

# Survey Questions: Belief Update

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## Question 1. (abstract)

*Say that you initially believe that P. You then learn that Q has occurred.*

You should believe Q.

Choose, on a scale of 1 to 5:

Strongly Disagree   1   2   3   4   5   Strongly Agree

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## Question 2. (abstract)

*Say that what you believe implies P.*

Later learning that P has occurred should have no effect on what you believe.

Choose, on a scale of 1 to 5:

Strongly Disagree   1   2   3   4   5   Strongly Agree

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## Question 3. (abstract)

*Say that P is true whenever Q is true and Q is true whenever P is true. Also say that R is true whenever S is true and S is true whenever R is true.*

If you start off believing P and then learn R had occurred, what you believe should be the same as if you had started off believing Q and then learned S had occurred.

Choose, on a scale of 1 to 5:

Strongly Disagree   1   2   3   4   5   Strongly Agree

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## Question 4. (abstract)

*Say that if you started off believing P and then learned Q had occurred you would believe R. Also, if you started off believing P and then learned R had occurred you would believe Q.*

Starting off believing P and then learning Q had occurred should lead to the same beliefs as starting off believing P and then learning R had occurred.

Choose, on a scale of 1 to 5:

Strongly Disagree   1   2   3   4   5   Strongly Agree

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## Question 5. (abstract)

The only way to come to believe something impossible through updating beliefs is if you either start by believing something impossible, or learn that something impossible has occurred.

Choose, on a scale of 1 to 5:

Strongly Disagree   1   2   3   4   5   Strongly Agree

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**Question 6. (abstract)**

*Consider the following situations. In Situation 1 you start off believing  $P$  and then learn that both  $Q$  and  $R$  have occurred. In Situation 2 you start off believing  $P$ , then learn that  $Q$  has occurred, and then simply add  $R$  to your beliefs.*

Everything you believe in Situation 1 you should also believe in Situation 2.

Choose, on a scale of 1 to 5:

Strongly Disagree   1   2   3   4   5   Strongly Agree

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**Question 7. (abstract)**

*Say that you initially believe  $P$  and  $P$  specifies exactly one state of the world in a certain domain. Now consider the following three situations. In Situation 1 you then learn that either  $Q$  has occurred, or  $R$  has occurred, or they both have. In Situation 2 you learn that  $R$  has occurred in that domain. In Situation 3 you learn that  $Q$  has occurred in that domain.*

Everything that you believe in Situation 1 should also be in those beliefs that are in both Situation 2 and Situation 3.

Choose, on a scale of 1 to 5:

Strongly Disagree   1   2   3   4   5   Strongly Agree

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**Question 8. (abstract)**

*Consider the following three situations. In Situation 1 you initially believe that either  $P$  or  $Q$  are true, and possibly both. You then learn that  $R$  has occurred. In Situation 2 you initially believe that  $P$  is true, and then learn that  $R$  has occurred. In Situation 3 you initially believe that  $Q$ , and then learn that  $R$  has occurred.*

The beliefs you have in Situation 1 are the same beliefs that should show up in either Situation 2 or Situation 3 (or both).

Choose, on a scale of 1 to 5:

Strongly Disagree   1   2   3   4   5   Strongly Agree

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**Question 1. (concrete)**

*You remember leaving a mug on the table in your office. You also remember leaving your briefcase in your office but you do not know whether it is on the table or not. You tell a robot to go in and make it be the case that your office is in one of these states; any them will do: the mug is on the table and the briefcase is not, the briefcase is on the table and the mug is not, or both the mug and the briefcase are on the table. The robot comes back and reports that it put your office in one of these three states.*

Do you believe that it is possible that the mug is not on the table?

Choose:

Yes or

No

Give a reason for your answer.

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*The next two questions will refer to the following example:*

*You remember leaving both your briefcase and your umbrella in your office. You remember that both the umbrella and the briefcase were on the table. You ask a robot to go in and take the briefcase off the table. It comes back and reports that it has completed its task.*

**Question 2. (concrete)**

Would you still believe the umbrella was on the table?

Choose:

Yes or

No

Give a reason for your answer.

**Question 3. (concrete)**

Suppose you had instead asked the robot to put your office in one of two states, either will do: the briefcase and the umbrella are both off the table or the briefcase is off the table and the umbrella is on it. When the robot comes back and reports that it completed its task, would you now believe that it is possible that your umbrella is off the table?

Choose:

Yes or

No

Give a reason for your answer.

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*In the next three questions, it is assumed that the following is background knowledge:  
You are planning a party. Unfortunately both Petra and Quill, who work at different companies, told you that they cannot come, as they have to go to a compulsory joint work function between their two companies.*

**Question 4. (concrete)**

A day later Petra tells you that she spoke to her boss and has managed to get off the function, so she is now coming to the party. Do you still believe that Quill is not coming to the party?

Choose:

Yes or

No

Give a reason for your answer.

**Question 5. (concrete)**

Say now that the situation is the same as in the previous question, but Petra did not speak to you a day later. Instead, Quill spoke to you, telling you that he has spoken to his boss and managed to get off the work function. Would you still believe that Petra is not coming to the party?

