

# ARTICLES

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## FOCUSING ILLUSION IN SATISFACTION WITH LIFE AMONG COLLEGE STUDENTS LIVING IN BRAZIL

*Ilusão de foco e satisfação com a vida entre universitários em São Paulo e Santa Maria*

*Ilusión de enfoque y satisfacción con la vida entre universitarios en São Paulo y Santa Maria*

### ABSTRACT

Literature shows that there are significant associations between health and happiness. Various countries are considering, contemplating or formally incorporating the happiness variable into their public health policies. Moreover, the private sector has shown interest in the topic. Based on that This article examines the biases in the perception of satisfaction with life among young adults in two Brazilian cities. The study explores the associations between aspects of life and perception of happiness because public policies associated with happiness require an improved understanding of the subjectivity of the sense of well-being. A survey conducted among 368 college students enabled analysis through Multivariate Analysis of Covariance (MANCOVA) and linear regression. The results suggest that, although there were no significant differences in general satisfaction with life between the two cities, there were indications of focusing illusion in the perception of happiness caused by expectations arising from the feeling of personal insecurity in a metropolis.

**KEYWORDS** | Happiness, satisfaction with life, well-being, focusing illusion, college students.

### RESUMO

A literatura aponta que há associações significativas entre a felicidade e a saúde. Vários países estão considerando, contemplando ou mesmo formalmente incorporando a variável de felicidade em suas políticas de saúde pública. Além disso, a iniciativa privada tem demonstrado interesse pelo tema. A partir disso, este artigo analisa erros de julgamento na percepção de satisfação com a vida entre estudantes universitários em duas cidades brasileiras. O estudo explora as associações entre os aspectos da vida e a percepção de felicidade, já que políticas públicas associadas à felicidade requerem uma melhor compreensão da subjetividade do sentimento de bem-estar. Um survey realizado com 368 estudantes universitários possibilitou análises por meio de Análise Multivariada de Covariância (MANCOVA) e regressão linear. Os resultados sugerem que, embora não tenham sido encontradas diferenças significativas em termos de satisfação geral com a vida entre as duas cidades consideradas, houve indícios de ilusão de foco na percepção de felicidade, causada por expectativas decorrentes do sentimento de insegurança pessoal em uma metrópole.

**PALAVRAS-CHAVE** | Felicidade, satisfação com a vida, bem-estar, ilusão de foco, universitários.

### RESUMEN

La literatura apunta que existen asociaciones significativas entre la felicidad y la salud. Varios países están considerando, contemplando o hasta formalmente incorporando la variable de felicidad en sus políticas de salud pública. Además, la iniciativa privada ha demostrado interés por el tema. A partir de eso, este artículo analiza errores de juzgamiento en la percepción de satisfacción con la vida entre estudiantes universitarios en dos ciudades brasileñas. El estudio explora las asociaciones entre los aspectos de la vida y la percepción de felicidad, ya que políticas públicas asociadas a la felicidad requieren una mejor comprensión de la subjetividad del sentimiento de bienestar. Un survey realizado con 368 estudiantes universitarios permitió el análisis por medio del Análisis Multivariado de Covariancia (MANCOVA) y regresión lineal. Los resultados sugieren que, aunque no hayan sido encontradas diferencias significativas en términos de satisfacción general con la vida entre las dos ciudades consideradas, hubo indicios de ilusión de enfoque en la percepción de la felicidad, causada por expectativas provenientes del sentimiento de inseguridad personal en una metrópolis.

**PALABRAS CLAVE** | Felicidad, satisfacción con la vida, bienestar, ilusión de enfoque, universitarios.

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## RESEARCH PROBLEM

This study is intended to contribute to the development of public health policies by exploring questions related to the subjectivity of happiness (DOLAN & WHITE, 2007; GRAHAM, 2008). Perceived happiness is affected by many factors, including job prospects, opportunities for intellectual growth, financial situation and personal security (LOEWENSTEIN and other, 2003; LICHTENSTEIN & SLOVIC, 2006; MARANS & STIMSON, 2011), as well as more broad societal factors such as national wealth and freedom (OISHI & SCHIMMACK, 2010). However, people are often poor judges of the happiness and well-being of others, overestimating the influence of highly salient external factors. The present study examined this effect, known as a focusing illusion, to establish its presence in a Brazilian sample, a culture where few studies on happiness have been conducted, to explore the implications of this effect for public health.

Researchers assume that happiness is a component of good life (THALER & SUSTEIN, 2008). However, the nature of happiness is not uniformly defined (THALER & SUSTEIN, 2008) and may include: a) pleasure, b) satisfaction with life, c) positive emotions, and d) feelings of contentment, among other concepts. In short, happiness is not a concept that is clearly distinct from pleasure, satisfaction or well-being (MARANS & STIMSON, 2011; OSWALD, 1997; BURR and others, 2011). In the present study, based on the arguments found in the literature, happiness is assumed as a synonym of satisfaction with life and of perceived psychological well-being (CAMPBELL and others, 1976; SCHKADE & KAHNEMAN, 1998; MARANS & STIMSON, 2011).

