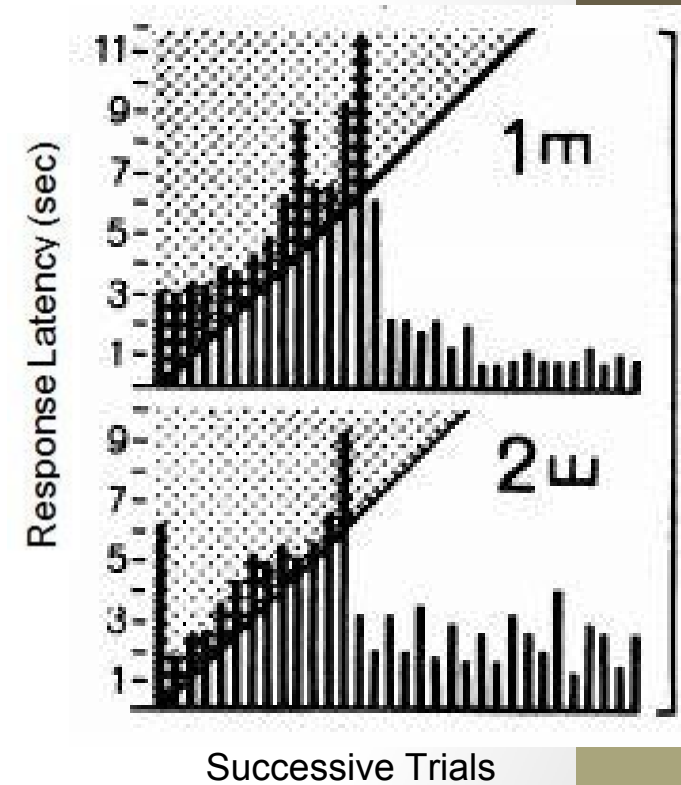


Teaching autonomy by delaying prompts: Can rats prevent prompt dependence in handicapped children?

Katie Ball, Sara Futch, Aubrey Knight,
Angelica Knuckles, & Martha Tucker

- ❖ Previous research in this lab has analyzed the use of guiding cues in the transfer of stimulus control and the elimination of prompt dependence
- ❖ The problem of prompt dependence in animals has also been found in children with learning disabilities
- ❖ The goal of the present study was to explore how an animal model of delayed-prompting relates to delayed-prompting in children with learning disabilities

- ❖ Touchette (1971) studied transfer of stimulus control in 3 mentally handicapped children using delayed-prompting
- ❖ This procedure was effective in producing errorless transfer in mentally handicapped children.



- ❖ The current study examined the difference in autonomy between groups on a lever press sequence
- ❖ There were 2 learning conditions: Follow-Lights vs Reversed-Lights
- ❖ Autonomy was tested in a delayed-prompt condition vs a no-prompt condition

Hypotheses

- ❖ Acquisition: Follow-Lights faster than Reversed-Lights
- ❖ Autonomy: Reversed-Lights > Follow-Lights
- ❖ Accuracy: Prompted Trials > Unprompted Trials
- ❖ Delayed-prompting would result in higher autonomy than would the control condition without prompts

Method

- ❖ Subjects:
 - 20 naive Long Evans female rats
 - 85% free-feeding weight

❖ Apparatus:



