

BACHELOR THESIS

Economics and Business Economics

**Would you choose what
would maximize your
happiness?**

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1. Introduction

There are just a few papers which research how choice behaviour relates to measures of subjective well-being like happiness, though economists increasingly make use of measures like happiness (Benjamin, Heffetz, Kimball, & Rees-Jones, 2012). The experiments that will be used in this thesis are similar to experiments reported in Hsee (1999), Benjamin et al. (2012) and in Griffin (2000). Though none of these experiments use the common consequence effect or common ratio effect when comparing hypothetical choices about what individuals choose and what they think would make them happy.

In order to fill this gap this thesis will try to find an answer to the following question: **‘to what extent is there a difference in common consequence and common ratio effects between what individuals choose and which choice individuals think would lead to a better subjective well-being?’** An answer to this question would give us an idea in which direction and to what extent people would like to be nudged.

To find an answer to this question a questionnaire was used, which posed a variety of hypothetical scenarios individuals were asked to answer. It was used as a self-administrative questionnaire which is a relatively quick and easy way to get results and can reach a wide variety of participants.

The theories of Maurice Allais will be used to create questions for the questionnaire and help find an answer to the research question. He is most widely known for the paradox he found, the Allais paradox (Allais, 1953). The biases used in this thesis are the common consequence effect and the common ratio effect. These effects can be seen as the primary departing point from expected utility and they show that individuals choose inconsistently with the prediction of expected utility theory. The reason this is inconsistent is because the expected utility theory does not take into account the psychological aspect of the choices individuals make.

The first question of the questionnaire is almost the same as Allais used, but instead of million francs this is stated in hundreds of euros. The other questions are variations on the first one. Besides the question which option they would choose, participants were also asked which option they think would make them more satisfied with life, thus would give them a greater subjective well-being. This work is closely related to experiments reported in Benjamin et al. (2012). In this

paper they research the relation between what people choose and what they think would maximize their subjective well-being. A few of their survey questions are used in this survey to see if the results can be replicated.

An important concept which is used throughout this paper is the concept of subjective well-being (SWB). Subjective well-being (SWB) is defined as ‘a person’s cognitive and affective evaluations of his or her life’ (Diener et al., 2009). In the questionnaire this is stated as the question which option they think would make them more satisfied with life.

To analyse the answers of the questionnaire different methods will be used to see if there is a common consequence and common ratio effect in the responses given by individuals. Further analysis will be done to see if there is a difference between what respondents choose and which option they think will give them the highest SWB. For the statistical analysis a significance level of 10% is used. The reason such a high level is chosen is because standard errors tend to be larger in small amounts of data.

The rest of the paper is organized as follows. Chapter 2 will explain the economic theories used in this thesis. There has been a lot of research into the common consequence effect and the common ratio effect and this is a summary of the parts that are important for this thesis. Chapter 3 discusses the survey design including subjects as population. The results can be found in chapter 4 through 6: chapter 4 will research if there are common consequence and common ratio effects in the responses, chapter 5 will research if people respond to choice and SWB questions in the same way and chapter 6 will be about the reproduction of the research of Benjamin et al. (2012). Chapter 7 presents measurement errors and robustness analyses. Chapter 8 concludes and discusses implications of the findings. The bibliography can be found in Chapter 9 and an example of the survey can be found in the appendix, chapter 10.

2. Theoretical Framework

2.1 Expected utility hypothesis

Continuing on Bernoulli's formulation of a utility function, John von Neumann and Oskar Morgenstern published their book "Theory of Games and Economic Behaviour". In this book they defined their expected utility hypothesis; according to this hypothesis individuals act like they possess a "von Neumann-Morgenstern utility index" and they will choose the prospect that maximizes their expected value when they're faced with uncertain prospects. Since the outcomes can vary from a money gain (or loss) to a trip to Paris this theory can be applied to a large variety of situations. (Machina, 2008)

The Von Neumann-Morgenstern utility Theory (or von Neumann-Morgenstern utility index) consists of four axioms; completeness, transitivity, continuity and independence. The theory is used to describe the decision preferences of the individual. The first axiom is completeness, according to this axiom individuals know their preference of each option and these preferences are well defined.

The second axiom is transitivity, according to this axiom individuals are consistent in their choices. For example; if option A is preferred to option B, and option B is preferred to option C, the individual will also prefer option A to option C.

The third axiom is continuity, according to this axiom a probability mixture of the most and least preferable option exists which is indifferent to the intermediate option. For example; if option A is preferred to option C and option B is an intermediate of option A and C, the individual will be indifferent between a probability mixture of option A & C and option B.

The fourth axiom is the independence axiom, according to this axiom the preference will hold even when it is combined with a possibility of another outcome.

For example; if option A is preferred to option B and both these options are combined with a third option C, individuals still prefer option A to option B even though both are combined with option C. (Machina, 2008)

2.2 Prospect theory

Expected utility hypothesis has been heavily criticized because of difficulties such as the Allais paradox. As an alternative to the expected utility hypothesis Daniel Kahneman and Amos Tversky developed prospect theory. This performs the function of a description of decision making which is more psychologically accurate compared to the expected utility hypothesis of

von Neumann and Morgenstern. This theory is more of a descriptive model rather than a normative model of a particular area of decision making. Prospect theory tries to account for actual behaviour instead of a list of how 'rational' decisions should be made (Loomes, 2008).

When creating the prospect theory, Kahneman and Tversky accounted for the common consequence effect, the common ratio effect, the isolation effect and the reflection effect. The first two are described below in further detail. The isolation effect entails discarding a part of the prospect because it is shared by all prospects. In other words, individuals tend to ignore the parts of an option which are shared by all options. The reflection effect shows that if individuals tend to be risk-averse with payoffs of gains, they also tend to be risk-seeking with payoffs of losses. (Kahneman & Tversky, 1979).

2.3 Common consequence effect

The common consequence effect and the common ratio effect were first discovered by Maurice Allais in 1953. Since then these theories, which are also known as the Allais paradox, are seen as the primary departure from expected utility. The Allais paradox shows that individuals choose inconsistent with the predictions of expected utility theory. To be more specific, he showed that the independence axiom may not be a valid one (Allais, 1953). Allais used the following hypothetical situations to show the common consequence effect:

1. Do you prefer situation A or situation B?

Situation A: Certainty of receiving 100 million

Situation B: 10 in 100 chance of winning 500 million
89 in 100 chance of winning 100 million
1 in 100 chance of winning nothing

2. Do you prefer situation C or situation D?

Situation C: 11 in 100 chance of winning 100 million
89 in 100 chance of winning nothing

Situation D: 10 in 100 chance of winning 500 million
90 in 100 chance of winning nothing

When individuals are presented with a choice between situation A and situation B they tend to choose situation A. Likewise when they are presented with the second choice, they tend to

choose situation D. These choices are in contradiction with expected utility theory, according to this theory an individual should either choose 1A and 2C or 1B and 2D (Kahneman & Tversky, 1979). To show this, situation A can be rewritten as an 89% chance of winning 100 million and an 11% chance of winning 100 million. If the common consequence, 89% chance of winning 100 million, is deducted from situation A and B, you get situation C and D. According to expected utility theory, if situation A is preferred over B, situation C should be preferred over D and vice versa. However, as can be seen from empirics, this is not the case (Kahneman & Tversky, 1979).

