When Having is Not Enough: Implications of Being Satisfied

Abstract

Purpose - While having ‘more’ in life seems to have a positive impact on consumers’ well-being, the role of how satisfied consumers need to be with this ‘more’ before it is able to enhance their well-being is not clear. This study examines an integrated model of the mediating effect of satisfaction on the relationship between objective life circumstances and subjective well-being (SWB).

Design/methodology/approach – The new model proposed is tested by using data obtained from British Household Panel Survey. A fixed-effects econometric model is estimated using Stata 10 to identify the mediating effect of satisfaction with life circumstances on the relationship between life circumstances and well-being.

Findings – The results show that objective circumstances affect well-being primarily through the mediating effect of satisfaction with corresponding life domains irrespective of the level of objective circumstances. However, this mediating effect varies by life domain and cannot be generalized.

Practical implications – The implications for public policy makers are that intervention policies that improve the 3 life domains of health, leisure and housing will effectively enhance consumers’ well-being. Meanwhile, government should also allocate more resources to increase consumers’ positive thinking to help them to improve their well-being.

Originality/value – This is the first study to examine the mediating effect of subjective satisfaction on the effect of objective circumstances on well-being across six life domains.

Keywords subjective well-being, objective circumstance, satisfaction with life circumstance, mediating effect
With the incumbent UK government announcing “promoting happiness and well-being is a legitimate and important goal of the government” and planning to measure the nation’s happiness (Swinson, 2010), the issue of measuring and enhancing national happiness has become a hot topic. Since engaging in consumption activities and product acquisition is one of the most important ways that consumers pursue their happiness in a consumerist society, marketing can play an important role in enhancing happiness. Indeed, marketing scholars, particularly in the areas of public policy, macromarketing, social marketing and consumer research, have become increasingly interested in issues pertaining to consumer welfare and in identifying methods by which markets and marketing can help to solve social problems and enhance consumer welfare and well-being (Baker, 2009). However, most marketing and consumer research has thus far focused on economic, social and environmental factors, or marketplace access and consumption opportunities (Baker, 2009). Unfortunately, these factors are not the major determinants of well-being based on evidence provided by well-being research in economics and psychology (e.g., Graham et al., 2004). For example, national survey evidence from the United States, Europe and Japan has shown that the overall well-being of these countries’ residents was not substantially increased by the unprecedented recent economic growth, social development and market prosperity, or by the trillions of dollars spent on health, housing, leisure facilities, job creation and support of marriage through tax breaks – all of which were specifically designed to increase the individual’s sense of well-being (Blanchflower and Oswald, 2004; Diener and Oishi, 2000). In addition, many people hold “faulty implicit theories” about what is good and bad for their subjective well-being (SWB) (e.g., that money makes people happy) (Dolan and White, 2007; Loewenstein and Schkade, 1999) and “routinely mispredict how much pleasure or displeasure certain events will bring” (Wilson and Gilbert, 2005: 131).

This discrepancy raises a critical question: What determines well-being if it isn’t better objective life circumstances? One possible answer is that subjective measures, such as satisfaction with life circumstances, may more effectively influence well-being (e.g., Lee et al., 2002; Lyubomirsky et al., 2005a; Lyubomirsky et al., 2006). Recent research suggests that “feeling better off matters more than

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being better off” (Harrison, 2009; Huang, 2010). Although research has demonstrated that satisfaction with consumer material possessions (e.g., house or apartment, furniture, automobile, clothing and accessories, savings) has the most significant effect on SWB (Grzeskowiak et al., 2006; Leelakulthanit et al., 1991; Lee et al., 2002; Sirgy et al., 2007), very little research since has made an effort to comprehensively examine both objective circumstances and subjective satisfaction within a single study, and even fewer have investigated how the two may interact to effectively generate a sense of well-being. Instead, the studies have focused on characterizing the direct effects of objective or subjective factors on well-being, and have ignored any possible indirect mechanisms (Brief et al., 1993). One exception to this found that objective physical health does not affect well-being directly, but instead acts to facilitate the role of perceived health (Brief et al., 1993). However, perceptions of health as good or bad do not necessarily translate to the person actually feeling happy with his or her health. In addition, because these findings were based on data collected between 1970 and 1976 at two-year intervals from a small sample cohort (400 observations per wave) of middle- and upper income level Caucasians with an average age of more than 60 years old from Durham, North Carolina US, it raises the possibility that this relationship may not be generalizable to other ethnicities, age groups or life styles (Lyubomirsky et al., 2005a). Here, we extend this early work by including additional life domains, such as marriage, housing, work, leisure and income, using a large national representative UK sample (over 10,000 observations per wave) with age ranges from 15 to 99 years old and annual household income levels from 0 to £729k which covers 19 ethnicities from all over the UK (see Appendix A). This enables us to more thoroughly investigate the mediating effect of satisfaction on subjective well-being, or happiness as some researchers refer to it (Lyubomirsky et al., 2005a; Lyubomirsky et al., 2005b). In doing so, we statistically quantify these relationships across different life domains to help to prioritize more effective welfare policies designed to enhance the nation’s happiness. If satisfaction is found to be important, this would indicate that national policy must go beyond objective indicators (e.g., economic growth) towards interventions aimed at promoting positive thinking (Lynch and Wood, 2006). Moreover, the construction of a more comprehensive model to enhance consumers’ well-being emphasizes the benefits to society of
marketing activity and consumption which can significantly "enhance the image, credibility, focus, and legitimacy of marketing" (Dagger and Sweeney, 2006: 4; see also Sirgy et al., 1982).

The paper first provides a brief overview of SWB, including the theories that serve as the basis for the theoretical model. As previous research has shown that different circumstances elicit different impacts on well-being, the hypotheses pertaining to the mediated relationships among the constructs are included under each life domain separately. Fixed-effects econometrics models will be employed to test the hypotheses using data from a large national panel survey. Finally, the article concludes with a discussion of implications for public policy, as well as of the study’s limitations and suggestions for further research.

