THE HAPPINESS-TO-CONSUMPTION RATIO: AN ALTERNATIVE APPROACH IN THE QUEST FOR HAPPINESS[1]

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Fecha de recepción: 31-05-2009 Fecha de corrección: 17-03-2010 Fecha de aceptación: 23-07-2010

ABSTRACT

The huge amounts of money spent every year in purchasing material goods do not seem very effective in increasing consumers' happiness. Indeed, higher income and correspondingly expensive consumption do not make people much happier, which implies that current consumerism is extremely inefficient in terms of producing happiness. Extant research and exploratory analyses suggest that people could improve their happiness-to-consumption efficiency through activities that let them achieve a sense of mastery and belonging, and by engaging in experiential and social consumption. Based on preliminary results hereby discussed, the article proposes research questions to be investigated by means of a cross-cultural study, anticipates potential contributions to the field, and suggests future research possibilities.

KEYWORDS

Happiness, entropy, consumption, materialism, individualism.

JEL classification: M31

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1 This research project was developed for the doctoral seminars on consumer behavior, organizational behavior, and research methods, at Tulane University's Business PhD Program. The author acknowledges the valuable input and feedback received from Drs. Harish Sujan, Adrienne Colella, and Michael Burke, full-time faculty members at the A. B. Freeman School of Business in Tulane. A shorter version of this article, comprising only preliminary results, was presented at the Latin American Research Consortium (LARC) Meeting in New Orleans, LA, on March 26th, 2009.

RESUMEN

La razón felicidad/consumo: un enfoque alternativo en la búsqueda de la felicidad

Las ingentes sumas que se gastan cada año en la compra de bienes materiales no parecen muy efectivas en incrementar la felicidad de los consumidores. En efecto, tener mayores ingresos y más cosas no hace a la gente mucho más feliz, implicando que el consumismo moderno es extremadamente ineficiente en términos de generar felicidad. Algunas investigaciones y análisis exploratorios sugieren que la gente podría mejorar su razón felicidad/consumo por medio de actividades tendientes a desarrollar habilidades y generar sentido de pertenencia, y en formas de consumo experiencial o social. Basado en resultados preliminares, este artículo propone preguntas de investigación que podrían resolverse por medio de un estudio transcultural, anticipa contribuciones potenciales, y sugiere futuras investigaciones.

PALABRAS CLAVE

Felicidad, entropía, consumo, materialismo, individualismo.

RESUMO

A razão entre felicidade/consumo: uma abordagem alternativa na busca da felicidade

As enormes somas de dinheiro gasto a cada ano na aquisição de bens materiais não parecem ser muito eficazes para aumentarem a felicidade dos consumidores. Na verdade, possuir rendas maiores e mais coisas não torna as pessoas muito mais felizes, implicando que o consumismo moderno é extremamente ineficiente em termos de geração de felicidade. Algumas pesquisas e análises exploratórias sugerem que as pessoas poderiam melhorar sua razão entre felicidade/consumo por meio de atividades tendentes a alcançar um sentido de habilidade e pertença, e em formas de consumo experiencial ou social. Com base em resultados preliminares, este artigo propõe questões de investigação que poderiam se resolver por meio de um estudo transcultural, antecipa possíveis contribuições e sugere pesquisas futuras.

PALAVRAS CHAVE

Felicidade, entropia, consumo, materialismo, individualismo.

INTRODUCTION

In an often futile quest for happiness, many people spend their lives accumulating money and possessions. Wealth and consumption, however, do not necessarily make people happy (Csikszentmihalyi, 2000; Van Boven, 2005); despite rising incomes, intensive consumerism seems ineffective in improving subjective well-being (SWB) (Myers, 2000). Perhaps consumers could increase their happiness-to-consumption ratio if they socialized and sought experiences, instead of gathering material goods (Van Boven, 2005). Moreover, such an experientialist approach would reduce overall contribution to global entropy. This study suggests that there is an inverse relationship between entropy of consumption and happiness, and that countries with lower material consumption achieve happiness at lower entropy costs than wealthier countries.

Based on an exploratory analysis of relevant data from 191 countries, and building on previous research on happiness, entropy, consumption, materialism, and individualism, it is suggested that countries with low consumption entropy are happier than countries with high entropy, at similar income levels. This article discusses preliminary results, proposes consequent hypotheses to be tested with a cross-cultural experimental design, anticipates results, potential contributions to theory, practical applications, and suggests future research possibilities.

1. THE QUEST FOR HAPPINESS

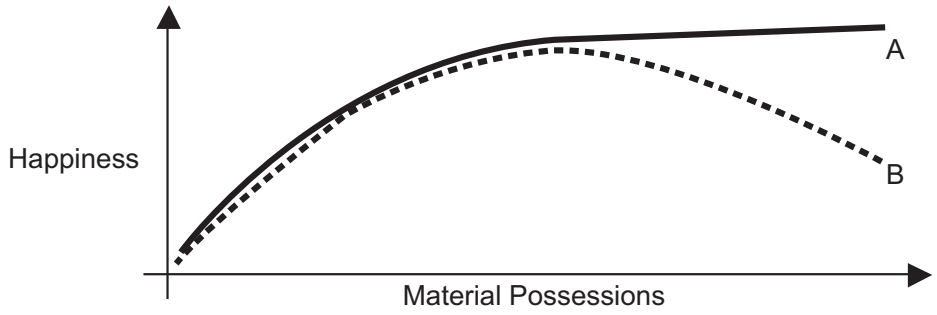
Previous research has alternatively–and interchangeably–used "satisfaction," "well-being," "living well," and "happiness" as analogous concepts. Happiness has also been associated with both an objective self-assessment of the personal situation and a subjective feeling of well-being. The latter has prevailed and most recent studies assume SWB or reported satisfaction with life as proxies for happiness (Steel and Ones, 2002). Consistent with these trend, this study deems happiness as synonymous to life satisfaction or SWB, and define it as a cognitive and affective self-evaluation of a person's life (Diener, Diener and Diener, 1995).

