Cognition 133 (2014) 517–529

Contents lists available at ScienceDirect

Cognition

journal homepage: www.elsevier.com/locate/COGNIT

If I imagine it, then it happened: The Implicit Truth Value of imaginary representations

Daniella Shidlovski *, Yaacov Schul *, Ruth Mayo *

Department of Psychology, The Hebrew University of Jerusalem, Israel

ARTICLE INFO

Article history:
Received 24 April 2014
Revised 6 August 2014
Accepted 7 August 2014
Available online 14 September 2014

Keywords:
Imagination
Truth value
Autobiographical implicit association test

ABSTRACT

Imagination sometimes leads people to behave, feel, and think as though imagined events were real even when they know they were not. In this paper, we suggest that some understanding of these phenomena can be achieved by differentiating between Implicit Truth Value (ITV), a spontaneous truth evaluation, and Explicit Truth Value (ETV), a self-reported truth judgment. In three experiments, we measure ITV using the autobiographical Implicit Association Test (Sartori, Agosta, Zogmaister, Ferrara, & Castiello, 2008), which has been used to assess which of two autobiographical events is true. Our findings demonstrate that imagining an event, like experiencing an event, increases its ITV, even when people explicitly acknowledge the imagined event as false (Experiments 1a and 1b). Furthermore, we show that imagined representations generated from a first-person perspective have higher ITV than imagined representations generated from a third-person perspective (Experiment 2). Our findings suggest that implicit and explicit measures of truth differ in their sensitivity to properties underlying truth judgment. We discuss the contribution of characterizing events according to both ITV and ETV to the understanding of various psychological phenomena, such as lying and self-deception.

1. Introduction

Picasso said, "Everything you can imagine is real." Research shows that imagining an event (e.g., getting lost in a mall as a child) increases the likelihood of mistakenly believing the event to be true. Specifically, when uncertainty exists regarding the truth value of an event, non-content cues of the events' representation (e.g., vividness, fluency, perspective) influence judgments of truth. Can non-content cues influence truth evaluation even when an event is known to be false?

In the current research, we differentiate between Implicit Truth Value (ITV), a spontaneous truth evaluation, and Explicit Truth Value (ETV), a self-reported truth judgment. We propose that whereas ETV is more dominantly influenced by a reasoning process in which one considers the given information in light of other knowledge s/he has, the ITV is more sensitive to those characteristics of an event's representation that elicit a sense of truth (see below). Therefore, we suggest that even events that are judged explicitly as false may vary in their ITV. As one possible demonstration, we hypothesize that imagination can enhance the ITV of an event even when one explicitly acknowledges the event is unreal.

Our hypothesis is motivated by phenomena in which people react to information although they know it to be false (e.g., Anderson, 1983; Carroll, 1978; see also Radford, 1977, for the *paradox of fiction*). Research shows that imagination may lead people to *behave* as if the imagined information were true even though they clearly *know* it is false (e.g., Holmes & Mathews, 2005; Morewedge, Huh,

* Corresponding authors. Address: The Hebrew University, Mount Scopus, Jerusalem 91905, Israel. Tel.: +972 2 5883031.
E-mail addresses: daniella.shidlovski@mail.huji.ac.il (D. Shidlovski), yschul@huji.ac.il (Y. Schul), ruti.mayo@huji.ac.il (R. Mayo).

http://dx.doi.org/10.1016/j.cognition.2014.08.005
0010-0277/

& Vosgerau, 2010; Peck & Shu, 2009). For example, imagining a negative emotional event is sufficient to generate a negative emotional response (Holmes & Mathews, 2005), and imagined consumption of food leads to a decrease in its subsequent intake through habituation (Morewedge et al., 2010). Such evidence demonstrates the importance of identifying the factors that generate a truth-like response and identifying measures that are more sensitive to these factors.

