

Bringing life to mind: a qualitative and quantitative approach to identifying the information used in life satisfaction judgements

Charlie Lea, Andrew K. MacLeod

Author Note

Charlie Lea, School of Applied Social Sciences, University of Brighton (ORCID 0000-0003-3271-2769)

Andrew K. MacLeod, Department of Psychology, Royal Holloway, University of London.

Correspondence concerning this article should be addressed to: Charlie Lea, Email C.R.Lea@brighton.ac.uk, Tel. 01273 644525

Abstract

Despite a prevalence of well-being research there has been general lack of interest in the information that respondents actually bring to mind whilst they consider their well-being. The aim of the present studies was two-fold: 1) to use a unique methodology to provide an “in progress” account of the life satisfaction judgement process; 2) to use an inductive, qualitative analysis to ground the findings in the data, rather than using an a priori coding scheme based on existing literature. Participants (N = 54, aged 24 to 68 years) thought-aloud their responses to each item of the Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen & Griffin, 1985) and their consideration of a better and worse life. Thirteen code categories were identified with Relationships with Others, Job, and Feelings being the most prevalent and Material Possessions and Contribution-to-the-World the least common. The validity of the code categories was verified in a larger, second study. The present studies identified a broader array of categories compared to previous, similar research and provided support for the consistent use of certain information. Importantly these studies contribute a coding scheme that will enable future research to more consistently examine the information used in well-being judgements.

Keywords: life satisfaction judgements, life domains, satisfaction with life, Thinking Aloud, inductive analysis.

1 **1 Introduction**

2 In the last 17 years there has been a surge in empirical research focussing on the
3 psychology of well-being, happiness and optimal human functioning, - “Positive Psychology”
4 (Seligman & Csikszentmihalyi, 2000). This research has predominately focussed on assessing
5 well-being using postal, telephone and on-line surveys that require participants to indicate to
6 what extent they agree with broad items such as “How happy are you at present with your life
7 as a whole?” (in Baird, Lucas, & Donellan, 2010, for example) or “I am satisfied with my
8 life” (an item in the Satisfaction with Life Scale, SWLS; Diener, Emmons, Larsen, & Griffin,
9 1985) via Likert-scale responses. The broad nature of such statements is intended to
10 encourage a cognitive judgement in which individuals use whatever information they want to
11 assess their well-being.

12 The idea that an individual’s well-being judgement should be based on criteria of their
13 own choosing is not universally accepted. It has been argued that measures consisting of
14 broad, whole life items (such as the SWLS) do not measure concepts considered to reflect
15 optimal psychological functioning (Forgeard, Jayawickreme, Kern, & Seligman, 2011; Ryff
16 & Keyes, 1995). As a result there are well-being measures that are more prescriptive in terms
17 of the aspects of one’s life and self that the respondent is expected to consider, e.g.,
18 Psychological Well Being (PWB; Ryff, 1989). Importantly though allowing individuals the
19 freedom to use whatever information they wish provides a route to understanding what
20 people, rather than psychologists, economists et al, consider to be a “good life” (Diener,
21 Inglehart, & Tay, 2013). However within the well-being literature there has been a reliance
22 upon on quick to administer surveys to generate data whilst the cognitive processes
23 underlying such judgements, particularly those judgements that allow free choice of
24 information in response to broad items, are not well understood (Pavot & Diener, 2008). A
25 relatively small number of studies have tried simply asking participants what information

26 they used in a judgement or what aspects of life they think are relevant to well-being (e.g.,
27 Caunt, Franklin, Brodaty, & Brodaty, 2012; Luhmann, Hawkley, & Cacioppo, 2013; Mellor,
28 Cummins, & Loquet, 1999; Schimmack, Diener, & Oishi, 2002). The aim of the present
29 studies was to address limitations in the research so far by using novel methods to generate
30 and validate a list of domains or topics brought to mind when people consider their
31 satisfaction with life.

32 1.1 How to find out what people are thinking

33 Various methods have been utilised to identify the information used by individuals as
34 they consider their well-being. Directly after making a judgement about their life satisfaction
35 or happiness participants have been asked to provide open-ended, unrestricted answers in the
36 form of prose, lists, or verbal responses that reflect the information they brought to mind (e.g.
37 Luhmann et al., 2013; Mehlsen, Kirkegaard Thomsen, Viidik, Olesen, & Zachariae, 2005;
38 Updegraff, Emanuel, Suh, & Gallagher, 2010). Another method asks participants to choose
39 from a selection of life domains (including family relationships, housing satisfaction and goal
40 progress, amongst others) after they have made their judgement (Schimmack et al., 2002).
41 Another alternative is to use a more reflective approach in which participants are asked to
42 define happiness in their own words (e.g., Caunt et al., 2012; Delle Fave et al., 2010), or list
43 words associated with happiness (Bojanowska & Zalewska, 2015). These studies should be
44 commended for using introspective and descriptive methods, such as interviews and open-
45 ended questions, to investigate what people bring to mind as they consider their well-being.
46 However, the methods used to generate and analyse the data have their limitations.

47 1.2 The issues with retrospection and restrictions

48 Asking participants to report their information use directly after making a judgement
49 assumes that the information used can be accurately accessed. However it may be difficult for

50 participants to recall exactly what was thought (Robinson & Kirkeby, 2005). This method
51 also assumes that the completion of questionnaires with Likert scale responses elicits
52 deliberative responses that can be accurately recalled; if responses to questionnaire items
53 occur quickly a participant may not be consciously aware of the information being used in the
54 judgement (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). “*Post hoc* rationalisation”, or
55 the restructuring of thoughts to fit expectations (van Someren, Barnard, & Sandberg, 1994)
56 can occur if participants find it difficult to recall the information used in a judgement.
57 Questions and interviews occurring after a judgement also encourage introspection, a
58 “reactive” process that allows the participant to explain, justify and interpret their thoughts
59 which results in the use of additional cognitive processes (Ericsson & Simon, 1998; Fox,
60 Ericsson, & Best, 2011). Thus both “*Post hoc* rationalisation” and introspection are likely to
61 interfere with the judgemental processes being examined. Furthermore an instruction to
62 participants to “reflect” and “explain” their thoughts (as used by Dubé et al., 1998, or Mellor
63 et al., 1999) may increase the effect of social desirability, resulting in participants reporting
64 the use of more general or cultural theories rather than personal information (Hixon &
65 Swann, 1993). In summary, methods that encourage retrospection may not be the most
66 accurate method to identify the information used in well-being judgements.

