Consumption and Subjective Wellbeing: Exploring Basic Needs, Social Comparison, Social Integration and Hedonism in Peru

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Abstract   Within material poverty contexts, consumption and subjective wellbeing are positively and strongly related. This is usually explained in terms of the increased possibilities to satisfy basic needs that additional spending provides. Other important aspects of consumption, such as its relative, symbolic and hedonic dimensions are not generally considered. The current study explores these aspects in seven poor Peruvian communities through expenditure and motives using regression analysis. Motives for consumption are included in the model drawing on psychologists' research into the importance of accounting for motives when assessing the impact of material goals on subjective wellbeing. Results reveal that in the Peruvian corridor, consumption has a meaning beyond mere basic needs satisfaction. Status concerns, the reference group, the pleasure of consuming, providing for the household basics and the expectation of escaping social marginalisation are aspects of consumption significantly predicting people's happiness.

Keywords   Consumption · Subjective wellbeing (SWB) · Happiness · Expenditure · Motives · Basic needs · Social integration · Peru

1 Introduction

This study explores the relationship between consumption and subjective wellbeing (SWB) in seven Peruvian communities. It discusses the general assumption that consumption contributes to the wellbeing of the poor by giving them more opportunities to meet physiological and security needs (Venhoeven 1989; Diener et al. 1999; Hirata 2001). It tackles consumption from a broad perspective drawing from sociology, psychology and anthropology and accounts for its symbolic and interpretive dimensions. These are explored through expenditure (reference group, status) and motives for consumption (interrelation, hedonism and household provision). The latter are developed drawing on the approach of psychologists studying materialism (Carver and Baird 1998; Srivastava et al. 2001; Sheldon

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et al. 2004). Their research showed that accounting for motives significantly contributes to understanding the relationship between people's pursuits and SWB.

The paper addresses consumption and happiness in Peru, a lower middle-income country with acute economic and social inequalities. It focuses on seven Peruvian communities that participated in the research on wellbeing and development carried out by the Wellbeing in Developing countries (WeD) ESRC Research Group from 2002 to 2007. They were identified as forming a corridor showing diversity in terms of geography (from the rural Andes to a shanty town in Lima), degrees of urbanisation, types of market, proximity to centres of political power, ethnicity and language. Despite their differences, people in the corridor shared a common feature, i.e. they were materially poor by Peruvian standards and the majority fell into the 'extreme poverty' category. As Copestake et al. (2007, p. 6) reported, 'the most comparable poverty figure of 90.7% (unweighted and income based) is well above official estimates for the country as a whole (51.6%), for Lima (37.1%), Junin (29.2%) and even Huancavelica (84.4%) which was the highest average figure for any department in the country'.

The current study uses quantitative and qualitative data collected by the WeD group in Peru during 2004 and 2005. The analysis is undertaken following the tradition of the 'economics of happiness' (Frey and Stutzer 2002; Van Praag and Ferrer-i-Carbonell 2004) that relies on regression analysis and descriptive statistics. However, it is supplemented with qualitative information from WeD and people's narratives of their consumption motives. These were captured through an open-ended question placed in the WeD Income and Expenditure (I&E) survey. This 'bottom-up' strategy appeared more suitable than conventional psychological methods due to the characteristics of the population and the expected diversity of motives and goals associated with consumption.

The structure of the paper is as follows. Section 2 surveys empirical and theoretical research on consumption and SWB and presents psychologists' work on motivation and materialism. Section 3 introduces the methods and data used for the study, focussing on the methodology followed to collect and operationalise motives for consumption. In Sect. 4 the results of the regression analysis are presented and discussed. Section 5 summarises the main findings and concludes.

2 Consumption and Subjective Wellbeing: Beyond Basic Needs and Social Comparison

Generally, social scientists working on the relationship between income and SWB have treated income, wealth and expenditure interchangeably and extrapolated their results for consumption. Since Easterlin's (1974) work in the mid seventies it has been generally accepted that within countries richer people are significantly happier than poorer ones. However, the relationship tends to be weak. Correlations between income and SWB are only moderately high at the lower economic levels and in the poorest countries (Veenhoven 1991; Diener et al. 1999; Diener and Lucas 2000; Diener and Biswas-Diener 2002; Biswas-Diener and Diener 2006).

Conversely, one of the strongest correlations between income and subjective wellbeing (SWB) reported in the literature was found by Biswas-Diener and Diener (2001) in their study of slum dwellers in Calcutta ($r = 0.45$ at the $p < 0.05$ level of significance). Other research in developing countries such as Møller's (2007) work in South Africa also claimed a strong link between the two. She found that during the eighties correspondence between subjective assessment and objective living conditions was strong enough to justify

treating the two terms interchangeably. Coincidentally, Guillén-Royo and Velazco (2006) also found that an indicator of consumption was an important determinant of people's happiness and satisfaction with income, housing and food in rural Thailand. In addition, Graham and Pettinato (2002) in their study of 17 Latin-American countries and Russia reported a strong and positive effect of wealth and income on happiness.

In general, that the relationship between income and SWB is stronger for poor people has been associated with the fact that most of their expenditure is on food, housing, basic services and clothes. This has contributed to a general belief that income matters for the poor because it allows them to provide for their basic needs. So far, there have not been many systematic attempts to distinguish between the effect of basic needs and income or wealth on SWB. Two reasons account for the disregard: first the difficulty of building basic needs indexes given the controversy associated to basic needs theories regarding, among other issues, their universality. The second reason concerns the complexity of most basic needs approaches and the difficulties of operationalising its main components.

