, causing these countries and colonies to be most developed economically and

politically nowadays. On the other hand, the Latin American culture originated from tribesmen with strong hierarchies and social ties and a strong fighter mentality (Steward, 1947). Latin American countries experienced conflicts, captivity and slavery (Mallon, 1994). This caused them to put emphasis on social relations, especially family and friends, as well as social trust and norms (Rojas, 2016; Yamamoto, 2016). Concluding, both cultures put different emphasis on social capital, of which the Latin American appears to treasure it most according to Rojas (2016) and Yamamoto (2016).

Better Life Index on Social Capital and Happiness

The aforementioned Better Life Index studies several objective measures in 38 countries in order to provide scores and ranks for well-being (OECD, 2017). Their records can be used as well to give an idea of the levels of happiness and social capital in our two regions. Several Latin American (Brazil, Chile and Mexico) and western (Australia, Estonia, Germany, Netherlands, New Zealand, Poland, Slovenia, Spain, Sweden and the United States) countries are studied in the Better Life Index. Life satisfaction is directly measured by the Better Life Index, while social capital can be represented by the overlapping themes 'community', measured through the quality of informal support networks, and 'civic engagement', measured through voter turnout (OECD, 2017).

Based on the available information for both regions, Latin America outperforms the western region in terms of life satisfaction, with an average score of 6.4 out of 10 and an average rank of 21 out of 38 (versus an average score of 6.9 and an average rank of 17.4 in the western region). Nevertheless, Latin America performs worse on the social capital themes. First, on the community theme, Latin American countries score on average 82.6 out of 100 and rank on average 32 out of 38 (versus 91.7 and 16.7 in the western region respectively). Second, on the civic engagement theme, Latin American countries score 63.8 out of 100 on average and have an average rank of 24.7 out of 38 (versus 71.3 and 18.7 in the western region respectively).

Table A1 in the appendix shows each country's score and rank on life satisfaction and the social capital themes. Yet, this brief notion only serves as a preview of a potential outcome of this study. Since only few countries of both regions were represented, this research will provide a more thorough and accurate research of social capital and its influence on life satisfaction.

Data & Methodology

The data for this study stems from the sixth wave of the World Values Survey (WVS), gathered from 2010 until 2014. Data on one's life assessment on various life domains is gathered worldwide. These domains include social aspects, political aspects, values and general demographics. The survey aims to closely monitor the changing values and their effect on social and political life. It tracks the population's satisfaction concerning income, social relations, social and institutional trust and politics. Due to the focus a wide spectrum of subjects, it was possible to cover all three specified categories of social capital along with an overall happiness assessment. Questions are asked via questionnaires to citizens in countries around the world, including Latin American and western countries.

Eight Latin American countries and twelve western countries are included. 27,404 observations are included in the sample, evenly distributed over the twenty countries. Latin America is represented by Argentina, Brazil, Chile, Colombia, Ecuador, Mexico, Peru and Uruguay, which accounts for 80 % of the total Latin American population. The second region, western countries, consists of Australia, Cyprus, Estonia, Germany, the Netherlands, New Zealand, Poland, Romania, Slovenia, Spain, Sweden and the United States. This accounts for 66 % of the total western population. The unrepresented countries of the two groups were not available within the dataset of WVS, due to lack of gathered observations.

The questionnaire defined the following question to measure happiness, which will be used as our variable of interest: *"All things considered, how satisfied are you with your life as a whole these days?"* The happiness levels are recorded on a 10-point scale - 1 is 'completely dissatisfied', ranging to 10 'completely satisfied'. This provides us with a hedonic, cognitive measure of happiness, as discussed in the theory section. The questionnaire also included a different happiness question (*"Taking all things together, would you say you are very happy/rather happy/not very happy/not at all happy?"*), but this focuses more on the hedonic, affective side of happiness and used a relatively inaccurate 4-point scale. Replies to this question could be too flawed by current emotional states or external influences. More importantly, by only giving four different options to answer, the measure will be less precise compared to the 10-point scale, which causes it to be less operational. Therefore, the first and more robust question that asks about life satisfaction has been used to measure happiness.

As shown in table 1, Latin American citizens report a higher average level of happiness compared to the global or western average. Yet, Latin American citizens mainly report incomes in the bottom three scales, while global and western countries report incomes in the middle three scales. Combining these observations could be a first indication of the Latin American paradox, which will be further examined in this study.

	World	Latin America	Western countries
Average Happiness (points out of 10)	6.829	7.865	7.176
Average Income (% of total):			
Up to 20,000 Dollars	14.95	19.81	13.18
20,001 to 35,000	25.34	26.51	27.31
35,001 to 62,500	36.92	35.95	37.82
62,501 to 100,000	19.23	15.07	18.54
100,000 or more	3.56	2.66	3.15

Table 1: Average happiness and income worldwide, in Latin America and in western countries (the higher global average income is explained by higher reported incomes for Middle-Eastern countries)

Social capital will be measured based on questions relating to the three categories: social relations, social trust and social norms (the questions can be found in the appendix under Survey Questions). Following Morcillo and De Juan Díaz (2016), questions on the topics of friends and family (social relations), trust and confidence (social trust) and goodwill and morality (social norms) are selected for this study. By taking the average of the three categories, an overall score for social capital is constructed. Summary statistics of social capital and its categories are presented in table 2.

Variables	Observations	Mean	Std. Dev.	Minimum Value	Maximum Value
Social Capital	90,339	6.9444	0.9499	0.39	10
Social Relations	90,198	8.6942	1.4735	0	10
Social Trust	90,288	5.3980	1.5503	0	10
Social Norms	90,221	6.7449	1.4365	1	10

Table 2: Summary statistics of Social Capital variables (overall and categorized in three groups)

Some control for other influencers of happiness is necessary, such as age, gender, income, education, employment, health, marital status. These factors will filter out any bias for the social capital coefficients, as they directly influence happiness levels besides social capital (MacKerron, 2012; Frey, 2002; Di Tella, MacCulloch & Oswald, 2003). By including these

control variables, more accurate values for social capital will be obtained. Summary statistics of the control variables can be found in table 3 and 4.

Variables	Observations	Mean	Std. Dev.	Minimum Value	Maximum Value
Health	90,023	6.7270	2.5598	1	10
Age (in years)	90,167	42.0538	16.4808	16	99

Table 3: Summary statistics of continuous control variables

	Frequency	Percentage
Employment status:		
Full or part-time (Reference Category)	36,750	41.40
Self Employed	10,854	12.23
Retired	10,614	11.96
Unemployed	8,109	9.13
Other	22,444	25.28
Income:		
Up to 20,000 (Reference Category)	13,038	14.95
20,001 to 35,000	22,106	25.34
35,001 to 62,500	32,201	36.92
62,501 to 100,000	16,773	19.23
100,001 or more	3,108	3.56
Education:		
No Formal Education (Reference Category)	5,579	6.23
Primary School	15,063	16.83
Secondary School	46,166	51.57
University Level	22,705	25.37
Marital Status:		
Serious Relationship (Reference Category)	57,327	63.62
Separated/Widowed	10,631	11.80
Single	22,157	24.59
Gender:		
Male (Reference Category)	43,391	48.07
Female	46,868	51.93

Table 4: Summary statistics of categorical control variables

Different methodologies will be used to test the separate hypotheses. All tests on important variables require a significance level of 5 % or lower, indicating that there is only a small chance that the resulting coefficients or differences could have a true value of 0.

The first hypothesis will be tested using a general OLS regression on happiness. The coefficient for the factors of social capital will be examined to see if social capital has a positive or negative influence on happiness levels in general. The control variables will be implemented in the model to prevent any omitted variable bias. A similar regression will be run for all countries worldwide, Latin American countries and western countries to show whether the overall results hold for the two regions of interest as well.