Despite the difficulties in definition, combining economic and psychological methods allows researchers to examine well-being in ways that have implications for public policy (KAHNEMAN & TVERSKY, 1979; DIENER & CHAN, 2011; BROCKMANN and others, 2009; BRUNI & PORTA, 2007; CAMPBELL and others, 1976; DUESENBERY, 1949). Three factors are often included when listing the key characteristics of a good life: happiness, health and longevity (DIENER & CHAN, 2011). The interaction of these factors has been of interest to researchers in varying disciplines (THALER & SUSTEIN, 2008).

In recent years, the question of happiness has also awakened interest from governments around the world. In some countries, such as Japan, South Korea and France, this is already considered in the composition of performance indicators of public policy management (DIENER & DIENER, 1996; LYKKEN & TELLEGEN, 1996; DIENER & SELIGMAN, 2004; KAHNEMAN and

others, 2006). Further, the former President of France, Nicholas Sarkozy, recently highlighted the arguments of Joseph Stiglitz, for whom the results of an economy cannot be measured only by Gross Domestic Product (GDP) but should also reflect aspects of well-being (happiness), a line of thought shared by researchers from the United Kingdom (OSWALD, 1997). A reflection of this emphasis on the role of happiness in the economy is the interest from various international bodies in better understanding happiness.

In the case of Brazil, one example of the effort to consider happiness as part of national success is the Proposed Constitutional Amendment 19/10, known as the *PEC da Felicidade*, which proposed alterations to article 6 of the Brazilian Federal Constitution to consider rights such as social rights as essential to the search for happiness (BRASIL, 2011a; BRASIL 2011b). Table 1 presents data for the indicators of happiness adopted by the United Nations, where Brazil was classified 84<sup>th</sup> out of 187 countries in 2011.

Thus, the present study is relevant and useful to the extent that it discusses, in an unprecedented manner, issues related to the existence of the focusing illusion among young adults living in Brazil, a culture that differs from that of the United States in several respects, e.g., economic, cultural and geographic. Moreover, Brazil is an emerging market with a population of almost 200 million people, has experienced unprecedented economic growth (with economic stability), and now pursues the formalization of its citizens' well-being in the form of law, given the subjective nature (and therefore subject to biased judgment, such as the focusing illusion) of well-being, research is required in this field.

### The focusing illusion

Although countries have begun to consider the importance of happiness in national well-being, studies point to a paradox between financial wealth and happiness (AHUVIA & FRIEDMAN, 1998). However, though one might expect to find a strong relationship between happiness and wealth, the results are ambiguous (AHUVIA & FRIEDMAN, 1998; EASTERLIN, 2001). Recent work suggests that national wealth contributes to well-being, but other factors, such as freedom, trust, and social support, work to create societies that encourage well-being (OISHI & SCHIMMACK, 2010). Thus, rather than being tied to objective factors, such as money, happiness is essentially a question of individual perception. It is therefore subject to heuristics and, consequently, to the biases of judgment implicit in human behavior (LAM and others, 2005)

TABLE 1. The happiness index around the world according to the United Nations (2011)

	Human Development Index	Life expectancy at birth	Mean years of schooling	Expected years of schooling	Gross National Income (GNI) per capita	Non-income HDI
<b>HDI groupings</b>						
Very high human development	0.889	79.953	11.287	15.939	33.352.33	0.918
High human development	0.741	73.109	8.464	13.600	11.579.28	0.769
Brazil	0.718	73.488	7.178	13.775	10.161.85	0.748
Medium human development	0.630	69.676	6.335	11.188	5.276.06	0.658
Low human development	0.456	58.735	4.151	8.329	1.584.57	0.478
<b>Regions</b>						
Arab States	0.641	70.510	5.927	10.215	8.553.68	0.643
East Asia and the Pacific	0.671	72.433	7.198	11.674	6.466.32	0.709
Europe and Central Asia	0.751	71.307	9.740	13.449	12.004.06	0.785
Latin America and the Caribbean	0.731	74.416	7.831	13.578	10.119.08	0.767
South Asia	0.548	65.933	4.638	9.810	3.435.20	0.569
Sub-Saharan Africa	0.463	54.440	4.514	9.151	1.965.61	0.467
Least developed countries	0.439	59.117	3.680	8.348	1.327.31	0.467
Small island developing states	0.640	69.620	7.278	10.843	5.200.28	0.675
World	0.682	69.816	7.385	11.343	10.081.56	0.683

Source: United Nations Human Development Index (2011). Note: This index measures happiness in different countries based on factors such as life expectancy at birth, education, and per capita income, among other factors. Essentially, the index implies that if you live longer, earn more money and have access to good schools and healthcare, you are most likely going to be happier than people who do not.

