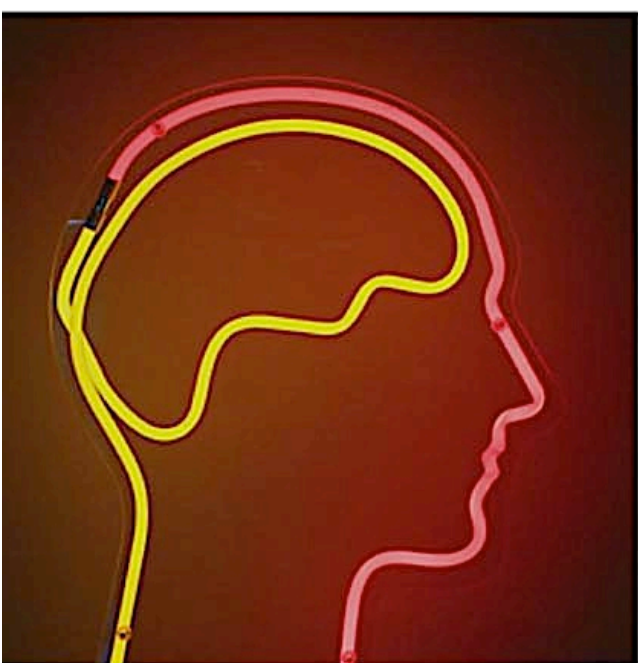


Insight Follows Incubation In the Remote Associates Task

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Introduction

- The Gestalt psychologists hypothesized that insight differed from other problem-solving strategies in that it did not utilize traditional trial-and-error testing.
- Smith (Smith & Blankenship, 1991; Kohn & Smith, 2009) has emphasized that insight occurs after a release from problem fixation frequently as a result of a time away from the problem (i.e., incubation).
- In contrast, other researchers (e.g., Metcalfe, 1986; Jung-Beeman et al., 2004) have emphasized that insight is a subjective experience characterized by the sudden discovery of a solution in which the participant has high confidence.
- To study how the subjective experience of insight interacts with incubation we modified a paradigm developed by Kohn and Smith (2009) and asked participants to solve compound remote problems (CRAs; Bowden & Jung-Beeman, 2003) with or without incubation and report whether they experienced insight after correctly solving the problem.

Method

- Participants solved 44 CRA's after performing a two-word task designed to either block or not block the CRA solution.
- For all trials, the time allotted for solving the CRA was split into two epochs (15 sec and 10 sec).
- During incubation trials, the participant was asked to perform a 40 second digit monitoring task in between epochs, while on direct trials participants simply received an additional 10 seconds to solve the problem.
- Resolution Rate (proportion solved in the current epoch corrected for the number of possible problems) and Insight Score (number correct with insight minus number correct without insight divided by the total solved) was calculated for each condition and epoch.

Direct (No Incubation)				Incubation				
	Two-Word Phase Task ≤20s	CRA 1st Epoch ≤15s	CRA 2 nd Epoch ≤10s		Two-Word Phase Task ≤20s	CRA 1st Epoch ≤15s	Digit Monitoring Task 40s	CRA 2 nd Epoch ≤10s
Blocking	cross out rain <i>cross out rainout</i>	cross rain tie <i>bow</i>	...	Blocking	cross out rain <i>cross out rainout</i>	cross rain tie <i>bow</i>	2-4- <u>5</u> - <u>9</u> - <u>9</u> -2-1- <u>9</u> ... <i>Answer 3</i>	...
	crab pine apple <i>crab apple pineapple</i>	cross rain tie <i>bow</i>	...		No Blocking	crab pine apple <i>crab apple pineapple</i>	cross rain tie <i>bow</i>	2-4- <u>5</u> - <u>9</u> - <u>9</u> -2-1- <u>9</u> ... <i>Answer 3</i>

