Folk Attributions of Understanding

Is There a Role of Epistemic Luck?

Daniel A. Wilkenfeld, Dillon Plunkett, and Tania Lombrozo
Department of Psychology, University of California, Berkeley

Overview

Does epistemic luck—which is typically thought to undermine knowledge—undermine understanding as well?

Kvanvig (2003) argued that there could be lucky understanding and produced an example that he deemed persuasive. This was meant to show that understanding is not a species of knowledge.

Comanche Example: Most history books are inaccurate about the Comanche. Rebecca happens to pick the only accurate book; forms true beliefs about Comanche. Does she understand…?

Grimm (2006) responded with a case that, he argued, demonstrated that there could *not* be lucky understanding. This was meant to show that understanding could be a species of knowledge.

Chestnut Example: Most chestnuts explode from heat. Becky observes rare case in which hammer is responsible; forms true belief about explosion. Does she understand…?

We find that people do not differentiate between knowing-why and understanding-why on the basis of epistemic luck in Grimm's Chestnut Example (Study 1), and that attributions of understanding are no less sensitive to epistemic luck than attributions of knowledge in Kvanvig's Comanche Example (Study 2). In line with prior work in experimental epistemology (e.g., Starmans & Friedman, 2012), we also find that attributions of knowledge are surprisingly insensitive to certain kinds of epistemic luck.

Study 1: Grimm's Chestnuts

Are attributions of knowledge-why and understanding-why differentially sensitive to epistemic luck?

Participants 154 adults (62 female, mean age 34), recruited through MTurk.

Methods Participants randomly assigned to one of four variants of a case modified from Grimm (2006), in which Becky forms belief on the basis of "seeing" a chestnut on an anvil explode as it's hit by a hammer:

Normal Belief	The hammer always breaks the chestnut, and it does this time.
Environmental Luck	The chestnut usually explodes because of the heat of the anvil, but this time happens to explode because of the hammer.
Veridical Hallucination	Becky takes a hallucinogen, but happens to envision the chestnut being destroyed by the hammer in just the way that it really is.
False Belief	Becky thinks the chestnut is destroyed as a result of the hammer, but really it is destroyed because of the heat of the anvil.

Participants randomly assigned to rate agreement with one of:

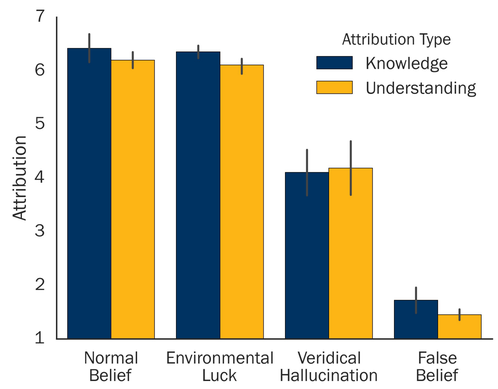
"Becky knows why the chestnut exploded"
"Becky understands why the chestnut exploded"

(1) Strongly Disagree … (7) Strongly Agree

Results

No significant differences between knowledge-why and understanding-why in any condition.

Highest attributions for *Normal Belief* and *Environmental Luck cases;* both significantly higher than *Veridical Hallucination*, which was significantly higher than *False Belief*.



Conclusion Attributions were only attenuated by some forms of epistemic luck, but there were no differences between attributions of knowledge and understanding.

Study 2: Kvanvig's Comanche

Are attributions of *objectual* knowledge (i.e., "knowing *X*" as opposed to "knowing why *P*") and *objectual* understanding differentially sensitive to epistemic luck?

Participants 98 adults (50 female, mean age 32), recruited through MTurk.

Methods Participants randomly assigned to read one of two vignettes, adapted from Kvanvig (2003):

Normal Belief	Rebecca comes to learn about the Comanche dominance of the southern plains in the 18th century from a history book that was reliably researched and written.
Hallucinating Writer	The history book was instead written by an author in the grips of a hallucination. Yet, by chance, the content of his hallucination happened to be true claims about the Comanche.

Participants rated agreement (1-7) with all of:

"Rebecca knows the history of Comanche dominance of the southern plains…"
"Rebecca knows why the Comanche dominated the southern plains…"
"Rebecca understands the history of Comanche dominance of the southern plains…"
"Rebecca understands why the Comanche dominated the southern plains…"

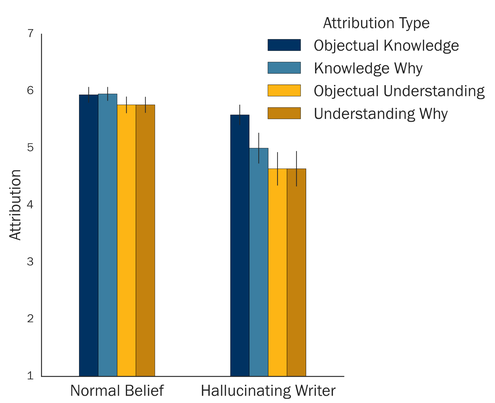
Results

Interaction between case and attribution: Only attributions of objectual knowledge insensitive to epistemic luck.

Higher attributions for normal case than hallucinating writer.

Higher attributions of knowledge than of understanding.

Greater agreement with objectual than "-why" claims.



Conclusion Even for objectual understanding, attributions of understanding were no less sensitive to epistemic luck than attributions of knowledge (and perhaps even more sensitive). Objectual knowledge is oddly immune to epistemic luck.

Select References

Grimm, S. R. (2006). Is understanding a species of knowledge? *British Journal for the Philosophy of Science, 57*, 515-535.

Kvanvig, J. L. (2003). *The value of knowledge and the pursuit of understanding*. Cambridge, U.K.: Cambridge University Press

Starmans, C., & Friedman, O. (2012). The folk conception of knowledge. *Cognition, 124*, 272-283.

Wilkenfeld, D.A., Plunkett, D., & Lombrozo, T. (2015) Depth and deference: When and why we attribute understanding. *Philosophical Studies*.

General Conclusions & Open Questions

Data confirm that people are relatively insensitive to epistemic luck when it comes to knowledge, and this result extends to understanding. Could it be that people fail to differentiate knowledge and understanding entirely? Other data suggest not: Understanding has higher demands when it comes to explanatory depth (Wilkenfeld, Plunkett, & Lombrozo, 2015). Are there any other distinctions that drive a wedge between understanding and knowledge? If so, what does this tell us about the (potentially unique) epistemic role of understanding?

Data favor Grimm over Kvanvig, and are therefore consistent with the view that understanding is a species of knowledge. However, it remains possible that understanding is *not* a species of knowledge, and expert judgments could differ from folk intuitions.

Attributions of objectual knowledge may be uniquely immune to deviant causal history. Why might this be? One possibility is that the notion of objectual knowledge ("knows *P*") less precisely specifies a distinct epistemic state and, in particular, less clearly depends upon a non-deviant causal chain.

Why do attributions of knowledge and understanding exhibit these particular patterns of sensitivity to epistemic luck? In particular, what is the function of attributing knowledge and understanding, and is this function best achieved with the kinds of (in)sensitivity to epistemic luck that we observe? Put differently, is partial sensitivity to epistemic luck a feature or a bug?