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**Objective:** The increasing complexity of social stress may be especially threatening to mental health during childhood and adolescence. One's skills in effectively coping with this stress may contribute to symptoms of pediatric anxiety and depression, a growing, significant, and pervasive public health concern.

In addition to strategic skills, individual differences in coping may reflect differences in brain structure, including the white matter pathways that integrate frontal lobe networks with those involved in social functioning. Identifying the neurological substrates underlying anxiety and depression is an important way to delineate mechanisms underlying development of these disorders. Deterministic automated-fiber quantification (AFQ) is a technique that removes potential error from manual tracking of white matter, segregating tracts into distinct nodes—diminishing the effect of crossing fibers—and quantifying the number of fibers in a tract, allowing for assessment of connectivity across regions. Collectively, this investigation aims to quantify the interplay between anxiety, depression, coping with social stress, and white matter microstructure in children and adolescents.

**Participants and Methods:** Ninety-two healthy children and adolescents (8-17 years old;  $n=53$  female,  $M_{age}=12.96$ ;  $n=39$  male,  $M_{age}=12.31$ ) and a parent rated symptoms of anxiety and depression using the Behavior Assessment System for Children (BASC-III). Coping and stress reactivity were assessed using the Responses to Stress Questionnaire, Social Stress version. Children and adolescents also completed 64-direction DTI in a Siemens 3T Prisma scanner. White matter microstructure was quantified using AFQ; Fractional anisotropy (FA) values were extracted for 18 tracts, comprised of 100 nodes each.

**Results:** Mean levels of parent- and self-reported anxiety and depression fell within the normative range, and children reported mild- to moderate social stress. Higher levels of social stress were associated with increased parent-

reported anxiety ( $r=.294$ ,  $p=.002$ ) and parent- and self-reported depression ( $r=.481$ ,  $p<.001$ ;  $r=.211$ ,  $p=.034$ , respectively). Anxiety and depression were not significantly related to white matter microstructure; however, several specific links with coping were noted. Use of secondary control coping (e.g., cognitive restructuring) was associated with higher FA of the bilateral inferior fronto-occipital fasciculi (left IFOF  $r=.228$ ,  $p=.027$ ; right IFOF  $r=.299$ ,  $p=.003$ ) and left inferior longitudinal fasciculus ( $r=.269$ ,  $p=.009$ ); use of primary control coping (e.g., problem solving) was associated with higher FA of the bilateral uncinate fasciculi (left UF  $r=.216$ ,  $p=.036$ ; right UF  $r=.207$ ,  $p=.045$ ). Furthermore, use of primary and secondary control coping were associated with fewer symptoms of anxiety and depression, whereas greater use of disengagement coping (e.g., wishful thinking) was associated with more depressive symptoms.

**Conclusions:** These findings highlight links among white matter microstructure in tracts integrating frontal with temporal and occipital regions, and adoption of adaptive (i.e., primary and secondary control) coping responses. This may suggest that strong connections between brain regions supports more of a modulatory than a neglecting coping strategy. Finding also replicate extant literature on the ties between coping style and psychosocial distress. Given that coping responses are amenable to intervention, capitalizing on these brain-behavior links during ongoing neuromaturation is worthy of future research, with a goal of reducing symptoms of anxiety and depression via the brain's support of adaptive coping.

**Categories:** Emotional and Social Processes

**Keyword 1:** neuroimaging: structural connectivity

**Keyword 2:** adolescence

**Keyword 3:** mood disorders

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### 37 Assessment of Social Cognition in Patients with Multiple Sclerosis

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**Objective:** Multiple sclerosis (MS) is a persistent neuroinflammatory disease of the central nervous system that affects young adults, and is pathologically characterized by multiple and distributed focal white matter lesions, although they are characteristically located in periventricular regions. Cognitive impairment occurs in all clinical forms of the disease, with great variability and great impact on the quality of life of patients. Recent research indicates that in addition to cognitive and physical deficits, they also have deficits in social cognition, such as Theory of Mind. Although social cognition in patients with multiple sclerosis has begun to be studied in recent years, there is still little knowledge about its impact in the early stages of the disease, when the load of injuries is low and physical disability is not yet present. A series of 7 cases of patients diagnosed with MS in follow-up by the Multiple Sclerosis polyclinic of the Institute of Neurology of the Hospital de Clínicas is presented.

**Participants and Methods:** Clinically stable patients with no recent urges and no cognitive complaint were included. They were evaluated with the ACE-R screening test and Theory of Mind tests: Reading the mind in the eyes and Faux Pas tests.

**Results:** All patients presented normal ACE results, without indicators of cognitive impairment and poor performance in the emotion reading test. In two cases, poor yields in Faux Pas were also found.

**Conclusions:** social cognition has a great impact on quality of life, and there are indicators of involvement in early stages of the disease in which other typical cognitive deficits are not yet evident, and may constitute the first indicator of deterioration. The evaluation and early detection of deficits in social cognition could contribute to the treatment and quality of life of patients.

**Categories:** Emotional and Social Processes

**Keyword 1:** cognitive functioning

**Keyword 2:** theory of mind

**Keyword 3:** multiple sclerosis

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### 38 Assessing Memory for Emotions Separately from Emotion Recognition

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**Objective:** Accurate processing of facial displays of emotion is critical for effective communication. A robust literature has documented impairment in the ability to recognize facial affect in people with traumatic brain injury (TBI), but research is scarce about memory for facial affect. Disruptions in recognizing and remembering the emotions of others can undermine relationship quality and may result in psychosocial dysfunction. Importantly, the extant literature indicates that facial affect recognition dissociates from other cognitive abilities such that it is likely a distinct neuronal process. Thus, explicit measurement of affect recognition and memory for emotions may be critical for implementing and refining rehabilitation interventions. The present study examined the relationship between recognition and memory for emotions using a novel computerized task and explored its associations with other cognitive abilities.

**Participants and Methods:** Participants were adults who were neurologically healthy (n = 31) or had a history of moderate to severe TBI (n = 26). The battery included the novel Assessment of Facial Affect Recognition and Memory (AFARM), Cambridge Face Memory Test (face memory without emotion), Wechsler Test of Adult Reading, Rey Auditory Verbal Learning Test, Judgment of Line Orientation, Oral Symbol Digit Modalities, Digit Span, FAS, Animal Fluency, and the Affect Intensity Measure (experienced emotion). Spearman correlations examined the relationship of AFARM performance with the test battery. Logistic regression models examined whether immediate-delay (ID-EM) and long-delay face emotion-memory (LD-EM) accounted for unique variance in group membership beyond recognition accuracy of facial affect and memory for faces.

**Results:** AFARM demonstrated relationships with neuropsychological and mood variables in