1.1. Money does not buy happiness, does it?

Many people spend their productive years striving to accumulate money and possessions, in an often futile attempt to be happy. Evidence suggests, however, that wealth is not proportional to happiness (Csikszentmihalyi, 2000; Myers, 2000; Van Boven, 2005). Even if material goods add to quality of life, the cost/benefit relation is not linear, and there is a point past which no improvement in life satisfaction is derived from additional possessions. As illustrated by curve A in Graph 1, material resources add to perceived quality of life up to a certain point, after which returns diminish. In fact, some research suggests that acquiring additional material possessions over a certain threshold might in fact reduce happiness, as in curve B (Csikszentmihalyi, 2000).[2]

2 It must be noted that the $f(x_A) = a - b/x$ relationship defined in curve A is more common in the literature reviewed than the alternative quadratic relationship $f(x_B) = a + bx - cx^2$ shown in B. The literature reviewed is not clear whether the observed patterns are actual indicators of a causal effect between wealth and reduced happiness, and it could be argued that unhappy people retort to purchasing things in a vain attempt to feel better.

Graph 1. Hypothetical relationship between material wealth and individual happiness



Source: Author

It seems that such a central consumer goal as happiness cannot be attained through the prevailingly consumerism, suggesting that huge amounts of money are wasted (Sujan, 2008). From ancient Greek philosophers to modern-day theorists, this notion that attaining material goals does not necessarily produce happiness has been a recurrent issue. In general, seeking meaningful experiences and socializing, rather than accumulating things, translates into a richer, healthier, happier existence (Csikszentmihalyi, 1990; Russell, 1930; Van Boven, 2005). Maslow's taxonomy (1968, cited by Csikszentmihalyi, 2000) might explain this threshold past which material well-being and consumption cease to translate into happiness, and why social/experientialist behaviors lead to happier lives. If consuming behavior is driven by existentialist needs, increases in material well-being will contribute to satisfy lower-order needs, up to a point. Once these basic needs are satisfied, satisfaction of higher-order needs becomes more important. In this context, engaging in purposeful activities is more effective in filling personal voids than less transcendent consumption. In fact, an absence of consciously meaningful goals could result in unhappiness, because even the most expensive goods cannot fulfill higher-order needs as meaningfulness can (Sujan, 1986; Sujan, Weitz and Kumar, 1994).

1.2. The entropic perspective

An interesting and unorthodox approach to the relationship between material consumption and happiness involves consumers' contribution to the decay of natural resources and to overall entropy (Csikszentmihalyi, 2000). The fossil and electrical energy consumed in a specific activity—and its contribution to entropy—has been shown to negatively relate to the happiness derived by the consumer. This has been explained by the fact that passive consumption tends to use a lot of fossil or electric energy. Given that passive consumption requires less psychic energy from the consumer than more mentally-challenging types of consumption, it is not surprising that wasting a lot of energy relates with lower reports of

happiness. It follows that a consumer's perception of happiness could be inversely related to the entropy resulting from her consumption.

The coincidence of high entropy and low SWB in materialistic/individualistic countries (NEF, 2007) leads to some fascinating inferences about the relationship between entropy of consumption and happiness, at a national level. Just as individuals who deplete more resources through energy-intensive consumption are less happy, the low levels of happiness reported by many wealthy nations could be the result of a highly entropic consumer behavior. In terms of entropic cost, these countries are inefficient in pursuing happiness. A more experientialist consumption should achieve equal or higher levels of happiness, at a lower entropy cost—once the minimum threshold of material well-being that satisfies lower order needs has been breached.

1.3. The role of national culture

A particular example of exacerbated entropic consumption took place in the aftermath of 9/11. After the terrorist attacks, consumers bought goods in record quantities, complying with President Bush's encouragement to "go out shopping" (Arndt, Solomon, Kasser and Sheldon, 2004), aptly reflecting a phenomenon common to many countries where consuming is deemed as a patriotic act (Csikszentmihalyi, 2000). When US citizens go out shopping, they satisfy a short-term goal of getting pleasure from buying things, substituting for more meaningful experiences. When purchasing is directed towards social or experiential consumption, however, the longer-term objective of enjoying through experience enhances happiness (Csikszentmihalyi, 1990; Russell, 1930; Van Boven, 2005). Take Colombia, for instance, a country that has also had to deal with ongoing terrorist threats. Rather than buying things, Colombians opt for social or family-binding experiences. Considering that Colombia scores are consistently higher than the US in happiness ratings (Diener *et al*., 1995; Inglehart, 2007; NEF, 2007; Veenhoven and Kalmijn, 2005), experientialist consumption does seem more efficient than shopping in making people happy.

Such contrasting consumption patterns between unhappy-wealthy and happy-poor countries can also be evaluated within an individualist/collectivist framework. Previous research has reported that collectivism is a survival mechanism in poor countries (Ahuvia, 2002). In wealthier countries, however, collectivism is inconsistent with the prevailing cultural pressures to achieve personal and economic success on an individual basis. That is, whereas collectivism might contribute to happiness in a poor country, it is individualism could actually reduce life satisfaction in a wealthy western-world one. Interestingly, a collectivist orientation might in fact result in lower levels of happiness as wealth—and hence consumption entropy cost—increases.

2. RESEARCH QUESTIONS

Albeit interesting in its own right, happiness is especially appealing for consumer behavior given its centrality as a driver of many consuming decisions. Consumer happiness is affected by the complex interaction

of several factors, including such determinants as type of consumption, consumers' attitudes, and resulting impact on the environment. Whether consumers prefer individualist or materialist purchases, or social or experientialist activities, and how such preferences contribute to entropy, are thus important determinants of happiness.