This can also be shown mathematically:

If individuals choose situation A over situation B (situation A is rewritten as an 89% chance of winning 100 million and an 11% chance of winning 100 million):

$$0,11 \cdot U(100) + 0,89 \cdot U(100) > 0,1 \cdot U(500) + 0,89 \cdot U(100)$$

$$0,11 \cdot U(100) > 0,1 \cdot U(500)$$

If individuals choose situation D over situation C:

$$0,11 \cdot U(100) < 0,1 \cdot U(500)$$

As can be seen from the mathematical deduction above, these preferences contradict.

2.4 Common ratio effect

Continuing on his work with the common consequence effect, Allais used the following hypothetical situations to show the common ratio effect:

1. Do you prefer situation A or situation B?

Situation A: Certainty of receiving 100 million

Situation B: 98 in 100 chance of winning 500 million
2 in 100 chance of winning nothing

2. Do you prefer situation C or situation D?

Situation C: 1 in 100 chance of winning 100 million
99 in 100 chance of winning nothing

Situation D: 0.98 in 100 chance of winning 500 million
99.02 in 100 chance of winning nothing

When individuals are presented with a choice between situation A and situation B they tend to choose situation A. Likewise when they are presented with the second choice, they tend to

choose situation D. These choices are in contradiction with expected utility theory, specifically with the independence axiom of this theory. According to this axiom the preference should hold even when it is combined with a possibility of another outcome. The common ratio between situation A and B on the one hand, and situation C and D on the other hand is 0.98. The manipulation between the first choice and the second choice is one of dividing by 100 (Andreoni & Sprenger, 2010). Similar to the common consequence effect, individuals should choose 1A and 2C or 1B and 2D if they want to behave according to expected utility theory. The actual observed choices are not according to expected utility theory.

This can also be shown mathematically:

If individuals choose situation A over situation B:

$$U(100) > 0,98 \cdot U(500)$$

If individuals choose situation D over situation C:

$$0,01 \cdot U(100) < 0,0098 \cdot U(500)$$

This can be rewritten as:

$$U(100) < 0,98 \cdot U(500)$$

As can be seen from the mathematical deduction above, these preferences contradict.

The reason individuals do not choose according to expected utility theory is because there are not sufficient psychological aspects in it. Individuals overweight outcomes that are certain, in this case the situation of winning 100 million for sure, this is called the certainty effect. However, if they have to choose between two gambles they prefer the option with the highest expected utility. So the decisions they make are influenced by either probability or by the height of the payoff, though it is hard to distinguish when they will be influenced by either of them (Kahneman & Tversky, 1979; Yoshimura, Ito, Miller, & Tainaka, 2013).

2.5 Subjective well-being

According to Diener et al. (2009) subjective well-being is defined as: “a person’s cognitive and affective evaluations of his or her life. These evaluations include emotional reactions to events as well as cognitive judgements of satisfaction and fulfilment. Thus, subjective well-being is a broad concept that includes experiencing pleasant emotions, low levels of negative moods, and high life satisfaction.”

A few important influences on subjective well-being include dispositional influences, goals, culture and social comparison. If individuals are working toward a particular goal they tend to be in different stages of well-being, depending on how far they've come or how far they still have to go to reach their goals. People frequently compare themselves to other around them, if they think they do better according to their standard they may experience a higher level of well-being than if they feel they do worse. Culture mostly affects the weights given to certain forms of pleasure and pain and thus the definition of subjective well-being can differ around the world. (Lucas & Diener, 2008)

2.6 Reproduction of the research of Benjamin et al.

In their research Benjamin et al. attempted to relate choice behaviour to SWB measures by eliciting respondents' predictions when comparing SWB to choice responses. They made use of hypothetical scenarios to test their hypotheses and found that overall, the SWB predictions by respondents were a good predictor of their choices and that discrepancies between choice and SWB rankings are systematic.

The general core they used for their survey was also used for the questionnaire used in this thesis. The main objective is to find out if the results can be replicated among (mostly) Dutch students or if there would be large differences in outcomes, but also if the bias is similar among responses of both questionnaires. The comparison of the choice and SWB responses to both questionnaires can be found in chapter 6.

3. Survey design

3.1 Primary Design

While the survey is based on the situations first proposed by Maurice Allais, they all share a similar core. They all consist of a choice question and a subjective well-being question. To illustrate, the first scenario of the questionnaire is similar to the one Allais used (Allais, 1953) but this scenario is stated in hundreds of euros instead of millions of francs:

Imagine that you are participating in a lottery and you can choose between the following two options:

Option A: 100% chance of winning €100

Option B: 10% chance of winning €500, 89% chance of winning €100 and a 1% chance of winning nothing.

If you were limited to these two options, which would you choose?

Definitely option A	Probably option A	Possibly option A	Possibly option B	Probably option B	Definitely option B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Between these two options, which do you think would make you more satisfied with life, all things considered?

Definitely option A	Probably option A	Possibly option A	Possibly option B	Probably option B	Definitely option B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

As can be seen in the example above, there are six possible answers which are converted into a six-point ordinal variable.

3.2 Population

The population of this research is relatively small; 60 individuals have filled in the self-administered questionnaire. The respondents consist mostly of direct and indirect acquaintances, but also a few volunteers who responded to an invitation online. All respondents have been contacted through social media; the volunteers were contacted through special groups made for the purpose of helping each other with filling in surveys and questionnaires.

As all the individuals who were approached would be Dutch, the questionnaire has been translated into Dutch. This version of the questionnaire and the English version can also be found in the Appendix.

3.3 Choice Question

The questionnaire consists of three parts¹; the first part consists of the questions for the common consequence effect. The starting point here was the original situation proposed by Allais in 1953. The other questions in this part are different versions on the situation described by Allais, but they all have a common consequence. The second part consists of the questions for the common ratio effect. The most important part of making these questions is making sure that the second question is similar to the first question, but is only adjusted by a common ratio. The third part consists of questions proposed earlier by Benjamin et al. (2012). In their research they used the questions to “highlight trade-offs between options that the literature suggest might be important determinants of SWB”. The reason these questions are also used in this questionnaire is to find out if the results can be replicated. The same questions were used to ensure the results can be similar. The only difference is that the questions were translated into Dutch, which may cause some difference in results due to ambiguities in translation.

Table 1 – Short overview of all the scenarios which are used in the questionnaire

<u>Common consequence effect</u>	
Option A:	Option B:
1 100% of €100	10% of €500 and 89% of €100
2 11% of €100	10% of €500
3 89% of €100	46% of €500 and 36% of €100
4 53% of €100	46% of €500
5 100% of €100	30% of €500 and 60% of €100
6 40% of €100	30% of €500

Common ratio effect

Option A:	Option B:
7 100% of €100	98% of €500
8 1% of €100	0,98% of €500
9 90% of €100	84% of €500
10 30% of €100	28% of €500
11 100% of €100	88% of €500
12 5% of €100	4,4% of €500

Replication questions Benjamin et al.