To test the second hypothesis, a t-test on the means of the levels of the social capital categories will be run. An additional t-test will be run for all categories taken together as a measure of overall social capital to show the aggregate effect of all categories. This will provide insight in whether the average levels of social capital are actually higher in Latin America than in the western world.

Lastly, the third hypothesis is tested through regressions, similar to those for the first hypothesis. A t-test will show whether the coefficients of the social capital variables are truly different or similar. Next, interaction effects and dummies for both regions are added to these regressions. The Latin American and western dummies will check whether a population's happiness will be higher, simply due to residing in these regions, but unrelated to social capital. Moreover, the interaction effects between these dummies and the social capital variables will try to assess whether the effect of social capital on happiness will be higher for a specific region or not.

Stata will be used to examine the hypotheses and run the different tests and models. Stata is a program that offers a wide range of data analysis tools, data management tools and graphics tools. It runs different statistical tests, among which the widely used t-test and f-test. It is fit to handle different types of data, among which time series, categorical data, cross-section data and panel data. Since the World Value Survey Wave 6 consists of multiple observations across different countries in the same timeframe, Stata will be fit will to handle the different regressions and tests.

Results

Latin American Paradox

Continuing the preview of the previous section, further analyses are executed to prove whether happiness and income differ significantly. T-tests on the differences in mean levels of happiness and income will show whether the Latin American paradox is present in this study's dataset.

T-tests can be used to assess whether variable means differ significantly from either each other or a specified value, or whether regression coefficients are significantly different from zero. Two hypotheses exist for t-tests: the null hypothesis and the alternative hypothesis. Often the null hypothesis assumes that the means or regression coefficients are equal to each other, a specified value or zero if no value is specified. The alternative hypothesis states the opposite, namely that the mean values or regression coefficient is not equal, smaller or larger, compared to the specified value, zero or the other mean or coefficient. A t-statistic is calculated and compared to a critical value, which will determine whether the null hypothesis will be accepted or rejected, which implies acceptance of the alternative hypothesis.

Group	Observations	Mean	Std. Err.	Std. Dev.	95% Confidence Interval	
Latin America	10,402	7.8651	0.0196	1.9956	7.8268	7.9035
Western countries	16,840	7.1761	0.0151	1.9631	7.1465	7.2058
Combined	27,242	7.4392	0.0121	2.0037	7.4154	7.4630
Difference		0.6890	0.0246		0.6407	0.7373
T-value	27.9666					
Degrees of Freedom	27,240					
P-value	0.0000					

Table 5: Independent sample t-test with equal variances (Tested Variable: Life Satisfaction)
Tested Groups: Latin America versus Western countries

Group	Observations	Mean	Std. Err.	Std. Dev.	95% Confidence Interval	
Other countries	79,369	6.6932	0.0081	2.2733	6.6774	6.7091
Latin America	10,402	7.8651	0.0196	1.9956	7.8268	7.9035
Combined	89,771	6.8290	0.0076	2.2741	6.8142	6.8439
Difference		-1.1719	0.0234		-1.2177	-1.1260
T-value	-50.1055					
Degrees of Freedom	89,769					
P-value	0.0000					

Table 6: Independent sample t-test with equal variances (Tested Variable: Life Satisfaction)
Tested Groups: Latin America versus Other countries

Group	Observations	Mean	Std. Err.	Std. Dev.	95% Confidence Interval	
Other countries	72,931	6.7489	0.0086	2.3327	6.7320	6.7658
Western countries	16,840	7.1761	0.0151	1.9631	7.1465	7.2058
Combined	89,771	6.8290	0.0076	2.2741	6.8142	6.8439
Difference		-0.4272	0.0194		-0.4652	-0.3892
T-value	-22.0344					
Degrees of Freedom	89,769					
P-value	0.0000					

Table 7: Independent sample t-test with equal variances (Tested Variable: Life Satisfaction)
Tested Groups: Western countries versus Other countries

Group	Observations	Mean	Std. Err.	Std. Dev.	95% Confidence Interval	
Latin America	10,147	2.5426	0.0104	1.0514	2.5222	2.5631
Western Countries	16,080	2.7118	0.0080	1.0143	2.6961	2.7275
Combined	26,227	2.6464	0.0064	1.0321	2.6339	2.6588
Difference		-0.1692	0.0130		-0.1948	-0.1436
T-value	-12.9715					
Degrees of Freedom	26,225					
P-value	0.0000					

Table 8: Independent sample t-test with equal variances (Tested Variable: Income)
Tested Groups: Latin America versus western countries

Group	Observations	Mean	Std. Err.	Std. Dev.	95% Confidence Interval	
Other countries	77,079	2.7334	0.0038	1.0479	2.7260	2.7408
Latin America	10,147	2.5426	0.0104	1.0514	2.5222	2.5631
Combined	87,226	2.7112	0.0036	1.0501	2.7042	2.7181
Difference		0.1907	0.0111		0.1690	0.2124
T-value	17.2289					
Degrees of Freedom	87,224					
P-value	0.0000					

Table 9: Independent sample t-test with equal variances (Tested Variable: Income)
Tested Groups: Latin America versus Other countries

Group	Observations	Mean	Std. Err.	Std. Dev.	95% Confidence Interval	
Other countries	71,146	2.7110	0.0040	1.0581	2.7033	2.7188
Latin America	16,080	2.7118	0.0080	1.0143	2.6961	2.7275
Combined	87,226	2.7112	0.0036	1.0501	2.7042	2.7181
Difference		-0.0008	0.0092		-0.0188	0.0172
T-value	-0.0856					
Degrees of Freedom	87,224					
P-value	0.9318					

Table 10: Independent sample t-test with equal variances (Tested Variable: Income)
Tested Groups: Western countries versus Other countries

The independent sample t-tests, presented in table 5 – 7, show that the happiness levels differ significantly between Latin America, western countries and the global average. This indicates that happiness levels are indeed significantly greater in Latin America than in the western region, while both regions' happiness levels outperform the average global happiness. Similar t-tests have been used to examine whether income levels differ significantly between the two regions of interest as well (table 8 – 10). From the results, it can be deduced that the average income level of Latin America is significantly lower than the average global or western income levels. On a side note, the western and global income levels do not differ significantly, indicating that their true mean levels could be similar.

It can be concluded that the average happiness level is higher in Latin America compared to the average western or global happiness levels. Nonetheless, the average income level is significantly lower in Latin America compared to the western or global regions. These results are in line with the Latin America paradox and prove that it is present in our used dataset. The only unknown factor is the source of this increased Latin American happiness, since it cannot stem from improved economic factors. Therefore, this section will look further into the influence of social capital on happiness.

Positive Influence of Social Capital

The first hypothesis examined whether a positive relationship existed between social capital and happiness levels in general. An ordinary least-squared regression will be used to assess this relationship. To begin with, it is key to understand how all variables are influenced by each other, which will be shown by the correlations in table 11 below.

	Social Relations	Social Trust	Social Norms	Health	Employment
Life Satisfaction	0.0956	0.1414	0.0567	0.2904	-0.0454
Social Relations	1.0000	0.1987	0.0725	0.1289	-0.0168
Social Trust		1.0000	0.0503	0.1013	-0.0219
Social Norms			1.0000	0.0299	-0.0231
	Income	**Gender**	**Age**	**Education**	**Marital Status**
Life Satisfaction	0.2577	0.0078	-0.0337	0.1054	-0.0244
Social Relations	0.0711	-0.0130	-0.0595	0.0994	0.0252
Social Trust	0.1342	-0.0101	0.0751	0.0218	-0.0713
Social Norms	0.0151	0.0020	0.0941	0.0462	-0.0551

Table 11: Correlations between dependent, independent and control variables

All social capital categories seem to correlate positively with life satisfaction, especially social trust. It should also be noted that the levels of one category of social capital correlate positively with other categories. This could show Coleman's idea (1988) that all categories should be present simultaneously to create a positive feedback-loop and to reap most benefits from social capital. Moreover, the control variables all have a positive correlation with life satisfaction, except for age (the negative values of employment and marital status can be explained through the reference category, which has received to lowest value in the sample). Focusing on the social capital categories, all control variables slightly influence the independent variables of interest. By including them in the regressions, any omitted variable bias from these variables will be foregone.

