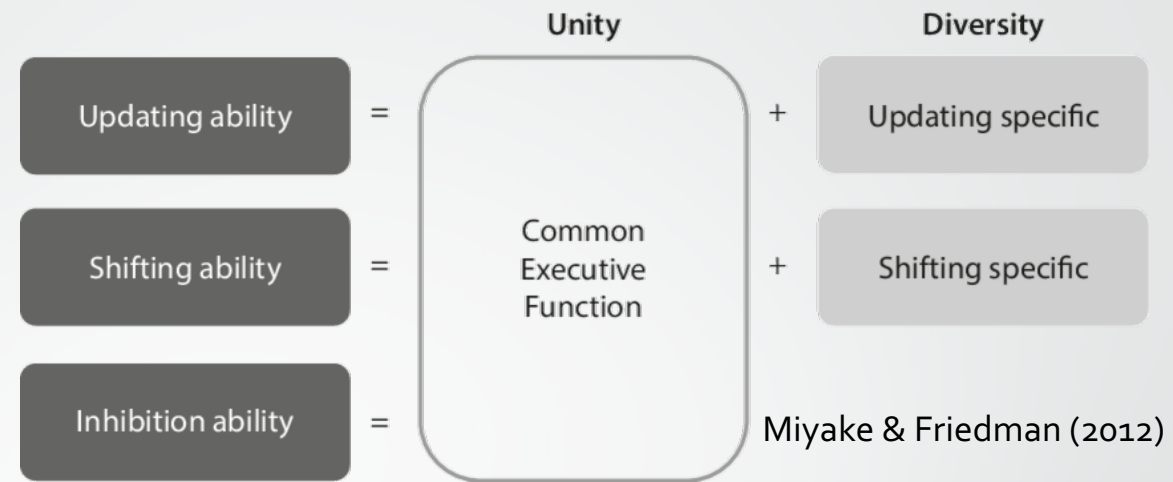


Do working memory deficits cause social problems in ADHD?

Crowdsource our experiment!

Executive functioning and social problems in ADHD



- **Overall EF**

- Mixed evidence: Predicts some social variables but not others (Huang-Pollock et al., 2009)

- **Inhibitory control**

- Mixed evidence: Predicts social problems in some studies (Bunford et al., 2014) but not others (Kofler et al., 2017; Tseng & Gau, 2013)

- **Set shifting**

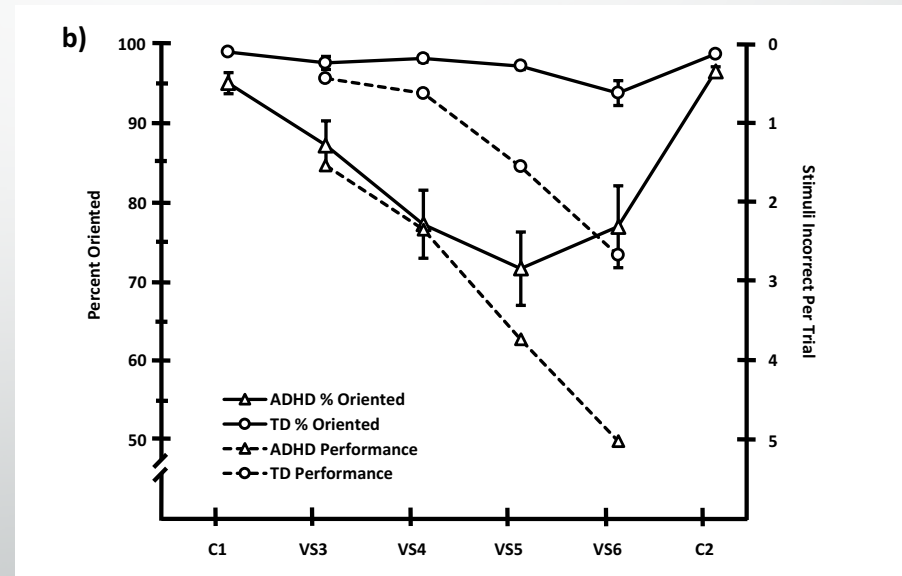
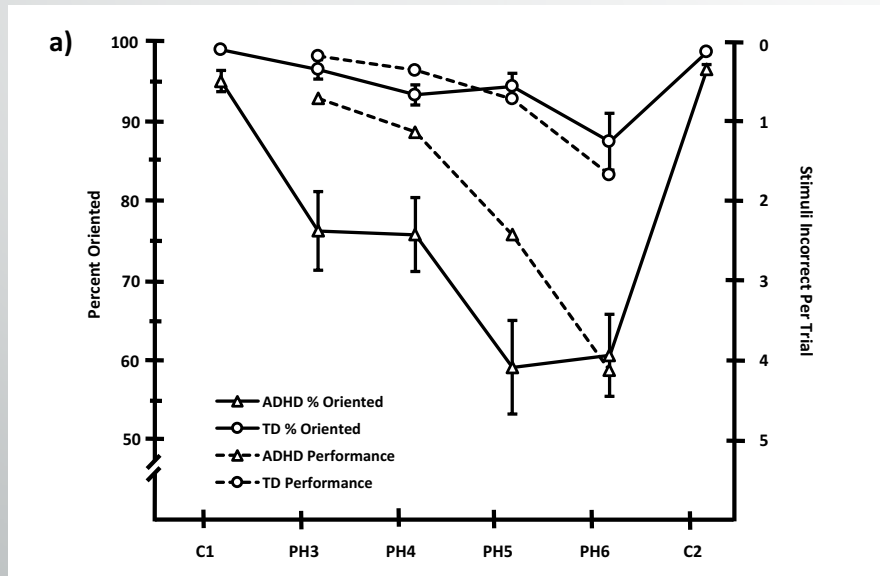
- No evidence (to our knowledge)