67 The use of post-judgement tick lists to facilitate participants’ reporting of used
68 information has been justified as a way of overcoming participant forgetfulness and lack of
69 motivation to complete open-ended lists (Schimmack et al., 2002) but it is obviously a
70 restrictive method as participants are unable to provide information other than the choices
71 provided. Similarly, interviews intended to examine what people think about when they
72 consider their life satisfaction tend to use probe questions which are likely to influence
73 participants’ responses. This issue is reflected in the inconsistent findings regarding the use of
74 comparison in life satisfaction judgments. Mehlsen et al (2005), who used probe questions,

75 found that their sample reported using comparisons. However, when comparison was
76 included as one of a number of options in a tick list participants reported that they did not use
77 comparisons at all (Dubé et al., 1998).

78 Information-rich data, such as open-ended interviews and written responses, provide a
79 window to an individual's thoughts. However previous research has analysed such data with
80 restrictive coding schemes that focus on specific cognitive processes or categories identified
81 a-priori (Bojanowska & Zalewska, 2015; Delle Fave et al., 2010; Dubé et al., 1998; Mehlsen
82 et al., 2005; Schimmack et al., 2002; Updegraff & Suh, 2007). To the authors' knowledge, in
83 the area of well-being research, only Mellor et al., (1999) have derived the categories for their
84 coding scheme directly from the participants' verbatim interviews. Some studies (e.g. Agbo
85 & Ome, 2017; Caunt et al., 2012) have tried to address this by applying a-priori coding
86 schemes while simultaneously seeking to identify information that does not fit within these.
87 Caunt et al., (2012) used content analysis of pilot data to identify further code categories to
88 add to a-priori categories. However as Caunt et al., (2012) only kept newly identified
89 categories if they occurred in more than 15% of participants reports it could be argued that
90 less frequent, but still valid, thoughts and responses were lost. Thus, with most studies
91 investigating well-being judgements relying on a-priori coding schemes, there is clearly a
92 lack of research that utilises inductive analyses.

93 1.3 Obtaining written or verbal descriptions

94 The majority of studies examining the information used when participants consider
95 their well-being have used written participant responses and, for more recent studies, this is
96 likely to be due to the ease of online recruitment and participation (see Bojanowska &
97 Zalewska, 2015; Caunt et al., 2012; Delle Fave et al., 2010; Dubé et al., 1998; Luhmann et
98 al., 2013; Schimmack et al., 2002; Updegraff & Suh, 2007). A further benefit of using online

99 participants is that of anonymity; interviewing participants face to face is said to increase the
100 influence of social desirability, suggesting that more truthful information can be obtained via
101 anonymous written submissions online (Harris & Brown, 2010; Kelly, Harper, & Landau,
102 2008; Podsakoff et al., 2003; Richman, Kiesler, Weisband, & Drasgow, 1999). It has been
103 suggested though that face to face interviews mitigate issues of apathy and non-
104 responsiveness and motivate participants to provide more elaborate responses (Richman et
105 al., 1999). The fact that on average participants took just 12 minutes to complete an online
106 survey in which they completed personality measures, two well-being measures and wrote a
107 list describing what they were thinking about during one of the well-being measures
108 (Luhmann et al., 2013) suggests that participants may not be giving the measures much
109 thought. Thus while online, written methods may facilitate participant recruitment and
110 anonymity this may be at the expense of in depth, considered responses.

111 1.4 A novel method for examining cognitive judgements

112 Thinking Aloud is a concurrent verbalisation technique, often used for questionnaire
113 assessment, which aims to minimise the cognitive interference resulting from explanation and
114 elaboration (Beatty & Willis, 2007; Ericsson & Simon, 1980; van Someren et al., 1994).
115 Participants speak their thoughts, putting into words the cognitive processes experienced and
116 information used whilst performing concurrent tasks or solving problems. Thinking Aloud
117 differs from introspection as the action itself has been found not to influence the thought
118 processes being examined (Ericsson & Fox, 2011; Ericsson & Simon, 1980; Fox et al., 2011).
119 Thus, the Thinking Aloud technique should allow a more “on-line” access to participant’s
120 thoughts, and minimise explanation and elaboration.

121 Previous studies have used inductive analytical approaches but have not used
122 particularly systematic methods (Caunt et al., 2012; Luhmann et al., 2013; Mellor et al.,

123 1999). Grounded Theory is a method of qualitative analysis that, compared to other
124 qualitative methods of analysis such as Thematic Analysis and Content Analysis (Braun &
125 Clarke, 2006; Elo & Kyngäs, 2008), has a particularly well-defined process - the constant
126 comparative method (Pidgeon & Henwood, 1996). An important aspect of this process is that
127 the meaningful areas identified within the data are compared systematically and this process
128 continues until “theoretical saturation” - the point at which no new categories of data are
129 identified (Boeije, 2002; Pidgeon & Henwood, 1996). As the premise of Grounded Theory is
130 to generate a theory (Charmaz, 1990; Pidgeon, 1996) it must be made clear that the classic
131 Grounded Theory process was not used in its entirety in this study. Rather the constant
132 comparative method of analysis was used to generate a coding scheme that was grounded in
133 the data. This method of identifying themes in interview data is recommended when
134 analysing cognitive interviews (see Miller, Wilson, Chepp, & Ryan, 2014)

135 In sum, previous methods used to investigate the cognitive processes and information
136 used in well-being judgements have aimed to be open and descriptive but they have been
137 limited by a reliance on retrospection and restrictive methods such as probing questions and
138 a-priori coding schemes. The aim of the present studies was to address these methodological
139 issues in order generate a comprehensive coding scheme grounded in participant-generated
140 data to demonstrate the information used in a well-being judgement, specifically the
141 cognitive assessment of life satisfaction. In the spirit of qualitative analyses no specific
142 hypotheses were made for Study 1 as the intention was to analyse the interviews without
143 being overtly influenced by previous studies. However it should be acknowledged that,
144 according to earlier research, the participants were highly likely to refer to relationships with
145 others (Delle Fave et al., 2010; Mellor et al., 1999; Schimmack et al., 2002). It was also
146 expected that domains identified, reflecting the use of particular information, would have
147 differential relationships with the SWLS scores.

148 **2 Study 1**

149 Study 1 analysed Think Aloud interviews using an inductive, qualitative analysis to
150 generate a coding scheme grounded in participants responses to life satisfaction statements.