Option A:	Option B:
13 sleep	income
14 absolute income	relative income
15 family	money
16 interest	career

¹ In total the questionnaire has 16 scenarios; 6 scenarios on common consequence effect, 6 questions on common ratio effect and 4 question to replicate research by Benjamin et al. (2012).

3.4 Subjective Well-Being Question

Respondents were not only asked which option they would choose when participating in a lottery but also which option they think would make them more satisfied with life. This is defined as the subjective well-being (SWB) question. This question is based on the question from the World Values Survey: *All things considered, how satisfied are you with your life as a whole these days?*

In their research Benjamin et al. used five different versions of this question to measure subjective well-being. They viewed the subjective well-being question that is also used in this survey as the most evaluative.

4. Common consequence and common ratio effects in the responses

4.1 Is there a common consequence effect in choice and SWB questions?

Wilcoxon signed rank tests were performed to check if the median of the primary hypothetical situation and the median of the control situation were different. Here, the first question of a scenario can be seen as the primary question, while the second question which has been altered by the common consequence (or the common ratio in the next paragraph) can be seen as the control question.

Table 2 shows the distributions of responses to choice and SWB questions along with the p-value statistics of the Wilcoxon signed rank test. The top four cells in the first column describe the spread of the responses to the choice and SWB questions. For the top four cells the Likert scale has been transformed from six options down to two to make a comparison between Option A and Option B. The range of Option A is from “Definitely Option A” to “Possibly Option A”, similarly Option B is ranged from “Definitely Option B” to “Possibly Option B”. The Wilcoxon signed rank test on the other hand, makes use of the entire Likert scale. These transformations are also used when comparing the primary and control questions for the common ratio effect.

The first element this table shows is that respondents tend to choose Option B in both scenarios, as can be seen in the table where 5% tend to choose for Option A in both scenarios, while 62% choose Option B. The percentage of respondents who tend to choose Option A in the primary and control situation vary from 5-28% and the percentage of respondents that choose Option B twice varies from 40-62%.

The second element this table shows can be found in rows three and four which give an indication of the common consequence effect. These cells reveal systematic differences across the choices in the scenarios among the remaining 33% of respondents. Of these, 28% are respondents which chose Option A in the primary question and reverse this preference in the control question, only 5% of respondents do the opposite. These occurrences are similar across all scenarios. The percentages of respondents who reverse their preference between the primary question and the control question range from 28-40%. When the common consequence is compared across choice and SWB questions the common consequence effect seems to be larger in the SWB scenarios than in the choice scenarios, with percentages ranging from 30-40% and

28-32% respectively. The respondents who reverse their preference are the respondents who violate expected utility theory and act according to the common consequence effect found by Allais in 1953.

The third element this table shows can be found in the fifth cell which shows the p-value for a Wilcoxon signed rank test which tests for equality of medians. The null-hypothesis of the test, that medians are equal for the primary situation and the control situation, can be rejected for most scenarios. This shows that there is a statistically significant difference between the median of the primary question and the control question. The only scenarios for which this doesn't apply is the combination of question 3&4 in both choice and SWB scenarios.

A paired samples t-test could not be performed because F-tests for statistical differences of standard deviations between the primary and control question showed the data did not comply with the assumptions needed to perform a paired sample t-test. Therefore a Wilcoxon signed rank test was chosen which, according to Field (2009), can be thought of as the non-parametric equivalent of the paired samples t-test.

Table 2 – Common consequence in choice and SWB scenarios

	Choice scenarios			SWB scenarios		
	1&2	3&4	5&6	1&2	3&4	5&6
	%	%	%	%	%	%
First question: Option A						
Control question: Option A	5	8	25	10	15	28
First question: Option B						
Control question: Option B	62	62	47	50	55	40
First question: Option A						
Control question: Option B	28	18	20	37	17	28
First question: Option B						
Control question: Option A	5	12	8	3	13	3
p-value	,001	,116	,034	,000	,150	,000
Wilcoxon signed rank test						

4.2 Is there a common ratio effect in choice and SWB questions?

Similar to the results of the common consequence scenarios, the results of the common ratio scenarios do not clearly show signs of the common ratio effect in either choice or SWB question. The same as with the common consequence effect, Wilcoxon signed rank tests were performed to check if the median of the primary hypothetical situation and the median of the control situation were different.

Table 3 shows the distribution of responses to choice and SWB questions and the p-value statistics of the Wilcoxon signed rank test. Parallel to the analysis of the common consequence

effect the first element this table shows is that respondents tend to choose Option B in both scenarios, 48-92% of respondents choose Option B in both scenarios. The percentage of respondents that choose Option A with the primary question and the control question varies across scenarios from 0-8%.

The second element this table shows can be found in rows three and four which give an indication of the common ratio effect. These cells show the systematic differences across the choices in the scenarios. The percentage of respondents who reverse their preferences between the primary question and the control question range from 9-43%. When the common ratio is compared across choice and SWB questions the common ratio effect seems to be similar in the SWB scenarios and the choice scenarios with percentages ranging from 13-43% and 9-38% respectively. The respondents who reverse their preference are the respondents who violate expected utility theory and act according to the common consequence effect found by Allais.

The third element this table shows can be found in the fifth cell which shows the p-value for a Wilcoxon signed rank test which tests for equality of medians. The null-hypothesis, that medians are equal for the primary situation and the control situation, can be rejected for most scenarios. This shows that there is a statistically significant difference between the median of the primary question and the control question. The only scenario for which this doesn't apply is the combination of question 7&8 of the choice scenario

Table 3 – Choice and SWB responses in common ratio scenarios

	Choice scenarios			SWB scenarios		
	7&8	9&10	11&12	7&8	9&10	11&12
	%	%	%	%	%	%
First question: Option A	0	2	3	2	7	8
Control question: Option A						
First question: Option B	92	87	58	85	78	48
Control question: Option B						
First question: Option A	7	10	35	10	12	38
Control question: Option B						
First question: Option B	2	2	3	3	3	5
Control question: Option A						
p-value	,418	,001	,000	,066	,044	,000
Wilcoxon signed rank test						

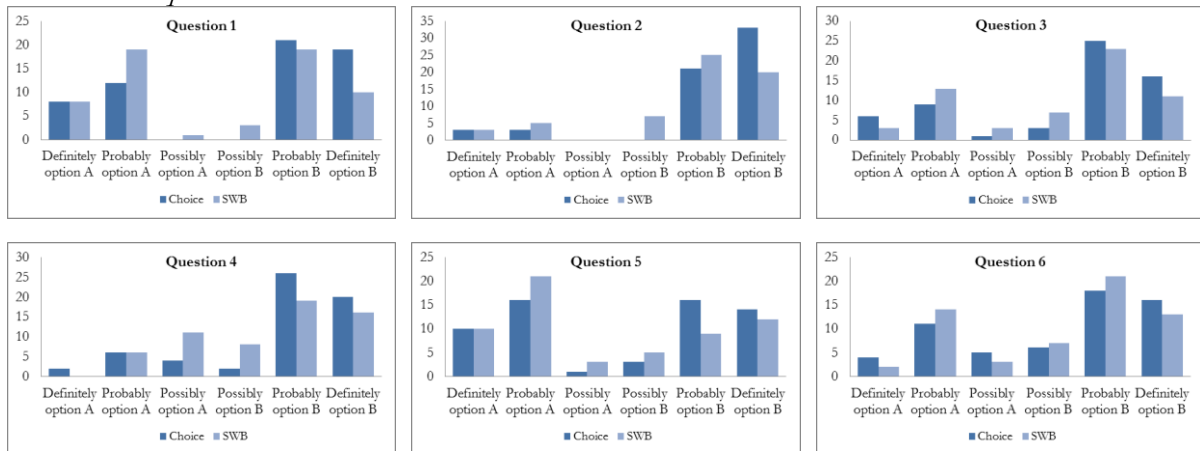
5. Do people respond to the choice and SWB question in the same way?

