

Research In Focus: A Weekly Digest of New Research from the NIDILRR Community

For Adolescents with Traumatic Brain Injury, Problem-Solving Styles Matter in Social Situations

A traumatic brain injury (TBI) is brain damage resulting from an external force, such as a fall or car accident. TBI can be mild, moderate or severe. People with TBI may have trouble with social problem-solving, which is the process of interpreting social cues and responding appropriately in social situations. People may react to social problems either adaptively (by approaching the problem in a positive frame of mind, thinking through possible solutions, and carefully choosing a solution), or they may react maladaptively (by getting upset, avoiding the problem, or making impulsive choices). For adolescents, maladaptive problem-solving can lead to risky decision-making, or trouble getting along with teachers and peers. In a recent NIDILRR-funded study, researchers looked at adaptive and maladaptive problem-solving styles among adolescents with moderate or severe TBI. The researchers wanted to find out if adolescents with TBI have different problem-solving styles in social situations compared to adolescents without TBI. They also wanted to find out if problem-solving styles were related to functioning in important areas of life like participating at school and in the community.

Researchers at the [Rehabilitation Research and Training Center on Interventions for Children and Youth with TBI](#) looked at data from 153 adolescents with moderate or severe TBI who were enrolled in a larger study. All of the participants were 11-18 years old and had experienced their TBI within the last 18 months. To measure social problem-solving styles, the participants answered a series of questions regarding how they typically react to problems in social situations, answering each question on a four-point scale ranging from “not at all true of me” to “extremely true of me.” Questions asked about positive and negative feelings toward social problem-solving, as well as the adaptive style of responding rationally to problems and the maladaptive styles of reacting impulsively or avoiding problems. The participants also filled out another questionnaire where they read short stories about ambiguous social situations and indicated how they would interpret and react to each situation.

To measure functioning, the participants completed a questionnaire asking about their feelings, behavior, and interests, both positive and negative. On the form they indicated whether statements like “I like to make people laugh” and “I am too shy or timid” were not true, somewhat or sometimes true, or very or often true. In addition, each participant’s parent or caregiver was interviewed and asked about limitations in eight areas of the participant’s functioning: school, home, community, behavior toward others, self-harm, mood, substance abuse, and thinking.

The researchers compared the social problem-solving styles reported by the participants with those reported by a national adolescent sample without TBI. They

looked at five specific problem-solving styles: Three maladaptive styles (avoidance, impulsive choices, and focusing on the negative) and two adaptive styles (rational problem-solving, and focusing on the positive). Individuals may use both maladaptive and adaptive styles to respond to problems in social situations. They found that the participants with TBI reported less avoidant and impulsive problem-solving and less focusing on the negative in social situations than the adolescents without TBI. However, the participants with TBI also reported less rational responding to social problems than their peers without TBI. The participants who reported more rational problem-solving also said they would respond more positively to the scenarios in the short stories, compared with the participants who reported more impulsive or avoidant problem-solving styles.

When the researchers looked at the connections between social problem-solving styles and functioning, they found that the participants who reported more maladaptive styles (avoidant, impulsive, or focusing on the negative) also reported more emotional and behavioral issues than the participants who used fewer maladaptive styles. The participants who reported more maladaptive styles and fewer adaptive styles were described by their parents and caregivers as having more functional limitations in important areas of their lives like school, home, and community.

The authors noted that in this study, the adolescents with TBI described engaging in less social problem-solving in general, when compared with their peers without TBI. This finding may indicate that adolescents with TBI may not be as aware of or be able to engage in the problem-solving process as their peers without TBI. The adolescents in this study who used adaptive problem-solving styles had higher levels of functioning. In addition, adolescents who used fewer maladaptive problem solving styles had lower levels of both functional limitations and emotional and behavioral issues. Rehabilitation professionals may want to target adaptive social problem-solving skills as a focus area for adolescents with TBI.

[To Learn More](#)

The Model Systems Knowledge Translation Center (MSKTC) has a series of TBI InfoComics, developed with the Northwest Regional TBI Model System Center. These comics graphically depict some of the challenges people with TBI experience like emotional changes, problems with sleep, and headaches.

<http://www.msktc.org/tbi/infocomics>

The Center on Brain Injury Research and Training (CBIRT) has a collection of factsheets and resources for young people with TBI and their families, focusing on getting back to school: <https://cbirt.org/back-school>

[To Learn More About this Study](#)

Wade, S.L, et al. (2017) [Problem-solving after traumatic brain injury in adolescence: Associations with functional outcomes](#). Archives of Physical Medicine and

Rehabilitation, 98(8), 1614-1621. This article is available from the NARIC collection under Accession Number J76703.

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