

Bibliography - Relationship between **Aphantasia and **Embodied Cognition****

1. Adams, F. (2010). Embodied cognition. *Phenomenology and the Cognitive Sciences*, 9(4), 619-628.

Adams's article discusses the empirical evidence and conclusions we can make using embodied cognition, all the while providing some skeptical viewpoints of the theory. This will be helpful when I discuss the potential arguments against embodied cognition and how we can draw from its ideas to better understand aphantasia.

2. Anderson, M. L. (2003). Embodied cognition: A field guide. *Artificial Intelligence*, 149(1), 91-130.

Anderson discusses the potential uses and limitations of embodied cognition for a wide range of research topics, including AI and evolutionary psychology. They also bring up many different perspectives on embodied cognition, which will be useful for my paper to explain to my reader why they should care.

3. Blomkvist, A. (2022). Aphantasia: In search of a theory. *Mind & Language*.

This article discusses the different proposed theories of aphantasia and some of their problems. In addition, they propose a new theory, that aphantasia is an episodic deficiency.

4. Dance, C. J., Jaquiere, M., Eagleman, D. M., Porteous, D., Zeman, A., & Simner, J. (2021). What is the relationship between Aphantasia, Synaesthesia and Autism?. *Consciousness and Cognition*, 89, 103087.

This article probes the relationship between Aphantasia, Synesthesia, and Autism. They found that aphantasia and synesthesia can coexist within a person's mental imagery state, as well as aphantasia influences the type of synesthesia that someone has/experiences. Aphantasics also experience higher levels of autistic traits compared to the control group in their experiment. This is relevant and important to my research because it shows that mental imagery is not such a 1 dimensional issue as previously thought, and this adds to the case that we need to be probing this condition in different ways in order to maximize our knowledge.

5. Dawes, A.J., Keogh, R., Andrillon, T. et al. A cognitive profile of multi-sensory imagery, memory and dreaming in aphantasia. *Sci Rep* 10, 10022 (2020).

This study took aphantasia, the lack of *visual* imagery in the mind, and also sought out to see if certain aphantasic participants were also affected in other

sensory modalities. They found that there were decreased imagery in other sensory modalities, but not completely lacking (as is the case with extreme aphantasia cases).

6. Gallagher, S. (2011). Interpretations of embodied cognition.

This book chapter calls to attention the distinctive ideas of embodied cognition in detail. This will be useful in order to use the most pertinent ideas of embodied cognition in relation to mental imagery and aphantasia.

7. Ganczarek, Joanna & Żurawska-Żyła, Renata & Rolek, Aleksandra. (2020). "I remember things, but I can't picture them." What can a case of aphantasia tell us about imagery and memory?. *Psychiatria i Psychologia Kliniczna*. 20. 134-141.

This case study from 2020 discusses how imagery in the mind's eye may be different from memory in the case of aphantasia. In the study, they combined qualitative and quantitative methods in order to better understand and be able to distinguish between memory and imagery in the mind.

8. Gibbs, R. W., Jr., & Berg, E. A. (2002). Mental imagery and embodied activity. *Journal of Mental Imagery*, 26(1-2), 1-30.

Gibbs et al. present their evidence for embodied cognition. They foremost discuss the impact of subfields of linguistics on embodied cognition, but circle back to the effects on mental imagery / imagination.

9. Iachini, T. (2011). Mental imagery and embodied cognition: A multimodal approach. *Journal of Mental Imagery*, 35(3-4), 1-66.

Iachini's article discuss the multiple models of cognition and how they correlate with embodied cognition. When discussing several models of cognitive theories, they talked about visual mental imagery and cognitive basis for it, and provides a clear segue into aphantasia from that models standpoint. This paper has extreme relevance to my work because of the discussions about aphantasia and how we can learn more about it from theories from the cognitive models such as the Neural model in tandem with embodied cognition.

10. Jacobs, C., Schwarzkopf, D. S., & Silvanto, J. (2018). Visual working memory performance in aphantasia. *Cortex; a journal devoted to the study of the nervous system and behavior*, 105, 61-73.

This original case study done by Jacobs and Schwarzkopf details how visual working memory is affected by aphantasia. They think that aphantasic

individuals may have other, unconventional ways to compensate for visual imagery than non-aphantastic individuals.

11. Keogh, R., & Pearson, J. (2018). The blind mind: No sensory visual imagery in aphantasia. *Cortex; a journal devoted to the study of the nervous system and behavior*, 105, 53–60.

