

## Epistemology for the Rest of the World

Stephen Stich (ed.) et al.

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### CHAPTER

## 6 Gettier Was Framed!

Edouard Machery, Stephen Stich, David Rose, Amita Chatterjee, Kaori Karasawa, Noel Struchiner, Smita Sirker, Naoki Usui, Takaaki Hashimoto

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### Abstract

Gettier cases describe situations where an agent possesses a justified true belief that  $p$ , without, at least according to mainstream analytic epistemology, knowing that  $p$ , while the “Gettier intuition” is the judgment that a protagonist in a Gettier case does not know the relevant proposition. Our goal in this chapter is to show that we can make the Gettier intuition compelling or underwhelming by presenting it in different contexts. We report a surprising order effect whereby people find the Gettier intuition less compelling when a case describing a justified but false belief is presented before a Gettier case. We also report a surprising framing effect: two Gettier cases that differ only in their philosophically irrelevant narrative details elicit substantially different judgments. Finally, we discuss the metaphilosophical implications of these effects.

**Keywords:** [Gettier case](#), [method of cases](#), [framing effect](#), [order effect](#), [presentation effect](#)

**Subject:** [Metaphysics](#)

**Collection:** [Oxford Scholarship Online](#)

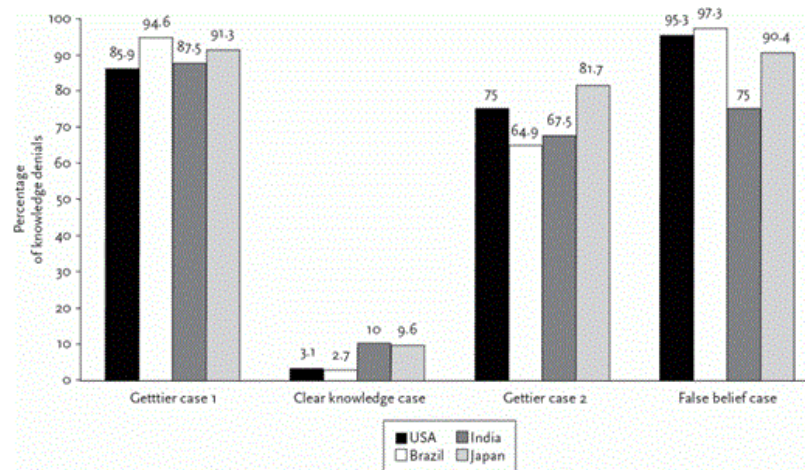
## 1. Introduction

Gettier cases describe situations in which an agent possesses a justified true belief that  $p$  without, at least according to mainstream analytic epistemology, knowing that  $p$  (Gettier 1963; Shope 1983; Zagzebski 1994). We will call judgments that a protagonist in a Gettier case does not know the relevant proposition “Gettier intuitions.” Gettier intuitions have played a central role in epistemology since the 1960s. Gettier cases seem to show that knowing that  $p$  cannot be reduced to having a true justified belief that  $p$ , and in response to Gettier cases, philosophers have attempted to formulate additional conditions that, when conjoined with justification, truth, and belief, would yield an account of knowledge immune to Gettier-style counterexamples.

More recently, Gettier cases have migrated from analytic epistemology to the experimental study of knowledge ascription (e.g., Weinberg et al. 2001; Starmans and Friedman 2012; Turri 2013; Nagel et al. 2013; Turri et al. 2015; Machery et al. 2015, 2017). Weinberg and colleagues' (2001) article has been particularly influential because it reported that participants with Western cultural backgrounds agreed with philosophers that the relevant beliefs of protagonists in Gettier cases are not cases of knowledge, while a majority of participants with East Asian and South Asian cultural backgrounds took these beliefs to be cases of knowledge. The apparent cultural variation of the Gettier intuition has played a central role in the criticism of the method of cases—roughly, the use of cases such as the Gettier case to support or undermine philosophical theories—by experimental philosophers: if cases elicit different judgments across cultures, then we may not be warranted to take our own judgment at face value (for discussion, see, e.g., Weinberg et al. 2001; Machery 2011, 2017; Sosa 2007; Weinberg 2007; Alexander 2012; Williamson 2011; Cappelen 2012; Deutsch 2015; Colaço and Machery 2017; Stich and Tobia 2016).

Experimental philosophers' case against the method of cases has weakened in the last few years. There is now a growing consensus that the Gettier intuition may well be universal for at least some types of Gettier case (Seyedsayamdost 2015; Kim and Yuan 2015; Machery et al. 2015, 2017). In particular, we have shown in recent work that people in Brazil, India, Japan, and the United States share the Gettier intuition when presented with a pair of Gettier cases (Machery et al. 2015; see figure 6.1).

**Figure 6.1**



Proportion of knowledge denials for two Gettier cases, a Clear Knowledge case, and a Justified False Belief case in the United States, Japan, Brazil, and India (based on Machery et al. 2015)

Our goal in this chapter is to show that even if Gettier intuitions do not vary across cultural groups, this provides little comfort to proponents of the method of cases. Demographic variation, including cultural variation, is only one of two kinds of effects that raise doubts about this method (Machery 2017). It is also challenged when people make different judgments about a given case when this case is presented differently. Framing effects (variations in judgment due to variations in the irrelevant narrative details of a given case) and order effects (variations in judgment due to variations in the order in which cases are presented) illustrate this second phenomenon, which we will call “presentation effects” (Machery 2017). Experimental philosophers have shown that a number of cases are subject to presentation effects (e.g., Nichols and Knobe 2007; Nadelhoffer and Feltz 2008; Tobia et al. 2012). Here are a few examples of order effects involving cases in epistemology and ethics (see also Feltz and Cokely 2011; Schwitzgebel and Cushman 2012, 2015). The Truetemp case, which describes a situation in which an agent can reliably form true beliefs without being aware that she has this capacity, has often been viewed as a serious challenge to reliabilist theories of knowledge. Swain and colleagues (2008) report that participants are more willing to

ascribe knowledge to the protagonist in the Truetemp case when they have first read a case of clear non-knowledge instead of a case of clear knowledge. Some evidence suggests that the switch and footbridge versions of the Trolley case elicit the same judgments across various demographic groups (Hauser et al. 2007), but Lanteri et al. (2008) have shown that people are more likely to judge that it is morally acceptable to pull the switch in the switch version ↵

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of the Trolley case when it is presented before the footbridge version of the Trolley case (94%) than after (78%) (see also Lombrozo 2009; Wiegmann et al. 2012). Liao and colleagues (2012) have also shown that judgments about the loop version of the Trolley case vary: people are more likely to agree that it is morally permissible to send a runaway trolley on a loop, where it would be stopped by hitting a person, after having read the switch version than the footbridge version.