An ordinary least-squared regression has been used to examine the influence of social capital. The control variables 'Employment', 'Income', 'Gender', 'Education' and 'Marital status' have been added as categorical variables and will indicate the influence on life satisfaction per category of the variable relative to the reference category. This will assess whether individuals from one category have a different average life satisfaction than the other groups. Continuing, 'Health' and 'Age' have been included as continuous control variables, indicating whether an increase in these variables -not a switch between certain categories – will result in a different average life satisfaction. Each control variable passed a joint significance test with p-values smaller than 0.01. A similar test has been conducted for all control variables altogether. Hence, all control variables, both individually and altogether, have a significant influence on the regression, since their coefficients (jointly) are not equal to zero. The f-tests for joint significance of the control variables can be found in the appendix (table A3).

Table 12 on the next page shows the results for regression with the three social capital categories used as independent variables for all countries (Model 1), Latin American countries (Model 2) and western countries (Model 3). All three models show significant positive coefficients for the social capital categories. Thus, even though the coefficients are small, life satisfaction is positively influenced by social capital. For example, an increase of social relations by one in Latin America results in an average increase of life satisfaction by 0.0355, keeping every other included variable constant (hereafter mentioned as ceteris paribus). A similar increase for social relations would lead to an average increase of 0.0946 in western countries and an average increase of 0.0493 globally, ceteris paribus.

	World (Model 1)	Latin America (Model 2)	Western Countries (Model 3)
Social Relations	0.0493**	0.0355**	0.0946**
Social Trust	0.1082**	0.0944**	0.1742**
Social norms	0.0469**	0.0479**	0.0604**
Health	0.2276**	0.2023**	0.2698**
Male	0.1722**	-0.0001	0.0861**
Age	0.0097**	0.0001	0.0054**
Employment:			
Self-employed	-0.1370**	0.0154	-0.0839
Retired	0.0386	0.1461	0.2245**
Unemployed	-0.3500**	-0.0302	-0.4744**
Other	0.0142	0.1819**	0.1852**
Income:			
20,001 to 35,000	0.2413**	-0.3157**	0.3543**
35,001 to 62,500	0.7070**	-0.1849**	0.6920**
62,501 to 100,000	1.1252**	0.0995	0.9817**
100,001 or more	1.5819**	0.6710**	0.9980**
Education:			
Primary school	0.7143**	-0.1703	0.2390
Secondary School	0.6224**	-0.2837	0.1504
University Level	0.6736**	-0.3608*	0.0926
Marital Status:			
Separated/Widowed	-0.3723**	-0.3752**	-0.5273**
Single	-0.0886**	-0.2276**	-0.3063**
Constant	2.3547**	5.9438**	2.2394**

Table 12: Regression model 1 – 3 (Dependent variable: Life Satisfaction)
Number of Observations: 84,218 (Model 1); 9,080 (Model 2); 15,374 (Model 3)
** significant at 5 % level ** significant at 1 % level*

The regression coefficients of the social capital categories indicate differences in the influence of social capital in the different regions. For instance, the average influence of social relations seems to be smaller than the global or western average. The same can be concluded for social trust. On the other hand, the average influence of social norms appears to be higher than the global average, but is still not higher than the western influence of social norms on life satisfaction. Similar regressions have been run for the overall effect of social capital. These models 4 - 6 can be found in the Appendix (table A3). These models confirm the findings of

Model 1 – 3. Namely, social capital has a significant positive influence on life satisfaction, but the size of the coefficients indicates a different influence in each region. The influence of social capital in Latin America appears to be lower (0.1801) compared to the global and the western average influence (0.2114 and 0.3546 respectively). These differences in coefficients will be further studied and tested in the section 'Connection between Happiness and Social Capital'.

The constants indicate the starting points for the regression. This refers to the average level of life satisfaction for individuals of the reference categories (found in table 4) of the categorical variables, excluding the influences of the continuous variables. The models' constants show that the average starting points are quite different. Latin America shows a considerably higher average starting point for life satisfaction than the global or western region, of which the western region appears the have the lowest average starting point.

The categorical variables in the models show the relative differences on life satisfaction with regard to their respective reference categories. For example, an individual scores on average 1.5819 higher on life satisfaction in model 1 with an income of 100,000 Dollars or greater compared to an income of 20,000 Dollars or lower, ceteris paribus.

In short, the first hypothesis is accepted, as social capital has a significant, positive influence on life satisfaction globally and across the two regions of interest in particular. Splitting social capital into the three categories does not appear to undo the effect. This can be interpreted as follows: social capital influences our lives in a positive manner, which causes us to feel happier and rate our life satisfaction higher than we would in the absence of this social capital.

Social Capital Levels

The second hypothesis continued by examining the actual levels of social capital in Latin America and western countries. In addition, it would be interesting to find out whether the mean levels of happiness differ significantly as well.

	World	Latin America	Western countries
Life Satisfaction	6.829	7.865	7.176
Social Capital:	6.944	6.476	7.124
Social Relations	8.694	8.338	8.831
Social Trust	5.398	4.352	5.490
Social Norms	6.745	6.738	7.056

Table 13: Mean scores for life satisfaction levels and social capital, including the three separate groups

As shown in table 13 above, the mean life satisfaction levels appear to be higher in Latin American countries and western countries compared to the global average. Latin American citizens report the highest levels of life satisfaction. The mean level of the overall social capital measure seems to be lowest in Latin America, followed by the global average and seems to be highest in western countries. Similar reasonings can be used for the separate social capital groups. However, without testing whether the mean levels of these variables are truly different, nothing can be interpreted from these observations.

An independent sample t-test with equal variances will be used to test whether the mean levels of the life satisfaction and social capital variables significantly differ. Each variable is tested in three ways: 1) Latin America compared to other countries; 2) Western countries compared to other countries; 3) Latin America compared to western countries. This will show whether the mean levels in Latin American and western countries are significantly higher or lower compared to other countries and whether they significantly differ between the two regions. A complete list of tables can be found in the appendix (table A4 – A18). The most important tables are presented below.

Group	Observations	Mean	Std. Err.	Std. Dev.	95% Confidence Interval	
Latin America	10,402	7.8651	0.0196	1.9956	7.8268	7.9035
Western countries	16,840	7.1761	0.0151	1.9631	7.1465	7.2058
Combined	27,242	7.4392	0.0121	2.0037	7.4154	7.4630
Difference		0.6890	0.0246		0.6407	0.7373
T-value	27.9666					
Degrees of Freedom	27,240					
P-value	0.0000					

Table 14: Independent sample t-test with equal variances (Tested Variable: Life Satisfaction)
Tested Groups: Latin America versus Western countries

Group	Observations	Mean	Std. Err.	Std. Dev.	95% Confidence Interval	
Latin America	10,440	6.4758	0.0092	0.9394	6.4578	6.4938
Western countries	16,957	7.1238	0.0071	0.9211	7.1100	7.1377
Combined	27,397	6.8769	0.0059	0.9800	6.8653	6.8885
Difference		-0.6480	0.0115		-0.6707	-0.6254
T-value	-56.1285					
Degrees of Freedom	27,395					
P-value	0.0000					

Table 15: Independent sample t-test with equal variances (Tested Variable: Social Capital)
Tested Groups: Latin America versus Western countries

