

If you turned over the cards “D” and “5”, you chose the most common answer. Unfortunately, it’s wrong, but hang on: on average, 80% of respondents are also wrong. A majority of people rightly turn over “D” to check that a “5” is on the other side. They also select the “5” and forget the “7”. However, choosing the “7” is mandatory to check whether the other side is a “D” (refutation) or not (validation). Conversely, turning the “5” is useless, as any other letter than “D” would not invalidate the logical relation. Thus, the good answer is “D” and “7”.

This is a variation of the [Wason selection task](#), linked to a basic relation: A implies X. From a logical viewpoint, the contrapositive of “A implies X” is neither “X implies A” nor “Non A implies non X” but “Non X implies non A”.

In our personal or professional life, we are frequently subject to multifactorial and non-binary questions, which complicate the search for potential logical relations among them. If it is difficult for me to master one-factor logical relations, then a higher number of factors (two or more) would make the exercise even more arduous, inducing false conclusions, whereas I would feel justified by the “logical proofs”. It will reinforce my opinion (my *belief* in sociological terms) and I will use cognitive strategies, often unconsciously, to strengthen it, such as:

- Confirmation bias: select elements that confirm my belief.
- Denial bias: discard or minimize elements that contradict my belief.

We all have beliefs (“You need to work hard to succeed”, “Roller skating is dangerous”...). Some are more widespread than others. And beliefs are the basis of how we personally see the world around us. Most beliefs are not right or wrong. They help or limit us...

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