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Why you should measure subjective changes

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Abstract

Satisfaction data are widely used in psychology and the social sciences. Those data normally seek to measure satisfaction *levels*. Yet, for many applications we are primarily interested in the *change* in satisfaction following an intervention or life event. We here show that, compared to inferences from longitudinal data on levels, cross-sectional interviews that ask about changes in satisfaction yield data that (i) are more sensitive to life events, (ii) more accurately track changes in objective benefits, (iii) display comparable psychometric properties, and (iv) are less affected by respondents' day-to-day mood. The results hold across several domains of life. Primary data from two studies (N=2,012; N=1,734) are supplemented by large-scale secondary data from the British Household Panel Survey (N≈150,000). Our findings provide robust evidence that repeated cross-sectional surveys are sufficient to track satisfaction changes reliably, without the need of longitudinal panel data.

Keywords: Satisfaction measurement | Self-evaluation | Life satisfaction | Job satisfaction | Health satisfaction | Attitude measurement

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Research Transparency Statement

General Disclosures

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Study One

Preregistration: No aspects of the study were preregistered. **Materials:** This study relies on secondary data from the BHPS. Details on survey design are available here: `https://www.understandingsociety.ac.uk/about/british-household-panel-survey/` **Data:** The Data are publicly available from the UK Data Service upon registration. See: `https://beta.ukdataservice.ac.uk/datacatalogue/series/series?id=200005`. **Analysis scripts:** All analysis scripts are publicly available at `https://osf.io/eqsp9/?view_only=092f609989b24399a846c0e5c4f66dd6`.

Studies Two and Three

Preregistration: The hypotheses and methods were preregistered prior to data collection, with the exception of Hypothesis H4 (linearity of scale use). See: `https://osf.io/5dxe9/?view_only=a6866c997d444244ad5fd2aee3d31052`. There were some deviations from the preregistration. For details see Section A7 of the Supplementary Materials. **Materials:** Details on study materials on survey instruments are available in Sections A1 and A2 of the Supplementary Materials. **Data and analysis scripts:** All primary data and analysis scripts are publicly available at `https://osf.io/eqsp9/?view_only=092f609989b24399a846c0e5c4f66dd6`.

Introduction

Oftentimes, quantitative social scientists are interested in assessing an improvement (or a deterioration) of quality-of-life. This is particularly relevant when evaluating public policies or other interventions – such as medical treatments or workplace schemes - aimed at improving quality-of-life (Graham and MacLennan, 2020; OECD, 2013). If, after an intervention, people feel better off (either with their life in general or with a specific aspect of their life) this seems like a good argument for the intervention to be considered successful.

Among subjective measures, life satisfaction (LS) is one of the most common tools for this type of evaluations. LS levels are single-item measures derived from some simple questions, like "All things considered, how satisfied are you with your life nowadays, on a scale from 0 to 10?". Typically, to assess if people feel better or worse, the same person is interviewed at least twice, and the LS levels reported before and after the change in their life circumstances are used to calculate a difference, ΔLS.

While LS levels are an excellent tool to capture differences in life circumstances *between* people, they do not work equally well in assessing variations *over time*. This is because ΔLS is not a very sensitive measure. Several pieces of evidence support this claim. For instance, British panel data show that, among those who report no change in LS (ΔLS=0), 37% report they feel better/worse than last year (Prati and Senik, 2022; Kaiser, 2022). In German panel data, major life events explain less than 1% of the between-variations in ΔLS (Prati and Senik, 2025). This is not surprising, given how impactful an event must be to generate some variation on the life satisfaction scale. Take the example of income, which is perhaps the most studied determinant of life satisfaction. The linear regression coefficient associated with the logarithm of personal income is typically around 0.4 (Ferrer-i Carbonell and Frijters, 2004; Frijters and Krekel, 2021) or less, depending on the controls (Clark et al., 2018). This means that, on average, to generate a one-scale point increase in LS levels, a person's income should be multiplied by more than *ten times* (when income doubles, log-income increases by about 0.7). Few interventions can aspire to effects of such magnitude.

A more straightforward method would be to directly ask people to report changes in their satisfaction, rather than to infer these changes from repeated subjective measurements. That is, in addition to measuring LS levels, why not also measure subjective changes, using questions like: *"Compared to last [year, month,...], how satisfied with your life are you nowadays?"*. This approach is the focus of the present paper. So far, only a handful of studies have considered subjective changes to track life satisfaction over time (Schwarz and Strack, 1999; Cummins et al., 2003; Hagerty, 2003; Köke and Perino, 2017; Klemm, 2022). Yet, in theory, measuring subjective changes in satisfaction has several advantages: Comparative judgments tend to be more accurate than absolute judgments for many constructs (Olson et al., 2007; Goffin and Olson, 2011), and psychophysics models suggest that changes, not absolute levels, are the fundamental unit via which stimuli are represented in human minds (Laming, 1984; Stewart et al., 2005). Since humans display higher sensitivity to small changes, both for physical (Fechner's law) and socio-economic stimuli (Prospect theory, Kahneman and Tversky 1979), they should be able to give an informed answer to subjective changes without

too much cognitive effort. Asking about subjective changes also helps circumvent the thorny issue of rescaling (Sprangers and Schwartz, 1999), whereby the same person might use incomparable scales over time. Another advantage of subjective changes over ΔLS is that the former can be measured using cross-sectional post-event interviews, while the latter needs panel data that straddle the event.

To be sure, the idea of using subjective changes to measure satisfaction over time is not new. In a classic paper, Hardin (1965) runs a seminal comparison of pre-post intervention levels and subjective changes in job satisfaction. He dismisses measures of subjective changes in job satisfaction as unreliable, and discourages the use of post-intervention cross-sectional designs. A few years later Lyons and Dickinson (1973) replicated Hardin's comparisons using a longer time span and extended the comparison to other (job-related) subjective constructs. They reached similar conclusions. Crucially, however, both studies *assumed* the information from subjective levels as the correct benchmark and evaluated subjective changes against that benchmark. Therefore, their analyses merely show that the two measures differ, but do not provide any evidence of the superiority of either. Lyons and Dickinson (1973, p.321) acknowledge this clearly, and conclude their article by encouraging future research to assess the validity and reliability of subjective changes.

Our study reopens this research avenue, and tries to provide an answer to the question: should we use subjective changes to measure satisfaction over time? We believe that this measure has not been taken on by mainstream psychologists and other scientists because of a lack of systematic and convincing empirical evidence. It is not yet well understood how well, in practice, subjective changes perform compared to subjective levels. This paper reports the results of three studies that compared these two measures in a systematic framework. It investigates satisfaction with life in general as well as with some life domains: job, income, health, housing, and romantic life.

There is no obvious way of checking which one – subjective levels or subjective changes - best corresponds to the underlying feelings experienced by the respondents. Yet, the ability of either measure to detect a change in satisfaction concurrent with some objective events – from a promotion to a job loss, from the birth of child to a bereavement, and so on – provides a benchmark to assess if that measure is able to capture a change in feelings. This is the main approach adopted here. Our analysis draws on longitudinal data from three sources: a large socio-economic panel (the British Household Panel Survey) and two online panels which were collected and analyzed according to pre-registered hypotheses.

We document strong evidence of the superior sensitivity of subjective changes in life satisfaction. Specifically, the proportion of total variance explained by objective life events is between 4 and 12 times higher when using subjective changes rather than changes in subjective levels. The data on subjective changes also perform well when focusing on more specific life domains, rather than life in general. When we run a series of psychometric tests of the relative validity and reliability of either measure, subjective changes always perform at least as well as subjective levels do.

It is noteworthy that, while the use of subjective changes to measure satisfaction has been mostly disregarded, they have gained traction in the medical literature, where they now represent a common tool to assess subjective health states in clinical practice (Mahler et al., 1984; Farrar et al., 2001; Busner and Targum, 2007) and policy evaluations (Ware Jr and Sherbourne, 1992; Osoba et al.,

1998; Marmot et al., 2013). Several studies have compared the performance of subjective changes and levels in tracking patients' health status - often using questionnaires based on seven-point Likert scales (Fischer et al., 1999; Guyatt et al., 2002; Meyer et al., 2013). The general takeaway is that, while the two measures are not equivalent (correlations are higher than 0.5 but well below 1) subjective changes are recommended to be measured along with levels, as they can bring valuable information and display higher reliability. The present study reaches similar conclusions, extending it to non-medical domains.

Most of the analyses to follow have been preregistered. A link to the preregistration can be found here: `https://osf.io/5dxe9/?view_only=a6866c997d444244ad5fd2aee3d31052`. Departures from our preregistration are described in section A7 of the Supplementary Materials.

Methods

Study 1 is based on the British Household Panel Survey (BHPS), a panel survey which run between 1991 and 2009. The sample was representative of the UK (only of England until 1999, then of Wales and Scotland since 1999, and of Northern Ireland since 2001). Interviews took place face-to-face, annually and lasted about 30-40 minutes. Data are available free of charge for non-commercial use from the Economic and Social Data Services. Detailed documentation is provided by the UK Data Service (Taylor et al., 2018).

In Studies 2 and 3, subjects were recruited through Prolific and were informed that they may be recontacted to complete other questionnaires in the future. All of the participants gave their informed consent at the beginning of the study. The Research Ethics Committee of University College London reviewed and unanimously approved the procedures (project id: 24457/001).

1,502 participants were interviewed in February 2023. They were re-invited for a survey one year later, in February 2024 (Study 2), and a subsample of 500 was interviewed also every three months, i.e., in May, August and November 2023 (Study 3). In August 2023, a replacement sample of 140 individuals was added to attenuate the effect of attrition. Tables A1 and A2 in the Supplementary Materials report the decomposition of the sample based on attrition (32% after one year in Study 2 and about 14% every three months in Study 3) and exclusions due to unmatched identifiers or failed attention checks. The final analyses are based on 2,012 observations from 1,006 individuals (mean age 42.9, 51% female) in Study 2 and 1,734 observations from 640 individuals (mean age 42.5, 50% female) in Study 3. Our sample size was determined based on available budget. Participants received £1.5 and £1 for their participation to, respectively long (7 minutes) and short surveys (5 minutes). These payments correspond to hourly rates of about £12 and are above the average payment offered on Prolific.

Pre-registered hypotheses for Studies 2 & 3 are available here: `https://osf.io/5dxe9/?view_only=a6866c997d444244ad5fd2aee3d31052`. Hypothesis H4 (linearity of scale use) was not pre-registered. For further details on the preregistration and deviations from it, see section A7 of the Supplementary Materials. All primary data, analysis code, and research materials are available at `https://osf.io/eqsp9/?view_only=092f609989b24399a846c0e5c4f66dd6`.

Further details of the study procedures, questionnaire design, sampling, and on attrition and exclusions restrictions can be found in section A1 of the Supplementary Materials.

Results

Study 1

Our initial results are based on the British Household Panel Survey (BHPS). The BHPS followed a representative sample of over 5,000 UK residents for almost two decades.

Between 1997 and 2009 (and except in 2002), respondents were asked about their general life satisfaction, both as subjective levels ("How dissatisfied or satisfied are you with your life overall?" rated from 1 to 7) and as subjective changes, compared with the previous year ("Would you say that you are more satisfied with life, less satisfied or feel about the same as you did a year ago?" response options: more satisfied, less satisfied, about the same). Based on these two questions, we construct three variables that attempt to measure changes in satisfaction:

(i) The difference between the LS levels reported by the same person in two consecutive years, denoted *Δsubjective levels*, or simply *Δlevels*.

(ii) A simplified version of *Δlevels*, where cardinal differences among positive (resp., negative) changes are collapsed, so that the variable takes value -1, 0 or 1 depending on the person declaring a higher, same or lower level of LS the following year;

(iii) The answer to the question about *subjective changes* or, simply, *changes*, which we coded, respectively, -1, 0 or 1, depending on the person declaring to be less satisfied, about the same, or more satisfied than one year ago.

We regress each of these variables on a set of 15 types of life events observable in the BHPS: change of occupation, retiring, starting a new job, buying a house, childbirth, becoming unemployed, starting smoking, becoming widow/widower, divorcing/separating, getting hospitalised, changing accommodation, having an inheritance, winning some lottery money, and a change in personal income. We use a linear estimator and cluster standard errors at the individual level. As shown in the supplementary material, ordered probit models yield very similar results. We look at the R^2 to compare how well each of the three satisfaction measures correlate with these life events. The left-hand panel of figure 1 summarizes the results. The right-hand side bar shows the R^2 (with bootstrapped 95% confidence intervals) when the dependent variable is *subjective changes*, the other two bars represent the R^2 when the dependent variable is *Δlevels*.

While this set of life events poorly predicts *Δlevels* (both in its original and its trichotomized form), they do explain more than 5% of the variance in *subjective changes*. Specifically, moving from *Δlevels* to *subjective changes* yields more than an order of magnitude improvement in the amount of explained variance.

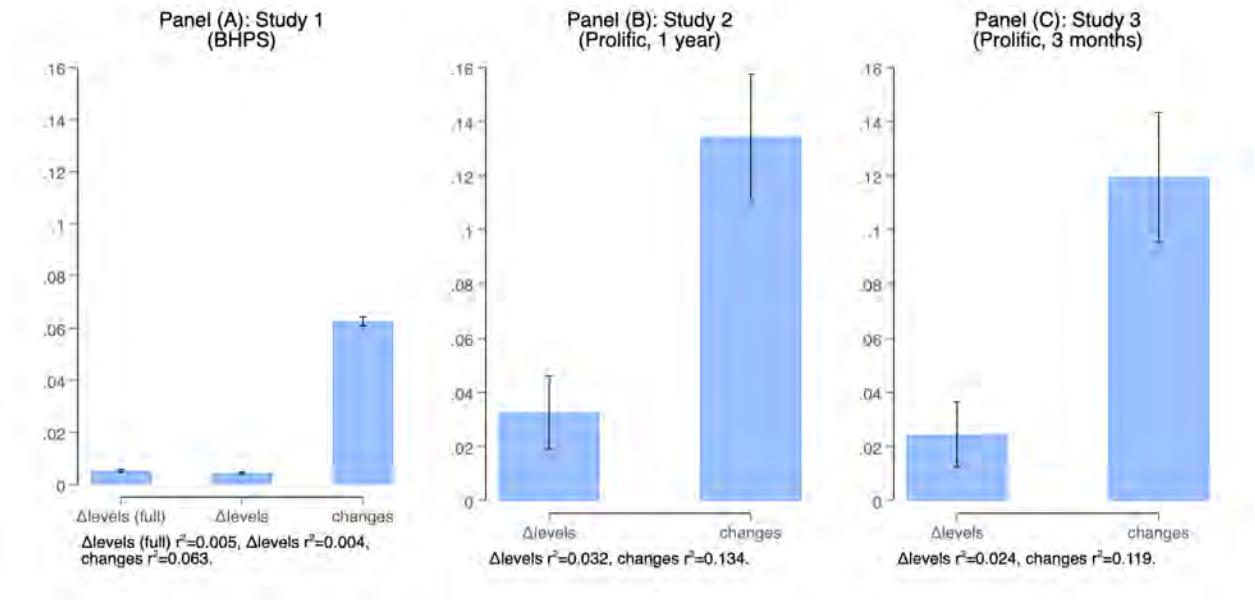

Figure 1: Subjective changes and objective events: life in general. The vertical axis shows the R^2 from OLS regressions of ΔLS or of subjective changes on objective life events. Across all studies, subjective changes are explained much better by life events.

Income represents a variable of particular interest. This is not only because the question "can money buy happiness?" is still a hotly debated topic (Killingsworth et al., 2023; Buttrick and Oishi, 2023), but also because the impact of a money transfer is a standard benchmark for assessing the cost-effectiveness of an intervention (Frijters and Krekel, 2021; McGuire et al., 2022). Figure 2 shows the average income change among those who report a higher, lower or similar LS compared to the year before, according to *Δlevels* (panel A) or *subjective changes* (panel B). The figure suggests a positive relationship between changes in income and *Δlevels*, and this relationship is confirmed when looking at subjective changes. Those who feel worse off today have experienced, on average, no change in (real) income, while those who feel better off have experienced, on average, a £100 monthly increase. Those who feel 'about the same' fall in-between, with a £50 monthly increase. The much steeper slope of the line in the right panel is indicative of a substantially stronger association between income and *subjective changes* compared to *Δlevels*.

Study 2

Although the analysis of the BHPS provides encouraging results on the potential merits of *subjective changes*, the amount of information in this dataset is limited. First, the response categories for the question about *changes* provide only ordinal information about people feeling either better or worse. It would be useful to know more about the degree of change. This would allow us to distinguish, for instance, between people who feel somewhat better off or much better off. Second, *subjective changes* can be applied in specific life domains, like job or financial satisfaction. It is useful to learn

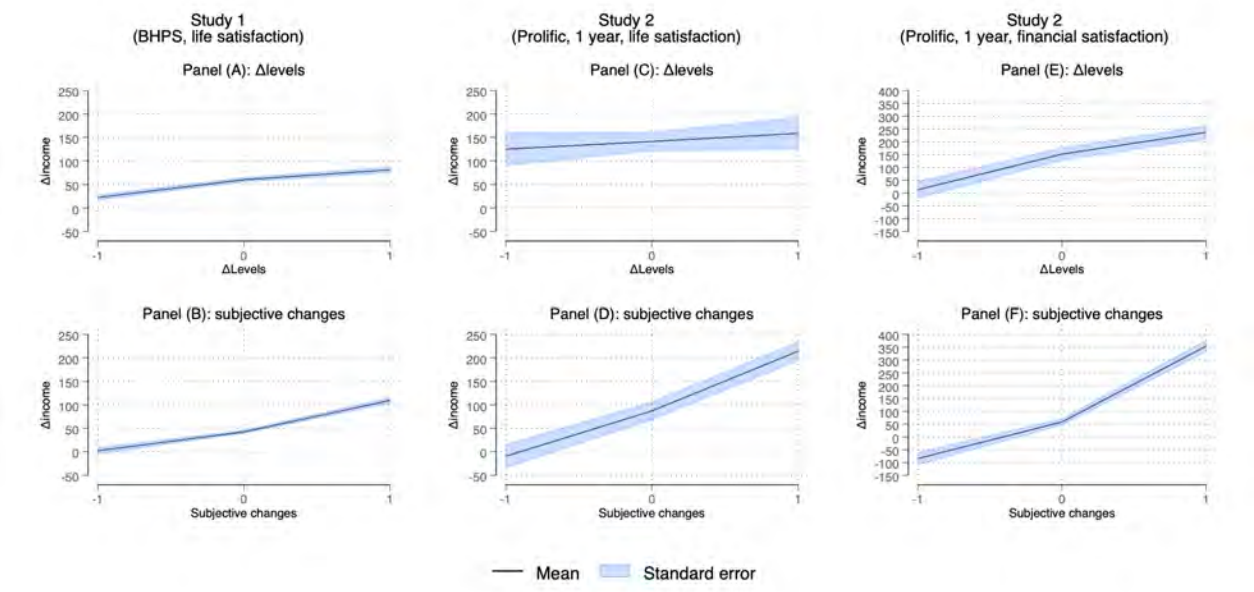

Figure 2: Subjective changes and income. Each panel shows average income changes across different levels of ΔLS and for different levels of subjective changes. Panels A-D use life satisfaction data, while Panels E-F use Financial Satisfaction data. For both ΔLS and subjective changes, the relationship between income changes and changes in satisfaction are as expected. However, the relationship is more pronounced and steeper for subjective changes.

how well directly asking about changes performs in those domains.

