



A gap in Nisbett and Wilson's findings? A first-person access to our cognitive processes



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ABSTRACT

The well-known experiments of Nisbett and Wilson lead to the conclusion that we have no introspective access to our decision-making processes. Johansson et al. have recently developed an original protocol consisting in manipulating covertly the relationship between the subjects' intended choice and the outcome they were presented with: in 79.6% of cases, they do not detect the manipulation and provide an explanation of the choice they did *not* make, confirming the findings of Nisbett and Wilson. We have reproduced this protocol, while introducing for some choices an expert guidance to the description of this choice. The subjects who were assisted detected the manipulation in 80% of cases. Our experiment confirms Nisbett and Wilson's findings that we are usually unaware of our decision processes, but goes further by showing that we can access them through specific mental acts.

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1. Introduction

One of the most quoted papers in the field of social sciences (almost 7000 citations in January 2013), written by Nisbett and Wilson (1977), draws from a series of experimental studies the conclusion that we have no introspective access to our cognitive processes, notably our decision-making processes: "There may be little or no direct access to higher order cognitive processes" (p. 231). The experiments of Nisbett and Wilson consist in manipulating the cause of the behavior of a subject, and then asking him to explain his behavior: most subjects provide an explanation without noticing the manipulation. The authors conclude that subjects "tell more than they can know" about themselves and describe processes that in fact they cannot access. This work has significantly contributed to the discredit of introspective methods, whose reliability and use in Cognitive Sciences is currently the object of an intense debate (Jack & Roepstorff, 2003, 2004; Overgaard, 2006; Petitmengin, 2009a, 2011; Varela & Shear, 1999; Weisberg, 2011).

A Swedish team of cognitive scientists recently tried to challenge the conclusions of Nisbett and Wilson (Johansson, Hall, Sikström, & Olsson, 2005) by carrying out the following experiment: the experimenter shows the participants two pictures of women's faces and asks them to choose which one they find the most attractive. Immediately after, he shows the chosen picture again and asks them to explain the reasons for their choice. But in some cases, the picture which is re-presented is the one that was not chosen (through the use of a double-card ploy, the subject does not realize the manipulation).

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Surprisingly, the participants detect the substitution in only 27% of cases, and in 73% of cases, provide an explanation for the choice they did not make, a phenomenon that the authors term “choice blindness”.

Furthermore, a contrastive analysis of various linguistic markers (certainty, specificity, emotionality, complexity, etc.) shows no significant difference between verbal reports corresponding to manipulated and non-manipulated trials. This similarity leads the authors to conclude that even in the absence of manipulation, subjects verbalize what they think or believe to have done, not how they actually proceeded, which they are not aware of. The study was repeated a second time by the same team with similar results (Johansson, Hall, Sikström, Tärning, & Lind, 2006). It therefore seems to confirm the conclusion of Nisbett and Wilson that we have no introspective access to our decision processes. More specifically, this study casts doubt on the very possibility of remembering our past or just past experience, which is one of the cornerstones of introspection. As Stuart Mill had indeed noted, “a fact may be studied through the medium of memory, not at the very moment of our perceiving it, but the moment after: and this is really the mode in which our best knowledge of our intellectual acts is generally acquired.” (Mill, 1882/1961, p. 64). All the introspectionist schools of the early 20th century – that of Titchener (Titchener, 1910/1980), that of Binet in Paris (Binet, 1903), as well as the school of Würzburg in Germany – agreed on the fact that retrospection must be used each time the introspective act could disturb the target experience. However in the frequent cases where “introspection is retrospection” (Sully, 1881), how can we claim to introspect, for example the reasons for our decisions, if even the memory of the alternatives of the decision is so fragile that we can easily be fooled about them, and thus describe the reasons for a choice we did not make, without even noticing it?

Our practice of interview methods aimed at eliciting the disciplined description of the lived experience associated with a given cognitive process, led us to question the results of these studies. We reproduced the experiment of Johansson and colleagues, whilst introducing an “elicitation” stage for some choices. In the trials where subjects did not undergo an elicitation interview, our results are similar to those of Johansson and colleagues. However, in the trials where subjects were assisted in the elicitation of their experience, the substitution was detected in 80% of cases.

In a first part of this article we will describe our protocol and its differences with that of Johansson et al. After presenting our results in a second part, we will try in a third part to understand them: what did the subjects who were guided in the elicitation of their choice do that allowed them to detect the substitution, and that the others did not?

2. Protocols and methods

2.1. Johansson et al. protocols

In their first experiment (Johansson et al., 2005), Johansson and colleagues showed pairs of grayscale pictures of female faces to 120 participants (70 women) and asked them to choose which face in each pair they found most attractive. In some trials, immediately after their choice, the experimenter re-presented the chosen face and asked the participants to state the reasons behind their choice. Unbeknown to the participants, in certain trials, the experimenter used a double-card ploy to covertly exchange one face for the other, and instead presented the one that was not chosen.

Each subject completed a sequence of 15 choices, and was asked to justify his/her choice for 6 pairs, three of which were manipulated. The manipulated face pairs and the non-manipulated reports always appeared in the same position in the sequence. The deliberation time and the similarity of the face pairs varied. For time, three choice conditions were included: one with 2 s of deliberation time, one with 5 s, and one where participants could take as much time as they liked. For similarity, two sets of faces were created, a high-similarity (HS) and a low-similarity (LS) set.

Surprisingly, only 13% of the M trials were detected immediately. The subjects were then given different possibilities to detect the substitution retrospectively. All forms of detection combined, 26% of manipulated trials were detected. However, once a first detection was made, the participants became more suspicious, and more likely to detect future substitutions. To avoid such cascading detection effects, it was necessary to discard all trials after the first detection was made. This correction reduced the detection rate down to 8.2% (immediate detection) and 20.4% (all forms of detection). In 79.6% of cases, the subjects provided an explanation for the choice they did *not* make and never detected the manipulation.

Across all conditions, there were no significant differences in detection rate between the HS and the LS sets. There were no significant differences in detection rate between the 2 s and 5 s deliberation time conditions (20%, 16.6% with correction), but it was higher (36%, 28% with correction) when participants were given free deliberation time.

Johansson and colleagues reproduced this experiment with another group of 80 participants (49 women) (Johansson et al., 2006). The protocol was very similar to the previous one, except that a fixed deliberation time of 4 s was given to each participant, and the 15 face pairs were constructed in order to keep similarity constant at an intermediate level.

The overall detection rate for the manipulated trials was roughly equivalent to the results of the first experiment, with 27.5% of the trials detected. It therefore seemed to confirm the conclusion of Nisbett and Wilson that we have no introspective access to our decision processes.

2.2. Our protocol

2.2.1. The choice stage

We reproduced the experiment of Johansson et al. as closely as possible, but changed one condition, the way in which some of the verbal reports were gathered. As in the original experiment, each subject had to make 15 choices, and was asked

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