151 2.1 Method

152 *2.1.1 Participants*

153 The sample consisted of 54 unpaid, volunteer participants (32 female, 22 male) aged
154 from 24 to 68 years ($M = 40$ years, $SD = 10.62$). Further demographic information is presented
155 in Table 1, which shows that the sample was limited in its representation of different ethnic
156 groups. Participants were recruited via mailing lists, word of mouth, and announcements on
157 social networking sites.

158 *2.1.2 Materials and procedure*

159 Interviews took place in a private location that was convenient for the participant. In all
160 cases only the participant and researcher were present, to assure privacy. There were no
161 distractions or disturbances for any participants during the full duration of the procedure, which
162 lasted between 20 – 45 minutes. The interview, including warm up tasks, was recorded using
163 a microphone attached to a laptop.

164 The Think Aloud interview was conducted according to standard protocols (Beatty &
165 Willis, 2007; Ericsson & Fox, 2011; Ericsson & Simon, 1998; Fox et al., 2011; van Someren
166 et al., 1994). The participants thought aloud their responses to each of the five items of the
167 Satisfaction with Life Scale (SWLS; Diener et al., 1985) in turn, which were presented in verbal
168 and written form without a response scale. The response scale was excluded as Thinking Aloud
169 is best suited to tasks or processes which cannot be solved automatically, conscious cognitive
170 processes need to occur (Fox et al., 2011; van Someren et al., 1994). Thus removing the scale

171 prevented automatic responses to the SWLS (i.e. participants could not simply choose the
172 extreme ends or middle of the scale without thought). Also removing the response scale was
173 intended to minimise the opportunity for explanation as participants did not have to explain
174 why they chose a particular score.

175 The instructions were given as follows: “Please try to say out loud everything that goes
176 through your mind in response to the following statements”. After the Think Aloud procedure
177 the participants completed a pen and paper version of the SWLS which included the response
178 scale. After completing the SWLS the first statement was presented to the participants again.
179 The participant was then asked to make an upward judgement that required them to consider
180 what would make them respond with a score two points higher than they had given, and to
181 Think Aloud what came to mind. For example, if a participant’s earlier response to the first
182 SWLS item was 5, the instructions given were as follows: “In response to this question you
183 gave 5, Slightly Agree. What would make it 7, Strongly Agree?”. The participants were then
184 asked to make a downward judgment; the previous instruction was repeated for a score two
185 points lower than the initial response. Any participants who had previously chosen the scores
186 from the end of the scale, 7 or 1, were asked to imagine that the scale had two extra points and
187 were asked what would make their answer 9 or -1 respectively. The upward and downward
188 Think Aloud judgements were repeated for each SWLS item. Thus each participant produced
189 15 responses: 5 standard items, 5 upward, and 5 downward. The total length of the interviews
190 ranged from 4.27 to 24.40 minutes ($M = 12.26$, $SD = 4.25$). In all cases participants thought
191 aloud their responses until they stopped naturally.

192 The SWLS (Diener, et al., 1985) consists of five statements: In most ways my life is
193 close to my ideal; The conditions of my life are excellent; I am satisfied with my life; So far, I
194 have gotten the important things I want in life; If I could live my life over, I would change
195 almost nothing. Respondents were asked to indicate the extent to which they agree with each

196 statement on a Likert scale ranging from 1, *strongly disagree* to 7, *strongly agree*. The
197 responses to each item were summed and the possible scores ranged from 7 to 35 (for this study
198 $\alpha = .79$).

199 2.1.3 Qualitative analysis

200 Each interview was transcribed verbatim. A single transcript, chosen at random, was
201 subjected to open coding - the identification and labelling of meaningful data of interest on a
202 line by line basis for each response (i.e. each question). Using the constant comparative
203 method (Pidgeon & Henwood, 1996) the labels assigned to the first response in the transcript
204 were then looked for in the subsequent responses. New categories or concepts were also
205 identified and labelled in each response, and looked for in previous and subsequent
206 responses. As a result of using the constant comparison process the initial coding labels were
207 subject to change as further responses were analysed. In total 51 separate labels were
208 generated from the first transcript, including, for example, *assumptions about the future*,
209 *money worries*, *support from others*, *self-esteem*, *changing aims with age*, *positive feelings as*
210 *an indicator of satisfaction*, *ideals and expectations of others*, *continually striving*, *wasting*
211 *time*. A second full transcript was examined using the same process: occurrences of the
212 previously identified categories and concepts were identified, some labels were changed to
213 improve the fit, and new concepts and categories were labelled. The process of identifying
214 and labelling continued until no further new labels were identified - theoretical saturation
215 (Pidgeon & Henwood, 1996). At the point of saturation 11 full transcripts had been
216 examined, yielding 95 category labels. Further label integration, or axial coding (Pidgeon &
217 Henwood, 1996), occurred at this stage which allowed connections, similarities and
218 differences between labels to be identified. This resulted in 15 superordinate code categories
219 or broad concepts: Relationships-with-others; Job; Health; Money; Accommodation; Material
220 Possessions; Feelings; Use of time; Contribution to the World; Influence of the Wider World;

221 Comparison; Self-Qualities; Daily Life; Doing Things; Personal Theory. As an example a
222 diagram demonstrating how labels were integrated to form the code category Relationships-
223 with-others is shown in Figure 1. As recommended in the Grounded Theory process (Pidgeon
224 & Henwood, 1996) definitions were written for the 15 code categories.

225 2.2 Results

226 2.2.1 Reliability and definition of code categories.

227 The code categories resulting from the qualitative analysis were used as a coding
228 scheme on all transcripts in the sample. Every participant had 15 responses (three responses
229 for each of the five SWL items) which were examined for the presence of each code
230 category. A response could contain multiple code categories but each was either present or
231 absent. A second coder examined 20% of the full sample (11 transcripts - not chosen at
232 random to ensure that all the categories were present.). As a Kappa of over .75 can be
233 considered “excellent”, .6 to .75 “good”, and .4 to .6 “fair” (Robson, 2002), six categories
234 with less than good agreement (<.6) were reconsidered. The resulting modifications to their
235 definitions were based upon the qualitative content of each category and agreed upon by both
236 coders. The full sample was then re-coded using the modified code categories. A further 11
237 transcripts, again not chosen at random but chosen to ensure all the categories were present,
238 were examined by the second coder and the inter-rater reliability was recalculated. As two
239 code categories (Influence of the Wider World and Comparison) still had a less than good
240 agreement level they were excluded from further quantitative analysis. The definitions for the
241 final 13 code categories are provided, with example quotes and underlying axial codes, in the
242 Appendix.

