

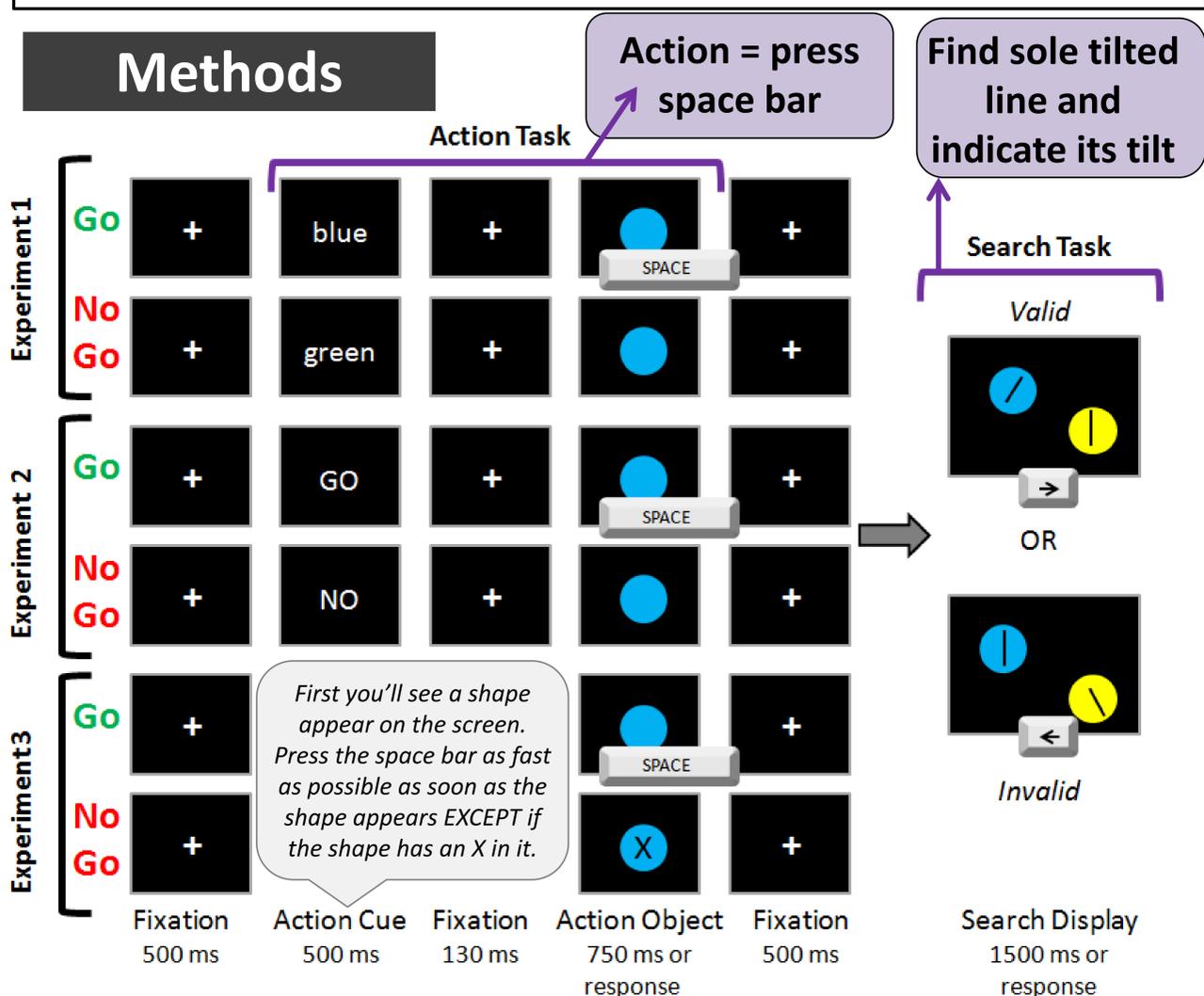
Effects of Action on Visual Search

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Background

- **Action affects perception:** preparing specific actions¹ and individuals' ability to interact with the environment² affect perception
- **Simple actions affect subsequent perception:** when an object is acted on – but not when it is viewed – the object's features receive priority in visual search³ = **the action effect**