However, some examples can be found in social science literature. Inspired by Maslow's (1970) hierarchy of needs, Diener et al. (1995) used a composite score including indicators of basic health, safety and survival needs at the national level to study whether income would still correlate with SWB once basic physiological needs were controlled for. They found that the correlation coefficient was lower but remained significant pointing at the differential effects on SWB of the two variables. Lelkes (2005) found similar results in a study of SWB determinants in Europe. She showed that broad indicators of basic needs dissatisfaction such as bad health, being unemployed and having no friends were negatively affecting people's wellbeing, controlling for income. Finally, Guillén-Royo et al. (2008) using a basic needs index drawing from the Theory of Human Need (THN) of Doyal and Gough (1991) also found that SWB was related to both higher expenditure and basic needs levels in Thailand. Moreover, they showed that in some Thai communities the indicators of basic needs and household wealth were not significantly associated and could not be used interchangeably. It was sometimes the case that economic progress in relatively prosperous slums did not go hand in hand with higher security or insurance against external shocks.

Besides studying the effect of total income, researchers have also tackled the social comparison aspect of consumption. This goes back to Adam Smith's (1776) claim regarding the instrumental role of consumption as a means to achieve or maintain a certain social position. The study of social comparison was developed further by Veblen (1899) in his analysis of the patterns of consumption of the leisure class in the late nineteenth century. He claimed that the patterns of consumption of the upper classes were mainly based on the impression which goods and services were making on others, and that this behaviour would increasingly concern the lower income groups. Since Veblen, many economists and social scientists have accounted for the role of social interaction in defining consumption choices (Duesenbery 1967; Leibenstein 1968; Sen 1977; Hirsch 1978; Bourdieu 1986; Scitovsky 1986; Galbraith 1977; Easterlin 1995; Schor 1998; Frank 2004, among others). This has also been considered in happiness research in order to explain why countries with dissimilar average income do not always show significant differences in subjective wellbeing levels. It also seemed to explain why the poorer are usually unhappier than the richer as they systematically compare with 'others' who are generally richer than they are.

Contrary to what one would expect, evidence suggests that the relative income hypothesis applies even for poor countries and that in some cases one's position in the society is more important than the absolute level of income. For instance, Fafchamps and

Shilpi (2003) showed that in isolated villages of Nepal the impact of the *demonstration effect* (the exposure to new and more sophisticated goods owned by the reference group) was negatively affecting people's SWB above and beyond their own income. This also happened in urban Peru as shown by Herrera et al. (2006) and in small Latin American cities (Graham and Felton 2006). Furthermore, Graham and Felton also indicated that *status considerations* (the concern about one's position relative to one's reference group) played an even more important role than being exposed to new and expensive goods. This was especially the case for the lowest two quintiles who saw their happiness significantly reduced and of the highest quintile who had it significantly augmented.

Psychologists usually assume that comparing one's consumption with others is a characteristic of materialism. Kasser and Ryan (1993) identified materialism with prioritising financial pursuits over goals such as community involvement and affiliation. Aspirations for financial success, which were defined among others by a high status job, were claimed to be extrinsically motivated (generated by external rewards or demands) and to divert people from other more self-actualising goals. This was later discussed by Carver and Baird (1998), Srivastava et al. (2001) and Sheldon et al. (2004) who showed that the negative effects of materialism on SWB were better understood by accounting for the motives people have for valuing financial success. Particularly, Srivastava and colleagues suggested that people have different and varied motives for pursuing money. Some are linked to social comparison and overcoming self-doubt (negative motives) but others are associated with security, family support, market worth and pride (positive motives). Moreover, only the former had a significant negative relationship with SWB, which might be taken as an indication of the limitations of studying consumption only from the basic needs and social comparison approach.

Sociologists and anthropologists have long been investigating other aspects of consumption such as the symbolic meaning of things; how people present themselves and construct their identity through consumption (Appadurai 1996; Baudrillard 1998; Bauman 2007). In a seminal book, Douglas and Isherwood argued against the utilitarian nature of consumption in economics and the display-oriented consumption of sociology. They posited that 'consumption has to be recognised as an integral part of the same social system that accounts for the drive to work, itself part of the social need to relate to other people, and to have mediating materials for relating to them' (Douglas and Isherwood 1978 p. 4). Furthermore, people present themselves through their material possessions, which are used to make statements about their values about who they are or who they want to be. This also applies to poor or middle-income countries where meaning is increasingly created through consumption. For instance, Huber (2002) reported that in Andean communities of Peru and Bolivia, people were combining traditional and globalised products in order to define their identity in a rapidly changing world. Thus, private consumption seemed to be the path towards identity building and possibly to feelings of pride and self-realisation.

Finally, consumption has also been explored from its hedonic angle as a source of pleasure and excitement. Scitovsky (1986), Campbell (1998) and Bauman (2001), among others, have investigated consumption and its dynamics in Western societies from the perspective of its interaction with the individual's natural search for pleasurable experiences. Their analyses focussed on Western countries where the search for excitement through private consumption was associated with the expansion of the welfare state since the fifties and the insecurities derived from a rapidly shifting world in the nineties.

However, not only structural reasons have triggered the need to seek excitement in consumption practices. Campbell (op cit.) suggested taking consumerism as an aspect of *modern hedonism* which he defined as the search for pleasurable stimuli derived from good

or bad emotions. The latter is linked to the fact that people might search to compensate bad experiences by indulging new and exciting purchases. He claimed that individuals take consumption as the doorway to pleasure and although he did not tackle differences between countries or industrialisation levels, his approach could be increasingly applied to consumption in poorer settings. As anthropologists researching traditional festivities in the Andes have reported, enjoyment is progressively mediated by consumer goods (Colloredo-Mansfeld 1999; Parregård 1997; Huber 2002).