The General Theoretical Framework

The discussion about whether desirable life circumstances (e.g., success at work or a happy family) or positive cognitions (e.g., optimistic thinking) drive well-being remains a contested topic (Diener 1984; Lyubomirsky and Dickerhoof, 2010). The bottom-up theory proposes that well-being depends on a person's desirable objective circumstances, such as marriage, friendship, work performance and health (Lyubomirsky and Dickerhoof, 2010; Lyubomirsky et al., 2005a). However, research evidence demonstrates that objective circumstances alone often correlate weakly with reported happiness of individuals (Diener et al., 2006; Fuentes and Rojas, 2001; Graham et al., 2004). There are several explanations put forward for this finding. Most commonly it is attributed to the notion of hedonic adaptation, which suggests that any gains in happiness are only temporary since humans quickly adapt to the new status quo (Sheldon and Lyubomirsky, 2006). A second aspect to this is raised expectations, namely, as soon as a circumstantial change occurs and people acquire some new delight (e.g., a bigger house, a luxury car, or a pay raise), they start to expect more and better, and therefore are left no happier than before. Thirdly, individuals have different preferences and therefore may value the same objective circumstance differently. Accordingly, there is no guarantee that the same objective circumstance (e.g., the same annual income) gives the same consumption or living conditions and the same quality of life and/or happiness (Johansson, 2002). Finally, there are needs that cannot be achieved by objective
circumstances (e.g., loving and being, Allardt, 1976; see also Johansson, 2002). Based on these arguments, an increasing number of authors have advocated that well-being may instead be driven by top-down processes, at least over the long term (Diener et al., 1999; Lyubomirsky and Dickerhoof, 2010).

Top-down theories assume that well-being is a result of consumers’ own dispositions, which influence their perceptions about positive or negative circumstances (Brief et al., 1993; Feist et al., 1995; Lyubomirsky and Dickerhoof, 2010). For example, some people are predisposed to dwell on their failures and shortcomings and tend to focus on the negative side of the world in general; therefore, these individuals are generally less satisfied with themselves and their lives and are more unhappy (Brief et al., 1993: 667). This perspective has been supported by findings that indicate people’s satisfaction with various specific life domains, such as family life, friends, health, jobs, leisure, and housing, more strongly correlate with SWB (e.g., Campbell et al., 1976; Lee et al., 2002; Lyubomirsky et al., 2005a; Lyubomirsky et al., 2006).

Here, we propose that “both kind of processes, top-down and bottom-up, are mutually at work” (Sastre, 1999: 209) and agree that integrating these two theories is essential to providing the most comprehensive well-being model (Brief et al., 1993; Headey and Wearing, 1989; Lyubomirsky, 2001; Lyubomirsky and Dickerhoof, 2010). In other words, objective circumstances affect well-being mainly through the mediating mechanism of satisfaction with these circumstances. For example, a consumer’s satisfaction with housing is a function of his or her house, his or her expectation, and comparison of the objective housing to expectation; and this satisfaction with housing affects his or her well-being.

Existing research suggests that it is how consumers perceived or interpret objective circumstances which mediate the relationship between objective circumstance and well-being. Here we propose a different mechanism and suggest that satisfaction with those circumstances mediates the relationship. In addition, we challenge the general theoretical assumption that this relationship will be the same across life domains and in the next section, we explain how our proposed mediating relationship might work for six specific life domains, namely, health, marriage, leisure, work, income and housing, which are recognized as the most important to consumer well-
being and the most extensively studied (e.g., Brief et al., 1993; Lyubomirsky et al., 2006) (Figure 1).

Figure 1
Conceptual framework of the mediating effect of satisfaction with objective circumstance within each life domain on the effect of circumstance on SWB

Objective circumstances within life domains

- Health
  - Physical health
  - Satisfaction with health
  - Causal (+)

- Leisure life
  - Frequency of engaging in leisure activities
  - Satisfaction with use of leisure life
  - Causal (+)

- Housing
  - Satisfaction with house
  - Causal (+)

- Marriage life
  - Partner supportive in housework
  - Partner supportive financially
  - Satisfaction with partner
  - Causal (+)

- Job
  - Job type
  - Job pay
  - Satisfaction with job
  - Causal (+)

- Household income
  - Satisfaction with income
  - Causal (+)

Subjective well-being
Hypotheses Development

Health and SWB

Health is one of the most important variables affecting well-being because people who are physically healthy are more able to enjoy life. However, existing research has suggested that the association between objective health and SWB is relatively weak (see Lyubomirsky et al., 2005b for a review), while perceived health correlated strongly with well-being and the effect of health on well-being is mainly achieved through the mediating effect of perceived health (Brief et al., 1993). Following this line of argument, we suggest that health does indeed have some direct effect on well-being, but it mainly affects well-being through how satisfied people are with their health. We, therefore, propose:

Hypothesis 1: Satisfaction with health mediates the relationship between objective health and SWB.

Leisure Life and SWB

In most developed countries, pursuing pleasure and leisure are important for those individuals who have already met their basic needs and studies have demonstrated that engaging in leisure activities (e.g., exercising, socializing, playing) contributes to SWB (Dunn et al., 2011; Zhong and Mitchell, 2010). However, people can despise the act of going to the gym, or dislike being dragged to theatre performances by friends where they do not enjoy the leisure activity itself. So, while engaging in leisure activities and deriving pleasure from them may have some direct effect on well-being, consumers also need to be satisfied with the use of their leisure time. Thus, the greater a person’s satisfaction is with his or her use of leisure time, the greater will be their SWB. As a result, we propose:

Hypothesis 2: Satisfaction with usage of leisure time mediates the effect of engaging in leisure activities on SWB.
Housing and SWB

Although material possessions play an important role in people’s lives, both as related to their functional value and their social meaning as reflections of self-concepts or self-images (Solomon, 2011), which may influence well-being (Belk, 1988; Hudders and Pandelaere, 2011; Leelakulthanit et al., 1991), material possessions can also evoke social comparison and compulsory consumption which inhibit the attainment of consumer satisfaction (Burroughs and Rindfleisch, 2002; McCracken, 1988; Zhong and Mitchell, 2010). Therefore, we suggest here that material possessions, such as housing, themselves do not directly affect SWB, rather they increase SWB only if people are more satisfied with the house they live in. We choose housing as an exemplar material good as a person’s house is one of the most important and valuable material possession for most people, and a key predictor of other material possessions. Thus, we propose:

Hypothesis 3: Satisfaction with housing mediates the effect of housing on SWB.