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This chapter reports the first body of evidence that Gettier intuitions are subject to presentation effects; that is, we can make the Gettier intuition compelling or underwhelming by presenting it in different contexts. We report a surprising order effect: people find the Gettier intuition less compelling when a case describing a justified but false belief is presented before a Gettier case. We also report a surprising framing effect: two Gettier cases that differ only in their philosophically irrelevant narrative details elicit substantially different judgments.

Here is how we will proceed. In section 2, we report on a cross-cultural study suggesting that in four different cultures with four different languages, people react differently when a Gettier case is presented first or after a justified false belief case (Study 1). Section 3 investigates this phenomenon by controlling a potential confound in Study 1 (Study 2). We provide further evidence for the order effect and we also provide evidence for a framing effect, showing that different cases elicit different judgments. Section 4 shows that the Gettier intuition is not influenced by cases of clear knowledge (Study 3). Section 5 examines the philosophical implications of these findings.

## 2. Study 1

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We begin by examining whether the Gettier intuition is liable to order effects in four different countries.

### 2.1. Participants and Materials

We collected data from 520 participants in four countries: Brazil, Japan, India, and the United States. US participants were recruited on Amazon Mechanical Turk ([www.mturk.com](http://www.mturk.com)) and received a small compensation. All the other participants completed paper-and-pencil versions of the survey, and they were volunteers. We excluded data from participants ↵ who failed to complete the questionnaire or did not answer correctly the comprehension questions for any of the three cases. Since we are interested in the prevalence of Gettier intuitions across cultures and languages, we also excluded the answers of those participants who judged that the protagonist's belief was not justified in any of the three cases (answer  $\leq 4$  to the justification questions).<sup>1</sup> Our final sample consisted of 350 respondents. Table 6.1 presents basic descriptive statistics for participants in each country.<sup>2</sup>

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**Table 6.1** Demographic Information for Participants in Study 1

Country	Method	Location / Source	N	% Male	Age		
					Range	M	SD
Brazil	Paper-pencil	Law School of the Federal University of Rio de Janeiro	47	21.3	20–37	22.0	2.5
Japan	Paper-pencil	The University of Tokyo, Fukuyama University, Toyo University, Kyushu University, and public places	142	58.5	20–78	27.84	12.6
India	Paper-pencil	Jadavpur University, Vidyasagar University, University of Kalyani	69	42.0	16–58	25.5	9.1
USA	Web-based	Amazon Mechanical Turk	92	47.8	na–na	na	na

Three vignettes were presented in a fixed order: the Gettier/Hospital case, the Justified False Belief case, and the Gettier/Clock case. The first and the third vignettes are Gettier cases; the second case describes a situation in which a protagonist has a justified but false belief. The two Gettier cases read as follows:

#### Gettier/Hospital Case

Paul Jones was worried because it was 10 p.m. and his wife Mary was not home from work yet. Usually she is home by 6 p.m. He tried her cell phone but just kept getting her voicemail. Starting to worry that something might have happened to her, he decided to call some local hospitals to ask whether any patient by the name of “Mary Jones” had been admitted that evening. At the University Hospital, the person who answered his call confirmed that someone by that name had been admitted with major but not life-threatening injuries following a car crash. Paul grabbed his coat and rushed out to drive to University hospital. As it turned out, the patient at University Hospital was not Paul’s wife, but another woman with the same name. In fact, Paul’s wife had a heart attack as she was leaving work, and was at that moment receiving treatment in Metropolitan Hospital, a few miles away.

#### Gettier/Clock Case

Wanda is out for a weekend afternoon walk. As she passes near the train station, she wonders what time it is. She glances up at the clock on the train station wall, sees that it says 4:15 p.m., and concludes that it is 4:15 p.m. What she doesn’t realize is that this clock is broken and has been showing 4:15 p.m. for the last two days. But by sheer coincidence, it is in fact 4:15 p.m. just at the moment when she glances at the clock.

p. 128 The Justified False Belief case reads as follows:

#### Justified False Belief Case

Emma is shopping for jewelry. She goes into a nice-looking store. She looks at several displays, then selects a necklace from a tray marked “Diamond Earrings and Pendants.” “What a lovely diamond!” she says as she tries it on. Zirconium is a substance from which fake diamonds can be made. Emma could not tell the difference between a real diamond and a zirconium fake just by looking or touching. In fact, this particular store has a dishonest employee who has been stealing

real diamonds and replacing them with fakes; in the tray Emma chose from, all of the necklaces—including the one she tried on—had zirconium stones rather than diamonds.

Each scenario was followed by four questions:

- (1) A binary comprehension question
- (2) A binary question asking whether or not the protagonist knows the relevant proposition; the response options were “Yes, [s]he knows” and “No, [s]he doesn’t know” (we call this question *Knowledge 1*).
- p. 129 (3) ↪ A question about justification (“How justified is [name of the protagonist] in thinking that [relevant proposition]?”) followed by a 7-point scale ranging from “completely unjustified” to “completely justified.”
- (4) The question: “In your view, which of the following sentences better describes [the protagonist’s] situation?” followed by two choices: (i) “[Protagonist] knows that [relevant proposition],” and (ii) “[Protagonist] feels like s[he] knows that [relevant proposition] but [s]he doesn’t actually know [this]” (we call this question *Knowledge 2*).

To illustrate, the comprehension question of the Justified False Belief case was as follows (possible answers in parentheses): “According to the story, what kind of stone is in the necklace that Emma tries on?” (“Diamond”/“Zirconium”); the Knowledge 1 probe was: “Does Emma know whether or not the stone is a diamond?” (“Yes, she knows”/“No, she doesn’t know”); the justification probe was: “How justified is Emma in thinking that the stone is a diamond?” (7-point scale); finally, the Knowledge 2 probe read as follows: “In your view, which of the following sentences better describes Emma’s situation?” (“Emma knows that the stone is a diamond”/“Emma feels like she knows that the stone is a diamond, but she doesn’t actually know that it is.”)