Group	Observations	Mean	Std. Err.	Std. Dev.	95% Confidence Interval	
Latin America	10,437	8.3381	0.0154	1.5714	8.3079	8.3682
Western countries	16,925	8.8312	0.0106	1.3822	8.8104	8.8521
Combined	27,362	8.6431	0.0089	1.4768	8.6256	8.6606
Difference		-0.4931	0.0181		-0.5287	-0.4576
T-value	-27.1900					
Degrees of Freedom	27,360					
P-value	0.0000					

Table 16: Independent sample t-test with equal variances (Tested Variable: Social Relations)
Tested Groups: Latin America versus Western countries

Group	Observations	Mean	Std. Err.	Std. Dev.	95% Confidence Interval	
Latin America	10,440	4.3517	0.0144	1.4736	4.3235	4.3800
Western countries	16,940	5.4900	0.0115	1.4974	5.4674	5.5125
Combined	27,380	5.0560	0.0096	1.5877	5.0371	5.0748
Difference		-1.1382	0.0185		-1.1745	-1.1019
T-value	-61.4628					
Degrees of Freedom	27,378					
P-value	0.0000					

Table 17: Independent sample t-test with equal variances (Tested Variable: Social Trust)
Tested Groups: Latin America versus Western countries

Group	Observations	Mean	Std. Err.	Std. Dev.	95% Confidence Interval	
Latin America	10,432	6.7381	0.0127	1.2970	6.7132	6.7629
Western countries	16,937	7.0563	0.0096	1.2448	7.0375	7.0750
Combined	27,369	6.9350	0.0077	1.2743	6.9199	6.9501
Difference		-0.3182	0.0157		-0.3491	-0.2874
T-value	-20.2136					
Degrees of Freedom	27,367					
P-value	0.0000					

Table 18: Independent sample t-test with equal variances (Tested Variable: Social Norms)
Tested Groups: Latin America versus Western countries

First of all, the average life satisfaction (table 14) is found to differ significantly between Latin America and the western world. Both regions' average life satisfaction also differs significantly from other countries. This shows that the mean level of life satisfaction is highest in Latin American countries, followed by western countries and lastly in other countries in the world. Latin American citizens report thus on average a life satisfaction which is about one point higher compared to the average global life satisfaction and about 0.7 point higher compared

to the average western individual. It could be implied that the Latin American population is happier than the western population.

Second, the mean social capital levels (table 15) in Latin America and western countries differ significantly as well. Moreover, both regions' average social capital levels differ from other countries. Hence, the observed levels of social capital in Latin America are significantly lower than in western countries or the global levels. Western countries' citizens report the highest levels of social capital. This suggests that social capital is more present in western countries than in Latin American countries, where social capital is less compared to the global average.

Third, splitting social capital into the three categories (table 16 – 18) does not seem to make a difference for the results of overall social capital. For all three categories - social relations, social trust and social norms -, the Latin American mean levels are significantly lower than the mean levels of western countries or globally. Once again, western countries show significantly higher mean levels relative to the global levels. This infers that the lower levels of social capital in Latin America is not due to one or two categories, as all three categories are available in significantly lower amounts than in the other regions studied. Especially the mean difference of the social trust levels is great -three times the size of the difference between social relations and norms. This could imply that most of the difference in the overall social capital levels originates from the significantly lower social trust levels in Latin America.

Summarizing, citizens from Latin American countries are generally happier than citizens from the other studied regions, but have less access to social capital. This implies that their social relations are weaker, such that they value family and friends on average less than non-Latin American citizens. It also suggests that their social trust is lower and thus their trust of other individuals and governmental institutions is less strong than of non-Latin American citizens. Lastly, it infers that Latin American citizens feel less obliged to act according to social norms and to behave well for society. From the above, it can be concluded that the second hypothesis has to be rejected, as social capital levels are not higher in Latin America than in western countries.

Connection between Happiness and Social Capital

For the third and last hypothesis, the connection between social capital and happiness is tested. Even though the level of social capital in Latin America might be lower, the influence of this factor on the happiness of Latin American citizens might still be as large or larger than the influence of social capital in other regions, western countries in particular. The regression coefficients of model 1 – 6 will be used in this comparison, which are shown again in table 19.

Variables	World	Latin America	Western Countries
Social Capital:	0.2114**	0.1801**	0.3546**
Social Relations	0.0493**	0.0355**	0.0946**
Social Trust	0.1082**	0.0944**	0.1742**
Social Norms	0.0469**	0.0479**	0.0604**

Table 19: Summary of regression coefficients of model 1 – 6 in table 12 & A3
** significant at 5 % level ** significant at 1 % level*

To test this hypothesis, an f-test for multiple coefficients will be used to test whether the regression coefficients of the social capital categories differ significantly. Two separate f-tests are performed. The first tests whether the coefficient of Latin America differs significantly from the world's coefficient. The second compares the coefficient of Latin America with the coefficient of the western countries. The coefficients of overall social capital will be tested, as well as the coefficients of the three social capital categories.

Tested	**Effect Social Capital World = Effect Social Capital Latin America**
Chi^2	1.82
P-value	0.1777
Tested	**Effect Social Capital Latin America = Effect Social Capital Western Countries**
Chi^2	33.39
P-value	0.0000

Table 20: F-test for regression coefficients of Social Capital (Model 4 – 6)

Tested	**Effect Social Relations World = Effect Social Relations Latin America**
Chi^2	0.95
P-value	0.3285
Tested	**Effect Social Relations Latin America = Effect Social Relations Western Countries**
Chi^2	9.75
P-value	0.0018

Table 21: F-test for regression coefficients of Social Relations (Model 1 - 3)

Tested	Effect Social Trust World = Effect Social Trust Latin America
Chi^2	0.96
P-value	0.3279
Tested	Effect Social Trust Latin America = Effect Social Trust Western Countries
Chi^2	18.78
P-value	0.0000

Table 22: F-test for regression coefficients of Social Trust (Model 1 - 3)

Tested	Effect Social Norms World = Effect Social Norms Latin America
Chi^2	0.00
P-value	0.9482
Tested	Effect Social Norms Latin America = Effect Social Norms Western Countries
Chi^2	0.34
P-value	0.5575

Table 23: F-test for regression coefficients of Social Norms (Model 1 - 3)

Following from the f-tests on the regression coefficients of social capital shown in table 20, the Latin American social capital coefficient appears not to be significantly different from the global social capital coefficient. This indicates that the average influence of social capital on life satisfaction is the same in Latin America as it is worldwide. The second test in table 20 shows that social capital has a significantly greater influence on life satisfaction in western countries than in Latin American countries (0.3546 versus 0.1801 respectively). This implies that citizens in western countries benefit more from social capital than Latin American citizens.

Table 21, 22 and 23 show the f-tests for the regression coefficients of social relations, social trust and social norms respectively across the different regions. None of the regression coefficients differ significantly between Latin America and the world. This indicates that the influence of the three social capital groups on life satisfaction in Latin America is similar to the global average influence. An average individual in Latin America would reap the same happiness benefits from social capital as the average global citizen. Moreover, the regression coefficients of social norms appear to be similar across in both studied regions. This implies that social norms have the same influence on life satisfaction, no matter in which of the two regions an individual resides. But, the regression coefficients of social relations and social trust differ significantly between Latin America and the western world. This suggests that western individuals benefit more from having social relations and social trust than the Latin American population.

These results show that the influence social capital differs significantly across all regions. Even though the relationship between social capital and happiness in Latin America does not seem to be very different from the average global relationship between these variables, this relationship seems to be much weaker when comparing it to similar connections in western countries. Western citizens' happiness is influenced more positively by social capital, mainly through social relations and social capital, of which the relationship to happiness is stronger than in Latin America or worldwide, and thus they will benefit more from accumulating and 'consuming' social capital than Latin American citizens. Concluding, social capital has a weaker relationship to happiness in Latin America than in western countries. Therefore, the third hypothesis is rejected.

