



# Prompting Self-Regulation to Mitigate the Effects of Technical Difficulties

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ADL Co-Lab Hub

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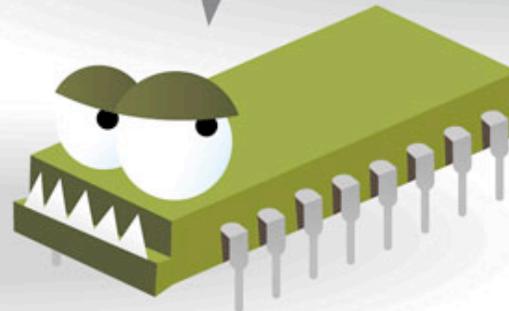
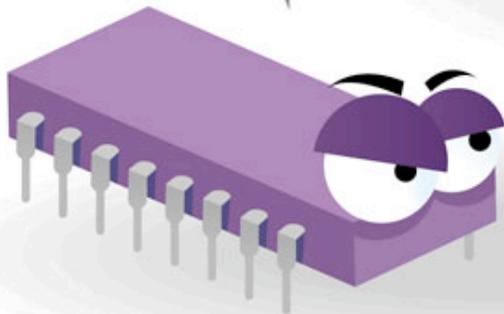


**Technology**

is a queer thing.

It brings you great gifts  
with one hand...

...and **stabs** you in  
the back with the  
other!



C.P. Snow, *New York Times*, March 15, 1971



# Technical Difficulties

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- Technical difficulties refer to interruptions individuals encounter when interfacing with technology
  - Low bandwidth
  - Error messages
- Technical difficulties
  - Decrease learning
  - Increase attrition at the beginning of training

-Sitzmann, Ely, Bell, & Bauer, 2008





# Prompting Self-Regulation

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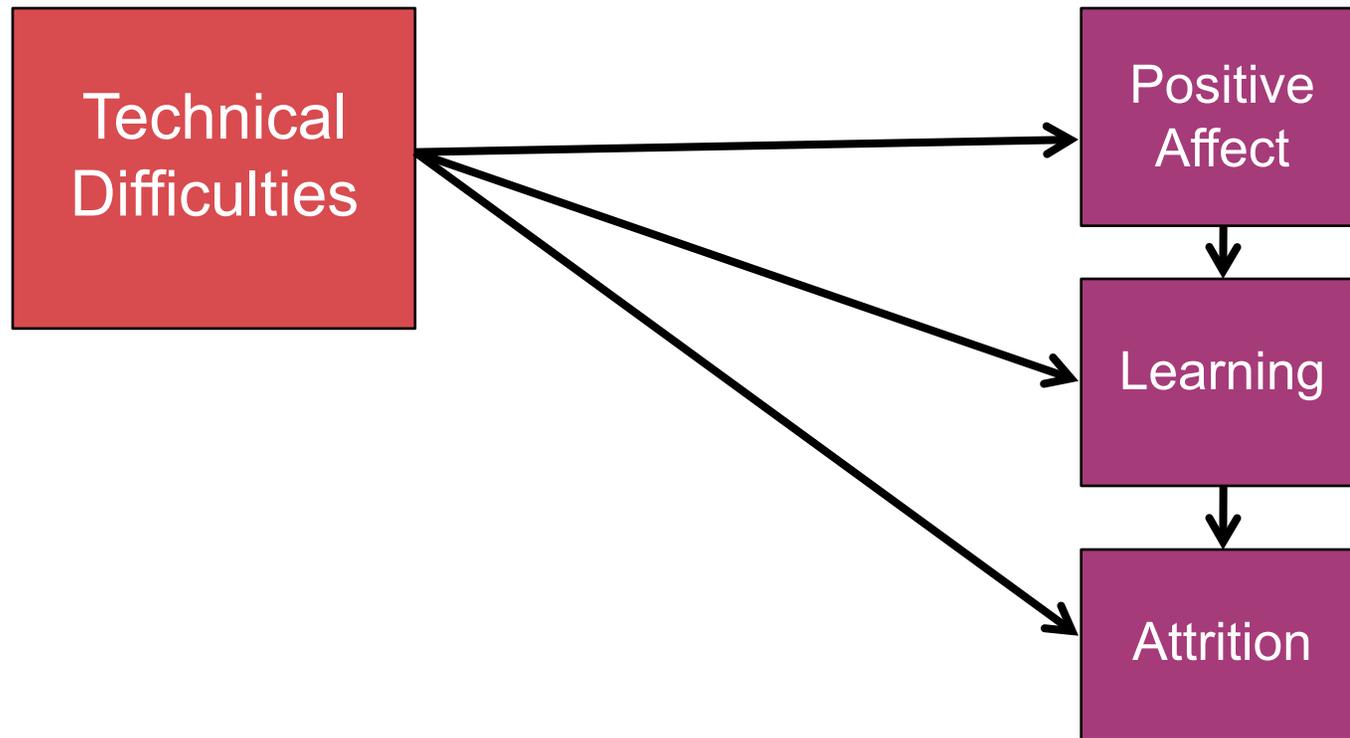
- Involves asking trainees questions regarding whether they are motivated to learn the training material and maintaining a positive attitude
  - Maintaining a positive attitude will increase the amount that you learn from training.
    - Am I maintaining a positive attitude as I progress through the course?
- Research suggests prompting cognitive self-regulation has a positive effect on learning over time, relative to the control condition

