# Article information:

Awareness-related activity in prefrontal and parietal cortices in blindsight reflects more than superior visual performance - ScienceDirect
<https://www.sciencedirect.com/science/article/abs/pii/S1053811911007270?casa_token=p-CDu__vhxwAAAAA%3Aq3Nr00xOfH-E7jWnXlpZ-J60GI-IuusTM8xH6poJTSefXU9WYRx1_FomP_-yJnXOGVNYNnd6VcEN>

# Article summary:

1. Brain imaging studies have shown that visual awareness is associated with higher activity in the prefrontal and parietal cortices, but it is unclear whether this reflects signal strength or superior task performance.

2. Blindsight patients, who have restricted lesions to the primary visual cortex and claim a lack of visual awareness, can still perform well above chance when required to identify a stimulus in a forced-choice setting.

3. By presenting stimuli of different luminance contrast to the normal and blind fields of blindsight patient GY, researchers found that stimulation of the normal field was associated with significant activations in the prefrontal and parietal areas, even when performance capacities were matched between the two fields. This suggests that activation in these areas may reflect visual phenomenology or metacognitive activity rather than just task performance.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article discusses the relationship between visual awareness and activity in the prefrontal and parietal cortices. While previous studies have suggested that heightened activity in these areas reflects conscious visual phenomenology, the authors argue that it may also reflect signal strength or superior task performance. To test this hypothesis, they studied a patient with blindsight who could perform well above chance when stimuli were presented to his blind field. By titrating the contrast of stimuli for each field independently, they were able to match task performance between the fields and found that stimulation of the normal field was still associated with significant activations in the prefrontal and parietal areas.

Overall, the article presents a clear argument and provides evidence to support its claims. However, there are some potential biases and limitations to consider. For example, the study only involved one participant with blindsight, so it is unclear whether these findings would generalize to other individuals with similar conditions. Additionally, while the authors acknowledge that metacognition may be closely linked to but not identical to visual awareness, they do not fully explore how this distinction might impact their results.

Furthermore, while the article does provide evidence against one alternative interpretation of previous findings (i.e., that activity in prefrontal and parietal cortices reflects superior task performance), it does not fully address other potential confounds such as attention or working memory. It is possible that these factors could also contribute to differences in brain activity between conditions.

Overall, while the article provides valuable insights into the relationship between visual awareness and brain activity in blindsight patients, further research is needed to fully understand this complex phenomenon.

# Topics for further research:

* Attention and brain activity in blindsight patients
* Working memory and visual awareness in prefrontal and parietal cortices
* Metacognition and visual awareness in blindsight patients
* Generalizability of findings in blindsight patients to other individuals with similar conditions
* Neural correlates of superior task performance in prefrontal and parietal cortices
* Role of feedback and learning in visual awareness in blindsight patients

# Report location:

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