To make progress, we collected panel data on Prolific.co (Palan and Schitter, 2018). Initially, information from 1,502 UK residents were collected. Of these, 1,006 completed a second round of data collection (yielding 2,012 observations; attrition 33%). We interviewed them at 12-month distance and ask about (i) LS levels, using the same 7-point scale and wording as the BHPS; and (ii) subjective changes, using the following question "Compared to twelve months ago, how satisfied with your life are you nowadays?". For the latter question, we also used a 7-point scale, ranging from -3 (I'm much less satisfied today) to +3 (I'm much more satisfied today). We also asked similar questions about levels and changes in satisfaction in five life domains: health, income, housing, job and romantic life. Finally, we asked about a much larger set of life events than are available in the BHPS (see SI table S11). To avoid priming respondents, our satisfaction questions were always asked *before* our questions about objective life events.

We run a similar analysis to the one in Study 1, and regress either Δ*levels* or *subjective changes* on the set of observed objective life events (30 variables). The central panel of figure 1 summarizes the results. Like in Study 1, subjective changes clearly outperform changes in subjective levels. Specifically, the recorded life events explain about four times more of the between-variance of subjective changes, compared to Δ*levels*.

In panels C and D of figure 2, we replicate the analysis of Study 1 on money, and compare

the average income change among those who report a lower, equal, or higher LS on either *Δlevels* (panel C) or *subjective changes* (panel D). Subjective changes in life satisfaction correlate strongly with income changes. In contrast, the relationship between *Δlevels* and income is much flatter and somewhat weaker than in the BHPS. In our online panel, we also have information about subjective levels and subjective changes in financial satisfaction. Answers to these questions should be expected to depend on income in a particularly pronounced way. They do. Panels E and F of figure 2 report the results for *Δlevels* and *subjective changes* in financial satisfaction, respectively. Those who report to be less satisfied with their income today than twelve months ago are earning less today (-£80 monthly, on average), while those who report to be more satisfied with their income are earning more (+£350 monthly). These relationships also hold, but are substantially weaker, when partitioning the sample according to *Δlevels*. Although there is little surprise in the fact that financial satisfaction increases with real income, this exercise is a clear empirical proof-of-concept of the validity of subjective changes in a controlled context where little other than income should matter.

Figure 3, panels A-E, look at the validity of satisfaction with life domains in a more complete way. Each of the five panels A-E consider variations in satisfaction in a specific domain: satisfaction with health, with income, with job, with housing and with romantic life. In each figure, the left-hand bar represents the R^2 associated with a regression of *Δlevels* on the occurrence of the 30 recorded life events. The right-hand bar displays the equivalent for *subjective changes*. In three out of the five domains (health, income and job) *subjective changes* are clearly better predicted by life events than *Δlevels*. In the remaining two domains (housing and romantic life) the difference is more marginal, but always favours *subjective changes*. Overall, these results suggest a relative advantage of *subjective changes* in measuring variations of satisfaction over time within most domains of life, and not only for life in general.

Study 3

The results from Study 2 confirm that *subjective changes* co-move with what is going on in people's lives, over and above what *subjective levels* manage to capture. Both Study 1 and 2 focus on variations over a relatively long period, one year. But in some cases the interest is in shorter time horizons. We therefore conducted a third study to learn whether *subjective changes* also perform well over a shorter – three-month – period.

Data collection followed a similar protocol to Study 2, where UK residents were interviewed online on Prolific. Crucially, the same people were re-interviewed up to four times, in quarterly waves. On top of questions about their level of life satisfaction in general they were also asked: "Compared to *three months ago*, how satisfied are you with your life?" [-3 (I'm much less satisfied today); +3 (I'm much more satisfied today)]. Similarly so for the five life domains. In Wave 1, we invited 500 participants and a replacement sample was introduced in Wave 3. After exclusion of those who failed an attention check, our final sample contains 1,734 observations. The shorter time span reduces between-wave attrition considerably compared to Study 2 (from 33% to 14%).

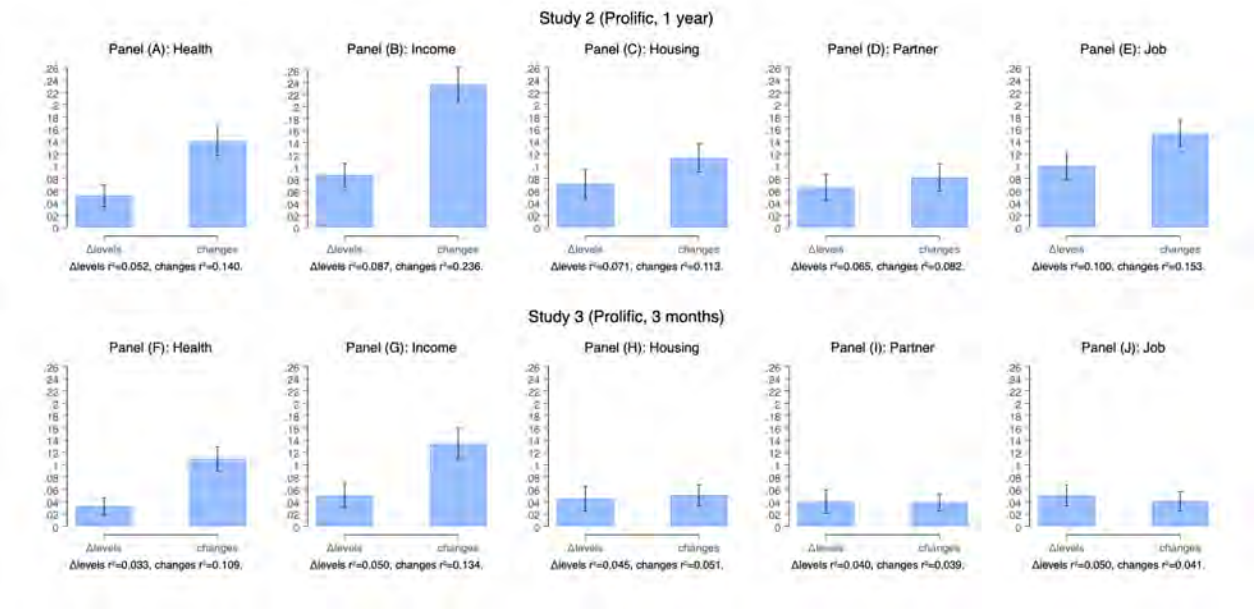

Figure 3: Subjective changes and objective events: life domains. In each panel, the vertical axis shows the R^2 from OLS regressions of ΔLS or of subjective changes on objective life events for different life domains. In most domains, subjective changes are explained better by life events than ΔLS.

Figure 1, panel C, replicates the previous analyses on the new sample. Once again, *subjective changes* in LS outperform *subjective levels* in terms of their sensitivity to life events. As for satisfaction with life domains, figure 3, panels F-J, replicate the analysis of panels A-E. While the new analysis confirms the superiority of *subjective changes* for health and income, we observe little difference between the two satisfaction measures for the remaining three domains. Overall, we observe smaller R^2 values in this 3-months sample. This is to be expected, given that many of the life events we ask about are relatively rare (see SI table S12 for their rate of occurrence). Finally, supplementary Figure S1 shows that subjective changes co-move with income changes over and above Δ*levels*, thus replicating the results of fig.2 over a 3-month span.

Psychometric tests

The evidence reported so far indicates that *subjective changes* can help track the wellbeing effect of an event, over and beyond satisfaction levels. This step, although crucial, is probably not sufficient to convince survey makers to add this question to their wellbeing module, and rightfully so. Indeed, a good measure should prove, at least, that:

(H1) on top of correlating well with life events, it does *not* correlate well with what is *not* meant to capture (*discriminant validity*); and

(H2) it is answered consistently over time, so that a person who is interviewed twice in short succession gives broadly consistent answers (*test-retest reliability*).

We address these two hypotheses by inserting some specific questions during our data collection for Studies 2 and 3. These questions and the statistical tests to analyse them were pre-registered.

At the very beginning of each online survey, we asked participants "So far, would you describe your day as typical / particularly good / particularly bad?". This item (inspired by the PEW Global Attitude Survey, PEW, 2019) was meant to capture what life satisfaction is not meant to, i.e., the mood of the day. Notably, some earlier work famously showed that life satisfaction can be affected by irrelevant events, like a rainy day (Schwarz and Clore, 1983) or the outcome of a football game (Schwarz et al., 1987). However, ideally, these correlations should be as close to zero as possible. When we look at the correlation between the mood of the day (defined as above) and the responses to *subjective changes*, we estimate it to be 20-30% smaller than the correlation with the answers to LS levels (12% vs 17% in Study 2; 19% vs 24% in Study 3).

In Study 3, we asked participants the same questions about general life satisfaction twice, at the beginning and at the end of the survey. In the space of a few minutes, there was little reason for life satisfaction to change, and, indeed both LS levels and changes are very stable: the test-retest correlation is 0.87 for levels and 0.81 for changes (for reference, a 0.80 correlation is typically considered as an excellent test-retest reliability, (Wood and Boyce, 2017)). Figure 4, panel A, offers a visual illustration. The x-axis refers to the answers given at the beginning of the survey (the *test*), and the y-axis to those given at the end of the survey (the *retest*). In the case of perfect test-retest reliability, these coordinates should generate a straight diagonal connecting the south-west and the north-east angles of the figure. Results are close to this benchmark.

Throughout the data collection, we also gathered additional information to assess the quality of subjective changes in several other respects. We checked that: (H3) people feel able to answer the question on subjective changes reliably; (H4) the scale for subjective changes is used in an approximately linear fashion; (H5) subjective changes perform relatively better than Δ*levels* in post-dicting unambiguously positive or negative life events; (H6) over time, respondents are ordinally consistent in their assessments of subjective changes; (H7) the subjective changes scale is used in a similar way by different people.

Figure 4, panels B and C, reports the tests of hypotheses (H3) and (H4), while (H5)-(H7) are discussed in the Supplementary Materials. The results discussed there are supportive of these hypotheses.

Hypothesis (H3), inspired by some recent work on cognitive uncertainty (Enke and Graeber, 2023), was tested based on data collected in Study 2. After answering the question on general life satisfaction (either levels or changes), respondents were prompted to report the intervals within which they felt *sure* about their answer. For instance, if someone chose "3" on the 1-7 life satisfaction scale, they could subsequently report that they were *sure* that their answer fell in the interval of, say, [2,3] or [2,4], or anything up to [1,7]. Similarly so for subjective changes. Figure 4, panel B, visualizes the average size of these cognitive uncertainty intervals, calculated for each response category of the questions on subjective LS changes and levels. We observe that the shaded area associated with *subjective changes* is almost always contained within the one associated with *subjective levels*. This indicates that people feel at least as sure about their answer to the former than to the latter.

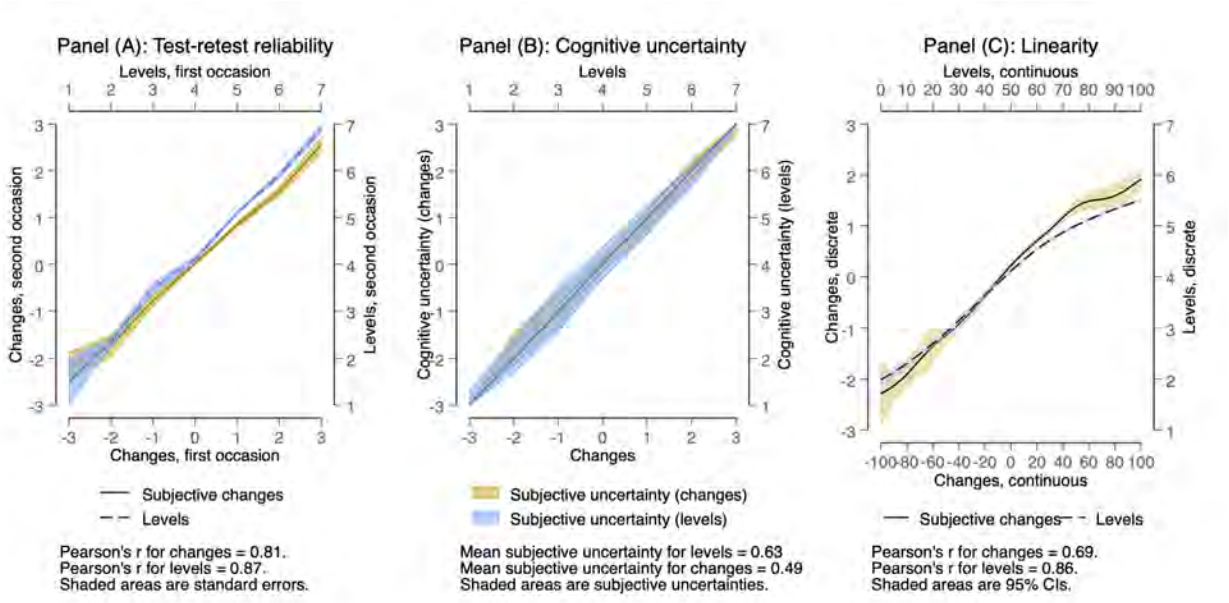

Figure 4: Psychometric tests. Panel (A) provides evidence on test-retest reliability for subjective changes and for levels of satisfaction. The graphic shows, for both variable types, the mean value on the second measurement occasion conditional on each value at the first measurement occasion. Panel (B) provides on congnitive uncertainty. The graphic shows the mean degree of uncertainty for each value of levels of LS or subjective changes. Panel (C) shows Loess smoothing lines for the relationship between discretely and continuously measured satisfaction, both in terms of levels and in terms of subjective changes. See the subsection on 'Psychometric tests' of the main text for further detail on each panel.

Hypothesis (H4) is of practical importance as linearity enables to use *subjective changes* data as cardinal, and to interpret simple statistics (like the sample mean) without the need of further assumptions. Our linearity test, based on Studer (2012) and Kaiser and Vendrik (2022), relies on the answers given on a discrete 7-point scale (at the beginning of the survey) and on a quasi-continuous 0-to-100 scale (at the end of the survey). The questions were collected from the same respondents, during the same survey, in Study 2, wave 2 (N=1,006). Figure 4, panel C, plots the answers of subjective changes and subjective levels given on the discrete scale (y-axis) and the continuous scale (x-axis). In the graph, the limited convexity of the lines indicate that the satisfaction scales are used as approximately linear, with a small non-linearity around the ends of the scale.

Discussion

Knowing if people are better off (or worse off) after a change in their life circumstances can help guide policies, individuals, and business towards more desirable decision-making. This paper argues that directly asking about subjective changes, i.e., asking people if they are more or less satisfied with their life (or their job or their health) compared to some time ago, is an effective tool to build

this knowledge.

Some readers might argue that the higher R^2 in our regressions of *subjective changes* could derive from people thinking about what changed in their lives, and then inferring their feelings from that. We find this conjecture perfectly reasonable. However, similar arguments could be made for the assessment of LS levels: people might think of objective aspects of their lives and respond according to how they "should" feel about them. In both cases, the best way of minimizing this bias is probably, as we did in this study, to ask about the subjective constructs *before* the objective events.

Another potential concern comes from recall errors. If respondents fail to recall the evolution of their wellbeing correctly, then *subjective changes* could be misleading while the longitudinal variations in LS levels (which tend to be flatter) yields the right result. Empirically, all the unambiguously positive and negative events that we consider correlate with *subjective changes* in the expected direction (see Supplementary Materials Tables S13-S26). Therefore, although recall errors may certainly occur, they seem unlikely to invert the sign of subjective changes.

We do not suggest replacing the question about *subjective levels* with one about *subjective changes* in surveys. The two measures should be intended as complements, rather than as substitutes. Nevertheless, this study has some limitations that should be addressed in further research. First, Studies 2 and 3 collected data on life satisfaction from a 1-7 scale, in order to increase comparability with BHPS data. However, both shorter and longer scales are also often used, and it would be useful to understand whether our results replicate for such scales. Second, all our samples come from the population of British adults. Extrapolating our results to other societies or to non-adult populations deserves caution. Third and last, in future research it will be important to assess the validity of subjective changes in the context of randomized control trials of wellbeing-enhancing interventions.

When *subjective changes* and Δ*levels* disagree, there seems to be good reasons to privilege the former (a direct subjective measure) to the latter (a constructed index). Doing so is most in line with the core principle of subjective wellbeing research to be guided by respondents' *own* evaluations. Beyond matters of principle, we hope that this study provided evidence to show that subjective changes are a methodologically sound approach to measuring wellbeing over time.

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Supplementary Materials

A1: Sample and procedures

In all surveys, participants were UK residents recruited via Prolific. 1,502 participants were interviewed in February 2023. They were re-invited for a survey one year later, in February 2024 (Study 2), and a subsample of 500 was interviewed also every three months, i.e., in May, August and November 2023 (Study 3). In August 2023, a replacement sample of 140 individuals was added to attenuate the effect of attrition.

Tables A1 and A2 report the decomposition of the sample based on attrition (32% after one year in Study 2 and about 14% every three months in Study 3) and exclusions due to unmatched ids or failed attention checks.

After approving the consent form, participants were presented with a list of questions, summarized in Tables A3 and A4.