Methods



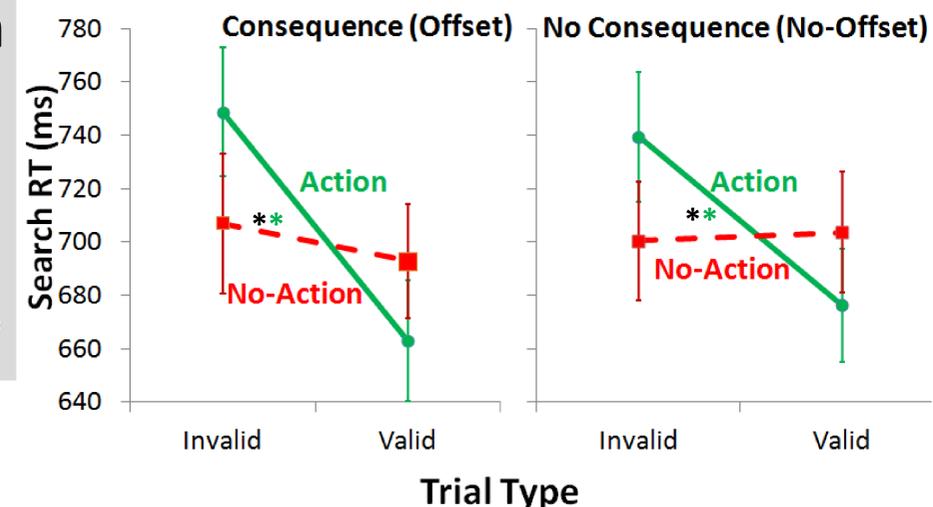
Summary

- Action effect still occurs when:
 - Action has no consequence
 - No need to process any aspect of object
- Action effect is not due to goal updating
- Cancelling actions may affect perception?

Experiment 1

Will the action effect occur when action has no consequence?

YES

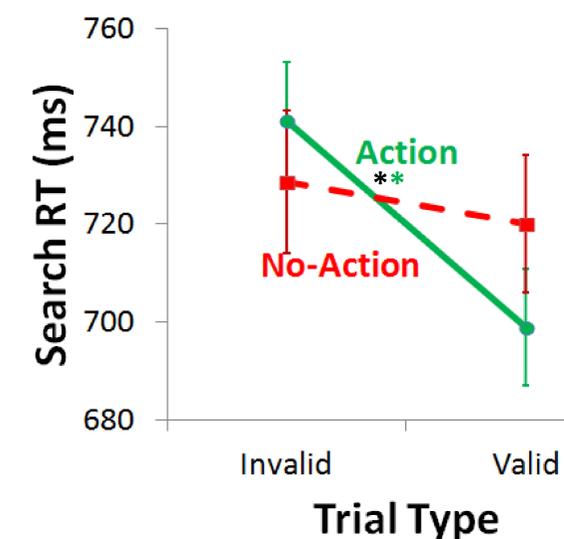


*interaction; *validity effect following action; *validity effect following viewing

Experiment 2

Will the action effect occur when participants need not process any attributes of the action object?

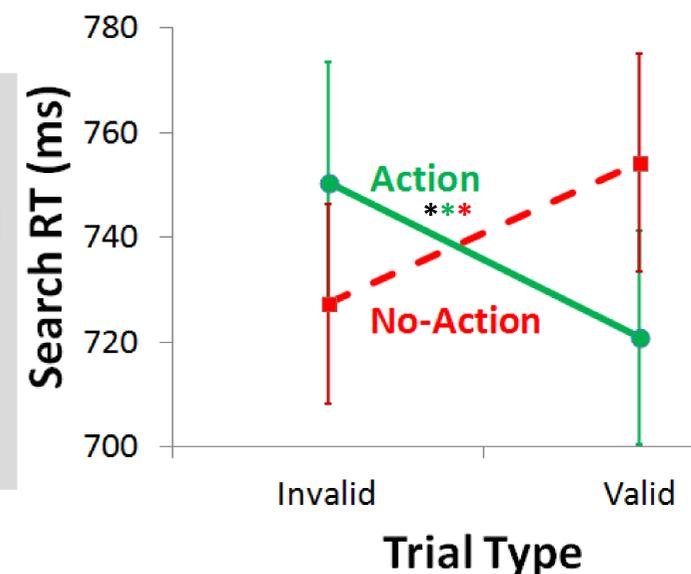
YES



Experiment 3

In general people default to **not act**, therefore in prior research action trials required "goal updating"⁴. Will the action effect occur when acting is not confounded with goal updating?

YES



References:
 1. e.g., Wykowska, A., Schubö, A., & Hommel, B. (2009). How you move is what you see: Action planning biases selection in visual search. *Journal of Experimental Psychology: Human Perception and Performance*, 35, 1755–1769. doi: 10.1037/a0016798
 2. e.g., Davoli, C. C., Brockmole, J. R., & Witt, J. K. (2012). Compressing perceived distance with remote tool-use: Real, imagined, and remembered. *Journal of Experimental Psychology: Human Perception and Performance*, 38, 80–89. doi: 10.1037/a0024981
 3. Buttaccio, D. R., & Hahn, S. (2011). The influence of action on visual search: Behavioral response toward stimuli modifies the selection process. *Attention, Perception, & Psychophysics*, 73, 1453–1466. doi: 10.3758/s13414-011-0121-y
 4. Makovski, T., Jiang, Y. V., & Swallow, K. M. (2012). How do observer's responses affect visual long-term memory? *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 39, 1097–1035. doi: 10.1037/a0030908