To sum up, empirical evidence and theoretical approaches from different social sciences have highlighted the complexity of consumption and of the channels through which it has an impact on human wellbeing. Those range from facilitating basic needs satisfaction to feeding people's demands for excitement. Quantitative research on the relationship between consumption and SWB has explored the power of social comparison and to a lesser extent, needs-fulfilment. Other aspects have by and large been disregarded, probably due to the difficulties of capturing with single measures complex concepts such as social integration and identity formation. This paper seeks to contribute to the literature by using *motives for consumption* to account for the dimensions that can hardly be comprehended using objective variables. It is expected that by adding motives for consumption to basic needs and relative income indicators, the relationship between consumption and wellbeing will be better understood.

3 Methodology and Data

3.1 The WeD Surveys

The research draws on data from the Resources and Needs Questionnaire (RANQ) and the Income and Expenditure survey (I&E) developed by WeD[1]. Data on demographic characteristics of the respondents (household head and/or spouse), together with indicators of basic needs satisfaction at the household level were taken from the Resources and Needs Questionnaire (RANQ). The RANQ was conducted in July–September 2004 involving 1,000 households (to which 4,981 people belonged) across seven Peruvian communities.

Since the objective of the research was to capture diversity within the poor in Peru, a purposeful selection of the sample was applied. Two urban (Nuevo Lugar and Progreso), two peri-urban (Alegria and Descanso) and three rural (Llajta Iskay, Llajta Jock and Selva Manta) communities were identified across a 'corridor' which, besides geographical variations (coastline, highlands and jungle), reflects variation in: access to natural resources; degree of urbanisation; population density; type of markets; proximity to centres of political power; ethnicity; language; and collective and individualistic values (see Copestake 2006; Copestake et al. 2007).

Data on household expenditure, perceptions and motives for consumption of the head and the spouse were collected in the I&E survey. This survey was conducted in the seven communities of the corridor to a sub-sample of 254 RANQ households during July 2005[2]. The basic selection criterion was the main economic activity of the household head and the number of households selected in each site was proportional to the participation of each community in RANQ. Since the survey was carried out a year later than RANQ some household demographics were updated.

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[1] Refer to http://www.welldev.org.uk for a detailed description of the research instruments.

[2] The survey had three rounds. This research uses only data from the first round.

3.2 Measures

3.2.1 Subjective Wellbeing

The explained or dependent variable of the model is global happiness which is used in the I&E survey to capture overall subjective wellbeing. It was investigated through a three-point scale question[3] asked to household heads and spouses in the Peruvian corridor. Although these types of questions do not allow for detailed cross-personal comparisons and larger scales have been usually recommended (Cummings 2003), they are useful to capture the direction of people's subjective states. In the I&E survey the global happiness question was placed right at the end of the questionnaire before the questions on satisfaction with life domains. Perhaps some tiredness after a long and detailed questionnaire might have given the results a negative bias, but this would then have been evenly distributed throughout the sample.

3.2.2 Intermediate Needs

The indicator of needs satisfaction used in this paper was taken from McGregor et al. (2007) who applied Desai and Shah's (1988) methodology in order to construct an Intermediate Needs Deprivation Index (INDI). The INDI was generated drawing from Doyal and Gough's (1991) Theory of Human Need (THN), which develops a philosophical justification for the identification of physical health and autonomy as *universal* basic needs. These are not achieved directly but through the satisfaction of eleven intermediate needs: adequate nutritional food and water, adequate protective housing, non-hazardous work and physical environment, appropriate health care, security in childhood, significant primary relationships, physical security, economic security, safe birth control and child bearing, appropriate and cross-cultural education. Whilst basic needs are argued to be universal, intermediate needs take specific forms in every society.

The INDI is generated as follows:

$$Di = \sum{}_k I_{ik}$$

where $I_{ik} = 1$ if a household i is facing a lack of access to the k_{th} intermediate need; $I_{ik} = 0$, otherwise

Household level indicators for 10 intermediate needs of the THN are drawn from RANQ (see Table 1). Thus, $0 \leq Di \leq 10$, where an index of 10 indicates that a household lacks access to all the 10 intermediate needs and an index of 0 that has access to all of them. Since most households participating in the I&E had also taken part in RANQ the year before, data on basic needs deprivation was available for the majority of the I&E households.

3.2.3 Expenditure

Total expenditure was generated by calculating July's 2005 food and non-food consumption (including home produces and donations) from the first round of the I&E survey.

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[3] The question was: 'Taking all things together, how would you say things are these days? Would you say you are very happy, fairly happy or not too happy? This question had already been used in the RANQ and in a previous psychometric instrument developed by the WeD Peruvian team. Therefore issues about the meaning of happiness for people of the Peruvian corridor and the translation of the concept to Quechua had all been cleared before the implementation of the I&E survey.

Table 1 Components of the INDI

Domain and indicator	% of Peru sample[a]
Health service utilisation	
HH with children under the age of 20 who did not get a polio vaccination *or* HH with member who was ill and did not seek treatment (%)	13.7
Basic education	
HH with children who did not attend primary school or all adult members have not completed primary education (%)	15.1
Significant primary relationships	
Households that have not spent time with any close relative in the last week	36.1
Nutrition	
HH with shortage of staple food (%)	40.6
Sanitation	
HH with sharing/non sharing bucket toilet or no toilet at all (%)	30.6
Drinking water	
HH with well/tube well, water storage jar, pond, spring, river, lake or other (%)	20.1
Housing	
HH with no electricity (%)	22.4
HH with thatch, reed, bamboo or plastic sheet roof to main dwelling (%)	10.0
Economic and physical security	
HH facing any type of shock (%)	77.6
Safe birth control	
HH that did not receive contraceptives or condoms (%)	61.4

Source: WeD RANQ

[a] Figures show the percentage of "yes" responses for 219 households where the 399 household heads and spouses participating in the study belong

Data were transformed in monthly terms at current prices for July 2005 (the month when the survey was carried out) in the local currency (Nuevos Soles[4]). Then, expenditure at the household level was transformed to per capita terms using the adult equivalence scale of the World Health Organisation[5] (WHO, cited by McCulloch and Baulch 2000, p. 129).

