SUPPLEMENTARY MATERIAL

A. Items used in Study 1A, Study 2A, Study 1B and Study 2B

Base-rate items used in Study 1A

(1) This study contains high school students and librarians. Person 'M' is loud. There are 5 high school students and 995 librarians. Is Person 'M' more likely to be:
   - A high school student
   - A librarian

(2) This study contains lawyers and gardeners. Person 'W' is argumentative. There are 3 lawyers and 997 gardeners. Is Person 'W' more likely to be:
   - A lawyer
   - A gardener

(3) This study contains clowns and accountants. Person 'L' is funny. There are 5 clowns and 995 accountants. Is Person 'L' more likely to be:
   - A novel writer
   - An accountant

(4) This study contains scientists and assistants. Person 'C' is intelligent. There are 4 scientists and 996 assistants. Is Person 'C' more likely to be:
   - A scientist
   - An assistant

(5) This study contains lab technicians and aerobics instructors. Person 'D' is active. There are 995 lab technicians and 5 aerobics instructors. Is Person 'D' more likely to be:
   - A lab technician
   - An aerobics instructor

(6) This study contains I.T. technicians and boxers. Person 'F' is strong. There are 997 I.T. technicians and 3 boxers. Is Person 'F' more likely to be:
   - An I.T. technician
   - A boxer
(7) This study contains nurses and artists. Person 'S' is creative. There are 997 nurses and 3 artists. Is Person 'S' more likely to be:
   - A nurse
   - An artist

(8) This study contains businessmen and firemen. Person 'K' is brave. There are 996 businessmen and 4 firemen. Is Person 'K' more likely to be:
   - A businessman
   - A fireman

(9) This study contains doctors and farmers. Person 'A' is intelligent. There are 5 doctors and 995 farmers. Is Person 'A' more likely to be:
   - A doctor
   - A farmer

(10) This study contains writers and construction workers. Person 'W' is strong. There are 996 writers and 4 construction workers. Is Person 'W' more likely to be:
   - A writer
   - A construction worker

(11) This study contains computer programmers and hippies. Person 'Z' is nerdy. There are 3 computer programmers and 997 hippies. Is Person 'Z' more likely to be:
   - A computer programmer
   - A hippie

(12) This study contains flight attendants and surgeons. Person 'C' is kind. There are 5 flight attendants and 995 surgeons. Is Person 'C' more likely to be:
   - A flight attendant
   - A surgeon

(13) This study contains high school coaches and dentists. Person 'K' is loud. There are 3 high school coaches and 997 dentists. Is Person 'K' more likely to be:
   - A high school coach
   - A dentist
(14) This study contains real estate agents and poor people. Person 'K' is persuasive. There are 5 real estate agents and 995 poor people. Is Person 'K' more likely to be:
- A real estate agent
- A poor person

(15) This study contains accountants and boys. Person 'H' is immature. There are 997 accountants and 3 boys. Is Person 'H' more likely to be:
- An accountant
- A boy

(16) This study contains rich people and gardeners. Person 'G' is arrogant. There are 4 rich people and 996 gardeners. Is Person 'G' more likely to be:
- A rich person
- A gardener

**Intervention base-rate items used in Study 1A:**

(1) This study contains lab technicians and politicians. Person 'F' is dishonest. There are 996 lab technicians and 4 politicians. Is Person 'F' more likely to be:
- A lab technician
- A politician

(2) This study contains nannies and businessmen. Person 'Q' is ambitious. There are 997 nannies and 3 businessmen. Is Person 'Q' more likely to be:
- A nanny
- A businessman

(3) This study contains boxers and kindergarten teachers. Person 'V' is kind. There are 995 boxers and 3 kindergarten teachers. Is Person 'V' more likely to be:
- A boxer
- A kindergarten teacher

**Neutral base-rate items used in Study 1A:**

(1) This study contains saxophone players and trumpet players. Person 'R' is musical. There are 5 saxophone players and 995 trumpet players. Is Person 'R' more likely to be:
- A saxophone player
- A trumpet player
(2) This study contains doctors and lawyers. Person 'Y' is rich. There are 997 doctors and 3 lawyers. Is Person 'Y' more likely to be:
- A doctor
- A lawyer

(3) This study contains men and women. Person 'T' is human. There are 4 men and 996 women. Is Person 'T' more likely to be:
- A man
- A woman

(4) This study contains grandfathers and grandmothers. Person 'U' is old. There are 955 grandfathers and 5 grandmothers. Is Person 'U' more likely to be:
- A grandfather
- A grandmother