Married Life and SWB

More than 90% of people worldwide enter into the legal state of marriage (Lyubomirsky et al., 2005a; Myers, 2000) and research has indicated that this arrangement makes people happier in the short term (Diener et al., 1999; Graham et al., 2004). The happiness, however, that was “derived from getting married tended to fade over the years” (Lucas et al., 2003; also see Lyubomirsky et al., 2005a: 118). In addition, the quality of the marriage has been shown to have a greater impact on SWB and people in the top quintile of marriage quality rankings experience very large enhancements to their well-being (Evans and Kelley, 2004). There is also evidence that satisfaction with marriage correlates strongly with happiness (Headey et al., 1991; Myers, 2000). A critical component of marriage quality, which existing research does not address, is the importance of having a supportive partner. Supportive partners work hard for the family (e.g., looking after the children, doing housework, cooking, earning more money) and help to increase the satisfaction of their partner with life in general. In contrast, being in a relationship with an unsupportive partner may cause dissatisfaction with the partner and with married life, which can lead to reduced levels of personal SWB. We argue further
that even when a partner is supportive, if the effort is not appreciated and does not increase a person’s satisfaction with their partner, and thus married life, the supportive activities are not likely to lead to a sense of well-being. In other words, having a supportive partner increases well-being only if it improves a person’s satisfaction with their partner. Therefore, we propose:

Hypothesis 4: Satisfaction with a partner mediates the effect on SWB of having a supportive partner.

**Work Life and SWB**

In most modern societies, work is highly valued and important not only as a source of income, but also as a means by which individuals attain an optimal level of stimulation (OLS) that is considered pleasurable (Csikszentmihalyi, 1990; Scitovsky, 1976). In addition, it creates opportunities for meaningful activities, provides social relationships, and facilitates a sense of identity (e.g., Lyubomirsky et al., 2005a; Winefield et al., 1993). Therefore, satisfaction with work has been demonstrated to have a significant effect on well-being (Diener et al., 1999). In contrast, unemployment substantially reduces the well-being of those affected (Clark and Oswald, 1994; Stutzer and Frey, 2003). Research, however, has seldom focused on how job type or even job pay affects well-being. We argue here that only when a person has a job, a job type (e.g., being employed or self-employed) and job pay that they are satisfied with, will there be any significant direct effect on well-being. In contrast, if a person interprets his or her job type and job pay as not being good, this will decrease the person’s satisfaction with the job and lead to lower levels of well-being. Thus, we hypothesize:

Hypothesis 5: Satisfaction with job mediates the effect on SWB of job type and job pay.

**Household Income and SWB**

The relationship between money and happiness is usually positive (e.g., Graham et al., 2004; Diener and Biswas-Diener, 2002), since money facilitates a person’s ability to attain a big house, a nice car, modern household appliances, private schooling for the children, exotic vacations, and maybe even higher status and more respect from others (Diener and Biswas-Diener, 2008). Yet many
researchers question this seemingly unassailable belief and claim there is no support for a strong causal path from income to SWB (Diener et al., 1999). These researchers argue that the relationship depends on other factors, such as a person’s aspiration and the practice of social comparisons (Diener and Biswas-Diener, 2002, 2008). Economists have long argued that human beings care mainly about relative, rather than absolute, income (Blanchflower and Oswald, 2004; Easterlin, 1995) as typified by Mencken’s famous definition, “a wealthy man is one who earns $100 a year more than his wife’s sister’s husband” (Diener and Biswas-Diener, 2008). Indeed, recent research has revealed that workers earning £20,000–£39,000 covet the lifestyle of the very wealthy, whereas those earning £11,000–£19,000 take the more attainable lifestyles of the former as their aspirational level (Layard, 2005). These arguments indicate that actual income might not have strong direct influence on happiness, whereas satisfaction with income does (Mookherjee, 1992). Financial satisfaction appears to mediate the relationship between income and global SWB (Diener and Biswas-Diener, 2002; George, 1992). Therefore, we propose:

Hypothesis 6: Satisfaction with income mediates the effect of household income on SWB.

Data and Methods

Sample Cohort and Data Collection

The data employed in this research were drawn from the British Household Panel Survey (BHPS). The initial selection of households for inclusion in the panel survey relied on a two-stage, stratified, systematic method and used the small users Postcode Address File (PAF) for Great Britain as the sample frame. The population of addresses was stratified according to an ordered listing by region and three socio-demographic variables. Interviews were sought with all resident household members, aged 16 years or older, to produce a nationally representative sample of more than 5,000 households that represented approximately 10,000 individual interviewees (Taylor et al., 2001).

These BHPS data were collected through face-to-face or telephone interviews and self-completion questionnaires. The response rates varied by survey type and ranged between 85% and
91%. Proxy interviews are attempted for all eligible members of the household who could not be interviewed due to an illness or other mitigating responsibilities (Taylor et al., 2001).

This study used the data collected from the BHPS waves 8, 10, and 12 (published in 2000, 2002, and 2004), which were collected between late 1999–early 2000, late 2001–early 2002, and late 2003–early 2004, respectively. A sample description of one year’s data used can be found in Appendix A. Statistical analysis was carried out with Stata 10 software package.

Variables

**Dependent Variable: SWB.** The measure of subjective well-being relied on the multi-item GHQ12 (General Health Questionnaire) scale (Goldberg, 1972), which is an accepted and reliable measure of psychological well-being (Argyle, 1989) and has been the most commonly used individual SWB measure in Great Britain. It can assess both positive and negative affects based on responses to 12 questions (see Appendix B for the questions and possible responses). Similar to most existing well-being studies (e.g., Clark and Oswald, 1994; Shields and Price, 2005), this research used the inverse of the caseness score form of the GHQ12, which summed the binary values to the responses to each question, resulting in a range of scores from 0 to 12; higher numbers indicated increased levels of well-being (Shields and Price, 2005).

**Independent Variables.** The independent variables used to measure life circumstances in the six life domains were physical health, spouse being supportive in housework and spouse being supportive financially, housing, job type and job pay, engaging in leisure activities, and household income (see Appendix C). Four of the six independent variables were multi-item variables (physical health, spouse being supportive in housework and financially, housing, and engaging in leisure activities), which may be measured either reflectively or formatively (Helfrich et al., 2009; Howell et al., 2007). Given the inter-correlation among the measures of these constructs and the purpose of the present analyses (e.g., finding out the relationship between objective circumstances and well-being), measuring these constructs formatively was deemed likely to cause multi-collinearity problems and unstable associations between formative measures and the constructs (Bollen and Lennox, 1991; Diamantopoulos and Siguaw, 2006; Law and Wong, 1999). Therefore, we used reflective measures,
which has been a dominant practice in psychology and social sciences and establishes causality and constructs with unique meaning (Edwards and Bagozzi, 2000; Howell et al., 2007). Principal components analyses yielded single factors with eigenvalues greater than 1. Cronbach’s alpha coefficients, also yielded acceptable reliability estimates (Bollen and Lennox, 1991; Oropesa, 1995; Slater and Narver, 1994). Specifically, the estimates ranged from 0.66 to 0.88, which was presumed acceptable when compared with ranges of 0.5 to 0.7 from some of the prior research (e.g., Atkinson, 1982).

