

# What is Cognitive Flexibility?

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Cognitive flexibility is a component of executive functioning, and is the ability to switch between two different concepts and think about multiple things simultaneously in a way that is organized and functional. Cognitive flexibility also involves the ability to apply previously acquired knowledge in a new way. Cognitive flexibility can be simplified as the ability to cognitively “multi-task” or “reshape” ideas and knowledge. Cognitive flexibility should not be confused with inattention or distractibility.

Cognitive *in*flexibility is commonly experienced by anxious children, children with cognitive delays, and children on the Autism spectrum; although, a child without these conditions can also struggle with cognitive flexibility. Cognitive *in*flexibility may present as an inability to quickly “change the channel,” or it may present as a rigid fixation on a particular thought or set of thoughts.



Both younger and older children with less cognitive flexibility likely prefer an expected routine and may need to be forewarned of transitions or changes in their schedule.

Cognitive *inflexibility* likely presents itself in younger children through their play style, coping skills, and adjustment to new situations or stimuli. Cognitive *inflexibility* likely presents itself in older children through their school work, multi-tasking abilities, and ability to quickly switch from one activity to another. It may also be difficult for these children to synthesize information. For example, younger children may not be able to apply known problem solving skills to a new puzzle, and older children may not be able to pull information from a word problem in order to solve a simple equation.

**Flexibility is one of the eleven “executive skills” identified by Dawson and Guare and is a commonly defined skill identified in many theories of executive functioning.**

Typically, it encompasses the capacity to adapt to new situations, deal with changes in routine, and to transition from one activity to another. Some theorists view flexibility in the context of being able to shift goals or attention when necessary. Most of the major theories of executive function include the concept of flexibility somewhere in there either as a separate function, or as a part of problem-solving or planning skill. Flexibility is cited as an important component of executive functions by Anderson (2002). Mental flexibility is defined by Zelazo, Muller, Frye, and Marcovitch (2003) as “flexible adjustment of behavior to changing demands in the environment”, by Pennington and Ozonoff (1996) as shifting sets, and by Banich (2009) as “switching behavior task goals” and “handling novel information or situations.”

Flexibility is often measured through neuropsychological tests such as the Trail Making Test and the Wisconsin Card Sorting test. Tests such as the Animal Sorting subtest of the NEPSY-II

and the Twenty Questions Subtest of the D-KEFS also measures cognitive flexibility.

In addition to the Executive Skills Questionnaire, many other psychological assessment tools measure the skill of flexibility. On the Behavior Rating Inventory for Executive Functions, it is generally measured on the “shift scale.” The Brown ADD Scales wraps the concept of flexibility on the “focusing, associating, and shifting attention to tasks” scale. On the Barkley Deficits of Executive Functioning Scale, there are a number of items on the “self-organization/problem solving” scale.

## **For More Information Regarding Cognitive Flexibility, Please Visit the Following Links:**

[LearningWorks For Kids](#): The premier resource for executive function information. “*LearningWorks for Kids*” offers a detailed explanation of flexibility, tips for parents, and activities to improve this skill.

[National Middle School Association](#): A compilation of tips for parents of children who are transitioning from elementary school to middle school.

Scholastic: Author provides a variety of outdoor problem solving activities that can be used with children of different ages.

[5 Ways to Improve Intelligence](#): Describes strategies for improving cognitive flexibility and other skills.