-Sitzmann, Bell, Kraiger, & Kanar, in press



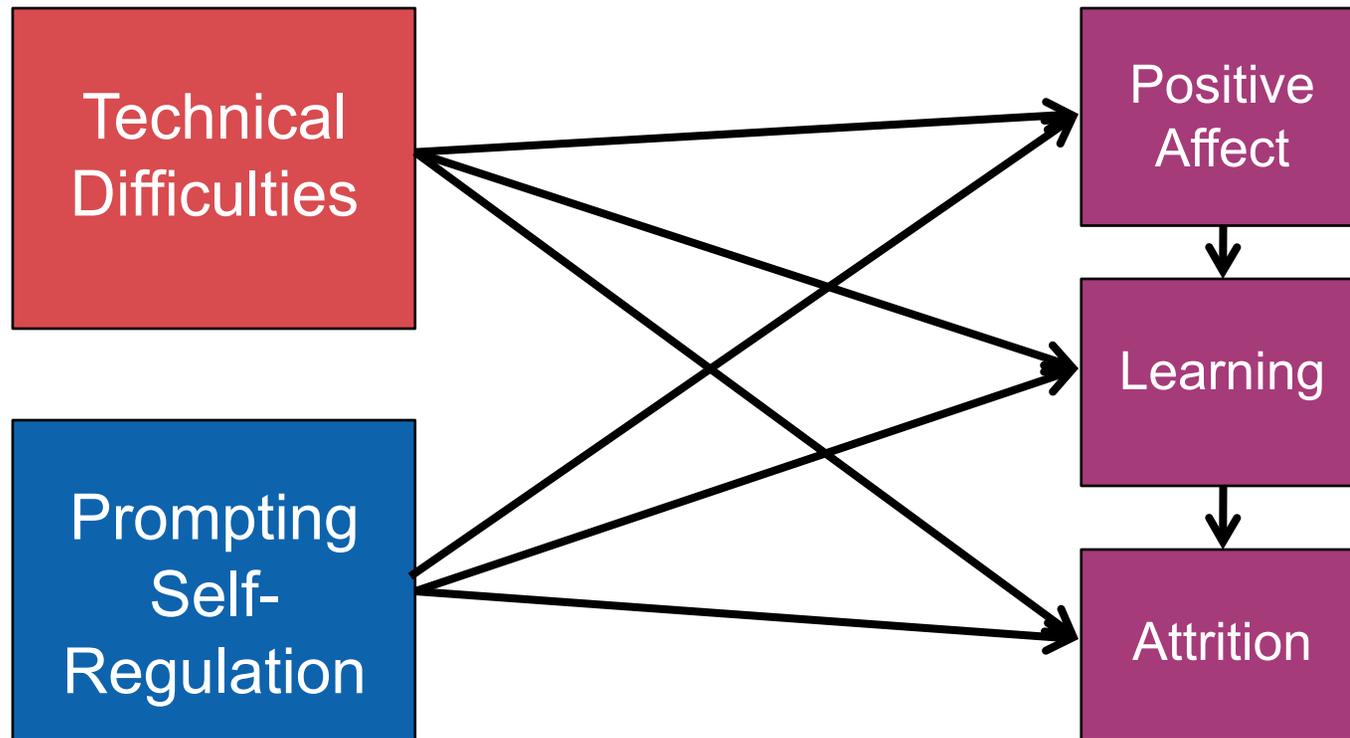


# Hypotheses





# Hypotheses



Also moderates the learning process





# Participants

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- 195 adult trainees
  - 73% were employed full- or part-time and 20% were unemployed
  - Education
    - 37% high school
    - 16% associates or technical degree
    - 30% bachelor's degree
    - 17% graduate degree
  - 51% female
  - Average age = 43 years





# Research Methodology

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- Training
  - 5 hour course on Microsoft Excel
  - 6 online modules
  - Measured positive affect and learning at the end of each module
- Experimental conditions differed in terms of
