

Title	推論が知覚的正当化に与える役割
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Citation	
Issue Date	2026-03
Type	Thesis or Dissertation
Text version	author
URL	<a href="https://hdl.handle.net/10119/20470">https://hdl.handle.net/10119/20470</a>
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## Abstract

The present study investigates the debate between inferentialism and dogmatism in perceptual justification by examining learning and calibration processes in an illusion-based size judgment task with feedback. Inferentialism holds that perceptual justification depends on inferential relations among beliefs and can be revised in light of experience, whereas dogmatism emphasizes the immediate and resilient justificatory force of perceptual appearances. Although this debate has been extensively discussed in philosophy, empirical evidence directly bearing on these positions remains limited.

To address this issue, the study adopted a two-stage experimental design. In a pilot study (Study 1), the Smallest Effect Size of Interest (SESOI) was defined as an a priori criterion for interpreting results in the main experiment, thereby avoiding post-hoc evaluation based solely on statistical significance. In the confirmatory study (Study 2), participants performed a repeated size adjustment task under conditions manipulating the presence of a color-induced illusion and the availability of trial-by-trial feedback. Preregistered mixed-effects models were used to examine whether feedback was associated with systematic changes in illusion-related errors across trials.

The results showed that, in conditions where an illusion was present, a reduction in illusion-related error across trials was statistically detectable only when feedback was provided. However, this reduction was neither uniform nor complete, and illusion effects persisted throughout the task. Moreover, no comparable learning trend was observed in non-illusion conditions. Analyses of confidence judgments further revealed that calibration between confidence and perceptual accuracy was unstable and strongly dependent on outlier treatment, suggesting that reductions in perceptual error did not reliably coincide with adjustments in metacognitive confidence.

Importantly, comparison with the predefined SESOI indicated that although the observed reduction in illusion-related error was statistically detectable, it did not consistently exceed the threshold for a theoretically meaningful minimal effect. Taken together, these findings suggest that perceptual judgments can be influenced by inferential cues under specific conditions, while also highlighting the robustness of perceptual appearances emphasized by dogmatism. Rather than providing straightforward support for either inferentialism or dogmatism, the present study indicates that perceptual judgment exhibits distinct features emphasized by each position at different explanatory levels.