CRT-like items used in Study 1A and 2A:
(1) Imagine you're in a car race. If you pass the car in fifth place, what place are you in?
- Fourth
- Fifth
- Sixth

(2) Imagine you're running a race. If you pass the person in second place, what place are you in?
- First
- Second
- Third

Conjunction fallacy items used in Study 1A:
(1) James is 26. He lives in Manhattan. He likes to wear designer clothes and acts somewhat stuck-up. On Sunday he plays golf with his father. Which statement is most likely?
- James volunteers in the day care center in his free time
- James volunteers in the day care center in his free time and works as a stockbroker.

(2) Jake is 20. He grew up in a poor family in a neglected neighbourhood. He is quite violent and already served a short sentence in prison. Which statement is most likely?
- Jake plays the violin
- Jake plays the violin, and he is jobless
Base-rate items used in Study 1B:

(1) The study contains computer programmers and hippies. Person 'B' is unconventional. There are 5 hippies and 995 computer programmers. Is Person 'B' more likely to be:
   - A computer programmer
   - A hippie

(2) The study contains accountants and boys. Person 'G' is organized. There are 4 accountants and 996 boys. Is Person 'G' more likely to be:
   - A boy
   - An accountant

(3) The study contains artists and nurses. Person 'T' is helpful. There are 997 artists and 3 nurses. Person 'T' is more likely to be:
   - An artist
   - A nurse

(4) The study contains consultants and boxers. Person 'A' is strong. There are 995 consultants and 5 boxers. Is Person 'A' more likely to be:
   - A consultant
   - A boxer

(5) The study contains architects and telemarketers. Person 'Q' is creative. There are 3 architects and 997 telemarketers. Is Person 'Q' more likely to be:
   - A telemarketer
   - An architect

(6) The study contains lab technicians and politicians. Person 'E' is intelligent. There are 5 lab technicians and 995 politicians. Is Person 'E' more likely to be:
   - A politician
   - A lab technician

(7) The study contains rich people and paramedics. Person 'J' is reliable. There are 996 rich people and 4 paramedics. Is Person 'J' more likely to be:
   - A rich people
   - A paramedic
(8) The study contains nannies and businessmen. Person 'C' is ambitious. There are 997 nannies and 3 businessmen. Is Person 'C' more likely to be:
   - A nanny
   - A businessman

(9) The study contains flight attendants and scientists. Person 'H' is intelligent. There are 3 scientists and 997 flight attendants. Is Person 'H' more likely to be:
   - A flight attendant
   - A scientist

(10) The study contains dentists and clowns. Person 'R' is funny. There are 4 clowns and 996 dentists. Is Person 'R' more likely to be:
    - A dentist
    - A novel writer

(11) The study contains writers and sixteen-year-olds. Person 'Z' is immature. There are 996 writers and 4 sixteen-year-olds. Is Person 'Z' is more likely to be:
    - A writer
    - A sixteen-year-old

(12) The study contains I.T. technicians and real estate agents. Person 'U' is nerdy. There are 997 real estate agents and 3 I.T. technicians. Is Person 'U' more likely to be:
    - A real estate agent
    - An I.T. technician

(13) The study contains lawyers and gardeners. Person 'X' is gentle. There are 5 gardeners and 995 lawyers. Is Person 'X' more likely to be:
    - A lawyer
    - A gardener

(14) The study contains women and drummers. Person 'M' is sensitive. There 4 women and 996 drummers. Is Person 'M' more likely to be:
    - A drummer
    - A woman
(15) The study contains lab technicians and aerobics instructors. Person 'D' is intelligent. There are 996 aerobics instructors and 4 lab technicians. Is Person 'D' more likely to be:
- An aerobics instructor
- A lab technician

(16) The study contains librarians and politicians. Person 'Y' is quiet. There are 997 politicians and 3 librarians. Is Person 'Y' more likely to be:
- A politician
- A librarian

**Intervention base-rate items used in Study 1B:**

(1) This study contains librarians and politicians. Person 'Y' is quiet. There are 996 politicians and 4 librarians. Is Person 'Y' more likely to be:
- A politician
- A librarian

(2) This study contains men and nannies. Person 'Q' is kind. There are 997 men and 3 nannies. Is Person 'Q' more likely to be:
- A man
- A nanny

(3) This study contains lab technicians and aerobics instructors. Person 'V' is active. There are 995 lab technicians and 3 aerobics instructors. Is Person 'V' more likely to be:
- A lab technician
- An aerobics instructor