  - Number of modules containing error messages
  - Pattern of the 6 modules containing error messages
  - Whether trainees were prompted to self-regulate

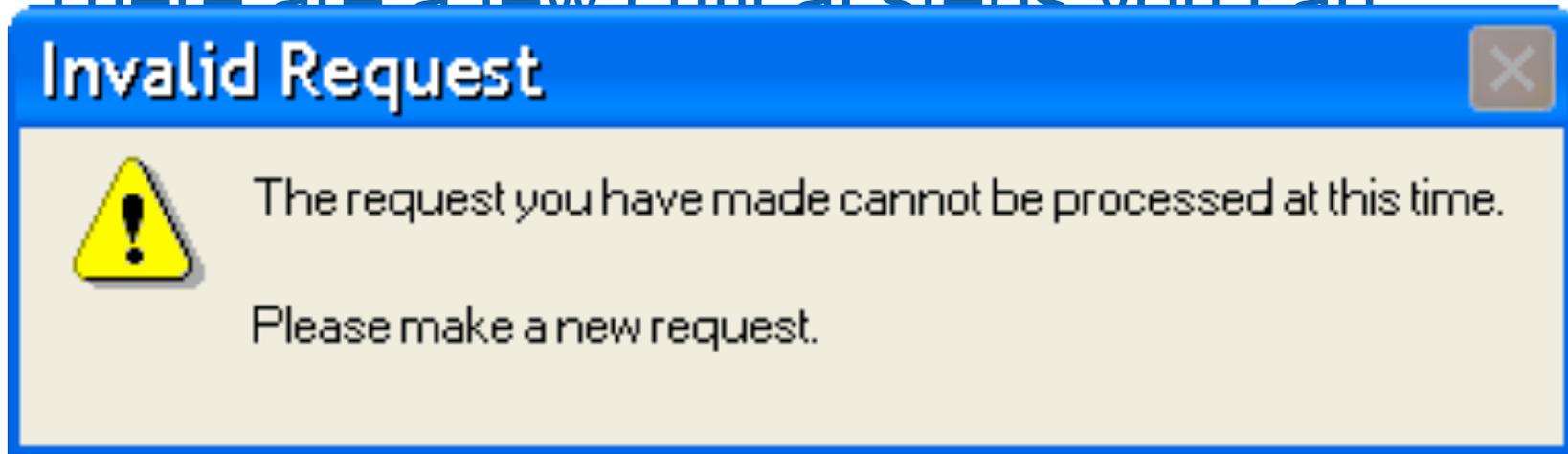




# Editing a PivotTable Continued

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- There are a few critical steps you can





# Self-Regulation Prompts

**At this point, you have completed the first module. As you move through the training, make sure that you do not get discouraged if you have trouble understanding the material.**

**Am I continuing to motivate myself during training?**

- Not at all
- Slight possibility
- Maybe
- Probably
- Definitely

Submit



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# Predicting Positive Affect