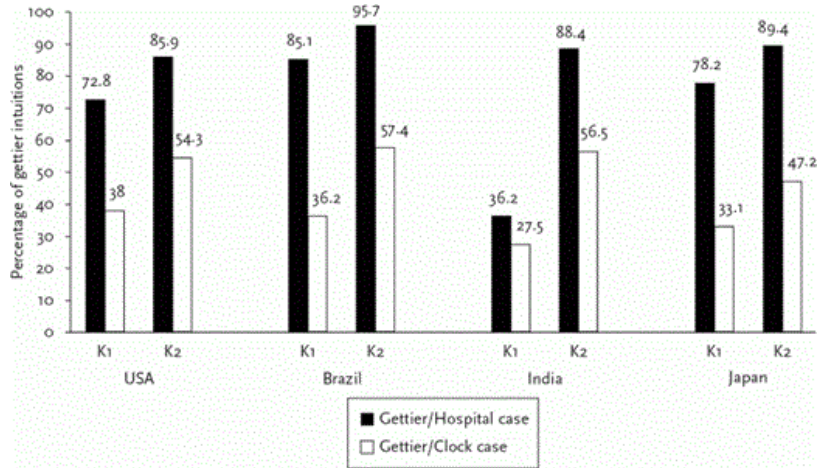
The Knowledge 2 probe is loosely inspired by the procedure used in Nagel et al. (2013), where participants were first asked a knowledge question with the response options “Yes, she knows,” “No, she doesn’t know,” and “Unclear,” and then, if they had answered “Yes, she knows,” they were presented with what we are calling the Knowledge 2 question. Nagel et al. (2013) motivate the use of the Knowledge 2 question by noting that “know” can be used to express the judgment that a protagonist feels like she knows some proposition—a phenomenon known as “protagonist projection” (Holton 1997; Buckwalter 2014)—and the Knowledge 2 question gives us some insight into whether this is what a participant is doing when she responds to the Knowledge 1 question. However, as Starmans and Friedman (2013, 664) argue, asking the Knowledge 2 question only when participants indicate that the protagonist does have knowledge is methodologically problematic. Thus, in contrast to Nagel et al. (2013), participants in our study were *always* asked the Knowledge 2 question. The final page of our questionnaire asked participants to report various demographic characteristics.

## 2.2. Results

p. 130 We first examined whether people respond to the two Gettier cases differently across all cultures. People were significantly more likely to have the Gettier intuition when the Gettier case was read first (the Gettier/Hospital case) than when it followed the Justified False Belief case (the Gettier/Clock case). Focusing on the Knowledge 1 question, 69.4% of participants reported that the protagonist does not know the relevant proposition for the first Gettier case, but only 33.7% for the second ( $\chi^2(1, 700) = 89.4, p < 0.001$ ). The Knowledge 2 question revealed the same pattern: 89.1% of participants reported that the protagonist does not know the relevant proposition for the first Gettier case, but only 52.3% for the second ( $\chi^2(1, 700) = 114.8, p < 0.001$ ).

We then examined whether people respond to the two Gettier cases differently, country by country (figure 6.2). US participants were significantly more likely to have the Gettier intuition when the Gettier case was read first (the Gettier/Hospital case) than when it followed the Justified False Belief case (the Gettier/Clock case). Focusing on the Knowledge 1 question, 72.8% of US participants reported that the protagonist does not know the relevant proposition for the first Gettier case, but only 38.0% for the second ( $\chi^2(1, 184) = 22.6, p < 0.001$ ). The Knowledge 2 question revealed the same pattern: 85.9% of US participants reported that the protagonist does not know the relevant proposition for the first Gettier case, but only 54.3% for the second ( $\chi^2(1, 184) = 21.8, p < 0.001$ ). Similarly, Brazilian participants were significantly more likely to have the Gettier intuition when the Gettier case was read first (the Gettier/Hospital case) than when it followed the Justified False Belief case (the Gettier/Clock case). Focusing on the Knowledge 1 question, 85.1% of Brazilian participants reported that the protagonist does not know the relevant proposition for the first Gettier case, but only 36.2% for the second ( $\chi^2(1, 94) = 23.6, p < 0.001$ ). The Knowledge 2 question revealed the same pattern: 95.7% of Brazilian participants reported that the protagonist does not know the relevant proposition for the first Gettier case, but only 57.4% for the second ( $\chi^2(1, 94) = 19.2, p < 0.001$ ). The results are more complicated with Indian participants. They were significantly more likely to have the Gettier intuition when the Gettier case was read first (the Gettier/Hospital case) than when it followed the Justified False Belief case (the Gettier/Clock case) for the Knowledge 2 question, but not for the Knowledge 1 question. Focusing on the Knowledge 1 question, 36.2% of Indian participants reported that the protagonist does not know the relevant proposition for the first Gettier case and 27.5% for the second ( $\chi^2(1, 138) = 1.2, ns$ ). The Knowledge 2 question revealed a different pattern: 88.4% of Indian participants reported that the protagonist does not know the relevant proposition for the first Gettier case and 56.5% for the second ( $\chi^2(1, 138) = 17.6, p < 0.001$ ). Finally, Japanese participants behaved like US and Brazilian participants. p. 131 Focusing on the Knowledge 1 question, 78.2% of Japanese participants reported that the protagonist does not know the relevant proposition for the first Gettier case, but only 33.1% for the second ( $\chi^2(1, 284) = 58.4, p < 0.001$ ). The Knowledge 2 question revealed the same pattern: 89.4% of Japanese participants reported that the protagonist does not know the relevant proposition for the first Gettier case, but only 47.2% for the second ( $\chi^2(1, 284) = 58.6, p < 0.001$ ).