**Neutral base-rate items used in Study 1B:**

(1) This study contains saxophone players and trumpet players. Person 'R' is musical. There are 5 saxophone players and 995 trumpet players. Is Person 'R' more likely to be:
- A saxophone player
- A trumpet player

(2) This study contains surgeons and nurses. Person 'Y' is careful. There are 997 nurses and 3 surgeons. Is Person 'Y' more likely to be:
- A surgeon
- A nurse
(3) This study contains grandfathers and grandmothers. Person 'E' is old. There are 4 grandmothers and 996 grandfathers. Is Person 'E' more likely to be:
   - A grandmother
   - A grandfather

(4) This study contains painters and pianists. Person 'U' is creative. There are 955 painters and 5 pianists. Is Person 'U' more likely to be:
   - A painter
   - A pianist

CRT-like items used in Study 1B and 2B:

(1) Imagine you are queuing at the supermarket. If you pass the person in third place, what place are you in?
   - Second
   - Third
   - Fourth

(2) Imagine you're playing Mario Kart. If you pass the character in sixth place, what place are you in?
   - Fifth
   - Sixth
   - Seventh

Conjunction fallacy items (long format) used in Study 1B:

(1) Jamal is 21. Jamal lives near Brooklyn. He has dreadlocks and drives a convertible. He is 6' 7" (6 feet and 7 inches tall) and very athletic. Which statement is most likely?
   - Jamal is a basketball player
   - Jamal is a basketball player and a gymnast

(2) Santiago is 20. He grew up in a middle-class family in New York. He enjoys visiting the city's museums and spending time with his family. Which statement is most likely?
   - Santiago is a musician
   - Santiago is a musician and a chess player.
Conjunction fallacy items used in Study 2A:

(1) Piper, 25, has previously studied aerodynamics and likes extreme sports. Is it most probable that the described person is:
   - A history teacher
   - A mortician
   - A history teacher and a scrabble player
   - A history teacher and a motorcycle racer

(2) Blake, 39, has previously studied comedy and likes laughing. Is it most probable that the described person is:
   - An archivist
   - A bank CEO
   - An archivist and a kareteka
   - An archivist and a clown

(3) Corey, 36, has previously studied journalism and likes gossip. Is it most probable that the described person is:
   - A forest ranger
   - A mine-clearer
   - A forest ranger and a handyman
   - A forest ranger and a tabloid reader

(4) Perry, 36, has previously studied literature and likes poetry. Is it most probable that the described person is:
   - A carpenter
   - An Olympic medallist
   - A carpenter and a hockey player
   - A carpenter and a novel writer

(5) Briar, 30, has previously studied economics and likes quality tobacco. Is it most probable that the described person is:
   - A shop assistant
   - A snowboard professional
   - A shop assistant and a ballet dancer
   - A shop assistant and a cigar smoker
(6) Errin, 27, has previously studied pattern design and likes sewing. Is it most probable that the described person is:
- A caregiver
- An astronaut
- A caregiver and a genealogist
- A caregiver and a fashion enthusiast

(7) Maddy, 30, has previously studied gastronomy and likes French food. Is it most probable that the described person is:
- A gardener
- A Court of Appeal Judge
- A gardener and a weightlifter
- A gardener and a wine taster

(8) Edwin, 38, has previously studied astronomy and likes sci-fi. Is it most probable that the described person is:
- A longshoreman
- An Oscar winner
- A longshoreman and an equestrian
- A longshoreman and a stargazer

(9) Corri, 26, has previously studied web marketing and likes social media. Is it most probable that the described person is:
- A fireman
- A sword swallower
- A fireman and a puzzle lover
- A fireman and a youtuber

(10) Bryce, 41, has previously studied performing arts and likes sports. Is it most probable that the described person is:
- A fruit picker
- A head of state
- A fruit picker and a video gamer
- A fruit picker and an acrobat
(11) Hazel, 43, has previously studied geography and likes foreign culture. Is it most probable that the described person is:
- A pawnbroker
- A swordsman
- A pawnbroker and a perfumer
- A pawnbroker and a globetrotter

(12) Haven, 35, has previously studied gender studies and likes hardcore music. Is it most probable that the described person is:
- A shoemaker
- An Archbishop
- A shoemaker and a Jehovah witness
- A shoemaker and a feminist