Table A1: Study 2: Details of attrition and exclusions

Wave 1	1,502
Final sample (Wave 2)	1,006
Attrition	479
Unmatched	4
Failed attention check	13

Table A2: Study 3: Details of attrition and exclusions

Wave 1	500
Wave 2	428
Wave 3	500
Wave 4	432
Total participants	640
Total observations	1,734
Cumulative attrition	208
Average inter-wave attrition	69
Replacement sample (W3)	140
Unmatched	12
Failed attention check	10

A2: Variables measured and descriptive statistics

Table A3: Study 2 - Variables measured

Question wording	Wave 1	Wave 2
Mood of the day	✓	✓
Subjective levels	✓	✓
Subjective changes	✓	✓
Life events	✓	✓
Income variations	✓	✓
Vignettes	✓	
Test-retest levels (0-100)	✓	✓
Test-retest changes (-100; +100)		✓

Table A4: Study 3 - Variables measured

[!h]

Question wording	Wave 1	Wave 2	Wave 3	Wave 4
Mood of the day	✓	✓	✓	✓
Subjective levels	✓	✓	✓	✓
Subjective changes	✓	✓	✓	✓
Life events	✓	✓	✓	✓
Income variations	✓	✓	✓	✓
Vignettes	✓	✓	✓	
Test-retest levels (1-7)				✓
Test-retest changes (-3;+3)				✓

Table A5: Study 2 - Wording of the satisfaction variables

Question wording	Wave 1	Wave 2
To begin, how would you describe your day today — has it been a typical day, a particularly good day, or a particularly bad day?	✓	✓
All things considered, how satisfied are you with your life nowadays? [1;7]	✓	✓
Please tick the number which you feel best describes how dissatisfied or satisfied you are with the following aspects of your life:		
your health, [1;7]	✓	✓
your personal income, [1;7]	✓	✓
your job situation, [1;7]	✓	✓
your house/flat, [1;7]	✓	✓
The relationship with your partner/ your life as a single [1;7]	✓	✓
Compared to one year ago, how satisfied with your life are you nowadays? [-3;+3]	✓	✓
And with respect to two years ago? [-3;+3]	✓	✓
Compared to one year ago, how dissatisfied or satisfied are you with the following aspects of your life nowadays?		
your health, [-3;+3]	✓	✓
your personal income, [-3;+3]	✓	✓
your job situation, [-3;+3]	✓	✓
your house/flat, [-3;+3]	✓	✓
The relationship with your partner/ your life as a single [-3;+3]	✓	✓
And compared to two years ago?		
your health, [-3;+3]	✓	✓
your personal income, [-3;+3]	✓	✓
your job situation, [-3;+3]	✓	✓
your house/flat, [-3;+3]	✓	✓
The relationship with your partner/ your life as a single [-3;+3]	✓	✓
At the beginning of the questionnaire, we asked you about your current life. We would like you to consider the same question again and give your answer: how satisfied are you with your life, all things considered? Currently, my life satisfaction is: [0;100]	✓	✓
How certain are you that your life satisfaction is exactly xxx/100? I am certain that my life satisfaction is actually: At the very least [0;100]; At the very most [0;100]	✓	✓
Now, please consider how your satisfaction has changed: Compared to one year ago, how satisfied with your life are you nowadays? Compared to one year ago, my satisfaction with life has improved/decreased by: [-100;+100]		✓
How certain are you that your life satisfaction is xxx points higher than one year ago? I am certain that my life satisfaction actually increased by: At the very least [-100;+100]; At the very most [-100;+100]		✓

Table A6: Study 3 - Wording of the satisfaction variables

Question wording	Wave 1	Wave 2	Wave 3	Wave 4
To begin, how would you describe your day today — has it been a typical day, a particularly good day, or a particularly bad day?	✓	✓	✓	✓
All things considered, how satisfied are you with your life nowadays? [1;7]	✓	✓	✓	✓
Please tick the number which you feel best describes how dissatisfied or satisfied you are with the following aspects of your life:				
your health, [1;7]	✓	✓	✓	✓
your personal income, [1;7]	✓	✓	✓	✓
your job situation, [1;7]	✓	✓	✓	✓
your house/flat, [1;7]	✓	✓	✓	✓
The relationship with your partner/ your life as a single [1;7]	✓	✓	✓	✓
Compared to three months ago, how satisfied with your life are you nowadays? [-3;+3]	✓	✓	✓	✓
And with respect to six months ago? [-3;+3]	✓	✓	✓	✓
Compared to three months ago, how dissatisfied or satisfied are you with the following aspects of your life nowadays?				
your health, [-3;+3]	✓	✓	✓	✓
your personal income, [-3;+3]	✓	✓	✓	✓
your job situation, [-3;+3]	✓	✓	✓	✓
your house/flat, [-3;+3]	✓	✓	✓	✓
The relationship with your partner/ your life as a single [-3;+3]	✓	✓	✓	✓
And compared to two years ago?				
your health, [-3;+3]	✓	✓	✓	✓
your personal income, [-3;+3]	✓	✓	✓	✓
your job situation, [-3;+3]	✓	✓	✓	✓
your house/flat, [-3;+3]	✓	✓	✓	✓
The relationship with your partner/ your life as a single [-3;+3]	✓	✓	✓	✓
At the beginning of the questionnaire, we asked you about your current life. We would like you to consider the same question again and give your answer: how satisfied are you with your life, all things considered? Currently, my life satisfaction is: [1;7]				✓
We are now interested in how sure you are about your life satisfaction. Please, answer the same question again, but this time you can select more than one option if you want. For instance, if you are unsure if xxx, yyy or zzz is the most accurate answer, you can select them all. So how satisfied are you with your life, all things considered? [1;7]				✓
At the beginning of the questionnaire, we asked you about your current life compared to three months ago. We would like you to consider the same question again and give your answer: Compared to three months ago, how satisfied with your life are you nowadays? [-3;+3]				✓
We are now interested in how sure you are about these changes. Please, answer the same question again, but this time you can select more than one option if you want. For instance, if you are unsure if -3, -2 or -1 is the most accurate answer, you can select them all. So compared to three months ago, how satisfied with your life are you nowadays? [-3;+3]				✓

Table A7: Descriptive statistics for satisfaction variables in Study 1 (BHPS data)

	count	mean	sd	min	max
Life Satisfaction (Levels)	152276	5.223	1.294	1	7
Life Satisfaction (Delta levels)	111884	-0.023	1.169	-6	6
Life Satisfaction (Subjective changes)	151482	0.118	0.643	-1	1

Table A8: Descriptive statistics for satisfaction variables in Study 2 (1-year Prolific data)

	count	mean	sd	min	max
Life Satisfaction (Levels)	2012	4.551	1.276	1	7
Life Satisfaction (Delta levels)	1006	-0.019	1.024	-5	4
Life Satisfaction (Subjective changes)	1683	0.480	1.264	-3	3
Health Satisfaction (Levels)	2012	4.603	1.453	1	7
Health Satisfaction (Delta levels)	1006	-0.039	1.211	-5	5
Health Satisfaction (Subjective changes)	1683	-0.063	1.253	-3	3
Income Satisfaction (Levels)	2012	3.984	1.570	1	7
Income Satisfaction (Delta levels)	1006	0.112	1.287	-5	5
Income Satisfaction (Subjective changes)	1683	0.077	1.379	-3	3
Housing Satisfaction (Levels)	2012	4.764	1.513	1	7
Housing Satisfaction (Delta levels)	1006	-0.006	1.290	-5	6
Housing Satisfaction (Subjective changes)	1683	0.195	1.336	-3	3
Partner Satisfaction (Levels)	2012	5.113	1.636	1	7
Partner Satisfaction (Delta levels)	1006	0.010	1.263	-5	6
Partner Satisfaction (Subjective changes)	2012	0.203	1.361	-3	3
Job Satisfaction (Levels)	2012	4.472	1.645	1	7
Job Satisfaction (Delta levels)	1006	0.053	1.485	-5	6
Job Satisfaction (Subjective changes)	1683	0.063	1.432	-3	3

Table A9: Descriptive statistics for satisfaction variables in Study 3 (3-months Prolific data)

	count	mean	sd	min	max
Life Satisfaction (Levels)	1734	4.599	1.263	1	7
Life Satisfaction (Delta levels)	1194	0.010	0.922	-4	4
Life Satisfaction (Subjective changes)	1734	0.339	1.108	-3	3
Health Satisfaction (Levels)	1734	4.606	1.411	1	7
Health Satisfaction (Delta levels)	1194	-0.023	0.973	-4	4
Health Satisfaction (Subjective changes)	1734	-0.098	1.120	-3	3
Income Satisfaction (Levels)	1734	4.012	1.554	1	7
Income Satisfaction (Delta levels)	1194	0.008	1.121	-5	5
Income Satisfaction (Subjective changes)	1734	-0.094	1.206	-3	3
Housing Satisfaction (Levels)	1734	4.792	1.486	1	7
Housing Satisfaction (Delta levels)	1194	-0.026	1.135	-4	6
Housing Satisfaction (Subjective changes)	1734	0.075	1.122	-3	3
Partner Satisfaction (Levels)	1734	5.210	1.584	1	7
Partner Satisfaction (Delta levels)	1194	-0.002	1.196	-6	6
Partner Satisfaction (Subjective changes)	1734	0.123	1.176	-3	3
Job Satisfaction (Levels)	1734	4.480	1.683	1	7
Job Satisfaction (Delta levels)	1194	0.009	1.297	-5	6
Job Satisfaction (Subjective changes)	1734	-0.116	1.220	-3	3

Table A10: Descriptive statistics for life events in Study 1 (BHPS data)

	count	mean	sd	min	max
Income change	184795	49.838	1082.060	-22910	23328
New health diagnosis	227948	0.267	0.442	0	1
Hospitalized	227812	0.108	0.311	0	1
Quit job	227948	0.114	0.318	0	1
Started job	227960	0.110	0.313	0	1
Promoted	227948	0.028	0.165	0	1
Fired/made redundant	227948	0.023	0.150	0	1
Become unemployed	227960	0.010	0.097	0	1
Retired	227960	0.166	0.372	0	1
Bought house	227960	0.016	0.127	0	1
New person in household	193487	0.069	0.254	0	1
Moved dwelling	209773	0.115	0.318	0	1
Childbirth	227948	0.035	0.184	0	1
New partner	193363	0.020	0.140	0	1
Separated from partner	227960	0.001	0.031	0	1
Death of partner	227960	0.004	0.060	0	1

Table A11: Descriptive statistics for life events in Study 2 (1-year Prolific data)

	count	mean	sd	min	max
Income change	2012	130.840	509.030	-3000	3000
New health diagnosis	1679	0.122	0.327	0	1
Hospitalized	1683	0.049	0.217	0	1
Injury	1683	0.056	0.231	0	1
Started therapy	1683	0.045	0.208	0	1
Recovered from illness	1683	0.121	0.326	0	1
Other health events	1683	0.140	0.347	0	1
Quit job	1683	0.075	0.263	0	1
Started job	1683	0.158	0.365	0	1
Promoted	1683	0.100	0.301	0	1
Fired/made redundant	1683	0.023	0.149	0	1
Retired	1683	0.008	0.091	0	1
Other job events	1683	0.102	0.303	0	1
Incurred debt	1683	0.147	0.354	0	1
Paid off debt	1683	0.175	0.380	0	1
Other financial event	1683	0.151	0.358	0	1
Bought house	1683	0.057	0.232	0	1
Moved dwelling	1683	0.061	0.239	0	1
New person in household	1683	0.067	0.249	0	1
New pet	1683	0.097	0.296	0	1
Other housing event	1683	0.072	0.258	0	1
Took a holiday	1683	0.169	0.375	0	1
Childbirth	1683	0.033	0.178	0	1
Separated from partner	1683	0.045	0.206	0	1
New partner	1683	0.040	0.197	0	1
Other romantic event	1683	0.053	0.224	0	1
Death of close person	1683	0.173	0.379	0	1
Injury of close person	1683	0.162	0.368	0	1
Stopped contact to close person	1683	0.131	0.338	0	1
New close person	1683	0.125	0.331	0	1
Other personal event	1683	0.120	0.325	0	1

Table A12: Descriptive statistics for life events in Study 3 (3-months Prolific data)

	count	mean	sd	min	max
Income change	1734	48.356	389.162	-3000	3000
New health diagnosis	1731	0.084	0.278	0	1
Hospitalized	1734	0.033	0.178	0	1
Injury	1734	0.037	0.189	0	1
Started therapy	1734	0.030	0.171	0	1
Recovered from illness	1734	0.076	0.265	0	1
Other health events	1734	0.082	0.275	0	1
Quit job	1734	0.036	0.186	0	1
Started job	1734	0.057	0.232	0	1
Promoted	1734	0.041	0.198	0	1
Fired/made redundant	1734	0.012	0.109	0	1
Retired	1734	0.010	0.101	0	1
Other job events	1734	0.063	0.244	0	1
Incurred debt	1734	0.095	0.293	0	1
Paid off debt	1734	0.119	0.324	0	1
Other financial event	1734	0.106	0.307	0	1
Bought house	1734	0.021	0.145	0	1
Moved dwelling	1734	0.022	0.148	0	1
New person in household	1734	0.025	0.157	0	1
New pet	1734	0.050	0.217	0	1
Other housing event	1734	0.037	0.189	0	1
Took a holiday	1734	0.103	0.304	0	1
Childbirth	1734	0.015	0.122	0	1
Separated from partner	1734	0.018	0.135	0	1
New partner	1734	0.009	0.096	0	1
Other romantic event	1734	0.028	0.166	0	1
Death of close person	1734	0.084	0.278	0	1
Injury of close person	1734	0.081	0.273	0	1
Stopped contact to close person	1734	0.062	0.242	0	1
New close person	1734	0.046	0.210	0	1
Other personal event	1734	0.071	0.257	0	1

A3: Regression analysis using linear models

This section reports the estimated coefficients and other relevant statistics of the linear regressions underlying figures 1 and 3. It is worth noting that the aim of these regressions was not to give a precise estimate of the effect of an event on wellbeing, but rather to assess the ability of a set of events in predicting wellbeing changes (as measured by the R squared). Below, we interpret the coefficients without any correction for multiple hypotheses testing. In all the tables, 95% confidence intervals of the point estimates are reported in brackets. Standard errors are clustered at the individual level. All regressions include a constant. Symbols *, **, and *** are used to indicate $p < 0.01$, $p < 0.05$ and $p < 0.001$.

Study 1. Table A13 reports the output of linear regressions of ΔLS (columns (1) and (2)) and of subjective changes (column (3)) on a set of 15 life events as well as income changes (expressed in thousands of pounds). Standard errors are clustered at the individual level. Most of the estimated coefficients associated with life events carry the expected sign, irrespective of which measure - ΔLS or subjective changes – is used. The two measures unanimously agree about the impact of the most important events, i.e., those that bring about a variation of at least one-fourth of a standard deviation in the wellbeing variable. On the negative side, the major impact comes from the death of a spouse and the start of unemployment; on the positive side, it comes from finding a new partner or changing the place where one lives; finally, large income raises or drops can have important wellbeing effects in the respective directions.

Despite this general agreement, some life events are estimated to be significantly associated only with subjective changes (and not with ΔLS), in line with the hypothesis that the latter is a relatively more sensitive measure. Some of these associations are hardly surprising, like the one suggesting that those who are fired endure a negative change. In some case, however, the relationship is not trivial. According to subjective changes, retirement is significantly associated with a decline in wellbeing, while quitting one's own job and the birth of a child are associated with positive changes. These empirical associations are informative and are not detected when using ΔLS instead.

Studies 2 and 3. Table A14 reports the output of the corresponding linear regressions estimated on the samples of Studies 2 and 3. Columns (1) and (2) are estimated on the 1,003 participants who answered to all questions in Waves 1 and 2, while columns (3) and (4) are estimated on the 1,191 cases where participants replied to two waves in a row. The size of the samples is two orders of magnitude smaller when compared to BHPS. As a consequence, many events are observed rarely and the size of the minimum detectable effect diminishes along with the power of the statistical tests. This is reflected in the smaller number of significant coefficients in table A14. The only significant predictor of subjective changes in both studies is the size of income variations, while several variables (paying off a debt, buying a house, moving dwelling, childbirth and having a new close person) are estimated as beneficial only in one of the two studies. Reassuringly, we do not find any counter-intuitive coefficient signs among the unambiguously positive/negative events.

Tables A15-A19 report the results of the same type of exercise run on satisfaction in different

domains, i.e., the linear regressions underlying figure 3. Before discussing the results, it is worth reminding that, in the surveys, life events were asked *after* the questions about subjective levels and changes, so that respondents were not "primed" to report feelings consistent with life circumstances.

The tables offer three main takeaways: (i) over a one-year span (Study 2) between-people variations of subjective changes in the domains of health, income, job and housing correlate well with concurrent events in that domain, over and above Δlevels; (ii) subjective changes in the domain of romantic life do not correlate with relevant events substantially better than Δlevels; (iii) both Δlevels and subjective changes are better at capturing correlations with life events over longer (one year, Study 2) than shorter (three months, Study 3) time spans.

The correlation between events and subjective changes is especially apparent in table A15 which focuses on health satisfaction. Subjective changes are predicted well by the occurrence of new diagnoses, hospitalisation or other important health changes. The coefficients associated with these events are considerable, between 0.4 and 0.6. This means that subjective changes can detect a deterioration of health satisfaction in one out of two people reporting an important health event. This represents an important improvement compared to Δlevels, as the comparisons of column (1) vs (2) and column (3) vs (4), in table A15 shows. Similarly, over a one-year span, job satisfaction and income satisfaction are predicted not only by income variations, but also other relevant professional and financial personal events (see tables A16 and A19). Point estimates of the coefficients are either comparable (e.g., promotions) or larger (e.g., debts) when using subjective changes. Buying a house, moving dwelling and having a new person in the house are all significantly associated with subjective changes in housing satisfaction, while Δlevels are significantly correlated only with the former (see A17). Finding a new partner or separating from the previous partner have about one-scale point effects on satisfaction, regardless of which regressand (changes or levels) is considered (see A18). In all the domain, over a three month-span, most coefficients do not reach the conventional p-value threshold of 5% (see tables A15-A19, columns (3) and (4))

These results suggest that the effectiveness of subjective changes is sensitive to the fact of observing changes in life circumstances for a substantial portion of the population.

Table A13: Regression table corresponding to Panel (A) of Figure 1.

	(1) Delta levels (full)	(2) Delta levels	(3) Subjective changes
Retired	0.005	0.005	-0.089***
	[-0.008,0.017]	[-0.003,0.012]	[-0.100,-0.078]
Started job	0.103***	0.066***	0.132***
	[0.071,0.134]	[0.046,0.085]	[0.113,0.150]
Bought house	-0.025	-0.017	0.066***
	[-0.082,0.031]	[-0.052,0.017]	[0.035,0.097]
Childbirth	-0.030	-0.032*	0.248***
	[-0.070,0.010]	[-0.057,-0.007]	[0.224,0.272]
Become unemployed	-0.302***	-0.153***	-0.285***
	[-0.390,-0.214]	[-0.201,-0.104]	[-0.334,-0.236]
Death of partner	-0.371***	-0.163***	-0.524***
	[-0.528,-0.213]	[-0.238,-0.088]	[-0.581,-0.467]
Separated from partner	0.076	0.066	-0.041
	[-0.184,0.337]	[-0.097,0.228]	[-0.207,0.124]
Hospitalized	-0.050***	-0.020**	-0.100***
	[-0.075,-0.025]	[-0.034,-0.006]	[-0.114,-0.086]
Income change	0.014***	0.009***	0.008***
	[0.007,0.020]	[0.004,0.013]	[0.005,0.011]
Moved dwelling	0.063***	0.042***	0.207***
	[0.037,0.090]	[0.026,0.058]	[0.191,0.224]
New person in household	-0.009	-0.005	-0.049***
	[-0.039,0.020]	[-0.023,0.013]	[-0.065,-0.033]
New partner	0.178***	0.104***	0.285***
	[0.121,0.235]	[0.069,0.138]	[0.255,0.315]
Promoted	-0.031	-0.023	0.102***
	[-0.072,0.011]	[-0.051,0.005]	[0.074,0.131]
Fired/made redundant	-0.068*	-0.034*	-0.063***
	[-0.123,-0.013]	[-0.068,-0.000]	[-0.097,-0.029]
Quit job	-0.000	0.006	0.093***
	[-0.029,0.028]	[-0.012,0.023]	[0.076,0.111]
New health diagnosis	-0.101***	-0.058***	-0.119***
	[-0.116,-0.086]	[-0.067,-0.049]	[-0.128,-0.110]
Observations	110736	110736	110736
R^2	0.005	0.004	0.063

Table A14: Regression table corresponding to Panels (B) and (C) of Figure 1.