243 2.2.2 Frequency of code categories.

244 There were not any participants who brought to mind information that could not be
245 assigned a code. This finding is unsurprising as the coding categories were generated via an
246 inductive analysis that appeared to reach theoretical saturation. The code categories were
247 counted as either present or absent for each response. The overall frequency of a code
248 category could therefore be calculated as the number of responses that contained it out of a
249 total of 807 responses (54 participants, with 15 responses each resulting in 810 possible
250 responses, minus 3 missing responses resulting from technical issues when recording the
251 interview). For example, Relationships with Others, the most common code category was
252 coded as being present in 378 of the 807 responses (46.8%). The overall frequency of each
253 core categories is shown in Figure 2. Relationships-with-others, Job and Feelings were the
254 most common core categories. There is also a clear point of inflection demonstrating that
255 Relationships with others, Job, and Feelings stand apart from the other code categories in
256 terms of frequency. It is also clear that Material Possessions and Contribution-to-the-world
257 were considerably less frequent than the rest.

258 *2.2.3 The effect of question type.*

259 The responses to the upward and downward questions represented an imagined better
260 or worse life rather than one's present life. The difference in code category occurrence
261 between the question types was examined as it was possible that these questions would
262 encourage different information to be brought to mind. To do this code category index scores
263 were calculated for each participant for each of the three question types. For example,
264 considering the standard questions, a participant would receive a score of 2 for the Health
265 code category if Health coded information was identified in two of the five responses. In
266 general, the index scores for the entire sample were not normally distributed and for the less
267 frequent code categories (for example: Material Possessions and Contribution-to-the-world)
268 most participants had index scores of 0. Friedman's ANOVAs were therefore used to

269 establish whether the index score for each code category varied according to the type of
270 question (Standard, Upward, Downward).

271 The mean ranks are presented in Table 2. Some of the code categories were found to
272 vary with question type: Health, $\chi^2(2) = 7.74, p = .021$; Money, $\chi^2(2) = 8.28, p = .016$;
273 Contribution-to-the-world, $\chi^2(2) = 8.59, p = .014$; Doing Things, $\chi^2(2) = 6.37, p = .041$;
274 Personal Theory, $\chi^2(2) = 14.23, p = .001$; Use-of -Time, $\chi^2(2) = 12.56, p = .002$. The
275 frequency of the remaining code categories was not found to be affected by the question type
276 ($\chi^2(2) = 1.36 - 5.48, p > .05$). Wilcoxon tests, using a Bonferroni corrected .017 level of
277 significance, were used to explore the significant differences. It was found that Health was
278 more frequently mentioned when thinking about a worse life compared to a better life ($z = -$
279 $3.01, p = .003, r = -.41$). Money was found to be more frequent when participants thought
280 about a better life than when assessing their present life ($z = -3.26, p = .001, r = -.44$).
281 Contribution-to-the-world was more frequently brought to mind when participants thought of
282 a better life than a worse life ($z = -2.67, p = .008, r = -.36$). Doing Things was also
283 significantly more common when thinking of a better life compared to thinking of a less
284 satisfying life ($z = -2.85, p = .004, r = -.39$). Participants tended to use information related to
285 Personal Theory significantly more when thinking about their present life than when thinking
286 about a better ($z = -2.89, p = .004, r = -.39$) or worse life ($z = -3.69, p < .001, r = -.5$).
287 Participants were found to bring Use of Time related information to mind significantly more
288 when thinking of a more satisfying life compared to when they thought of their present life (z
289 $= -2.41, p = .016, r = -.33$) or a worse life ($z = -2.61, p = .009, r = -.36$). It is worth noting that
290 if a Bonferroni correction were applied to the initial ANOVAS ($.05/13 = .004$) that only the
291 use of Personal Theory and Use-of -Time would be found to vary with question type.

292 *2.2.4 The relationship between life satisfaction and the information brought to mind.*

293 To investigate whether the use of information, in terms of the occurrence of code
294 categories, was related to life satisfaction the SWLS scores were correlated with the code
295 category index scores for each question type. Kendall's Tau was used due to the large number
296 of tied ranks in the data (Field, 2009). Due to the very high number of correlations (13 code
297 categories x 3 question types = 39) the significance level was lowered to .001. The
298 correlation coefficients were all weak and non-significant. The use of any particular
299 information was not found to be related to greater life satisfaction.

300 **3 Study 2**

301 Using an inductive, qualitative analysis Study 1 identified the information brought to
302 mind whilst participants Thought Aloud their responses to life satisfaction statements. Study
303 2 sought to provide further support for the validity of these code categories by using a
304 written, rather than verbal, protocol.

305 3.1 Method

306 3.1.2 *Participants*

307 A sample of 201 unpaid, volunteer participants (147 female, 54 male), age range 18 – 66
308 years ($M = 32$ years, $SD = 12.47$), were recruited online via study recruitment websites and
309 their associated mailing lists, Facebook groups and Twitter feeds. The sample was limited in
310 its representation of different ethnic groups with 79.1% of the sample describing themselves as
311 White or White British.

312 3.1.3 *Materials and procedure*

313 Participants completed a modified version of the SWLS online using Select Survey ASP
314 Advanced software. The SWLS is described in the Materials and Procedure section for Study
315 1. Each SWLS item was presented individually, on a separate screen, with the standard 7-point

316 response scale as well as the following instructions: “Below is a statement that you may agree
317 or disagree with. Take your time to think about the extent to which you agree or disagree. Try
318 to be aware of the information you are using.”. For each item, after choosing from the response
319 scale, participants were provided with the following instructions and a space to type their
320 thoughts: “Now just give a brief description of what went through your mind as you considered
321 the statement. You do not have to write in proper sentences; simply do your best to describe
322 your thoughts.” The responses to each item were summed so the possible scores ranged from 7
323 to 35. In the current study the scale was found to be highly reliable ($\alpha = .84$).

324 3.1.4 *Domain use*

325 The written responses to the five SWLS items were coded for the presence of
326 information relating to the 13 code categories identified in Study 1. The individual item
327 results were amalgamated so that for each participant a domain was counted as mentioned or
328 not across all 5 items. Combining the responses in this way allowed for the following issues:
329 participants may have deliberately avoided repeating themselves, despite instructions stating
330 that they could use the same information; participants may have grown tired of typing the
331 same information; participants may have interpreted each item as requiring a different
332 answer; the earlier responses may have primed the use of information in the later responses.

