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# **What Makes People Happy?<sup>1</sup>**

## **Some Evidence from Ireland**

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## Abstract

Using data on over 3,000 individuals in Northern Ireland, this paper conducts an econometric investigation into what makes people happy (or unhappy); this encompasses, in particular, the relation between standards of living and levels of happiness. In the context of the existing literature, this study has some innovative features. First, it belongs to a minority of studies in this area which are based on data for individuals rather than on aggregate country-wide data. Second, it draws a distinction between people's satisfaction with their standard of living in particular and their general level of happiness and it shows that the effects of the attained standard of living on satisfaction and on happiness are very different in magnitude. Third, it considers the separate effects of physical and mental health problems on happiness and points to the devastating effect that mental - unlike physical - ill-health can have on people's happiness. Fourth, it considers the importance of neighbourhood "social capital" - based on friendly and trusting relationships between local persons - in determining the happiness of people. Fifth, in examining the determinants of happiness it controls for the effects of adverse events and incidents - for example, marital break-up, bereavement, burglaries. Lastly, it "deconstructs" happiness by relating it to different emotional states and personality characteristics and studies their influence on happiness.

### **JEL Classification: I1, I3**

*Want is a growing giant whom the coat of Have was never large enough to cover.*  
*Ralph Waldo Emerson.*

## Introduction

Some economists are beginning to question a (arguably, *the*) fundamental belief that underpins their subject, namely that a better economic performance by a country is in itself, and of itself, a "good thing"<sup>2</sup>. Since this belief is also shared by most people in public life, its concomitant is an undue concentration of both public and private resources on raising national income: "undue", because making people richer does not necessarily make them happier or, at least, by not enough to justify the outlay of resources in raising income. In other words, public policy (with its focus on raising national income) may not be giving people what they want (to be happy) and, for this reason, there is a growing restlessness among social scientists about the wisdom of harnessing policy to the yoke of economic performance (Frank, 1997, 1999; Layard, 2002, 2003).

Of course, it could be argued that while national income is tangible and can be measured - and, indeed, observed and admired in the rising volume and quality of consumer goods - the amorphous and fluctuating nature of what we regard as "happiness" renders it unsuitable as a policy goal. Four points, however, draw the sting from this argument. First, subjective well-being is increasingly being measured by simply asking people about how happy they are (or, have been in the recent past). The annual General Social Surveys in the United States have for years asked people about their levels of happiness; the Eurobarometer Survey Series has since 1973 provided responses from residents of a number of European countries to a biannual question on life satisfaction<sup>3</sup>. Second, not only do people have little difficulty in answering these questions<sup>4</sup>, these subjective responses do reflect the respondents' substantive feelings of well being (Diener, 1984; Pavot, 1991; Watson and Clark, 1991)<sup>5</sup>. Third, there is strong evidence that responses between people in different countries, and from different cultures, are comparable because wherever they are, and whosoever

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<sup>2</sup> Prominent among these dissenting economists are: Blanchflower and Oswald (2000); Clark (1996, 1999, 2001); Clark and Oswald (1994); Easterlin (1974, 1995, 2001); Frank (1985; 1997, 1999); Frey and Stutzer (2002); Hirsch (1976); Layard (2002, 2003); Oswald (1997); Scitovsky (1976).

<sup>3</sup> "On the whole, are you very satisfied, fairly satisfied, not very satisfied, not at all satisfied, with the life you lead?"

<sup>4</sup> In the United States, the rate of non-response was less than one percent in fourteen surveys between 1972 and 1987 (Easterlin, 2001).

<sup>5</sup> For example, people who report high happiness scores tend to smile and laugh more and tend to be rated by others as happier (Oswald, 1997).

they might be, people essentially want the same things: *inter alia* a decent standard of living; a good family and social life; good personal and family health; and a good job (Cantril, 1965, Campbell, 1981). Lastly, as others have shown (Layard, 2003), and as this study will demonstrate, there are concrete and specific policy measures one could adopt to promote happiness.

In summary: while people may find it difficult to *define* happiness, they know, clearly and unambiguously, *when* they are happy or unhappy; moreover, people from different backgrounds are made happy or unhappy by the *same* things; if we *knew* what these were, and their relative strengths, we could fashion policy so as to influence these happiness or unhappiness inducing factors. The task of social scientists is to enquire into these matters and to inform a wider audience of their findings and this, indeed, is the purpose of this paper.

The instrument for conducting such an enquiry is provided by data from the Poverty and Social Exclusion in Northern Ireland Survey (hereafter, the PSENI Survey) which was carried out between June 2002 and January 2003. The PSENI Survey - covering 1,976 household interviews and 3,104 individual interviews - asked a range of questions about people's views on poverty, living standards, health status, neighbourhood status, and, most importantly, from the perspective of this paper, their degree of satisfaction with their standard of living, and their level of happiness<sup>6</sup>.

Using these data, and within their limitations, this paper conducts an econometric investigation into what makes people happy (or unhappy); this encompasses, in particular, the relation between standards of living and levels of happiness. In the context of the existing literature on this subject, this study has some innovative features. First, it belongs to a minority of studies in this area which are based on data for individuals rather than on aggregate country-wide data. Second, it draws a distinction between people's satisfaction with their standard of living in particular and their general level of happiness and it shows that the effects of the attained standard of living on satisfaction and on happiness are very different in magnitude. Third, it considers the separate effects of physical and mental health problems on happiness and points to the devastating

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<sup>6</sup> Hillyard *et. al.* (2003) provide details of the PSENI Survey.

effect that mental - unlike physical - ill-health can have on people's happiness. Fourth, it considers the importance of neighbourhood "social capital" - based on friendly and trusting relationships between local persons - in making people happy. Fifth, in examining the determinants of happiness it controls for the effects of adverse events and incidents - for example, marital break-up, bereavement, burglaries. Lastly, it "deconstructs" happiness by relating it to different emotional states and personality characteristics and studies their influence on happiness.

### The Data

The PSENI Survey asked its respondents how they rated their standard of living<sup>7</sup>. Immediately following this question, they were asked how satisfied they were with their current standard of living<sup>8</sup>. The results from the responses to these questions from 3,090 individuals are shown in Table 1.

<Table 1>

Three points emerge from this Table which are relevant to this study. First, of the 3,090 respondents, 2,202 (or 71 percent) were satisfied or very satisfied with their standard of living (hereafter, abbreviated to "satisfied") but only 1,088 (or 35 percent) considered their standard of living to be fairly high or high (hereafter, abbreviated to "high"). So, a substantial number (1,156 of 3,090) and proportion (37 per cent) of respondents were satisfied with their standard of living *even though they did not consider it to be high*. On the other hand, of the 1,088 respondents who considered their standard of living to be high, a substantial number (1,046 or 96 percent) were satisfied with their standard of living. Having a high standard of living was, therefore, not a necessary condition - though it could be regarded as a sufficient condition - for being satisfied with ones material well being.