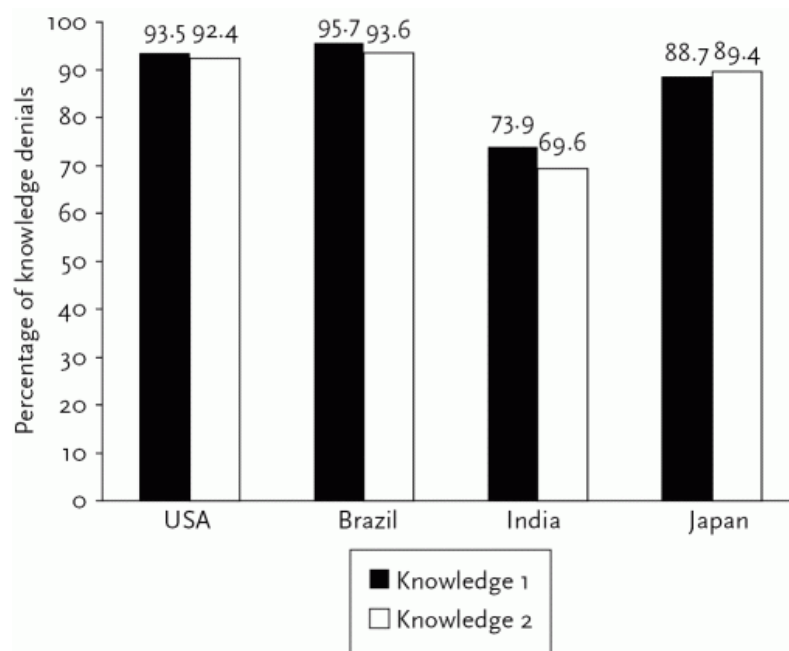
Figure 6.2



Proportion of Gettier intuitions for the two Gettier cases and the four populations (first pair for each country: Knowledge 1; second pair: Knowledge 2)

For the sake of completeness, we also report the descriptive statistics for the Justified False Belief case (see figure 6.3)

Figure 6.3



Proportion of knowledge denials for the Justified False Belief case and the four populations



## 2.3 Discussion

Across four countries, characterized by very different cultures and languages, people express very different judgments about Gettier cases when a Gettier case is read first or when it follows a case describing a justified but false belief. In the four countries, people were much more likely to express the Gettier intuition in the former situation than in the latter when they answered the Knowledge 2 question. Furthermore, the differences between the two Gettier cases are very large: people are nearly twice as likely to report the Gettier intuition when it is read first, compared to when it follows a case describing a justified but false belief.

It is more difficult to interpret the answers to the Knowledge 1 question. A similar pattern was observed for US, Brazilian, and Japanese participants in the two knowledge questions. However, Indian participants were equally unlikely to report the Gettier intuition when “know” was contrasted to “does not know” (Knowledge 1 question), and there was no difference between the two orders of presentation. As we noted elsewhere (Machery et al. 2015), we suspect that this can be explained by the fact that the words commonly used to translate “to know” in Bengali (*jáná*) and in Sanskrit *jñá* (the verbal root of the Bengali word) are used somewhat differently from “to know” in English. In particular, the distinction between “to believe” and “to know” is not always retained when *jáná* or *jñá* are used, which plausibly explains why in Gettier cases a majority of Bengali participants readily “ascribed knowledge” to the protagonist when simply asked whether the protagonist knows (*jáná*) the relevant proposition. At the same time, *jáná* can be used to single out an epistemic state that differs from true justified belief, as shown by participants’ answers to the Knowledge 2 question. Thus, *jáná* may in fact express two rather different concepts in Bengali, one of which is closer to the concept expressed in English by “know” and the other closer to the concept expressed in English by “believe.” While

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the distinction is apparently not highly salient for Bengali speakers, the different responses to the Knowledge 1 and Knowledge 2 questions suggest that they are somehow aware of the distinction.

What explains this order effect? We hypothesize that people decide whether someone knows by comparing her belief to a prototype of knowledge. This prototype has various weighted features (truth, justification, etc.) that determine the similarity between the protagonist’s belief and the prototype of knowledge. When the protagonist’s belief has a sufficient number of features—that is, when it is sufficiently similar to the prototype of knowledge—people judge that her belief is an instance of knowledge. Now, people who read the Justified False Belief case tend to judge that the protagonist’s justified but false belief is not an instance of knowledge (see figure 6.3). When they make this judgment, the truth-value of the belief becomes salient: people judge that the protagonist does not know because her belief is *false*. That is, the weight of the truth-value of the belief increases—being true becomes more important for a belief to be judged an instance of knowledge. When participants then read the Gattier/Clock case, the truth of the protagonist’s belief ensures that it is sufficiently similar to the prototype of knowledge, and people are more likely to judge that the protagonist’s belief is an instance of knowledge. Future research should test this account of the order effect.

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Study 1 is limited in two important respects. Most important, two different Gettier cases were used: the Hospital case and the Clock case. It may be that the differences found are not due to the fact that participants read the Justified False Belief case before reading the Clock case. Rather, people may simply be less likely to ascribe knowledge when they read the Clock case. Furthermore, Study 1 was within-subjects. It would be important to show that the order effect is also found in a between-subjects experiment. Study 2 addresses these two shortcomings.



## 3. Study 2

### 3.1. Participants and Materials

A total of 306 participants located in the United States were recruited on Amazon Turk, and received a small compensation. We excluded data from participants who failed to complete the questionnaire, were less than eighteen years old, and did not answer correctly any of the comprehension questions. Our final sample consisted of 298 respondents. Table 6.2 presents basic descriptive statistics for the participants. The study was conducted in English.

**Table 6.2** Demographic Characteristics of Participants in Study 2

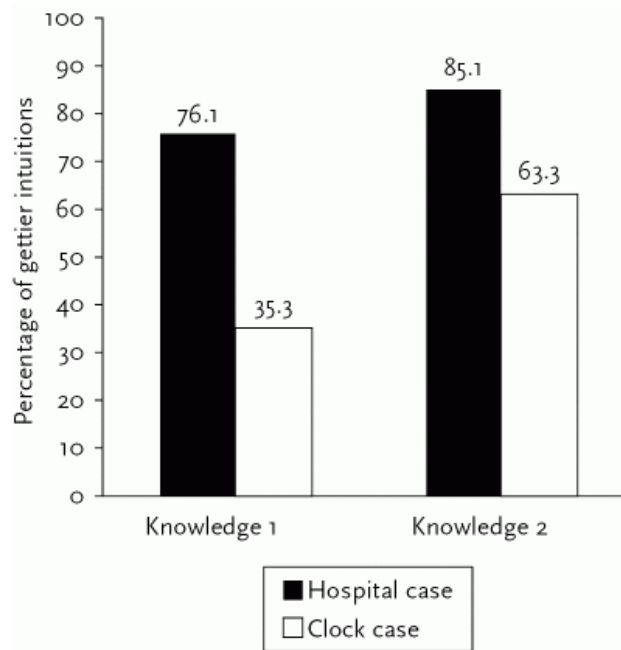
Location/ Source	% English as Native Language	% Born in the USA	% Male	Age		
				Range	<i>M</i>	<i>SD</i>
Amazon Mechanical Turk	99.1	98.4	63.4	18–68	29.8	10.8

Subjects were randomly assigned to one of four conditions. Participants in condition 1 ( $N = 82$ ) were presented with the Justified False Belief case used in Study 1, followed by the Gettier/Hospital case; participants in condition 2 ( $N = 66$ ) were presented with the Gettier/Hospital case followed by the Justified False Belief case; participants in condition 3 ( $N = 79$ ) were presented with the Justified False Belief case followed by the Gettier/Clock case; participants in condition 4 ( $N = 71$ ) were presented with the Gettier/Clock case followed by the Justified False Belief case. Each scenario was followed by the four questions used in Study 1.