333

334 3.2 Results

335 3.2.1 *Reliability of code categories*

336 The full sample (N = 201) was coded by the first author and 20% of the sample was
337 coded by a second coder to calculate inter-rater reliability. The items coded by the second
338 coder were not chosen at random but were chosen to ensure that all the categories were
339 present, as some were less frequent than others. The resulting Cohen's Kappa values

340 demonstrated that the categories displayed good to excellent reliability (greater than .6;
341 Robson, 2002).

342 3.2.2 *Frequency of code categories.*

343 The overall frequency of a code category was calculated as the number of participants
344 recorded as having that code present in any of their 5 responses. For example, Relationships
345 with Others, the most common code category was coded as being mentioned by 144 of the
346 201 participants (71.6%). The overall frequency of each code category is shown in Figure 3.
347 All the code categories were identified as being present and were also found in similar
348 proportions to Study 1. Relationships-with-others was again the most common core category,
349 in line with Study 1. Compared to Study 1 Job information was less frequent, but Feelings
350 was still the third category most frequently brought to mind. It is also clear that, again,
351 Material Possessions and Contribution-to-the-world were again considerably less frequent
352 than the rest of the code categories.

353 **4. Discussion**

354 Using the Think Aloud interview technique and a qualitative, inductive analysis Study
355 1 identified the information brought to mind by participants as they verbally responded to the
356 SWLS statements and considered a better or worse life. Thirteen code categories were
357 generated and examined: Relationships-with-others, Job, Feelings, Doing Things, Money,
358 Self-Qualities, Personal Theory, Accommodation, Daily Life, Use-of -Time, Health, Material
359 Possessions, and Contribution-to-the-world. The validity of these categories, in terms of their
360 consistent use in a life satisfaction judgment, was demonstrated in Study 2 which used a
361 written protocol similar to those used previous studies (e.g. Luhmann et al., 2013; Mehlsen,
362 Kirkegaard Thomsen, Viidik, Olesen, & Zachariae, 2005; Updegraff, Emanuel, Suh, &
363 Gallagher, 2010). The code categories demonstrated similar patterns of frequency across both
364 studies, despite the different modes of administration. This convergence demonstrates that

365 whilst the code categories were generated from an inductive analysis of Think Aloud
366 interview data participants seem to bring similar information to mind when invited to write
367 down their thoughts. Clearly standing apart from the others in terms of overall frequency
368 Relationships-with-others was the most common code category across both studies. The least
369 frequent categories were Contribution-to-the-world and Material Possessions. The use of the
370 code categories was not found to be related to SWLS scores.

371 4.1 The diversity and frequency of the information brought to mind

372 Importantly, compared to previous studies using similar methodologies (Martikainen,
373 2009; Mellor et al., 1999; Schimmack, Diener & Oishi, 2002) the 13 code categories derived
374 from Study 1 account for a much broader array of information, with Daily Life; Personal
375 Theory and Contribution-to-the-world not having clear counterparts in previous work. The
376 legitimacy of these areas as information brought to mind when considering one's life
377 satisfaction is further supported by their clear presence, and convergent frequency pattern, in
378 Study 2. This new, previously unidentified information can, to a certain extent, be attributed
379 to the subjectivity of Study 1's qualitative coding; previous studies have eliminated or
380 combined categories that were classed as infrequent (Caunt et al., 2012; Martikainen, 2009;
381 Schimmack et al., 2002) whereas Study 1 modified or excluded categories on the basis of
382 reliability. It can be argued that basing the retention of codes on prevalence means that those
383 retained do not necessarily represent the full range of possible information brought to mind.
384 For example, Contribution to the World was identified as being used by participants in both
385 studies but was similarly infrequent. The present findings suggest that whilst there are clearly
386 areas of life that seem to be universally and frequently brought mind (e.g. relationships, job)
387 there are some less used areas of information that should still be considered relevant for
388 some, if not all, people.

389 The present study provides considerable support for a finding which has previously
390 been demonstrated by correlational studies (e.g., Heller et al., 2006; McAdams et al., 2012;
391 Schneider & Schimmack, 2010) and more descriptive studies (Bojanowska & Zalewska,
392 2015; Caunt et al., 2012; Martikainen, 2009; Mellor et al., 1999) - the importance and
393 relevance of Relationship (Study 1 and Study 2) and Job (Study 1) information to life
394 satisfaction. The difference in the use of Job information between the present studies can be
395 attributed to the sample of middle aged professionals used in Study 1 and demonstrates the
396 use of chronically salient information in life satisfaction judgments (Gärling & Gamble,
397 2012; Schimmack et al., 2002; Schimmack & Oishi, 2005). That these areas have been found
398 to be used more frequently than others across studies using different methods and samples
399 suggests a clear and persistent association of this information with life satisfaction.

400 There is similarity between the code categories identified in the present study and
401 those identified in the most methodologically similar previous work; Mellor et al (1999) also
402 found categories representing relationships, psychological attributes, financial/ material
403 matters, health, and employment. Mellor et al's (1999) sample consisted of students aged
404 between 18 and 25 whilst the age range of the present studies was 18 to 68. The tendency for
405 Mellor et al's young participants, the middle aged professionals in Study 1, and the broad
406 online sample in Study 2, to use similar information further supports the idea of universally
407 relevant information (Schimmack, Diener & Oishi, 2002).

408 Some of the code categories identified can be related to aspects of eudaimonic list
409 theories of well-being. In particular Relationships-with-others, a domain consistently shown
410 to be brought to mind in well-being judgements, features in Psychological Well Being (PWB,
411 Ryff, 1989), PERMA (which represents positive emotion, engagement, relationships,
412 meaning, and accomplishment, (Seligman, 2011), and Self Determination Theory (SDT,
413 Ryan & Deci, 2000). Indeed, some of the categories identified in the present study which

414 have no clear counterparts in previous, similar research also echo eudaimonic sentiments.
415 Daily Life, which represents the ability to manage one's daily life, is reflected in both the
416 PWB facet of environmental mastery and the autonomy and competence aspects of SDT.
417 Contribution-to-the-world, which can briefly be defined as an individual having an impact on
418 something other than their own life, can also be related to specific aspects of PERMA's
419 meaning and purpose. Thus, the present studies demonstrate that the information used by
420 people in life satisfaction judgements overlaps with existing theoretical approaches to
421 eudaimonic well-being, reinforcing the idea that life satisfaction should not be defined as a
422 purely hedonic, or feelings-based measure. Further these findings provide definitions and a
423 coding scheme that allow such information to be easily identified in further research that uses
424 either written or verbal methodologies.