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<sup>7</sup> This question was prefaced with the words: "Now, I am going to ask you some questions about your material standard of living - the things that money can buy. Your material standard of living does NOT mean ability to enjoy life. You should NOT take health into account."

<sup>8</sup> The categories employed by the PSENI Survey were, for the standard of living: high, fairly high, medium, fairly low, low. For satisfaction with the standard of living the PSENI categories were: very satisfied, satisfied, neither satisfied nor dissatisfied, dissatisfied, very dissatisfied. In order to boost category sizes, the PSENI categories were condensed to those shown in Table 1.

Second, 206 of the 298 respondents (or 69 percent) who considered their standard of living to be "fairly low or low" (hereafter, abbreviated to "low") were "dissatisfied or very dissatisfied" (hereafter, abbreviated to "dissatisfied") with their standard of living. On the other hand, of the 386 respondents who were dissatisfied with their standard of living, only 206 (or 53 per cent) considered it to be low. In other words, having a low standard of living was neither a necessary nor a sufficient condition for being dissatisfied with ones material well being.

Third, the number of respondents along the main diagonal of Table 1 may be regarded as persons for whom there was a "match" between their standard of living and their degree of satisfaction with it<sup>9</sup>. Such a match occurred for only 1,657 of the 3,090 respondents (54 percent) and for 46 percent of the respondents there was, therefore, a "mismatch" between their standard of living and their degree of satisfaction with it.

The PSENI Survey also asked its respondents about their level of happiness: "During the past month, have you been a happy person all the time? most of the time? a good bit of the time? some of the time? a little of the time? none of the time?" In order to boost cell sizes, these six categories were compressed as follows: those who said they were happy all, or most of, the time were amalgamated (and are referred to) as "happy"; those who said they were happy a good bit, or some, of the time were amalgamated (and are referred to) as "neither happy nor unhappy"; while those who said they were happy a little, or none, of the time were amalgamated (and are referred to) as "unhappy".

Notwithstanding differences between Surveys in the categories of happiness employed by them, and in the phrasing of their questions, direct questions, of the sort set out above, provide the principal way by which subjective well-being is measured (Easterlin, 2001)<sup>10</sup>. For example, the United States' General Social Survey asks: Taken all together, would you say that you are: very happy, pretty happy, or not too happy?" (National Opinion Research Centre, 1999).

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<sup>9</sup> That is: high standard of living and satisfied; standard of living neither high nor low and neither satisfied nor dissatisfied; low standard of living and dissatisfied.

<sup>10</sup> For a discussion of differences in the phrasing and the classification of such questions see Veenhoven (1993).

## &lt;Tables 2 and 3&gt;

Tables 2 and 3 show the relation between levels of happiness and, respectively, the standard of living and satisfaction with the standard of living. Table 2 shows that of the 1,075 persons who considered their standard of living to be high, 798 (or 74 percent) described themselves as happy "all or most of the time" (hereafter, abbreviated to "happy"). However, of the 1,950 respondents who described themselves as happy, only 798 (or 41 percent) considered their standard of living to be high (Table 2). By contrast, Table 3 shows that, of the respondents who described themselves as happy, 1,539 (or 79 percent) were satisfied with their standard of living. Consequently, a person who was happy was more likely to be satisfied with his/her standard of living than to have a high standard of living.

This point is reinforced by noting that being unhappy was more likely to be associated with dissatisfaction with one's standard of living than with having a low standard of living: of the 180 respondents who were unhappy, 32 percent were dissatisfied with their standard of living (Table 3) but only 24 percent considered their standard of living to be low (Table 2).

## &lt;Tables 4 and 5&gt;

Table 4 sets out the relation between the opinions of respondents about their standard of living and their views about the adequacy of their income for meeting their basic needs: 41 percent of those who considered their standard of living to be high (450 of 1,087 respondents) thought that their income was just enough to cover their basic needs while, of those who regarded their income as more than enough to cover their basic needs, 27 percent regarded their standard of living to be neither high nor low. When respondents were asked about the weekly amount they thought necessary to keep their household out of poverty there was, even after controlling for the number of persons in the household, a significant positive correlation between household income and the (self-assessed) "poverty line" income (Table 5): the more affluent the household, the greater the income required to keep it out of "poverty".

Up to 1986, the Gallup Poll regularly asked its respondents in the United States what they regarded as the smallest amount of money a family of four

needed to 'get along in the community'. Rainwater (1990) analysed these answers to show that, over the period 1950-1986, the 'smallest amount of money needed' rose with actual income with the result that the elasticity of the poverty line, with respect to household income, was unity.

#### <Table 6>

Lastly, Table 6 shows the relation between the standard of living of respondents and their perception of the distance between their household income and their self-assessed poverty line. Of those who considered their standard of living to be high, 27 percent regarded themselves as being a "lot above" the poverty line (281 of 1,050 respondents) while 29 percent (239 of 1,050 respondents) thought they were at the poverty line. Conversely, of the 353 respondents who felt they were a lot above the poverty line, 20 percent considered their standard of living to be "neither high nor low".

The results shown in Tables 1-6 represent an accumulation of evidence - much of it consistent with the experience of other countries - that while there might be an overlap between the standard of living, on the one hand, and, on the other, satisfaction with ones standard of living and with ones general level of happiness, this overlap was far from perfect: a substantial proportion of persons who were satisfied with their standard of living or who were happy did not consider their standard of living to be high (Table 1: 52 percent for satisfaction; Table 2: 59 percent for happiness). Consequently, having a high standard of living could not be regarded as a necessary condition, either for a sense of satisfaction with ones material well being or, indeed, for being happy. Taken collectively, these results point to the possibility that other, non-material, factors interposed themselves between the material well being of persons and their level of satisfaction with such well being and, indeed, with their general level of happiness.

#### Estimation Results

In order to test this hypothesis, we estimated two *ordered logit* models<sup>11</sup>. In the first model, the dependent variable took the values: 1, if the respondent

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<sup>11</sup> See Borooah (2002) for a discussion of ordered logit models.

was "satisfied" with his/her standard of living; 2, if he/she was "neither satisfied nor dissatisfied" with his/her standard of living; and 3, if he/she was "dissatisfied" with his/her standard of living. In the second model, the dependent variable took the values: 1, if the respondent was "happy"; 2, if he/she was "neither happy nor unhappy"; and 3, if he/she was "unhappy". The explanatory variables used in estimating these models were:

1. The respondent's assessment of his/her standard of living with values: 1, if considered high; 2, if considered neither high nor low; 3, if considered low.
2. The household income of the respondent and the number of persons in the household<sup>12</sup>.
3. The education qualifications of the respondent: no qualifications; General Certificate of Secondary Education (GCSE)<sup>13</sup>; Advanced Certificate of General Education (A-levels)<sup>14</sup>; post-A level qualification including a university degree.
4. Whether the resident had previous experience of poverty<sup>15</sup>.
5. The respondent's marital status: single; married; separated/divorced/widowed.
6. The respondent's family type: single without children; couple without children; single with children; couple with children.
7. The respondent's health status: excellent/good or fair/poor/very poor.
8. Whether the respondent had any health problems or disabilities<sup>16</sup>.
9. The respondent's sex, religion (Catholic, Protestant) and age: under 31 years; between 31-45 years; between 46-65 years; over 65 years.
10. The type of area in which the respondent lived: rural; small/middle-sized town; large town/city.
11. The quality of the area in which the respondent lived: "good" area to live in; "neither good nor bad" area to live in; "bad" area to live in.