5.1 Distribution of the responses

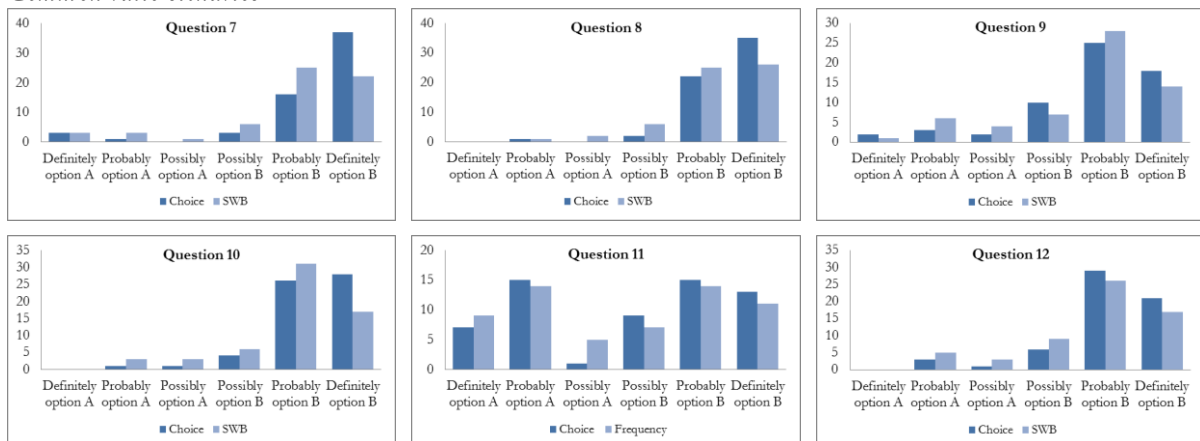
When the distribution of the responses are seen as a bar graph, there seem to be small differences in answers between choice and SWB scenarios. In general the answers tend to be similar across the different questions. The biggest difference that can be seen is that in SWB question respondents also tend to answers “Possibly option A” or “Possibly option B”, this seems much less apparent in choice questions.

In question 2 and 4 of the common consequence scenarios there seems to be an emphasis on Option B, where the other questions seem to be a bit more evenly divided between Option A and Option B. With the common ratio scenarios there seems to be an emphasis on Option B for almost all question except for question 11 which seems more evenly divided between Option A and Option B. Also worth mentioning is that respondents didn’t chose “Definitely Option A” at all in questions 8, 10 and 12. This is quite different to the common consequence questions where the answers tended to be more towards the Definitely and Probably options.

Common consequence scenarios



Common ratio scenarios



5.2 Is there a difference in choice and SWB responses?

Table 4 shows how responses are spread through the choice and SWB questions along with the p-value statistics of a paired sample t-test and the p-value statistics of an equality-of-proportions test. The first six scenarios correspond to the common consequence effect and the last 6 scenarios correspond to the common ratio effect.

The top four cells in the first column describe the spread of the responses to the choice and SWB questions. These cells can illustrate this section's two main findings. Firstly, it shows that individuals generally tend to choose the same option in choice and SWB questions. As the top two cells show, 86% of respondents rank Option A versus Option B in the choice scenario the same as in the SWB scenario. The same can be found in the remaining scenarios where the percentage of respondents who choose the same option in choice and SWB questions varies from 81-97%. This implies that the answer to the choice question is highly predictive for the answer to the SWB question.

Secondly, it shows that individuals tend to react differently to the two questions. As the next two cells show, 13% of respondents choose Option B over Option A in the choice question but reverse their preference in the SWB question, 0% do the opposite. In the remaining scenarios reversals vary from 3-18%. This implies that respondents react systematically different to the two questions.

The fifth cell reports the p-value of a paired two-sample t-test, which tests for equality of means. The null-hypothesis, that the population means are equal for choice and SWB questions, can be rejected for most questions. This shows that the means for the choice and SWB questions are statistically significantly different.

The sixth cell reports the p-value for a Liddell exact test which is a nonparametric, equality-of-proportions test for paired data (Liddell, 1983). The null-hypothesis in this test, that the mean response to a question is the same for choice and SWB question, can also be rejected for most questions. This shows that the proportion of individuals who rank Option A above Option B is statistically significantly different across choice and SWB questions.

It must be noted that a hypothetical choice is not the same as an incentivized choice and predicted SWB is not the same as experienced SWB. The scenarios are all hypothetical which allows for a broad variety of questions but results may differ with incentivized choices.

Table 4 – Choice and SWB responses across Scenarios

Choice scenario	1	2	3	4	5	6
	100% of €100 versus 10% of €500 and 89% of €100 %	11% of €100 versus 10% of €500 %	89% of €100 versus 46% of €500 and 36% of €100 %	53% of €100 versus 46% of €500 %	100% of €100 versus 30% of €500 and 60% of €100 %	40% of €100 versus 30% of €500 %
Higher SWB: Option A Chosen: Option A	33	8	25	18	43	27
Higher SWB: Option B Chosen: Option B	53	85	67	70	42	62
Higher SWB: Option B Chosen: Option A	0	2	2	2	2	7
Higher SWB: Option A Chosen: Option B	13	5	7	10	13	5
p-value paired sample t-test	,000	,000	,063	,025	,022	,880
p-value Liddell exact test	,000	,453	,179	,039	,007	,774
Choice scenario	7	8	9	10	11	12
	100% of €100 versus 98% of €500 %	1% of €100 versus 0,98% of %	90% of €100 versus 84% of €500 %	30% of €100 versus 28% of €500 %	100% of €100 versus 88% of €500 %	5% of €100 versus 4,4% of €500 %
Higher SWB: Option A Chosen: Option A	7	2	10	3	33	7
Higher SWB: Option B Chosen: Option B	88	95	80	90	48	87
Higher SWB: Option B Chosen: Option A	0	0	2	0	5	0
Higher SWB: Option A Chosen: Option B	5	3	8	7	13	7
p-value paired sample t-test	,000	,000	,105	,000	,180	,005
p-value Liddell exact test	,063	,250	,109	,016	,096	,016

For the complete text of each scenario, see the Appendix.