- **Working memory**

- Consistent evidence: Predicts parent/teacher social skills ratings (Bunford et al., 2014; Kofler et al., 2011, 2016, 2017; Tseng & Gau, 2013)
- BUT, correlational!
 - Causal? Epiphenomenal? Third variable explanations?

Testing for causality

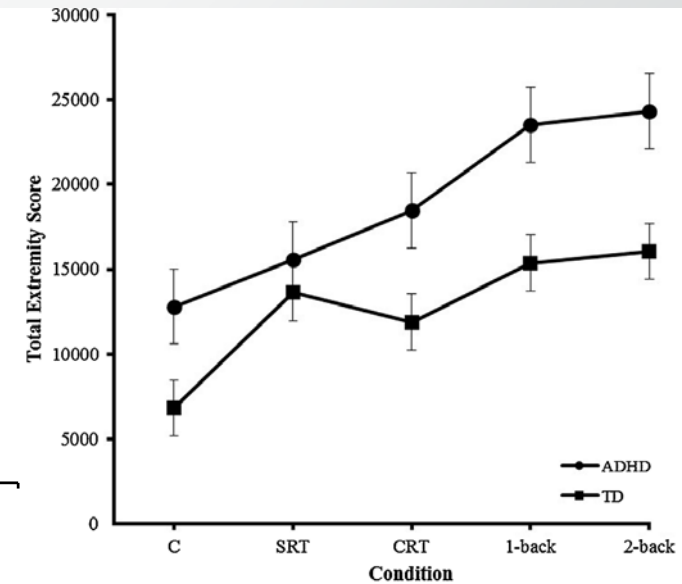
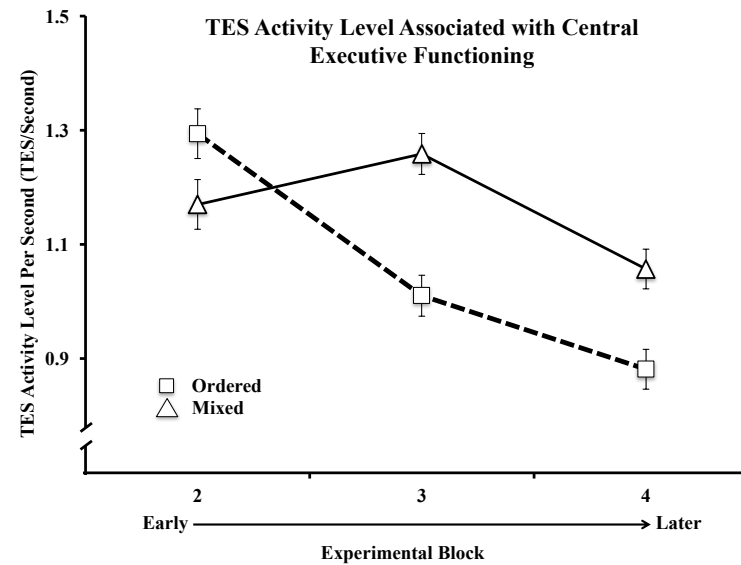
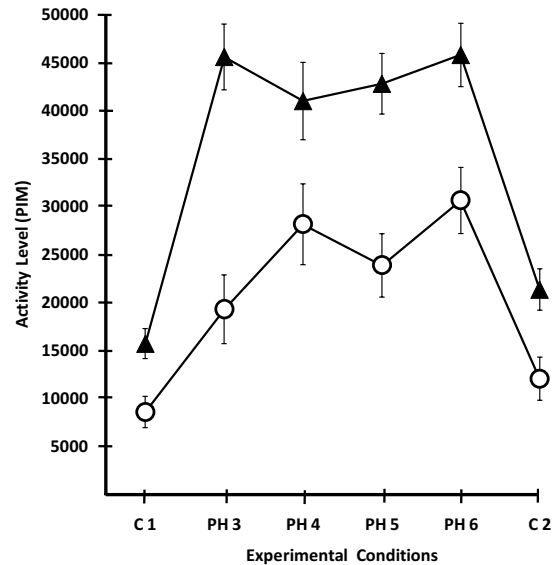
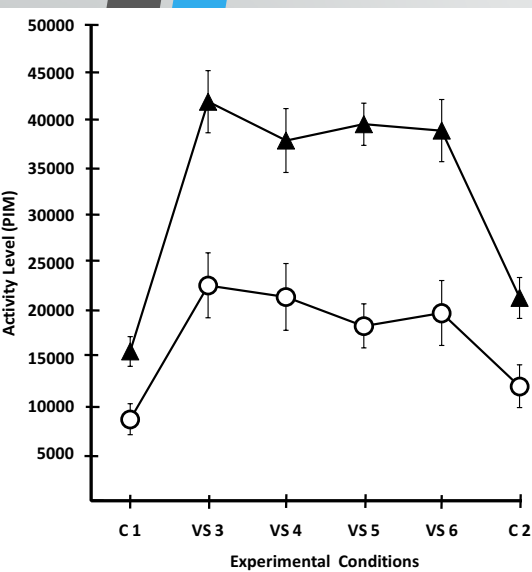
- Experimental manipulations have been successful for demonstrating potential causal links between working memory deficits and **inattentive behavior**, hyperactivity, and reading problems in ADHD