Method: Procedure

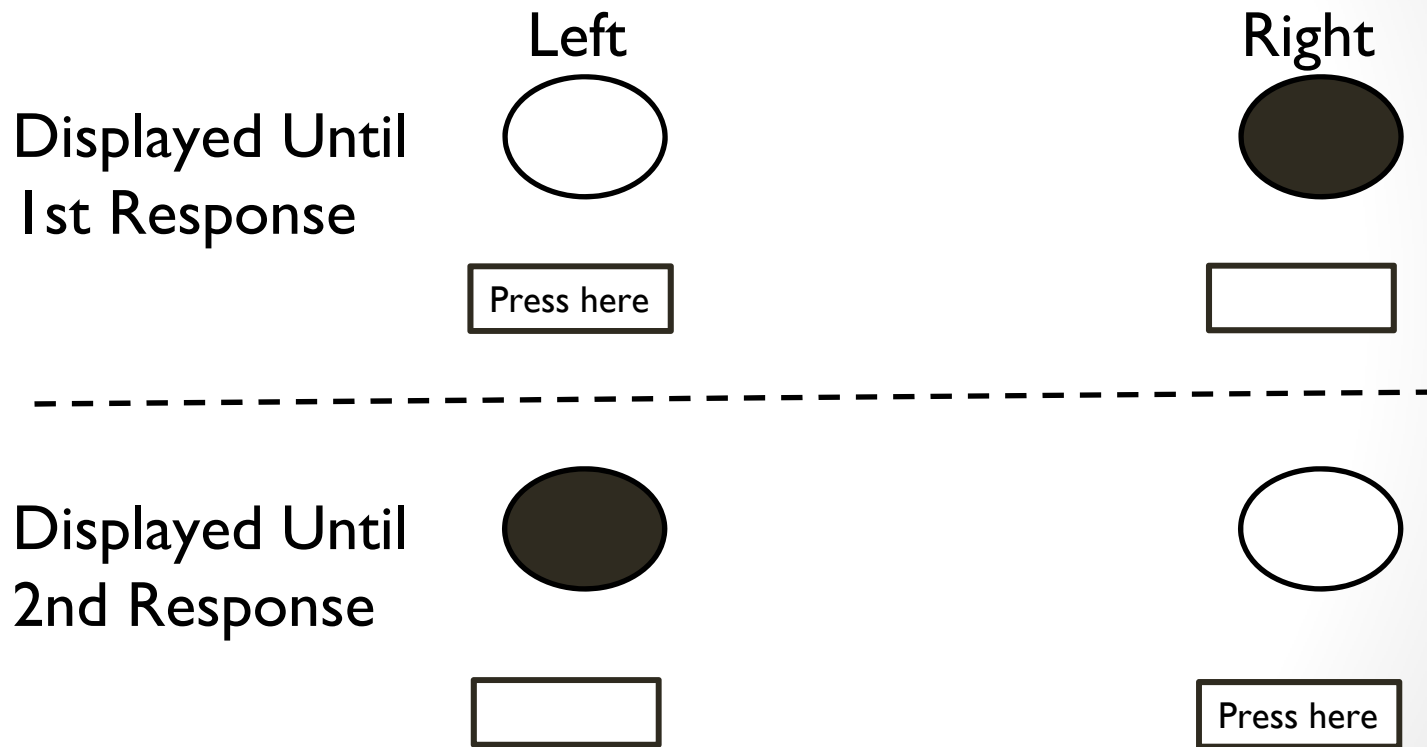
❖ 4 groups of rats

- Lights with Delayed Prompt (L-D)
- Lights with No Prompt (L-N-P)
- Reversed-Lights with Delayed Prompt (R-D)
- Reversed-Lights with No Prompt (R-N-P)