Increasing material well-being does not result in a proportional increment in happiness (Csikszentmihalyi, 2000; Myers, 2000; Van Boven, 2005). Although improving a country's material standards will make poor people happier, the cost/benefit relation is not linear but rather an inverse function of the $f(x) = a - b/x$ type. This might be explained by Maslow's hierarchy of needs: for poor consumers, any improvement in their income levels will result in more happiness, up to a point where satisfaction of basic needs gives way to other priorities. Therefore,

H1: Increasing wealth results in larger increases in happiness for poor countries than for wealthy countries, and there is a point past which wealthy countries cease to increase their happiness despite rising levels of wealth.

The concept of entropy is naturally associated to any discussion about economic well-being and corresponding consumption standards. In general, countries with high living standards should be highly entropic, given the relation of overall consumption with the use of fossil energy and raw materials. Hence, a country's entropy should be proportional to its economic development. On the other hand, low consumption entropy likely relates to low happiness ratings, if such low entropy results from poor living standards. Conversely, high consumption entropy costs will go hand in hand with economic development, so that happiness ratings should improve with increasing wealth—and increasing consumption entropy—up to a certain level. Furthermore, if consumption entropy is correlated with wealth at a national level, a country's entropy should behave in a similar fashion as that shown for material possessions in previous research. That is, happiness should increase as consumption entropy increases, up to a point past which returns will diminish. By hierarchy of needs, poor consumers will feel happier with any improvement in their consumption entropy, if such enhanced consumption is a result of increasing material standards, but once their basic needs are satisfied further increments in wealth and material consumption—and corresponding consumption entropy—will cease to improve happiness. Therefore:

H2: Increasing consumption entropy results in larger increases in happiness for poor countries than for wealthy countries, and there is a point past which wealthy countries cease to increase their happiness despite rising levels of consumption entropy.

There is an important caveat, though. Experiential consumption has been shown to be superior to material consumption, in terms of generating happiness (Van Boven, 2005), so it would be tempting to conclude that materialistic people are less happy than experientialist or non-materialist people. However, material possessions might actually help

highly materialistic people achieve their personal goals—substituting for more meaningful experiential activities—and thus increase their perceptions of happiness. Therefore, even if there is substantial evidence that experiential consumption make people happier than material purchases, such relationship should be weaker among highly materialist consumers than among less materialist consumers. On the other hand, wealthy countries will likely exhibit a strong preference for material well-being, thus scoring high on a materialism scale. Given the association of economic development with material consumption, more materialist countries should be happier than less materialist countries as their economic development increases. That is, the diminishing-return effect previously hypothesized between happiness and wealth should be weaker for materialist countries, as materialism interacts with wealth to buffer such diminishing returns. Therefore,

H3: Decreasing returns in happiness, in proportion to wealth, are stronger for non-materialist countries than for materialist countries.

Likewise, given the association of enhanced material consumption with national wealth, the diminishing-return effect previously hypothesized for happiness vs. consumption entropy should be weaker for materialist people. That is, materialism should interact with consumption entropy to buffer the diminishing returns in happiness as the consumption entropy grows larger. Hence,

H4: Decreasing returns in happiness, in proportion to consumption entropy, are stronger for non-materialist countries than for materialist countries.

Now, given the salience of western nations amongst the wealthiest countries, higher economic development probably relates to individual performance and success, and collectivist cultures should be a minority amongst the wealthiest nations. Moreover, whereas collectivism as a survival mechanism actually contributes to happiness in poor countries (Ahuvia, 2002), it could actually reduce life satisfaction in wealthier countries: a collectivist orientation might in fact reduce happiness as wealth—and hence consumption entropy cost—increases. Therefore,

H5: Decreasing returns in happiness, in proportion to wealth, are stronger for collectivist countries than for individualist countries.

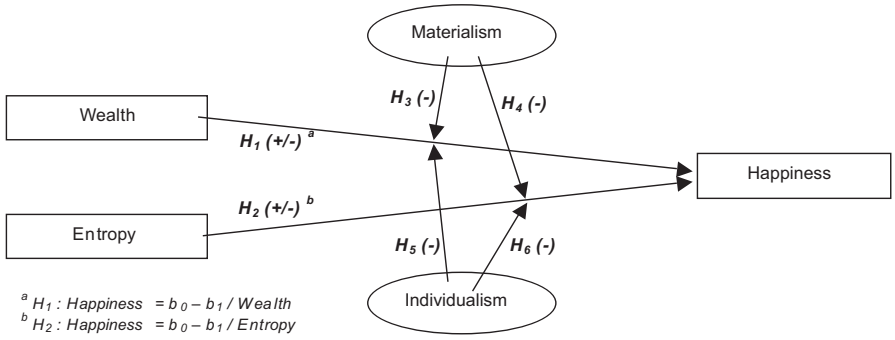
H6: Decreasing returns in happiness, in proportion to consumption entropy, are stronger for collectivist countries than for individualist countries.

Graph 2 summarizes the hypothesized relationships.

3. PRELIMINARY STUDY

An exploratory study was conducted using data from 191 countries, including nation-level happiness, life satisfaction, ecological impact, population, and cultural orientation. Available data varied across categories, with a maximum of 178 levels for happiness and ecological impact measures, and a minimum of 65 for cultural dimensions. Besides testing the link between happiness and consumption entropy, the study

Graph 2. A general model to explain the relationship between wealth, consumption entropy, materialism, individualism, and happiness



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tested cultural trends as moderators of this relationship by comparing happiness, entropy, materialism, individualism, and economic indexes. Descriptive statistics, correlations, and OLS regressions were conducted using SPSS software.

3.1. Operationalization

Criterion

National happiness is the criterion. Consistent with previous research (Steel and Ones, 2002), *life satisfaction* (*LS*) was chosen as an indicator of national happiness. Values for *LS* were obtained from the *Happy Planet Index* –HPI (NEF, 2007), the World Database of Happiness –WDH (Veenhoven, 2007), and the World Values Survey –WVS (Inglehart, 2007).