The fact that this research uses data from a specific month to study consumption presents additional limitations. July is a month when the Andean communities hold their traditional festivities which imply a high level of expenditure on alcohol, ceremonial expenses, food, gifts, clothes and other related categories. Moreover, July is harvest season in the Andes so consumption of own produce is at its peak, which increases total food expenditure in the rural communities. These two factors point at a predictable overestimation of monthly consumption in the rural corridor.

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[4] At 15 July 2005 1 Peruvian Nuevo sol equalled 0.25451 Euro. (http://www.oanda.com/convert/classic)

[5] The use of adult equivalence scales is not unproblematic but it is applied here as it represents the diverse consumption requirements of different age and gender groups (see White and Masset 2006 for a methodological discussion).

3.2.4 Motives

The question on motives was placed at the end of the expenditure section of the I&E survey and, unlike the rest of the questionnaire, was open-ended[6]. Both household heads and spouses were asked about their five current expenditure priorities and the motives for spending on them. Motives focussed on non-food expenditure because the piloting phase showed that in such a deprived setting most expenditure on food was reported as basic needs oriented. Including food would have reduced the range of motives that could be captured using an open-ended single question.

The open-ended nature of the motive question demanded that coding was done in consultation with WeD local researchers and using WeD ethnographic data. Three basic groups of motives were generated from the content of people's responses. These were: *providing the household 'basics'* (reported by 90% participants), *hedonism* (11%) and *social interaction* (50%). The latter comprised expenditure motivated by *relatedness*, *social positioning*, *social integration* and *customs*[7].

In order to introduce motives in the regression analysis, dichotomous variables were created. They indicated whether a person was driven or not by a specific motive when spending on priorities for consumption. Since many participants declared more than one motive for spending on priorities they had a value of one in more than one motive variable.

If $M_{i,j}$ are motives for consumption where $(j = 1, 2, 3)$ and $j = 1 =$ providing the household 'basics'; $j = 2 =$ hedonism; $j = 3 =$ social interaction and $(i = 1...399)$ then variable $(DM_{i,j})$ of the relevance of motive (j) for individual (i) is defined as follows:

$$DM_{ij} = \begin{cases} = 1 & \text{if} \quad j \geq 1 \\ = 0 & \text{if} \quad j = 0 \end{cases}$$

3.2.5 The Model

The empirical analysis follows the tradition of happiness research in economics taking socio-economic and demographic variables as determinants of subjective wellbeing. The relationships between the socio-economic and demographic variables and happiness is analysed through an Ordered Probit model that emerges from the normal cumulative function. The empirical specification is formulated in terms of a latent response variable y_i^*, which depends on individual perception and is defined as follows:

$$y_i^* = \sum_{k=1}^{K} \beta_k x_{ki} + \varepsilon_i \qquad \varepsilon_i \sim \text{NID}(0, 1) \tag{1}$$

where i is the surveyed individual; x_{ki} the independent explanatory variables (socio-demographics, INDI, expenditure and motives[8]); β_k the parameter that indicates the effect of x_k on y_i^*; ε_i a normally distributed independent error term for household i.

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[6] Refer to Guillén-Royo (2007) for a discussion on the validity and reliability of an open-ended question on motives for consumption.

[7] See Guillén-Royo (op. cit.) for a detailed account of the coding and labelling of the motive variables.

[8] In this paper motives are treated as independent variables capturing local meanings of consumption. They do not depend on absolute expenditure (or vice-versa) as they were enquired in connection with people's priorities of consumption not with regards to current expenditure. Moreover, the open-ended nature of the motives question implies that one cannot disentangle motives from goals in the given answers. Thus, a causal relationship between motives and consumption is not hypothesised here.

Let y_i be a discrete random variable with values ranging from 1 to 3 which are associated to the verbal scale of the responses to the happiness questions: "not too happy", "fairly happy" and "very happy". Thus, the Ordered Probit model with three alternatives is defined as follows:

$$y_i = \begin{cases} 1 & \text{if} & y_i^* < d_1 \\ 2 & \text{if} & d_1 \leq y_i^* < d_2 \\ 3 & \text{if} & d_2 \leq y_i^* \end{cases}$$

where $d_1 < d_2$ for d_i, the threshold parameter. The model will be estimated using the maximum likelihood method. This will be done in three steps with the aim to clarify the distinct effects of the many aspects of consumption included in the analysis.

4 Consumption and Subjective Wellbeing: Uncovering the Meaning of Consumption Through Basic Needs, Expenditure and Motives

Table 2 describes how happiness is distributed in the corridor and by site type. An ANOVA shows that rural and peri-urban dwellers are significantly happier than the urban ($F = 8.866$, $p < 0.001$). The percentage Scale Maximum (SM) statistic is calculated following Cummings (1995). It yields a value (46.5%) for the whole sample, which is below ten standard deviations of his suggested life-satisfaction *gold standard* ($75 \pm 2.5\%$SM)[9].