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<sup>12</sup> The income variable used was net household income. The values of the income variable were coded in bands starting with the lowest band of £10 per week and rising, in steps of £10 per week, to £100-£120 per week and then, in steps of £20 per week, to £700+ per week.

<sup>13</sup> The first formal schooling qualification, obtained at the age of 16.

<sup>14</sup> Obtained at the age of 18 as a passport to higher education.

<sup>15</sup> Coded as 'Yes' if this experience was: occasional, often, most of the time; and as 'No' if it was: rarely, or never.

<sup>16</sup> For example: difficulty in seeing, hearing, or speaking; heart/blood pressure problems; anxiety, depression; dyslexia or other learning difficulties.

12. Whether there had been an adverse event or incident in the life of the respondent in the previous year. Although the PSENI Survey asked about 23 such events or incidents<sup>17</sup> the numbers associated with any one event or incident were very small and, consequently, we aggregated over all these incidents to construct the umbrella category "adverse event or incident"<sup>18</sup>.

Tables 7 and 8 show the estimates from the two ordered logit models and their associated marginal probabilities: if a variable from the above list does not feature in the Tables it is because it was dropped from the equation on account of its associated z score being less than unity. The marginal probabilities refer to the changes in the probabilities of the outcomes, consequent upon a unit change in the value of the relevant explanatory variable *ceteris paribus*. For a discrete variable - as are all the explanatory variables in Tables 7 and 8 - a unit change in its value represents a move from one category to another<sup>19</sup>. The marginal probabilities associated with each of the variables sum to zero across the three outcomes: "satisfied", "neither satisfied nor dissatisfied", and "dissatisfied" in Table 7; and "happy", "neither happy nor unhappy", and "unhappy" in Table 8.

<Tables 7 & 8>

The first feature of note about the estimation results is that while the standard of living had a significant effect on the probabilities of both the satisfaction (Table 7) and the happiness outcomes (Table 8), its effect was considerably larger on the former than on the latter. A rise in the standard of living would cause the probability of being satisfied to rise by 0.39 points (remembering that the maximum and minimum values of the probabilities were 1 and 0) but the probability of being happy to rise by only 0.08 points.

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<sup>17</sup> For example: death of a close friend or relative; break-up of an intimate relationship; assault on person; home broken into or vandalised and damaged.

<sup>18</sup> A total of 963 persons had experienced one or more adverse event or incident, of whom 388 had experienced the death of a close friend or relative, 167 had had their home broken into or vandalised and damaged, and 123 had had their car stolen or damaged.

<sup>19</sup> So, for example, in Table 7, living in a small/middle-sized town (as opposed to living in a rural area or in a large town or city) increased the probability of being satisfied by 0.047 points and decreased the probabilities of being "neither satisfied nor dissatisfied" and being dissatisfied by, respectively, 0.034 and 0.013 points. Similarly, in Table 8, being a single parent (as opposed to being a couple with children) decreased the probability of being happy by 0.093 points and increased the probabilities of being "neither happy nor unhappy" and being unhappy by, respectively 0.073 and 0.020 points.

In addition to the standard of living, the equation for satisfaction outcomes also included household income and the number of persons in the household. *Given a perceived standard of living* (high, neither high nor low, low), an increase in household income of £20 per week (i.e. one income band) increased the probability of being satisfied with ones standard of living by less than 0.01 points. When the equation was estimated without the standard of living variable the income effect was much stronger: an increase in household income of £20 per week (i.e. one income band) increased the probability of being satisfied with ones standard of living by (just under) 0.02 points.

An increase in the number of persons in the household, for a given standard of living and household income, reduced the probability of being satisfied with ones standard of living by 0.03 points. In other words, each additional person was equivalent, in terms of being satisfied with ones standard of living, to an increase of about £60 per week in net household income.

It is important to emphasise, here, that neither household income nor the number of persons in the household had any effect on the level of happiness of the respondents, *after the controls shown in Table 8 were in place*. However, in line with other representative national surveys, there was a positive bivariate relation between happiness and income<sup>20</sup> (Diener, 1984; Andrews, 1986; Easterlin, 2001).

The second noteworthy feature was that an aversive event or incident in the life of a respondent in the past twelve months reduced the probability of the respondent feeling happy in the previous month by 0.03 points. Given the nature of some of these adverse incidents - verbal or physical assault or threats of violence, home break-ins or homes being vandalised, cars being stolen or damaged - they might have been more likely to occur in "bad" areas. Consequently, while the quality of the areas in which people lived had an effect on their satisfaction and happiness outcomes, it was only the coefficients (in Tables 7 and 8) associated with living in an area regarded as "neither good nor bad" that were significantly different from zero at the 5 percent level of significance. The probable reason for this is that some of the effects of living in

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<sup>20</sup> Simple correlation of 0.13.

"bad" areas were already accounted for in the separate inclusion of adverse incidents.

Living in an area which was "neither good nor bad", compared to living in a "good" area, reduced the likelihood of being satisfied with ones standard of living by 0.12 points and the probability of being happy by 0.08 points while, compared to living in a "good" area, living in a "bad" area reduced the likelihood of being satisfied with ones standard of living by 0.13 points and the probability of being happy by 0.1 points. Similarly, the chances of being happy were lower *ceteris paribus* for those living in a rural area (compared to those living in a town or a city) while the chances being satisfied were higher *ceteris paribus* living in a small or middle-sized town (compared to living in a rural area or a large town or city).

The third feature of note was that ones previous experience of poverty was a significant determinant of both satisfaction and happiness outcomes. Having past experience of poverty reduced the probability of being satisfied by 0.09 points and reduced the probability of being happy by 0.1 points.

The fourth feature of note was that the age of the respondents was a significant determinant of satisfaction and happiness outcomes. Generally speaking, respondents in the lower age brackets were *ceteris paribus* less likely to be satisfied with their standard of living, and less likely to be happy, than respondents who were above 65 years in age. Indeed, the probability of respondents below 46 years being happy was 0.2 points lower than that for the over-65s. George (1992) in a survey of cross sectional studies found that before the 1970s younger people in the United States were happier than older people; however, in recent surveys, older persons were found to be happier<sup>21</sup>.