	(1) Delta levels (Study 2)	(2) Subjective changes (Study 2)	(3) Delta levels (Study 3)	(4) Subjective changes (Study 3)
Income change	0.038	0.381***	-0.022	0.272**
	[-0.100,0.176]	[0.213,0.549]	[-0.181,0.137]	[0.085,0.458]
New health diagnosis	-0.038	-0.222	0.052	0.131
	[-0.251,0.174]	[-0.473,0.029]	[-0.169,0.274]	[-0.173,0.434]
Hospitalized	-0.155	0.117	-0.060	-0.083
	[-0.490,0.179]	[-0.238,0.472]	[-0.435,0.314]	[-0.535,0.370]
Injury	-0.224	-0.214	-0.044	-0.528*
	[-0.481,0.032]	[-0.556,0.128]	[-0.492,0.404]	[-0.949,-0.107]
Started therapy	-0.215	-0.164	0.084	0.211
	[-0.576,0.146]	[-0.566,0.237]	[-0.276,0.443]	[-0.239,0.661]
Recovered from illness	-0.013	-0.004	0.009	0.021
	[-0.265,0.238]	[-0.289,0.282]	[-0.211,0.229]	[-0.288,0.329]
Other health events	0.123	-0.166	-0.053	-0.353*
	[-0.104,0.349]	[-0.410,0.078]	[-0.282,0.176]	[-0.652,-0.054]
Quit job	-0.073	0.270	0.176	0.369
	[-0.381,0.236]	[-0.119,0.658]	[-0.123,0.474]	[-0.216,0.954]
Started job	0.246*	0.265	0.184	0.040
	[0.005,0.487]	[-0.010,0.539]	[-0.094,0.461]	[-0.330,0.409]
Promoted	0.035	0.131	-0.058	0.287
	[-0.182,0.253]	[-0.145,0.407]	[-0.335,0.219]	[-0.111,0.685]
Fired/made redundant	-0.033	-0.166	-0.404	-0.556
	[-0.600,0.533]	[-0.789,0.457]	[-0.830,0.023]	[-1.440,0.328]
Retired	-0.003	-0.562	0.193	0.130
	[-0.598,0.593]	[-1.471,0.346]	[-0.168,0.555]	[-0.992,1.252]
Other job events	0.107	0.229	0.111	0.056
	[-0.168,0.382]	[-0.070,0.528]	[-0.133,0.354]	[-0.225,0.338]
Incurred debt	-0.126	-0.297*	-0.039	-0.296*
	[-0.345,0.092]	[-0.548,-0.045]	[-0.227,0.150]	[-0.561,-0.030]
Paid off debt	0.038	0.304**	-0.084	0.162
	[-0.122,0.199]	[0.100,0.509]	[-0.240,0.071]	[-0.082,0.405]
Other financial event	-0.099	-0.004	0.036	0.020
	[-0.333,0.135]	[-0.252,0.243]	[-0.146,0.219]	[-0.229,0.269]
Bought house	0.101	0.421*	0.551***	0.861***
	[-0.212,0.414]	[0.057,0.786]	[0.258,0.843]	[0.420,1.301]
Moved dwelling	0.108	0.365	-0.044	0.954***
	[-0.257,0.473]	[-0.074,0.804]	[-0.439,0.352]	[0.451,1.457]
New person in household	0.070	0.129	-0.175	-0.021
	[-0.244,0.383]	[-0.216,0.474]	[-0.533,0.182]	[-0.456,0.413]
New pet	-0.084	0.116	-0.044	0.169
	[-0.313,0.144]	[-0.141,0.372]	[-0.235,0.147]	[-0.147,0.485]
Other housing event	-0.162	0.203	-0.109	-0.139
	[-0.499,0.175]	[-0.137,0.544]	[-0.396,0.177]	[-0.566,0.288]
Took a holiday	0.062	0.015	0.077	0.217*
	[-0.110,0.234]	[-0.211,0.241]	[-0.087,0.241]	[0.003,0.432]
Childbirth	0.136	0.821***	-0.068	0.592*
	[-0.217,0.489]	[0.416,1.225]	[-0.367,0.232]	[0.068,1.117]
Separated from partner	-0.278	-0.647*	-0.177	-0.326
	[-0.673,0.118]	[-1.158,-0.135]	[-0.790,0.435]	[-1.035,0.384]
New partner	0.395	0.557*	0.332	-0.461
	[-0.030,0.820]	[0.028,1.085]	[-0.405,1.070]	[-1.752,0.831]
Other romantic event	0.079	-0.064	0.036	0.112
	[-0.325,0.484]	[-0.515,0.388]	[-0.390,0.461]	[-0.526,0.749]
Death of close person	-0.069	-0.058	-0.046	-0.121
	[-0.254,0.115]	[-0.272,0.155]	[-0.250,0.158]	[-0.387,0.145]
Injury of close person	-0.078	-0.066	0.019	-0.043
	[-0.259,0.104]	[-0.290,0.157]	[-0.209,0.248]	[-0.328,0.241]
Stopped contact to close person	0.019	-0.300*	0.037	-0.301
	[-0.207,0.245]	[-0.570,-0.030]	[-0.280,0.354]	[-0.638,0.036]
New close person	-0.036	0.156	-0.008	0.614***
	[-0.267,0.195]	[-0.148,0.460]	[-0.237,0.221]	[0.266,0.962]
Other personal event	-0.064	-0.063	-0.249	-0.336*
	[-0.283,0.154]	[-0.330,0.204]	[-0.523,0.025]	[-0.658,-0.014]
Observations	1003	1003	1191	1191
R^2	0.032	0.134	0.024	0.119

Table A15: Regression table corresponding to panels on Health satisfaction in Figure 3.

	(1) Delta levels (Study 2)	(2) Subjective changes (Study 2)	(3) Delta levels (Study 3)	(4) Subjective changes (Study 3)
Income change	-0.000	0.000	0.000	0.000
	[-0.000,0.000]	[-0.000,0.000]	[-0.000,0.000]	[-0.000,0.000]
New health diagnosis	0.017	-0.601***	-0.133	-0.391*
	[-0.266,0.300]	[-0.868,-0.333]	[-0.392,0.126]	[-0.692,-0.091]
Hospitalized	-0.243	-0.458*	0.083	-0.547*
	[-0.704,0.218]	[-0.891,-0.026]	[-0.333,0.500]	[-1.085,-0.009]
Injury	-0.160	-0.096	-0.253	-0.347
	[-0.533,0.214]	[-0.455,0.262]	[-0.635,0.130]	[-0.755,0.060]
Started therapy	-0.210	-0.102	0.198	0.045
	[-0.630,0.210]	[-0.489,0.286]	[-0.247,0.643]	[-0.422,0.513]
Recovered from illness	0.196	0.158	0.096	-0.114
	[-0.112,0.505]	[-0.130,0.446]	[-0.167,0.359]	[-0.432,0.204]
Other health events	-0.432**	-0.661***	-0.209	-0.499**
	[-0.721,-0.143]	[-0.931,-0.390]	[-0.459,0.041]	[-0.821,-0.177]
Quit job	0.098	0.259	0.238	0.320
	[-0.281,0.476]	[-0.083,0.600]	[-0.093,0.568]	[-0.066,0.706]
Started job	-0.070	0.072	-0.135	-0.099
	[-0.348,0.208]	[-0.226,0.371]	[-0.441,0.171]	[-0.432,0.233]
Promoted	-0.060	0.131	-0.041	0.204
	[-0.363,0.242]	[-0.159,0.421]	[-0.320,0.238]	[-0.140,0.548]
Fired/made redundant	0.061	-0.238	-0.117	0.532
	[-0.429,0.551]	[-0.741,0.265]	[-0.540,0.306]	[-0.065,1.129]
Retired	0.158	-0.010	-0.266	-0.081
	[-0.712,1.028]	[-0.790,0.770]	[-0.763,0.231]	[-0.976,0.815]
Other job events	0.283*	0.167	-0.125	0.185
	[0.001,0.565]	[-0.124,0.458]	[-0.331,0.080]	[-0.057,0.427]
Incurred debt	0.066	-0.194	0.040	-0.247*
	[-0.185,0.317]	[-0.452,0.065]	[-0.153,0.234]	[-0.467,-0.028]
Paid off debt	0.219*	0.138	0.094	-0.007
	[0.018,0.419]	[-0.062,0.339]	[-0.097,0.285]	[-0.214,0.200]
Other financial event	0.041	-0.037	0.000	0.171
	[-0.226,0.308]	[-0.270,0.197]	[-0.167,0.168]	[-0.072,0.414]
Bought house	0.074	0.340	0.092	0.046
	[-0.263,0.412]	[-0.072,0.752]	[-0.377,0.560]	[-0.406,0.498]
Moved dwelling	0.017	0.031	-0.056	0.737*
	[-0.304,0.338]	[-0.388,0.450]	[-0.507,0.396]	[0.156,1.317]
New person in household	-0.071	-0.030	0.137	-0.139
	[-0.381,0.239]	[-0.361,0.302]	[-0.264,0.537]	[-0.683,0.405]
New pet	0.229	0.250	0.058	-0.049
	[-0.032,0.490]	[-0.031,0.530]	[-0.200,0.315]	[-0.358,0.259]
Other housing event	-0.547**	0.053	0.044	0.156
	[-0.875,-0.218]	[-0.292,0.399]	[-0.333,0.420]	[-0.192,0.504]
Took a holiday	0.150	0.065	0.043	0.078
	[-0.057,0.357]	[-0.132,0.262]	[-0.145,0.232]	[-0.122,0.278]
Childbirth	0.059	0.362	0.152	-0.159
	[-0.301,0.418]	[-0.077,0.802]	[-0.424,0.728]	[-0.914,0.595]
Separated from partner	-0.128	0.026	-0.668**	0.027
	[-0.594,0.338]	[-0.363,0.415]	[-1.121,-0.215]	[-0.456,0.509]
New partner	-0.027	-0.089	-0.312	-0.051
	[-0.463,0.409]	[-0.546,0.369]	[-1.103,0.479]	[-1.013,0.911]
Other romantic event	0.322	-0.197	0.062	-0.505*
	[-0.047,0.691]	[-0.635,0.241]	[-0.427,0.550]	[-0.951,-0.060]
Death of close person	0.062	0.083	0.104	0.195
	[-0.146,0.270]	[-0.122,0.287]	[-0.109,0.316]	[-0.026,0.415]
Injury of close person	0.046	-0.035	0.073	-0.205
	[-0.137,0.230]	[-0.244,0.174]	[-0.129,0.274]	[-0.456,0.047]
Stopped contact to close person	-0.090	-0.012	-0.050	-0.303
	[-0.365,0.185]	[-0.285,0.261]	[-0.348,0.249]	[-0.635,0.028]
New close person	0.058	0.162	0.351*	-0.051
	[-0.191,0.307]	[-0.097,0.421]	[0.045,0.657]	[-0.431,0.328]
Other personal event	0.057	-0.125	-0.268*	-0.178
	[-0.227,0.342]	[-0.394,0.144]	[-0.515,-0.021]	[-0.415,0.060]
Observations	1003	1003	1191	1191
R^2	0.052	0.140	0.033	0.109

Table A16: Regression table corresponding to panels on Income satisfaction in Figure 3.

	(1) Delta levels (Study 2)	(2) Subjective changes (Study 2)	(3) Delta levels (Study 3)	(4) Subjective changes (Study 3)
Income change	0.000***	0.001***	0.000*	0.001***
	[0.000,0.001]	[0.001,0.001]	[0.000,0.000]	[0.001,0.001]
New health diagnosis	0.226	0.004	0.013	0.108
	[-0.026,0.477]	[-0.250,0.258]	[-0.252,0.279]	[-0.180,0.395]
Hospitalized	-0.177	-0.049	0.189	-0.027
	[-0.527,0.172]	[-0.394,0.297]	[-0.217,0.595]	[-0.507,0.452]
Injury	0.006	-0.306	-0.056	-0.022
	[-0.291,0.302]	[-0.636,0.024]	[-0.419,0.307]	[-0.381,0.338]
Started therapy	0.184	-0.320	0.133	0.250
	[-0.180,0.547]	[-0.694,0.053]	[-0.165,0.430]	[-0.158,0.658]
Recovered from illness	0.023	0.038	-0.032	0.102
	[-0.253,0.300]	[-0.250,0.325]	[-0.279,0.215]	[-0.150,0.355]
Other health events	0.065	-0.093	-0.070	-0.239
	[-0.191,0.321]	[-0.359,0.173]	[-0.333,0.194]	[-0.517,0.040]
Quit job	0.089	-0.273	0.559*	-0.522
	[-0.349,0.528]	[-0.625,0.080]	[0.090,1.028]	[-1.048,0.003]
Started job	0.438**	0.475**	0.073	0.440*
	[0.141,0.735]	[0.185,0.766]	[-0.257,0.403]	[0.045,0.835]
Promoted	0.136	0.490**	0.256	0.286
	[-0.206,0.478]	[0.194,0.787]	[-0.113,0.624]	[-0.215,0.786]
Fired/made redundant	0.153	-0.174	-0.507	-0.173
	[-0.285,0.592]	[-0.792,0.443]	[-1.130,0.115]	[-1.065,0.718]
Retired	0.140	0.746*	0.570	0.245
	[-0.532,0.812]	[0.083,1.410]	[-0.310,1.450]	[-0.879,1.370]
Other job events	0.030	0.095	-0.147	-0.070
	[-0.284,0.344]	[-0.213,0.403]	[-0.459,0.166]	[-0.400,0.260]
Incurred debt	-0.269*	-0.682***	0.122	-0.261*
	[-0.521,-0.017]	[-0.937,-0.427]	[-0.129,0.373]	[-0.502,-0.021]
Paid off debt	0.142	0.224*	0.191	0.045
	[-0.060,0.343]	[0.022,0.426]	[-0.015,0.396]	[-0.173,0.262]
Other financial event	-0.013	0.040	0.177	-0.148
	[-0.281,0.256]	[-0.217,0.297]	[-0.070,0.423]	[-0.429,0.134]
Bought house	0.221	0.341	0.208	-0.052
	[-0.162,0.604]	[-0.027,0.709]	[-0.164,0.581]	[-0.626,0.522]
Moved dwelling	-0.164	-0.107	-0.389	0.286
	[-0.608,0.281]	[-0.488,0.274]	[-0.796,0.017]	[-0.439,1.011]
New person in household	-0.149	0.131	0.135	0.018
	[-0.511,0.213]	[-0.276,0.538]	[-0.135,0.404]	[-0.417,0.452]
New pet	0.002	-0.036	-0.039	-0.059
	[-0.289,0.293]	[-0.320,0.247]	[-0.310,0.232]	[-0.423,0.306]
Other housing event	-0.438*	0.048	-0.395*	-0.064
	[-0.785,-0.092]	[-0.294,0.389]	[-0.776,-0.013]	[-0.475,0.346]
Took a holiday	0.077	-0.018	-0.087	0.059
	[-0.113,0.267]	[-0.241,0.205]	[-0.278,0.103]	[-0.144,0.261]
Childbirth	-0.096	0.154	-0.506	0.253
	[-0.595,0.404]	[-0.396,0.704]	[-1.347,0.336]	[-0.327,0.834]
Separated from partner	0.025	0.242	0.119	0.021
	[-0.414,0.463]	[-0.232,0.715]	[-0.379,0.617]	[-0.475,0.517]
New partner	-0.015	0.068	0.241	0.292
	[-0.534,0.504]	[-0.456,0.592]	[-0.474,0.956]	[-0.715,1.299]
Other romantic event	0.021	-0.398	-0.385	-0.404
	[-0.368,0.411]	[-0.810,0.014]	[-0.862,0.093]	[-0.952,0.144]
Death of close person	0.003	-0.046	-0.047	-0.142
	[-0.215,0.220]	[-0.260,0.167]	[-0.295,0.202]	[-0.408,0.124]
Injury of close person	-0.169	-0.194	0.020	-0.443***
	[-0.393,0.055]	[-0.403,0.016]	[-0.231,0.272]	[-0.687,-0.198]
Stopped contact to close person	-0.085	-0.111	0.048	-0.299
	[-0.377,0.206]	[-0.398,0.176]	[-0.278,0.373]	[-0.637,0.040]
New close person	-0.167	0.166	-0.219	0.055
	[-0.469,0.135]	[-0.120,0.451]	[-0.501,0.064]	[-0.332,0.442]
Other personal event	0.211	0.138	0.037	-0.033
	[-0.067,0.488]	[-0.118,0.395]	[-0.229,0.303]	[-0.337,0.271]
Observations	1003	1003	1191	1191
R^2	0.087	0.236	0.050	0.134

Table A17: Regression table corresponding to panels on Housing satisfaction in Figure 3.

	(1) Delta levels (Study 2)	(2) Subjective changes (Study 2)	(3) Delta levels (Study 3)	(4) Subjective changes (Study 3)
Income change	0.000	0.000	-0.000	0.000
	[-0.000,0.000]	[-0.000,0.000]	[-0.000,0.000]	[-0.000,0.000]
New health diagnosis	0.131	0.052	-0.053	-0.170
	[-0.138,0.399]	[-0.205,0.310]	[-0.319,0.213]	[-0.463,0.124]
Hospitalized	0.105	-0.125	-0.061	-0.202
	[-0.317,0.526]	[-0.488,0.238]	[-0.475,0.354]	[-0.643,0.240]
Injury	0.167	-0.025	0.420	0.544**
	[-0.199,0.532]	[-0.370,0.321]	[-0.005,0.845]	[0.155,0.934]
Started therapy	-0.098	-0.236	0.061	-0.398
	[-0.437,0.240]	[-0.632,0.160]	[-0.349,0.472]	[-0.853,0.057]
Recovered from illness	-0.081	-0.117	-0.326*	-0.238
	[-0.382,0.221]	[-0.415,0.181]	[-0.602,-0.050]	[-0.514,0.039]
Other health events	-0.017	-0.101	-0.005	0.134
	[-0.270,0.236]	[-0.340,0.137]	[-0.310,0.299]	[-0.144,0.412]
Quit job	-0.075	0.255	0.159	-0.148
	[-0.443,0.292]	[-0.139,0.648]	[-0.259,0.576]	[-0.637,0.340]
Started job	0.029	0.052	0.110	0.243
	[-0.277,0.336]	[-0.196,0.300]	[-0.209,0.429]	[-0.101,0.587]
Promoted	-0.129	-0.203	0.236	-0.045
	[-0.437,0.180]	[-0.503,0.097]	[-0.164,0.636]	[-0.443,0.352]
Fired/made redundant	0.083	-0.536	-0.819	-0.175
	[-0.584,0.750]	[-1.206,0.133]	[-1.649,0.011]	[-0.862,0.511]
Retired	0.007	0.236	-0.465	0.032
	[-0.399,0.413]	[-0.772,1.243]	[-1.669,0.738]	[-1.025,1.088]
Other job events	0.092	0.302*	-0.263	-0.024
	[-0.203,0.387]	[0.005,0.599]	[-0.527,0.001]	[-0.311,0.263]
Incurred debt	-0.042	-0.412**	0.021	-0.098
	[-0.304,0.221]	[-0.688,-0.135]	[-0.236,0.277]	[-0.342,0.146]
Paid off debt	-0.032	0.387***	0.150	0.045
	[-0.250,0.186]	[0.165,0.609]	[-0.068,0.369]	[-0.186,0.276]
Other financial event	0.004	-0.076	-0.045	-0.204
	[-0.253,0.262]	[-0.322,0.171]	[-0.262,0.173]	[-0.429,0.020]
Bought house	0.930***	0.664**	0.792*	-0.333
	[0.408,1.453]	[0.184,1.143]	[0.013,1.571]	[-1.030,0.364]
Moved dwelling	0.253	0.721**	0.359	0.747
	[-0.337,0.842]	[0.200,1.243]	[-0.589,1.307]	[-0.077,1.571]
New person in household	0.232	0.574**	0.031	-0.523
	[-0.131,0.595]	[0.206,0.942]	[-0.624,0.687]	[-1.048,0.001]
New pet	0.022	-0.038	-0.228	0.241
	[-0.305,0.349]	[-0.320,0.244]	[-0.573,0.117]	[-0.123,0.604]
Other housing event	0.491	0.417	0.086	-0.076
	[-0.048,1.030]	[-0.085,0.920]	[-0.489,0.660]	[-0.674,0.523]
Took a holiday	0.028	0.004	-0.016	0.133
	[-0.190,0.247]	[-0.208,0.217]	[-0.225,0.193]	[-0.091,0.358]
Childbirth	-0.209	-0.107	-0.188	-0.099
	[-0.643,0.226]	[-0.575,0.361]	[-0.634,0.259]	[-0.841,0.642]
Separated from partner	-0.419	-0.551*	-0.245	-0.320
	[-0.937,0.099]	[-1.064,-0.037]	[-0.943,0.453]	[-0.841,0.201]
New partner	0.468	0.351	0.368	0.044
	[-0.107,1.044]	[-0.188,0.890]	[-0.799,1.535]	[-0.893,0.981]
Other romantic event	-0.452*	-0.327	0.069	0.147
	[-0.878,-0.027]	[-0.755,0.102]	[-0.446,0.585]	[-0.351,0.646]
Death of close person	0.053	0.154	0.025	0.440***
	[-0.160,0.266]	[-0.061,0.369]	[-0.233,0.284]	[0.212,0.668]
Injury of close person	0.024	0.042	0.018	-0.241
	[-0.183,0.230]	[-0.186,0.269]	[-0.303,0.339]	[-0.502,0.019]
Stopped contact to close person	-0.136	-0.134	0.181	-0.089
	[-0.424,0.153]	[-0.450,0.182]	[-0.203,0.565]	[-0.455,0.278]
New close person	-0.065	-0.045	-0.425**	0.165
	[-0.353,0.223]	[-0.347,0.257]	[-0.736,-0.113]	[-0.208,0.538]
Other personal event	0.036	-0.146	0.020	-0.068
	[-0.231,0.303]	[-0.436,0.145]	[-0.227,0.267]	[-0.340,0.205]
Observations	1003	1003	1191	1191
R^2	0.071	0.113	0.045	0.051

Table A18: Regression table corresponding to panels on Partner satisfaction in Figure 3.