Table 2 Global happiness by site type

	Urban	Peri-urban	Rural	Total sample
Not too happy	26.14	12.66	18.46	19.55
Fairly happy	68.18	72.78	58.46	68.42
Very happy	5.68	14.56	23.08	12.03
Total	100	100	100	100
Total (number)	176	158	65	399

Source, I&E first round

The research relies on regression analysis to test the significance of the variables capturing different aspects of consumption (see Table 3 for the descriptives). Table 4 shows the results of the Ordered Probit estimations of model (1) in three steps. In this way, the distinct effects on happiness of the many aspects of consumption explored here through basic needs, expenditure and motives are brought to the foreground.

It should be noted that although different levels of basic needs, expenditure or type of motivation might influence people's subjective wellbeing, the latter might also affect how people position themselves in society and in the labour market, together with the type of motivation that drives their behaviour. Research on the relationship between happiness and economic variables seems to point at the possibility of the bi-directionality of the effect (Frey and Stutzer 2005; Lyubomirsky et al. 2005a) as does research on materialism and motives for wanting money (Kasser and Kanner 2004; Dittmar 2008). Thus, although the assumption of the economics of happiness literature identifying happiness with utility

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[9] This accords with Cummings (1995) review of studies from developing countries and is consistent with what has been found in other WeD countries. For instance, using RANQ data, Thailand (43%) and Ethiopia (42%) show even lower percentages SM.

Table 3 Consumption and happiness: Description of the independent variables

Variable description	Mean	Std. Dev.	Min	Max
Socio-demographic characteristics				
Age	41.228	11.293	16	81
Age squared	1826.957	1025.605	256	6561
Male dummy	0.486	0.500	0	1
Religion dummy (1 = catholic)	0.779	0.415	0	1
Cohabiting dummy	0.875	0.331	0	1
Chronic illness dummy	0.130	0.337	0	1
Self-employed dummy	0.434	0.496	0	1
Homemaker dummy	0.326	0.469	0	1
Basic needs				
Intermediate needs deprivation index	3.321	1.436	0	9
Consumption				
Log total expenditure	2.044	0.232	1.153	2.860
Average expenditure	134.194	18.504	94.824	158.539
Relative expenditure	−5.793	79.926	−144.307	584.567
Motives for consumption				
Providing household basics dummy	0.897	0.304	0	1
Hedonism dummy	0.108	0.310	0	1
Social interaction dummy	0.501	0.500		
Relatedness dummy	0.088	0.283	0	1
Social positioning dummy	0.043	0.202	0	1
Social integration dummy	0.248	0.432	0	1
Customs dummy	0.187	0.391	0	1
Location				
Location dummy	1.722	0.727	1	3
2 Household located in peri-urban community				
3 Household located in rural community				
Number of observations	399			

(Frey and Stutzer op. cit.) implies that the explanatory variables affect happiness, the analysis of the results presented here is done bearing in mind that the relationship might work both ways[10].

4.1 Socio-demographic Variables

Table 4 indicates that age, gender and living with a partner are significant predictors of happiness in the Peruvian sample. This accords with similar studies carried out in the country (Graham and Felton op. cit.; Herrera et al.2006). Regarding age, people in the Peruvian corridor are unhappier as they age until they reach their late forties and after that

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[10] In this paper the analysis is done with cross-sectional data from the first round of the WeD I&E survey. However, three rounds of the survey were available with information on happiness and expenditure. Drawing on data from the three periods, a Hausman test was run to test for endogeneity in expenditure yielding non-significant results.

Table 4 Consumption and happiness in the Peruvian corridor

Independent variables	1.a		1.b		1.c	
	Coef.	z-Score	Coef.	z-Score	Coef.	z-Score
Socio-demographic characteristics						
Age	-0.121	-3.58 ***	-0.117	-3.49 ***	-0.124	-3.65 ***
Age squared	0.001	3.46 ***	0.001	3.38 ***	0.001	3.55 ***
Male dummy	0.347	2.31 **	0.323	2.15 **	0.306	2.02 **
Religion dummy (1 = catholic)	-0.092	-0.57	-0.201	-1.29	-0.193	-1.22
Cohabiting dummy	0.550	2.76 ***	0.599	3 ***	0.705	3.45 ***
Chronic illness dummy	-0.122	-0.65	-0.135	-0.73	-0.143	-0.76
Self-employed dummy	0.214	1.35	0.171	1.07	0.124	0.77
Homemaker dummy	0.342	1.74 *	0.306	1.55	0.197	0.98
Basic needs						
Intermediate needs deprivation index	-0.075	-1.63 *	-0.102	-2.23 **	-0.117	-2.52 **
Consumption						
Log total expenditure	0.545	1.98 **				
Average expenditure			-0.015	-4.24 ***	-0.015	-4.26 ***
Relative expenditure			0.002	2.3 **	0.002	2.51 **
Motives for consumption						
Providing household basics dummy					-0.374	-2.28 **
Hedonism dummy					0.402	1.97 **
Social interaction dummy					-0.473	-3.61 ***
Location						
Peri-urban dummy (urban = 0)	0.560	3.97 ***				
Rural dummy (urban = 0)	0.596	3.16 ***				

Table 4 continued

Independent variables	1.a		1.b		1.c	
	Coef.	z-Score	Coef.	z-Score	Coef.	z-Score
Low point of age	47		47		47	
/cut 1	−1.609		−5.174		−6.106	
/cut 2	0.604		−2.961		−3.807	
Number of observations	399		399		399	
Mc Fadden R-squared	0.075		0.077		0.107	
Log likelihood	−307.799		−307.070		−296.959	

Note: * Significant at 10%, ** significant at 5%, *** significant at 1%

they experience an upturn in their happiness levels[11]. Moreover, men are more likely to be happier than women, which besides psychological explanations linked to women's higher propensity to neuroticism (Costa et al. 2001), might be associated with the pervasive gender discrimination in the country (Schuldt 2004). Controlling for gender, working at home is positively related to happiness in the first model although its significance is low most likely because it correlates strongly with gender ($r = -0.526$, $p < 0.01$).

