# Article information:

Dissociating the Neural Correlates of Subjective Visibility from Those of Decision Confidence | Journal of Neuroscience
<https://www.jneurosci.org/content/42/12/2562.full>

# Article summary:

1. A study published in the Journal of Neuroscience aimed to disentangle the neural correlates of subjective visibility and decision confidence in visual perception.

2. The study found that prefrontal representations of stimulus visibility were confounded with representations of confidence, but a confidence-independent representation of perceptual content was present in posterior medial frontal cortex.

3. The study highlights the importance of controlling for metacognitive aspects of the decision process in the search for neural correlates of visual awareness.

# Article rating:

Appears moderately imbalanced: The article provides some useful information, but is missing several important points or pieces of evidence that would be required to present the discussed topics in a balanced and reliable way. You are encouraged to seek a more balanced perspective on the presented issues by exploring the provided research topics and looking at different information sources.

# Article analysis:

The article "Dissociating the Neural Correlates of Subjective Visibility from Those of Decision Confidence" published in the Journal of Neuroscience explores the neural signatures of being aware versus unaware of simple stimuli. The study investigates whether frontoparietal regions encode stimulus visibility, decision confidence, or both. The authors use fMRI data from 35 human participants to disentangle these possibilities.

The article provides a detailed description of the experimental design and statistical analysis used in the study. The authors report that stimulus identity was best decoded from the visual cortex, while stimulus visibility (presence vs absence) was best decoded from prefrontal regions. However, they found that prefrontal representations of subjective visibility are contaminated by neural correlates of decision confidence.

The article highlights the importance of controlling for metacognitive aspects of the decision process in the search for neural correlates of visual awareness. The authors propose a new analysis method to control for these effects and use it to reveal confidence-independent correlates of perceptual judgments in a subset of prefrontal areas.

Overall, the article is well-written and provides valuable insights into understanding neural correlates of visual awareness. However, there are some potential biases and limitations to consider. For example, the study only included 35 participants, which may limit its generalizability to larger populations. Additionally, while the authors acknowledge that their findings are exploratory and require further investigation, they do not discuss potential limitations or alternative explanations for their results.

Furthermore, while the article provides a detailed description of their methods and results, it does not explore counterarguments or alternative interpretations that could challenge their findings. This lack of discussion may limit readers' ability to fully evaluate the validity and reliability of their conclusions.

In conclusion, while this article provides valuable insights into understanding neural correlates of visual awareness, readers should approach its findings with caution and consider potential biases and limitations when interpreting its results.

# Topics for further research:

* Limitations of small sample sizes in fMRI studies
* Alternative explanations for prefrontal representations of subjective visibility
* Critiques of the proposed analysis method for controlling for metacognitive effects
* Neural correlates of visual awareness in non-human animals
* The role of attention in modulating neural correlates of visual awareness
* The relationship between neural correlates of visual awareness and consciousness

# Report location:

<https://www.fullpicture.app/item/a864301802631db2f8d51cba99ad610e>