Results

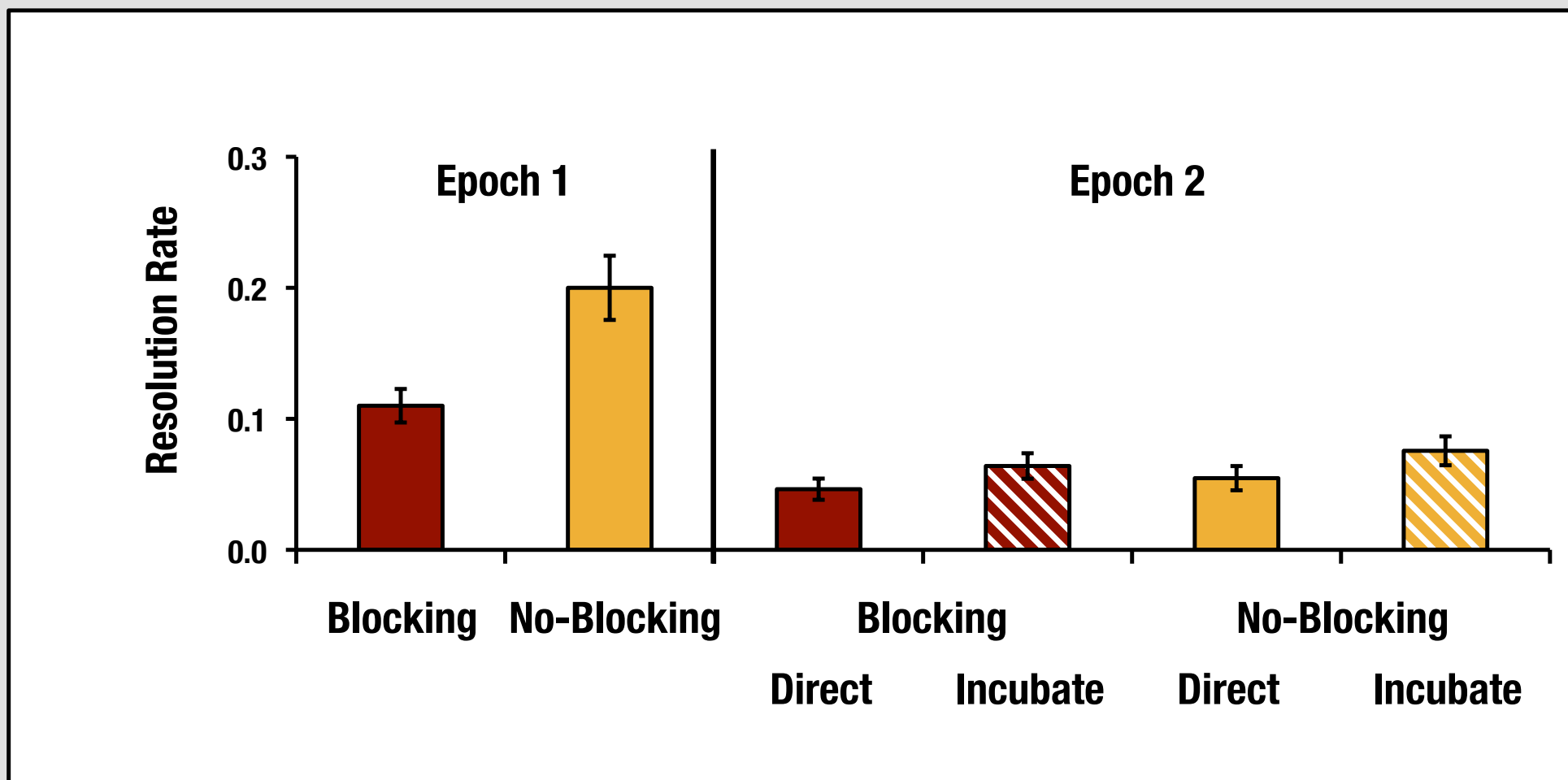


Figure 1. The Two-Word Task created a sizable blocking effect ($F(1,67) = 36, p < .001, \eta_p^2 = .4$) particularly in the first solution epoch ($F(1,67) = 36, p < .001, \eta_p^2 = .4$). There was a trend towards improved performance due to incubation in the second epoch ($F(1,67) = 3.8, p = .056, \eta_p^2 = .05$); however, this was not different with respect to blocking ($F(1,67) = .04, ns$).