425 4.2 The effect of question type on information use

426 A relationship between life satisfaction score and the use of particular information use
427 was not found, however the supplementary questions concerning higher and lower SWLS
428 scores in Study 1 provided the opportunity to identify whether the consideration of a better or
429 worse life brought to mind different information compared to the consideration of one's
430 present life. Some categories (Relationships-with-others, Job, Feelings, Self-Qualities,
431 Accommodation, Daily Life, and Material Possessions) were found to be used to the same
432 extent for all questions. That Relationships-with-others, Job and Feelings - the three most
433 common code categories - were in this group suggests that these three areas of information
434 are persistently relevant to life satisfaction, whether it be judging one's present life or
435 imagining alternatives.

436 Personal Theory was the only code category found to be more frequently used by
437 participants when thinking about their present life than when thinking about a better or worse

438 life. The Personal Theory code category represented the various broad schemas or world
439 views that the participants brought to mind when contemplating life in general. This included
440 assumptions about others, for example, “who does have an ideal life? Nobody” and one’s
441 general attitude towards life, for example, “things are never ideal because things can always
442 be a bit better”. One explanation for this finding is that participants used abstract thoughts or
443 broad descriptions when thinking about their general life satisfaction and brought to mind
444 more specific information when asked about a better or worse life. Thinking about one’s life
445 in an more abstract way has been found to be related to higher satisfaction (Updegraff & Suh,
446 2007) but this was not directly found in the present study.

447 Health, Contribution-to-the-world, Doing Things, and Money were also found to
448 differ significantly in terms of their use across the three question types. Whilst being mindful
449 of the risk of Type 1 error some of these differences are of theoretical interest and warrant
450 brief discussion. Health was the only category found to be more frequently mentioned when
451 thinking about a worse life, compared to a better life. This result likely reflects the fact that
452 individuals who are generally fit and well do not have their health at the forefront of their
453 mind, but worsening health comes to mind when thinking about lower life satisfaction.
454 Contribution-to-the-world was found to be mentioned very rarely overall, as such it is
455 particularly interesting that it should be mentioned significantly more when considering a
456 better life. The finding suggests that aspects of the Contribution-to-the-world category,
457 defined as “an individual having an impact on something other than their personal life, such
458 as the local community or wider issues”, relates to the idea of a more satisfying life for some
459 people. The increased frequency of Money when participants thought about a better life does
460 not necessarily mean that participants felt that more money would make them more satisfied.
461 The code category also encompassed concerns about money, thus for many people a better
462 life may simply be one without money worries rather than huge riches. This result may also

463 suggest that while money is considered relevant to improved life satisfaction people may be
464 reluctant to explicitly mention money in relation to their present satisfaction. The importance
465 of money can be considered a contentious issue in well-being research and evidence has been
466 mixed with regards its importance to life satisfaction (Diener et al., 1999; Diener, Tay &
467 Oishi, 2013; Lucas et al., 2008).

468 4.3 Limitations and further research

469 All participants in Study 1 were asked to consider the SWLS statements followed by
470 consideration of a better life, then a worse life. The identification of code categories that
471 appeared to be more relevant to a life with higher life satisfaction may provide useful routes
472 for interventions and public policy, with the present study tentatively suggesting both
473 eudaimonic (Contribution-to-the-world) and material aspects (Money). However, two
474 limitations should be borne in mind when considering the effect of question type in the
475 present study. It is possible that differences in information use between the question types
476 could be attributed to the question order, rather than a genuine difference in information use.
477 Importantly previous studies using open-ended questions have both used (e.g., Mellor et al.,
478 1999) and not used (e.g., Martikainen, 2009) counterbalancing when asking similarly
479 valenced questions concerning life satisfaction. The potential for type 1 error should also be
480 highlighted. Nevertheless, assuming that individuals are the best judges of their satisfaction,
481 the domains of Money and Contribution to the World comprise real life conceptions of how
482 to improve life satisfaction.

483 A key aspect of the measurement of life satisfaction is that an individual should be
484 able to “determine their own criteria for inclusion in the judgement process, and to weight
485 them in the manner they choose” (Pavot & Diener, 2008, p.140). This idea is clearly
486 demonstrated in a phenomenological measure of quality of life, the Schedule for the

487 Evaluation of Individual Quality of Life (SEIQoL; (Joyce, Hickey, McGee, & O' Boyle,
488 2003; O'Boyle, 1994). The SEIQoL uses a semi-structured interview to identify the areas of
489 life that an individual deems important to life satisfaction and happiness, and then enables
490 these areas to be evaluated according to a self-defined scale of best possible to worst possible.
491 In comparison to the precision of the SEIQoL many well-being measures simply assume that
492 this idiographic weighting occurs, in other words that it is occurring within the "black box" of
493 cognitive processes. Despite previous studies suggesting otherwise (e.g., Mellor et al., 1999)
494 the relative frequencies of the code categories generated in the current studies should not be
495 assumed to indicate the importance of that information to life satisfaction. In other words, the
496 ease and frequency with which information is brought to mind may not necessarily reflect the
497 importance or value of the information. Thus, the findings of the present studies do not shed
498 light on how the various areas of information are weighted. It should also be noted that the
499 code categories identified in the present Study 1 do not assess the valence of the information
500 present. For example, the Relationships-with-others code encompasses the use of positive
501 information (e.g., "I've got a lovely family") or negative information (e.g., "my relationships
502 with my family got worse"). A further area of research then is whether the valence of the
503 information affects the weighting. For example, is positive relationship information given
504 more weight in a life satisfaction judgment than negative money information?

505 It should be acknowledged that the sample size of Study 1 is relatively small (N= 54)
506 compared to other studies such as Bojanowska and Zalewska (2015, N =785), Caunt et al.
507 (2012, N = 201), Martikainen (2009, N = 192), and Luhmann et al., (2013, N = 414).
508 However, each of these studies utilised a written methodology, either online or via paper
509 questionnaires, rather than verbal one to one interviews making data collection less time
510 consuming for the researchers. This is underlined by the larger sample size of Study 2, which
511 used an online, written method. Further Mellor et al. (1999) conducted the most

512 methodologically similar study to Study 1, using both interviews and an inductive analysis,
513 with a similar sample size of 42. Importantly the inductive analysis used in Study 1 generated
514 categories that did not have direct equivalents in previous research, namely: Daily Life;
515 Personal Theory and Contribution-to-the-world. Furthermore these “new” categories were
516 also found to be present in similar proportions in Study 2. Thus, despite the small sample, the
517 novel methodology used has allowed for more rich data that has increased our knowledge
518 regarding the information brought to mind when someone considers their life satisfaction. It
519 may have been interesting to further examine the relationship between the information used
520 and participant characteristics (e.g. age, gender, marital status) or question type (e.g. the five
521 SWLS items). However, the sample size meant any findings would not be robust and would
522 be difficult to justify. As such these are ideas worth pursuing in further work.