The focusing illusion is one such cognitive bias that takes place when individuals attribute extreme importance to a given aspect or a given event. By overestimating the importance of the salient factor, people's judgments are likely to be inaccurate. The occurrence of this phenomenon derives from the capacity to look forward to future situations. However, people view these situations inconsistently, overestimating the power of events, both good and bad, such as a promotion in a job or the end of a relationship (SCHKADE & KAHNEMAN, 1998; LAM and others, 2005). In other words, people are likely to overestimate the importance of highly salient events or characteristics when making judgments about the attitudes or attributes of others.

For example, one of the most frequently cited articles in the psychology of well-being reports is that there is only a small difference between self-reported satisfaction with life among physically healthy people and self-reported satisfaction with life among paraplegics (BRICKMAN and others, 1978). Such provocative results as these have also been found in subsequent studies (DIENER & DIENER, 1996). The results obtained in these studies go against the common-sense expectation that paraplegics are unhappier and lottery winners are happier (DIENER & DIENER, 1996). This bias in judgment is a special case of the focusing illusion (SCHKADE & KAHNEMAN, 1998; LAM and others, 2005). When attention is focused on particular aspects, such as paraplegia, others predict a lower satisfaction with life

(GILBERT & WILSON, 2000), but, in fact, satisfaction with life is remarkably unrelated to such external factors.

Schkade and Kahneman (1998) examined this issue among students in the Midwest and Southern California. Although satisfaction with life was similar between the two groups of students, those from the Midwest expected that those in California would report greater happiness. The analyses indicated that students overestimated the impact of the climate and cultural opportunities in predicting how happy others would be.

Imagined thoughts about one's own happiness may play an important role in human life. People sometimes ask themselves what it would be like to have another job, to live somewhere else, or to have another spouse. Systematic errors about such thoughts may have significant consequences if the individuals are moved to take action as a result of these. In this line of thought, estimates about the well-being of others may have implications for personal attitudes, when considering the associations among happiness, health and longevity.

Toward that end, engaging in a focusing illusion about the happiness of others may have serious consequences. If one assumes that external factors, such as the climate and cultural opportunities described in the Schkade and Kahneman (1998) study, are influencing happiness to a great degree, one might make changes based on others' assumed happiness. Thus, examining the happiness of the population could contribute to a

better understanding of questions that are relevant to the establishment of public health policies (EDGERTON, 1992; GRAHAM, 2008; DIENER & CHAN, 2011; VEENHOVEN, 2008; LUZ and others, 2011).

## Happiness and Public Policy

The setting of public policies, including those of health, is still predominantly established on the basis of strictly objective metrics, e.g., indices of infant mortality and life expectancy of the population (DIENER & CHAN, 2011). However, happiness is more strongly associated with health than with income (GRAHAM, 2008; INGLEHART and others, 2008). Although the associations between income and health have been studied for many years, the understanding of the relationships between happiness and health is a relatively new question, particularly in relation to public policies. Nonetheless, it is understood that good health is associated with high levels of happiness, and health shocks have a negative effect on the ratings of happiness (VEENHOVEN, 2008). Happiness, then, is a unique case: although it is related to public health, the measurement of happiness is subjective and, therefore, liable to bias in judgment.

Data indicate that the world population is aging (GRAHAM, 2008; DIENER & CHAN, 2011; BURR and others, 2011; VEENHOVEN, 2008; LUZ and others, 2011; GANDELMAN and others, 2012). This phenomenon has been attributed to the reduction in birth rates and to medical advances. However, in some countries, notably those with emerging economies, a large part of the population is in the younger age groups. Thus, understanding the well-being of young adults is a question worthy of attention because of the consequences for health and the increasing longevity of these populations (DIENER & CHAN, 2011; VEENHOVEN, 2008).

According to the literature that addresses the predictors of happiness, satisfaction with life for young adults is significantly associated with job prospects, opportunities for intellectual growth, financial situation and personal security (LOEWENSTEIN and others, 2003; LICHTENSTEIN & SLOVIC, 2006; MARANS & STIMSON, 2011). Although older people tend to have more time to dedicate to friends and family and are generally established in their careers, young adults are in a diametrically opposite position (BURR, 2011). Furthermore, young adults who have to find their place in society tend to feel the obligation to dedicate themselves to studies and to their jobs (JOHN, 1999). In addition, because a significant portion of their lives is ahead of them, young people frequently have negative feelings in relation to their satisfaction with their own lives due to insecurity about the future.

Thus, one critical issue is the identification of factors that drive the perception of happiness and well-being and, by extension, the health of the population. Few studies on happiness and well-being have been conducted in Brazil, and one of the contributions of this study is to help fill this gap (LUZ and others, 2011). Based on research from other cultures, it is believed that young people of university age are likely to expect higher satisfaction with life in cities, which are better able to meet their personal needs in a variety of areas, including intellectual growth, job prospects, social relationships, and a considerable range of leisure activities (BRUNI, 2008), despite prior research indicating that external factors are unlikely to be related to satisfaction with life. It is also expected that, due to the focusing illusion, when judging the happiness of others, young adults will overestimate the importance of environmental factors in predicting satisfaction with life. Thus, the present study is a conceptual replication of Schkade and Kahneman's (1998) work comparing happiness and expectations of happiness among college students in two very different locations.