The fifth noteworthy feature was the importance of good health in determining whether or not persons were satisfied with their level of material welfare and whether or not they were happy<sup>22</sup>. Indeed, as Table 8 shows, being in good health (along with being over 65) was the most important determinant of

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<sup>21</sup> Easterlin (1987) argued that this was quite consistent with the changing relative fortunes of older and younger cohorts since World War II.

<sup>22</sup> In the case of happiness, the positive effect of good health was supplemented by an absence of disability.

being happy - and certainly much more important than the standard of living - with the difference between the probabilities of being happy with and without good health being 0.2 points.

The sixth noteworthy feature was that being in employment increased the probability of being happy (though the effect was statistically weak) by 0.03 points but it did not have any effect on the probabilities of the satisfaction outcomes. Conversely, living as a couple increased the probability of being satisfied with ones standard of living by 0.04 points but it did not have any effect on the probabilities of happiness outcomes.

The last features of note were: owner occupiers who had paid off their mortgage were more likely to be both satisfied with their standard of living and to be happy compared to persons in other housing tenures; single parents were less likely to be happy, and couples without children were more likely to be happy, compared to, say, couples with children<sup>23</sup>.

## Health, Social Capital and Happiness

### *Health Problems and Disabilities*

The estimates from the econometric model of the previous section demonstrated the importance of health status in determining happiness. The health status of the respondents was, however, self-reported thus raising the standard problem of selectivity: arguably, happy persons were more likely to report themselves as being in good health. In order to take account of this possibility, this section turns to the relation between objective measures of health and levels of happiness.

The PSENI survey asked its respondents whether they had a health problem or disability (from a list of problems and disabilities shown to them) and, if they did, the severity of the problem or disability (hereafter, referred to as 'problem') : very severe; quite severe; not severe. Table 9 shows the relation between different types of problems and levels of happiness. Of the 1,545

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<sup>23</sup> One should perhaps mention that, after controlling for the variables shown in Tables 7 and 8, there was no evidence of differences between men and women, or between Catholics and Protestants, in their probabilities of the different satisfaction and happiness outcomes. Nor was there any evidence that educational qualifications affected either satisfaction or happiness levels.

persons who did not have any problems, 72 percent were happy and only 3 percent were unhappy. The proportion of persons with a problem who were happy was considerably lower - and the proportion who were unhappy considerably higher - than the corresponding proportions of persons without a problem.

<Table 9>

Moreover, not surprisingly, there was a strong inverse relation between the severity of a problem and the proportion of persons (with that problem, of that severity) who were happy: for example, as Table 9 shows, 32 percent of persons with a very severe heart problem described themselves as happy and 29 percent described themselves as unhappy; on the other hand, 65 percent of persons with a heart problem which was not severe described themselves as happy and only 6 percent described themselves as unhappy.

However, Table 9 shows that even for persons with a health problem there was a clear distinction to be made between physical and mental health problems in terms of their respective effects on happiness. For persons with a severe *physical* affliction, diabetes, heart problems, and back pain provided the lowest proportion of those who were happy and the highest proportion of those who were unhappy. If, on account of the small numbers involved, we put aside diabetes then, as Table 9 shows, of those who suffered the severest physical problem, *at least* one-third described themselves as happy and *at most* 29 percent described themselves as unhappy.

The story with regard to mental health problems (including anxiety and depression) was entirely different. Only 4 percent of those with severe mental health problems described themselves as happy and 60 percent described themselves as unhappy. Equally tellingly, only 32 percent of those whose mental health problems were *not severe* described themselves as happy - the same proportion as those with *severe* heart problems who regarded themselves as happy. Of those whose mental health problems were quite severe, 22 percent described themselves as unhappy; this was higher than the proportion of unhappy persons for the severest level of any physical problem, except heart problems and diabetes.

### *Social Capital and Area Quality*

The econometric estimates from the previous section also established the importance of the quality of the area in which people lived in determining their level of happiness. However, opinions about the overall quality of an area represent a distillation of views about the adequacy or inadequacy of a number of disparate factors - ranging from, say, the quality of street lighting to levels of crime - and the omnibus nature of area quality that results might not, therefore, usefully inform policies wishing to use it as an instrument for promoting happiness.

In addition to asking its respondents to give an overall assessment of the quality of the areas in which they lived - "good", "neither good nor bad", "bad" - the PSENI Survey asked them a number of questions about the physical and social characteristics of their areas. Prominent among the social characteristics were items which are often included under the rubric of "social capital": (i) this is a tight, close knit community; (ii) this is friendly place to live; (iii) this is a place where local people look after each other; (iv) most people in this area trust each other; (v) you often see strangers in this area; and (vi) I am happy asking neighbours to keep an eye on my house.

#### <Table 10>

In respect of each of the statements (i)-(vi), above, respondents were invited to make (only) *one* of the following responses: "strongly agreement"; "agreement"; "neither agreement nor disagreement"; "disagreement"; "strongly disagreement". Table 10, which quantifies these responses, shows that, in general, people who thought there was more social capital in their area of residence were more likely to be happy than persons who thought there was less social capital. For example, 72 percent of the 122 persons who agreed strongly that "people in this area trust one another", and 68 percent of the 344 persons who felt strongly that they would be happy asking a neighbour to look after their house, described themselves as being happy; on the other hand, only 53 percent of the 225 persons who disagreed with the statement that "people in this area trust one another", and only 54 percent of the 108 persons who said they would not be happy asking a neighbour to look after their house, described themselves as being happy.

### *Estimation Results*

In order to assess the strength of the effects of objective measures of health outcomes, and of social capital, on levels of happiness, the "happiness equation" (as specified in Table 8) was re-estimated this time: (i) replacing the self-assessment of health status with an objective assessment of the existence or otherwise of health problems; and (ii) supplementing the overall assessment of the quality of areas ("good", "neither good nor bad", or "bad" to live in) with a specific assessment of social capital in the areas.

Health outcomes were now distinguished according to whether respondents had: no health problems; mental health problems (possibly accompanied by physical health problems); and, as the default option, physical health problems without any mental health problems.

The variable "social capital in area" took the value 1 for respondents who "strongly agreed" or "agreed" with *at least one* of the following five statements:

1. This is a close tight knit community.
2. This is a friendly place to live.
3. This is a place where local people look after each other.
4. Most people in this area trust one another.
5. I am happy asking neighbours to keep an eye on my house.

Otherwise, the variable took the value zero.