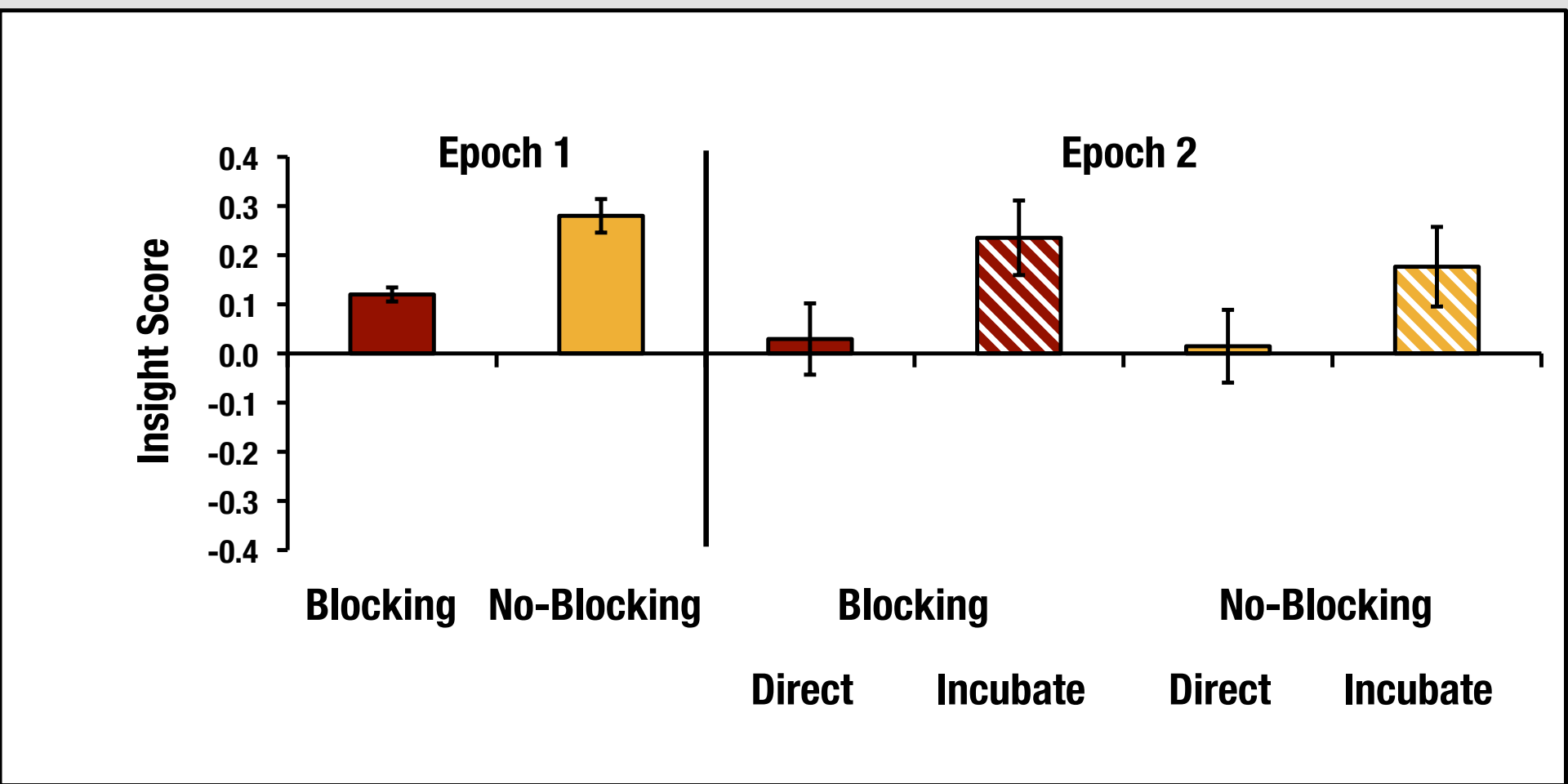


Figure 2. During the first epoch participants reported solving with insight more in the no blocking condition ($F(1,67) = 4.0, p = .05, \eta_p^2 = .06$). During the second epoch participants reported solving with insight much more after incubation ($F(1,67) = 5.7, p = .02, \eta_p^2 = .08$); however, this was not different with respect to blocking ($F(1,67) = .1, ns$).

Discussion

- While the two-word task effectively blocked/fixated participants it did not modulate the experience of insight either with or without incubation.
- In fact, during the first epoch participants solved with insight much more frequently in the no blocking condition.
- Likewise, the blocking manipulation did not effect the experience of insight after incubation, in spite of a large increase in reported insight after incubation.
- Thus, it appears that the experience of insight is relatively unrelated to the extent of fixation; however, the incidence of insight does increase after a period of distracted incubation.

References

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