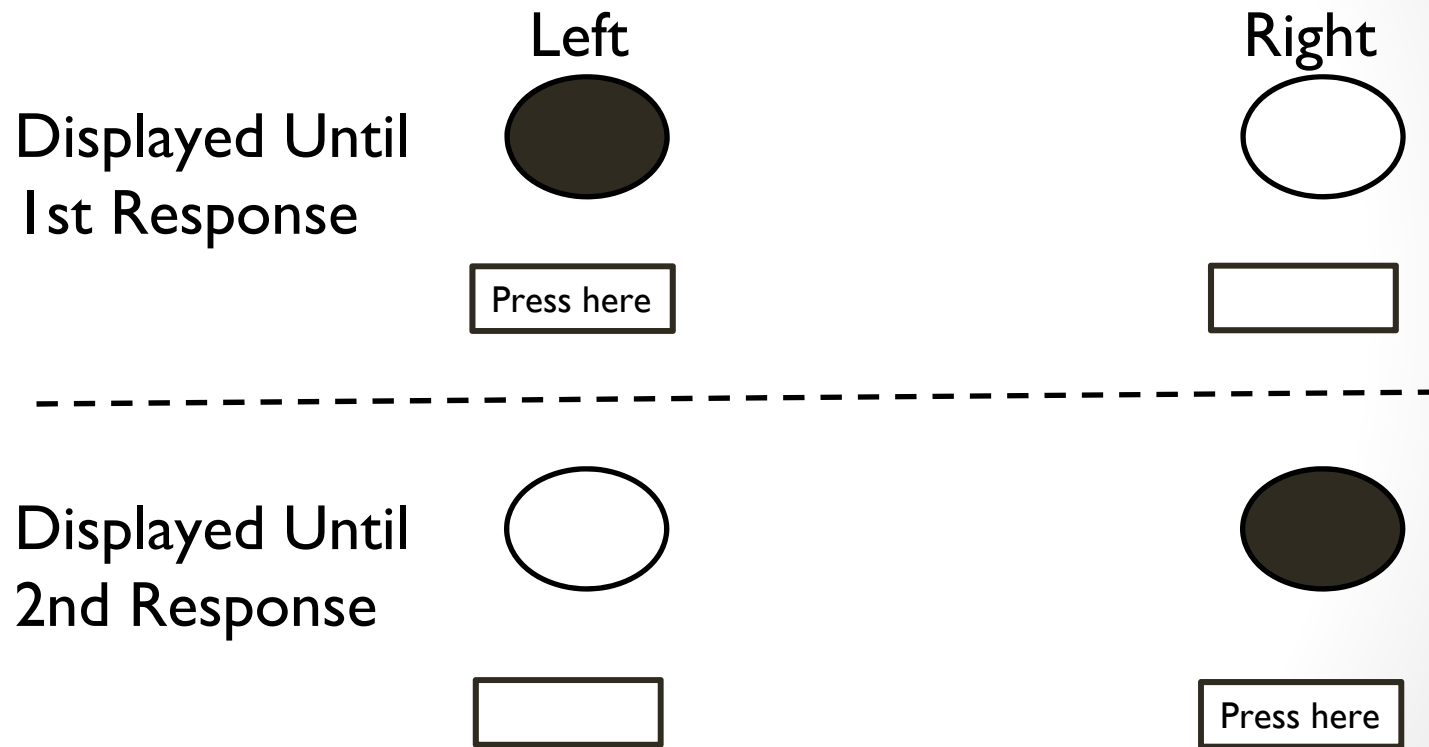
❖ 2 Training procedures

- Reinforcing lever pressing

'Follow the Light' Condition: ON = S+



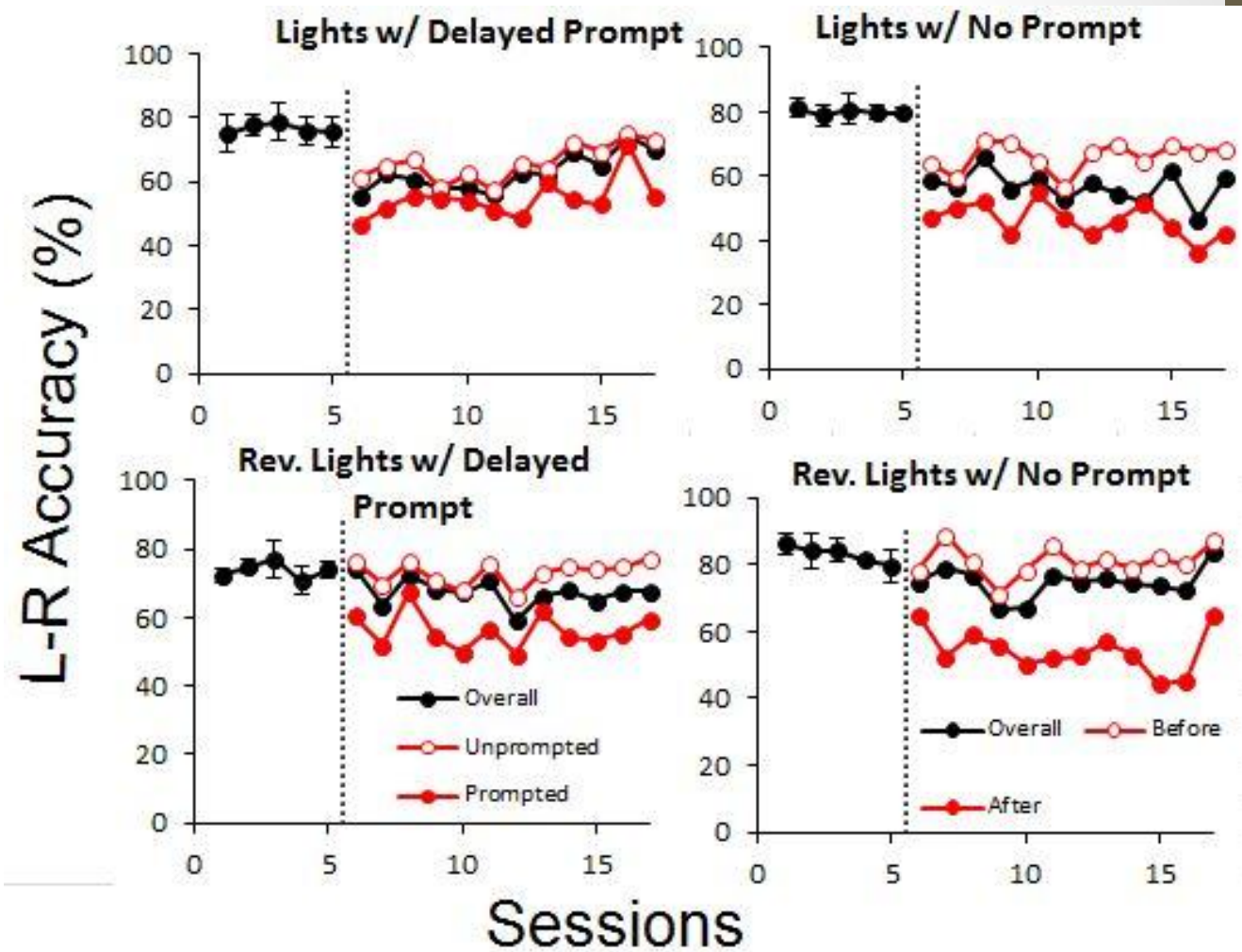
'Reversed-Lights' Condition: OFF = S+