<Table 11>

Table 11 shows the results of estimating the happiness equation with the changes noted above. The most important feature of Table 11 is the strong negative effect that mental health problems had on the probability of being happy: the likelihood of a person with mental health problems being happy was estimated to be 0.37 points lower than that of a person with physical (but no mental) health problems; conversely, the likelihood of a person with mental health problems being unhappy was estimated to be 0.11 points higher than that of a person with physical (but no mental) health problems. By contrast, the probability of a person with no health problems being happy was only 0.07 points higher than that of a person with physical (but no mental) health problems.

The second important feature about the results shown in Table 11 is the role of "social capital" in affecting happiness levels. Even after controlling for the overall quality of an area, the existence of social capital in the area was estimated to lift the average probability of being happy by 0.07 points; these were the same number of points by which the probability of being happy would be reduced in the wake of an adverse event or incident. Deconstructing Happiness

In addition to asking its respondents about their level of happiness, the PSENI Survey asked its respondents about their feelings related to happiness. The questions were phrased identically to the happiness question: "During the past month, have you felt:

1. Nervous
  2. Down in the dumps
  3. Calm and peaceful
  4. Downhearted and low
- (a) all the time? (b) most of the time? (c) a good bit of the time? (d) some of the time? (e) a little of the time? (f) none of the time?"

<Table 12>

As with the happiness responses, we amalgamated categories: (a) and (b); (c) and (d); and (e) and (f). Table 12 tabulates people in the three categories of happiness against people in the three categories of the above four feelings. This table shows clearly that while people drew a distinction between these feelings and happiness, there was a strong association between their happiness level and their levels of these feelings. The strongest association of being happy was with feeling "calm and peaceful": 91 percent of those felt calm *all or most of the time* regarded themselves as happy. Compared to this, 79 percent of those who felt nervous, 78 percent of those felt "down in the dumps", and 82 percent of those who were downhearted and low *a little or none of the time*, regarded themselves as happy. By contrast, the strongest association of being unhappy was with feeling "down in the dumps" and downhearted and low: 38-39 percent of those who felt "down in the dumps" or downhearted and low *all or most of the time* - compared to 25 percent of those who were nervous *all or most of the time* and 33 percent of those who felt calm and peaceful *a little or none of the time* - regarded themselves as unhappy.

## &lt;Table 13&gt;

Table 13 shows the simple correlation coefficients between the five variables: happiness; feeling nervous; feeling "down in the dumps"; feeling calm; feeling downhearted and low. The highest correlation (0.66), not unexpectedly, was between feeling "down in the dumps" and feeling downhearted and low while happiness was most correlated with feeling calm and peaceful (0.59).

## &lt;Table 14&gt;

Table 14 shows the estimates from an ordered logit model in which levels of happiness are regressed on levels of the feelings which might be regarded as underpinning happiness. In obtaining these estimates we controlled for adverse events or incidents (as defined earlier). The estimates show that feeling calm had the biggest effect on happiness: the probability of a person being happy was reduced by 0.37 points as his/her frequency of feeling calm decreased. The next biggest effect was being downhearted and low: the probability of a person being happy was increased by 0.15 points as his/her frequency of feeling downhearted was reduced. After controlling for these feelings, the effect of adverse events or incidents on happiness was not statistically significant probably because they had already been incorporated into the feelings listed above.

Conclusions

This paper adds to the mounting evidence that not only does money not buy happiness<sup>24</sup>, it may not even fully convertible in terms of the satisfaction of having money. One of the reasons for this is that satisfaction with ones standard of living depends partly on a comparison with the standard of living of others (Easterlin, 1974). Another is that people get used to their standard of living and the passage of time takes the shine off a high standard of living and dulls dissatisfaction with one which is low (Frank, 1999; Layard, 2003). Nonetheless, on our analysis, ones standard of living was the major source of *satisfaction* with ones standard of living.

When it came to *happiness*, however, it was a different story. Now, the standard of living was but one source of happiness and it was not even the most

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<sup>24</sup> See references in note 1.

important source. The most important source of happiness was good health determined either through self-assessment or, more objectively, in terms of an absence of any health problems. Another important source of happiness was the quality of the area in which people lived. A third source of happiness was age - *ceteris paribus* younger people were less happy than older persons. The important point is that each of these three items had a greater influence on the level of happiness than the standard of living.

Different health problems had different effects upon happiness levels but it was clear from the data that, in terms of such effects, there was a clear distinction between physical and mental health problems. While people were able to be tolerably happy with physical problems, mental ill-health had a devastating effect on people's capacity to be happy. So, if we want to improve people's capacity for happiness we should focus on improving their health (through better preventative and curative measures) and, in particular - echoing Layard (2003) - we should focus on mental ill-health, the Cinderella of healthcare.

This might also mean focusing on groups, like single mothers, who are particularly vulnerable to mental ill-health. Family structure has been identified as an important factor related to mental health outcomes with single motherhood being a powerful predictor of poor mental health, and single mothers being particularly at risk for experiencing depressive symptoms (Jayakodie, 2000).

This study also pointed to the importance of "social capital" - living in a friendly area, trusting local people, having confidence in one's neighbours - as an important factor in lifting happiness levels. This argues for deepening networks of social support and, in turn, requires less not more geographical mobility. So, as Layard (2003) points out, a low level of social capital is a necessary concomitant of US style geographical mobility and the costs of a lack of social capital should be taken into account when Europeans are urged to get "on their bikes", in the manner of Americans, and seek employment wherever it is to be found.

In conclusion, this study produces evidence - which buttresses that from other studies - to justify the claim that it is possible for social scientists, including

economists, to suggest ways of raising the level of happiness in society. These ways, however, are not necessarily the paths down which economics, in its present form, would lead us.

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**Table 1**  
**Satisfaction and Dissatisfaction With Ones Standard of Living**

<i>Level→ Satisfaction↓</i>	<i>Considered standard of living to be fairly high or high</i>	<i>Considered standard of living to be neither high nor low</i>	<i>Considered standard of living to be fairly low or low</i>	<i>Totals</i>
<b>Satisfied or very satisfied</b>	1,046 [47.5] (96.14)	1,127 [51.18] (66.14)	29 [1.32] (9.73)	2,202 [100] (71.26)
<b>Neither satisfied nor dissatisfied with standard of living</b>	34 [6.77] (3.13)	405 [80.68] (23.77)	63 [12.55] (21.14)	502 [100] (16.25)
<b>Dissatisfied or very dissatisfied with standard of living</b>	8 [2.07] (0.74)	172 [44.56] (10.09)	206 [53.37] (69.13)	386 [100] (12.49)
<b>Totals</b>	1,088 [35.21] (100)	1,704 [55.15] (100)	298 [9.64] (9.64)	3,090 [100] (100)