As it is commonly found, people living with a partner (including married people) are happier than those living on their own. Furthermore, living in peri-urban and rural areas is positively related to happiness compared to urban communities. However, it should be taken into account that in the corridor the comparison is mainly between Andean villages or hamlets and urban slums, which do not represent the urban population as a whole, particularly in the capital city.

Some variables that are usually included in happiness studies do not appear significant for the corridor sample. These are religion, health and being self-employed. Generally, religion is found to be positively associated with happiness (Layard 2005). Nevertheless, the fact that participants were asked about denominations and not about beliefs or practices might deem the variable insignificant. Moreover, in the Peruvian sample, Catholics (79%) are richer and urban-based, while Evangelicals (7%) and Pentecostals (4%) are poorer and/or rural-based, which implies that location and expenditure might be capturing the effect of religion.

People report being in good health as one of the most valued components of a 'good life' (Clark 2002; Layard 2005; Jongudomkarn and Camfield 2005; Guillén-Royo 2007). However, the indicator of health status used in this study (chronic illness) is not a significant predictor of happiness. One reason could be that people adapt to physical limitations (Layard op. cit.); another that the information on chronic illness was collected through RANQ one year before happiness was captured in the I&E survey. Although chronic illnesses are by definition long term, their acuteness changes over time which might explain the non-significance of this variable.

Being self-employed (43% of the sample) does not explain variations in happiness in the Peruvian corridor. Graham (2004) and Graham and Felton (2006) found that in Peru and Latin-America being self-employed had a negative effect on individuals' wellbeing. Precariousness, volatility and uncertainty characterize jobs in petty-commerce and agriculture (where most people are self-employed) which would be expected to negatively affect people's wellbeing. On the contrary, in our sample, working at home (32% of the sample) was a positive predictor of happiness.

4.2 Consumption and Basic Needs

As explained earlier, it is argued that when people do not have their basic needs satisfied consumption matters for SWB. Model 1.a. separates the two effects by including the INDI that accounts for 10 indicators of the THN intermediate needs and the logarithm of total personal expenditure as explanatory variables. As shown in Table 4 both predictors are significant and have the expected signs.

Concerning *universal* basic needs, the higher the number of unmet intermediate needs, the unhappier people feel. The fact that some of the components of the INDI respond to

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[11] This is a common finding in happiness studies where the young and the old seem to be happier than the middle-aged (Frey and Stutzer 2002 p. 54). Those findings vary with regard to the econometric methods used and the cardinality or ordinality of the dependent variable (Ferrer-i-Carbonell and Frijters 2004).

structural characteristics of the communities and are collected by the site dummies might be reducing the significance of the negative sign of the index. For instance, in two of the rural communities people do not have access to electricity; which is one of the indicators of proper housing included in the INDI. Moreover, in urban slums that are usually populated by migrants it is quite common not having relatives nearby to spend time with (which is the indicator of primary meaningful relationships included in the INDI). In spite of these caveats, having more intermediate needs unsatisfied has a negative effect on happiness beyond the type of community and one's expenditure level.

As Table 4 showed, higher expenditure is related to increased happiness controlling for socio-demographic characteristics and levels of intermediate needs. The fact that expenditure remains a significant positive predictor of happiness when an indicator of intermediate needs is included in the model has two main explanations. First, although higher expenditure is usually related to better basic needs standards (OLS of expenditure on INDI $\beta = -1.429$, $t = -4.73$ $p < 0.001$, $R^2 = 0.053$) some intermediate needs are not easily met through private consumption (economic and physical security, for example). Second, consumption has a meaning, a symbolism and a psycho-social purpose that is not fully captured through basic needs even in poor contexts such as the Peruvian corridor. This is explored further in the following sections.

4.3 Consumption and Social Comparison

Model 1.b. follows Graham and Felton's work in Latin-America to account for the effect of relative and average expenditure on happiness[12]. It includes the same demographic variables as model 1.a. with little variation regarding the statistical results. Only the positive effect on happiness of the *homemaker* becomes non-significant. The INDI increases its significance as it might be capturing some of the uses of absolute expenditure that are not linked to social comparison; namely those related to spending on basic needs (housing, education, health care, etc.).

As shown in Table 4, the coefficients for average and relative expenditure are significant and different, indicating that relative aspects of consumption matter for happiness. This is better appreciated when the equivalence between the different techniques commonly used to address the issue is presented. As Graham and Felton (2006, p. 114) explain, model (a) (the one used in their research following Di Tella and MacCulloch (2003)) explores the effect of relative income by testing the significance of the average and relative wealth coefficients. Model (c), which is the most frequently used to test the relative income hypothesis (Luttmer 2005), can be derived for model (a) by including the components of relative wealth as shown in Eq. b.

$$Y \; = \; X\beta \; + \; \text{avgwealth} \, \beta_3 \; + \; \text{relwealth} \, \beta_4 \qquad \text{(a)}$$

$$Y \; = \; X\beta \; + \; \text{avgwealth} \, \beta_3 \; + \; (\text{wealth} - \text{avgwealth}) \, \beta_4 \qquad \text{(b)}$$

$$Y \; = \; X\beta \; + \; \text{avgwealth} \, (\beta_3 - \beta_4) \; + \; \text{wealth} \, \beta_4 \qquad \text{(c)}$$

The main advantage of using Graham and Felton's approach is that besides accounting for relative differences it singles out the effects of a richer reference group (average expenditure) and of one's relative standing (relative expenditure). As the results of

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[12] The *type of site* dummy is dropped in models 1.b. and 1.c. to avoid multicollinearity since average expenditure is calculated at the rural, peri-urban and urban level.

estimating model 1.b indicate, in the Peruvian corridor the former seems to be a better predictor of happiness than the latter, although both variables are significant.

