Working Memory Capacity and Dynamic Cognitive Control
Elizabeth A. Wiemers Thomas S. Redick

Introduction
- Dual Mechanisms of Control: Proactive and Reactive
- Working Memory Capacity (WMC) differences shown in cognitive control
- AX-CPT previously used to study proactive/reactive control

Current Questions:
- Differences in WMC in AX-CPT?
- Proactive shift with practice?
- Lows consistently worse or inconsistently performing?
- Conflict monitoring differences?

Method
E1: 40 Atlanta area young adults
E2: 70 Purdue University students

Operation & Symmetry Span Tasks
- High/Low WMC = Above 75th/25th percentile norms on both tasks
- Session 1: Both span tasks
- Session 2: AX-CPT

AX-CPT

<table>
<thead>
<tr>
<th>Type</th>
<th># Trials</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>AX</td>
<td>280</td>
<td>70</td>
</tr>
<tr>
<td>AY</td>
<td>40</td>
<td>10</td>
</tr>
<tr>
<td>BX</td>
<td>40</td>
<td>10</td>
</tr>
<tr>
<td>BY</td>
<td>40</td>
<td>10</td>
</tr>
</tbody>
</table>

Conclusions
- High WMC: More proactive
- Low WMC: Some evidence for proactive shift, lapses of attention
- Conflict monitoring effects in AX-CPT, but unrelated to WMC

References