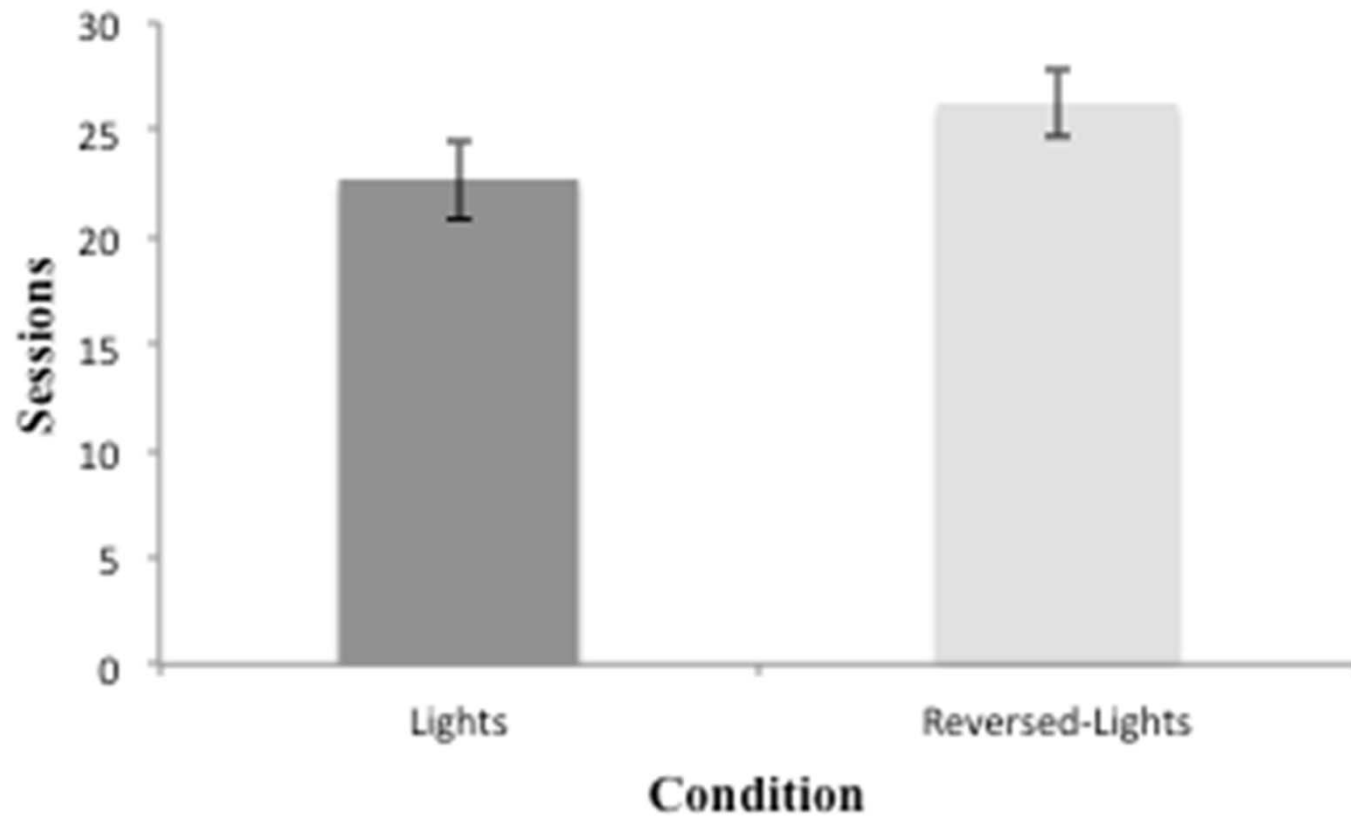
Autonomy Procedure

- ❖ Delayed-Prompting vs. No-Prompt (Both-Lights)
 - Delayed-Prompting:
 - Prompt was presented immediately for first trial
 - Correct responses → 2 second increase in delay of cues for subsequent trials
 - Incorrect responses → 2 second decrease in delay of cues for subsequent trials
 - No-Prompt
 - No cues (both lights on) for entirety of all trials