(13) Falon, 26, has previously studied education and likes children. Is it most probable that the described person is:
- A flight attendant
- A duke
- A flight attendant and a rally racing fan
- A flight attendant and a dad

(14) Damon, 27, has previously studied linguistics and likes storytelling. Is it most probable that the described person is:
- A machine operator
- A heavyweight boxer
- A machine operator and a free climber
- A machine operator and a book lover

(15) Julia, 31, has previously studied cultural analysis and likes Apple products. Is it most probable that the described person is:
- A house painter
- A corporal
- A house painter and a carpet weaver
- A house painter and an iPad owner
(16) Wayne, 39, has previously studied zoology and likes mountain nature. Is it most probable that the described person is:
- A musician
- A navy admiral
- A musician and a juggler
- A musician and birdwatcher

**Intervention conjunction fallacy items used in Study 2A:**

(1) Tracy, 45, has previously studied synchronized swimming and likes the beach. Is it most probable that the described person is:
- A plumber
- A celebrity DJ
- A plumber and a tanner
- A plumber and a diver

(2) Sloan, 39, has previously studied masonry and likes tattoos. Is it most probable that the described person is:
- A nanny
- A deputy
- A nanny and a cat lover
- A nanny and a hard rock lover

(3) Rowan, 45, has previously studied cosmetics and likes hair styling. Is it most probable that the described person is:
- A prison warden
- A stuntman
- A prison warden and a crossword puzzle lover
- A prison warden and a hairdresser

**Base-rate items (long format) used in Study 2A:**

(1) In a study, 1000 people were tested. Among the participants, there were 4 men and 996 women. Jo is a randomly chosen participant of this study. 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. What is most likely?
- Jo is a man
- Jo is a woman
In a study, 1000 people were tested. Among the participants, there were 997 nurses and 3 doctors. Paul is a randomly chosen participant of this study. Paul is 34 years old. He lives in a beautiful home in a posh suburb. He is well spoken and very interested in politics. He invests a lot of time in his career. What is most likely?
- Paul is a nurse
- Paul is a doctor

Conjunction fallacy items used in Study 2B:

1. Emery, 27, has previously studied robotics and likes AI. Is it most probable that the described person is:
   - A cashier
   - An international pop singer
   - A cashier and a cheerleader
   - A cashier and a computer hacker

2. Jamie, 42, has previously studied sea winds and likes to sail. Is it most probable that the described person is:
   - A postal worker
   - A rock star
   - A postal worker and a car collector
   - A postal worker and a fisherman

3. Glenn, 40, has previously studied military strategy and likes combat sports. Is it most probable that the described person is:
   - An insurer
   - A palaeontologist
   - An insurer and a knitter
   - An insurer and a gun owner

4. Tobey, 33, has previously studied biology and likes forest excursions. Is it most probable that the described person is:
   - A masseur
   - A fighter pilot
   - A masseur and a wrestler
   - A masseur and a mushroom picker
(5) Katie, 32, has previously studied fine arts and likes painting. Is it most probable that the described person is:
- A parking attendant
- A brain surgeon
- A parking attendant and a snowboarder
- A parking attendant and a cartoonist

(6) Jenny, 33, has previously studied political science and likes local politics. Is it most probable that the described person is:
- A receptionist
- A princess
- A receptionist and a poker player
- A receptionist and a political party member

(7) Lewis, 36, has previously studied Mechanics and likes steamships. Is it most probable that the described person is:
- A waiter
- An opera singer
- A waiter and a blogger
- A waiter and a boat lover

(8) Wyatt, 42, has previously studied musicology and likes jazz. Is it most probable that the described person is:
- A taxi driver
- An ostrich farmer
- A taxi driver and an orienteer
- A taxi driver and a record collector

(9) Shawn, 40, has previously studied real estate and likes luxury items. Is it most probable that the described person is:
- A courier
- A submarine captain
- A courier and a make-up artist
- A courier and a watch collector
(10) Gavyn, 41, has previously studied marketing and likes to deceive. Is it most probable that the described person is:
   - A bodyguard
   - An ant farmer
   - A bodyguard and a nature lover
   - A bodyguard and a poker player

(11) Blair, 32, has previously studied theology and likes choral singing. Is it most probable that the described person is:
   - A warehouse worker
   - A formula 1 driver
   - A warehouse worker and a paintball player
   - A warehouse worker and a Christian

(12) Chris, 31, has previously studied computer science and likes Japanese comics. Is it most probable that the described person is:
   - A bartender
   - A diplomat
   - A bartender and a pipe smoker
   - A bartender and an online gamer

