

Can we learn something about visual contexts without being aware that we are learning?

Project supervisors

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This project will address the question of whether people can detect regularities in their environment and adapt their behaviour accordingly in the absence of awareness (consciousness). The *contextual cuing effect* shows that search times for targets hidden amongst distractors are faster when the same search displays are repeated compared to when they are randomly drawn anew. Although the effect is undebatable, it remains an open question whether participants are able to consciously recognise the repeated search displays. Vadillo, Konstantinidis, and Shanks (2016) recently suggested that this line of research suffers from a high probability of false-negative results on the recognition (awareness) test as well as from misinterpreting weak relationships between search times and recognition performance. Colagiuri and Livesey (2016) increased the sample size and argued that the data still support the absence of a positive relationship between search times and recognition performance. However, they ignored the problem that the measures' unreliability will bias the relationship between them. In a new study, we will collect data that allow us to calculate reliability indices and test whether the absence of a positive relationship persists.

Colagiuri, B., & Livesey, E. J. (2016). Contextual cuing as a form of nonconscious learning: Theoretical and empirical analysis in large and very large samples. *Psychonomic Bulletin & Review*, 23, 1996–2009.

Vadillo, M. A., Konstantinidis, E., & Shanks, D. R. (2016). Underpowered samples, false negatives, and unconscious learning. *Psychonomic Bulletin & Review*, 23, 87–102.