Predictors

Wealth and consumption entropy are the predictors. Wealth was indicated by *Gross Domestic Product per capita (GDPpc)*, a variable computed by dividing each country's gross domestic product (GDP) by its population, from the World Bank's database (World Bank, 2007). Consumption entropy was proxied by the *Ecological Footprint* (*EF*), defined as the total area of land and sea required to sustain a population and to absorb its waste (WWF, 2006). The entropic costs of consumption are thus captured by *EF*, rendering an appropriate proxy for a country's consumption entropy. Ecological footprint values were obtained from the *Living Planet Report* (WWF, 2006) and the HPI (NEF, 2007).

Moderators

National materialism and individualism are the moderators. *Materialism* (*M*) was indicated by the nation's score on a materialism/post-materialism value scale, a system constructed by asking respondents what they think is their most important personal goal, the most important national goal, and the most important matter in general (Inglehart, 2007; Knutsen, 1990). *Individualism* (*I*), measured on a scale ranging from most collectivist (0) to most individualist (100), was obtained directly from Hofstede's cultural dimensions' scores (Hofstede, 2007).

3.2. Data analysis

Descriptive statistics and pair-wise correlation coefficients were obtained for all relevant variables, and predictors and criterion values were plotted in scatter-plot graphs. As the hypotheses that the relationships between wealth and happiness and between consumption entropy and happiness follow an $f(x) = a - b/x$ function, the complete regression equations are: showed below (see Equations 1 to 4); where the β_i terms are the parameter coefficients and ε is the error term in each equation. Note that *M* and *I*, and their interactions with the predictors, were included in the equations to comply with Baron and Kenny's recommendation for moderation testing (Baron and Kenny, 1986). Given that either the predictor or the moderator, or both, are correlated with their product, thus resulting in multicolinearity that might compromise the magnitude and significance of the regression analysis (Howell, 2002), data was centered by subtracting each variable's mean from the individual observations before running the regression analysis.

3.3. Preliminary results

Table 1 summarizes the descriptive stats obtained from the preliminary data analysis. The relationships between the most relevant variables are illustrated in the scatter-plots in Graphs 3 to 5. The correlations matrix in Table 2 shows all pair-wise relationships. Measures for *LS* were consistent across the HPI (NEF, 2007), WDH (Veenhoven, 2007), and WVS (Inglehart, 2007) indexes. Likewise, *EF* obtained from the HPI was consistent with the WWF values.

$$LS = \beta_0 + \beta_1 \left(\frac{1}{GDPpc}\right) + \beta_2 M + \beta_3 \left(\frac{1}{GDPpc}\right) M + \varepsilon \quad (1)$$

$$LS = \beta_0 + \beta_1 \left(\frac{1}{EF}\right) + \beta_2 M + \beta_3 \left(\frac{1}{EF}\right) M + \varepsilon \quad (2)$$

$$LS = \beta_0 + \beta_1 \left(\frac{1}{GDPpc}\right) + \beta_2 I + \beta_3 \left(\frac{1}{GDPpc}\right) I + \varepsilon \quad (3)$$

$$LS = \beta_0 + \beta_1 \left(\frac{1}{EF}\right) + \beta_2 I + \beta_3 \left(\frac{1}{EF}\right) I + \varepsilon \quad (4)$$

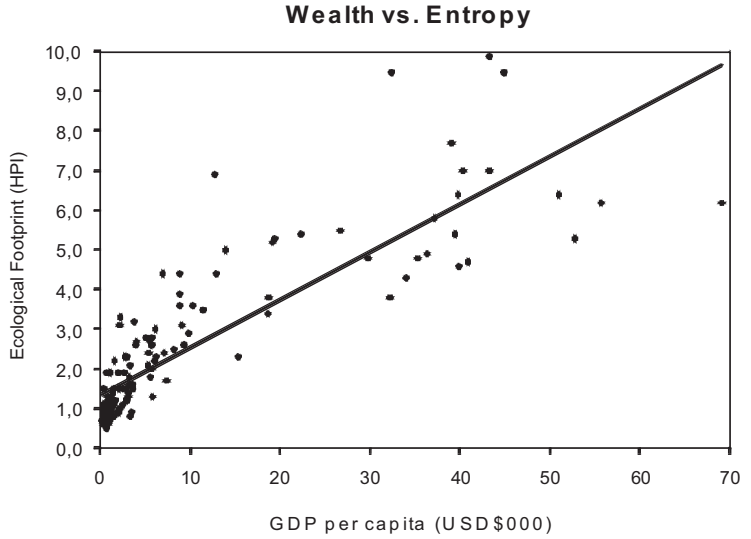
Table 1. Descriptive statistics

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Life Satisfaction*	178	3,00	8,20	6,04	1,15
GDP per capita ($000)**	140	0,12	69,10	9,39	14,51
1 / GDP per capita **	140	0,01	8,43	1,00	1,42
Ecological Footprint*	178	0,50	9,90	2,54	2,02
1 / Ecological Footprint*	178	0,10	2,00	0,66	0,42
Materialism ***	81	1,33	2,53	1,89	0,25
Individualism ****	65	6,00	91,00	44,11	24,35
Valid N (listwise)	47				

* Measured by HPI (NEF, 2007)
** Obtained from World Bank (2007)
*** Obtained from World Values Survey (Inglehart, 2007)
**** Measured by Hofstede's Cultural Dimensions (Hofstede, 2007)