(13) Marin, 29, has previously studied sound engineering and likes hifi speakers. Is it most probable that the described person is:
   - A baker
   - A countess
   - A baker and an extreme sportsman
   - A baker and a music lover

(14) Alexa, 35, has previously studied sociology and likes trade unions. Is it most probable that the described person is:
   - A bus driver
   - A rock star
   - A bus driver and a stock speculator
   - A bus driver and a social democrat
(15) Amber, 28, has previously studied mathematics and likes board games. Is it most probable that the described person is:

- A guard
- A moose farmer
- A guard and a martial artist
- A guard and a chess player

(16) Aaron, 40, has previously studied handicrafts and likes pottery. Is it most probable that the described person is:

- A tour guide
- A game show winner
- A tour guide and a sniper
- A tour guide and a woodcarver

**Intervention conjunction fallacy items used in Study 2B:**

(1) Robin, 29, has previously studied psychology and likes charity. Is it most probable that the described person is:

- A bailiff
- A snake-charmer
- A bailiff and a sports bettor
- A plumber and a diver

(2) Addie, 35, has previously studied Philosophy and likes Greek history. Is it most probable that the described person is:

- An aerobics instructor
- A shark trainer
- An aerobics instructor and a reality show fan
- An aerobics instructor and an art collector

(3) Shane, 37, has previously studied chemistry and likes makeup. Is it most probable that the described person is:

- A garbage collector
- A parachutist
- A garbage collector and an animal protector
- A garbage collector and a body painter
Base-rate items (long format) used in Study 2B:

(1) In a study 1000 people were tested. Among the participants there were 3 who live in a condo and 997 who live in a farmhouse. Kurt is a randomly chosen participant of this study. Kurt works on Wall Street and is single. He works long hours and wears Armani suits to work. He likes wearing shades. What is most likely?
- Kurt lives in a condo
- Kurt lives in a farmhouse

(2) In a study 1000 people were tested. Among the participants there were 3 girls and 997 boys. Erin is a randomly chosen participant of this study. Erin is 13 years old. Erin’s favourite subject is art. Erin’s favourite things to do are shopping and having sleepovers with friends to gossip about other kids at school. What is most likely?
- Erin is a boy
- Erin is a girl
B. Data for the type of justification from Study 1A

In the first base-rate study, after the last conflict problem of the post-intervention, participants were asked to select a rationale for their final response. They had to choose between four possible choices. This appeared on the screen:

*We are interested in the reasoning behind your response to the final question:*

*This study contains secretaries and telemarketers. Person 'J' is persuasive. There are 995 secretaries and 5 telemarketers. Is Person 'J' more likely to be:*

- a secretary
- a telemarketer

*Could you please justify, why do you think that your previously entered response is the correct response to the question? Please choose from the presented options below:*

- I did the math. Please specify how: ___________________________
- I guessed.
- I decided based on intuition/gut feeling.
- Other. Please specify how: ___________________________

The coding format and procedure was based on Bago and De Neys (2019). A justification was considered as correct when it explicitly mentioned the use of the base-rate (e.g. “Greater number of Secretaries to telemarketers. For every 1 marketer there are 199 secretaries, so the odds are stacked against it being a telemarketer.”). All other responses were coded as incorrect.
Table S1.
Frequency of different types of justifications for the final base-rate conflict problem during the post-intervention in Study 1A.

<table>
<thead>
<tr>
<th>Justification</th>
<th>Control group</th>
<th>Training group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Correct response</td>
<td>Incorrect response</td>
</tr>
<tr>
<td></td>
<td>( (n = 32) )</td>
<td>( (n = 13) )</td>
</tr>
<tr>
<td>Guess</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>Intuitions</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>Correct</td>
<td>21</td>
<td>-</td>
</tr>
<tr>
<td>Incorrect</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

*Note.* Justification data of 9 participants is missing because their trial was excluded due to a missed deadline (see Exclusion Criteria).
### C. No-Conflict problem accuracy in Study 1A, Study 2A, Study 1B and Study 2B

**Table S2.**
Average accuracy (%) for the no-conflict problems (SEM) in Study 1A (base-rate problems).

<table>
<thead>
<tr>
<th>Group</th>
<th>Initial response</th>
<th>Final response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-intervention</td>
<td>Post-intervention</td>
</tr>
<tr>
<td>Control</td>
<td>95.9 (1.9)</td>
<td>93.5 (2.1)</td>
</tr>
<tr>
<td>Training</td>
<td>99.3 (0.7)</td>
<td>95.8 (1.7)</td>
</tr>
</tbody>
</table>