523 The richness of the categories identified in Study 1 extended what we know about life
524 satisfaction judgements from other studies with similar aims and methodologies, but both the
525 current studies can also be considered reductionist as the coding categories were counted as
526 either present or absent. Further, as the aim of the present study was to reduce complex and
527 nuanced data to create a coding scheme, the specific meaning of the information brought to
528 mind by each participant has been dominated by the broader aspect represented by each
529 coding category. Whilst it may be tempting to analyse the data further to obtain more
530 individually meaningful representations this would, in effect, be reverse engineering the
531 inductively found coding categories. It is important to acknowledge that much more needs to
532 be done to explore the idiosyncratic nature of life satisfaction judgements, via qualitative, and
533 mixed, methodologies in terms of how the information brought to mind is used and how it
534 represents the lived experience. However, having identified these categories that encompass
535 more information than previous studies, they can now be used as the basis for further
536 qualitative research to examine individual meanings represented by each category. Mixed

537 methods studies (using a methodology similar to Ponocny, Weismayer, Stross, & Dressler,
538 2016) could not only explore the wide variety of ways that the categories are represented but
539 also how these map onto life satisfaction scores.

540 It should be noted that the 13 code categories may be limited in terms of their
541 generalisability as the samples in both Study 1 and 2 lacked ethnic diversity. There is clearly
542 scope to use online data collection methods, as used in Study 2, to obtain written reports from
543 a larger and more broad sample which can be analysed using the coding scheme developed in
544 Study 1. Further research should establish whether the 13 code categories identified display
545 different frequencies in other samples.

546 Finally the potential limitations of the Think Aloud method warrant consideration.
547 Schooler (2011) points out that the particular mental processes that link one thought to the
548 next may not be accessible via any kind of verbalisation, including Thinking Aloud.
549 Importantly Schooler's point relates not only to Thinking Aloud but also to the validity of
550 previous, similar studies that directly ask participants what kind of comparisons they may
551 have used in their judgement (e.g. Dubé et al., 1998; Schimmack, Diener & Oishi, 2002).
552 Essentially the specific cognitive processes that occur during a life satisfaction judgement
553 may not be directly accessible via any method, verbal or written. Additionally, the Think
554 Aloud methodology used in Study 1 may not exactly replicate the processes that actually
555 occur when completing the SWLS, a 5-item measure with Likert scales that can be answered
556 in less than a minute (Diener et al, 1999). Interestingly the act of verbalising the response
557 may slow the judgement down producing a measured and considered judgement and this may
558 also influence the information used; Trent and King (2010) found that making a judgement
559 thoughtfully or rapidly moderated the use of information in a Meaning in Life (MIL)
560 judgement, a judgement assumed to be similar to that for SWL (Trent & King, 2010). When
561 considering the accuracy of the Think Aloud verbalisation a pertinent point may be that,

562 according to Willis (2005), it is impossible to know in an absolute sense what transpires in a
563 respondent's mind, but that verbalisation may provide clues as to the types of processes
564 involved. To put another way Thinking Aloud may not allow access to particular cognitive
565 processes, but does provide a commentary of some of the information that is brought to mind.
566 We know that retrieval is occurring not because a participant describes the retrieval process
567 but because information is actively retrieved.

568 4.4 Concluding remarks

569 Life satisfaction is defined as a subjective, cognitive judgement (Pavot & Diener,
570 2008) and the code categories discovered in Study 1 provide evidence of the breadth of
571 information that can be brought to mind. When people consider their life satisfaction
572 information relating to Relationships-with-others, Job and Feelings tend to be the main areas
573 of information used, a finding that supports previous research (such as Caunt et al., 2012;
574 Mellor et al., 1999; Schimmack et al., 2002). Some areas of information appear to be more
575 relevant depending on whether one considers current life satisfaction or thinks about a better
576 or worse life. While there is reason to be cautious of these differences, they provide
577 interesting routes for further research. The present studies provide support for the idea that
578 bottom-up life domain information is brought to mind when one considers one's life
579 satisfaction and that some of this information is universally relevant.

580 Previous studies have relied upon retrospection (Dubé et al., 1998; Mellor et al., 1999;
581 Schimmack et al., 2002; Updegraff & Suh, 2007), used a-priori coding schemes (Bojanowska
582 & Zalewska, 2015; Caunt et al., 2012; Delle Fave et al., 2010; Luhmann et al., 2013;
583 Updegraff & Suh, 2007), or restricted the participant's responses in various ways (Mehlsen et
584 al., 2005; Schimmack et al., 2002). Study 1 therefore improves upon previous work by being
585 the only completely open response method that avoids retrospection and analyses the data

586 using a coding scheme grounded in the data itself. The resulting coding scheme may not
587 represent a direct proxy for a life satisfaction judgement, but it provides a more
588 comprehensive and “on line” account compared to previous studies as it is based on the
589 inductive analysis of participant’s thoughts. Further research examining when, or how,
590 information use varies in well-being judgements will benefit from the use of consistent code
591 categories. Given the complexity of the cognitive processes taking place there is still a need
592 for a more complete exploration of life satisfaction judgements using more rich and deep
593 data. Future research should account for not only what information is brought to mind, and
594 the weighting or importance that is attributed to certain information, but also the meaning that
595 underpins the information used. This would allow the more idiosyncratic nature of
596 satisfaction with life to be understood.

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Table 1 Additional demographic information as a percentage of whole sample

Demographics		%	
			597
Ethnicity ¹	White or White British	87	
	Black or Black British	4	598
	Asian or Asian British	4	599
	Chinese or Chinese British	2	600
	Middle Eastern or Middle Eastern British	2	
Relationship status	Not in a relationship	30	601
	In a relationship	70	602
	Married ²	39	603
Parental status	No children	70	
	Has children	30	604
	Has children under 18	24	605

¹One participant chose not to answer the question.²Length of marriages ranged from 4 to 40 years.