### p. 135 3.2. Results

We first examined whether people treat the Clock and the Hospital cases differently (figure 6.4). Aggregating across the two orders of presentations, participants were less likely to have the Gettier intuition when reading the Clock case than the Hospital case. Focusing first on the Knowledge 1 question, 76.4% of participants reported that the protagonist does not know the relevant proposition for the Hospital case, but only 35.3% for the Clock case ( $\chi^2(1, 298) = 50.8, p < 0.001$ ). The pattern is similar for the Knowledge 2 question: 85.1% of participants reported that the protagonist does not know the relevant proposition for the Hospital case, but only 63.3% for the Clock case ( $\chi^2(1, 298) = 18.5, p < 0.001$ ). This finding confirms the concern that the results of Study 1 are at least in part due to the differences between the Hospital and Clock cases.

Figure 6.4

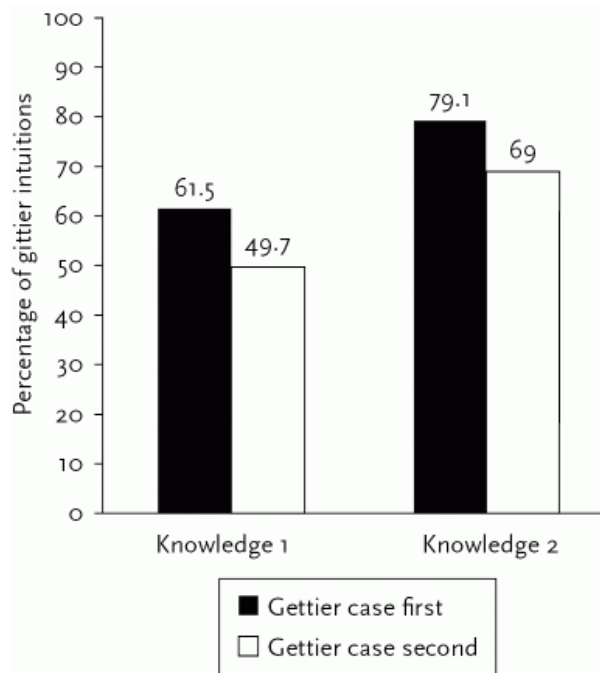


Proportion of Gettier intuitions for the Hospital and Clock cases in Study 2

We then examined whether people are less likely to have the Gettier intuition when the Gettier case is read after the Justified False Belief case compared to when it is read before (figure 6.5). Aggregating across the two Gettier cases, participants were less likely to have the Gettier intuition when reading a Gettier case after the Justified False Belief case than before. Focusing first on the Knowledge 1 question, 61.5% of participants reported that the protagonist does not know the relevant proposition when reading a Gettier case first, but only 49.7% when reading it second ( $\chi^2(1, 298) = 4.2, p = 0.041$ ). The pattern is similar for the Knowledge 2 question: 79.1% of participants reported that the protagonist does not know the relevant proposition when reading a Gettier case first, but only 69.0% when reading it second ( $\chi^2(1, 298) = 4.0, p = 0.046$ ).

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Figure 6.5



Proportion of Gettier intuitions when a Gettier case is presented first and second

This finding shows that the results of Study 1 are not merely due to the differences between the Hospital and the Clock case; rather, people are less likely to have the Gettier intuition when they read a Gettier case after having read a case describing a false but justified belief. However, the effect size is smaller than what was suggested by Study 1 (about 10%).

### 3.3. Discussion

This between-subjects study examined the possible confounds of Study 1. It shows that people are much less likely to have the Gettier intuition in response to the Clock case than to the Hospital case. This framing effect is surprising. What might explain it? We hypothesize that we treat the Hospital and the Clock cases differently because the former, but not the latter, is similar to familiar situations where the agent has no knowledge. The Hospital case involves the formation of a belief on the basis of testimony, and it is in this respect (but not in other respects) similar to the common situation where somebody forms a false belief (e.g., the belief that Barack Obama is a Muslim) based on testimony. Because people did not acquire any knowledge in the latter type of situation, people are inclined to deny knowledge in the Hospital case despite the differences between the situations. The Clock case is not similar to any salient situation, and people cannot generalize from their practice of ascribing knowledge in everyday situations. Other hypotheses are conceivable. It may be that people think that testimony-based knowledge is more easily defeated than perceptual knowledge, and that the Hospital case describes a clear situation where testimony-based knowledge is defeated, while the Clock case does not describe an equally clear situation where perceptual knowledge is defeated. Alternatively, it may be that it is salient to the participants that the protagonist in the Hospital case has a false belief (namely, the belief that his wife is at the University Hospital), and that the saliency of this false belief explains why the participant is judged to have no knowledge. Naturally, the protagonist in the Clock case also has a false belief (namely, the belief that the clock is working properly), but this belief may not be salient to participants. Future research should test these different accounts of the framing effect.

Study 2 also shows that there is a genuine order effect, but that its magnitude is smaller than what Study 1 suggested. When people read about a justified but false belief, they are then less likely to deny that a Gettierized belief is an instance of knowledge, perhaps because the truth-value of belief becomes more important for deciding whether a belief is an instance of knowledge.

Study 2 suffers from a possible confound: It may be that people would be less likely to have the Gettier intuition after reading *any* text rather than after reading a case describing a justified but false belief specifically. Study 3 examines this potential confound.

## 4. Study 3

### 4.1. Participants and Materials

A total of 308 participants located in the United States were recruited on Amazon Turk, and received a small compensation. We excluded data from participants who failed to complete the questionnaire, were less than eighteen years old, and did not answer correctly any of the comprehension questions. Our final sample consisted of 303 respondents. Table 6.3 presents basic descriptive statistics for participants. The study was conducted in English.