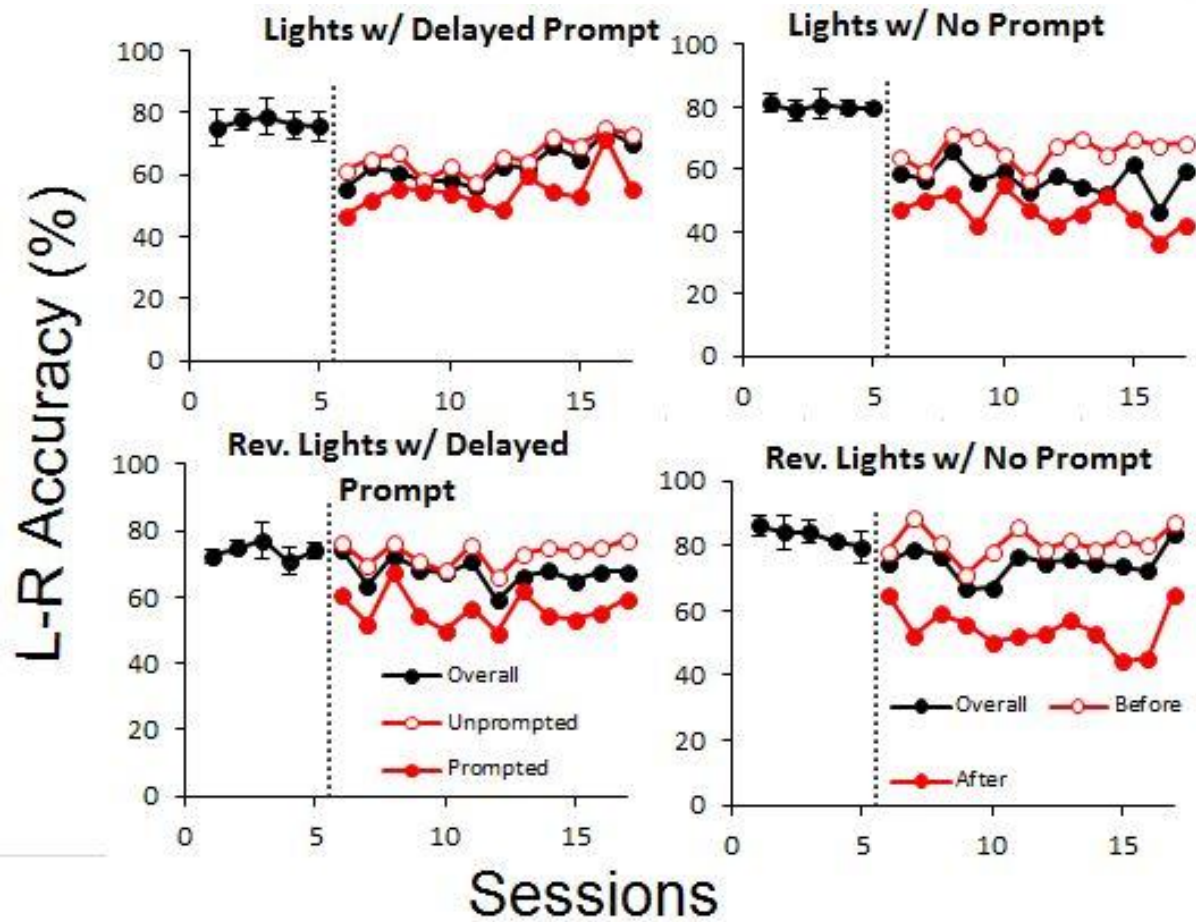
Results



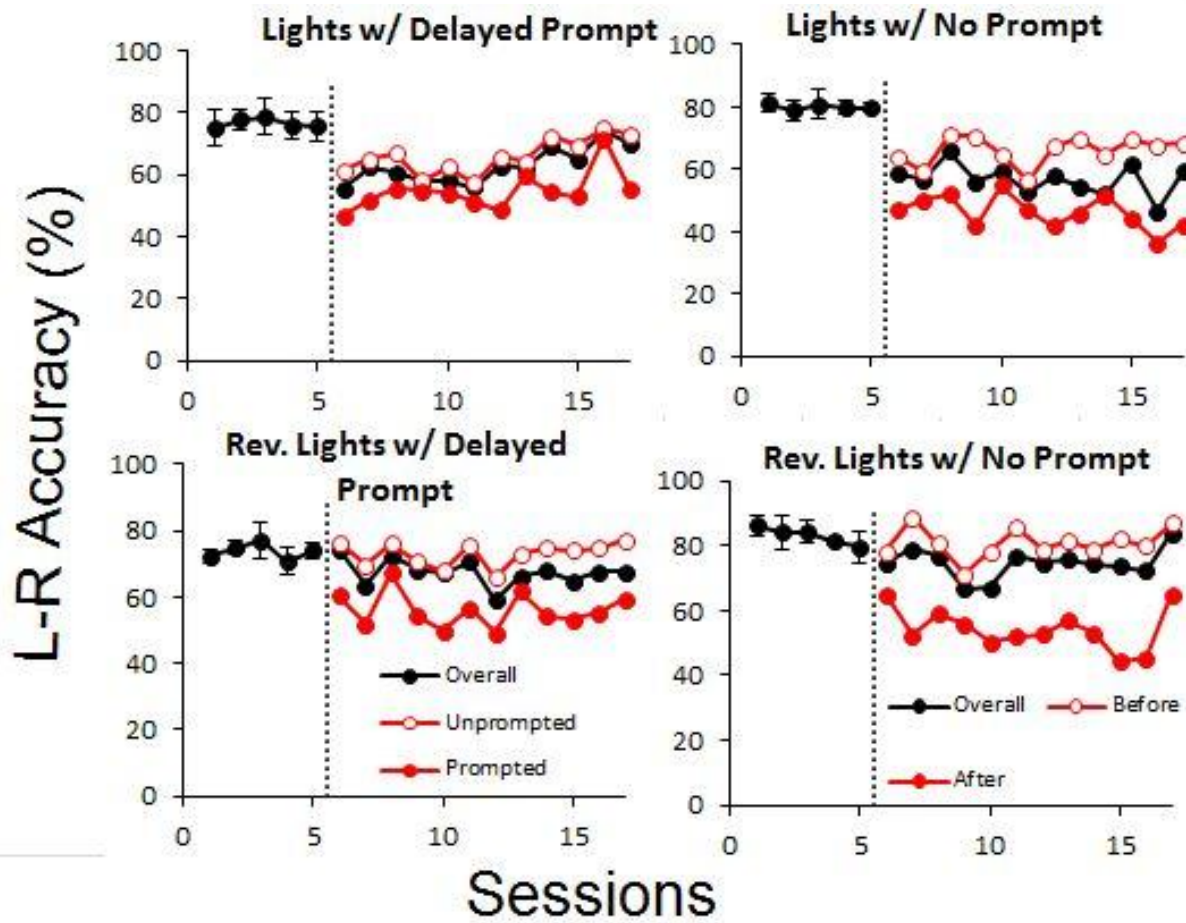
***t*-Test Comparing Number of Sessions Required to Meet Stability Criteria**