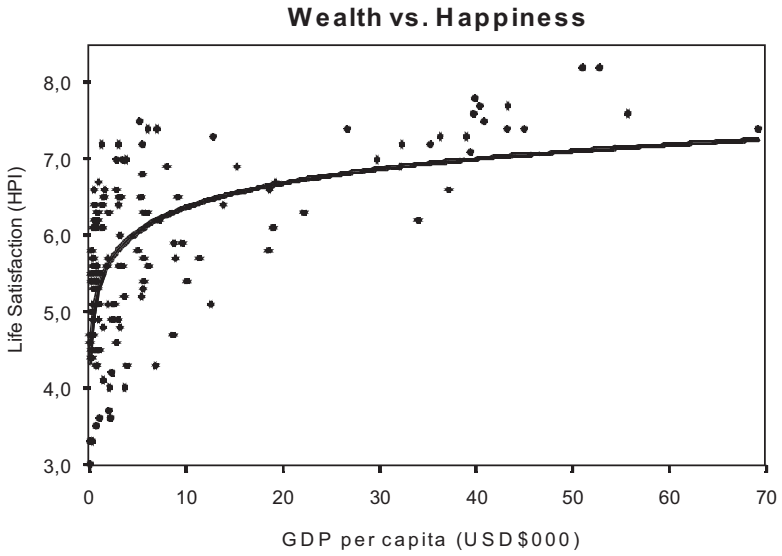
Therefore, for subsequent analyses, only HPI's scores are used for *EF* and *LS* given its larger number of observations (178 vs. 95 and 82, for *LS*, and 178 vs. 147 for *EF*). Regressing LS on the different predictors, and their interactions, yielded the results summarized in Tables 3 to 6.

Graph 3. Scatter-plot of the relationship between wealth and consumption entropy



Source: Author

Graph 4. Scatter-plot of the relationship between wealth and happiness



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Graph 5. Scatter-plot of the relationship between consumption entropy and happiness

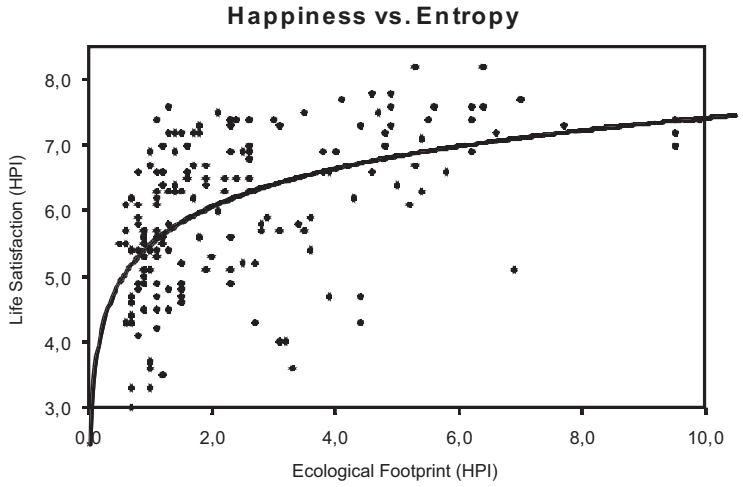

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Table 2. Pearson-product pair-wise correlation matrix

Variable	LS	GDPpc	1/GDPpc	EF	1 / EF	M
GDPpc	0,630***	1				
1/GDPpc	-0,495***	-0,407***	1			
EF	0,496***	0,857***	-0,494***	1		
1 / EF	-0,521***	-0,629***	0,697***	-0,787***	1	
M	0,445***	0,447***	-0,493***	0,285*	-0,334**	1
I	0,377**	0,757***	-0,446***	0,741***	-0,571***	0,311*

**** $p < 0{,}001$ level (2-tailed); ** $p < 0{,}01$ level (2-tailed); * $p < 0{,}05$ level (2-tailed).*

Table 3. Regression analysis with *LS* as dependent variable: Hypothesis 3

Model 1	b	Std. Error	β	t	Sig.
Constant	5,212	0,234		22,303	0,000
1/GDPpc	-1,016	0,266	-0,542	-3,814	0,000
M	5,60E+01	0,767	0,012	0,073	0,942
Mx1/GDPpc	-2,656	0,831	-0,474	-3,198	0,002

Table 4. Regression analysis with LS as dependent variable: Hypothesis 4

Model 3	b	Std. Error	β	t	Sig.
Constant	5,723	0,143		39,948	0,000
1 / EF	-1,480	0,359	-0,434	-4,119	0,000
M	1,183	0,514	0,244	2,304	0,024
M x 1 / EF	-3,025	1357,000	-0,228	-2,228	0,029

Table 5. Regression analysis with LS as dependent variable: Hypothesis 5

Model 2	b	Std. Error	β	t	Sig.
Constant	3,943	0,904		4,362	0,000
1 / GDPpc	-2,853	0,971	-1,147	-2,938	0,005
I	-7,87E-02	0,037	-2,066	-2,148	0,036
I x 1/GDPpc	-9,46E-02	0,039	-2,120	-2,458	0,017

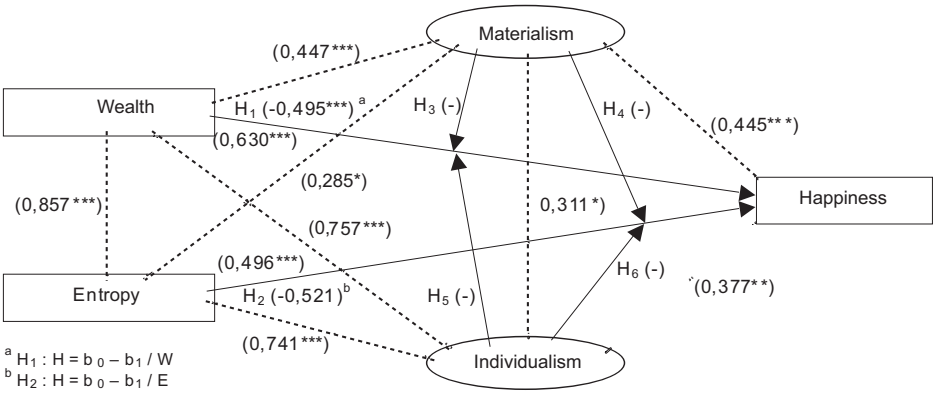
Table 6. Regression analysis with LS as dependent variable: Hypothesis 6