6. Benjamin et al.: Would you choose what would make you happiest?

Since the questionnaire is based on the type of questions which were used by Benjamin et al. (2012), a few of their questions were also incorporated in the questions. They administered the questionnaire to three different groups; to patients in a doctor’s waiting room in Denver, adults who participated by phone and Cornell students who were recruited on campus. To compare the results to the results Benjamin et al. found, the data from the Cornell students is used. This is because these results will probably be most similar to the results found in this study because these questions are mostly answered by students.

The results are similar to the results Benjamin et al. found as can be seen in Table 5. The largest difference can be found in scenario 13 where respondents had to choose between more sleep of a higher income. In the results by Benjamin et al. most respondents (46%) choose Option A for both choice and SWB question while in this study the majority of the respondents (53%) choose Option B for both choices. This also happens in scenario 13 where respondents had to choose between an interesting internship and an internship that would be better for their career, though this difference isn’t as large.

In Table 5 it can also be seen that for the questions with a money alternative, respondents tend to favour the money option in the choice question more than they do in the SWB question. Benjamin et al. found similar results in their study. As they remarked this suggests that predicted SWB understates the weight of money and income in hypothetical choices.

For both studies a Liddell exact test was performed. The null-hypothesis in this test, that the mean response to a question is the same for choice and SWB question, can be rejected for all questions. This shows that the proportion of individuals who rank Option A above Option B is statistically significantly different across choice and SWB questions.

Table 5 – Choice and SWB responses across scenarios designed by Benjamin et al.

	Scenario				Results by Benjamin et al. (2012)			
	13	14	15	16	sleep versus income	absolute income versus relative income	family versus money	interest versus career
	%	%	%	%	%	%	%	%
Higher SWB: Option A Chosen: Option A	53	33	65	33	29	41	68	27
Higher SWB: Option B Chosen: Option B	27	42	23	27	46	43	15	35
Higher SWB: Option B Chosen: Option A	2	22	2	0	1	14	5	3
Higher SWB: Option A Chosen: Option B	18	3	10	40	23	2	12	35
p-value	,000	,000	,039	,000	,000	,000	,001	,000
Liddell exact test								

7. Measurement error & Robustness

Questionnaire

The questionnaire was used as a self-administrative questionnaire which is a relatively quick and easy way to get results and it can reach a wide variety of participants but the results may not be representative. The scenarios are all hypothetical which allows for a broad variety of questions but raises questions regarding the validity of the method and the generalizability of the results. The results that were found based on the hypothetical choices may differ with incentivized choices. Possibilities to investigate real choices can be investigated in real life or in laboratories with incentivized options. The problem with these possibilities is that the data coming from field studies are rather crude and the incentivized choices are often gambles of small stakes. Therefore, hypothetical choices are the simplest form to be used and can also offer a wide variety of questions. This method does rely on the assumption that respondents know their preferences in actual situations and don't have any reason to hide those preferences (Kahneman & Tversky, 1979).

Effects during the questionnaire

Multiple effects could have influenced the outcome of the questionnaire. Firstly, scenario-order effects could have an influence. Since only one version of the questionnaire was used it is hard to test for scenario-order effects such as increasing fatigue or boredom among respondents. Respondents may develop a pattern of simply filling in the same answer as they did the previous question. Secondly, respondents' interpretation could have an effect. The interpretation and understanding of the question by respondents might be different to meaning the questions should have. A possibility to try to overcome this problem is to make different versions of the survey.

Population

The population that was used for this thesis might not be a good representative of the entire population since most of the respondents are (in)direct acquaintances and are therefore not representative of the large population they have been chosen from (Babbie, 2007). Consequently it is difficult to generalize the data.

Significance level

For the statistical analysis a significance level of 10% is used. The reason such a high level is chosen is because standard errors tend to be larger in small amount of data. The downside is that the results might be less reliable than when a smaller significance level is used.

This thesis can best be seen as a pre-test for further studies where the questionnaire has multiple versions and where a wider selection of respondents is used.

8. Conclusion

Using the theories by Maurice Allais, the common consequence effect and the common ratio effect, research was done to see to what extent there a difference is in common consequence and common ratio effects between what individuals choose and which choice individuals think would lead to a better subjective well-being.

To analyse this, the first step was to find out if a common consequence and common ratio effect could be found in both choice questions and SWB question. This turned out harder than expected because the effects were not evident from the data. From the answers to the primary question and the control question about the common consequence could be deducted that, across scenarios, the percentage of respondents that reversed their preference between the primary question and the control question varied from 28 to 40%. For the answers to the questions about the common ratio effect these percentages varied from 9 to 43%. These respondents, who reverse their preference, are the respondents who violate expected utility theory and act according to the common consequence effect found by Allais in 1953.

In both the common consequence effect and common ratio effect, respondents preferred Option B in the primary and control question, with percentages varying from 40 to 60% of the respondents concerning the common consequence questions and 48 to 92% with common ratio questions. To test if there was even a (significant) difference between the responses to the primary and control question a Wilcoxon signed rank test was performed which showed that the medians for the primary and control question were indeed different. This showed that even though most of the respondents favoured Option B to both questions, there medians differ enough to show there might be a common consequence and common ratio effect.

The second step was to find out if individuals respond to the choice and SWB questions in the same way. When made into a bar graph, the distribution of the answers tends to be similar across the different questions. The biggest difference that can be seen is that in SWB question respondents also tend to answers “Possibly option A” or “Possibly option B”, which seems much less apparent in choice questions.

The analysis further showed that individuals generally tend to choose the same option in choice and SWB questions. The percentage of respondents who choose the same option in choice and SWB questions varies across questions from 81 to 97%. This implies that the answer to the

choice question highly predictive is for the answer to the SWB question. The percentage of respondents which reversed their preference between the choice question and the SWB question vary from 0 to 18%. This implies that respondents react systematically different to the two questions. Even though the numbers suggest that the answer to the choice question is highly predictive for the answer to the SWB question, the two statistical tests that were performed (paired two-sample t-test and a Liddell exact test) showed that the mean response to a question is not the same for choice and SWB questions.

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10. Appendix

10.1 Survey (English version)

Question 1.

Imagine that you are participating in a lottery and you can choose between the following two options:

Option A: 100% chance of winning €100.

Option B: 10% chance of winning €500, 89% chance of winning €100 and a 1% chance of winning nothing.

If you were limited to these two options, which would you choose?

Definitely option A	Probably option A	Possibly option A	Possibly option B	Probably option B	Definitely option B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Between these two options, which do you think would make you more satisfied with life, all things considered?

Definitely option A	Probably option A	Possibly option A	Possibly option B	Probably option B	Definitely option B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 2.

Imagine that you are participating in a lottery and you can choose between the following two options:

Option A: 11% chance of winning €100 and an 89% chance of winning nothing.

Option B: 10% chance of winning €500 and a 90% chance of winning nothing.

If you were limited to these two options, which would you choose?

Definitely option A	Probably option A	Possibly option A	Possibly option B	Probably option B	Definitely option B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Between these two options, which do you think would make you more satisfied with life, all things considered?

Definitely option A	Probably option A	Possibly option A	Possibly option B	Probably option B	Definitely option B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 3.