## METHOD

This study examines the focused attention that college students (here called 'young adults') attribute to the differences between living in São Paulo, the largest financial center in Brazil, or living in Santa Maria, a university town in the countryside of the Brazilian state of Rio Grande do Sul (RS). The experimental design compares self-reports of satisfaction with life made by people living in a given place with the predictions of satisfaction with life made by people living in another place. Because this study concerns a set of respondents of an age at the start of their professional career who require professional opportunities and who tend to be more disposed to carrying out activities outside of their region of origin, the study hypotheses were as follows:

H1: There will be no significant difference between the residents of the two regions in the reported satisfaction with life, in general.

H2: Judgments made by residents in both study regions will reflect a belief that "someone such as them" would be more satisfied in São Paulo than in Santa Maria.

## Study areas and participants

To verify the existence of focusing illusion in the perception of well-being between the respondents, we invited (using posters in two different universities) students. The opinions of a total

of 368 university students were considered in two Brazilian cities: São Paulo ( $n = 142$ ), in the southeast, and Santa Maria/RS ( $n = 226$ ), in the south of Brazil. Table 2 presents the comparative data between these two cities. Although the two regions vary in size, it is noteworthy that the Index of Human Development is similarly high in both cities.

TABLE 2. A summary of the socio-demographic profile of the cities studied (2010)

Parameters	São Paulo	Santa Maria
Population	11,244,369	259,004
Biome	Atlantic rain forest	Atlantic rain forest and Pampa
Territorial area (km <sup>2</sup> )	1,523.28	1,788.13
Electorate (#Electors)	7,953,144	193,161
Per capita GDP at current prices (R\$)	32,493.96	12,200.16
Gini Index <sup>(b)</sup>	0.45	0.44
# In school – Juniors <sup>(a)</sup>	1,587,501	35,135
# In school – High school <sup>(a)</sup>	462,777	10,364
# Teachers – Juniors <sup>(a)</sup>	70,544	1,902
# Teachers – High school <sup>(a)</sup>	25,609	852
# Health Establishments SUS <sup>(c)</sup>	678	68
# Live births (registered)	186,645	3,394
Municipal Revenue – Current (R\$)	$2.33 \times 10^{12}$	$2.44 \times 10^{10}$
Budgetary Expenses – Current (R\$)	$2.10 \times 10^{12}$	$2.07 \times 10^{10}$
Value of the Municipalities Participation Fund (R\$) <sup>(d)</sup>	$1.27 \times 10^{10}$	$3.82 \times 10^9$
Human Development Index† (HDI) <sup>(e)</sup>	0.841	0.845
Total number employed (#Persons)	5,241,615	64,281

Source: Elaborated by the authors on the basis of data provided by the Brazilian Geography and Statistics Institute (IBGE), available at: <http://www.ibge.gov.br/citiesat/topwindow.htm?1>. Note: This table gives a summary of the (most recent) socio-demographic data from the cities in which the primary data were collected using questionnaires to measure aspects of the well-being of the respondents as well as the occurrence of cognitive bias stemming from an illusion of focus. The data are from the demographic census carried out by IBGE in the year 2010. (a) Data for 2009. (b) Data for 2003. (c) Single Health System. † Collected from the United Nations Development Program (UNDP). (d) It is a constitutional transfer from the Brazilian Federal Government to the Provinces. (e) Considers three metrics in relation to the city in question: per capita Gross Domestic Product, life expectancy at birth, and access to knowledge. HDI  $\geq 0.80$  is considered high.

## Materials and procedure

The participants completed a questionnaire (in electronic form) about general satisfaction with life and with eleven specific aspects of life for themselves and an imagined other. The distribution of the questionnaires took place between August 2010 and March 2011, considering the main public university in each city. The questionnaire was a modified version of the questionnaire used in the *Schkade and Kahneman (1998)* study and consisted of three blocks of questions, autonomously and voluntarily. The survey instrument may be obtained on request from the authors of this article.

The first block of questions referred to the self-evaluation of the respondent about his or her own general satisfaction with life and also with eleven specific aspects of life, using an elev-

en-point scale varying from -5 (very unsatisfied) and +5 (very satisfied; see Table 3). In this section, participants were prompted to, “Please indicate the number that represents how satisfied or dissatisfied you are with that aspect of life.” The participants then answered the same questions as they expected a person living in the other region would answer them (“Please indicate the number that best represents how satisfied or dissatisfied a student with your values and interests in City X would be with that aspect of life.”).

The second block of questions concentrated on the importance of these same specific aspects of life for well-being in their own judgment (“Please indicate the number that best represents how important that aspect of life is to your well-being.”). As in the first block of questions, the participants then answered the questions as they believed a person in the oth-

er region would respond (“Please indicate the number that best represents how important that aspect of life would be to the well-being of a student with your values and interests in City X.”). The items were completed by using an eleven-point scale varying from -5 (not so important) and +5 (extremely important).