**Table 6.3** Participants' Demographic Characteristics in Study 3

Location / Source	% English as Native Language	% Born in the USA	% Male	Age		
				Range	<i>M</i>	<i>SD</i>
Amazon Mechanical Turk	96.2	94.5	68.9	18–67	30.5	11.3

p. 138 Subjects were randomly assigned to one of four conditions. Participants in condition 1 ( $N = 71$ ) were presented with the Clear Knowledge case followed by the Gettier/Hospital case; participants in condition 2 ( $N = 73$ ) were presented with the Gettier/Hospital case followed by the Clear Knowledge case; participants in condition 3 ( $N = 74$ ) were presented with the Clear Knowledge case followed by the Gettier/Clock case; participants in condition 4 ( $N = 85$ ) were presented with the Gettier/Clock case followed by the Clear Knowledge case. Each scenario was followed by the four questions used in Study 1.

The Clear Knowledge case describes a commonsense situation where the protagonist acquires perceptual knowledge. It reads as follows:

#### Clear Knowledge Case

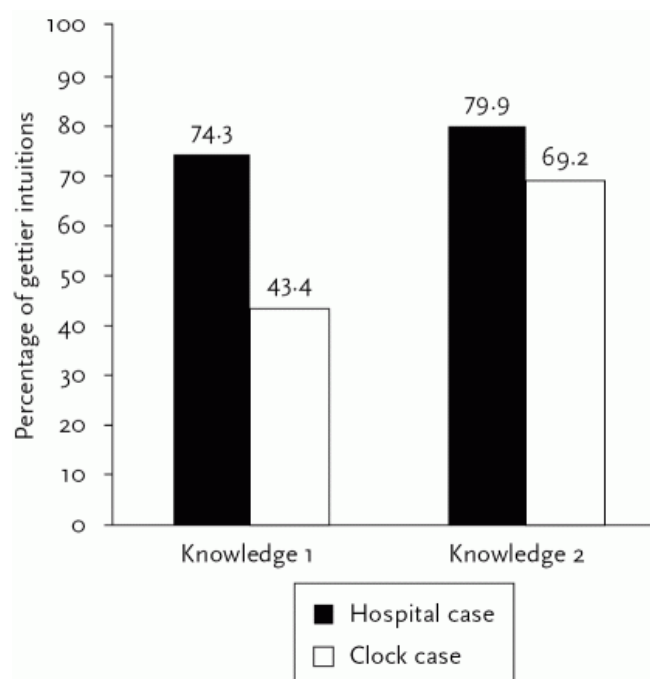
Albert is in a furniture store with his wife. He is looking at a bright red table in a display. He believes the table is just the shade of red he was looking for. The showroom features contemporary furniture pieces, with clear, natural lighting throughout the entire store, and plenty of space around each piece on display. Albert usually likes traditional furniture designs, however the modern design of this particular table appeals to him for some reason. He checks the dimensions and price of the table, and starts to consider buying it. Albert asks his wife, "Do you like this red table?"

Participants were asked whether Albert knows that the table is red.

## 4.2. Results

p. 139 We first attempted to replicate the results of Study 2 about the differences between the Hospital and Clock cases (figure 6.6). Aggregating across the two orders of presentations, participants were less likely to have the Gettier intuition when reading the Clock case than the Hospital case. Focusing first on the Knowledge 1 question, 74.3% of participants reported that the protagonist does not know the relevant proposition for the Hospital case, but only 43.4% for the Clock case ( $\chi^2(1, 303) = 29.7, p < 0.001$ ). The pattern is similar for the Knowledge 2 question: 79.9% of participants reported that the protagonist does not know the relevant proposition for the Hospital case, but only 69.2% for the Clock case ( $\chi^2(1, 303) = 4.5, p = 0.03$ ). This finding confirms the results of Study 2.

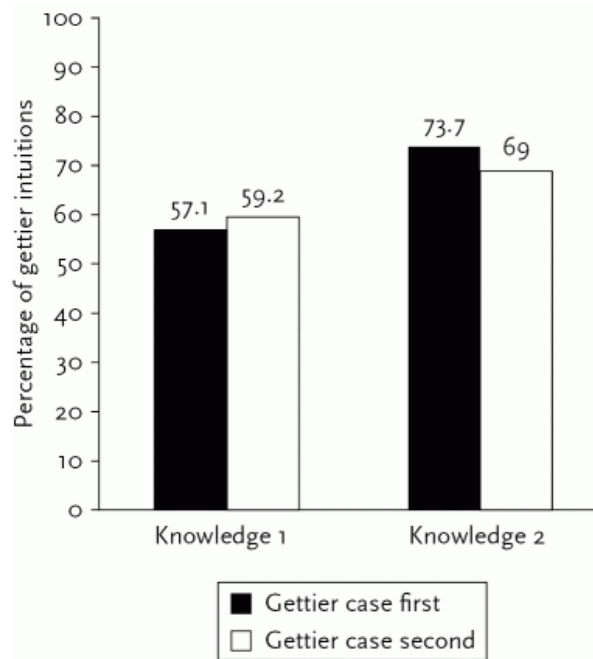
Figure 6.6



Proportion of Gettier intuitions for the Hospital and Clock cases in Study 3

We then examined whether people are less likely to have the Gettier intuition when the Gettier case is read after the Clear Knowledge case compared to when it is read before (figure 6.7). There was no order effect: aggregating across the two Gettier cases, participants were not less likely to have the Gettier intuition when reading a Gettier case after the Clear Knowledge case than before. Focusing first on the Knowledge 1 question, 57.1% of participants reported that the protagonist does not know the relevant proposition when reading a Gettier case first, and 59.2% when reading it second ( $\chi^2(1, 303) = 0.1, ns$ ). The pattern is similar for the Knowledge 2 question: 73.7% of participants reported that the protagonist does not know the relevant proposition when reading a Gettier case first, and 69.0% when reading it second ( $\chi^2(1, 303) = 0.05, ns$ ).

Figure 6.7



Proportion of Gettier intuitions when a Gettier case is presented first and second

### 4.3. Discussion

p. 140 Study 3 controls for the potential confound of Study 2 mentioned at the end of section 3. The order effect found in Study 2 is not the mere result of reading the Gettier case after any text since the proportion of Gettier intuitions was the same when people read a Gettier case before or after a Clear Knowledge case.