	(1) Delta levels (Study 2)	(2) Subjective changes (Study 2)	(3) Delta levels (Study 3)	(4) Subjective changes (Study 3)
Income change	0.000	0.000	0.000	0.000
	[-0.000,0.000]	[-0.000,0.000]	[-0.000,0.000]	[-0.000,0.000]
New health diagnosis	-0.092	0.087	0.257	-0.009
	[-0.381,0.197]	[-0.200,0.374]	[-0.029,0.543]	[-0.324,0.305]
Hospitalized	-0.042	0.191	0.034	0.192
	[-0.472,0.389]	[-0.184,0.566]	[-0.398,0.465]	[-0.304,0.688]
Injury	-0.074	0.028	-0.301	-0.192
	[-0.400,0.251]	[-0.312,0.369]	[-0.802,0.201]	[-0.688,0.304]
Started therapy	0.001	-0.004	0.006	-0.224
	[-0.415,0.417]	[-0.369,0.360]	[-0.605,0.617]	[-0.710,0.262]
Recovered from illness	-0.097	0.029	-0.158	-0.313*
	[-0.391,0.197]	[-0.283,0.341]	[-0.429,0.112]	[-0.600,-0.027]
Other health events	-0.052	-0.366**	-0.166	-0.151
	[-0.317,0.213]	[-0.637,-0.096]	[-0.436,0.105]	[-0.444,0.141]
Quit job	0.141	0.075	0.063	0.156
	[-0.216,0.498]	[-0.362,0.512]	[-0.323,0.449]	[-0.298,0.609]
Started job	-0.065	-0.128	-0.109	0.154
	[-0.322,0.192]	[-0.409,0.153]	[-0.431,0.214]	[-0.189,0.497]
Promoted	0.048	0.001	-0.168	-0.007
	[-0.235,0.331]	[-0.316,0.318]	[-0.544,0.208]	[-0.404,0.389]
Fired/made redundant	0.390	0.349	-0.145	-0.078
	[-0.171,0.950]	[-0.151,0.850]	[-0.860,0.569]	[-0.846,0.691]
Retired	-0.479	-0.687	-0.524	0.248
	[-1.036,0.078]	[-2.048,0.674]	[-1.253,0.205]	[-0.673,1.168]
Other job events	0.192	0.173	0.169	0.232
	[-0.124,0.509]	[-0.116,0.463]	[-0.090,0.427]	[-0.001,0.465]
Incurred debt	-0.113	-0.141	-0.036	-0.218
	[-0.379,0.152]	[-0.429,0.146]	[-0.295,0.223]	[-0.475,0.040]
Paid off debt	-0.002	0.263*	0.056	0.087
	[-0.203,0.200]	[0.035,0.492]	[-0.149,0.260]	[-0.146,0.319]
Other financial event	-0.149	0.045	0.073	-0.113
	[-0.418,0.120]	[-0.201,0.292]	[-0.170,0.317]	[-0.391,0.164]
Bought house	0.017	0.224	-0.072	-0.335
	[-0.363,0.396]	[-0.161,0.608]	[-0.469,0.324]	[-0.987,0.316]
Moved dwelling	-0.214	0.201	-0.526	0.323
	[-0.771,0.344]	[-0.260,0.662]	[-1.200,0.147]	[-0.416,1.062]
New person in household	0.265	0.117	0.196	-0.261
	[-0.100,0.631]	[-0.274,0.508]	[-0.234,0.627]	[-0.716,0.194]
New pet	0.196	0.469**	-0.079	0.122
	[-0.094,0.486]	[0.190,0.749]	[-0.448,0.291]	[-0.264,0.508]
Other housing event	-0.059	0.144	0.042	-0.025
	[-0.401,0.283]	[-0.237,0.525]	[-0.358,0.441]	[-0.424,0.373]
Took a holiday	0.170	0.267*	-0.067	0.052
	[-0.052,0.393]	[0.042,0.491]	[-0.250,0.117]	[-0.186,0.290]
Childbirth	-0.137	0.061	-0.375	0.050
	[-0.445,0.171]	[-0.348,0.470]	[-0.880,0.130]	[-0.563,0.663]
Separated from partner	-0.621*	-1.010**	-0.595	-0.436
	[-1.242,-0.000]	[-1.633,-0.387]	[-1.463,0.274]	[-1.213,0.341]
New partner	1.099**	0.823*	2.122**	0.507
	[0.365,1.833]	[0.112,1.534]	[0.714,3.530]	[-0.495,1.509]
Other romantic event	0.317	-0.205	-0.142	0.360
	[-0.204,0.838]	[-0.786,0.377]	[-0.724,0.441]	[-0.243,0.964]
Death of close person	-0.072	-0.055	-0.017	-0.141
	[-0.292,0.148]	[-0.279,0.169]	[-0.313,0.279]	[-0.422,0.139]
Injury of close person	-0.012	0.107	-0.065	0.045
	[-0.245,0.222]	[-0.140,0.354]	[-0.389,0.258]	[-0.240,0.329]
Stopped contact to close person	-0.250	-0.420*	0.370	-0.221
	[-0.577,0.077]	[-0.743,-0.096]	[-0.132,0.872]	[-0.581,0.140]
New close person	0.348*	0.098	-0.031	0.116
	[0.028,0.668]	[-0.208,0.405]	[-0.437,0.376]	[-0.284,0.515]
Other personal event	-0.059	-0.170	-0.058	-0.053
	[-0.341,0.222]	[-0.439,0.099]	[-0.332,0.215]	[-0.329,0.224]
Observations	1003	1003	1191	1191
R^2	0.065	0.082	0.040	0.039

Table A19: Regression table corresponding to panels on Job satisfaction in Figure 3.

	(1) Delta levels (Study 2)	(2) Subjective changes (Study 2)	(3) Delta levels (Study 3)	(4) Subjective changes (Study 3)
Income change	0.000	0.001***	0.000	0.000*
	[-0.000,0.000]	[0.000,0.001]	[-0.000,0.000]	[0.000,0.000]
New health diagnosis	-0.119	-0.138	0.090	-0.018
	[-0.430,0.193]	[-0.412,0.137]	[-0.259,0.439]	[-0.333,0.298]
Hospitalized	-0.351	-0.141	0.391	-0.026
	[-0.812,0.110]	[-0.604,0.321]	[-0.060,0.841]	[-0.481,0.429]
Injury	-0.086	-0.077	-0.059	-0.022
	[-0.505,0.333]	[-0.413,0.258]	[-0.515,0.397]	[-0.472,0.427]
Started therapy	-0.157	-0.401	0.482*	-0.044
	[-0.652,0.339]	[-0.873,0.072]	[0.013,0.951]	[-0.541,0.454]
Recovered from illness	0.178	0.009	-0.156	-0.250
	[-0.136,0.492]	[-0.316,0.334]	[-0.414,0.102]	[-0.555,0.056]
Other health events	-0.164	-0.068	-0.104	-0.047
	[-0.463,0.135]	[-0.366,0.230]	[-0.434,0.226]	[-0.357,0.262]
Quit job	0.166	-0.030	0.469	0.116
	[-0.283,0.615]	[-0.474,0.414]	[-0.136,1.075]	[-0.527,0.759]
Started job	0.866***	0.711***	0.469*	0.203
	[0.536,1.195]	[0.375,1.048]	[0.054,0.884]	[-0.302,0.708]
Promoted	0.450*	0.466**	0.219	0.016
	[0.108,0.793]	[0.129,0.803]	[-0.179,0.618]	[-0.496,0.528]
Fired/made redundant	-0.041	-0.679	-0.825	-0.453
	[-0.655,0.574]	[-1.377,0.018]	[-1.716,0.066]	[-1.407,0.501]
Retired	1.071*	0.826	0.746	-0.103
	[0.191,1.951]	[-0.307,1.958]	[-0.269,1.761]	[-1.296,1.090]
Other job events	-0.410*	0.009	-0.181	-0.295
	[-0.797,-0.023]	[-0.342,0.361]	[-0.513,0.151]	[-0.686,0.097]
Incurred debt	-0.355*	-0.230	-0.061	-0.188
	[-0.636,-0.073]	[-0.508,0.048]	[-0.334,0.213]	[-0.432,0.056]
Paid off debt	-0.085	0.174	-0.007	0.162
	[-0.317,0.147]	[-0.040,0.388]	[-0.246,0.233]	[-0.067,0.391]
Other financial event	0.247	-0.068	0.219	0.066
	[-0.062,0.557]	[-0.358,0.222]	[-0.062,0.499]	[-0.209,0.341]
Bought house	-0.021	0.288	0.626*	0.168
	[-0.419,0.377]	[-0.123,0.700]	[0.097,1.154]	[-0.343,0.679]
Moved dwelling	-0.036	-0.000	-0.755**	-0.014
	[-0.539,0.468]	[-0.408,0.407]	[-1.317,-0.193]	[-0.742,0.713]
New person in household	-0.059	0.060	-0.034	-0.271
	[-0.463,0.345]	[-0.322,0.443]	[-0.501,0.433]	[-0.817,0.275]
New pet	0.135	0.181	-0.206	0.080
	[-0.220,0.490]	[-0.102,0.464]	[-0.520,0.108]	[-0.255,0.416]
Other housing event	-0.386	-0.009	-0.018	-0.384
	[-0.807,0.035]	[-0.375,0.358]	[-0.448,0.413]	[-0.908,0.141]
Took a holiday	-0.207	-0.225	-0.026	0.163
	[-0.444,0.029]	[-0.457,0.008]	[-0.271,0.219]	[-0.041,0.368]
Childbirth	0.410	0.650*	-0.289	0.119
	[-0.207,1.027]	[0.121,1.179]	[-0.868,0.289]	[-0.520,0.757]
Separated from partner	-0.510	0.095	-0.426	-0.004
	[-1.084,0.065]	[-0.428,0.618]	[-0.954,0.103]	[-0.615,0.607]
New partner	0.391	-0.012	-0.115	0.432
	[-0.240,1.022]	[-0.539,0.515]	[-1.097,0.867]	[-0.468,1.333]
Other romantic event	0.068	-0.253	-0.053	-0.421
	[-0.422,0.558]	[-0.696,0.190]	[-0.520,0.414]	[-0.971,0.128]
Death of close person	-0.014	-0.117	0.017	0.076
	[-0.277,0.249]	[-0.357,0.123]	[-0.261,0.294]	[-0.200,0.351]
Injury of close person	0.109	-0.004	-0.118	-0.195
	[-0.146,0.364]	[-0.245,0.236]	[-0.402,0.166]	[-0.462,0.073]
Stopped contact to close person	0.082	0.061	-0.026	-0.146
	[-0.272,0.436]	[-0.237,0.360]	[-0.356,0.304]	[-0.467,0.175]
New close person	-0.114	0.192	-0.200	0.356
	[-0.413,0.184]	[-0.124,0.508]	[-0.554,0.153]	[-0.024,0.735]
Other personal event	-0.006	-0.154	-0.085	-0.054
	[-0.278,0.267]	[-0.456,0.148]	[-0.391,0.220]	[-0.384,0.277]
Observations	1003	1003	1191	1191
R^2	0.100	0.153	0.050	0.041

A4: Regression analysis using ordered probit

Herein, we report the results of a replication of the exercise run in the previous section, but using ordered probit models instead of OLS. Therefore, tables A20-A26 are the counterpart of tables A13-A19, but using a different estimator. Ordered probit models allow to relax the assumption that the satisfaction scale, either in levels or changes, is used as a linear representation of the latent feelings. Typically, life satisfaction regressions estimated by OLS and ordered probit yield comparable results Ferrer-i Carbonell and Frijters (2004) and this is the case also in our sample. Incidentally, this is consistent with the test portrayed in figure 4, panel (C), which suggests that both satisfaction scales (levels and changes) are used in an approximately linear fashion by respondents.

Table A20: Regression table corresponding to Panel (A) of Figure 1, using ordered probit.

	(1) Delta levels (full)	(2) Delta levels	(3) Subjective changes
Retired	0.005	0.007	-0.161***
	[-0.006,0.016]	[-0.005,0.019]	[-0.181,-0.140]
Started job	0.095***	0.101***	0.249***
	[0.067,0.123]	[0.071,0.130]	[0.214,0.285]
Bought house	-0.022	-0.027	0.129***
	[-0.073,0.028]	[-0.080,0.026]	[0.068,0.191]
Childbirth	-0.035	-0.049*	0.469***
	[-0.071,0.001]	[-0.087,-0.011]	[0.421,0.516]
Become unemployed	-0.262***	-0.240***	-0.527***
	[-0.338,-0.187]	[-0.317,-0.162]	[-0.618,-0.437]
Death of partner	-0.307***	-0.255***	-1.006***
	[-0.434,-0.181]	[-0.374,-0.136]	[-1.129,-0.883]
Separated from partner	0.074	0.102	-0.080
	[-0.160,0.307]	[-0.152,0.355]	[-0.387,0.227]
Hospitalized	-0.042***	-0.031**	-0.185***
	[-0.064,-0.021]	[-0.053,-0.009]	[-0.211,-0.159]
Income change	0.013***	0.013***	0.015***
	[0.007,0.019]	[0.007,0.019]	[0.009,0.021]
Moved dwelling	0.059***	0.065***	0.395***
	[0.036,0.083]	[0.040,0.089]	[0.363,0.427]
New person in household	-0.008	-0.008	-0.094***
	[-0.035,0.018]	[-0.036,0.020]	[-0.125,-0.063]
New partner	0.162***	0.160***	0.577***
	[0.112,0.213]	[0.107,0.213]	[0.511,0.642]
Promoted	-0.029	-0.036	0.194***
	[-0.068,0.010]	[-0.079,0.007]	[0.139,0.249]
Fired/made redundant	-0.060*	-0.053*	-0.120***
	[-0.109,-0.010]	[-0.106,-0.001]	[-0.183,-0.056]
Quit job	0.003	0.008	0.175***
	[-0.023,0.028]	[-0.018,0.035]	[0.142,0.208]
New health diagnosis	-0.091***	-0.089***	-0.219***
	[-0.105,-0.077]	[-0.103,-0.075]	[-0.235,-0.203]
Observations	110736	110736	110736
Pseudo R^2	0.002	0.002	0.034

Table A21: Regression table corresponding to Panels (B) and (C) of Figure 1, using ordered probit.

	(1) Delta levels (Study 2)	(2) Subjective changes (Study 2)	(3) Delta levels (Study 3)	(4) Subjective changes (Study 3)
Income change	0.036	0.347***	-0.031	0.281**
	[-0.106,0.178]	[0.189,0.504]	[-0.219,0.157]	[0.105,0.458]
New health diagnosis	-0.051	-0.194	0.042	0.115
	[-0.270,0.169]	[-0.412,0.024]	[-0.207,0.292]	[-0.182,0.412]
Hospitalized	-0.128	0.098	-0.021	-0.093
	[-0.461,0.205]	[-0.214,0.411]	[-0.428,0.385]	[-0.535,0.349]
Injury	-0.244	-0.193	-0.046	-0.539*
	[-0.513,0.026]	[-0.489,0.102]	[-0.520,0.428]	[-0.949,-0.129]
Started therapy	-0.188	-0.150	0.074	0.212
	[-0.538,0.161]	[-0.502,0.203]	[-0.333,0.480]	[-0.232,0.656]
Recovered from illness	-0.014	0.011	0.001	0.020
	[-0.266,0.239]	[-0.238,0.261]	[-0.251,0.253]	[-0.279,0.320]
Other health events	0.119	-0.146	-0.049	-0.351*
	[-0.109,0.347]	[-0.358,0.067]	[-0.304,0.206]	[-0.643,-0.059]
Quit job	-0.050	0.245	0.199	0.373
	[-0.361,0.261]	[-0.103,0.593]	[-0.144,0.543]	[-0.185,0.930]
Started job	0.272*	0.245	0.217	0.040
	[0.026,0.518]	[-0.001,0.490]	[-0.100,0.535]	[-0.315,0.395]
Promoted	0.041	0.120	-0.082	0.285
	[-0.188,0.271]	[-0.126,0.366]	[-0.403,0.239]	[-0.099,0.668]
Fired/made redundant	-0.020	-0.149	-0.481	-0.639
	[-0.583,0.543]	[-0.689,0.390]	[-0.996,0.035]	[-1.486,0.208]
Retired	-0.010	-0.502	0.240	0.091
	[-0.620,0.600]	[-1.297,0.293]	[-0.163,0.643]	[-1.021,1.203]
Other job events	0.102	0.208	0.128	0.033
	[-0.169,0.372]	[-0.059,0.475]	[-0.155,0.411]	[-0.246,0.312]
Incurred debt	-0.140	-0.264*	-0.040	-0.273*
	[-0.361,0.081]	[-0.484,-0.044]	[-0.251,0.172]	[-0.530,-0.015]
Paid off debt	0.045	0.275**	-0.096	0.168
	[-0.122,0.213]	[0.092,0.458]	[-0.279,0.086]	[-0.070,0.405]
Other financial event	-0.102	0.006	0.053	0.042
	[-0.336,0.132]	[-0.212,0.223]	[-0.154,0.260]	[-0.197,0.282]
Bought house	0.113	0.382*	0.663***	0.891***
	[-0.212,0.438]	[0.048,0.717]	[0.335,0.990]	[0.448,1.334]
Moved dwelling	0.072	0.359	-0.075	0.955***
	[-0.286,0.430]	[-0.041,0.759]	[-0.533,0.384]	[0.472,1.438]
New person in household	0.045	0.105	-0.206	-0.024
	[-0.268,0.358]	[-0.199,0.408]	[-0.620,0.207]	[-0.441,0.394]
New pet	-0.096	0.105	-0.064	0.168
	[-0.334,0.142]	[-0.124,0.333]	[-0.279,0.150]	[-0.144,0.479]
Other housing event	-0.156	0.175	-0.126	-0.133
	[-0.468,0.157]	[-0.127,0.478]	[-0.443,0.192]	[-0.550,0.284]
Took a holiday	0.059	0.026	0.092	0.238*
	[-0.119,0.236]	[-0.172,0.225]	[-0.100,0.284]	[0.022,0.454]
Childbirth	0.157	0.756***	-0.075	0.628*
	[-0.214,0.528]	[0.378,1.134]	[-0.437,0.288]	[0.132,1.124]
Separated from partner	-0.282	-0.563*	-0.234	-0.345
	[-0.679,0.115]	[-1.001,-0.125]	[-0.908,0.439]	[-1.011,0.321]
New partner	0.415	0.507*	0.357	-0.463
	[-0.011,0.842]	[0.037,0.977]	[-0.484,1.198]	[-1.644,0.719]
Other romantic event	0.073	-0.038	0.021	0.154
	[-0.316,0.462]	[-0.434,0.357]	[-0.448,0.490]	[-0.433,0.741]
Death of close person	-0.069	-0.059	-0.030	-0.126
	[-0.257,0.119]	[-0.247,0.129]	[-0.254,0.195]	[-0.391,0.139]
Injury of close person	-0.087	-0.056	0.008	-0.049
	[-0.273,0.099]	[-0.251,0.139]	[-0.249,0.265]	[-0.328,0.230]
Stopped contact to close person	0.026	-0.274*	0.086	-0.293
	[-0.204,0.257]	[-0.512,-0.037]	[-0.257,0.429]	[-0.617,0.032]
New close person	-0.064	0.151	-0.028	0.598***
	[-0.296,0.169]	[-0.117,0.418]	[-0.303,0.247]	[0.255,0.940]
Other personal event	-0.073	-0.056	-0.279	-0.300
	[-0.295,0.150]	[-0.288,0.177]	[-0.578,0.020]	[-0.610,0.010]
Observations	1003	1003	1191	1191
Pseudo R^2	0.012	0.045	0.009	0.043

Table A22: Regression table corresponding to panels on Health satisfaction in Figure 3, using ordered probit.