1.1. Processes underlying truth judgment

The hallmark of explicit truth is verifiability. One makes a judgment regarding whether information is true or false by analyzing the proposition(s) in question to determine whether its content fits with other knowledge one has. Although studies disagree about the exact nature of the psychological processes that underlie such a determination of fit (e.g., Evans, 2007; Byrne & Johnson-Laird, 2009), the different models assume truth is computed through controlled processes (Gawronski & Bodenhausen, 2006). Nevertheless, research shows that automatic, non-analytic processes might also play a role in explicit judgments of truth. The research described below demonstrates that when people have little prior knowledge about a statement and therefore cannot reason about its truth value, factors that are unrelated to the informational content of a representation, such as fluency and vividness, can influence whether the entity in question is viewed explicitly as true (Begg, Anas, & Farinacci, 1992). To illustrate, people are more likely to believe a trivia sentence is true if they have seen the sentence before or if it is presented in a higher contrast (e.g., Hansen, Dechêne, & Wänke, 2008; Winkielman, Schwarz, Fazendeiro, & Reber, 2003). Koehler (1991) reviewed studies showing that imagination influences judgments of likelihood, and Hansen and Wänke (2010) documented that concrete language increases perceptions of the truth of ambiguous trivia sentences, an effect attributed to the greater perceived vividness of concrete (compared to abstract) sentences.

Illusions of truth are not limited to statements about external entities. The research of Loftus and colleagues (e.g., Bernstein & Loftus, 2009; Loftus, 2003) suggests people might be misled into believing a false event actually happened to them, by manipulating the way the information is represented in their mind. For example, participants were more confident they had experienced a childhood event (e.g., breaking a window with their hands) after imagining the scenario during a previous session (Manning, Loftus, & Sherman, 1996), and the more times participants imagined an action, the more likely they were to believe they had performed it (Thomas, Bulevich, & Loftus, 2003). More generally, this research shows that in the absence of strong cues for veracity, people are more likely to judge rich and vivid representations as true (see also Lyle & Johnson, 2006).

Johnson and colleagues (1981, 2006) discuss in detail the interplay between the content of memory and its structural characteristics. The authors proposed the source-monitoring framework (Johnson, Hashtroudi, & Lindsay, 1993) to explain the dynamics of systematic and heuristic processes in peoples' assessments of whether a memory representation is true (real) or false (fiction). In this framework, people can, on the one hand, base the true/false decision on systematic processes involving logic and reason (e.g., the plausibility of the event). On the other hand, they can base their judgments on the vividness of the representation when reasoning processes do not allow them to determine whether the memory is true or false.

The above-mentioned research implies that non-content cues (e.g., fluency, richness of representation, or quality of imagination) influence judgments of truth when individuals are uncertain about the entity's veracity. In the current research, we suggest that implicit measures of truth may capture the influence of the non-content cues even when people are certain an event in question is untrue.

1.2. Measures of truth

Truth is typically assessed using a direct true/false categorization judgment, possibly with an addition of a confidence component (e.g., Gross, Holz, & Miller, 1995). The dominance of the direct measures in truth judgments reflects the common view of the validation processes, namely, that the processes of evaluating the truth are propositional, requiring deliberation and cognitive resources (e.g., Gawronski & Bodenhausen, 2006). This conceptualization of truth fits with ETV.

However, in some cases, people want to conceal what is true. Research highlights the usefulness of indirect measures of truth for revealing hidden information without relying on self-reports. For example, lie-detection tools use physiological measures such as skin conductance response or reaction time methodologies for identifying concealed information (for reviews, see Ben-Shakhar, 2012; Meijer, Selle, Elber, & Ben-Shakhar, 2014).

Sartori, Agosta, Zogmaister, Ferrara, & Castiello, 2008 developed the autobiographical Implicit Association Test (aIAT; see Agosta & Sartori, 2013 for review) as a tool to detect which of two contradictory events is true for a given individual. The aIAT is based on the traditional Implicit Association Test (IAT, Greenwald, McGhee, & Schwartz, 1998). Results from different studies using various autobiographical memories showed that when response to sentences related to a true autobiographical event shared the response key with other true sentences, reaction time was faster than when response to sentences related to a true autobiographical event and to false sentences shared the same key. Recently, Ten Brinke, Stimson, and Carney (2014) used the same logic to demonstrate the superiority of the IAT-type measure over a direct judgment of deceptiveness in detecting deception in observed scenarios. In the current research, we used the aIAT as a measure of ITV. We hypothesized that not only is the aIAT an indirect way to examine real autobiographical events, but it is also sensitive to the way the event is represented in the mind. Therefore, we expected that imagination, just like real experience, would enhance ITV.