The negative result reported in Study 3 is consistent with the explanatory hypothesis proposed in section 3. Judging that the protagonist's belief is an instance of knowledge in the Clear Knowledge case does not make any feature of the prototype of knowledge salient (since the case describes a prototypical instance of knowledge), and as a result reading the Clear Knowledge case before a Gettier case does not influence participants' knowledge ascription.

## 5. Presentation Effects and the Method of Cases

### 5.1. Framing Gettier

p. 141 Two main results emerge from the three studies presented in this chapter. First, people respond very differently to two Gettier cases, the Clock case and the Hospital case. The philosophically relevant features—the protagonist has formed a true belief based on misleading evidence—are shared by the two cases, which differ only in irrelevant features of the narrative, the Hospital case involving the accidental formation of a true belief on the basis of testimony and the Clock case on the basis of one's perceptual experience.<sup>3</sup> This framing effect is robust—it is found with the two ways of eliciting the Gettier intuition (Knowledge 1 and 2 questions)—and its size is substantial: 30–40% when the question contrasts knowing and not knowing (Knowledge 1 question), 10–20% when it contrasts knowing and thinking one knows but not knowing (Knowledge 2 question).

Furthermore, people answer differently when a Gettier case is presented without any context and when it is presented after a case describing a justified but false belief. In the latter condition, people are somewhat less likely to have the Gettier intuition (about 10%). This finding extends the growing body of evidence that judgments elicited by philosophical cases are subject to order effects. While most studies have focused on cases in ethics, the results reported in this chapter extend Swain and colleagues' (2008) claim that cases in epistemology are also subject to order effects.

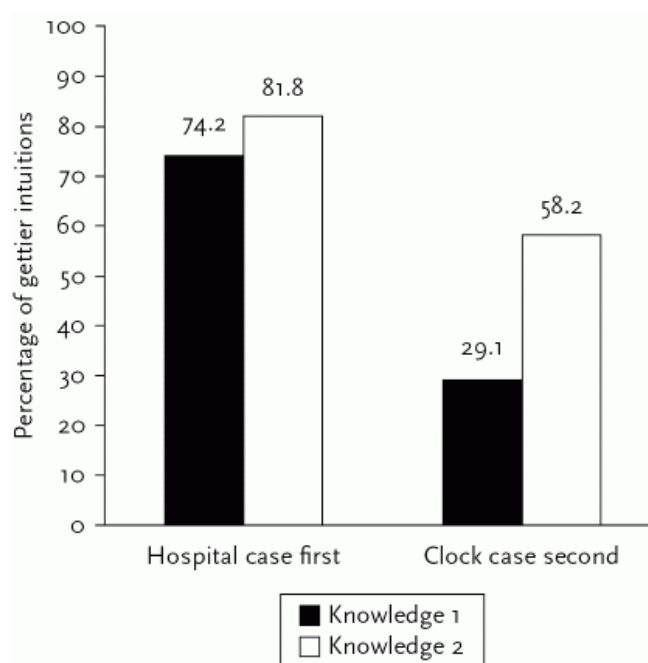
Study 1 suggests, without establishing conclusively, that the framing and order effects are found across cultures and languages. Study 1 showed that in four countries with four very different languages, people responded very differently to the Hospital case and to the Clock case, which followed a case describing a justified but false belief. This robust result is probably due to both the order effect and the framing effect distinguished in Study 2.

## 5.2. The Gettier Intuition and the Method of Cases

Does the protagonist in the Hospital case know that his wife is in the hospital or does he merely believe it? Does the protagonist in the Clock case know that it is 4:15 p.m. when she looks at the clock or does she merely believe it? Nearly all philosophers agree that the second answers are correct: In a Gettier case, the protagonist does not know the relevant proposition. The findings reported in this chapter cast this consensus into doubt. When the Clock case is presented after a case describing a justified but false belief, most people judge that the protagonist's belief is an instance of knowledge; when the Hospital case is presented independently, most people judge that the protagonist's belief is *not* an instance of knowledge (figure 6.8). Which of these two judgments is correct? Without an answer to this question, we should suspend judgment about whether the protagonist knows the relevant proposition in a Gettier case. ↴

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**Figure 6.8**



Proportion of Gettier intuitions in the Hospital case presented first and the Clock case presented second in Study 2

It is tempting to argue that one of these two judgments is mistaken, but it is quite difficult to explain which one it is. Perhaps we should prefer the judgment elicited by a Gettier case considered on its own to the judgment elicited by a Gettier case in the context of a Justified False Belief case since the former but not the



latter is not influenced by factors extraneous to the case. Conversely, to decide correctly whether a belief is an instance of knowledge, the truth-value of the belief may need to be properly salient, and if our explanation of the order effect presented in this chapter is right (section 3.3), reading the Justified False Belief case raises the salience of truth-value. The Hospital and the Clock case are equally unusual: both involve an extremely unlikely situation where a protagonist forms a belief that turns out to be true by an extraordinarily lucky set of circumstances. On the one hand, perhaps we should prefer the judgment elicited by the Hospital case since it is in some respects similar to common situations—that is, situations where we form a false belief as a result of misleading testimony. On the other hand, if our explanation of the framing effect presented in this chapter is right (section 4.3), we judge that the protagonist’s belief in the Hospital case is not an instance of knowledge, in part because it is similar to a *false* belief acquired by testimony. So, perhaps we should discount the judgment we make in response to the Hospital case, and favor the judgment elicited by the Clock case.

p. 143 An alternative response would hold that the judgments elicited by the Hospital case read first and the Clock case read second are both correct: these two cases describe two distinct situations, and whether or not an agent knows *p* depends on the context in which knowledge is ascribed. So, the protagonist of the Hospital case read first really has a mere belief, while the protagonist of the Clock case knows what time it is.

However, we do not see what differences would make it the case that the protagonist’s belief counts as an instance of knowledge in the Clock case, but not in the Hospital case. The differences between the two cases seem irrelevant for knowledge ascription. Further, until we are told how reading a Justified False Belief case relevantly changes the context of knowledge ascription, appealing to context remains unconvincing.

As noted in the introduction to this chapter, Gettier intuitions have played an important role in the meta-philosophical dispute about the method of cases. Gettier cases are paradigmatic examples of the cases used in philosophical argumentation. If we must suspend judgment about Gettier cases, as we have just argued (see also Weinberg 2017), and a number of cases are subject to presentation effects (section 2), we must probably suspend judgment about many cases used in philosophical argumentation.

