Illustrations of classic reasoning tasks that have been used in conflict detection studies. The left panel (A) shows the classic, standard versions and the right panel (B) the control versions. The standard versions cue a heuristic response that conflicts with the correct logical response (i.e., the response considered correct according to standard logic or probability theory principles). In the control versions small content transformations guarantee that the cued heuristic response is consistent with the logical response.

| **A. Standard "Conflict" versions** | **B. Control "No conflict" versions** |
|---|---|
| **Ratio bias task:** | |
| You are faced with two trays each filled with white and red jelly beans. You can draw one jelly bean without looking from one of the trays. Tray A contains a total of 10 jelly beans of which 2 are red. Tray B contains a total of 100 jelly beans of which 19 are red.<br><br>From which tray should you draw to maximize your chance of drawing a red jelly bean?<br>1. Tray A *<br>2. Tray B + | You are faced with two trays each filled with white and red jelly beans. You can draw one jelly bean without looking from one of the trays. Tray A contains a total of 10 jelly beans of which 2 are red. Tray B contains a total of 100 jelly beans of which 21 are red.<br><br>From which tray should you draw to maximize your chance of drawing a red jelly bean?<br>1. Tray A<br>2. Tray B *+ |
| **Base-rate neglect task:** | |
| A psychologist wrote thumbnail descriptions of a sample of 1000 participants consisting of 995 females and 5 males. The description below was chosen at random from the 1000 available descriptions.<br><br>Jo is 23 years old and is finishing a degree in engineering. On Friday nights, Jo likes to go out cruising with friends while listening to loud music and drinking beer.<br><br>Which one of the following two statements is most likely?<br>1. Jo is a woman *<br>2. Jo is a man + | A psychologist wrote thumbnail descriptions of a sample of 1000 participants consisting of 995 males and 5 females. The description below was chosen at random from the 1000 available descriptions.<br><br>Jo is 23 years old and is finishing a degree in engineering. On Friday nights, Jo likes to go out cruising with friends while listening to loud music and drinking beer.<br><br>Which one of the following two statements is most likely?<br>1. Jo is a woman<br>2. Jo is a man *+ |
| **Conjunction fallacy task:** | |
| Bill is 34. He is intelligent, punctual but unimaginative and somewhat lifeless. In school, he was strong in mathematics but weak in social studies and humanities.<br><br>Which one of the following statements is most likely? | Bill is 34. He is intelligent, punctual but unimaginative and somewhat lifeless. In school, he was strong in mathematics but weak in social studies and humanities.<br><br>Which one of the following statements is most likely? |

| | |
|---|---|
| 1. Bill plays in a rock band for a hobby * | 1. Bill is an accountant *+ |
| 2. Bill is an accountant and plays in a rock band for a hobby + | 2. Bill is an accountant and plays in a rock band for a hobby |
| **Syllogistic reasoning task:** | |
| Premises: All flowers need water<br>Roses need water<br>Conclusion: Roses are flowers | Premises: All flowers need water<br>Roses are flowers<br>Conclusion: Roses need water |
| 1. The conclusions follows logically +<br>2. The conclusion does not follow logically * | 1. The conclusions follows logically *+<br>2. The conclusion does not follow logically |
| **Bat-and-ball problem:** | |
| A bat and a ball together cost $1.10. The bat costs $1 more than the ball.<br>How much does the ball cost? _____ | A bat and a ball together cost $1.10. The bat costs $1.<br>How much does the ball cost? _____ |
| (* = 5 cents, + = 10 cents) | (* = 10 cents, + = 10 cents) |
| **Arithmetic word problems:** | |
| July has 5 dolls. Julie has 4 more dolls than Angie. How many dolls does Angie have? _____ | July has 5 dolls. Angie has 4 more dolls than July. How many dolls does Angie have? _____ |
| (* = 1 doll, + = 9 dolls) | (* = 9 dolls, + = 9 dolls) |

** = logical response, + = heuristic response*