Imagine that you are participating in a lottery and you can choose between the following two options:
 Option A: 89% chance of winning €100 and an 11% chance of winning nothing.

Option B: 46% chance of winning €500, 36% chance of winning €100 and an 18% chance of winning nothing.

If you were limited to these two options, which would you choose?

Definitely option A	Probably option A	Possibly option A	Possibly option B	Probably option B	Definitely option B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Between these two options, which do you think would make you more satisfied with life, all things considered?

Definitely option A	Probably option A	Possibly option A	Possibly option B	Probably option B	Definitely option B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 4.

Imagine that you are participating in a lottery and you can choose between the following two options:
 Option A: 53% chance of winning €100 and a 47% chance of winning nothing.

Option B: 46% chance of winning €500 and a 54% chance of winning nothing.

If you were limited to these two options, which would you choose?

Definitely option A	Probably option A	Possibly option A	Possibly option B	Probably option B	Definitely option B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Between these two options, which do you think would make you more satisfied with life, all things considered?

Definitely option A	Probably option A	Possibly option A	Possibly option B	Probably option B	Definitely option B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 5.

Imagine that you are participating in a lottery and you can choose between the following two options:
 Option A: 100% chance of winning €100.

Option B: 30% chance of winning €500, 60% chance of winning €100 and a 10% chance of winning nothing.

If you were limited to these two options, which would you choose?

Definitely option A	Probably option A	Possibly option A	Possibly option B	Probably option B	Definitely option B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Between these two options, which do you think would make you more satisfied with life, all things considered?

Definitely option A	Probably option A	Possibly option A	Possibly option B	Probably option B	Definitely option B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 6.

Imagine that you are participating in a lottery and you can choose between the following two options:

Option A: 40% chance of winning €100 and a 60% chance of winning nothing.

Option B: 30% chance of winning €500 and a 70% chance of winning nothing.

If you were limited to these two options, which would you choose?

Definitely option A	Probably option A	Possibly option A	Possibly option B	Probably option B	Definitely option B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Between these two options, which do you think would make you more satisfied with life, all things considered?

Definitely option A	Probably option A	Possibly option A	Possibly option B	Probably option B	Definitely option B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 7.

Imagine that you are participating in a lottery and you can choose between the following two options:

Option A: 100% chance of winning €100.

Option B: 98% chance of winning €500 and a 2% chance of winning nothing.

If you were limited to these two options, which would you choose?

Definitely option A	Probably option A	Possibly option A	Possibly option B	Probably option B	Definitely option B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Between these two options, which do you think would make you more satisfied with life, all things considered?

Definitely option A	Probably option A	Possibly option A	Possibly option B	Probably option B	Definitely option B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 8.

Imagine that you are participating in a lottery and you can choose between the following two options:

Option A: 1% chance of winning €100 and a 99% chance of winning nothing.

Option B: 0,98% chance of winning €500 and a 99,02% chance of winning nothing.

If you were limited to these two options, which would you choose?

Definitely option A	Probably option A	Possibly option A	Possibly option B	Probably option B	Definitely option B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Between these two options, which do you think would make you more satisfied with life, all things considered?

Definitely option A	Probably option A	Possibly option A	Possibly option B	Probably option B	Definitely option B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 9.

Imagine that you are participating in a lottery and you can choose between the following two options:

Option A: 90% chance of winning €100 and a 10% chance of winning nothing.

Option B: 84% chance of winning €500 and a 16% chance of winning nothing.

If you were limited to these two options, which would you choose?

Definitely option A	Probably option A	Possibly option A	Possibly option B	Probably option B	Definitely option B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Between these two options, which do you think would make you more satisfied with life, all things considered?

Definitely option A	Probably option A	Possibly option A	Possibly option B	Probably option B	Definitely option B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 10.

Imagine that you are participating in a lottery and you can choose between the following two options:

Option A: 30% chance of winning €100 and a 70% chance of winning nothing

Option B: 28% chance of winning €500 and a 72% chance of winning nothing.

If you were limited to these two options, which would you choose?

Definitely option A	Probably option A	Possibly option A	Possibly option B	Probably option B	Definitely option B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Between these two options, which do you think would make you more satisfied with life, all things considered?

Definitely option A	Probably option A	Possibly option A	Possibly option B	Probably option B	Definitely option B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 11.

Imagine that you are participating in a lottery and you can choose between the following two options:

Option A: 100% chance of winning €100.

Option B: 88% chance of winning €500 and a 12% chance of winning nothing.

If you were limited to these two options, which would you choose?

Definitely option A	Probably option A	Possibly option A	Possibly option B	Probably option B	Definitely option B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Between these two options, which do you think would make you more satisfied with life, all things considered?

Definitely option A	Probably option A	Possibly option A	Possibly option B	Probably option B	Definitely option B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 12.

Imagine that you are participating in a lottery and you can choose between the following two options:

Option A: 5% chance of winning €100 and a 95% chance of winning nothing.

Option B: 4,4% chance of winning €500 and a 95,6% chance of winning nothing.

If you were limited to these two options, which would you choose?

Definitely option A	Probably option A	Possibly option A	Possibly option B	Probably option B	Definitely option B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Between these two options, which do you think would make you more satisfied with life, all things considered?

Definitely option A	Probably option A	Possibly option A	Possibly option B	Probably option B	Definitely option B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 13.

Say you have to decide between two new jobs. The jobs are exactly the same in almost every way, but have different work hours and pay different amounts.

Option A: A job paying €80,000 per year. The hours for this job are reasonable, and you would be able to get about 7.5 hours of sleep on the average work night.

Option B: A job paying €140,000 per year. However, this job requires you to go to work at unusual hours, and you would only be able to sleep around 6 hours on the average work night.

If you were limited to these two options, which would you choose?

Definitely option A	Probably option A	Possibly option A	Possibly option B	Probably option B	Definitely option B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Between these two options, which do you think would make you more satisfied with life, all things considered?

Definitely option A	Probably option A	Possibly option A	Possibly option B	Probably option B	Definitely option B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 14.

Suppose you are considering a new job, and have offers from two companies. Even though all aspects of the two jobs are identical, employees' salaries are different across the two companies due to arbitrary timing of when salary benchmarks happened to be set. Everyone in each company knows the other employees' salaries. You must choose one of the two companies, which means you must decide between the following two options:

Option A: Your yearly income is €105,000, while on average others at your level earn €120,000.

Option B: Your yearly income is €100,000, while on average others at your level earn €85,000.

If you were limited to these two options, which would you choose?

Definitely option A	Probably option A	Possibly option A	Possibly option B	Probably option B	Definitely option B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Between these two options, which do you think would make you more satisfied with life, all things considered?

Definitely option A	Probably option A	Possibly option A	Possibly option B	Probably option B	Definitely option B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 15.

Imagine that for the first time in three years, your parents (or if your parents are gone, your closest relatives who are older than you) have arranged for a special family gathering that will happen the day after Thanksgiving, with everyone also invited to Thanksgiving dinner. You face two options. Would you choose to go to the family gathering the day after Thanksgiving (and maybe to Thanksgiving dinner) if getting there required a €500 roundtrip plane ticket for plane flights that were 5 hours each way?