	(1) Delta levels (Study 2)	(2) Subjective changes (Study 2)	(3) Delta levels (Study 3)	(4) Subjective changes (Study 3)
Income change	-0.000	0.000	0.000	0.000
	[-0.000,0.000]	[-0.000,0.000]	[-0.000,0.000]	[-0.000,0.000]
New health diagnosis	0.022	-0.562***	-0.145	-0.375*
	[-0.216,0.260]	[-0.804,-0.320]	[-0.414,0.125]	[-0.662,-0.089]
Hospitalized	-0.170	-0.426*	0.125	-0.494
	[-0.538,0.199]	[-0.817,-0.034]	[-0.318,0.567]	[-0.994,0.006]
Injury	-0.144	-0.107	-0.265	-0.362
	[-0.459,0.171]	[-0.426,0.212]	[-0.677,0.146]	[-0.741,0.017]
Started therapy	-0.172	-0.105	0.197	0.018
	[-0.509,0.165]	[-0.452,0.242]	[-0.244,0.638]	[-0.427,0.462]
Recovered from illness	0.169	0.131	0.078	-0.098
	[-0.091,0.429]	[-0.125,0.387]	[-0.187,0.343]	[-0.399,0.204]
Other health events	-0.376**	-0.624***	-0.214	-0.459**
	[-0.614,-0.138]	[-0.873,-0.375]	[-0.480,0.052]	[-0.766,-0.153]
Quit job	0.093	0.262	0.271	0.340
	[-0.221,0.408]	[-0.032,0.557]	[-0.089,0.632]	[-0.034,0.715]
Started job	-0.053	0.037	-0.136	-0.073
	[-0.289,0.183]	[-0.223,0.296]	[-0.458,0.186]	[-0.395,0.248]
Promoted	-0.076	0.116	-0.048	0.192
	[-0.332,0.180]	[-0.139,0.371]	[-0.354,0.259]	[-0.146,0.529]
Fired/made redundant	0.056	-0.187	-0.156	0.444
	[-0.377,0.490]	[-0.638,0.264]	[-0.632,0.320]	[-0.164,1.052]
Retired	0.189	-0.046	-0.312	-0.085
	[-0.551,0.930]	[-0.729,0.638]	[-0.859,0.235]	[-0.944,0.774]
Other job events	0.258*	0.134	-0.142	0.179
	[0.012,0.503]	[-0.122,0.391]	[-0.369,0.086]	[-0.063,0.422]
Incurred debt	0.069	-0.191	0.040	-0.241*
	[-0.146,0.285]	[-0.421,0.040]	[-0.172,0.252]	[-0.452,-0.030]
Paid off debt	0.175*	0.136	0.099	-0.008
	[0.001,0.350]	[-0.042,0.313]	[-0.105,0.304]	[-0.211,0.194]
Other financial event	0.024	-0.031	-0.008	0.178
	[-0.199,0.247]	[-0.240,0.178]	[-0.193,0.178]	[-0.058,0.414]
Bought house	0.064	0.300	0.062	0.034
	[-0.224,0.352]	[-0.056,0.656]	[-0.400,0.525]	[-0.409,0.476]
Moved dwelling	0.022	0.034	-0.040	0.695*
	[-0.264,0.307]	[-0.333,0.400]	[-0.527,0.447]	[0.121,1.268]
New person in household	-0.069	-0.044	0.143	-0.126
	[-0.341,0.202]	[-0.335,0.246]	[-0.284,0.571]	[-0.638,0.387]
New pet	0.198	0.231	0.064	-0.046
	[-0.032,0.428]	[-0.013,0.476]	[-0.215,0.343]	[-0.343,0.252]
Other housing event	-0.519***	0.046	0.070	0.175
	[-0.803,-0.234]	[-0.258,0.350]	[-0.332,0.472]	[-0.163,0.513]
Took a holiday	0.136	0.057	0.034	0.067
	[-0.043,0.316]	[-0.117,0.230]	[-0.166,0.235]	[-0.130,0.264]
Childbirth	0.049	0.329	0.165	-0.140
	[-0.283,0.381]	[-0.051,0.709]	[-0.459,0.789]	[-0.842,0.561]
Separated from partner	-0.114	0.040	-0.715**	0.007
	[-0.507,0.279]	[-0.303,0.383]	[-1.184,-0.246]	[-0.462,0.476]
New partner	-0.018	-0.084	-0.354	-0.049
	[-0.400,0.364]	[-0.485,0.316]	[-1.218,0.511]	[-0.975,0.877]
Other romantic event	0.283	-0.188	0.093	-0.476*
	[-0.033,0.598]	[-0.575,0.198]	[-0.417,0.603]	[-0.904,-0.047]
Death of close person	0.046	0.074	0.123	0.190
	[-0.135,0.227]	[-0.108,0.255]	[-0.109,0.355]	[-0.028,0.408]
Injury of close person	0.026	-0.027	0.074	-0.209
	[-0.138,0.190]	[-0.214,0.161]	[-0.150,0.298]	[-0.453,0.036]
Stopped contact to close person	-0.059	-0.012	-0.085	-0.286
	[-0.296,0.178]	[-0.254,0.231]	[-0.393,0.224]	[-0.600,0.028]
New close person	0.046	0.147	0.388*	-0.025
	[-0.174,0.265]	[-0.081,0.375]	[0.055,0.720]	[-0.388,0.338]
Other personal event	0.046	-0.121	-0.283*	-0.188
	[-0.193,0.284]	[-0.362,0.119]	[-0.545,-0.021]	[-0.422,0.045]
Observations	1003	1003	1191	1191
Pseudo R^2	0.017	0.049	0.012	0.036

Table A23: Regression table corresponding to panels on Income satisfaction in Figure 3, using ordered probit.

	(1) Delta levels (Study 2)	(2) Subjective changes (Study 2)	(3) Delta levels (Study 3)	(4) Subjective changes (Study 3)
Income change	0.000***	0.001***	0.000*	0.001***
	[0.000,0.001]	[0.001,0.001]	[0.000,0.000]	[0.001,0.001]
New health diagnosis	0.185	-0.013	-0.017	0.126
	[-0.023,0.392]	[-0.232,0.207]	[-0.264,0.231]	[-0.137,0.390]
Hospitalized	-0.133	-0.047	0.184	0.006
	[-0.424,0.158]	[-0.343,0.249]	[-0.186,0.555]	[-0.430,0.443]
Injury	0.001	-0.265	-0.051	-0.091
	[-0.252,0.255]	[-0.547,0.016]	[-0.400,0.298]	[-0.431,0.249]
Started therapy	0.142	-0.279	0.159	0.227
	[-0.162,0.445]	[-0.605,0.046]	[-0.141,0.459]	[-0.151,0.605]
Recovered from illness	0.024	0.025	-0.011	0.080
	[-0.207,0.254]	[-0.222,0.273]	[-0.247,0.225]	[-0.155,0.314]
Other health events	0.039	-0.070	-0.059	-0.226
	[-0.174,0.252]	[-0.298,0.159]	[-0.308,0.190]	[-0.475,0.024]
Quit job	0.060	-0.223	0.476*	-0.424
	[-0.287,0.407]	[-0.526,0.080]	[0.070,0.882]	[-0.890,0.042]
Started job	0.357**	0.432***	0.060	0.436*
	[0.116,0.598]	[0.177,0.687]	[-0.243,0.364]	[0.064,0.809]
Promoted	0.110	0.443**	0.243	0.362
	[-0.165,0.384]	[0.176,0.709]	[-0.090,0.575]	[-0.083,0.807]
Fired/made redundant	0.173	-0.132	-0.501	-0.122
	[-0.187,0.533]	[-0.664,0.399]	[-1.106,0.103]	[-0.927,0.683]
Retired	0.111	0.631*	0.471	0.331
	[-0.478,0.699]	[0.038,1.224]	[-0.257,1.198]	[-0.666,1.329]
Other job events	0.034	0.087	-0.129	-0.038
	[-0.216,0.285]	[-0.183,0.356]	[-0.400,0.142]	[-0.338,0.263]
Incurred debt	-0.245*	-0.590***	0.101	-0.250*
	[-0.453,-0.036]	[-0.812,-0.368]	[-0.133,0.334]	[-0.466,-0.034]
Paid off debt	0.120	0.197*	0.170	0.044
	[-0.047,0.286]	[0.020,0.374]	[-0.024,0.365]	[-0.155,0.244]
Other financial event	0.006	0.058	0.161	-0.085
	[-0.208,0.221]	[-0.164,0.281]	[-0.067,0.389]	[-0.338,0.167]
Bought house	0.198	0.296	0.212	-0.003
	[-0.113,0.510]	[-0.032,0.625]	[-0.159,0.583]	[-0.513,0.508]
Moved dwelling	-0.111	-0.087	-0.354	0.349
	[-0.453,0.232]	[-0.424,0.250]	[-0.745,0.037]	[-0.346,1.045]
New person in household	-0.113	0.134	0.138	-0.012
	[-0.396,0.171]	[-0.220,0.488]	[-0.129,0.405]	[-0.407,0.383]
New pet	-0.013	-0.021	-0.026	-0.058
	[-0.251,0.224]	[-0.268,0.225]	[-0.291,0.239]	[-0.389,0.273]
Other housing event	-0.397**	0.025	-0.377*	-0.080
	[-0.678,-0.116]	[-0.272,0.321]	[-0.726,-0.027]	[-0.458,0.298]
Took a holiday	0.063	-0.014	-0.080	0.046
	[-0.097,0.222]	[-0.209,0.180]	[-0.264,0.105]	[-0.143,0.235]
Childbirth	-0.052	0.155	-0.401	0.187
	[-0.446,0.342]	[-0.320,0.631]	[-1.076,0.274]	[-0.334,0.709]
Separated from partner	0.063	0.228	0.115	-0.035
	[-0.282,0.408]	[-0.183,0.640]	[-0.366,0.595]	[-0.468,0.398]
New partner	-0.052	0.088	0.278	0.243
	[-0.469,0.364]	[-0.360,0.536]	[-0.388,0.944]	[-0.642,1.127]
Other romantic event	0.024	-0.366*	-0.382	-0.336
	[-0.294,0.343]	[-0.724,-0.009]	[-0.846,0.082]	[-0.828,0.156]
Death of close person	-0.013	-0.043	-0.074	-0.161
	[-0.194,0.168]	[-0.227,0.142]	[-0.305,0.157]	[-0.405,0.084]
Injury of close person	-0.128	-0.175	-0.006	-0.456***
	[-0.311,0.055]	[-0.354,0.004]	[-0.238,0.226]	[-0.677,-0.236]
Stopped contact to close person	-0.081	-0.092	0.020	-0.213
	[-0.317,0.154]	[-0.339,0.155]	[-0.282,0.323]	[-0.509,0.082]
New close person	-0.134	0.153	-0.203	0.032
	[-0.379,0.112]	[-0.093,0.400]	[-0.481,0.075]	[-0.323,0.387]
Other personal event	0.157	0.121	0.058	-0.011
	[-0.072,0.385]	[-0.101,0.344]	[-0.190,0.307]	[-0.287,0.264]
Observations	1003	1003	1191	1191
Pseudo R^2	0.027	0.080	0.015	0.052

Table A24: Regression table corresponding to panels on Housing satisfaction in Figure 3, using ordered probit.

	(1) Delta levels (Study 2)	(2) Subjective changes (Study 2)	(3) Delta levels (Study 3)	(4) Subjective changes (Study 3)
Income change	0.000	0.000	-0.000	0.000
	[-0.000,0.000]	[-0.000,0.000]	[-0.000,0.000]	[-0.000,0.000]
New health diagnosis	0.099	0.049	-0.042	-0.143
	[-0.119,0.317]	[-0.163,0.260]	[-0.288,0.204]	[-0.413,0.128]
Hospitalized	0.102	-0.104	-0.070	-0.193
	[-0.246,0.450]	[-0.402,0.193]	[-0.444,0.304]	[-0.591,0.205]
Injury	0.155	-0.011	0.411*	0.496*
	[-0.135,0.446]	[-0.295,0.274]	[0.025,0.797]	[0.113,0.880]
Started therapy	-0.107	-0.194	0.078	-0.371
	[-0.391,0.178]	[-0.517,0.128]	[-0.284,0.439]	[-0.783,0.040]
Recovered from illness	-0.072	-0.116	-0.292*	-0.240
	[-0.321,0.177]	[-0.363,0.132]	[-0.544,-0.040]	[-0.498,0.018]
Other health events	-0.011	-0.097	-0.015	0.114
	[-0.222,0.201]	[-0.297,0.102]	[-0.289,0.258]	[-0.146,0.374]
Quit job	-0.053	0.214	0.177	-0.105
	[-0.360,0.254]	[-0.110,0.539]	[-0.215,0.568]	[-0.555,0.346]
Started job	-0.001	0.041	0.098	0.222
	[-0.249,0.246]	[-0.163,0.245]	[-0.204,0.400]	[-0.106,0.549]
Promoted	-0.076	-0.189	0.158	-0.040
	[-0.331,0.179]	[-0.436,0.058]	[-0.191,0.508]	[-0.405,0.324]
Fired/made redundant	0.073	-0.393	-0.729*	-0.228
	[-0.452,0.598]	[-0.942,0.157]	[-1.397,-0.061]	[-0.863,0.407]
Retired	0.037	0.159	-0.473	-0.015
	[-0.344,0.418]	[-0.657,0.974]	[-1.351,0.405]	[-0.984,0.954]
Other job events	0.051	0.242	-0.227	0.001
	[-0.190,0.292]	[-0.004,0.487]	[-0.474,0.021]	[-0.266,0.268]
Incurred debt	-0.021	-0.347**	0.017	-0.096
	[-0.240,0.197]	[-0.574,-0.120]	[-0.214,0.248]	[-0.329,0.138]
Paid off debt	-0.045	0.317***	0.152	0.054
	[-0.221,0.130]	[0.133,0.500]	[-0.046,0.350]	[-0.161,0.268]
Other financial event	-0.013	-0.076	-0.028	-0.195
	[-0.225,0.199]	[-0.279,0.126]	[-0.240,0.184]	[-0.407,0.018]
Bought house	0.737***	0.555**	0.582	-0.243
	[0.369,1.105]	[0.144,0.966]	[-0.004,1.169]	[-0.850,0.364]
Moved dwelling	0.170	0.601**	0.309	0.766*
	[-0.254,0.595]	[0.149,1.052]	[-0.441,1.060]	[0.030,1.502]
New person in household	0.196	0.460**	0.018	-0.471
	[-0.096,0.487]	[0.153,0.767]	[-0.499,0.534]	[-0.943,0.000]
New pet	0.062	-0.029	-0.184	0.218
	[-0.191,0.314]	[-0.261,0.202]	[-0.501,0.134]	[-0.122,0.558]
Other housing event	0.399*	0.357	0.075	0.008
	[0.000,0.798]	[-0.056,0.769]	[-0.397,0.547]	[-0.509,0.526]
Took a holiday	0.029	0.013	0.021	0.143
	[-0.148,0.206]	[-0.162,0.189]	[-0.173,0.215]	[-0.070,0.357]
Childbirth	-0.157	-0.076	-0.141	-0.008
	[-0.532,0.218]	[-0.469,0.318]	[-0.582,0.301]	[-0.660,0.644]
Separated from partner	-0.306	-0.447*	-0.247	-0.381
	[-0.708,0.095]	[-0.866,-0.028]	[-0.840,0.347]	[-0.875,0.113]
New partner	0.400	0.298	0.226	-0.043
	[-0.041,0.841]	[-0.141,0.737]	[-0.685,1.137]	[-0.908,0.822]
Other romantic event	-0.360*	-0.255	0.120	0.125
	[-0.703,-0.017]	[-0.608,0.098]	[-0.348,0.588]	[-0.340,0.590]
Death of close person	0.030	0.138	0.036	0.452***
	[-0.148,0.207]	[-0.039,0.315]	[-0.202,0.275]	[0.228,0.675]
Injury of close person	0.003	0.031	0.012	-0.229
	[-0.172,0.177]	[-0.156,0.218]	[-0.265,0.288]	[-0.473,0.014]
Stopped contact to close person	-0.094	-0.097	0.135	-0.051
	[-0.330,0.142]	[-0.354,0.160]	[-0.198,0.468]	[-0.393,0.291]
New close person	-0.060	-0.037	-0.393**	0.201
	[-0.294,0.174]	[-0.284,0.210]	[-0.683,-0.104]	[-0.147,0.550]
Other personal event	0.061	-0.118	0.035	-0.069
	[-0.163,0.285]	[-0.357,0.120]	[-0.200,0.270]	[-0.325,0.188]
Observations	1003	1003	1191	1191
Pseudo R^2	0.021	0.036	0.013	0.019

Table A25: Regression table corresponding to panels on Partner satisfaction in Figure 3, using ordered probit.

