

| <u>Working Memory</u> | <u>Inhibitory Control</u> | <u>Cognitive Flexibility</u> |
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| <p>ADULT Can remember multiple tasks, rules, and strategies that may vary by situation</p> <p>5-16 YEARS Develops ability to search varying locations, remember where something was found, then explore other locations (e.g., a game of Concentration or hiding a penny under one of three cups)</p> <p>4-5 YEARS Comprehends that appearance does not always equal reality (e.g., when given a sponge that looks like a rock)</p> <p>3 YEARS Can hold in mind two rules (e.g., red goes here, blue goes there) and act on the basis of the rules</p> <p>9-10 MONTHS Can execute simple means-to-ends tasks and two-step plans; also able to integrate looking one place and acting (e.g., reaching) at another place</p> <p>7-9 MONTHS Develops ability to remember that unseen objects are still there (toy hidden under a cloth); learns to put two actions together in a sequence (remove cloth, grasp toy)</p> | <p>ADULT Consistent self-control; situationally appropriate responses (e.g., resists saying something socially inappropriate, resists “tit for tat” response)</p> <p>10-18 YEARS Continues to develop self-control, such as flexibly switching between a central focus (such as riding a bike or driving) and peripheral stimuli that may or may not need attention (road signs and pedestrians vs. billboards and passing houses)</p> <p>7 YEARS Children perform at adult levels on learning to ignore irrelevant, peripheral stimuli (such as a dot on the side of a screen) and focus on the central stimulus (such as a picture in the middle of the screen)</p> <p>4-5 YEARS Reductions in perseverance (persisting with following a rule even when knowing that the rule has changed). Can delay eating a treat; also can begin to hold an arbitrary rule in mind and follow it to produce a response that differs from their natural instinct (sort colored cards by shape rather than color)</p> <p>9-11 MONTHS Able to inhibit reaching straight for a visible but inaccessible reward, such as a toy on the other side of a window, and instead delay a moment to recognize the barrier and detour around it</p> <p>8-10 MONTHS Begins to maintain focus despite distractions during brief delays in a task</p> <p>6 MONTHS Rudimentary response inhibition (able to not touch something instructed not to touch)</p> | <p>ADULT Able to revise actions and plans in response to changing circumstances</p> <p>13-18 YEARS Continued improvement in accuracy when switching focus and adapting to changing rules</p> <p>10-12 YEARS Successfully adapts to changing rules, even along multiple dimensions (okay to shout on playground, not okay in school, okay sometimes in theater rehearsal)</p> <p>2-5 YEARS Succeeds at shifting actions according to changing rules (e.g., takes shoes off at home, leaves on at school, puts on boots for rain)</p> <p>9-11 MONTHS Develops ability to seek alternate methods to retrieve objects beyond directly reaching for what’s in view</p> <p>Sources: Best & Miller (2010)100; Diamond (1991a, 1991b, 2002, 2006).101,102,8,103</p> |