The third block consisted of demographic questions about the respondent (gender, marital status, religion, age, ethnic group, or income). The original version of the questionnaire was obtained on request from the authors of a previous study on the same theme (SCHKADE & KAHNEMAN, 1998). In the present study, both satisfaction with life and importance scales demonstrated sufficient internal consistency reliability (Cronbach’s alpha > 0.7). Furthermore, there is wide acceptance of the validity of similar scales in the literature (LAYARD, 2005).

## Statistical analysis

The statistical analyses were carried out using the econometric package Stata 12.0. To test the study hypotheses, Multivariate Covariance Analysis (MANCOVA) and linear regression were used (ANDERSON, 1984). MANCOVA is an extension of analysis of covariance (ANCOVA) methods to cover cases where there is more than one dependent variable and where the control of concomitant continuous independent variables - covariates - is required (TABACHNICK & FIDELL, 2007, p. 296). These analyses allow for the examination of impact of region of residence on well-being while controlling for demographic variables.

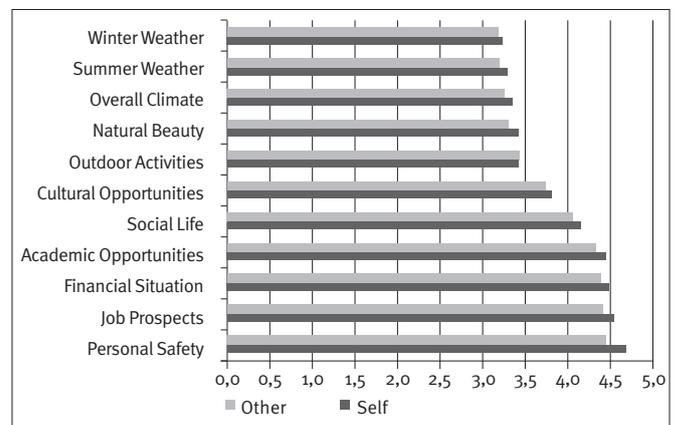
## RESULTS

It should be noted that the two cities studied are quite different, especially from an economic standpoint, as reported in Table 2. However, the demographic profiles of respondents in both cities were quite similar; that is, there were no differences in the composition of the two groups in terms of gender, marital status, religion, age, ethnic group, or income. Moreover, respondents in both cities were college students (‘young adults’). By way of description of the data set: among the 368 participants in the study, 53.7% were male, 76.6% reported their ethnicity as white, 78.3% were single, 50.8% were Roman Catholic and 93.8% were between 17 and 30 years old. The study sought a broad cross-section of university students so that the demographic variables most frequently found in studies on happiness were represented (GRAHAM & PETTINATO, 2002). Overall, the non-parametric Mann-Whitney test indicated that age, income, job, and educational level were not significantly associated with the self-reported levels of happiness.

## Importance ratings

Participants were asked about the importance of eleven factors in their own satisfaction with life and what they expected for others in the other region. The data for the self and other ratings are shown in Figure 1. The ratings assigned by the respondents to each of the eleven specific aspects of life, in general, were not significantly different from one another.

Figure 1. The rated importance of aspects of life to well-being, for respondents in the self and other conditions



Note: Higher scores indicate greater importance. N = 368.

On average, aspects related to climate were of less relevance. In contrast, as expected for young adults (John, 1999), personal security, job prospects, financial situation and academic opportunities received higher grades of importance for general satisfaction with life. These priorities are similar to the results obtained in the United States except for the fact that personal security was ranked only fourth in the United States (SCHKADE & KAHNEMAN, 1998). The MANCOVA procedure was conducted to examine differences in importance attributed to eleven specific aspects of life, using city of residence as the factor and gender, ethnic group and marital status as covariates. In São Paulo, greater importance was attributed to natural beauty and financial situation ( $p < .05$ ). In addition, male individuals attributed less importance to academic opportunities, personal security, financial situation and job prospects. Finally, individuals who declared themselves as belonging to the white ethnic group attributed greater relevance to cultural opportunities and less importance to financial situation.

## Satisfaction ratings

About Self condition, the first column of Table 3 represents the average value of the self-reported ratings of general satisfaction

with life, together with the eleven specific aspects of life, among the whole group of respondents. On average, subjects reported levels of general satisfaction with life of approximately  $2.04 \pm 2.16$ . This value is below that found in the United States, which was close to  $2.79 \pm 1.78$  (SCHKADE & KAHNEMAN, 1998). The respondents were reasonably satisfied with the aspects of life. However, less satisfaction was found in relation to summer weather, personal security and outdoor activities when compared to satisfaction with the other eight aspects.