Interaction between Regions and Social Capital

Lastly, the interaction effects between Latin America or the western region and the social capital variables have been studied. This will provide additional insights on the influence of social capital on happiness by focusing more on the specific locations. This part of the study will show – through the dummies - whether the additional happiness is generated through social capital or simply through residing in a specific region. If the latter is the case, this would indicate that factors beyond the studied variables may cause the additional happiness and that the paradox could not be explained with social capital. Moreover, the interaction effect could verify or refute the results from the previously studied social capital coefficients.

Since Latin America and western countries are binary variables – the observation is either in a Latin American or western country or not – and social capital is measured on a continuous scale, this interaction effect would consider the effect between a binary and a continuous variable. Moreover, dummies of Latin America and the western region have been added to examine whether the average happiness level of individuals is raised, only because they reside in a specific region. These interaction effects and dummies have been added to regression model 1 and 4 from table 12 and A3, which considered the worldwide relationships between the social capital variables and life satisfaction.

	Model 7	Model 8	Model 11	Model 12
Social Capital			0.2936**	0.3080**
Social Relations	0.0636**	0.0637**		
Social Trust	0.1863**	0.2063**		
Social Norms	0.0308**	0.0300**		
Latin American Country	1.6905**	2.8030**	1.5966**	2.9009**
Latin American Country*Social Capital				-0.2012**
Latin American Country*Social Relations		-0.0410**		
Latin American Country*Social Trust		-0.1368**		
Latin American Country*Social Norms		-0.0233		
Western Country	0.5456**	0.1952	0.5079**	0.1525
Western Country*Social Capital				0.0494*
Western Country*Social Relations		0.0390**		
Western Country*Social Trust		-0.0335**		
Western Country*Social Norms		0.0267		

Table 24: Regression model 7, 8, 11 and 12 (Dependent variable: Life Satisfaction)
The full regression table including the control variables (Health, Gender, Age, Income, Education, Marital Status and Employment) can be found in the Appendix
Number of Observations: 84,218 (Model 7 & 8) | 84,334 (Model 11 & 12)
** significant at 5 % level ** significant at 1 % level*

Table 24 shows the regression output for model 7, 8, 11 and 12, which include the region dummies and the interaction effects of these regions with social capital. The control variables have been excluded here, but the complete regression can be found in the Appendix (table A19 & A20). Two additional regressions, just including dummies and interactions for either Latin America (model 9) or western countries (model 10) can be found in the same table in the appendix. Model 9 and 10 will show how the regression outcome changes, if the omitted region is part of the other absent countries. In the case of Latin America, however, these changes are marginal and will not be discussed extensively.

Model 7 and 11

First, let us consider model 7 and 11, where only the region dummies are added to the regression, but different measures for social capital are used – the overall score and the categories. The coefficients of the variables for social capital remain significantly positive. Thus, the influence of social capital on happiness continues to be significantly positive. Both dummies show a significantly positive effect, meaning that citizens in these regions on average report a higher level of happiness than citizens outside of this region. The coefficients do not change much when considering the social capital categories or the overall score for social

capital. Hence, the separate groups will be further examined, since this shows a more detailed output for social capital.

The Latin American dummy indicates that individuals who reside in Latin America report a higher average life satisfaction of about 1.69 points out of 10. Hence, ceteris paribus, an average citizen in Latin America will be much happier than an average non-Latin American citizen. A similar reasoning is followed for individuals in western countries. Individuals in western countries report an average life satisfaction that is about 0.55 points out of 10 higher than a non-western individual, ceteris paribus. However, it should not be ignored that the coefficient for the dummy of Latin America is much larger than the dummy of the western region. This implies that Latin American citizens would already be much happier than western citizens before even considering the other variables in the regression. One could say that the average starting level for happiness is much higher than the western starting level.

Model 8

The interaction effects between Latin America or the western region and social capital show how the influence of the social capital coefficients changes when an individual is western or Latin American or neither of these two regions -thus if a citizen resides in a non-Latin American and a non-western country.

Model 8 shows that the influence of social relations and social trust on happiness is significantly reduced, if an individual resided in a Latin American country instead of another country. Only social norms appear to have a similar relationship to happiness in Latin American and other countries. Nevertheless, the relationship between social capital variables and happiness seems to be nearly reduced to zero for citizens in Latin American countries. This is shown when taking into account the interaction effects and the social capital coefficients simultaneously. At the same time, western citizens experience a significant average increase of the influence of social relations, while the relationship of social trust with happiness is significantly lower and the influence of the interaction effect with social norms is insignificant. Overall, the influence of social capital will rise and western citizens will benefit more from their stock of social capital.

The coefficient for the dummy of Latin America has risen considerably by one point. The interaction effects seem to take out the omitted variable bias that was present in the Latin

American dummy in model 7. Namely, model 7 integrated the negative effects of the interaction effects in the regression coefficient of the Latin American dummy, which resulted in a downward bias. On the other hand, the coefficient of the western dummy appears to have decreased noticeably and its influence becomes insignificant. This suggests that western individuals do not report a higher average level of happiness anymore, ceteris paribus, but these are similar to the other countries. In this case, the western dummy coefficient of model 7 has integrated the positive coefficients of the interaction effects, which resulted in an upward bias.

From model 7 – 12, it becomes clear that the influence of social capital on happiness differs considerably. The relationship between social capital and happiness might become insignificantly small in Latin America, while it becomes noticeably larger in western countries. Nevertheless, the Latin American population will on average report a 1.76 to 2.90 points higher happiness level, despite of their lack of effect from social capital. This might indicate that the increased levels of happiness in these regions are not explained by social capital, but by other factors that were not included in the regression. These results are in line with the results from the section 'Connection between happiness and social capital', in which the influence of social capital was significantly less in Latin America compared to other countries as well.

Conclusion

The study examined whether the social capital has a considerable influence on happiness and tried to answer the main question: '*Does social capital play a similar role in Latin America and in western countries?*' The main topic evolved around the Latin American paradox, indicating that Latin American countries unexpectedly report higher levels of happiness, even though their socio-economic statuses falls behind on countries with similar happiness levels, such as western countries. Many studies argued for the greater influence of relational goods or cultural influences in Latin America, which would cause the heightened happiness levels through an increased size and influence of social capital (Martínez Cruz and Castillo Flores, 2016; Morcillo & De Juan Díaz, 2016; Rojas, 2016; Yamamoto, 2016). Despite of the few opposing views of the additional influence of social capital (Ram, 2010), the effect of social capital on happiness has been studied in two regions: Latin America and western countries.

Social capital has been defined and its relationship to happiness has been studied. This variable has been categorized into three more specific social capital variables: 1) Social relations, showing whether citizens value their bonds with family and friends, as well as social interaction; 2) Social trust, indicating whether individuals trust others around them and have faith in the governmental institutions; 3) Social norms, measuring the importance of norms and moral behaviour within society.

First, it has been tested whether social capital levels have positive influence on happiness. Different models, representing all available countries, Latin American countries and western countries have been developed. It could be concluded that social capital does have a small, yet significant influence on happiness worldwide, in Latin America and in western countries. This implies that social capital helps to improve happiness. Citizens with higher levels of accumulated social capital will therefore reap the benefits and experience higher levels of happiness.

Second, it has been examined whether the actual levels of social capital are higher in Latin America compared to western countries, which may be due to the alleged higher influence of social capital in these regions (Morcillo & De Juan Díaz, 2016; Martínez Cruz and Castillo Flores, 2016). The overall level of social capital and its three categories have been studied separately. Tests showed that the average level of happiness is higher in Latin America compared to other countries in the world or western countries in particular. Similar tests have showed, however, that the mean levels of social capital are lower in Latin America than in the other countries. Western countries even showed the highest average levels of social capital present. However, this does not need to indicate that the higher average happiness in Latin America does not stem from this social capital, even though its levels are lower. Social capital is just less accumulated in these countries and thus less present in everyday life.