	(1) Delta levels (Study 2)	(2) Subjective changes (Study 2)	(3) Delta levels (Study 3)	(4) Subjective changes (Study 3)
Income change	0.000	0.000	0.000	0.000
	[-0.000,0.000]	[-0.000,0.000]	[-0.000,0.000]	[-0.000,0.000]
New health diagnosis	-0.093	0.081	0.234	0.017
	[-0.330,0.144]	[-0.150,0.312]	[-0.014,0.482]	[-0.262,0.296]
Hospitalized	-0.040	0.149	0.011	0.169
	[-0.394,0.314]	[-0.154,0.452]	[-0.373,0.394]	[-0.269,0.607]
Injury	-0.111	0.012	-0.225	-0.110
	[-0.381,0.160]	[-0.267,0.292]	[-0.645,0.194]	[-0.539,0.319]
Started therapy	-0.014	-0.010	0.066	-0.141
	[-0.355,0.327]	[-0.302,0.282]	[-0.394,0.527]	[-0.563,0.280]
Recovered from illness	-0.096	0.033	-0.129	-0.303*
	[-0.341,0.150]	[-0.217,0.283]	[-0.371,0.113]	[-0.568,-0.038]
Other health events	-0.005	-0.290**	-0.145	-0.137
	[-0.225,0.215]	[-0.507,-0.073]	[-0.388,0.099]	[-0.398,0.125]
Quit job	0.168	0.088	0.065	0.116
	[-0.128,0.463]	[-0.263,0.440]	[-0.291,0.421]	[-0.311,0.542]
Started job	-0.093	-0.102	-0.090	0.136
	[-0.310,0.123]	[-0.332,0.127]	[-0.383,0.203]	[-0.184,0.457]
Promoted	0.089	-0.021	-0.164	0.029
	[-0.139,0.317]	[-0.279,0.236]	[-0.496,0.168]	[-0.320,0.379]
Fired/made redundant	0.396	0.311	-0.040	-0.066
	[-0.060,0.852]	[-0.084,0.706]	[-0.614,0.534]	[-0.769,0.636]
Retired	-0.456	-0.521	-0.420	0.185
	[-0.938,0.025]	[-1.584,0.542]	[-1.014,0.174]	[-0.673,1.042]
Other job events	0.140	0.132	0.140	0.206
	[-0.114,0.395]	[-0.104,0.367]	[-0.095,0.376]	[-0.019,0.430]
Incurred debt	-0.093	-0.118	-0.011	-0.224
	[-0.310,0.123]	[-0.349,0.113]	[-0.233,0.210]	[-0.462,0.013]
Paid off debt	-0.006	0.209*	0.054	0.089
	[-0.176,0.165]	[0.025,0.393]	[-0.126,0.234]	[-0.128,0.306]
Other financial event	-0.136	0.031	0.038	-0.084
	[-0.356,0.084]	[-0.171,0.232]	[-0.181,0.257]	[-0.334,0.165]
Bought house	-0.016	0.173	-0.028	-0.249
	[-0.333,0.300]	[-0.143,0.489]	[-0.369,0.313]	[-0.815,0.317]
Moved dwelling	-0.138	0.165	-0.418	0.315
	[-0.548,0.271]	[-0.214,0.543]	[-0.959,0.123]	[-0.355,0.985]
New person in household	0.248	0.078	0.171	-0.243
	[-0.052,0.548]	[-0.243,0.398]	[-0.211,0.553]	[-0.652,0.166]
New pet	0.134	0.393***	-0.107	0.133
	[-0.098,0.365]	[0.160,0.626]	[-0.420,0.207]	[-0.215,0.480]
Other housing event	-0.049	0.127	0.007	-0.062
	[-0.331,0.234]	[-0.180,0.434]	[-0.343,0.358]	[-0.446,0.323]
Took a holiday	0.129	0.230*	-0.048	0.062
	[-0.056,0.315]	[0.047,0.414]	[-0.218,0.121]	[-0.156,0.280]
Childbirth	-0.121	0.036	-0.348	0.012
	[-0.412,0.171]	[-0.300,0.373]	[-0.814,0.117]	[-0.549,0.573]
Separated from partner	-0.446	-0.790**	-0.455	-0.337
	[-0.914,0.022]	[-1.282,-0.299]	[-1.101,0.192]	[-0.991,0.317]
New partner	0.775**	0.684*	1.447**	0.448
	[0.240,1.310]	[0.114,1.253]	[0.429,2.465]	[-0.400,1.296]
Other romantic event	0.280	-0.130	-0.063	0.413
	[-0.115,0.676]	[-0.586,0.325]	[-0.550,0.425]	[-0.098,0.925]
Death of close person	-0.039	-0.050	0.008	-0.141
	[-0.222,0.144]	[-0.233,0.132]	[-0.239,0.256]	[-0.399,0.116]
Injury of close person	-0.039	0.095	-0.042	0.053
	[-0.230,0.151]	[-0.105,0.294]	[-0.315,0.231]	[-0.211,0.317]
Stopped contact to close person	-0.195	-0.340**	0.212	-0.182
	[-0.456,0.066]	[-0.598,-0.082]	[-0.166,0.589]	[-0.506,0.141]
New close person	0.239	0.057	0.004	0.109
	[-0.019,0.497]	[-0.188,0.302]	[-0.345,0.353]	[-0.255,0.473]
Other personal event	-0.026	-0.155	-0.052	-0.055
	[-0.262,0.210]	[-0.374,0.064]	[-0.302,0.198]	[-0.313,0.203]
Observations	1003	1003	1191	1191
Pseudo R^2	0.017	0.025	0.010	0.014

Table A26: Regression table corresponding to panels on Job satisfaction in Figure 3, using ordered probit.

	(1) Delta levels (Study 2)	(2) Subjective changes (Study 2)	(3) Delta levels (Study 3)	(4) Subjective changes (Study 3)
Income change	0.000*	0.000***	0.000	0.000
	[0.000,0.000]	[0.000,0.001]	[-0.000,0.000]	[-0.000,0.000]
New health diagnosis	-0.098	-0.112	0.042	-0.003
	[-0.324,0.127]	[-0.331,0.108]	[-0.229,0.313]	[-0.270,0.265]
Hospitalized	-0.230	-0.103	0.324	-0.059
	[-0.561,0.101]	[-0.464,0.258]	[-0.043,0.691]	[-0.454,0.336]
Injury	-0.062	-0.062	-0.092	-0.034
	[-0.359,0.235]	[-0.325,0.201]	[-0.448,0.265]	[-0.418,0.350]
Started therapy	-0.122	-0.327	0.373*	-0.031
	[-0.472,0.227]	[-0.700,0.045]	[0.001,0.745]	[-0.449,0.387]
Recovered from illness	0.131	0.004	-0.121	-0.193
	[-0.092,0.354]	[-0.250,0.257]	[-0.338,0.097]	[-0.453,0.068]
Other health events	-0.118	-0.055	-0.058	-0.056
	[-0.333,0.098]	[-0.293,0.183]	[-0.326,0.209]	[-0.322,0.210]
Quit job	0.129	-0.017	0.302	0.146
	[-0.175,0.433]	[-0.366,0.333]	[-0.155,0.759]	[-0.386,0.678]
Started job	0.585***	0.584***	0.343*	0.270
	[0.358,0.812]	[0.312,0.856]	[0.022,0.664]	[-0.146,0.686]
Promoted	0.325**	0.378**	0.220	0.080
	[0.091,0.559]	[0.107,0.648]	[-0.092,0.532]	[-0.338,0.499]
Fired/made redundant	0.002	-0.539	-0.629	-0.366
	[-0.429,0.432]	[-1.087,0.008]	[-1.341,0.083]	[-1.150,0.418]
Retired	0.797**	0.669	0.617	0.008
	[0.211,1.384]	[-0.281,1.619]	[-0.085,1.320]	[-1.020,1.036]
Other job events	-0.303*	0.038	-0.131	-0.177
	[-0.576,-0.029]	[-0.237,0.313]	[-0.400,0.138]	[-0.502,0.148]
Incurred debt	-0.250*	-0.166	-0.061	-0.190
	[-0.454,-0.046]	[-0.384,0.052]	[-0.282,0.160]	[-0.405,0.024]
Paid off debt	-0.053	0.127	-0.013	0.123
	[-0.222,0.115]	[-0.043,0.297]	[-0.206,0.179]	[-0.077,0.323]
Other financial event	0.171	-0.059	0.178	0.068
	[-0.048,0.390]	[-0.288,0.171]	[-0.048,0.404]	[-0.169,0.305]
Bought house	-0.019	0.245	0.502*	0.216
	[-0.305,0.267]	[-0.082,0.572]	[0.091,0.914]	[-0.217,0.650]
Moved dwelling	-0.037	-0.000	-0.651**	-0.054
	[-0.381,0.307]	[-0.324,0.323]	[-1.084,-0.217]	[-0.693,0.586]
New person in household	-0.064	0.036	-0.041	-0.222
	[-0.341,0.213]	[-0.269,0.342]	[-0.414,0.332]	[-0.681,0.237]
New pet	0.072	0.151	-0.132	0.014
	[-0.175,0.318]	[-0.074,0.377]	[-0.397,0.133]	[-0.284,0.312]
Other housing event	-0.289	-0.020	-0.076	-0.305
	[-0.590,0.012]	[-0.310,0.270]	[-0.405,0.254]	[-0.755,0.144]
Took a holiday	-0.147	-0.173	-0.013	0.143
	[-0.317,0.023]	[-0.356,0.011]	[-0.209,0.182]	[-0.035,0.321]
Childbirth	0.269	0.545*	-0.195	0.065
	[-0.151,0.689]	[0.119,0.971]	[-0.701,0.311]	[-0.475,0.606]
Separated from partner	-0.345	0.084	-0.320	-0.007
	[-0.737,0.047]	[-0.326,0.494]	[-0.764,0.124]	[-0.527,0.514]
New partner	0.271	-0.002	-0.033	0.311
	[-0.142,0.683]	[-0.412,0.408]	[-0.804,0.738]	[-0.449,1.070]
Other romantic event	0.033	-0.200	-0.013	-0.354
	[-0.312,0.378]	[-0.552,0.153]	[-0.413,0.387]	[-0.807,0.099]
Death of close person	-0.034	-0.102	-0.009	0.045
	[-0.218,0.150]	[-0.292,0.088]	[-0.234,0.217]	[-0.195,0.285]
Injury of close person	0.073	-0.004	-0.085	-0.192
	[-0.105,0.252]	[-0.194,0.185]	[-0.320,0.150]	[-0.425,0.041]
Stopped contact to close person	0.035	0.052	-0.010	-0.134
	[-0.209,0.279]	[-0.183,0.288]	[-0.283,0.263]	[-0.413,0.144]
New close person	-0.080	0.161	-0.122	0.347*
	[-0.293,0.133]	[-0.090,0.412]	[-0.419,0.175]	[0.021,0.673]
Other personal event	0.016	-0.123	-0.059	-0.019
	[-0.183,0.214]	[-0.365,0.118]	[-0.303,0.185]	[-0.300,0.262]
Observations	1003	1003	1191	1191
Pseudo R^2	0.028	0.049	0.014	0.014

A5: Financial satisfaction in Study 3

Figure A1 reports the same type of analyses as in figure 2, but applied to a three-month time horizon (Study 3), instead than one year (Study 2). Results are qualitatively similar. The relationship between variations in income levels and in life satisfaction levels is statistically null (panel A). Instead, those who report to be more satisfied with their life compared to three months ago earn, on average, £100 more now compared to then (panel B). When considering financial satisfaction instead of general LS (panels C and D), the relationship with income changes is stronger, and in the expected direction. Interestingly, the relationship appears kinked when considering subjective changes, and linear when considering Δlevels.

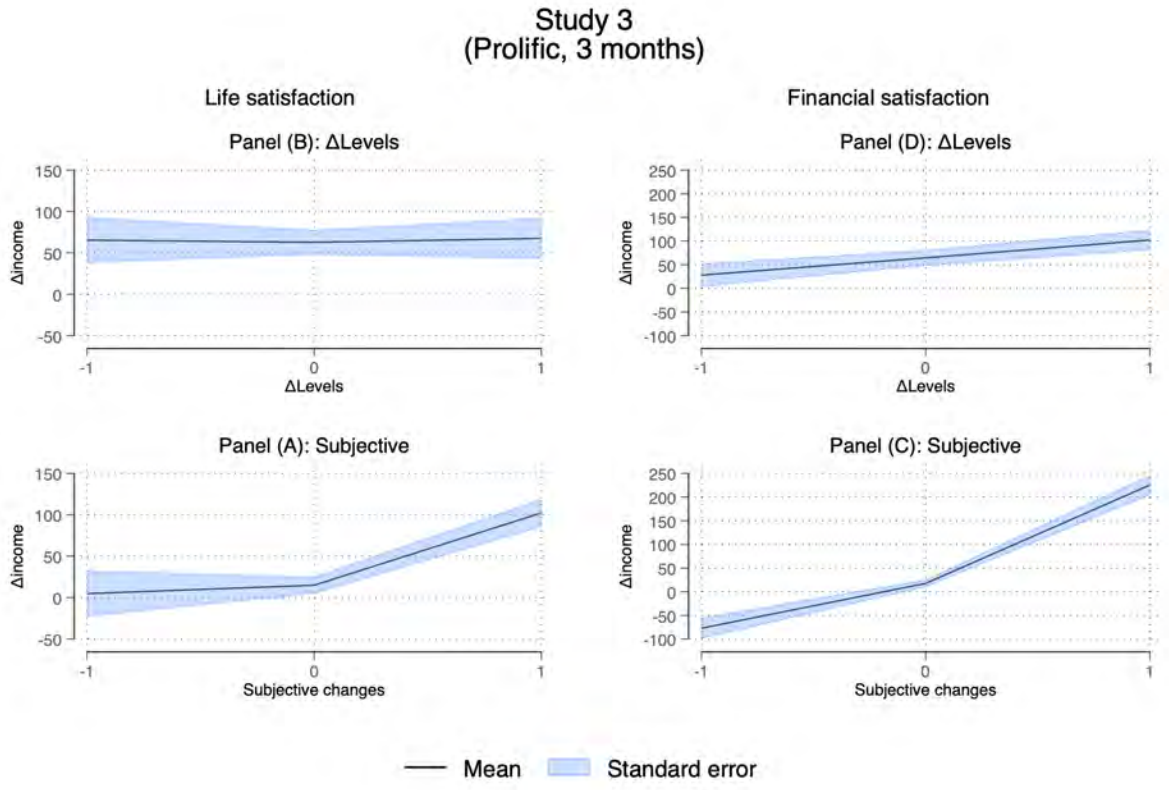

Figure A1: Income and satisfaction in Study 3

A6: Other psychometric tests

(H1) Additional analyses on association of levels and *subjective changes* with daily mood In line with our preregistration, tables A27 and A28 present R^2 values from regressions of levels and subjective changes in life satisfaction and domain-specific satisfaction on daily mood. Table A27 includes no socio-demographic controls and table A28 controls for marital status, education employment status, log(income), respondent location (urban/rural), as well as the number of adults and children in the household. As in the main text, we find that the subjective changes are less affected by daily mood than levels of satisfaction.

(H5) *Subjective changes* perform relatively better than *Δlevels* in post-dicting unambiguously positive or negative life events. Hypothesis 5 reverses the roles of dependent and independent variables of the standard satisfaction regression equations. Instead of assessing the ability of life events to predict variations in satisfaction measures (cf. figure 1), here we assess the ability of life events to post-dict wellbeing (see A2). The assessment of relative performance is based on R^2 in an OLS regression with the life event as dependent variable and either (i) Δlevels or (ii) subjective changes as the sole regressor.

Each bar in A2 visualizes the average R squared calculated from 31 separate regressions, one per each life events as a dependent variable. Each bar chart compares the average R squared when using either Δlevels (left bar) or subjective changes (right bar) as regressors. Both Δlevels and subjective changes are entered as a set of six binary variables (the 7 response options of the scale, minus one to avoid multicollinearity), to avoid imposing linearity restrictions. Under the chart, a note reports an additional element of comparison, i.e., the proportion of regressions where subjective changes yield a higher R squared than Δlevels. Results show that subjective changes outperform Δlevels at post-dicting life events in all cases where they outperform predicting them (cf. figure 3). Visually, the bars tell us that the average R squared is higher for subjective changes than Δlevels in all 12 comparisons. Additionally, the captions at the bottom of each figure tell us that the R squared associated with subjective changes (as a regressor) are higher than the R squared associated with Δlevels (again, as a regressor) in more than half of the events for all domains except two (Panel D and Panel L). Loosely speaking, we can say that subjective changes postdict a higher number of events than the corresponding Δlevels in 10 out of 12 cases.

In Figures A3-A5, we estimate variations of the same analysis. Those analyses are provided in line with our preregistration. Figure A3 gives results from the same regressions as in figure A2, but adds

Table A27: R^2 from regressions of levels and subjective changes on daily mood (no controls).

Type	Life satisfaction	Health	Income	Housing	Partner	Job
Levels	0.028	0.004	0.006	0.005	0.012	0.007
Subjective changes	0.015	0.004	0.008	0.001	0.002	0.002
Levels	0.057	0.015	0.006	0.007	0.015	0.018
Subjective changes	0.037	0.007	0.003	0.008	0.002	0.010

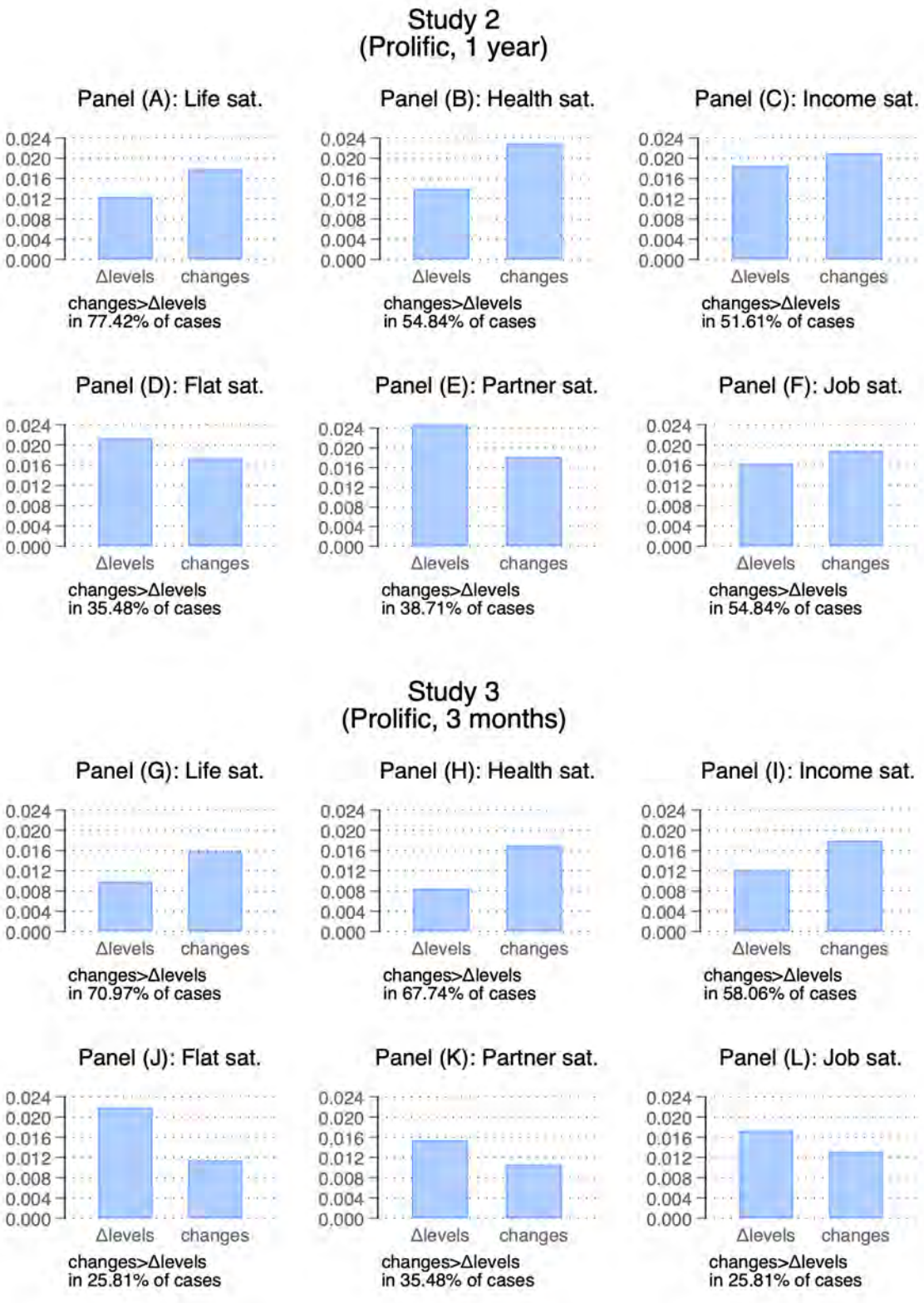

Figure A2: Postdiction analysis corresponding to hypothesis 5

Table A28: R^2 from regressions of levels and subjective changes on daily mood (with controls).