The fact that Peruvians are distressed by other's economic success has already been reported in previous research in the country (Herrera et al. 2006) and it is arguably linked to some characteristics of the Peruvian society. Schuldt (op. cit.) argued that socio-economic inequality, cultural traits such as envy and the extensive deployment of marketing campaigns targeted to the lower income groups, were contributing to an increase in materialist goals among poor Peruvians. This increase in materialism is even more frustrating in a country where the vast majority of the population has negligible opportunities for economic progress. Moreover, this study indicates that not only exposure to others' possessions matters for happiness but also direct comparison of one's expenditure with the one of the reference group. Being richer than average might imply having more access to the types of goods coveted by the less wealthy neighbours, making the former happier to feel distinct and the latter frustrated for lack of achievement (see the positive sign of the relative expenditure coefficient in Table 4).

4.4 Consumption and Social Interaction, Household Provision and Hedonism

Model 1.c. included motives for consumption in the basic specification with the objective of broadening the analysis beyond what is explained through objective indicators of basic needs and social comparison. Table 4 illustrates how accounting for motives for consumption increased the proportion of variance explained by 36%. This was somehow expected as motives touched upon what is called *intentional activities*; 'those that involve the voluntary and effortful things people do in their everyday lives' (Demir and Weitekamp 2006, p. 183). *Intentional activities* are said to account for 40% of the variance in happiness whilst socio-economic factors alone only explain about 10% (Lyubomirsky et al.2005b).

In the Peruvian sample, motives captured aspects of consumption linked to *providing the household basics*, *social interaction* and *hedonism*. They offered a complementary picture of the meaning of consumption in the communities, richer than the one derived from top-down approaches to basic needs or expenditure. As indicated in Table 4, consuming motivated by social interaction and providing the household basics were negative predictors of participants' happiness. On the contrary, the search for pleasure through consumption in the context of our poor Peruvian communities showed a positive link.

4.4.1 Social Interaction

Fivity percent participants reported motives for consumption related to social interaction. As Table 4 indicates they were negatively predicting happiness and had the largest effect of the three groups of motives included in the model. Social interaction motives were more common among the less poor in the sample who often reported being primarily concerned with their or their children's social standing when spending on education, clothes and traditional festivities. However, an additional regression that controlled for absolute instead of relative income confirmed that being motivated by social interaction negatively predicts happiness even when individual's economic level is taken into account (see Table 5).

In addition, model 1.c. was run using the four components of the social interaction category. Table 6 shows how the negative sign is largely driven by the effect of social

Table 5 Absolute expenditure and motives

	Coef.	z-Score	
Basic needs			
Intermediate needs deprivation index	−0.064	−1.43	
Consumption			
Log total expenditure	0.559	2.00	**
Motives for consumption			
Providing household basics dummy	−0.585	−2.75	***
Hedonism dummy	0.223	1.12	
Social interaction dummy	−0.484	−3.73	***
Number of observations	399		
Mc Fadden R-squared	0.104		
Log likelihood	−298.032		

Note: ** Significant at 5%, *** significant at 1%

Demographic variables are the same as in Table 4

integration and positioning. The former was the component with the highest incidence and it is likely to be picking up the struggle of living in a discriminating society. In the context of the corridor consuming motivated by social recognition, 'being accepted' or avoiding the anguish of being marginalised due to lack of skills was a reflection of the social stratification affecting the country and the efforts people do in all areas to break with it. This is particularly the case in the labour market, where the reproduction of a low-skilled labour force is encouraged by the leading institutions (Copestake 2003) and in other domains such as health care and housing, where public intervention is not successfully facilitating integration (Guillén-Royo 2007).

Social positioning was the subcategory mentioned by fewer participants. It captured comparison as narrated by respondents, usually in different terms than the ones picked up by relative expenditure. Migrants returning for the annual festivities in the Andes and high exposure to media and modern markets in the cities were contributing to expand aspirations beyond one's immediate social circle. Thus, people seemed to compare their situation

Table 6 Social interaction disaggregated

Motives for consumption	Coef.	z-Score	
Providing household basics dummy	−0.345	−1.55	
Hedonism dummy	0.420	2.04	**
Relatedness dummy	−0.053	−0.24	
Social positioning dummy	−0.803	−2.54	**
Social integration dummy	−0.107	−2.32	**
Customs dummy	−0.065	−0.38	
Number of observations	399		
Mc Fadden R-squared	0.104		
Log Likelihood	−298.032		

Note: ** Significant at 5%, *** significant at 1%

Demographic variables are the same as in Table 4

to the one of the whiter, educated and richer Peruvians and hope for their children to get closer to the ideal (Colloredo-Mansfeld 1999; Guillén-Royo op. cit.).

4.4.2 Providing the Household 'Basics'

Providing the household 'basics' was reported as a motive by 90% participants. As indicated in Table 4, it was a significant negative predictor of happiness. It is remarkable that the negative effect of this variable was larger than the positive effect of having a better objective situation in terms of universal needs represented by the coefficient of the INDI. This finding should be investigated further as it might suggest that the process through which poor people go to satisfy their perceived needs has a detrimental impact that is not compensated by the likely increase in basic needs levels derived from higher expenditure.