TABLE 3. Satisfaction ratings in the self and other conditions

Aspect of life rated	Self		Other		
	Total		Total	São Paulo	Santa Maria
	Mean (SD)	≠ Mean SP-SM †	Mean (SD)	≠ Mean SP-SM ‡	≠ Mean SM-SP
Life overall	2.04 (2.16)	-0.234	0.84 (2.53)	0.306	1.624 ***
Academic opportunities	2.27 (2.23)	1.245 ***	2.32 (2.49)	2.955 ***	-1.805 ***
Natural beauty	0.52 (2.62)	-0.830 ***	1.03 (2.84)	-2.927 ***	1.191 ***
Summer weather	-0.41 (3.07)	2.008 ***	0.71 (2.69)	-1.454 ****	-1.137 ***
Social life	2.32 (2.34)	0.658 *	1.68 (2.46)	1.194 ****	0.608 **
Personal safety	0.14 (2.97)	-3.017 ***	-0.97 (3.40)	-4.135 ****	4.61 ***
Financial situation	0.99 (2.48)	0.289	0.83 (2.27)	0.237	0.226
Job prospects	0.32 (3.08)	3.173 ***	1.78 (2.95)	3.081 ***	-4.236 ***
Winter weather	0.88 (2.95)	0.756	0.73 (2.56)	0.506	-0.018
Outdoor activities	0.19 (2.62)	0.860 ***	0.94 (2.86)	-1.684 ***	0.040
Cultural opportunities	1.24 (2.54)	2.277 ***	2.27 (2.57)	2.389 ***	-3.230 ***
Overall climate	0.54 (2.47)	0.482	0.91 (2.29)	-1.222 ***	-0.082

Source: Elaborated by the authors. Note: The ratings are on a scale from -5 (very unsatisfied) to +5 (very satisfied). \* $p < 0.1$ ; \*\* $p < 0.05$ ; \*\*\* $p < 0.01$ . † The difference between least squares means, adjusted for demographic effects, for São Paulo (SP) and Santa Maria (SM) respondents. ‡ The difference between least squares means, adjusted for demographic effects, for students living in São Paulo and similar others living in Santa Maria. N min = 344; N max = 347.

The second column of Table 3 shows the average difference of self-satisfaction between the two cities, adjusted via MANCOVA. As with the ratings of importance, the influence of the region was tested, isolating this from the demographic profile (gender, ethnic group, marital status) on the satisfaction with the different specific aspects of life. No influence was found from the demographic profile on the general satisfaction with life. However, out of the eleven specific aspects, significant differences were identified for eight. Satisfaction with academic opportunities in São Paulo was higher (1.25;  $p < 0.01$ ) and was not impacted by the demographic variables. However, satisfaction with natural beauty (higher in Santa Maria) was impacted by gender, with great-

er satisfaction being found among male individuals ( $p < 0.05$ ), and social life (higher in São Paulo) was impacted by marital status, with greater satisfaction being found among those who were single ( $p < 0.05$ ).

Finally, winter weather, despite receiving different values between the two cities, showed a higher level of satisfaction among males. In addition, according to arguments found in the literature, males tend to attribute greater attention to aspects related to climate and nature (RASCIUTE & DOWNWARD, 2010). The most important result, as expected, is that no significant difference was found in the level of general satisfaction with life between the two cities, even controlling for the effects of demographic profile, supporting  $H_1$ .

However, the similarity of satisfaction with life in the two regions can be broken down further. With regard to the levels of importance of specific aspects of life, the residents of Santa Maria, while attributing great importance to aspects related to intellectual and professional development and recognizing that there are more opportunities in these areas in the city of São Paulo, were not less satisfied than those from São Paulo.

Similarly, those from São Paulo shared the values in relation to the importance of personal and professional development and recognized that they had access to good opportunities due to living in the metropolis. However, their level of general satisfaction with life was no higher than those shown by the students from Rio Grande do Sul. To put this another way, the fact of having greater access to more intellectual and professional opportunities (relative advantage) does not seem to make the residents of São Paulo significantly happier or more satisfied with life, in general.

About other conditions, the third column of Table 3 reports the average ratings attributed by the subjects when questioned about what they thought about someone who shared their values and interests but who lived in the other region. The principal difference between the first and the third column is that general satisfaction with one's own life was evidently higher than that predicted for a similar individual resident in the other region ( $F = 18.61$ ;  $p < 0.01$ ). This difference in favor of one's own situation can be seen as a bias of optimism, i.e., subjects tend to believe that their lives are better than those others like them (Taylor & Brown, 1988). However, this bias of judgment is often not reflected consistently in the specific aspects of life (SCHKADE & KAHNEMAN, 1998).

The central objective of the present article was to examine the existence of the effects of the region on the differentiated ratings between one's own situation (self) and one's perception of others' situations (other). Toward this end, two sets of differences, controlled by the demographic factors, were computed:

the difference between the self condition in São Paulo and the other condition in Santa Maria (column 4), and vice versa (column 5). Once again, MANCOVA were conducted, controlling for the demographic composition of the two regions. Thus, it was found that individual residents in São Paulo showed no differences in expectation of satisfaction with life between living in São Paulo or in Santa Maria ( $0.31$ ;  $p > 0.05$ ). However, the reverse was not found as being true ( $1.62$ ;  $p < 0.01$ ). In other words, the respondents from Santa Maria believed that living in São Paulo brings about lower satisfaction with life, even though they recognized that the metropolis involves greater possibilities for academic opportunities, job prospects and cultural opportunities.