**Mediators.** The mediators in this study noted respondents’ satisfaction with the six corresponding life circumstances: satisfaction with health, satisfaction with spouse, satisfaction with job, satisfaction with use of leisure time, satisfaction with income, and satisfaction with house (see Appendix D).

**Control Variables.** The control variables included gender, age, age², marriage status, household size, number of children and pre-school children, education, vocational qualifications, current economic activities, property ownership, health status, household annual income², and region – all of which have been routinely used in the existing literature on well-being (Ameriks et al., 2002; Oropesa, 1995). For each specific life circumstance, if a control variable correlated strongly with the independent variable, it was excluded from the specific model estimation. Using physical health as an example, health status measures physical health, so it was not used again as a control variable when analyzing the regression of the effect of health on well-being.

**Model Specification and Estimation**

A fixed-effects econometric model was estimated for the mediating effect of satisfaction with life circumstances on the relationship between life circumstances and well-being. One advantage of panel fixed-effects analysis was the ability to filter out unobserved individual characteristics, such as personality or disposition, which do not change over time but are systematically correlated with SWB. In addition, we dealt with factors associated with the well-being function (e.g., engaging in leisure activities, marriage status, and satisfaction with life circumstances). These unobserved factors upwardly bias the effects of relevant life circumstances on well-being, whereas the use of a fixed-effects model can remove the bias caused by these factors, improve the coefficient estimates from the cross-sectional analysis, and help establish causal direction (Graham et al., 2004; Stutzer and
Frey, 2003). The fixed-effects model includes three sets of predictors: life circumstances in various life domains, satisfaction with corresponding life circumstances, and additional control variables. Therefore, the fixed-effects equation used was as follows:

\[
W_i = \alpha + \beta LC_i + \delta M_i + \gamma X_i + \mu_i + \epsilon_i,
\]

where \(W_i\) corresponded to the person i’s well-being at time t; \(LC_i\) denoted the person i’s life circumstance in one life domain (i.e., health status, job type and job pay, income, housing, having a spouse supportive in housework and supportive financially, or engaging in leisure activities) at time t; \(M_i\) was a vector of the mediator, which represented satisfaction with the corresponding life circumstance; \(X_i\) was a vector of control variables, such as age, gender, and education; \(\mu_i\) was the unobservable individual characteristics that were presumed to affect life circumstances, such as personality; and \(\epsilon_i\) represented random error.

Although the life circumstances in six life domains might be interrelated with each other (e.g., household with high income may have good housing condition), given the relatively low correlation among these life circumstances (with the correlation varies from 0 to 0.41, see table 1), the interrelationships will not have substantial influence on our estimations. In addition, the main effects from other interrelated life circumstances are also controlled. For example, household income, among other well-being explanatory variables, is controlled when the effect of housing on well-being is examined. Similarly, the six mediators in six life domains are not highly correlated with each other, with the correlations vary from 0.16 to 0.42, and thus the possible interrelationships among the mediators will not have significant influence on estimating the mediating effects.

**Results and Discussion**

Table 1 presents the means, standard deviations and pairwise correlations among the independent and dependent variables and mediators. The signs of the correlations all fell within the expected direction. With the exception of job type (being employed or self-employed) which did not significantly correlate with well-being, all of the other objective circumstantial factors and subjective satisfaction factors positively correlated with well-being. In addition, people who were employed by
others were not as satisfied with their job as those who were self-employed, and job pay did not correlate with job satisfaction itself. However, all other objective circumstantial factors positively correlated with the corresponding subjective satisfaction items. Finally, well-being was found to be more strongly correlated with the subjective satisfaction variables than with the corresponding objective circumstantial factors.

Table 1: Main Variable Means, Standard Deviations, and Pairwise Correlations

| Variable                        | Mean | Std. | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  |
|---------------------------------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1. SWB                          | 10.07| 2.99 | -   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 2. Physical health              | 6.47E-10 | 0.87 | .31*** | -   |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 3. Engaging in leisure activities (frequency) | -2.44E-10 | 0.82 | .11*** | .26*** | -   |     |     |     |     |     |     |     |     |     |     |     |     |
| 4. Housing                      | -1.32E-05 | 0.76 | .09*** | .07*** | .06*** | -   |     |     |     |     |     |     |     |     |     |     |     |
| 5. Partner supportive in housework | -1.27E-08 | 0.63 | .13*** | .02*  | 4.10E-03 | -   |     |     |     |     |     |     |     |     |     |     |     |
| 6. Partner supportive financially | 1.64E-08 | 1   | .05*** | .13*** | .16*** | .03*** | - .36*** | -   |     |     |     |     |     |     |     |     |     |
| 7. Job type (0=self-employed 1=employed) | 100% | 0.32 | 1.00E-04 | -.02* | .05*** | -1.00E-04 | -.11*** | 0.01 | -   |     |     |     |     |     |     |     |     |
| 8. Job pay (log of usual gross pay p/m) | 6.9 | 0.83 | .05*** | .10*** | .14*** | .06*** | .56*** | .15*** | 2.70E-03 | -   |     |     |     |     |     |     |     |
| 9. Household income (log of equivalence) | 9.45 | 0.85 | .06*** | .14*** | .26*** | .10*** | .04**  | .33*** | .09*** | .42** | -   |     |     |     |     |     |     |
| 10. Satisfaction with health     | 4.94 | 1.63 | .09*** | .21*** | .29*** | 5.00E-04 | .07*** | -1.30E-03 | .02*  | .08*** | -   |     |     |     |     |     |     |
| 11. Satisfaction with use of leisure time | 4.93 | 1.56 | .35*** | .14*** | .19*** | .10*** | .06*** | - .08*** | 1.10E-03 | .04*** | .01*  | .35*** | -   |     |     |     |     |
| 12. Satisfaction with house      | 5.41 | 1.47 | .21*** | .06*** | .64*** | .25*** | 4.30E-03 | .03*** | -.03** | 7.10E-03 | .06*** | .25*** | 37*** | -   |     |     |
| 13. Satisfaction with partner    | 6.22 | 1.26 | .19*** | .12*** | .02*** | -.04*** | .06*** | .06*** | .70E-04 | .23**  | .03*** | .16*** | .28*** | .26*** | -   |     |
| 14. Satisfaction with job        | 4.98 | 1.47 | .25*** | .12*** | -1.10E-03 | .04*** | -.04*** | .04*** | .04*** | -.08*** | -2.10E-03 | .02*  | .31*** | .33*** | .28** | .24*** |
| 15. Satisfaction with income     | 4.54 | 1.62 | .20*** | .18*** | .11*** | .17*** | -.02*  | .06*** | 4.50E-03 | .12*** | .21*** | .37*** | .37*** | .42*** | .20** | .41*** |

Notes: Significance levels: .05 < p; *.01 < p < .05; **.000 < p < .01; ***p = .000.