Type	Life satisfaction	Health	Income	Housing	Partner	Job
Levels	0.140	0.059	0.203	0.102	0.193	0.167
Subjective changes	0.048	0.018	0.041	0.011	0.036	0.020
Levels	0.181	0.124	0.231	0.087	0.166	0.209
Subjective changes	0.066	0.035	0.035	0.030	0.037	0.038

a number of socio-demographic controls (specifically: marital status, education employment status, log(income), respondent location (urban/rural), number of adults and children in the household). Figures A4 and A5 in turn replace the data on Δlevels with the raw levels, and estimate the regressions without (figure A4) and with (figure A5) controls. Across all these specifications, the results are very similar to the results shown in A2.

Thus, overall, all these results endorse the conclusion of the predictive analysis: subjective changes are more sensitive than Δlevels (and simple levels) to what is going on in peoples' lives.

(H6) Over time, respondents are ordinally consistent in their assessments of *subjective changes*. It would be desirable if, over time, respondents were consistent in their reports about subjective changes. We implement two tests to verify this. The first test, labelled 'Type A Consistency' in Table A29 rests on the following intuition: If a respondent reports to have become weakly better (worse) off between times $t-1$ and $t-2$, and between times t and $t-1$, then, *a fortiori*, at time t, they should also report to be weakly better (worse) off compared to time $t-2$. Our longitudinal data allows to assess whether respondents follow this principle: In Study 3, Wave 1, respondents were asked how satisfied they were with their life compared to three months ago. Then, in Wave 2, they were asked the same question, but also how satisfied they were with respect to *six* months ago. Clearly, those who reported in both consecutive waves either no change or an improvement (worsening) with respect to three months ago, should also report either no change or report to be better (worse) off today than six months ago. As shown in the top panel of Table A29, we observe that between 85% (for worsening) and 93% (for improvement) indeed do so.

Our original preregistration was formulated in terms of remembered levels of satisfaction, not subjective changes in satisfaction. However, the bottom panel of Table A29 implements a test of ordinal consistency that comes closest to our original preregistration and that is feasible with the data we collected. This test, which we label 'Type B Consistency', and which is more stringent than Type A Consistency, is based on the following reasoning: Suppose that at time $t-1$ a respondent reports to be weakly better (worse) off than at time $t-2$. At time t that respondent should also report a more positive (negative) subjective change compared to time $t-2$ than compared to time $t-1$. This is indeed what we find: between 80% (for worsening) and 86% (for improvement) of respondents are ordinally consistent in this sense.

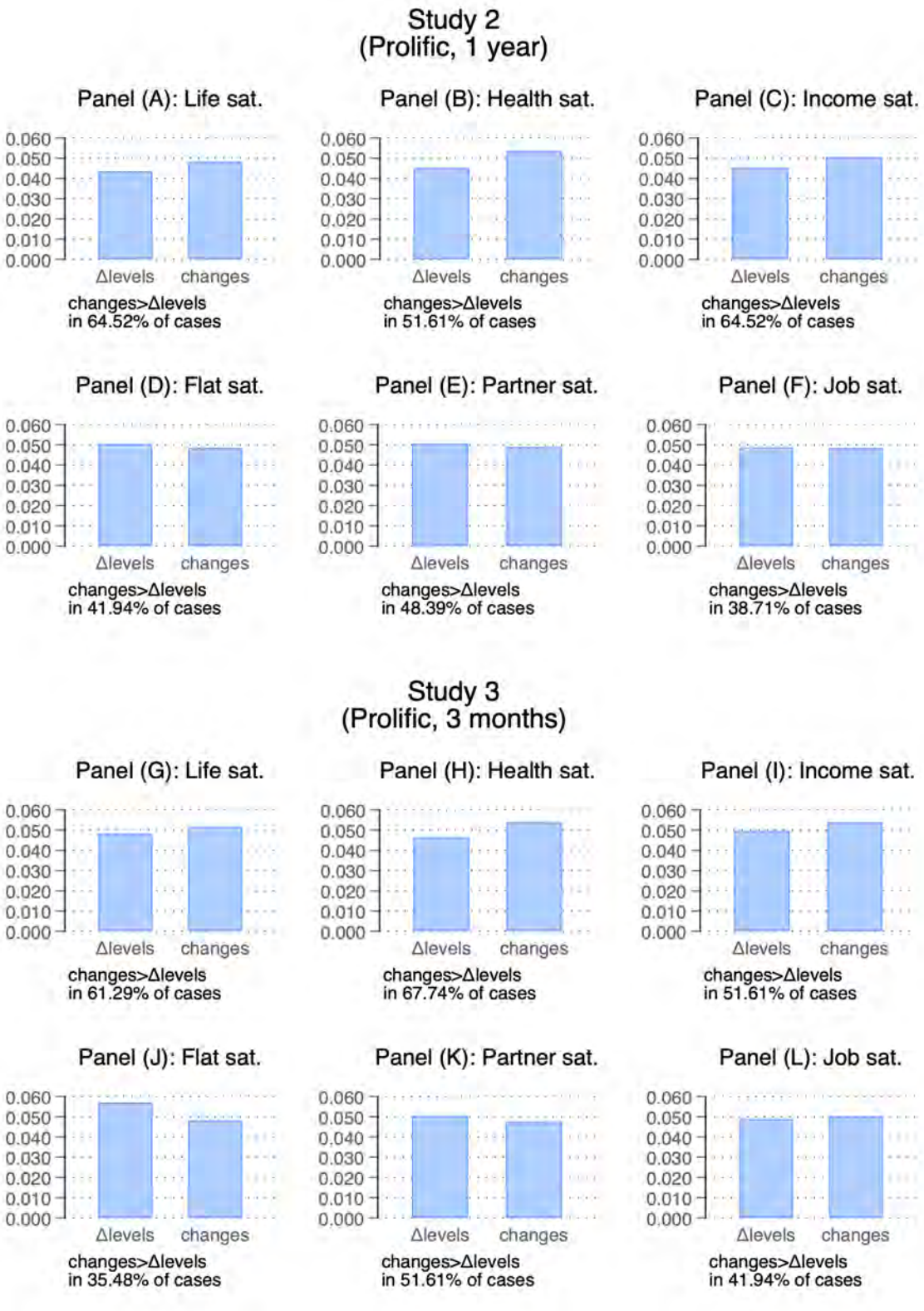

Figure A3: Postdiction analysis, like figure A2 but adding socio-demographic controls.

Figure A4: Postdiction analysis, like figure A2 but replacing Δlevels with levels of satisfaction.

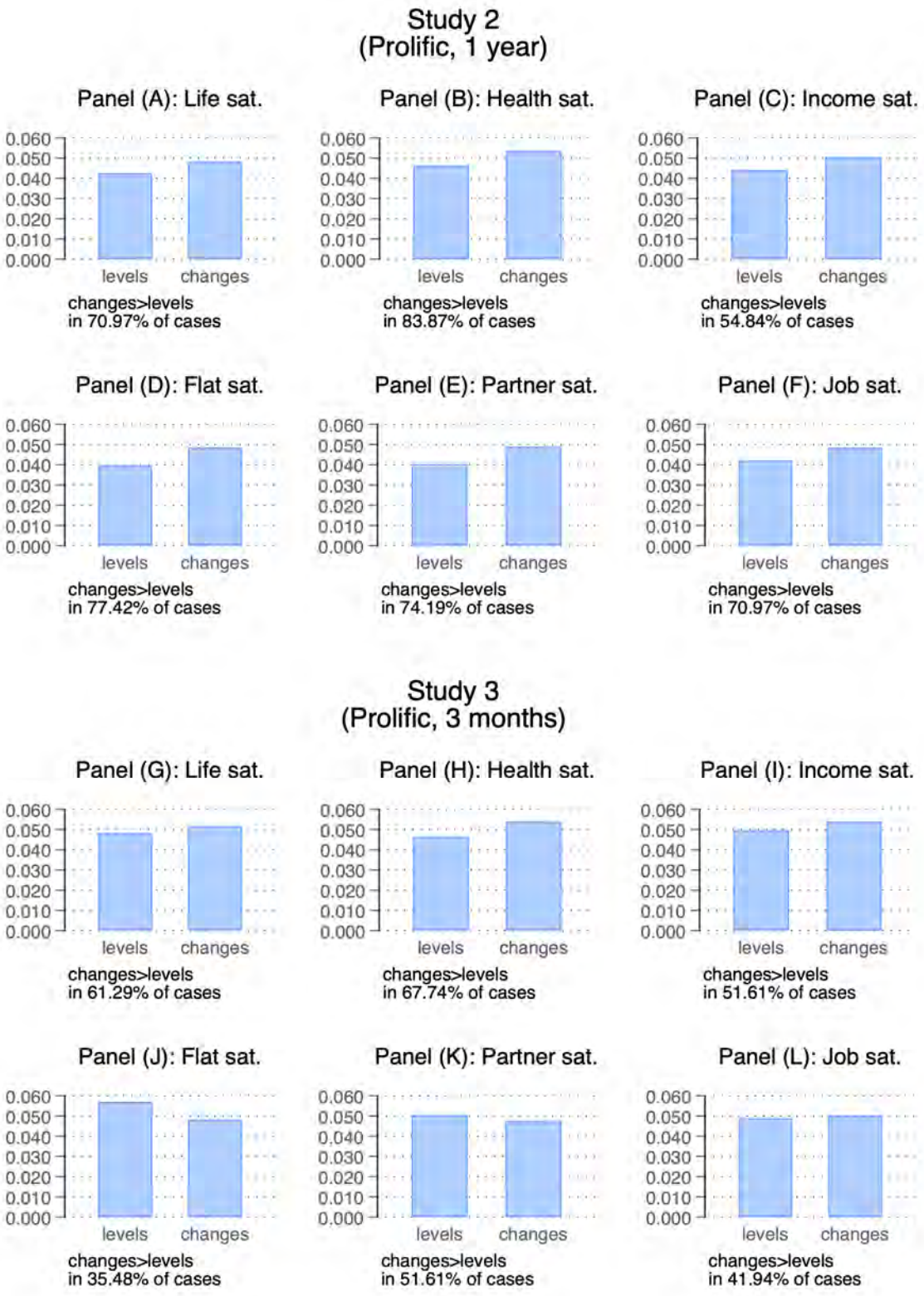

Figure A5: Postdiction analysis, like figure A2 but adding socio-demographic controls and replacing Δlevels with levels of satisfaction.

Table A29: Tests of ordinal consistency

			Type A Consistency			
Type	N	$\mathbf{E}(\Delta\mathbf{levels}_{t-1})$	$\mathbf{E}(\mathbf{sc}^{3m}_{t-1})$	$\mathbf{E}(\mathbf{sc}^{6m}_{t})$	$\mathbf{E}(\mathbf{sc}^{6m}_{t}$ - $\mathbf{sc}^{3m}_{t})$	**Share consistent**
Improvement	866	0.68	0.68	0.85	0.17	0.93
Worsening	513	-0.33	-0.32	-0.27	0.05	0.85
			Type B Consistency			
Type	N	$\mathbf{E}(\Delta\mathbf{levels}_{t-1})$	$\mathbf{E}(\mathbf{sc}^{3m}_{t-1})$	$\mathbf{E}(\mathbf{sc}^{6m}_{t})$	$\mathbf{E}(\mathbf{sc}^{6m}_{t}$ - $\mathbf{sc}^{3m}_{t})$	**Share consistent**
Improvement	1007	0.39	0.67	0.55	0.15	0.86
Worsening	710	0.13	-0.37	0.17	0.04	0.80

(H7) The *subjective changes* scale is used in a similar way by different people. Aggregate analyses of subjective wellbeing data typically assume that different individuals use the satisfaction scale in a comparable manner (Fleurbaey and Blanchet, 2013; Kaiser, 2022). Vignettes provide a tool to assess the degree to which this assumption is respected/violated King et al. (2004). By "vignettes", we mean an exercise where respondents rate the satisfaction of a fictional character whose life is briefly described. Conditional on assuming that respondents perceive the satisfaction of the same fictional character equally, differences in rating reveal differences in scale use.

In our data collection we present respondents with two vignettes, a *Health* vignette and an *Income* vignette. By comparing the between-individuals variance of Δlevels and subjective changes related to the description of the very same *life change*, we are able to assess to what extent people use the subjective changes scale differently, relative to the subjective levels scale.

The *Health* vignette was structured as follows:

> **Health 1**. Casey was born in the 1980s. Three months ago, she was in fairly good health overall, but regularly suffered from light backpain and rare strong headaches. How satisfied do you think Casey was with her health? Please, give your best guess. [1;7]

After this description, half of the respondents were asked:

> **Health 2a**.Since then, Casey experienced no headache. **Today**, i.e. one year later, how satisfied is Casey with her health? Please, give your best guess. [-3;+3]

And the other half were asked:

> **Health 2b**. Since then, Casey experienced no headache. **Compared to three months ago**, i.e. one year later, how satisfied is Casey with her health? Please, give your best guess. [1;7]

The *Income* vignette was structured similarly, except that the second question presented different amounts (33,000; 36,000; 45,000; 60,000) to different respondents (which version respondents received was randomised).

> **Income 1**. Jamie is 40 years old. Three months ago, his annual income before taxes was £30,000. How satisfied do you think Jamie was with his income? Please, give your best guess. [1;7]
>
> **Income 2a**. Since then, Jamie had a pay rise. Now his annual income is £XX,000. **Today**, i.e. 3 months later, how satisfied is Jamie with his income? Please, give your best guess. [1;7]
>
> **Income 2b**.Since then, Jamie had a pay rise. Now his annual income is £XX,000. **Compared to three months ago**, how satisfied is Jamie with his income? Please, give your best guess. [-3;+3]

Table A30 reports the summary statistics associated with each vignette question. The column titled “Mean" provides good news about both measures. Regardless of the measure used, the mean change in each vignette is estimated to be positive, as expected. In the *Income* vignette, both subjective changes and Δlevels increase with the amount of the income raise, and this is not trivial when we consider that different people answered to these vignettes (and there is therefore not any consistency bias involved). The column titled “SD" reports the estimated standard deviation of the answers given to the same question by different individuals. The standard deviation of subjective changes is systematically lower than the one of Δlevels, thus suggesting that we observe lower scale use heterogeneity in the former than in the latter measure. However, this comparison does not consider the fact that Δlevels can span from -6 to +6, while subjective changes can only go from -3 to +3. When Δlevels are winsorized and “forced” to be between -3 and +3, the comparison is more nuanced. In the *Health* vignette, Δlevels have a lower standard deviation than subjective changes (0.96 vs 1.14), but in the *Income* vignette the comparison reverses as the size of the change increases. Overall, in terms of how similarly the scales is perceived by different people, the analysis does not provide any conclusive evidence. Nevertheless, it appears quite clearly that the use of a 7-point scale (subjective changes) is likely to generate less unwanted variability than the comparison of two 7-point scales (as Δlevels require).

Table A30: Comparison of performance of observed and subjective changes in vignettes

	N	Mean	SD	Min	Max
Health Vignettes					
Level last year/three months ago	1218	3.66	1.07	1	7
Level now	1218	5.47	0.91	1	7
Δlevel	1218	1.81	1.15	-3	6
Δlevel (truncated)	1218	1.71	0.96	-3	3
Subjective change	1206	1.36	1.14	-3	3
Income Vignettes (change = £33,000)					
Level last year/three months ago	296	4.36	1.14	2	7
Level now	296	5.13	1.10	1	7
Δlevel	296	0.76	0.80	-3	3
Subjective change	181	1.55	0.86	-1	3
Income Vignettes (change = £36,000)					
Level last year/three months ago	296	4.36	1.27	1	7
Level now	296	5.67	1.03	1	7
Δlevel	296	1.31	0.94	-1	5
Δlevel (truncated)	296	1.27	0.83	-1	3
Subjective change	186	1.79	0.83	-2	3
Income Vignettes (change = £45,000)					
Level last year/three months ago	289	4.36	1.10	1	7
Level now	289	6.12	0.85	3	7
Δlevel	289	1.76	0.94	-1	5
Δlevel (truncated)	289	1.70	0.80	-1	3
Subjective change	184	2.41	0.76	-1	3
Income Vignettes (change = £60,000)					
Level last year/three months ago	298	4.21	1.16	1	7
Level now	298	6.51	0.68	3	7
Δlevel	298	2.29	1.10	-2	6
Δlevel (truncated)	298	2.12	0.85	-2	3
Subjective change	187	2.70	0.59	0	3

A7: Correspondence to and deviations from preregistration

Most of the analyses in the main paper correspond to our preregistration for this study. The preregistration can be found at `https://osf.io/5dxe9/?view_only=a6866c997d444244ad5fd2aee3d31052`. The preregistered hypotheses and the results presented in the paper correspond as follows. The preregistered hypothesis 1 (PH1) correspond to the results shown in figures A4 and A5. The hypothesis holds against the preregistered criteria. PH2 corresponds to the results shown in figures A2 and A3. The hypothesis holds against the preregistered criteria. PH3 corresponds to the results discussed in the main text, specifically those shown in Figures 1 and 3. The hypothesis holds against the preregistered criteria. PH4 corresponds to (H6) noted in the main text and discussed in the supplementary material. Since we did not collect data on levels of remembered satisfaction, we deviated from the exact preregistration. However, the results of table A29 closely follow the intent of the preregistration and show results in line with the preregistered hypothesis. PH5 corresponds to (H7) noted in the main text and discussed in the supplementary material. The hypothesis does not hold against the preregistered criteria. PH6 corresponds to (H4) discussed in the main text. The hypothesis holds against our preregistered criteria. PH7 corresponds to hypothesis (H1) discussed in the main text and the results of tables A27 and A28. The hypothesis holds against our preregistered criteria. PH8 corresponds to hypothesis (H2) discussed in the main text and the results of Figure 4 panel (A). The hypothesis holds against our preregistered criteria. The results shown in Figure 2 of the main text were not preregistered.