Option A: Go to the thanksgiving gathering, which requires a €500 round trip plane ticket.

Option B: Miss the thanksgiving gathering, but save the money.

If you were limited to these two options, which would you choose?

Definitely option A	Probably option A	Possibly option A	Possibly option B	Probably option B	Definitely option B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Between these two options, which do you think would make you more satisfied with life, all things considered?

Definitely option A	Probably option A	Possibly option A	Possibly option B	Probably option B	Definitely option B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 16.

Suppose you are considering two summer internships. One is extremely interesting and involves work you are passionate about, but does not advance your career. The other will likely be boring, but will help you get a job in the future. Which would you choose?

Option A: Interesting internship which does not advance career.

Option B: Boring internship which will help you get a job.

If you were limited to these two options, which would you choose?

Definitely option A	Probably option A	Possibly option A	Possibly option B	Probably option B	Definitely option B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Between these two options, which do you think would make you more satisfied with life, all things considered?

Definitely option A	Probably option A	Possibly option A	Possibly option B	Probably option B	Definitely option B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10.2 Survey (Dutch version)

Vraag 1

Stel je voor dat je meedoet aan een loterij en kan kiezen tussen de volgende twee opties:

Optie A: 100% kans op €100

Optie B: 10% kans op €500, 89% kans op €100 en 1% kans dat je helemaal niets ontvangt

Als je beperkt was tot deze twee opties, welke zou je dan kiezen?

Zeker optie A	Waarschijnlijk optie A	Misschien optie A	Misschien optie B	Waarschijnlijk optie B	Zeker optie B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Als je beperkt was tot deze twee opties, welke optie denk je dat je het gelukkigst maakt?

Zeker optie A	Waarschijnlijk optie A	Misschien optie A	Misschien optie B	Waarschijnlijk optie B	Zeker optie B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Vraag 2

Stel je voor dat je meedoet aan een loterij en kan kiezen tussen de volgende twee opties:

Optie A: 11% kans op €100 en 89% kans dat je niets ontvangt

Optie B: 10% kans op €500 en 90% kans dat je niets ontvangt

Als je beperkt was tot deze twee opties, welke zou je dan kiezen?

Zeker optie A	Waarschijnlijk optie A	Misschien optie A	Misschien optie B	Waarschijnlijk optie B	Zeker optie B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Als je beperkt was tot deze twee opties, welke optie denk je dat je het gelukkigst maakt?

Zeker optie A	Waarschijnlijk optie A	Misschien optie A	Misschien optie B	Waarschijnlijk optie B	Zeker optie B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Vraag 3

Stel je voor dat je meedoet aan een loterij en kan kiezen tussen de volgende twee opties:

Optie A: 89% kans op €100 en 11% kans dat je niets ontvangt

Optie B: 46% kans op €500, 36% kans op €100 en 18% kans dat je niets ontvangt

Als je beperkt was tot deze twee opties, welke zou je dan kiezen?

Zeker optie A	Waarschijnlijk optie A	Misschien optie A	Misschien optie B	Waarschijnlijk optie B	Zeker optie B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Als je beperkt was tot deze twee opties, welke optie denk je dat je het gelukkigst maakt?

Zeker optie A	Waarschijnlijk optie A	Misschien optie A	Misschien optie B	Waarschijnlijk optie B	Zeker optie B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Vraag 4

Stel je voor dat je meedoet aan een loterij en kan kiezen tussen de volgende twee opties:

Optie A: 53% kans op €100 en 47% kans dat je niets ontvangt

Optie B: 46% kans op €500 en 54% kans dat je niets ontvangt

Als je beperkt was tot deze twee opties, welke zou je dan kiezen?

Zeker optie A	Waarschijnlijk optie A	Misschien optie A	Misschien optie B	Waarschijnlijk optie B	Zeker optie B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Als je beperkt was tot deze twee opties, welke optie denk je dat je het gelukkigst maakt?

Zeker optie A	Waarschijnlijk optie A	Misschien optie A	Misschien optie B	Waarschijnlijk optie B	Zeker optie B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Vraag 5

Stel je voor dat je meedoet aan een loterij en kan kiezen tussen de volgende twee opties:

Optie A: 100% kans op €100

Optie B: 30% kans op €500 en 60% kans op €100 en 10% kans dat je niets ontvangt

Als je beperkt was tot deze twee opties, welke zou je dan kiezen?

Zeker optie A	Waarschijnlijk optie A	Misschien optie A	Misschien optie B	Waarschijnlijk optie B	Zeker optie B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Als je beperkt was tot deze twee opties, welke optie denk je dat je het gelukkigst maakt?

Zeker optie A	Waarschijnlijk optie A	Misschien optie A	Misschien optie B	Waarschijnlijk optie B	Zeker optie B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Vraag 6

Stel je voor dat je meedoet aan een loterij en kan kiezen tussen de volgende twee opties:

Optie A: 40% kans op €100 en 60% kans dat je niets ontvangt

Optie B: 30% kans op €500 en 70% kans dat je niets ontvangt

Als je beperkt was tot deze twee opties, welke zou je dan kiezen?

Zeker optie A	Waarschijnlijk optie A	Misschien optie A	Misschien optie B	Waarschijnlijk optie B	Zeker optie B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Als je beperkt was tot deze twee opties, welke optie denk je dat je het gelukkigst maakt?

Zeker optie A	Waarschijnlijk optie A	Misschien optie A	Misschien optie B	Waarschijnlijk optie B	Zeker optie B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Vraag 7

Stel je voor dat je meedoet aan een loterij en kan kiezen tussen de volgende twee opties:

Optie A: 100% kans op €100

Optie B: 98% kans op €500 en 2% kans dat je niets ontvangt

Als je beperkt was tot deze twee opties, welke zou je dan kiezen?

Zeker optie A	Waarschijnlijk optie A	Misschien optie A	Misschien optie B	Waarschijnlijk optie B	Zeker optie B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Als je beperkt was tot deze twee opties, welke optie denk je dat je het gelukkigst maakt?

Zeker optie A	Waarschijnlijk optie A	Misschien optie A	Misschien optie B	Waarschijnlijk optie B	Zeker optie B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Vraag 8

Stel je voor dat je meedoet aan een loterij en kan kiezen tussen de volgende twee opties:

Optie A: 1% kans op €100 en 99% kans dat je niets ontvangt

Optie B: 0,98% kans op €500 en 99,02% kans dat je niets ontvangt

Als je beperkt was tot deze twee opties, welke zou je dan kiezen?

Zeker optie A	Waarschijnlijk optie A	Misschien optie A	Misschien optie B	Waarschijnlijk optie B	Zeker optie B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Als je beperkt was tot deze twee opties, welke optie denk je dat je het gelukkigst maakt?

Zeker optie A	Waarschijnlijk optie A	Misschien optie A	Misschien optie B	Waarschijnlijk optie B	Zeker optie B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Vraag 9

Stel je voor dat je meedoet aan een loterij en kan kiezen tussen de volgende twee opties:

Optie A: 90% kans op €100 en 10% kans dat je niets ontvangt

Optie B: 84% kans op €500 en 16% kans dat je niets ontvangt

Als je beperkt was tot deze twee opties, welke zou je dan kiezen?