Model 4	b	Std. Error	β	t	Sig.
Constant	6,048	0,213		2,837	0,000
1 / EF	-1,478	0,496	-0,543	-2,982	0,004
I	-0,007	0,009	0,174	-0,738	0,463
I x 1 / EF	-0,038	0,020	-0,378	-1,947	0,056

Graph 6 summarizes the pair-wise correlations between the constructs of interest, with all correlations significant at the 0,05 level (2-tailed) or more. As predicted, there is a positive relationship between wealth and happiness and between consumption entropy and happiness which suggests that wealthier, more entropic, countries are happier than poorer, less entropic ones, up to a point. Such non-linear relationship is also supported by the scatterplots in Graphs 3 to 5. Positive relationships were also found between wealth and entropy, materialism and individualism, entropy and materialism, wealth and materialism, wealth and individualism, and entropy and individualism, all of which support the basic assumptions leading to the moderation hypotheses.

Regression analyses show a significant R^2 for all the models. On the first model, results are significant for the *1/GDPpc* term and for the interaction term (*1/GDPpc)*M*, but not so for materialism, which supports Hypothesis 3. Furthermore, the coefficients' signs correspond to the predicted relationships, indicating a negative relationship between happiness and the inverse of wealth, and a buffering effect of materialism on this relationship. The regression also shows a negligible main effect of materialism on happiness. All three

Graph 6. Summary of pair-wise cross-correlation coefficients



**** p < 0,001 level (2-tailed); ** p < 0,01 level (2-tailed); * p < 0,05 level (2-tailed)*

Source: Author

terms in the third model are significant, with signs corresponding to the relationships predicted by Hypothesis 5. Therefore, the hypothesized relationship between happiness and the inverse of wealth and the moderation effect of individualism on this relationship are supported by the results. Although the relationship between individualism and happiness is also significant, the effect size is rather small, indicating a weak relationship. The second model shows similar results, with all terms significant, thus supporting Hypothesis 4. It should be noted, though, that materialism is also directly, and significantly, related to happiness. Finally, the fourth regression analysis was only significant for the relationship between the inverse of consumption entropy and happiness, so Hypothesis 6 is rejected. That is, the preliminary evidence does not support the thesis that individualism moderates the inverse relationship between happiness and consumption entropy.

3.4. Discussion of preliminary results

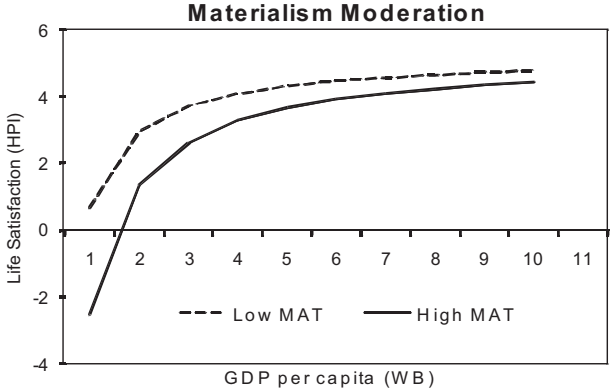
The positive relationship between wealth and consumption entropy was to be expected, given the intuitive association of higher living standards and economic welfare with a more intensive use of natural resources. Verifying this assumption was important, however, given its centrality within the rationale that lead to the hypotheses. Another result that could be expected was finding significant positive correlations between materialism and wealth, materialism and consumption entropy, individualism and wealth, and individualism and consumption entropy. Intuitively, it makes sense that a materialist consumption is common to individualistic, wealthy, Western cultures, and that this type of consumption yields higher entropy costs than non-materialistic consumption. Overall, both the rationale and the preliminary results suggest that wealthy countries tend to be more individualistic,

materialist, and entropic than poorer countries.

On the other hand, the significant positive correlations between wealth and happiness, between entropy and happiness, materialism and happiness, and individualism and happiness would have been surprising were not for the fact that the *GDPpc-LS*, *E-LS*, *M-LS*, and *I-LS* relationships most likely respond to the $f(x) = a - b/x$ type of function already discussed for material possessions vs. life satisfaction. For a graphic interpretation of the different interactions modeled in the regression analysis, the significant coefficients obtained by regression replaced the corresponding terms in the regression equations (1) to (4). Assigning values for low and high levels of each moderator, using the dataset's minimum and maximum values for materialism and individualism, provides a graphic representation of the interaction effects of materialism and individualism (Graphs 7 to 10). Except for Graph 10, the moderation effect is quite evident in these graphs.

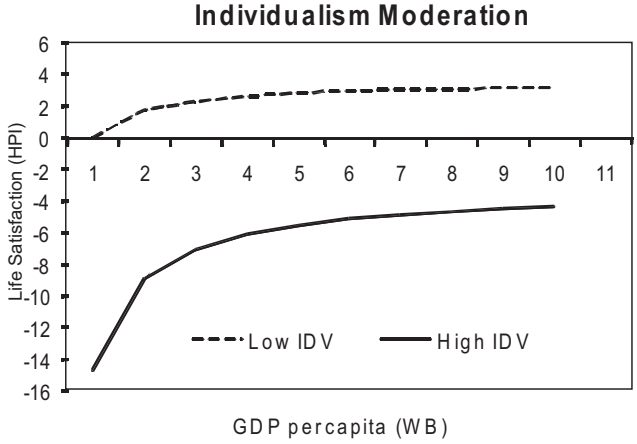
Moreover, Graph 7 is quite effective in illustrating how a less materialistic consumer could actually be happier than a more materialistic, consistent with the hypothesis that experience-driven people are happier in general terms than people driven by materialist desires. Also, in support of Hypothesis 3, decreasing returns in happiness are more accentuated for non-materialist countries than for materialist countries, at increasing levels of income. That is, more materialistic people keep increasing their happiness as wealth increases, up to a point where life satisfaction levels up with non-materialist countries, and no more satisfaction can be achieved by increasing wealth. Similarly, Graph 8 illustrates how more individualist countries seem to be unhappier than more collectivist countries, at comparable levels of wealth. Again, decrease in returns is stronger for collectivists than for individualists, although the threshold seems to be higher for collectivists.