### 5.3. Objections and Responses

One could object that the effects reported in this chapter are small. Particularly, once it is disentangled from the framing effect, the order effect is small: the proportion of Gettier intuitions is only 10% smaller when a Gettier case is presented after a case describing a justified but false belief. True, the context in which a Gettier case is presented does influence whether people have the Gettier intuition, but a majority of participants agree that in a Gettier case the participant does not know the relevant proposition, independent of the context in which the case is presented. It would be a mistake, so the argument continues, to suspend judgment when the liability to order effect is so small.

Small effects matter, however, because they add up. Considered by itself, the order effect is indeed small, but combined with the framing effect, the effect is substantial. Consider figure 6.8, which reports the proportion of Gettier intuitions for the Clock case presented last and for the Hospital case presented first.

p. 144 When people are asked whether the protagonist in a Gettier case knows versus does not know, a large majority of people accept the Gettier intuition ↵ when the Hospital case is presented first, and deny it when the Clock case is presented last.

The first objection assumed that if order effects were large, this would cast doubt on the judgments elicited by philosophical cases, but denied that these effects were large. The second objection we will consider challenges the assumption that large order effects would cast doubt on the judgments elicited by philosophical cases. Horne and colleagues have argued that the order effects found in the experimental

literature do not cast doubt on the judgments elicited by philosophical cases (Horne et al. 2013; Horne and Livengood 2017). In a nutshell, they argue that studies reporting an order effect compare participants' judgments in response to a target case (e.g., the Gettier case) when it is presented first or when it follows another case ("the contextual case"), as we ourselves did. Any difference between these two conditions, they maintain, may be due to participants *learning* something important when they read the contextual case. If this is the case, then it is not irrational to give a different answer to the target case when it comes first versus when it comes second; rather, one judges differently in the latter condition because one has learned something by reading the contextual case.

Whatever bite Horne and colleagues' argument may have against other studies reporting order effects, it is toothless against the results reported here. It is unclear what participants could learn by considering the Justified False Belief case that would make it rational to judge differently when a Gettier case is presented after such a case and when it is presented independently. So, the influence of the Justified False Belief case on Gettier intuitions is not properly thought of as an instance of learning.

## 6. Conclusion

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Gettier intuitions may well be universal—some cases elicit it in very different cultures with very different languages (Machery et al. 2015, 2017)—but it is also liable to framing and order effects. Although our first study did not disentangle these two types of effects, it suggests that the liability of the Gettier intuition to framing and order effects is robust across languages and cultures. This liability casts doubt on whether or not in a Gettier case the protagonist's belief counts as an instance of knowledge.

## Acknowledgments

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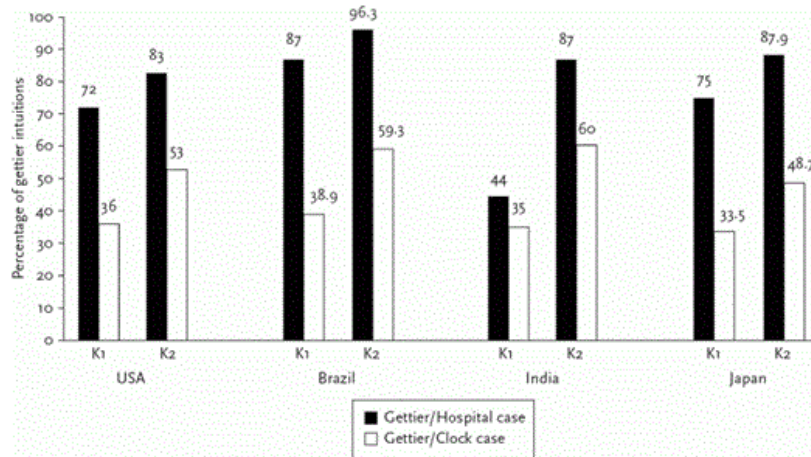
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## Appendix

This appendix reanalyzes the data from the original 520 participants of Study 1. We excluded data from participants who failed to complete the questionnaire and who did not answer correctly the comprehension questions about any of the three cases, but we did not exclude the answers of those participants who judged that the protagonist's belief was not justified. Our final sample consisted of 478 respondents. The results are similar to the results reported in Study 1 (figure 6.9).

**Figure 6.9**



Proportion of Gettier intuitions for the two Gettier cases and the four populations (first pair for each country: Knowledge 1; second pair: Knowledge 2)

American participants were significantly more likely to have the Gettier intuition when the Gettier case was read first (the Gettier/Hospital case) than when it followed the Justified False Belief case (the Gettier/Clock case): For the Knowledge 1 question,  $\chi^2(1, 200) = 26.1, p < 0.001$ ; for the Knowledge 2 question,  $\chi^2(1, 200) = 20.7, p < 0.001$ . Similarly, Brazilian participants were significantly more likely to have the Gettier intuition when the Gettier case was read first (the Gettier/Hospital case) than when it followed the Justified False Belief case (the Gettier/Clock case): for the Knowledge 1 question,  $\chi^2(1, 108) = 26.8, p < 0.001$ ; for the Knowledge 2,  $\chi^2(1, 108) = 21.4, p < 0.001$ . Indian participants were significantly more likely to have the Gettier intuition when the Gettier case was read first (the Gettier/Hospital case) than when it followed the Justified False Belief case (the Gettier/Clock case) for the Knowledge 2 question, but not for the Knowledge 1 question: for the Knowledge 1 question,  $\chi^2(1, 200) = 1.7, ns$ ; for the Knowledge 2,  $\chi^2(1, 200) = 18.7, p < 0.001$ . Finally, Japanese participants behaved like US and Brazilian participants: for the Knowledge 1 question,  $\chi^2(1,$

p. 146  $448) = 77.8, p < 0.001$ ; for the Knowledge 2 question,  $\chi^2(1, 448) = 79.8, p < 0.001$ .  $\hookleftarrow$

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## Notes

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1. The results are similar when participants who failed to answer that the protagonist’s belief was not justified are included (see Appendix).
2. Age information was accidentally not collected for US participants.
3. Of course, the difference between testimony-based knowledge and perceptual knowledge is, in general, philosophically relevant, but it is not taken to be relevant in the context of Gettier cases. Indeed, the Clock case is often viewed as a paradigmatic Gettier case.