**Table S3.**
Average accuracy (%) for the no-conflict problems (SEM) in Study 2A (conjunction fallacy problems).

<table>
<thead>
<tr>
<th>Group</th>
<th>Initial response</th>
<th>Final response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-intervention</td>
<td>Post-intervention</td>
</tr>
<tr>
<td>Control</td>
<td>80.1 (3.0)</td>
<td>73.9 (3.5)</td>
</tr>
<tr>
<td>Training</td>
<td>70.7 (4.5)</td>
<td>85.9 (2.9)</td>
</tr>
</tbody>
</table>

**Table S4.**
Average accuracy (%) for the no-conflict problems (SEM) in Study 1B (base-rate problems).

<table>
<thead>
<tr>
<th>Block</th>
<th>Initial response</th>
<th>Final response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-intervention</td>
<td>94.3 (2.3)</td>
<td>98.4 (1.1)</td>
</tr>
<tr>
<td>Post-intervention</td>
<td>95.3 (2.7)</td>
<td>96.3 (2.6)</td>
</tr>
</tbody>
</table>

**Table S5.**
Average accuracy (%) for the no-conflict problems (SEM) in Study 2B (conjunction fallacy problems).

<table>
<thead>
<tr>
<th>Block</th>
<th>Initial response</th>
<th>Final response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-intervention</td>
<td>78.6 (5.0)</td>
<td>75.8 (5.3)</td>
</tr>
<tr>
<td>Post-intervention</td>
<td>85.7 (3.9)</td>
<td>93.5 (2.7)</td>
</tr>
</tbody>
</table>
D. Isolated transfer problem accuracy in Study 1A, Study 2A, Study 1B and Study 2B

**Figure S1.** Average initial and final accuracy on isolated transfer items for Study 1A and 2A. Error bars represent standard error of the mean (SEM).
Figure S2. Average initial and final accuracy, for Study 1A, Study 2A, Study 1B and Study 2B of the isolated transfer items of the trained participants who took part in the re-test studies. Error bars represent standard error of the mean (SEM).
E. Conjunction fallacy problems: frequency of each individual response option in Study 2A and Study 2B

Figure S3. Frequency of each individual response option in Study 2A (conjunction fallacy items) for the initial and the final responses, before and after the intervention in the control and training group.
Figure S4. Frequency of each individual response option in Study 2A and 2B (conjunction fallacy items) for the initial and the final responses before and after the intervention for the trained participants who took part in the re-test.
F. Direction of change analysis of change from Study 1A, Study 2A, Study 1B and Study 2B

Figure S5. Proportion of each direction of change (i.e., 00 trials, 01 trials, 10 trials and 11 trials) for the conflict problems according to Block (Pre-intervention vs Post-intervention), for base-rate studies (Study 1A and Study 1B) and conjunction fallacy studies (Study 2A and Study 2B) of the participants who took part in the re-test.
G. Neutral problems accuracy of Study 1A and Study 1B

**Figure S6.** Average initial and final neutral problem accuracy in Study 1A and Study 1B of the participants who took part in the re-test. Error bars are standard errors.
H. Transfer problems accuracy of Study 1A, Study 2A, Study 1B and Study 2B

Figure S7. Average initial and final accuracy on transfer problems in Study 1A and Study 1B and in Study 2A and 2B, according to Block (Pre- vs Post-intervention) of the participants who took part in the re-test. Error bars are standard errors.
I. Conflict detection index with confidence ratings for Study 1A, Study 2A, Study 1B and Study 2B

Figure S8. Percentage of mean differences in confidence ratings (error standard of the mean) between conflict and no-conflict problems as an index of conflict detection, before and after the intervention, in Study 1A and Study 1B (base-rate problems) and in Study 2A and Study 2B (conjunction problems), of the participants who took part in the re-test. Error bars are standard errors.
J. Individual level of direction of change in Study 1B and Study 2B for the participants who took part in the re-test.

**Figure S9.** Individual level direction of change (each row represents one participant) in Study 1B (base-rate problems). Due to the discarding of missed deadline and load trials (see Trial Exclusion), not all participants contributed 8 analysable trials.
Figure S10. Individual level direction of change (each row represents one participant) in Study 2B (base-rate problem). Due to the discarding of missed deadline and load trials (see Trial Exclusion), not all participants contributed 8 analysable trials.