**Table 2**  
**Happiness and the Standard of Living**

<i>Happiness→</i>	<i>Happy all or most of the time</i>	<i>Happy a good bit or some of the time</i>	<i>Happy a little or none of the time</i>	<i>Totals</i>
<i>Standard of Living↓</i>				
<b>Considered fairly high or high</b>	798 [74.23] (40.92)	235 [21.86] (25.57)	42 [3.91] (23.33)	1,075 [100] (35.26)
<b>Considered to be neither high nor low</b>	1,025 [61.08] (52.56)	559 [33.31] (60.83)	94 [5.60] (52.22)	1,678 [100] (55.03)
<b>Considered to be fairly low or low</b>	127 [42.91] (6.51)	125 [42.23] (13.60)	44 [14.86] (24.44)	296 [100] (9.71)
<b>Totals</b>	1,950 [63.96] (100)	919 [30.14] (100)	180 [5.90] (100)	3,039 [100] (100)

**Table 3**  
**Happiness and Satisfaction with Standard of Living**

<i>Happiness→</i> <i>Satisfaction with Standard of Living↓</i>	<i>Happy all or most of the time</i>	<i>Happy a good bit or some of the time</i>	<i>Happy a little or none of the time</i>	<i>Totals</i>
<b>Satisfied or very satisfied</b>	1,539 [70.69] (78.88)	557 [25.59] (60.54)	81 [3.72] (45.00)	2,177 [100] (71.35)
<b>Neither satisfied nor dissatisfied</b>	263 [53.35] (13.48)	188 [38.13] (20.43)	42 [8.52] (23.33)	493 [100] (16.16)
<b>Dissatisfied or very dissatisfied</b>	149 [39.11] (7.64)	175 [45.93] (19.02)	57 [14.96] (31.67)	381 [100] (12.49)
<b>Totals</b>	1,951 [63.95] (100)	920 [30.15] (100)	180 [5.90] (100)	3,051 [100] (100)

**Table 4**  
**Adequacy of Income for Basic Needs**

<i>Adequacy→</i>	<i>More than enough</i>	<i>Just enough</i>	<i>Not enough</i>	<i>Totals</i>
<i>Standard of Living↓</i>				
Considered fairly high or high	555 [51.06] (72.17)	450 [41.40] (27.47)	82 [7.54] (12.02)	1,087 [100] (35.19)
Considered to be neither high nor low	210 [12.33] (27.31)	1,112 [65.30] (67.89)	381 [22.37] (55.87)	1,703 [100] (55.13)
Considered to be fairly low or low	4 [1.34] (0.52)	76 [25.42] (4.64)	219 [73.24] (32.11)	299 [100] (9.68)
<b>Totals</b>	769 [24.89] (100)	1,638 [53.03] (100)	682 [22.08] (100)	<b>3,089</b> <b>[100]</b> <b>(100)</b>

**Table 5**  
**Household Income and Weekly Amount Needed for Household to not be Poor**

<i>Explanatory Variables</i> ↓	<i>Dependent variable: Weekly Amount Needed for Household to not be Poor</i>	
	Coefficient Estimate	Standard Error
Household Income	0.087 (20.48)	0.004
Number of persons in household	0.364 (16.57)	0.022
Intercept	2.765 (29.52)	0.094

N=2,720; adjusted-R<sup>2</sup>=0.288

**Table 6**  
**Distance of Household Income from "Poverty Line" Income**

<i>Distance→ Standard of Living↓</i>	<i>A lot above</i>	<i>A little above</i>	<i>About the same</i>	<i>A little below</i>	<i>A lot below</i>	<i>Totals</i>
<b>Considered fairly high or high</b>	<b>281</b> [26.76] (79.60)	<b>444</b> [42.29] (48.52)	<b>239</b> [22.76] (29.18)	<b>66</b> [6.29] (12.48)	<b>20</b> [1.90] (5.26)	<b>1,050</b> [100] (35.05)
<b>Considered to be neither high nor low</b>	<b>70</b> [4.24] (19.83)	<b>462</b> [27.97] (50.49)	<b>540</b> [32.69] (65.93)	<b>378</b> [22.88] (71.46)	<b>202</b> [12.23] (53.16)	<b>1,652</b> [100] (55.14)
<b>Considered to be fairly low or low</b>	<b>2</b> [0.68] (0.57)	<b>9</b> [3.06] (0.98)	<b>40</b> [13.61] (4.88)	<b>85</b> [28.91] (16.07)	<b>158</b> [53.74] (41.58)	<b>294</b> [100] (9.81)
<b>Totals</b>	<b>353</b> [11.78] (100)	<b>915</b> [30.54] (100)	<b>819</b> [27.34] (100)	<b>529</b> [17.66] (100)	<b>380</b> [12.68] (100)	<b>2,996</b> [100] (100)

**Table 7**  
**Ordered Logit Estimation Results: Satisfaction with Standard of Living**

<i>Dependent variable: ↓</i>	<i>Marginal Probabilities</i>			
<i>Y<sub>i</sub>=1, if satisfied</i> <i>Y<sub>i</sub>=2, if neither satisfied nor dissatisfied</i> <i>Y<sub>i</sub>=3, if dissatisfied</i>	<i>Estimates</i> <i>(z scores)</i>	<i>Satisfied</i>	<i>Neither satisfied nor dissatisfied</i>	<i>Dissatisfied</i>
<i>Explanatory Variables: ↓</i>				
<b>Standard of Living:</b> 1, if high; 2, if neither high nor low; 3, if low	<b>2.44</b> <b>(21.08)</b>	<b>-0.393</b>	<b>0.277</b>	<b>0.116</b>
<b>Household Income:</b> in bands of £20 per week	<b>-0.042</b> <b>(5.40)</b>	<b>0.007</b>	<b>-0.005</b>	<b>-0.002</b>
<b>Number of persons in household</b>	<b>0.173</b> <b>(4.27)</b>	<b>-0.028</b>	<b>0.020</b>	<b>0.008</b>
<b>Living in small or middle-size town</b>	<b>-0.275</b> <b>(2.49)</b>	<b>0.043</b>	<b>-0.030</b>	<b>-0.013</b>
<b>Living as couple</b>	<b>-0.236</b> <b>(1.89)</b>	<b>0.039</b>	<b>-0.027</b>	<b>-0.012</b>
<b>Owner occupier: no mortgage</b>	<b>-0.328</b> <b>(2.61)</b>	<b>0.051</b>	<b>-0.036</b>	<b>-0.015</b>
<b>Has experience of poverty</b>	<b>0.519</b> <b>(5.12)</b>	<b>-0.086</b>	<b>0.060</b>	<b>0.026</b>
<b>In good Health</b>	<b>-0.321</b> <b>(3.10)</b>	<b>0.053</b>	<b>-0.037</b>	<b>-0.016</b>
<b>Living in area which is "neither good nor bad"</b>	<b>0.617</b> <b>(3.39)</b>	<b>-0.115</b>	<b>0.078</b>	<b>0.037</b>
<b>Living in area which is "bad"</b>	<b>0.693</b> <b>(2.32)</b>	<b>-0.133</b>	<b>0.089</b>	<b>0.044</b>
<b>Adverse event or incident in the year</b>	<b>0.175</b> <b>(1.64)</b>	<b>-0.029</b>	<b>0.020</b>	<b>0.009</b>
<b>Age: &lt;31 years</b>	<b>0.593</b> <b>(2.92)</b>	<b>-0.108</b>	<b>0.074</b>	<b>0.034</b>
<b>Age: 31-45 years</b>	<b>0.457</b> <b>(2.54)</b>	<b>-0.077</b>	<b>0.053</b>	<b>0.024</b>
<b>Age: 46-65</b>	<b>0.496</b> <b>(3.10)</b>	<b>-0.083</b>	<b>0.058</b>	<b>0.025</b>