### The test of focusing illusion

About the importance: Hypothesis  $H_2$ , that there would be a focusing illusion in predicting well-being, was partially supported. This hypothesis assumes that when young adults assess the well-being of an individual similar to themselves in a place with a strong business environment, they focus attention on the aspects that define the difference between their own region and that of the person they are assessing (especially aspects associated with personal development). This approach may lead to a mistaken belief that living in São Paulo would be better than living in Santa Maria. This belief would be manifested in the ratings of importance of the aspects of life that set the two regions apart, with the strengths in the other region classified as more important than those in one's own region. Thus, to test  $H_2$ , three aspects of life were considered to be associated with personal and professional development (job prospects, academic opportunities, financial situation) and were analyzed using MANCOVA with the region as the factor and the demographic variables as covariates. However, there was no significant difference was found between the ratings of these aspects of life assigned to one's home region versus the region of another similar person. However, the importance attributed to personal security was found to be different between the two situations (self and other).

About Satisfaction with life: According Schkade and Kahneman (1998), if classifying a resident of another region causes one to focus on explicit differences (e.g., climate, job opportunities or even personal security) between the two regions, one would expect a disparity between personal satisfaction with specific aspects of life and one's assumptions of how satisfied the person living in the other region is with these aspects (see differences observed in the last two columns of Table 3). To test this premise, a regression analysis of the mediator effect was conducted (see the results reported in Table 4), as discussed in depth by Baron and Kenny (1986).

TABLE 4. **The mediation analysis of the effect of the region of the person rated on overall life satisfaction**

Candidate mediator	F statistic for region when mediator added	
Effect of region with no mediator	23.06	***
Non-professional-related aspects of life		
Personal safety	24.27 †	***
Social life	44.95	***
Cultural Opportunity	27.98	***
Professional-related aspects of life		
Job prospects	25.93	***
Academic Opportunity	33.85	***
Financial situation	40.79	***
Climate-related aspects of life		
Outdoor activities	19.23	***
Natural beauty	16.75	***
Overall climate	21.01	***
Summer weather	15.91	***
Winter weather	21.33	***
All non-professional aspects	33.19	***
All professional aspects	34.72	***
All climate-related aspects	8.76	***

Source: Elaborated by the authors. \*\*\* $p < 0.01$ . † Successful mediator.

The mediation is established if the effect of the region becomes non-significant (i.e.,  $\beta_1 \approx 0$ ) when a variable is put forward as the mediator (the  $k^{\text{th}}$  different life aspect) and added to the equation (BARON & KENNY, 1986). Thus, as shown in (1), the dependent variable of the regression is the estimated general satisfaction with life (*Other Happiness*) of the other region as a function of the region (*Other City*) in which the person classified resides.

$$\text{Other Happiness}_i = \beta_0 + \beta_1 \cdot \text{Other City}_i + \beta_2 \cdot \text{Life Aspect}_{ki} + \varepsilon_i \quad (1)$$

When added to the regression model one at a time, to support the idea of the occurrence of the focusing illusion, only satisfaction with personal security was found to be a significant mediator variable ( $F = 24.27, p < 0.01$ ). This result suggests

that the essential difference between the two cities in terms of satisfaction with life, as it is understood by the respondents, is personal security. This result is justified by the ratings of importance; the aspects of life related to professional life did not show significant differences of importance, whereas personal security did.

Between the two sets of respondents, satisfaction with personal security was shown to be a critical aspect to satisfaction with life in São Paulo. This result does not support the supposition that there is a significant bias of judgment toward greater satisfaction with life in the metropolis due to its relative advantage in terms of job prospects, academic opportunities and, consequently, financial satisfaction because these aspects were not found to be significant mediators to the point of making the city a non-significant variable.

In short, considering the possibility of a focusing illusion due to aspects related to personal development,  $H_2$  was refuted. However, personal security seems to be an aspect of life with sufficient influence, according to the judgment of the respondents, to substantially differentiate São Paulo from Santa Maria; that is, the results indicate the occurrence of a focusing illusion by the respondents residing in the city of Santa Maria in understanding that living in São Paulo could lead people to have lower levels of general satisfaction with life (SCHKADE & KAHNEMAN, 1998; LAM and others, 2005).

## DISCUSSION

The associations between happiness and public health have been the focus of attention in the academic community, of governments around the world and in the corporate sphere. Although it has experienced economic growth, characterized by relative stability and accompanied by the rising level of income of lower socioeconomic classes, Brazil is still among those countries with a lower level of well-being. This status indicates the potential for better planning and the development of public policies directed at well-being. The study of satisfaction with the conditions of life, as well as the subjective nature of this satisfaction, is an important component of the development of these policies.