Graph 7. Relationship between happiness and wealth at different levels of materialism (MAT)



Source: Author

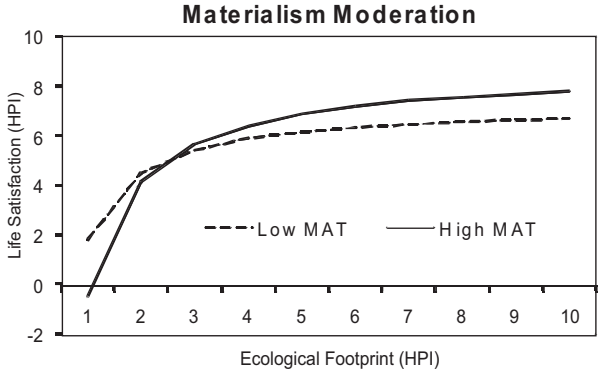
Graph 8. Relationship between happiness and wealth at different levels of individualism (IDV)



Source: Author

The plot for materialism's moderation on the relationship between happiness and entropy is more intriguing, and rather counterintuitive (Graph 9). Interestingly enough, at low levels of entropy, materialist countries seem to be unhappier than less materialist countries, a result that can be directly related to the analogous happiness/wealth plot. That is, extremely low levels of entropic yield can be related with very poor income levels, at which experientialism acts as a survival mechanism and actually helps experientialist countries be happier than materialist

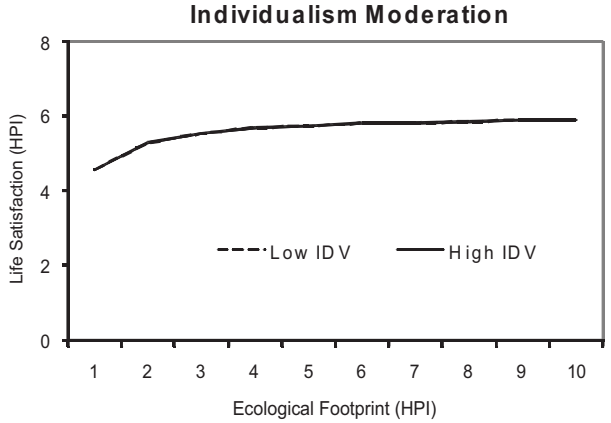
Graph 9. Relationship between happiness and entropy at different levels of materialism (MAT)



Source: Author

countries. Note, however, how this situation is inverted at high entropy levels. Decreasing returns are so accentuated when entropy soars, that materialist countries actually seem to be happier than less materialist people, at comparable entropy levels. A fascinating, although alarming, inference is that materialist people just do not care about extremely high entropy. Also, the "go out shopping" command might not be such a bad idea in materialist cultures, in terms of generating happiness, however the ecological consequences of such an exacerbated consumerism might be. Given that the regression did not support the last hypothesis, the curve for the relationship between entropy and happiness is the same both for low and for high individualism (Graph 10).

Graph 10. Relation between happiness and entropy at different levels of individualism (IDV)



4. PROPOSED STUDY

The preliminary study was only an exploratory probe into the topic of consumer happiness and its relationship with happiness, and how a better understanding of the mechanisms that explain these relationships can eventually lead to improving well-being while reducing entropic yield at the same time. Based on the literature reviewed and subsequent rationale, ongoing research will seek answers to some questions posed by the preliminary results. Specifically, what is it that makes some people happier than others at comparable levels of material well-being (and consumption entropy)? Conversely, what allows some people to have similar levels of life satisfaction with less money and material well-being than others (and wasting less of planet's resources)? Ongoing research will thus address a key question: how can people maintain or improve their "happiness status quo" with a more rational use of dwindling resources?

4.1. General model and test design

Possible explanations for happiness differentials across comparable income levels might be found assessing whether people engage—or not—in two general behaviors: *flow*-like activities, that involve pursuing challenging goals, feeling a sense of belongingness, learning and achieving mastery; and *social consumption*, that involves building close relationships, having friends, and keeping strong family ties. In a very general way, Graph 11 illustrates these relationships, and how investigating their causes will take place within the framework of consumption entropy.

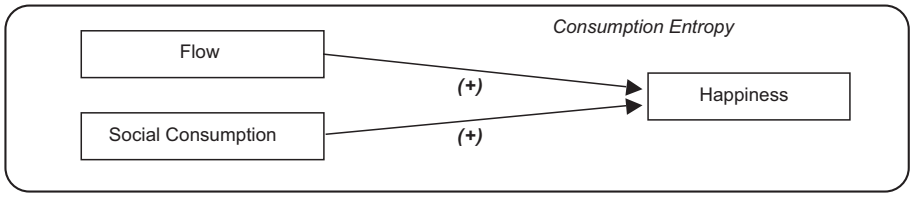
To test these propositions, a cross-national study will be conducted to assess self-reported happiness, economic status, consumption entropy, experientialism and collectivism, and other indicators that give hints on where people stand regarding flow and social consumption. Participants will include undergraduate or MBA students from at least two countries, and the test will expose respondents to simulated scenarios that allow manipulation of relevant variables.