This paper on aphantasia sought to find an answer to the question of if aphantasics just have poor metacognition or if we are truly lacking visual mental imagery. They found that aphantasics do lack mental imagery phenomena and there is not a lack of metacognition. This will be useful in my research to show what aphantasia is with empirical evidence that there is a substantial lack of mental imagery.

12. McNorgan, C.(2012). A meta-analytic review of multisensory imagery identifies the neural correlates of modality-specific and modality-general imagery. *Frontiers in human neuroscience*, 6, 285.

This meta analysis paper by McNorgan aimed to investigate the neural correlates of multiple sensory modalities of mental imagery.

13. Palmiero, M., Piccardi, L., Giancola, M., Nori, R., D’Amico, S., & Olivetti Belardinelli, M. (2019). The format of mental imagery: from a critical review to an integrated embodied representation approach. *Cognitive Processing*.

This paper discusses and critically evaluates the embodied cognition approaches to mental imagery. The authors also bring in knowledge into these approaches about imagery ability and strategy within people.

14. Rucińska, Z., & Gallagher, S. (2021). Making imagination even more embodied: imagination, constraint and epistemic relevance. *Synthese*.

This paper discusses the effect that embodied cognition can have on imagination (and thus mental imagery). This relates to my project because it will help me synthesize the literature on mental imagery and embodied cognition by providing more insight into how they can be connected.

15. Schendan, H. E., & Ganis, G. (2012). Electrophysiological potentials reveal cortical mechanisms for mental imagery, mental simulation, and grounded (embodied) cognition. *Frontiers in psychology*, 3, 329.

This article provides empirical evidence for cortical mechanisms of mental imagery and embodied cognition. This is extremely important for my research to back up embodied cognition as well as to use as evidence for anticipated rebuttals against embodied cognition.

16. Sheehan P. W. (1967). A shortened form of Betts' questionnaire upon mental imagery. *Journal of clinical psychology*, 23(3), 386–389.

This short paper lays out the foundation of the QMI, which is important in diagnosing multi-sensory aphantasia. This is important to my research because it will allow me to back up the controversial claim that aphantasia does not solely affect visual mental imagery.

17. Takahashi, J., Saito, G., Omura, K., Yasunaga, D., Sugimura, S., Sakamoto, S., ... Gyoba, J. (2022, May 25). Diversity of aphantasia revealed by multiple assessments of the capability for multi-sensory imagery.

This study argues that the current visual criteria used for aphantasia diagnosis in research is not enough. Instead, we should be using diagnostic criteria that spans across multiple sensory modalities in order to gain broader understanding of aphantasia and the diversity of the condition.

18. Tibbetts P. E. (2014). Where does cognition occur: in one's head or in one's embodied/extended environment?. *The Quarterly review of biology*, 89(4), 359–368.

Tibbetts' paper discusses the differences between embodied cognition and the traditional cognitivist's perspective of cognition. This is extremely relevant to providing evidence of EC and backing up points made in relation to potential arguments raised against my perspective.

19. Wilson, M. (2002). Six views of embodied cognition. *Psychonomic Bulletin & Review*, 9(4), 625–636.

This paper proposes that we should stop treating embodied cognition as a single static viewpoint, and instead embrace specific claims of it (such as the 6 views listed and elaborated on) in order to best understand what it really means.

20. Zeman, A., Dewar, M., & Della Sala, S. (2015). Lives without imagery - Congenital aphantasia. *Cortex; a journal devoted to the study of the nervous system and behavior*, 73, 378–380.

This is the original paper which coined the name “aphantasia” and details a study about a group of aphantasic individuals and the symptoms that they typically have. This is one of the original studies on aphantasia that are seen as ‘Classic,’ therefore I feel obligated to use this study in part of my research. It will be extremely beneficial to my research because it allows me to refer to the original research that paved the way for the information we now know today about aphantasia.

21. Ziemke, T. (2016). The body of knowledge: On the role of the living body in grounding embodied cognition. *Bio Systems*, 148, 4-11 .

This paper provides a fresh perspective on embodied cognition because of the relation of AI and biological neural networks and how EC can affect them both. This paper mostly focuses on the biological basis of EC. This is pertinent to my project because it helped me think outside of the box about EC and provided me with a different perspective that I can thus bring to my project.