No. of observations = 2,801; Pseudo-R<sup>2</sup>=0.2766

**Table 8**  
**Ordered Logit Estimation Results: Levels of Happiness**

<i>Dependent variable:</i> ↓	<i>Marginal Probabilities</i>			
	<i>Estimates</i> <i>(z scores)</i>	<i>Happy</i>	<i>Neither happy nor unhappy</i>	<i>Unhappy</i>
<i>Y<sub>i</sub>=1, if happy</i>				
<i>Y<sub>i</sub>=2, if neither happy nor unhappy</i>				
<i>Y<sub>i</sub>=3, if unhappy</i>				
<i>Explanatory Variables:</i> ↓				
<b>Standard of Living:</b> 1, if high; 2, if neither high nor low; 3, if low	<b>0.345</b> <b>(5.00)</b>	<b>-0.078</b>	<b>0.063</b>	<b>0.015</b>
<b>Living in rural area</b>	<b>0.129</b> <b>(1.46)</b>	<b>-0.028</b>	<b>0.023</b>	<b>0.005</b>
<b>In paid employment</b>	<b>-0.136</b> <b>(1.44)</b>	<b>0.031</b>	<b>-0.025</b>	<b>-0.006</b>
<b>Single Parent</b>	<b>0.378</b> <b>(2.13)</b>	<b>-0.089</b>	<b>0.070</b>	<b>0.019</b>
<b>Couple with no children</b>	<b>-0.395</b> <b>(3.81)</b>	<b>0.086</b>	<b>-0.071</b>	<b>-0.015</b>
<b>Owner occupier: no mortgage</b>	<b>-0.351</b> <b>(3.38)</b>	<b>0.077</b>	<b>-0.063</b>	<b>-0.014</b>
<b>Has experience of poverty</b>	<b>0.427</b> <b>(5.04)</b>	<b>-0.097</b>	<b>0.078</b>	<b>0.019</b>
<b>In good Health</b>	<b>-0.850</b> <b>(8.99)</b>	<b>0.195</b>	<b>-0.155</b>	<b>-0.040</b>
<b>No disability</b>	<b>-0.346</b> <b>(3.74)</b>	<b>0.078</b>	<b>-0.063</b>	<b>-0.015</b>
<b>Living in area which is "neither good nor bad"</b>	<b>0.355</b> <b>(2.28)</b>	<b>-0.083</b>	<b>0.066</b>	<b>0.017</b>
<b>Living in area which is "bad"</b>	<b>0.422</b> <b>(1.69)</b>	<b>-0.100</b>	<b>0.079</b>	<b>0.021</b>
<b>Adverse event or incident in the year</b>	<b>0.168</b> <b>(1.93)</b>	<b>-0.038</b>	<b>0.031</b>	<b>0.007</b>
<b>Age: &lt;31 years</b>	<b>0.794</b> <b>(4.43)</b>	<b>-0.191</b>	<b>0.146</b>	<b>0.045</b>
<b>Age: 31-45 years</b>	<b>0.831</b> <b>(5.61)</b>	<b>-0.192</b>	<b>0.152</b>	<b>0.040</b>
<b>Age: 46-65</b>	<b>0.677</b> <b>(5.07)</b>	<b>-0.156</b>	<b>0.124</b>	<b>0.032</b>

No. of observations = 3,049; Pseudo-R<sup>2</sup>=0.0888

**Table 9**  
**Health Problems and Levels of Happiness**

	<i>Difficulty in seeing: 171 persons</i>			<i>Arthritis and Rheumatism: 385 persons</i>			<i>Heart Problems: 199 persons</i>			<i>Blood Pressure Problems: 283 persons</i>			<i>Back Pain: 344 persons</i>		
	Very Severe	Quite Severe	Not Severe	Very Severe	Quite Severe	Not Severe	Very Severe	Quite Severe	Not Severe	Very Severe	Quite Severe	Not Severe	Very Severe	Quite Severe	Not Severe
Happy	59	44	65	52	62	73	32	47	65	50	50	67	41	50	60
Neither happy nor unhappy	33	35	29	35	34	23	39	45	29	35	44	28	39	46	37
Unhappy	8	21	6	13	4	4	29	8	6	15	6	5	20	4	3
<b>Total</b>	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	(12)	(61)	(98)	(103)	(200)	(82)	(31)	(88)	(80)	(34)	(95)	(154)	(99)	(153)	(92)

Figures in parentheses are number of persons in the relevant category.

**Table 9 (continued)**  
**Health Problems and Levels of Happiness**

	<i>Asthma: 196 persons</i>			<i>Diabetes: 85 persons</i>			<i>Mental Health Problems: 236 persons</i>			<i>No Probs</i>	<i>Self-assessed health</i>	
	Very Severe	Quite Severe	Not Severe	Very Severe	Quite Severe	Not Severe	Very Severe	Quite Severe	Not Severe		Good	Fair or poor
Happy	53	53	59	17	66	74	4	17	32	72	73	48
Neither happy nor unhappy	31	35	36	58	24	23	35	61	61	25	24	41
Unhappy	16	12	5	25	10	3	61	22	7	3	3	11
<b>Total</b>	100	100	100	100	100	100	100	100	100	100	100	100
	(32)	(72)	(92)	(12)	(38)	(35)	(48)	(114)	(74)	(1,545)	(1,897)	(1,155)

**Table 10 Area Characteristics and Happiness**

	<i>This is a close tight knit community</i>				<i>This is a friendly place to live</i>					
	Strongly agree	Agree	No opinion	Disagree	Strongly disagree	Strongly agree	Agree	No opinion	Disagree	Strongly disagree
Happy	71	63	63	63	51	69	65	58	52	50
Neither happy nor unhappy	23	30	33	31	43	26	30	33	37	38
Unhappy	6	7	4	6	6	5	5	9	11	12
<b>Total</b>	100	100	100	100	100	100	100	100	100	100
	(146)	(791)	(406)	(412)	(49)	(211)	(1,245)	(233)	(102)	(16)

Figures in parentheses are number of persons in the relevant category.

