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When Does Source Information Help? Content Vs. Source-Based Validation as a Function of Readers' Prior Knowledge

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Abstract

Undergraduate students read true, false, or uncertain statements attributed to either competent or less competent sources. Participants rated the statements as true or false. Statements attributed to competent sources were more likely to be rated as true, but the effect was much larger when the statement was uncertain than when it was either true or false. Implications for validation processes are discussed.

Keywords

Comprehension, knowledge, sources, validation

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Validation is the process whereby readers either integrate incoming information as part of their knowledge base or reject it as inaccurate or inacceptable (Richter, 2015; Singer, 2013). It has been argued that validation sometimes rests on fast and passive processes (Richter, Schroeder, & Wöhrmann, 2009) resulting from the activation of prior content knowledge. Automatic validation lets readers detect implausible statements such as "soft soap is edible" immediately and without any additional processing.

Thus far, however, evidence for automatic validation mostly comes from studies using simple statements about familiar topics (e.g., "clouds are square" or "gold is valuable"). Research conducted with more complex materials suggests that readers sometimes need to rely on strategic processes in order to decide if a piece of information is valid. This is the case for instance when a text contains two conflicting statements that the reader cannot assess based on their own prior knowledge (e.g., "the latest Paris opera show was a huge success / a total failure"; Braasch, Rouet, Vibert & Britt, 2012). In these cases, readers turn to more sophisticated processes such as sourcing or corroboration (Rouet et al., 2016).

Richter and Maier's (2017) two-step model of validation posits that whether validation is automatic or strategic depends on the goals and resources of the reader. For example, readers may engage in strategic validation when simpler processes based on knowledge activation fail. The present project examines the assumption that readers' use of a validation strategy depends on the gap between the information to be assessed and their prior knowledge or beliefs. Readers may validate information automatically when the information is either part of their knowledge base (a zero gap, e.g., "James Bond is an English spy") or when it directly clashes with their prior knowledge (a large gap, e.g., "James Bond is a female character"). However, readers may turn to strategic, source-based validation when they are uncertain about the statement (e.g., "James Bond is an orphan"). Statements attributed to a source that readers deem competent (e.g., "a spy movie producer") would then be more likely to be accepted than a statement provided by a less competent source (e.g., "a French wine maker").

The purpose of the present experiment was to test the influence of a source's perceived competence on readers' validation of factual statements. We hypothesized that readers would be

more likely to accept as true statements attributed to competent vs. less competent sources (sourcing effect). Importantly, we also assumed that the size of the sourcing effect would be larger for statements that readers were unsure about, as opposed to statements that readers could confidently categorize as true or false. We tested the additional assumption that readers' increased reliance on sources when validating uncertain statements would result in a deeper encoding of the source-content link, as evidenced in a source recognition test.

Method

Participants

Participants were 102 undergraduate students at a large public university (83 female, age range 18-28 years). They participated for course credit in a single one-hour small group session. All were experienced French speakers and had a normal reading fluency level.

Materials

The materials were drawn from a pool of topics that had been tested in a prior screening study. The materials comprised a list of 30 general knowledge topics, e.g., "the James Bond movie character". Three statements were written for each topic: a clearly true, a clearly false, and an uncertain statement. In addition, a competent and a less competent source were created for each topic (see examples above). The statements were presented in combination with sources, e.g., "A spy movie producer says that James Bond is an orphan"). This resulted in 6 different statements for each of the 30 topics (i.e., 3 statements x 2 sources). Statements were combined into forms containing 5 items per condition (i.e., competent-true, competent-false, competent-uncertain and so forth).

In addition, the materials included a source recognition test in which the content portion of each statement was presented with four different sources, i.e. the correct source plus three distractors representing people with various types of occupations. One of the distractors was the source presented in the alternate condition, the other two were matched in length and type of description.