4.2. Creative leaps and potential utility

This theoretical framework, and the proposed relationships nested within, leads to some interesting inferences regarding the efficiency with which people live their lives. Indeed, an efficiency ratio could be defined to provide smarter standards of achievement than the typical material standards currently accepted as measures of success. The possibility of devising a happiness efficiency standard that allows comparison across individuals or groups—and that could be used for economic, marketing, or policy purposes, is indeed a fascinating perspective.

The proposed study aims at demonstrating that people can be better off behaving in ways that produce a sense of belonging and mastery than simply seeking pleasure. Excessive hedonism results in reduced perceptions of happiness and colossal wastes of resources. A consumption that is essentially social, rather than individual; experiential, rather than material; intrinsically, rather than extrinsically, rewarded; and enjoyable, rather than pleasurable, would yield lower entropy and increased

Graph 11. Flow, social consumption and happiness, within a framework of entropic yield



Source: Author

happiness. Based on the antecedents, it can be argued that redirecting consuming habits would make people not only happier but also more efficient in using capital and natural resources. The current decay rate of resources would certainly slow down by ceasing or drastically reducing all types of consuming activities, but this, evidently, is not a feasible option. A socially-driven consumption, however, would achieve better results than the current materialist approach without necessarily weakening the economy. If it could be shown that people can actually be happier—and less entropic—by changing consuming habits, and convince consumers of behaving in consequence, the contribution would be enormous. Bottom-line is, people do not necessarily have to consume less but they do have to learn how to consume more efficiently.

5. DISCUSSION

Integrating extant views on happiness and satisfaction of needs, this work expected to find supporting evidence for the notion that excessive hedonism without a balancing sense of belonging and mastery, results in reduced perception of happiness. Moreover, inferences were made about the low-entropy condition of intrinsically rewarded and enjoyable experiences, and their effect on happiness. Likewise, it was anticipated that extrinsically rewarded and pleasurable goods would yield high entropy and subsequently provide little SWB, so that reverting to low-entropy habits would not only help the environment but could also contribute to happiness.

The preliminary studies conducted provided mixed evidence, though. As anticipated, an experientialist behavior correlates to perceived happiness, individualism and materialism result in high entropy, and there seems to be a limit to the perception of happiness that a country can achieve by increasing its GDP and subsequent entropic yield. However, contrary to what was expected, collectivism does not appear to be a significant moderator of the relationship between entropy and happiness. Furthermore, the notion that materialistic consumers could actually have a cultural excuse to keep up their highly entropic consumption patterns is troubling, to say the least.

In both cases, materialism and collectivism, there could be issues regarding the way the respective scores were estimated. In both cases, alternative measures should be explored before confirming or discarding these constructs as potential moderators. A promising approach to the study of collectivism is found in the GLOBE Project (Javidan, Dorfman, Sully de Luque and House, 2006). Instead of a single collectivism category, GLOBE distinguishes between societal and in-group collectivism. Whereas societal collectivism might be desirable for achieving organizational effectiveness, in-group collectivism could be part of the happiness recipe.

Overall, the most important results of these studies concern the non-linear relationship between consumption entropy and happiness, and how materialism can actually enhance subjective well-being. Even if no solid support was found to the thesis that high entropy costs lead to unhappiness, it is evident that there is a threshold past which happiness

ceases to increase, regardless of how many resources are consumed—or wasted—seeking material well-being, and that an experientialist existence might actually provide higher levels of satisfaction. It makes sense, then, to rationalize consumption to achieve that elusive optimal satisfaction point. Ideally, nations should reverse or at least drastically reduce their consumption of invaluable natural resources. This, obviously, is wishful thinking: besides the difficulty of convincing people to change their consumption behavior, there are important economical issues given the high stakes involved in today's consumerist cultures: moving towards low-entropy behavior patterns could affect economy by weakening the productive sectors and fostering unemployment (Csikszentmihalyi, 2000).

A stronger emphasis on social-driven consumption, rather than a goods-driven one, might be the answer to such economical concerns. Consumption might be reoriented in ways that satisfy individual needs without depleting the planet's resources, thereby certainly contributing not only to a happier individual existence but also to a brighter future for humankind. A social focus of consumption, united to an emphasis on service rather than on products (Windrum and Tomlinson, 1999), could simultaneously preserve scarce resources and help people live happier lives. More than likely, the answer to the ancient quest for happiness rests on the simple but usually unheeded advice of *making do with less*. That is, less material possessions, less competition for economic success, less worrying about money. At the same time, it might be wise to *make do with more*. More experiences, more social intercourse, more mental challenges.

In the light of global warming, most educated consumers would agree that a sustainable consumption is not only necessary but urgent. These same consumers, however, keep consuming fossil fuels at increasing rates, during work or leisure activities, and consider this type of consumption a normal part of their subjective well-being's status quo. If consumers could be persuaded that a more sustainable consumption is not necessarily a burden but that it can actually make them feel better (i.e., be happier), great results could be achieved. Environment-friendly or social-responsible behaviors could then be marketed not only by appealing to the consumer's sense of correctness, but also to each one's inner selfish persona, so that they interiorize that it pays to do things that are good for society and the environment. In short, the case for making do with less things and making do with more experiences would be a very strong one.

6. ADDITIONAL AND FUTURE RESEARCH

Future research should probe into the hypothesized relationships under experimental conditions to effectively control not only for the main effects but also for situational specificity. This could be done with a cross-national study that compares self-reported happiness and consumption entropy in several countries, at the individual level. Ideally, the study should validate previous measures of happiness by using surveys directed to random samples of respondents. Such samples should encompass

varied socio-economic strata to effectively control for differential situations that affect the relationship, including income and educational levels. Finally, future studies should not treat happiness as an absolute value but as a ratio, compared to consumption. A better understanding of such ratio, and of the factors that affect it, would be valuable in making people happy while reducing the planet's decay at the same time.

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