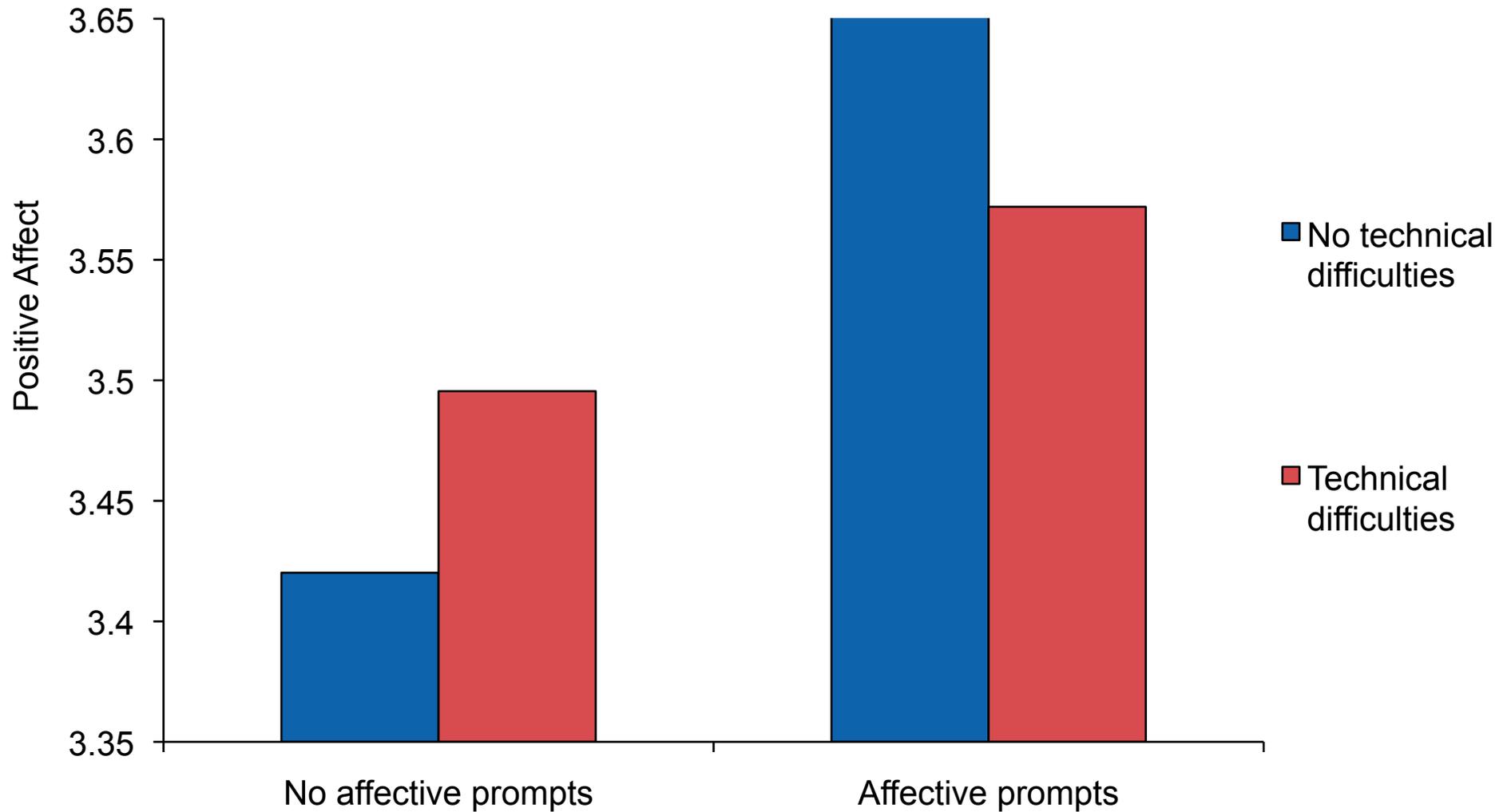
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- No significant main effects for prompting self-regulation or technical difficulties
- Prompting self-regulation interacted with technical difficulties