Table 2 Mean ranks of code category index scores according to question type

	Standard	Upward	Downward
Relationships-with -others	1.90	2.01	2.09
Job	1.83	2.15	2.02
Feelings	2.15	1.98	1.87
Doing things	1.88 ^{ab}	2.22 ^b	1.90 ^a
Money	1.86 ^a	2.28 ^b	1.86 ^{ab}
Self-Qualities	1.86	2.06	2.08
Personal Theory	2.33 ^b	1.94 ^a	1.72 ^a
Accommodation	2.16	1.97	1.87
Daily Life	1.79	2.10	2.11
Use of Time	1.88 ^a	2.31 ^b	1.81 ^a
Health	2.03 ^{ab}	1.81 ^a	2.17 ^b
Material Possessions	2.03	2.10	1.87
Contribution-to-the world	1.97 ^{ab}	2.14 ^a	1.89 ^b

Notes. Horizontally, non-matching superscripts differ significantly at the $p < .0167$ level.

Appendix Summary of the code category definitions, the underlying axial codes, and example quotes from transcripts

Code Category and definition	Comprising axial codes	Example quotes ^a
<p>Relationships-with-others. The dimension of relationships possession (lacking, gaining, having), the attributes of relationships (quality) and the purpose of relationships (caring for others and socialising).</p>	<p>Support from others, honest with self and others, quality of relationships, having friends and family, family of own, being in relationship, social contact and interaction, concern for health and feelings of others</p>	<p>“I've got a family” (1.2.8), “I think..if I had..just..no friends” (02.1b.56), “friends that would put me up” (02.1b.62)</p>
<p>Job. The importance of employment, the suitability of one’s job, the absorption of a job or career into one’s identity and the associated sense of progress.</p>	<p>Aspects of ideal job, job reflects self, negative aspects, simply having a job, career progress</p>	<p>“erm just doing a job that I was truly, truly engaged in and you know almost vocationally, that’s what I want to do” (38.3a. 67), “if I didn't have my job, I would feel quite lost without a job” (02.1b.57), “my job which is, stable and nice” (02.01.08)</p>
<p>Health. Information related to healthiness, along a fit to illness dimension, with the intermediate or default idea of being well or not sick.</p>	<p>Illness, health and fitness</p>	<p>“Healthy, fit” (15.2.5). “and my health isn't bad” (01.2.9), “erm if my health went downhill that would be a definite erm, that’s a fundamental” (38.1b. 42)</p>

Code Category and definition	Comprising axial codes	Example quotes ^a
Money. The relevance of adequate financial means and concerns regarding a lack of money.	Having enough money, concern about lack of money, financial independence, benefits of more money	“you could have loads more money” (01.1.3), “if my pay went up a little bit” (02.1a.48), “I think if I couldn’t support myself” (38.3b.70)
Accommodation. The acknowledgement and appreciation of where one lives, in a narrow and broad sense.	Accommodation, area, location, comfort, having a home	“I’ve got a house” (01.4.23), “if I had nowhere to live” (02.4b.62), “I’m not living where I would expect to be living but it’s, I enjoy it and it’s comfortable” (02.2.14)
Material Possessions. The acknowledgment, and varying relevance, of material possessions.	Having things, material possessions not important	“and I have nice things” (02.2a.77), “Er, don’t really care very much about cars or anything” (01.4a.138)
Feelings. The use of emotional states and feelings as indicators of satisfaction.	Enjoyment, contentment, fulfilment, happiness, sadness, stress, worry	“I think I’m quite happy” (01.3.15), “Feeling content ... feeling settled, feeling mature, feeling knowledgeable” (23.3.10)
Use of time. The relative time spent on certain areas of one’s life and specific references to how one’s time is used.	Work/life balance, spending time in preferred way, relaxation, recreation/fun	“I think if I just wasted, wasted time” (02.4b.127), “doing exercise, having free time and I’m thinking of just having enough time to do everything” (28.4.22)

Code Category and definition	Comprising axial codes	Example quotes ^a
<p>Contribution-to-the-world. An individual having an impact on something other than their personal life, such as the local community or wider issues.</p>	<p>Impact of self on lives of others, leaving a legacy</p>	<p>“contributing to something significant in the world” (13.4a.90), “I’d have to you know we’re talking about really having done some harm to others, to an individual or a group of people erm some gross act that really impacts on other people” (38.5b.95).</p>
<p>Self-Qualities. The positive and negative perception of one’s characteristics or personality</p>	<p>Using talents and skills, being good at something, self-esteem, blaming self, emotional stability</p>	<p>“erm being a more relaxed person and not being so easy to wind up” (15.5a.58), “ No, could be better, but that’s my fault in a way” (38.3.6), “if I lost all belief in myself” (02.01b.56)</p>
<p>Daily life. The impact of everyday life and its associated difficulties. The ability to manage one’s life: control, constraints and restrictions</p>	<p>Daily stress and hassles, future sources of problems, managing and controlling one’s life</p>	<p>“um possibly not having to commute to work um because that is a bind” (15.2a.33), “If I was more successful as a writer I would be able, I would have so much more control over my life” (04.2a.81)</p>

Code Category and definition	Comprising axial codes	Example quotes ^a
Doing things. Activity in order to achieve certain goals or to maintain a general sense of progress.	Continually striving, achievement, wasting time, considering life as productive, aims and future success, possibilities, acceptance of lot	“I think for a long time my main focus was making sure that I got my degree and my education...so I’ve achieved a big part of my life, the important things that I wanted to achieve” (26.4.23), “the only thing I've ever really wanted was to make my living as a writer, and I do” (04.4.33), “if I was just ambling along” (27.2b.27)
Personal theory. The various schemas people use when contemplating life as a whole, these included assumptions regarding other people and folk concepts as well as the influence of one’s general attitude.	General attitude, gratitude, hope, luck, balance, life as learning experience, compromise, acceptance, generalisations about others, things happen for a reason, perfect impossible	“but I always think it will work out, I always think it will happen” (02.01.3), “things are never ideal because things can always be a bit better” (1.1a.58), “What's ideal, there's not really such a thing” (08.1.1)

Notes ^a Quotes from transcripts are followed by a code showing the participant number, the response section and line. The first standard item was labelled 1, the second 2 and so on; to distinguish the upward and downward items the upward response to the first item was labelled 1a, the downward response was labelled 1b. For example: 02.1b.62, refers to Participant 2, answer to Item 1b – the downward response to item 1, line 62