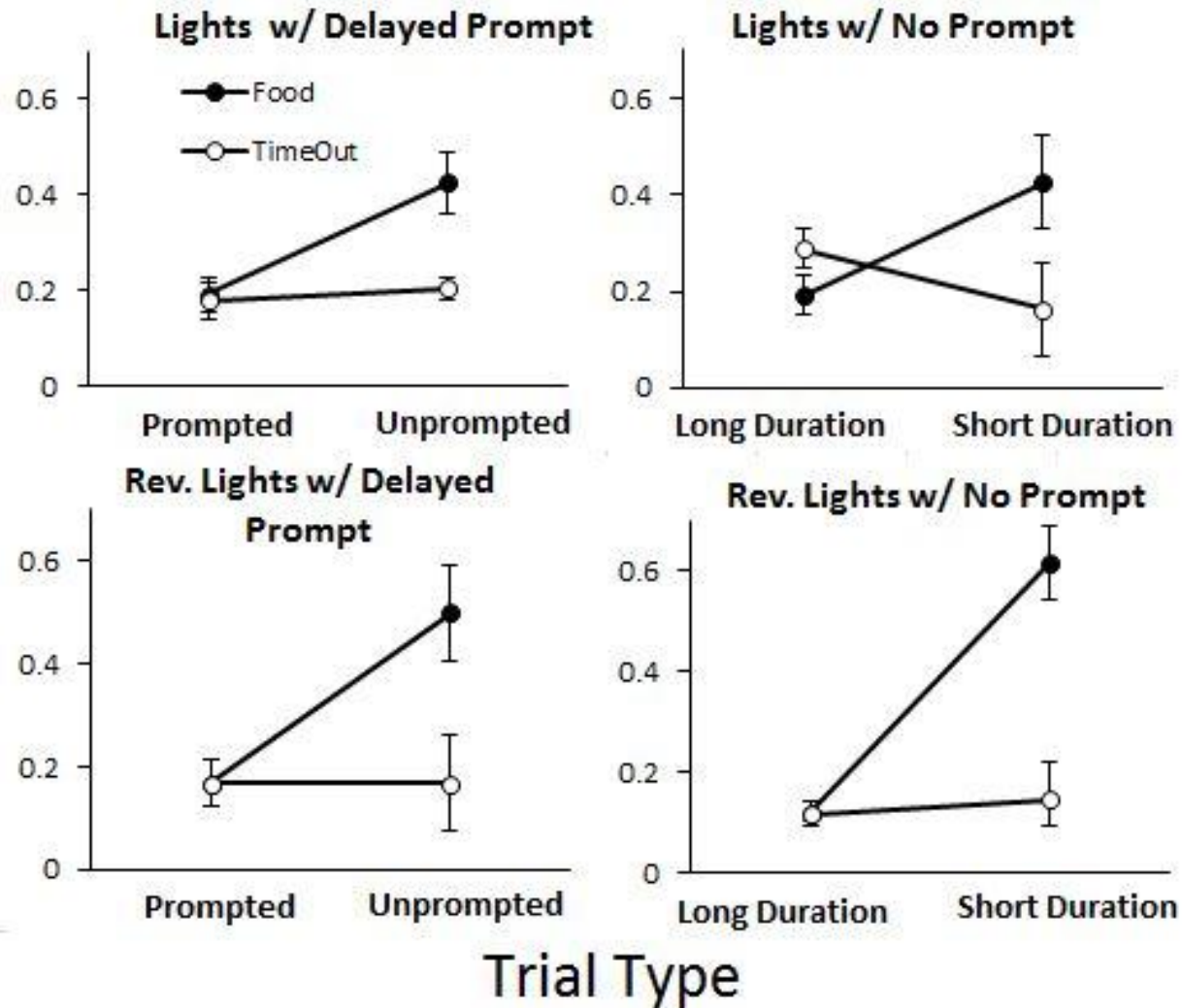
Chi-Square Comparing Acquisition Baseline with 1st Day Autonomy