The results from a series of nested panel fixed-effects estimations are listed in Table 2. Model 0 depicts a regression with only the control variables. Compared with those who were self-employed, people who were employed achieved higher well-being levels, whereas those who were unemployed were less happy. As expected, compared with those who were married, people who were no longer married were less happy. Interestingly, being single did not affect happiness. Other controls, such as age, income, academic qualifications, vocational qualifications, household size, how many children and number of preschool children, and

Table 2: Fixed-effects estimates for the mediating effect of satisfaction with life circumstances on SWB
Health

--- 0.7919*** 0.5265*** --- --- --- --- --- --- --- --- --- ---

Engage in leisure activities

--- --- --- 0.3344*** 0.1811*** --- --- --- --- --- --- --- ---

Housing

--- --- --- --- --- 0.0851* 0.0564 --- --- --- --- ---

Partner supportive in housework

--- --- --- --- --- --- --- 0.1269 0.1253 --- ---

Partner supportive financially

--- --- --- --- --- --- --- 0.0095 0.0086 --- ---

Job type

--- --- --- --- --- --- --- --- --- 0.5882 0.6621 --- ---

Job pay

--- --- --- --- --- --- --- --- --- 0.0862 -0.0206 --- ---

Household income

--- --- --- --- --- --- --- --- --- --- --- -0.009 -0.0566

Satisfaction with health

--- 0.4343*** --- --- --- --- --- --- --- --- --- --- ---

Satisfaction with use of leisure time

--- --- --- --- 0.4386*** --- --- --- --- --- --- --- ---

Satisfaction with housing

--- --- --- --- --- --- 0.1775*** --- --- --- --- --- ---

Satisfaction with partner

--- --- --- --- --- --- --- --- 0.2121*** --- --- --- ---

Satisfaction with job

--- --- --- --- --- --- --- --- --- --- --- 0.5990*** --- ---

Satisfaction with income

--- --- --- --- --- --- --- --- --- --- --- --- --- 0.3150***

Age

0.0687 0.03 0.038 0.0452 0.0515 -0.0526 -0.0452 0.2815 0.2975 -0.0018 0.0169 0.0687 0.0738

Age square

-0.0002 8.10E-06 0.0001 -3.24E-06 3.74E-06 1.21E-05 -1.74E-05 -0.0004 -0.0007 -1.54E-05 -0.0003 -0.0002 -0.0003

Sex

Dropped

Health status

1.8680*** --- --- 1.8557*** 1.7628*** 1.9309*** 1.9169*** 1.8680*** 1.8880*** 2.17275*** 1.9518*** 1.8680*** 1.7687***

Income

-0.000 -0.0003 -0.0079 -0.0134 -0.0074 0.01807 -0.028 -0.2289** -0.0979 0.1644* 0.2033** --- ---

House ownership

0.0153 0.0318 0.0251 0.0273 0.0151 --- --- -0.5467* -0.5616* -0.1179 0.6621 0.0153 -0.0403

Vocational qualification

-0.1234* -0.1098 -0.1068 -0.0836 -0.0128 0.2613 0.2673 0.0648 -0.2157 0.11065 0.13949 -0.1234* -0.1115

Household size

0.0514 0.0415 0.0492 0.0497 0.0464 -0.0194 -0.0054 -0.1083 -0.0881 -0.0284 -0.0902 0.0153 -0.0403

Region (In London or out)

-0.3047 -0.3151 -0.3639 -0.3077 -0.2464 -0.2529 -0.1783 0.0069 -0.0175 -0.0303 0.3221 -0.3047 -0.3523

Number of kids in household

-0.0217 -0.023 -0.0384 -0.0037 0.011 -0.0007 -0.0099 0.1376 0.1245 -0.0353 -0.0573 -0.0217 -0.0239

Number of pre school kids

-0.1563 -0.0682 -0.0833 -0.1142 -0.0529 -0.0418 -0.0299 -0.0972 -0.0278 -0.0032 -0.1563 -0.1279

Highest academic qualification

First degree or above

Reference

A level or equivalent

0.1231 0.1204 0.1489 0.0965 -0.0183 -0.0666 -0.0181 1.0561 1.0110 -0.2818 -0.2766 0.1231 0.1003

O level or equivalent

-0.0039 -0.1128 -0.077 -0.01305 -0.1251 -0.3743 -0.3911 0.7101 0.6917 -0.0717 -0.099 0.0039 -0.1133

None of these

0.0308 0.0626 0.0256 -0.0156 -0.1884 -0.0181 2.4079 2.3901 0.6748 0.8494 0.0308 0.0167

Job status

Self-employed

Reference

Employed

0.2401* 0.2584* 0.245** 0.2396* 0.2198 0.2521 0.2431 0.3185 0.2482 --- --- 0.2401* 0.226

Unemployed

-0.6920*** -0.6392*** -0.6173*** -0.7029** -0.7243*** -0.636** -0.6844** -0.5453 -0.5715 --- --- -0.6920*** -0.4648**

Other

-0.0896 0.03087 0.0022 -0.0584 -0.1364 0.6112 0.1025 -0.6606* -0.7429** --- --- -0.0896 0.0157

Marital status

Married

Reference

Post marriage

-0.5059*** -0.6161*** -0.6330*** -0.6219*** -0.6755*** -0.6185*** -0.6108*** 0.6475 0.6345 -0.5511** -0.5396** -0.5859** -0.5186***

Simple

0.0068 0.0038 -0.0018 -0.0166 0.0843 0.1765 0.2075 0.6345* 0.6874* -0.1232 -0.0846 0.0065 0.01865

_cons

5.8432 8.8205 0.0542 0.6176 0.4145 0.1095 0.9786** 0.6756 -2.0912 5.8654 2.911 5.8432* 5.0729

Observations

39031 38938 38768 38815 38618 27915 27763 7899 7842 19629 19497 39031 38818

Adjusted R-squared

0.41 0.41 0.43 0.41 0.44 0.39 0.35 0.37 0.31 0.36 0.41 0.42

F-test (a/b)

732.21*** 417.08*** 39.37*** --- --- --- --- --- --- --- --- ---

Notes: Significance levels: .05 < p; *.01 < p < .05; **.000 < p < .01; ***p = .000.

house ownership, did not have significant effects on well-being. Gender was dropped from the analysis due to its co-linearity.