# Predicting Positive Affect





# Positive Affect & Learning

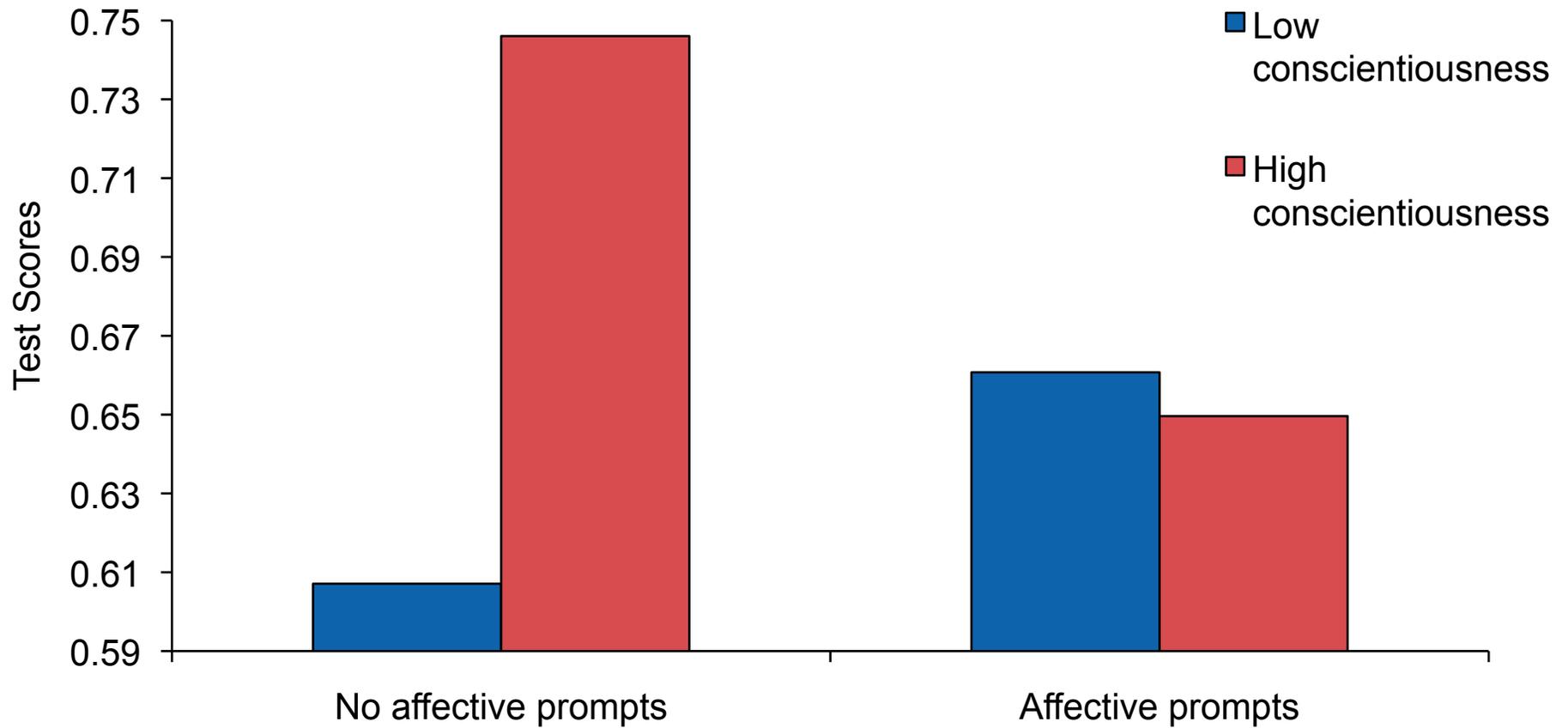
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- Cyclical relationship
- Positive affect: High positive affect resulted in a 4 percentage-point increase in test scores
- Learning: High test scores resulted in a .86 point increase (on a 5 point scale) in positive affect in the subsequent module
- The effect of prompting self-regulation on learning depends on trainees' level of conscientiousness