Zeker optie A	Waarschijnlijk optie A	Misschien optie A	Misschien optie B	Waarschijnlijk optie B	Zeker optie B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Als je beperkt was tot deze twee opties, welke optie denk je dat je het gelukkigst maakt?

Zeker optie A	Waarschijnlijk optie A	Misschien optie A	Misschien optie B	Waarschijnlijk optie B	Zeker optie B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Vraag 10

Stel je voor dat je meedoet aan een loterij en kan kiezen tussen de volgende twee opties:

Optie A: 30% kans op €100 en 70% kans dat je niets ontvangt

Optie B: 28% kans op €500 en 72% kans dat je niets ontvangt

Als je beperkt was tot deze twee opties, welke zou je dan kiezen?

Zeker optie A	Waarschijnlijk optie A	Misschien optie A	Misschien optie B	Waarschijnlijk optie B	Zeker optie B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Als je beperkt was tot deze twee opties, welke optie denk je dat je het gelukkigst maakt?

Zeker optie A	Waarschijnlijk optie A	Misschien optie A	Misschien optie B	Waarschijnlijk optie B	Zeker optie B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Vraag 11

Stel je voor dat je meedoet aan een loterij en kan kiezen tussen de volgende twee opties:

Optie A: 100% kans op €100

Optie B: 88% kans op €500 en 12% kans dat je niets ontvangt

Als je beperkt was tot deze twee opties, welke zou je dan kiezen?

Zeker optie A	Waarschijnlijk optie A	Misschien optie A	Misschien optie B	Waarschijnlijk optie B	Zeker optie B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Als je beperkt was tot deze twee opties, welke optie denk je dat je het gelukkigst maakt?

Zeker optie A	Waarschijnlijk optie A	Misschien optie A	Misschien optie B	Waarschijnlijk optie B	Zeker optie B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Vraag 12

Stel je voor dat je meedoet aan een loterij en kan kiezen tussen de volgende twee opties:

Optie A: 5% kans op €100 en 95% kans dat je niets ontvangt

Optie B: 4,4% kans op €500 en 95,6% kans dat je niets ontvangt

Als je beperkt was tot deze twee opties, welke zou je dan kiezen?

Zeker optie A	Waarschijnlijk optie A	Misschien optie A	Misschien optie B	Waarschijnlijk optie B	Zeker optie B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Als je beperkt was tot deze twee opties, welke optie denk je dat je het gelukkigst maakt?

Zeker optie A	Waarschijnlijk optie A	Misschien optie A	Misschien optie B	Waarschijnlijk optie B	Zeker optie B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Vraag 13

Stel dat je moet kiezen tussen twee nieuwe banen. De banen zijn precies hetzelfde in bijna elk opzicht, maar hebben verschillende werktijden en verschillende lonen.

Optie A: Een baan waarbij je €80.000 per jaar ontvangt. Het aantal werkuren voor deze baan zijn redelijk waardoor je in staat bent om ongeveer 7,5 uur slaap per nacht te krijgen.

Optie B: Een baan waarbij je €140.000 per jaar ontvangt. Echter, deze baan vereist onregelmatige werktijden waardoor je alleen in staat bent om ongeveer 6 uur slaap per nacht te krijgen.

Als je beperkt was tot deze twee opties, welke zou je dan kiezen?

Zeker optie A	Waarschijnlijk optie A	Misschien optie A	Misschien optie B	Waarschijnlijk optie B	Zeker optie B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Als je beperkt was tot deze twee opties, welke optie denk je dat je het gelukkigst maakt?

Zeker optie A	Waarschijnlijk optie A	Misschien optie A	Misschien optie B	Waarschijnlijk optie B	Zeker optie B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Vraag 14

Stel dat je een nieuwe baan overweegt en je hebt aanbiedingen van twee bedrijven. Hoewel alle aspecten van de twee banen identiek zijn, zijn de salarissen van de werknemers verschillend tussen de twee bedrijven. Dit komt doordat op verschillende tijdstippen het basissalaris wordt vastgesteld. Iedereen in elk bedrijf kent de salarissen van de overige werknemers. Je moet kiezen voor een van de twee bedrijven, dit betekent dat je moet kiezen tussen de volgende twee opties:

Optie A: Je jaarinkomen is €105.000, terwijl anderen op jouw niveau gemiddeld €120.000 verdienen.

Optie B: Je jaarinkomen is €100.000, terwijl anderen op jouw niveau gemiddeld €85.000 verdienen.

Als je beperkt was tot deze twee opties, welke zou je dan kiezen?

Zeker optie A	Waarschijnlijk optie A	Misschien optie A	Misschien optie B	Waarschijnlijk optie B	Zeker optie B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Als je beperkt was tot deze twee opties, welke optie denk je dat je het gelukkigst maakt?

Zeker optie A	Waarschijnlijk optie A	Misschien optie A	Misschien optie B	Waarschijnlijk optie B	Zeker optie B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Vraag 15

Stel je voor dat voor het eerst in drie jaar je ouders (of andere naaste familie) hebben geregeld dat er een speciale familiebijeenkomst is de dag na Kerstmis, waarbij iedereen ook uitgenodigd wordt voor het kerstdiner. Zou je naar de familiebijeenkomst gaan de dag na Kerst (en misschien naar het diner) als je daarvoor €500 moet besteden aan een vliegticket die enkele reis 5 uur duurt?

Optie A: Je gaat naar de familiebijeenkomst voor Kerst waarvoor je een ticket van €500 nodig hebt.

Optie B: Je mist de familiebijeenkomst voor Kerst, waardoor je €500 kan besparen.

Als je beperkt was tot deze twee opties, welke zou je dan kiezen?

Zeker optie A	Waarschijnlijk optie A	Misschien optie A	Misschien optie B	Waarschijnlijk optie B	Zeker optie B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Als je beperkt was tot deze twee opties, welke optie denk je dat je het gelukkigst maakt?

Zeker optie A	Waarschijnlijk optie A	Misschien optie A	Misschien optie B	Waarschijnlijk optie B	Zeker optie B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Vraag 16

Stel dat je twee stages overweegt. De ene is zeer interessant en het je bent gepassioneerd over het werk maar het helpt je niet verder in je carrière. De andere zal waarschijnlijk saai zijn maar deze stage zal je wel helpen aan een baan te komen in de toekomst.

Optie A: Een interessante stage die geen carrière in het vooruitzicht heeft.

Optie B: Een saaie stage die je in de toekomst zal helpen om een baan te krijgen.

Als je beperkt was tot deze twee opties, welke zou je dan kiezen?

Zeker optie A	Waarschijnlijk optie A	Misschien optie A	Misschien optie B	Waarschijnlijk optie B	Zeker optie B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Als je beperkt was tot deze twee opties, welke optie denk je dat je het gelukkigst maakt?

Zeker optie A	Waarschijnlijk optie A	Misschien optie A	Misschien optie B	Waarschijnlijk optie B	Zeker optie B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>