H1 proposed that satisfaction with health mediated the effect of objective physical health on SWB and this was supported by the results. Model 1a, which included health in the regression, showed that...
the coefficient of health was positive and statistically significant (0.792; \( p > |t| = .0000 \)). That is, holding all other variables constant, the marginal effect of well-being increased by 0.79 when the health condition increased by 1 unit. The results partially meet the mediation requirements (Baron and Kenny, 1986). Although health remained significant even when satisfaction with health was added, the effect of health on well-being declined significantly, which suggested that the relationship between health and well-being was at least partially mediated by satisfaction with health (Shrout and Bolger, 2002).

The tests for H2–H6 were based on the same assessment steps as described for H1. For example, H2 proposed that satisfaction with the use of leisure time was able to mediate the relationship between engaging in leisure activities and SWB. The results supported this hypothesis. Similar to the health life domain results, these findings indicated that three of the four conditions of mediation were met (Baron and Kenny, 1986). First, engaging in leisure activities was statistically significant in the absence of satisfaction with the use of leisure time (0.3344; \( p > |t| = .0000 \) Model 2a), and the marginal effect of well-being increased by 0.334 when the frequency of engaging in leisure activities increased by 1 unit. Second, the frequency of engaging in leisure activities was significantly related to satisfaction with use of leisure time (\( p > |t| = .0000 \)). Third, satisfaction with leisure was related to well-being when the frequency of engaging in leisure activities remained constant (0.4386; \( p > |t| = .0000 \); Model 2b). The final condition of complete mediation, however, was not met; the frequency of engaging in leisure activities remained significant even when satisfaction with the use of leisure time was included in the equation, which suggested that the relationship between frequency and well-being was partially mediated by the satisfaction with use of leisure time (Shrout and Bolger, 2002).

Hypothesis 3 proposed that housing alone was able to affect SWB indirectly through the mediating role of satisfaction with the house. This hypothesis was supported by the results and all four conditions in Baron and Kenny’s (1986) guidelines were met.

In the marriage life domain, H4 proposed that satisfaction with partner was able to completely mediate the effect on SWB of having a supportive partner. The results showed that having a
supportive spouse (who helps with housework and financially) was insignificant in the absence of satisfaction with that partner (Model 4a) which is inconsistent with the first condition of Baron and Kenny’s (1986) mediation requirements. These results suggested that the impact of partner or marriage on well-being was completely dependent on a person’s subjective recognition and satisfaction with their partner or spouse; interestingly, the criteria of a ‘good’ husband or wife in the traditional sense of the word did not contribute to a person’s marital well-being or happiness.

In the work life domain, H5 hypothesized that job type and job pay was able to affect SWB through the mediating role of satisfaction with job. Similar to the findings in the marriage life domain, for people who had a job, job type and pay were not as important to their personal well-being as was whether or not they were satisfied with their job and pay. This might be due to the fact that in work life domain satisfaction with job was more likely to depend on pleasant cooperation with colleagues, the right amount of challenge from work, and the meaningfulness of the job rather than the job type and job pay (Diener and Biswas-Diener, 2008).

Household income was insignificant in the absence of satisfaction with income (Model 6a) and H6 was rejected. This finding is consistent with prior research from Britain which was unable to find a statistically significant effect of income on SWB (Clark and Oswald, 1994). This may be because wealthier people have greater stress from work or lack leisure time to enjoy their money. It may also result from the fact that better jobs and salaries can foster even greater desires for each, effectively cancelling out the effects of higher income since happiness equals what a person has (attainment) divided by what a person wants (aspiration) (Diener and Biswas-Diener, 2008). This argument appears supported by the finding that satisfaction with income is highly significant (0.3150; \( p > |t| = .0000; \) Model 5b) when actual income remains constant. That is, lower aspirations and being satisfied with existing income should lead to happiness.

The use of a more robust, generalizable, longitudinal panel of samples in this research is useful when these findings are applied to public policy making and practical resource allocations, as they will offer greater confidence in the conclusions. It is to these implications that we now turn.
Implications for Consumer Welfare and Public Policy

The pursuit of happiness and well-being is probably the most fundamental goal of every human (Diener, 2000) and British people have rated happiness as the most important component of quality of life – even more important than money, health, and sex (Skevington et al., 1997). In this section, we will first discuss the implications of the direct effects of objective circumstances on well-being before turning to our main contribution to the field, which is the impact on well-being of satisfaction with each of these life domains.

The insignificant effect of income on well-being identified in the present research provides evidence for the taxation debate and indicates that a higher rate tax on income would be unlikely to affect happiness. The fact that income has no direct effect on well-being might also help explain why economic growth in recent decades has not increased well-being. This argument appears to be supported by our finding that satisfaction with income is highly significant ($0.3150; p > |t| = .0000; Model 6b) when actual income remains constant. The finding that household income did not contribute to well-being is not necessarily contradictory to the argument that richer people are happier. Apart from earning higher incomes, wealthier individuals also tended to be healthier, more educated, more likely to secure “better” jobs in which they show superior performance, have better social relationships and stronger social support networks, and have fulfilling marriages (Lyubomirsky et al., 2005a). This point is consistent with survey evidence that indicated none of the super-rich identified major contributors to their happiness as vacation homes, swimming pools, or designer possessions (Diener and Biswas-Diener, 2008).

Of the other factors, we show that health, leisure and housing did have direct positive impacts on well-being, and the results support existing environmental interventions (e.g., providing leisure facilities for physical activity and investing in housing infrastructure) (Blamey et al., 1995; Sallis et al., 1998). We further suggest that government might reduce taxes on certain leisure services, such as gym memberships, evening class tuition, leisure centre entrance fees and various indoor and outdoor fitness equipments.
Since housing was identified as another objective determinant of well-being, public policy should continue to support the building and availability of better housing and encourage citizens to buy or rent better houses.