Third, the coefficients of regressions of social capital on happiness have been compared. Tests have been conducted to show whether the coefficients of the variables significantly differ across the three different models (World, Latin America and Western Countries). Results showed that the influence of social relations and social trust on happiness for Latin American countries is significantly lower than for western countries. Social norms seem to have a similar effect in both regions. Yet, this implies that Latin American citizens benefit less from additional

social capital than western individuals, as the former region derives less happiness from social capital than the latter region.

Fourth and lastly, the effect of being a Latin American or western citizen on happiness has been examined, as well as the interaction effect between social capital and being Latin American or western. Several models have showed that Latin American individuals report a significantly higher level of happiness, keeping everything else constant. This implies that the higher level of happiness cannot be explained through social capital. This finding has been supported by the negative interaction between social capital and being Latin American. Hence, it can be concluded that social capital does not explain the mysterious higher happiness levels in Latin America, so that the Latin American paradox cannot be solved by including only social capital in the regression (even though it has an influence on the levels of happiness). This infers that Latin American individuals are happier, but social capital is not the reason for this additional happiness. The opposite reasoning applies to western individuals. The interaction between social capital and being western showed that social capital has a significantly stronger and positive relationship with happiness. Western citizens would also report slightly higher levels of happiness on average. This suggests that an increase of their social capital stock gives them much more happiness than it gives to non-western individuals.

Concluding, it can be noted that social capital appears to have a significantly small, positive influence on happiness in Latin America, but it does not explain Latin America's soaring happiness levels. On the other hand, western countries seem to get a boost from social capital compared to Latin America or the global average.

The research question asked whether social capital plays a similar role for happiness in Latin America than in western countries. Several main findings matter for the answer to this question. The Latin American average stock of social capital is lower compared to the global average and the western average. Moreover, the influence of social capital, categorized or overall, seems to be much smaller in Latin America. Lastly, Latin American citizens report a higher average happiness level, irrespective of social capital. Thus, it can be concluded that social capital does not play a similar role for happiness in Latin America than in western countries. The truth is that social capital might even play a greater role in western countries than in Latin American countries.

This finding contradicts most research on the Latin America paradox. Several researchers explained this paradox through social capital, namely through increased influence of culture and history (Morcillo & De Juan Díaz, 2016; Martínez Cruz and Castillo Flores, 2016). Yet, the results of this study, even though a small, positive influence has been found in Latin America, seem to indicate that social capital might have a greater positive influence on happiness in western countries. Therefore, the results presented seem to generate new questions on the validity of these claims and open doors to future studies on this topic.

Limitations and Recommendations

Unfortunately, two out of three hypotheses had to be rejected, which was highly unexpected, due to several prior studies that showed that the Latin American paradox could indeed be explained by social capital (Martínez Cruz and Castillo Flores, 2016; Morcillo & De Juan Díaz, 2016; Rojas, 2016; Yamamoto, 2016). Two main notions can be made about the possible causes for this discrepancy.

First, the dataset only included data on few Latin American and western countries. Main countries - such as Canada, the United Kingdom, France or Italy in the western region and Venezuela, the Dominican Republic, Cuba and Guatemala in Latin America – were missing in the regressions and tests, which could have resulted in a bias towards the influence of social capital on happiness in specific countries, which were present in the dataset. A sample, which included all Latin American and western countries might provide different outcomes and conclusions, as the complete Latin American and western population would be considered. This is especially the case for the western region, where only 66 % of the whole population is accounted for.

Second, it was key to define a good and representative measure for social capital. However, the sources for data only gave limited possibilities to achieve this, while maintaining a global sample. The questionnaire of the World Value Survey was not extensive enough to create accurate measures for social capital, even when categorizing it. Due to these missing possibilities within the World Value Survey to create a complete measure for social capital, the measured influences between social capital and happiness might have been flawed. Creating a highly accurate measure of (the separate categories of) social capital might provide different results.

It might be the case that other factors could explain the Latin American paradox better. Currently missing, external factors of social capital, such as culture, or comparable influencers of happiness might just be the key to the Latin American puzzle - for instance, the factor relational goods. Since the relation between social capital and relational goods is quite ambiguous (as shown in the theory section), other studies might have indirectly focused on relational goods and happiness more than social capital and happiness. This could explain why those researchers found significant, positive relations between social capital and happiness and why those influences where even greater than for other regions. Some researchers already study the influence of relational goods on happiness and find strong, positive relationships (Velásquez, 2016). More studies on these findings and on the difference between social capital and relational goods in relation to happiness, might help to clarify the Latin American paradox.

However, these external measures have one characteristic in common. They are highly subjective and are hard to measure and observe for outsiders. Nevertheless, they might explain an important part in the varying happiness levels around the world. Different levels of relational goods could be a large part of what is currently unexplained about the causes of happiness. Therefore, it is important to not lose sight of these subjective variables and necessary to try to implement them in the happiness models.

In conclusion, the Latin American paradox is a compelling reason to continue studying happiness and its causes, especially if these causes involve more subjective measures, such as social capital, culture or relational goods. A deeper understanding of these subjective variables might be the key to a lot of concerns that are still present in the happiness research. Nevertheless, recognizing what makes citizens happy is key to living in a thriving society and economy.

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Appendix

Survey Questions

Here the questions from the World Value Survey Wave 6 are shown which are used to define measures for the three different social capital groups: social relations, social trust and social norms.

Social relations will be measured through answers to the following questions:

- How important is family in your life? (ranging from 1 'very important' until 4 'not at all important')
- How important are friends in your life? (ranging from 1 'very important' until 4 'not at all important')

Social trust will be measured through answers to the following questions:

- Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people? (1: most people can be trusted; 2: need to be very careful)
- Do you think most people would try to take advantage of you if they got a chance, or would they try to be fair? (ranging from 1 'people try to take advantage' until 10 'people try to be fair')
- Could you tell me whether you trust people from this group completely, somewhat, not very much or not at all? (groups: family, neighbours, people you know personally, people you meet for the first time)
- How much confidence do you have in the armed forces/the police/the courts/political parties/parliament? (ranging from 1 'a great deal' to 4 'none at all')

Social norms will be measured through answers to the following questions:

- During the past two years, have you given money to an ecological organization? (1: yes; 2: no)
- During the past two years, have you participated in a demonstration for some environmental cause? (1: yes; 2: no)
- How justifiable are each of the following actions? (Actions are: claiming government benefits to which you are not entitled/avoiding a fare on public transport/stealing property/cheating on taxes if you have a chance/someone accepting a bribe in course of their duties; ranging from 1 'never justifiable' to 10 'always justifiable')

Table A1

This table contains the Better-Life Index ranks and scores for the countries present in the dataset on three variables: Life satisfaction (similarly measured in this study), Community (representing social relations and social norms) and Civic Engagement (representing social norms).