t-Test comparing prompted to unprompted trials



Proportion of Trials



Discussion

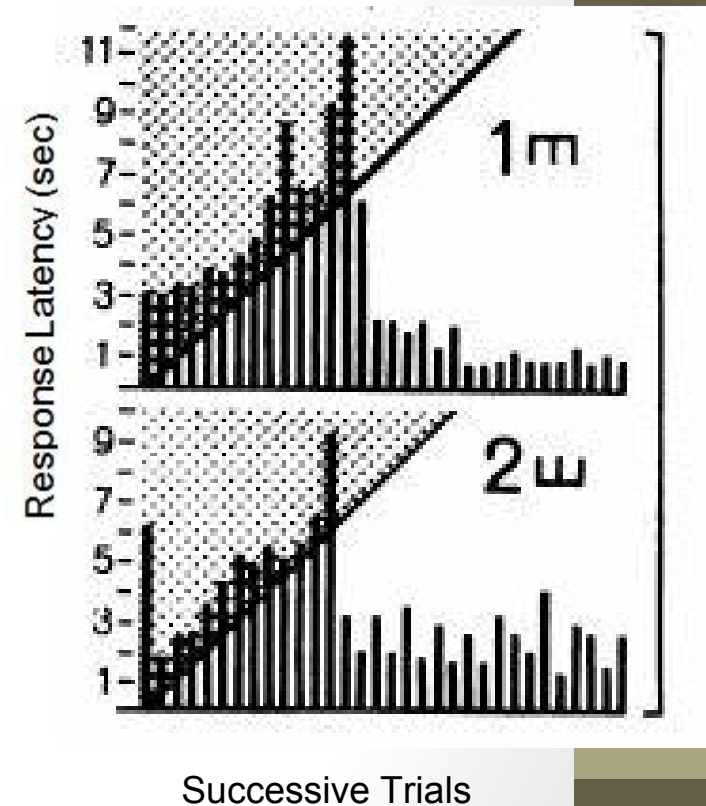
- ❖ Hypothesis: Subjects in Follow-Lights conditions would reach acquisition stability faster than subjects in the Reversed-Lights conditions
 - Supported-- Lights rats < Reversed-Lights rats
- ❖ Hypothesis: Subjects in the Reversed-Lights conditions have greater autonomy than those in the Follow-Lights conditions.
 - Supported-- Reversed-Lights → no drop
 - Lights → significant drop

Discussion

- ❖ Hypothesis: Higher accuracy in prompted trials than unprompted trials
 - Not supported-- Unprompted trials produced higher accuracy than prompted trials.
 - Shorter trials resulted in greater levels of accuracy.
- ❖ Hypothesis: Delayed-prompting results in higher autonomy than the control condition without prompts.
 - Not supported-- both prompted and unprompted groups → drop in accuracy.

What can an animal model tell us about prompt dependence in humans?

- ❖ Delayed-prompting did not produce higher accuracy.
- ❖ Shorter trial durations → increased levels of accuracy
- ❖ Shorter trials → higher reinforcement rate
- ❖ Delay-prompting has an effect because it shortens trial length & leads to higher reinforcement rates
- ❖ Will complete further analyses



Acknowledgements

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