Choose:

Yes or

No

Give a reason for your answer.

**Question 6. (concrete)**

Say now that neither of the two had spoken to you, but Petra later informs you that both her and Quill had spoken to their bosses. Their bosses have told them that that while it might be possible for both Quill and Petra to take the function off they also might need one of Petra and Quill on the day. Petra assures you that at least one of them, and hopefully both, will come to the party. Do you believe that it is impossible that both Petra and Quill will go to the party?

Choose:

Yes or

No

Give a reason for your answer.

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*In the next three questions it is assumed that the following is background knowledge:  
You work at an office. Bob and Alice are coworkers of yours. Both tend to stay in the office when they are in, and stay out when they are out.*

**Question 7. (concrete)**

You initially believe that Bob is in the office and Alice is not. You then see Bob leaving the office. Do you now believe that both Alice and Bob are not in the office?

Choose:

Yes or  
No

Give a reason for your answer.

**Question 8. (concrete)**

You initially believe that Bob is not in the office but Alice is. During your lunch break you see Bob outside the office. Do you still believe that Alice is in the office, but Bob is not?

Choose:

Yes or  
No

Give a reason for your answer.

**Question 9. (concrete)**

You initially believe that either Bob or Alice is currently in the office (but not both). You then see Bob leaving the office. Do you now believe that neither Bob nor Alice are currently in the office?

Choose:

Yes or  
No

Give a reason for your answer.

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**Question 10. (concrete)**

*Say you initially believe that both Anna and Bert are going hiking with you the next week, as Anna told you that they both would. Bert messages you the next day saying that he is very excited for the hike.*

Do you believe anything different about who is going hiking with you?

Choose:

Yes or  
No

Give a reason for your answer.

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**Question 11. (concrete)**

If you initially believed that both a book and a magazine were on the table, and later were told that somebody took them both off the table, would you have to believe anything impossible?

Choose:

Yes or  
No

Give a reason for your answer.

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*Say that in your house both the light outside and the light in your bedroom share the same switch. You initially believe that both lights are off.*

**Question 12. (concrete)**

If you were informed that someone has turned on the light in your bedroom, would you believe that the light outside was on?

Choose:

Yes or

No

Give a reason for your answer.

**Question 13. (concrete)**

If you were informed that someone has turned on the light outside, would you believe that the bedroom light was on?

Choose:

Yes or

No

Give a reason for your answer.

**Question 14. (concrete)**

If someone told you that they turned on the light to your bedroom, would what you believe about the world be the same as if they had instead told you that they had turned on the outside light?

Choose:

Yes or

No

Give a reason for your answer.

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**Question 15. (concrete)**

*Consider the following situations. In the first you believe that it is not the case that both the book and the magazine are off the table. You then learn that your sister in the course of her chores has cleaned the place, and has ensured that both the magazine and the book are on the table.*

*In the second you believe that at least one, and possibly both, of the magazine and the book are on the table. You then learn that your sister has cleaned the place, and has ensured that it is not the case that either the magazine or the book is off the table.*

In both situations, after your sister has cleaned the place, do you believe the same things?

Choose:

Yes or

No

Give a reason for your answer.

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*Say you initially believe that at least one of a book or a magazine are on the table (but not both). You get a robot to go in and check whether the book is on the table, and if necessary, put the book on the table. The robot comes back and reports that it has completed the task.*

**Question 16. (concrete)**

Do you believe that it is possible that the magazine is on the table?

Choose:

Yes or

No

Give a reason for your answer.

**Question 17. (concrete)**

Do you believe the book is on the table?

Choose:

Yes or

No

Give a reason for your answer.

**Question 18. (concrete)**

Say you had instead told the robot to ensure that both the book and the magazine are on the table. Would you believe that both the book and the magazine are on the table?

Choose:

Yes or

No

Give a reason for your answer.

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*Say that you initially believe that in your office both a book and a magazine are on the table. Your coworker informs you that she has taken the book for reading.*

**Question 19. (concrete)**

Do you believe the magazine is still on the table?

Choose:

Yes or

No

Give a reason for your answer.

**Question 20. (concrete)**

If your coworker had instead told you that she had taken the magazine, would you believe that the magazine was off the table?

Choose:

Yes or

No

Give a reason for your answer.

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# Feedback Questions

1. What is your interest in the survey (may select multiple)?

Choose:

- Student
- Interest in topic
- Wanting to earn money
- Other

2. The instructions in the survey were clear and coherent.

Choose, on a scale of 1 to 5:

Strongly Disagree 1 2 3 4 5 Strongly Agree

3. The concrete questions were similar to examples I would come across in everyday life.

Choose, on a scale of 1 to 5:

Strongly Disagree 1 2 3 4 5 Strongly Agree

4. In the concrete questions I reasoned in a manner similar to how I reason in the everyday life.

Choose, on a scale of 1 to 5:

Strongly Disagree 1 2 3 4 5 Strongly Agree

5. The abstract questions were understandable

Choose, on a scale of 1 to 5:

Strongly Disagree 1 2 3 4 5 Strongly Agree

6. Any more thoughts?