Kofler et al., 2010, under review; Rapport et al., 2009; Hudec et al., 2015; Patros et al., 2017

Testing for causality

- Experimental manipulations have been successful for demonstrating potential causal links between working memory deficits and inattentive behavior, **hyperactivity**, and reading problems in ADHD





- | | | |
|------|--------|--------|
| Dog | Fish | Bird |
| Lion | Spider | Walrus |



A classroom teacher works all day driving race cars

- | | |
|------|-------|
| True | False |
|------|-------|

[3-6 animal/sentence pairs presented per trial]



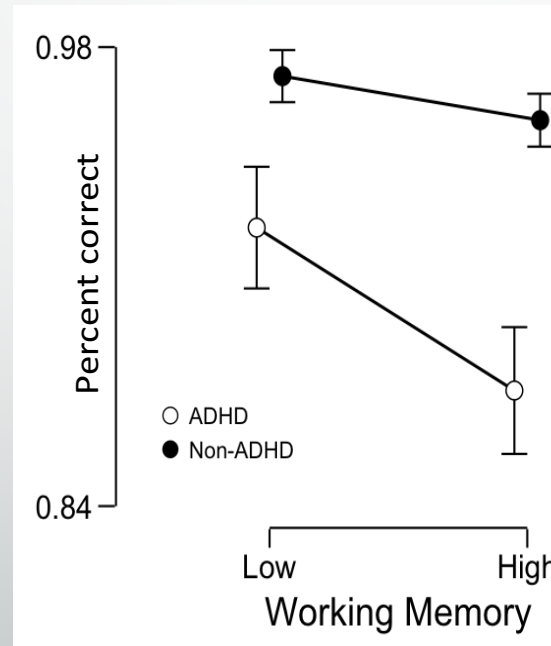
[High working memory conditions only]

Click each animal you saw IN the ORDER you saw them

- | | | |
|------|--------|--------|
| Dog | Fish | Bird |
| Lion | Spider | Walrus |

Testing for causality

- Experimental manipulations have been successful for demonstrating potential causal links between working memory deficits and inattentive behavior, hyperactivity, and **reading problems** in ADHD



Kofler et al., 2010, 2016, under review; Rapport et al., 2009; Hudec et al., 2015; Patros et al., 2017

Testing for causality

- BUT, manipulating working memory load during computerized tasks not conducive to examining effects on DVs like social problems

Goals

- Develop dyadic social/cooperative tasks that are identical except for systematic differences in working memory demands
- Identify behavioral coding scheme to capture changes in prosocial and problematic social behavior across tasks

Crowdsource our experiment

Goals

- Manipulate WM demands
- Observe effects on social behavior

Questions

- Ideas for tasks?
- Coding scheme?
- Key considerations?