Our research can also help to rank the relative importance of areas on which to allocate public funding to obtain greatest well-being. For example, to supplement previous work suggesting allocating resources to health, rather than housing because an improvement in health is likely to have a larger effect on overall SWB (Diener et al., 2000; Dolan and White, 2007), we argue that public funding should be equally allocated to health and leisure, as both were found to directly affect well-being. Of secondary importance might be to improve housing conditions, as housing only had an indirect effect on well-being via satisfaction with the house itself.

The previous discussion focused on how policymakers have thus far tended to view well-being in terms of objective life circumstances and people’s ability to satisfy their preferences, rather than in terms of how people think and feel about their lives. In fact, governments are beginning to consider this carefully, and Thailand has already adopted a Gross National Happiness index. The UK, Australia, Canada, China and France are reportedly developing such indexes as well (Easton, 2006). Our findings suggest that in addition to improving objective circumstances, policymakers should think beyond such traditional approaches and encourage people to be more satisfied with their health, leisure and housing circumstances. The importance of ‘satisfaction with’ life domains having an impact on well-being has two broad implications. First is an optimization implication with respect to the money that is being spent on the objective life circumstances, such as health or housing. The suggestion is that some checks should be made on the recipients of the benefits to see if any actual increases were achieved in satisfaction with their life domain that the government intervention intended to improve. If it does not, then the government will have missed an opportunity to further enhance their citizens’ well-being via the indirect mediating mechanism. For example, 12 months after funding a program to provide psychotherapy training to physicians in a certain part of a city, a survey could be carried out using those people who have seen those particular doctors over the past three months to determine if their satisfaction with health was improved.
Second are the general and domain-specific strategies which could be introduced to increase people’s appreciation of their life circumstances. The question then is how can public policy intervene in people’s lives to achieve this? In terms of generic strategies which could be employed, mindfulness meditation and intensive training in open-minded meditation have also been shown to be associated with better suppression of negative affects (Davidson and Lutz 2008; see Huang 2010 for a review). Governments can also fund a communication strategy, such as setting-up websites, magazines, adverts and motivational public signs, to provide information for appreciation meditation and positive thinking. Controversially, we suggest that part of the funding to support objective health care, leisure facilities and new housing should be channeled into programs which encourage people to appreciate and be satisfied with what they have. These would be particularly effective for job, marriage and income, where satisfaction has been shown to significantly affect well-being.

In marriage for example, which is the focus of current debates (Easton, 2006), our research has suggested that being satisfied with one’s partner matters most to well-being. This suggests that government’s family policies, which are largely reactive and respond to rupture after it occurs, could provide preventive services such as family therapy (Huntington, 2009).

Conclusions, Limitations and Further Research

The UK’s Prime Minister, David Cameron, says improving society’s sense of happiness is of the utmost importance. However, objective circumstances provide only partial insight into well-being (8-15% at most). This research filled this void by integrating both objective circumstances and subjective satisfaction in predicting well-being. The research sheds light on what makes people happy and how government could use public policy to foster satisfaction and well-being. Our results support Top-down theories and demonstrate that satisfaction with life circumstances in all six life domains have strong effects on well-being when the corresponding objective circumstances remain constant. However, the results also challenge this general theoretical assumption for all aspects of life since satisfaction with circumstances plays a mixed role in the relationship between objective life circumstances and well-being. In some life domains, e.g. in health and leisure life, physical health and
engaging in leisure activities affect well-being both directly and indirectly through the mediating effect of satisfaction with health and satisfaction with the use of leisure time, respectively. In others, such as housing condition, the effect on well-being is indirect through the mediating effect of satisfaction with housing. While marriage, income and job life only affect well-being directly through satisfaction with the corresponding circumstances. The findings offer a first step in measuring the mediating effects of satisfaction on the relationship between objective life circumstances and well-being which has not been done before.

While this research has extended these ideas and empirically considered six life domains, the complicated relationship among the constructs suggests that further research should be pursued to extend the model to other life domains, such as spiritual life or education level. In addition, in some life domains it was not possible to use multiple items that may have otherwise correlated strongly with satisfaction and well-being. In particular, this study considered only job type and job pay, but job satisfaction may also be affected by other factors such as degree of cooperation with colleagues, level of challenge in the work, and job meaningfulness (Diener and Biswas-Diener, 2008).
References


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**Footnotes**

1. For example, UK national statistics have shown that in 2008-2009, the estimated public sector expenditure on health care was £110.5 billion. Spending on family and children was £21.6 billion, on unemployment was £4.9 billion, on housing was £3.2 billion, and on recreational and sporting services was £5.1 billion.

2. Household annual income is an independent variable in the life domain of income, but in other life domains it serves as a control variable, as established by previous research on well-being.
### Appendix A: A sample description of BHPS Wave 12

#### Data sourcing BHPS Wave 12

<table>
<thead>
<tr>
<th>Year of Fieldwork carried out</th>
<th>1 September 2002 to 30 April 2003</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cases</strong></td>
<td>16,597</td>
</tr>
</tbody>
</table>

#### Sex

<table>
<thead>
<tr>
<th>Sex</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>46%</td>
</tr>
<tr>
<td>Female</td>
<td>54%</td>
</tr>
</tbody>
</table>

#### Age at date of interview

<table>
<thead>
<tr>
<th>Age at date of interview</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Young (15-29)</td>
<td>23%</td>
</tr>
<tr>
<td>Midlife (30-65)</td>
<td>59%</td>
</tr>
<tr>
<td>Old (65+)</td>
<td>18%</td>
</tr>
</tbody>
</table>

#### Ethnicity

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>84%</td>
</tr>
<tr>
<td>Asian (Indian, Pakistani, other Asian background)</td>
<td>1%</td>
</tr>
<tr>
<td>Other (mix, black, Chinese, other)</td>
<td>1%</td>
</tr>
<tr>
<td>Missing</td>
<td>14%</td>
</tr>
</tbody>
</table>

#### Annual household income

<table>
<thead>
<tr>
<th>Annual household income</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>£15k</td>
<td>26%</td>
</tr>
<tr>
<td>£15-30k</td>
<td>32%</td>
</tr>
<tr>
<td>£30-50k</td>
<td>25%</td>
</tr>
<tr>
<td>£50-75k</td>
<td>10%</td>
</tr>
<tr>
<td>£75k+</td>
<td>6%</td>
</tr>
</tbody>
</table>