Country	Life Satisfaction Rank	Life Satisfaction Score[1]	Community Rank	Community Score[2]	Civic Engagement Rank	Civic Engagement Score[3]
Latin America						
Brazil	19	6.5	23	90	9	78.9
Chile	20	6.5	35	82.5	37	49.3
Mexico	24	6.2	38	75.3	28	63.1
Average	21	6.4	32	82.6	24.7	63.8
Western						
Australia	9	7.3	6	95.1	1	93.2
Estonia	33	5.6	21	90.2	26	64.2
Germany	13	7	16	92.3	19	71.5
Netherlands	8	7.3	28	87.9	15	74.6
New Zealand	6	7.4	1	98.6	11	77
Poland	26	6	29	86.3	34	55.3
Slovenia	32	5.7	26	88.9	36	51.7
Spain	22	6.4	4	95.5	17	73.2
Sweden	10	7.3	14	92.3	5	85.8
United States	15	6.9	22	90.1	23	66.7
Average	17.4	6.69	16.7	91.72	18.7	71.32

Table A1: Better-Life Index scores for Life Satisfaction, Community and Civic Engagement for countries present in the dataset

[1]Life Satisfaction is measured out of 10

[2]Community is measured out of 100 and shows the percentage of people that could rely on others in hard times

[3]Civic Engagement is measured out of 100 and shows the voter turnout during the last elections

Table A2

Control Variables	Number of Restriction	Tested F-score	P-value
Categorical Variable:			
Employment	7	38.11	0.000
Income Scale	9	333.82	0.000
Male	1	135.51	0.000
Education	6	70.89	0.000
Marital Status	5	98.57	0.000
Continuous variable:			
Health	1	4844.08	0.000
Perceived security	1	497.48	0.000
Age	1	296.13	0.000
All Control Variables:	31	424.84	0.000

Table A2: Output of F-tests of joint significance ran for the control variables

Table A3

The following models are additions to model 1 – 3 from table 12 on page 24. In this case, social capital has been grouped together to show the overall relationship between social capital and happiness, instead of the three separate influences of the three groups.

	World (Model 4)	Latin America (Model 5)	Western Countries (Model 6)
Social Capital	0.2114**	0.1801**	0.3546**
Health	0.2289**	0.2038**	0.2721**
Gender (1 = Female)	0.1712**	-0.0062	0.0757**
Age	0.0098**	0.0002	0.0055**
Employment:			
Self-employed	-0.1450**	0.0147	-0.0850
Retired	0.0399	0.1526	0.2193**
Unemployed	-0.3506**	-0.0271	-0.4885**
Other	0.0138	0.1833**	0.1850**
Income Scale:			
20,001 to 35,000	0.2477**	-0.3110**	0.3648**
35,001 to 62,500	0.7175**	-0.1796**	0.7038**
62,501 to 100,000	1.1438**	0.1064	1.0044**
100,001 or more	1.6124**	0.6785**	1.0225**
Education:			
Primary school	0.7105**	-0.1261	0.2356
Secondary School	0.6179**	-0.2435	0.1380
University Level	0.6611**	-0.3253*	0.0800
Marital Status:			
Separated/Widowed	-0.3750**	-0.3781**	-0.5168**
Single	-0.0951**	-0.2303**	-0.2950**
Constant	2.1997**	5.7509**	1.9105**

Table A3: Regression model 4 – 6 (Dependent variable: Life Satisfaction)
Number of Observations: 84,334 (Model 1); 9,086 (Model 2); 15,383 (Model 3)
** significant at 5 % level ** significant at 1 % level*

Table A4 – A18

Group	Observations	Mean	Std. Err.	Std. Dev.	95% Confidence Interval	
Latin America	10,402	7.8651	0.0196	1.9956	7.8268	7.9035
Western countries	16,840	7.1761	0.0151	1.9631	7.1465	7.2058
Combined	27,242	7.4392	0.0121	2.0037	7.4154	7.4630
Difference		0.6890	0.0246		0.6407	0.7373
T-value	27.9666					
Degrees of Freedom	27,240					
P-value	0.0000					

Table A4: Independent sample t-test with equal variances (Tested Variable: Life Satisfaction)
Tested Groups: Latin America versus Western countries

Group	Observations	Mean	Std. Err.	Std. Dev.	95% Confidence Interval	
Other countries	79,369	6.6932	0.0081	2.2733	6.6774	6.7091
Latin America	10,402	7.8651	0.0196	1.9956	7.8268	7.9035
Combined	89,771	6.8290	0.0076	2.2741	6.8142	6.8439
Difference		-1.1719	0.0234		-1.2177	-1.1260
T-value	-50.1055					
Degrees of Freedom	89,769					
P-value	0.0000					

Table A5: Independent sample t-test with equal variances (Tested Variable: Life Satisfaction)
Tested Groups: Latin America versus Other countries

Group	Observations	Mean	Std. Err.	Std. Dev.	95% Confidence Interval	
Other countries	72,931	6.7489	0.0086	2.3327	6.7320	6.7658
Western countries	16,840	7.1761	0.0151	1.9631	7.1465	7.2058
Combined	89,771	6.8290	0.0076	2.2741	6.8142	6.8439
Difference		-0.4272	0.0194		-0.4652	-0.3892
T-value	-22.0344					
Degrees of Freedom	89,769					
P-value	0.0000					

Table A6: Independent sample t-test with equal variances (Tested Variable: Life Satisfaction)
Tested Groups: Western countries versus Other countries

Group	Observations	Mean	Std. Err.	Std. Dev.	95% Confidence Interval	
Latin America	10,440	6.4758	0.0092	0.9394	6.4578	6.4938
Western countries	16,957	7.1238	0.0071	0.9211	7.1100	7.1377
Combined	27,397	6.8769	0.0059	0.9800	6.8653	6.8885
Difference		-0.6480	0.0115		-0.6707	-0.6254
T-value	-56.1285					
Degrees of Freedom	27,395					
P-value	0.0000					

Table A7: Independent sample t-test with equal variances (Tested Variable: Social Capital)
Tested Groups: Latin America versus Western countries

Group	Observations	Mean	Std. Err.	Std. Dev.	95% Confidence Interval	
Other countries	79,899	7.0056	0.0033	0.9340	6.9991	7.0121
Latin America	10,440	6.4758	0.0092	0.9394	6.4578	6.4938
Combined	90,339	6.9444	0.0032	0.9499	6.9382	6.9506
Difference		0.5298	0.0097		0.5107	0.5489
T-value	54.4701					
Degrees of Freedom	90,337					
P-value	0.0000					

Table A8: Independent sample t-test with equal variances (Tested Variable: Social Capital)
Tested Groups: Latin America versus Other countries

Group	Observations	Mean	Std. Err.	Std. Dev.	95% Confidence Interval	
Other countries	73,382	6.9029	0.0035	0.9516	6.8960	6.9098
Western countries	16,957	7.1238	0.0071	0.9211	7.1100	7.1377
Combined	90,339	6.9444	0.0032	0.9499	6.9382	6.9506
Difference		-0.2209	0.0081		-0.2367	-0.2051
T-value	-27.4102					
Degrees of Freedom	90,337					
P-value	0.0000					

Table A9: Independent sample t-test with equal variances (Tested Variable: Social Capital)
Tested Groups: Western countries versus Other countries

Group	Observations	Mean	Std. Err.	Std. Dev.	95% Confidence Interval	
Latin America	10,437	8.3381	0.0154	1.5714	8.3079	8.3682
Western countries	16,925	8.8312	0.0106	1.3822	8.8104	8.8521
Combined	27,362	8.6431	0.0089	1.4768	8.6256	8.6606
Difference		-0.4931	0.0181		-0.5287	-0.4576
T-value	-27.1900					
Degrees of Freedom	27,360					
P-value	0.0000					

Table A10: Independent sample t-test with equal variances (Tested Variable: Social Relations)
Tested Groups: Latin America versus Western countries

Group	Observations	Mean	Std. Err.	Std. Dev.	95% Confidence Interval	
Other countries	79,761	8.7408	0.0051	1.4538	8.7307	8.7509
Latin America	10,437	8.3381	0.0154	1.5714	8.3079	8.3682
Combined	90,198	8.6942	0.0049	1.4735	8.6846	8.7038
Difference		0.4027	0.0153		0.3727	0.4326
T-value	26.3550					
Degrees of Freedom	90,196					
P-value	0.0000					

Table A11: Independent sample t-test with equal variances (Tested Variable: Social Relations)
Tested Groups: Latin America versus Other countries