Arguably, the reason for the negative link between *providing the household 'basics'* and happiness is twofold. First, following Schuldt (2004) and Guillen-Royo (op. cit.) there is an increasing gap between seeking basic needs satisfaction and achieving it through consumption in Peru, which is likely to result in frustration. Second, sheer poverty and perennial lack of needs fulfilment are naturally distressing. This might be reflected in people's answers when they report that their expenditure is associated to the provision of household 'basics'.

To test the latter, an ordinal variable measuring the intensity with which a person declared to be led by the provision of 'basics'[13]) and an index derived from the factor analysis of satisfaction with five life domains (family health care, satisfaction with children's education, family housing, family clothing and family total income) were generated. Both were found to be significantly and negatively correlated (Pearson correlation $r = -0.361$, $p < 0.001$) suggesting that this motive might incorporate people's baseline dissatisfaction with their achievements in 'basic' domains of life.

Thus, in the context of the corridor, being motivated by the provision of household 'basics' may represent the frustration of lacking access to suitable satisfiers together with the distress of low achievement in crucial life-domains. In Western societies, on the other hand, psychologists found that being driven by basic needs was positively related to SWB: a result of people choosing to do so rather than as a matter of limited opportunities (Srivastava et al.2001).

4.4.3 Hedonism

Spending on goods or services in order to have fun and/or aesthetical pleasure (reported by 11% participants) was positively predicting happiness (refer to Table 4). The regression coefficient was highly significant and with a higher value than the coefficients of other

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[13] Ordinal variables were created assigning weights (from 5 to 1) to each motive in descending order from the highest to the lowest ranked by the participant. This followed Clark's (2002) approach to the study of the importance of income and wealth and the reasons to value them in South Africa. Formally: Let us call Mj motives for consumption where $(j = 1, 2, 3)$ and $j = 1 =$ providing the household 'basics'; $j = 2 =$ hedonism; $j = 3 =$ social interaction

Participants in the I&E survey $(i = 1...399)$ declare up to five priorities and motives for consumption and they rank them $(z = 1...5)$. For each rank it is assumed a score Sz from 1 to 5 where $S_1 = 5$; $S_2 = 4$; $S_3 = 3$; $S_4 = 2$ and $S_5 = 1$. From individuals' responses an index (M_{ij}) of the relevance of motive (j) for individual (i) is defined as follows: $M_{ij} = \sum_{z=1} S_z * m_{z,j}$, where $m_{z,j} = 1$ if motive j occurs in position z; $m_{z,j} = 0$ otherwise

For each individual we can, therefore, generate a vector of motives for consumption VM_i where $VM_i = (M_{i,1}; M_{i,2}; M_{i,3}$

consumption related variables except for social interaction. In the context of the materially deprived WeD Peruvian communities, considering hedonism as a worthy motive to consume might signal, among other things, an inherent predisposition to happiness or enjoyment. Thus, the link should be investigated further as it could well be derived from the very nature of the happiness variable; which is hedonically laden compared to other SWB measures of a more cognitive or *eudaimonic* character.

Furthermore, Table 5 showed that using absolute instead of relative expenditure to estimate model 1.c. deemed the coefficient of 'hedonic' motives insignificant. This suggests that the positive effect of total expenditure might capture how this is used to acquire goods that contribute to joyful and pleasurable experiences. Future research should pursue this as it opens the explanation of the positive linkages of income/expenditure and SWB in poor contexts to considerations of hedonism and pleasure seeking.

5 Concluding Remarks

This paper has investigated the relationship between consumption and SWB through regression analysis. It has used an indicator of intermediate needs together with personal expenditure and motives for consumption to capture some of the many dimensions of consumption contemplated in social science literature. This has been done in the context of seven poor Peruvian communities, where in principle basic needs were expected to account for most of the positive impact of consumption on SWB. Results of the Ordered Probit estimation indicated that both the intermediate needs deprivation index and expenditure were significant predictors of happiness, highlighting the fact that each of them explains different aspects of consumption. Moreover, expenditure had an absolute and a relative effect since relative expenditure (identifying status considerations) and average expenditure (representing the reference group) were also significant explanatory variables.

Including motives in the model broadened the aspects of consumption considered in the analysis. In addition to basic needs and social comparison, providing the household basics, social interaction and hedonism arose as local meanings of consumption and significant predictors of SWB. Spending to supply the household basics was negatively linked to happiness. In the context of poor Peruvian communities this was associated with participants' dissatisfaction with basic life domains. It was also related to the gap between the pursuit and fulfilment of physical and security needs through consumption. Moreover, people's futile efforts to escape social marginalisation through consumption explained the negative link between consuming motivated by social interaction and happiness.

On the contrary, consuming driven by hedonism was a positive predictor of happiness. This result could be stretching the traditional assumption that consumption increases the SWB of the poor because it contributes to basic needs satisfaction. It suggests that the positive relationship might also be due to the possibilities of hedonic consumption that an increase of income grants. This is an interesting finding that calls for further targeted research.

Finally, the fact that characteristics of consumption other than basic needs and social comparison have been addressed through a perception variable generated from an open-ended question presents two main limitations that might be overcome with additional research. First, the information obtained through the question on motives could be refined by designing a new instrument with tutored questions capturing the different array of reasons why people consume. In the case of the corridor, focussing on education, furniture and electric appliances is likely to reveal many of the aspects of consumption considered in social science literature.

Second, the significance of the motive variables is likely to be related to the fact that they are capturing some personality traits or most likely one's intentional activities. This implies that motives are beyond personal circumstances and might be picking up individuals' goals and their strive to achieve them. However, it is unlikely that trying to avoid this by using locally symbolic assets or expenditure as indicators would capture the different reasons people have to consume the same item. Such a strategy would hardly account for the wealth of meanings that define consumption in any given setting; which has otherwise been the objective of this paper.

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