# Learning





# Predicting Attrition

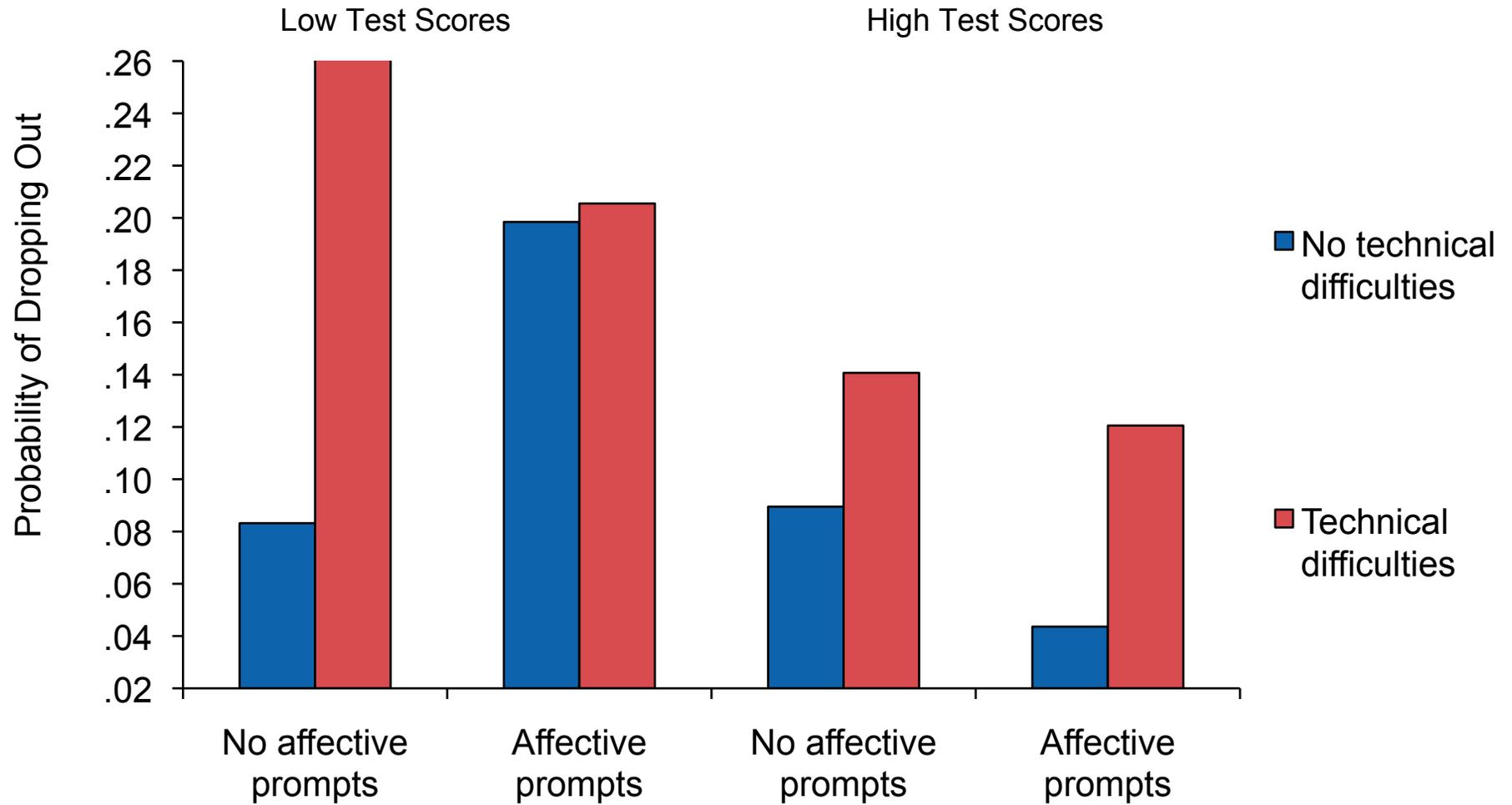
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- Technical difficulties: 7% increase in probability of dropping out when technical difficulties were encountered
- Learning: 10% increase in probability of dropping out following low test scores
- 3-way interaction between technical difficulties, prompting, and learning (in the previous module) when predicting attrition





# Predicting Attrition





SOMETIMES WE JUST NEED REMINDERS



# Conclusions

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- Prompting self-regulation
  - Increases positive affect, especially when trainees did not encounter technical difficulties
  - Decreases the probability of dropping out under certain conditions
- Future Research
  - Matching the self-regulation intervention to the obstacles trainees encounter
  - Do the results apply to other forms of interruptions during training?





## Questions or Comments?

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