**Table 10 (continued) Area Characteristics and Happiness**

	<i>This is a place where local people look after each other</i>					<i>Most people in this area trust one another</i>				
	Strongly agree	Agree	No opinion	Disagree	Strongly disagree	Strongly agree	Agree	No opinion	Disagree	Strongly disagree
Happy	69	66	59	58	50	72	67	60	53	46
Neither happy nor unhappy	27	29	34	33	41	24	28	34	37	43
Unhappy	4	5	7	9	9	4	5	6	10	11
<b>Total</b>	100	100	100	100	100	100	100	100	100	100
	(159)	(982)	(407)	(229)	(22)	(122)	(975)	(430)	(225)	(35)

**Table 10 (continued) Area Characteristics and Happiness**

	<i>You often see strangers in this area</i>					<i>Happy asking neighbours to keep an eye on my house</i>				
	Strongly agree	Agree	No opinion	Disagree	Strongly disagree	Strongly agree	Agree	No opinion	Disagree	Strongly disagree
Happy	56	60	65	65	66	68	64	55	54	50
Neither happy nor unhappy	35	32	29	30	25	27	30	40	38	36
Unhappy	9	8	6	5	9	5	6	5	8	14
<b>Total</b>	100	100	100	100	100	100	100	100	100	100
	(68)	(503)	(302)	(869)	(55)	(344)	(1,206)	(108)	(108)	(28)

Table 11

## Ordered Logit Estimation Results: Levels of Happiness using Objective Health Outcomes

<i>Dependent variable:</i> ↓	<i>Marginal Probabilities</i>			
<i>Y<sub>i</sub></i> =1, if happy <i>Y<sub>i</sub></i> =2, if neither happy nor unhappy <i>Y<sub>i</sub></i> =3, if unhappy	<i>Estimates</i> <i>(z scores)</i>	<i>Happy</i>	<i>Neither</i> <i>happy nor</i> <i>unhappy</i>	<i>Unhappy</i>
<i>Explanatory Variables:</i> ↓				
Standard of Living: 1, if high; 2, if neither high nor low; 3, if low	0.404 (5.86)	-0.092	0.076	0.016
Living in rural area	0.108 (1.28)	-0.025	0.020	0.005
In paid employment	-0.151 (1.61)	0.034	-0.029	-0.005
Single Parent	0.318 (1.77)	-0.075	0.061	0.014
Couple with no children	-0.379 (3.64)	0.083	-0.069	-0.014
Owner occupier: no mortgage	-0.359 (3.44)	0.080	-0.066	-0.014
Has experience of poverty	0.469 (5.55)	-0.108	0.089	0.019
No health problem	-0.320 (3.53)	0.072	-0.060	-0.012
Mental health problem	1.554 (11.55)	-0.370	0.259	0.111
Adverse event or incident in the year	0.300 (2.91)	-0.069	0.057	0.012
Living in area which is "neither good nor bad"	0.390 (2.48)	-0.092	0.075	0.022
Living in area which is "bad"	0.412 (1.64)	-0.098	0.079	0.019
Social capital in area	-0.286 (2.97)	0.065	-0.054	-0.012
Age: <31 years	0.379 (2.08)	-0.089	0.073	0.016
Age: 31-45 years	0.459 (3.06)	-0.106	0.087	0.019
Age: 46-65	0.429 (3.18)	-0.099	0.081	0.018

No. of observations = 3,049; Pseudo-R<sup>2</sup>=0.1023



**Table 12**  
**Feelings related to Happiness**

	<i>Have you been a nervous person?</i>			<i>Have you felt down in the dumps?</i>			<i>Have you felt calm and peaceful?</i>			<i>Have you felt downhearted and low?</i>			<i>Have you been a happy person</i>
	All or most of time	Good bit or some of the time	A little or none of the time	All or most of the time	Good bit or some of the time	A little or none of the time	All or most of the time	Good bit or some of the time	A little or none of the time	All or most of the time	Good bit or some of the time	A little or none of the time	
Happy	29	40	79	23	35	78	91	43	22	30	38	82	64
Neither happy nor unhappy	46	51	19	39	55	20	8	54	45	31	55	16	30
Unhappy	25	9	2	38	10	2	1	3	33	39	7	2	6
<b>Total</b>	100	100	100	100	100	100	100	100	100	100	100	100	100
	(267)	(824)	(1,948)	(164)	(761)	(2,107)	(1,485)	(1,166)	(381)	(178)	(1,040)	(1,812)	(3052)

Figures in parentheses are number of persons in the relevant category.

**Table 13**  
**Correlation Between Feelings and Happiness**

	<i>Happiness</i>	<i>Feeling Nervous</i>	<i>Feeling Down in the Dumps</i>	<i>Feeling Calm</i>	<i>Feeling Downhearted and Low</i>
<b>Happiness</b>	<b>1.0</b>	<b>-0.43</b>	<b>-0.47</b>	<b>0.59</b>	<b>-0.47</b>
<b>Nervous</b>		<b>1.0</b>	<b>0.59</b>	<b>-0.42</b>	<b>0.54</b>
<b>Down</b>			<b>1.0</b>	<b>-0.44</b>	<b>0.66</b>
<b>Calm</b>				<b>1.0</b>	<b>-0.41</b>
<b>Low</b>					<b>1.0</b>

**Table 14**  
**Ordered Logit Estimation Results:**  
**Levels of Happiness and Happiness-Related Feelings**

<i>Dependent variable:</i> ↓	<i>Marginal Probabilities</i>			
<i>Y<sub>i</sub>=1, if happy</i> <i>Y<sub>i</sub>=2, if neither happy nor unhappy</i> <i>Y<sub>i</sub>=3, if unhappy</i>	<i>Estimates</i> <i>(z scores)</i>	<i>Happy</i>	<i>Neither happy nor unhappy</i>	<i>Unhappy</i>
<i>Explanatory Variables:</i> ↓				
<b>Nervous:</b> 1, all/most of the time; 2, good bit/some of the time; 3, a little/none of the time	-0.411 (5.48)	0.089	-0.082	-0.007
<b>Down in the dumps:</b> 1, all/most of the time; 2, good bit/some of the time; 3, a little/none of the time	-0.355 (4.03)	0.076	-0.070	-0.006
<b>Calm:</b> 1, all/most of the time; 2, good bit/some of the time; 3, a little/none of the time	1.722 (22.68)	-0.370	0.342	-0.028
<b>Downhearted and low:</b> 1, all/most of the time; 2, good bit/some of the time; 3, a little/none of the time	-0.706 (8.29)	0.152	-0.140	-0.012
<b>Adverse event or incident in the year:</b> 1, yes; 0, otherwise	0.116 (1.24)	-0.025	0.023	0.002

No. of observations = 3,052; Pseudo-R<sup>2</sup>=0.2940