Procedure

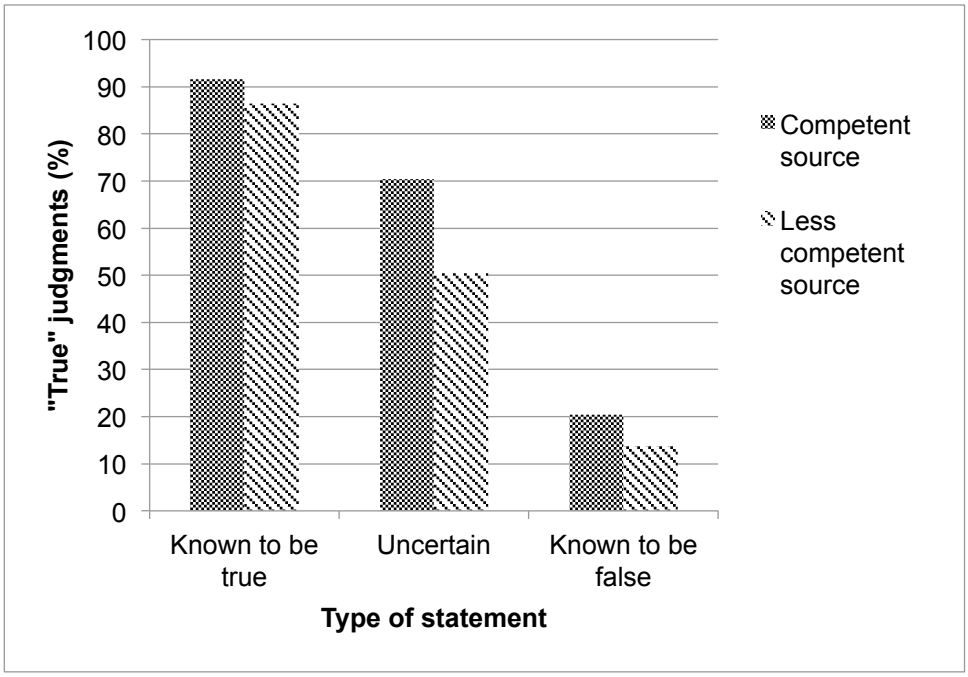
Participants were tasked to rate each statement as true or false and to rate their confidence about their decision (not reported here). When they were finished with the task, they were given a vocabulary test and a reading fluency test. Finally, the participants were asked to recognize the source of the statements they had read among four possible options.

Results

Figure 1 shows the percentage of "true" judgments as a function of statement status and source competence.

Figure 1

Percentage of "true" judgments as a function of statement status and source competence.



As expected, the percentage of "true" judgments was much higher for true than for uncertain and false statements (89%, 60%, and 17% respectively; $F(2, 202)=690.62$, $p<.001$, partial $Eta2=.87$). In addition, statements attributed to a competent source were more often rated as true than statements attributed to a less competent source (61 vs. 50%, $F(1,101)=25.87$, $p<.001$, partial $Eta2=.20$). More importantly, these effects were qualified by a significant interaction between the type of source and the type of statement ($F(2, 202)=11.55$, $p=<.001$, Partial $Eta2=.10$): for true and false statements, the difference between competent and less competent sources was about 6%. For uncertain statements however, the difference rose to 20%. Uncertain statements that came with a not-so-competent source were rated as true in 50% of the cases, but the percentage reached 70% when these statements were attributed to a more competent source.

Contrary to our expectation, recognition rates did not significantly differ as a function of statement types. Sources of true, false and uncertain statements were recognized in about 75% of the cases, possibly reflecting a ceiling effect.

Discussion

Our experiment provides initial evidence of a dual-process validation mechanism, whereby readers shift from a content-based to source-based validation when they cannot assess the statements based on their prior knowledge. Ongoing follow-up work will seek to find out if these alternate mechanisms are associated with different patterns of eye movements during reading. In addition, future experiments will further check the impact of source-based validation mechanisms on readers' memory for source-content links.

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