Group	Observations	Mean	Std. Err.	Std. Dev.	95% Confidence Interval	
Other countries	73,273	8.6625	0.0055	1.4921	8.6517	8.6733
Western countries	16,925	8.8312	0.0106	1.3822	8.8104	8.8521
Combined	90,198	8.6942	0.0049	1.4735	8.6846	8.7038
Difference		-0.1687	0.0126		-0.1933	-0.1441
T-value	-13.4370					
Degrees of Freedom	90,196					
P-value	0.0000					

Table A12: Independent sample t-test with equal variances (Tested Variable: Social Relations)
Tested Groups: Western countries versus Other countries

Group	Observations	Mean	Std. Err.	Std. Dev.	95% Confidence Interval	
Latin America	10,440	4.3517	0.0144	1.4736	4.3235	4.3800
Western countries	16,940	5.4900	0.0115	1.4974	5.4674	5.5125
Combined	27,380	5.0560	0.0096	1.5877	5.0371	5.0748
Difference		-1.1382	0.0185		-1.1745	-1.1019
T-value	-61.4628					
Degrees of Freedom	27,378					
P-value	0.0000					

Table A13: Independent sample t-test with equal variances (Tested Variable: Social Trust)
Tested Groups: Latin America versus Western countries

Group	Observations	Mean	Std. Err.	Std. Dev.	95% Confidence Interval	
Other countries	79,848	5.5348	0.0053	1.5073	5.5244	5.5453
Latin America	10,440	4.3517	0.0144	1.4736	4.3235	4.3800
Combined	90,288	5.3980	0.0052	1.5503	5.3879	5.4081
Difference		1.1831	0.0156		1.1524	1.2138
T-value	75.6136					
Degrees of Freedom	90,286					
P-value	0.0000					

Table A14: Independent sample t-test with equal variances (Tested Variable: Social Trust)
Tested Groups: Latin America versus Other countries

Group	Observations	Mean	Std. Err.	Std. Dev.	95% Confidence Interval	
Other countries	73,348	5.3768	0.0058	1.5615	5.3655	5.3881
Western countries	16,940	5.4900	0.0115	1.4974	5.4674	5.5125
Combined	90,288	5.3980	0.0052	1.5503	5.3879	5.4081
Difference		-0.1132	0.0132		-0.1391	-0.0873
T-value	-8.5674					
Degrees of Freedom	90,286					
P-value	0.0000					

Table A15: Independent sample t-test with equal variances (Tested Variable: Social Trust)
Tested Groups: Western countries versus Other countries

Group	Observations	Mean	Std. Err.	Std. Dev.	95% Confidence Interval	
Latin America	10,432	6.7381	0.0127	1.2970	6.7132	6.7629
Western countries	16,937	7.0563	0.0096	1.2448	7.0375	7.0750
Combined	27,369	6.9350	0.0077	1.2743	6.9199	6.9501
Difference		-0.3182	0.0157		-0.3491	-0.2874
T-value	-20.2136					
Degrees of Freedom	27,367					
P-value	0.0000					

Table A16: Independent sample t-test with equal variances (Tested Variable: Social Norms)
Tested Groups: Latin America versus Western countries

Group	Observations	Mean	Std. Err.	Std. Dev.	95% Confidence Interval	
Other countries	79,789	6.7458	0.0051	1.4537	6.7357	6.7559
Latin America	10,432	6.7381	0.0127	1.2970	6.7132	6.7629
Combined	90,221	6.7449	0.0048	1.4365	6.7355	6.7543
Difference		0.0077	0.0150		-0.0216	0.0371
T-value	0.5182					
Degrees of Freedom	90,219					
P-value	0.6043					

Table A17: Independent sample t-test with equal variances (Tested Variable: Social Norms)
Tested Groups: Latin America versus Other countries

Group	Observations	Mean	Std. Err.	Std. Dev.	95% Confidence Interval	
Other countries	73,284	6.6729	0.0054	1.4679	6.6623	6.6836
Western countries	16,937	7.0563	0.0096	1.2448	7.0375	7.0750
Combined	90,221	6.7449	0.0048	1.4365	6.7355	6.7543
Difference		-0.3833	0.0122		-0.4072	-0.3595
T-value	-31.4719					
Degrees of Freedom	90,219					
P-value	0.0000					

Table A18: Independent sample t-test with equal variances (Tested Variable: Social Norms)
Tested Groups: Western countries versus Other countries

Table A19 & A20

	Model 7	Model 8	Model 9	Model 10
Social Relations	0.0636**	0.0637**	0.0745**	0.0357**
Social Trust	0.1863**	0.2063**	0.1946**	0.0954**
Social Norms	0.0308**	0.0300**	0.0473**	0.0364**
Latin American Country	1.6905**	2.8030**	2.9136**	
Latin American Country*Social Relations		-0.0410**	-0.0534**	
Latin American Country*Social Trust		-0.1368**	-0.1294**	
Latin American Country*Social Norms		-0.0233	-0.0463**	
Western Country	0.5456**	0.1952		-0.8368**
Western Country*Social Relations		0.0390**		0.0673**
Western Country*Social Trust		-0.0335**		0.0771**
Western Country*Social Norms		0.0267		0.0202
Health	0.2162**	0.2162**	0.2203**	0.2244**
Gender (1 = Female)	0.1547**	0.1507**	0.1694**	0.1574**
Age	0.0065**	0.0066**	0.0094**	0.0078**
Employment:				
Self-employed	-0.1075**	-0.1096**	-0.1796**	-0.0966**
Retired	0.0827**	0.0849**	0.1078**	0.0280
Unemployed	-0.2920**	-0.2920**	-0.3203**	-0.3338**
Other	0.0419*	0.0415*	0.0001	0.0388*
Income:				
20,001 to 35,000	0.2866**	0.2893**	0.2985**	0.2315**
35,001 to 62,500	0.7710**	0.7709**	0.7704**	0.7029**
62,501 to 100,000	1.2134**	1.2106**	1.2002**	1.1259**
100,001 or more	1.6556**	1.6478**	1.6314**	1.5880**
Education:				
Primary school	0.4243**	0.4225**	0.4991**	0.6770**
Secondary School	0.3981**	0.3979**	0.4952**	0.5690**
University Level	0.4290**	0.4336**	0.5636**	0.5920**
Marital Status:				
Separated/Widowed	-0.4139**	-0.4104**	-0.4066**	-0.3733**
Single	-0.1206**	-0.1140**	-0.0952**	-0.1009**
Constant	2.0197**	1.9100**	1.6371**	2.7114**

Table A19: Regression model 7 – 10 (Dependent variable: Life Satisfaction)
Number of Observations: 84,218
** significant at 5 % level ** significant at 1 % level*

	Model 11	Model 12
Social Capital	0.2936**	0.3080**
Latin American Country	1.5966**	2.9009**
Latin American Country*Social Capital		-0.2012**
Western Country	0.5079**	0.1525
Western Country*Social Capital		0.0494*
Health	0.2191**	0.2189**
Gender (1 = Female)	0.1527**	0.1507**
Age	0.0069**	0.0069**
Employment:		
Self-employed	-0.1313**	-0.1349**
Retired	0.0804**	0.0828**
Unemployed	-0.2972**	-0.2978**
Other	0.0387*	0.0368
Income:		
20,001 to 35,000	0.2951**	0.2969**
35,001 to 62,500	0.7895**	0.7898**
62,501 to 100,000	1.2490**	1.2470**
100,001 or more	1.7138**	1.7088**
Education:		
Primary school	0.4239**	0.4208**
Secondary School	0.3914**	0.3895**
University Level	0.4068**	0.4060**
Marital Status:		
Separated/Widowed	-0.4159**	-0.4130**
Single	-0.1297**	-0.1256**
Constant	1.7246**	1.6285**

Table A20: Regression model 11 & 12 (Dependent variable: Life Satisfaction)
Number of Observations: 84,334
** significant at 5 % level ** significant at 1 % level*