The purpose of this article was to identify biases of judgment in the perception of satisfaction with life among young adults in São Paulo (a metropolis) and Santa Maria (a university town located in the countryside of Brazil) and to investigate the associations between specific aspects of life and the perception of happiness. The establishment of public policies addressing happiness points to the need for better understanding the subjectivity arising from people's perceptions.

Evidence in the literature indicates that personal security is a significant determinant in happiness in regions of Brazil other than those studied in this article (CAVALCANTI and others, 2009). The results obtained here suggest that the perception that people living in São Paulo have lower satisfaction with life due to the problems related to the size of the city, or that they are unhappy living in a metropolis, is a stereotype. This perception may be anchored in assumptions about the disadvantages of living in São Paulo (or the advantages of living in Santa Maria) with regard to public security.

Contrary to the expectations of the respondents living in Santa Maria, the disadvantages of life in São Paulo are not reflected in the self-evaluation of satisfaction with life among the respondents living in São Paulo. An argument that might explain this bias of judgment is that the respondents from Santa Maria were affected by the focusing illusion. The results also suggest that the objective attributes of the cities are, in fact, associated with the real differences in specific aspects of the satisfaction with life. When people respond to a question about their satisfaction with their own lives, however, their attention is focused on more central aspects of life.

The focusing illusion is not restricted to the context of satisfaction with life, and it can be extended to various other areas. The psychological explanation for the focusing illusion is in the difficulty or impossibility of simultaneously allocating adequate relevance to the aspects under consideration and aspects belonging to the past. Thus, focusing illusion can lead to the exaggeration of the importance of ideas that are currently on the agenda (SCHKADE & KAHNEMAN, 1998; LAM and others, 2005). In this way, people normally evaluate results on the basis of the changes that have occurred and not on their present state (KAHNEMAN & TVERSKY, 1984). With regard to the problem investigated in the present study, the results suggest that people exaggerate the impact of the situation in relation to their personal security, a critical aspect in the city of São Paulo. At the individual level, the focusing illusion may lead to unnecessary initiatives, such as avoiding living in a metropolis due to the belief that the general level of satisfaction with life is lower. It is notable that research has indicated that, in some circumstances, drawing attention to the focusing illusion may help to reduce it (UBEL, LOEWENSTEIN, & JEPSON, 2005).

Recent data on violence against young people in Brazil shows that in the last decade, the southeast (where São Paulo City is located) has been significantly more violent than the south (where Santa Maria is located). For example, in 2000 the murder rate per 100,000 residents ages 15 to 24 was 75.5 in the Southeast, 51.4 in the nation overall, but 89.3 in São Paulo (MINISTRY OF HEALTH OF BRAZIL, 2011, p. 29).

Possibly, the history of high violence against young people may have motivated the focusing illusion when the effect of personal safety on the satisfaction with life was examined, as shown in Table 4. The impact of this history is particularly striking because violence has decreased sharply in recent years in the state of São Paulo, the rate of youth homicides fell 68.10%, in the state of Rio Grande do Sul (where Santa Maria is located), the homicide rate shows an increase of more than 40%, resulting in a 2008 homicide rate of 25.3 in São Paulo and 40.4 in Rio Grande do Sul.

Similarly, in Santa Maria, the most recent statistics from the Ministry of Health of Brazil (WAISELFSZ, 2011) report a suicide rate among young people (between 15 and 24) of approximately 13 per 100,000, putting Santa Maria 31<sup>st</sup> among Brazilian cities with the highest homicide rate among young people, whereas São Paulo does not appear among the top 100. It should be noted that, when considering the 50 cities with the highest suicide rates in Brazil, 10 cities are located in the state of Rio Grande do Sul. The disconnection between the actual personal security risk and the perception of this risk suggests that education and attention regarding this particular focusing illusion may serve to reduce it (UBEL, LOEWENSTEIN & JEPSON, 2005).

The limitations inherent to the experimental design of the present study should be noted. This study did not consider, in depth, the role of personal choice where the participants were living. In addition the number of respondents and the demographic homogeneity of the respondents were limited. Thus, with an eye toward the potential contribution of studies in this field, together with the limitations inherent to the present study, some suggestions can be made for future studies: i) to replicate this study exploring other institutional environments; ii) to analyze the associations between satisfaction with life and extreme events (such as the catastrophic fire in a night club located in Santa Maria, occurred in January 2013, in which more than 200 young people died, as released by the international press (WALL STREET JOURNAL, 2013)), which some of the literature has already discussed, such as the implications for satisfaction with life and the occurrence of suicides (OSWALD, 1997; PLATT and others, 1992); iii) to replicate this study with individuals from different demographic profiles.

The arguments given above are indicative that the study of the interactions between happiness and health are a matter of interest in relation to public policies (CORBI & MENEZES-FILHO, 2006; CAVALVANTI, and others, 2009; ISLAM and others, 2009), including the field of health (DOLAN & WHITE, 2007; GRAHAM, 2008); that is, assuming that influences the feeling of security, in particular the health of urban areas, the issue of personal safety presents itself as a major factor for the promotion of health and well-being (KRUG and others, 2002).

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