#### Highest academic qualification

<table>
<thead>
<tr>
<th>Highest academic qualification</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st degree or above</td>
<td>12%</td>
</tr>
<tr>
<td>HND,HNC,Teaching or A level</td>
<td>24%</td>
</tr>
<tr>
<td>O level or CSE</td>
<td>28%</td>
</tr>
<tr>
<td>None</td>
<td>30%</td>
</tr>
<tr>
<td>Missing</td>
<td>6%</td>
</tr>
</tbody>
</table>

#### Current economic activity

<table>
<thead>
<tr>
<th>Current economic activity</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-employed</td>
<td>7%</td>
</tr>
<tr>
<td>Employed</td>
<td>50%</td>
</tr>
<tr>
<td>Unemployed</td>
<td>3%</td>
</tr>
<tr>
<td>Other</td>
<td>39%</td>
</tr>
<tr>
<td>Missing</td>
<td>0%</td>
</tr>
</tbody>
</table>

#### Marital status

<table>
<thead>
<tr>
<th>Marital status</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>53%</td>
</tr>
<tr>
<td>Post marriage</td>
<td>18%</td>
</tr>
<tr>
<td>Region / Metropolitan area</td>
<td>Single (%)</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Inner London</td>
<td>2%</td>
</tr>
<tr>
<td>Outer London</td>
<td>3%</td>
</tr>
<tr>
<td>Rest of South East</td>
<td>10%</td>
</tr>
<tr>
<td>South West</td>
<td>5%</td>
</tr>
<tr>
<td>East Anglia</td>
<td>2%</td>
</tr>
<tr>
<td>East Midlands</td>
<td>5%</td>
</tr>
<tr>
<td>West Midlands Conurbation</td>
<td>2%</td>
</tr>
<tr>
<td>Rest of West Midlands</td>
<td>3%</td>
</tr>
<tr>
<td>Greater Manchester</td>
<td>2%</td>
</tr>
<tr>
<td>Merseyside</td>
<td>1%</td>
</tr>
<tr>
<td>Rest of North West</td>
<td>3%</td>
</tr>
<tr>
<td>South Yorkshire</td>
<td>1%</td>
</tr>
<tr>
<td>West Yorkshire</td>
<td>2%</td>
</tr>
<tr>
<td>Rest of Yorkshire &amp; Humberside</td>
<td>2%</td>
</tr>
<tr>
<td>Tyne &amp; Wear</td>
<td>1%</td>
</tr>
<tr>
<td>Rest of North</td>
<td>2%</td>
</tr>
<tr>
<td>Wales</td>
<td>17%</td>
</tr>
<tr>
<td>Scotland</td>
<td>18%</td>
</tr>
<tr>
<td>Northern Ireland</td>
<td>18%</td>
</tr>
<tr>
<td>Missing</td>
<td>1%</td>
</tr>
</tbody>
</table>

**Appendix B: General Health Questionnaire (GHQ) 12**

Have you recently…

1. been able to concentrate on whatever you’re doing?

(1 Better than usual; 2 Same as usual; 3 Less than usual; 4 Much less than usual)

2. lost much sleep over worry?

(1 Not at all; 2 No more than usual; 3 Rather more than usual; 4 Much more than usual)

3. felt that you were playing a useful part in things?

(1 More so than usual; 2 Same as usual; 3 Less so; 4 Much less)

4. felt capable of making decisions about things?

(1 More so than usual; 2 Same as usual; 3 Less so than usual; 4 Much less capable)

5. felt constantly under strain?
Appendix C: Measures of Objective Circumstances

1. Physical health (Cronbach's alpha = 0.7515)
   Three-point health status over the previous 12 months: binary variables of listed health problems, health limitations on daily activities, and count variables for number of visits to doctor, number of visits to outpatients, and hospital inpatient days in the past year

2. Engaging in leisure activities (Cronbach's alpha = 0.6837)
   Seven items: how often: walk/swim/play sports, watch live sport, go to the cinema, go to theatre/concert, eat out, go out for a drink, and attend evening classes; all on five-point scale ranging from 1 (never/almost never) to 5 (at least once a week)

3. Housing (Cronbach's alpha = 0.6202)
   Thirteen items: value of property, number of rooms in accommodation, street noise, noise from neighbors, pollution/environmental problems, vandalism or crime, terrace/garden, not enough light, lack of adequate heating, condensation, leaky roof, damp walls, floors, and rot in window casings/floors

4. Having a supportive partner
   a) Housework (Cronbach's alpha = 0.6326)
   b) Financially (Cronbach's alpha =)
   a) Six items: who is responsible for childcare, hours per week spent on housework, who does the grocery shopping, who does the cooking (couples), who does the cleaning (couples), and who does the washing/ironing (couples); all five-point scales, ranging from 1 (self) to 5 (other)
   b) Binary variable of spousal employment and three continuous variables: spouse's weekly work hours, spouse's weekly overtime,
<table>
<thead>
<tr>
<th>5. Work life</th>
<th>6. Household income</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Job type</td>
<td>a) Four-point single item (0 = self-employed; 1 = employed)</td>
</tr>
<tr>
<td>b) Job pay</td>
<td>b) Single-item continuous variable (log of usual gross pay per month)</td>
</tr>
<tr>
<td></td>
<td>Log of equivalent household income</td>
</tr>
</tbody>
</table>

**Appendix D: Satisfaction within Life Domains**

How dissatisfied or satisfied are you with........

1. Your health
   
   (1 Not satisfied at all; 4 Not satisfied/dissatisfied; 7 Completely satisfied)

2. The way you spend your leisure time
   
   (1 Not satisfied at all; 4 Not satisfied/dissatisfied; 7 Completely satisfied)

3. Your house/flat
   
   (1 Not satisfied at all; 4 Not satisfied/dissatisfied; 7 Completely satisfied)

4. Your husband/wife/partner
   
   (1 Not satisfied at all; 4 Not satisfied/dissatisfied; 7 Completely satisfied)

5. Your job (if in employment)
   
   (1 Not satisfied at all; 4 Not satisfied/dissatisfied; 7 Completely satisfied)

6. The income of your household
   
   (1 Not satisfied at all; 4 Not satisfied/dissatisfied; 7 Completely satisfied)

Notes: The reliability and validity of the seven-point “Completely Satisfied” to “Completely Dissatisfied” scale used to measure the responses to all these questions are very high; this scale provides a well-established measure of satisfaction (Andrew and Withey 1976; Leelakulthanit et al., 1991).