

known for engaging in risky behaviors such as those with mTBI.

**Categories:** Emotional and Social Processes

**Keyword 1:** intelligence

**Keyword 2:** emotional processes

**Keyword 3:** decision-making

**Correspondence:** Lindsey Hildebrand, Social, Cognitive, and Affective Neuroscience (SCAN) Lab, University of Arizona, hildebrandll@arizona.edu

#### 41 Aesthetic Perception in Agenesis of the Corpus Callosum

Nathan M LeFebre<sup>1</sup>, Kutter D Callaway<sup>1</sup>, Lynn K Paul<sup>2</sup>, Warren S Brown<sup>1</sup>

<sup>1</sup>Travis Research Institute, Fuller Graduate School of Psychology, Pasadena, California, USA. <sup>2</sup>California Institute of Technology, Pasadena, California, USA

**Objective:** Agenesis of the Corpus Callosum (AgCC) is the congenital absence of all or part of the corpus callosum. Previous research has demonstrated that isolated AgCC results in a pattern of cognitive and psychosocial deficiencies, even when FSIQ is in the normal range (FSIQ > 80; Brown & Paul, 2019). Importantly, individuals with AgCC have been shown to provide narratives containing fewer emotional words, social interactions, and mental inferences on the Thematic Apperception Test (TAT; Turk et al., 2009). Similarly, research has suggested deficits in the elaborative imagination of persons with AgCC when they are providing narrative descriptions of simple animations (Renteria-Vasquez et al., 2021). Such findings raise questions about aesthetic perception in AgCC. While previous research has demonstrated differences in aesthetic perception among other neuropsychological populations (e.g. Parkinson's Disease; Luring et al., 2019), there is no research reported regarding aesthetic appreciations in AgCC. The present study employed the Assessment of Art Attributes (AAA; Chatterjee et al., 2010) to compare the conceptual and perceptual aspects of aesthetic perception of persons with AgCC to neurotypical control participants. Prior investigation by Bromberger and colleagues (2011) utilized the AAA to examine the aesthetic perception of persons with right hemisphere lesions, finding

deviations in judgements of abstractness, symbolism, realism, and animacy— all classified as “conceptual attributes.” Based on these findings, it was predicted that individuals with AgCC would rate paintings differently than neurotypical controls on conceptual attributes, but not on perceptual attributes.

**Participants and Methods:** Thirteen persons with AgCC and 49 neurotypical individuals completed the AAA. After completing measures of artistic experience and colorblindness, participants rated 24 paintings on 14 attributes. Balance, color saturation, color temperature, depth, simplicity, and stroke made up the “perceptual scales,” while abstractness, animacy, emotion, objective accuracy, realism, interest, and preference made up the “conceptual scales.”

**Results:** Following Bromberger and colleagues (2011), average ratings from all control participants were used to rank the 24 paintings for each scale. Spearman's rank-order correlations were then conducted between the rankings of each participant and the average of the controls for each scale. Spearman's rho coefficients were then compared between AgCC and control groups using t-tests, controlling for multiple comparisons. As hypothesized, the AgCC group had significant deviations from the average of the controls (lower rho values) on several conceptual attributes: Abstractness ( $p = .004$ ,  $d = .11$ ), emotion ( $p < .001$ ,  $d = .12$ ), and interest ( $p < .001$ ,  $d = .18$ ), whereas individuals with AgCC deviated on only one perceptual attribute: Simplicity ( $p = .003$ ,  $d = .12$ ).

**Conclusions:** While generally unremarkable in the sensory aspects, persons with AgCC demonstrated greatest differences in three important conceptual aspects of aesthetic perception. This outcome suggests that such higher-order aesthetic appreciations require interhemispheric interactivity. These results further support the hypothesis that decreased elaborative imagination is a fundamental component of AgCC.

**Categories:** Emotional and Social Processes

**Keyword 1:** corpus callosum

**Keyword 2:** visual imagery

**Keyword 3:** emotional processes

#### 42 Does dorsolateral prefrontal cortical functioning moderate the relation between conduct problems and

## aggression among youth exposed to community violence?

Valerie S Everett, Deborah A. G. Drabick  
Temple University, Philadelphia, PA, USA

**Objective:** Youth with conduct problems (CP) may be more likely to exhibit aggression in the context of peer relations. Indices of dorsolateral prefrontal cortical functioning (DPCF), such as inhibitory control and planning, may be implicated in the behavioral presentation of CP. Further, youth living in violent communities may be more likely to use aggression as a means for problem-solving. However, little is known about how CP interact with DPCF indices to predict aggressive behaviors specifically in the context of environments with high levels of community violence. As such, the present study sought to use a multi-informant approach to examine relations between CP, DPCF, and different types of aggression among youth living in neighborhoods affected by community violence.

**Participants and Methods:** Participants were 104 children ( $M=9.93\pm 1.22$  years; 50% male; 96% African American, 4% Latinx) who resided in neighborhoods with elevated rates of poverty and crime. DPCF was indexed by Stockings of Cambridge planning task and caregiver-reported inhibitory control from the Behavior Rating Inventory of Executive Function. Teachers completed the Child and Adolescent Symptom Inventory-4R to assess youth conduct disorder (CD) symptoms and the Teacher Checklist to assess proactive (bullying, planful aggression) and reactive (angry, emotionally labile aggression) aggression.

**Results:** Multiple regression analyses were conducted with aggressive behaviors as the dependent variable, and child sex, age, CD symptoms, and the  $CD \times DPCF$  (i.e.,  $CD \times$  inhibitory control;  $CD \times$  planning) interaction terms as predictors. Inhibitory control moderated the relation between CD symptoms and reactive ( $CD \times$  inhibitory control,  $B = -1.39$ ,  $p = .004$ ) but not proactive ( $CD \times$  inhibitory control,  $B = -.64$ ,  $p = .063$ ) aggression. Post-hoc probing of the  $CD$  symptoms  $\times$  inhibitory control interaction term predicting reactive aggression revealed a significant slope for youth with both high ( $B = 1.65$ ,  $p < .001$ ) and low ( $B = 4.48$ ,  $p < .001$ ) levels of inhibitory control. Planning does not significantly moderate the relation between CD symptoms and proactive or reactive aggression, though there is a positive main effect of teacher-

reported CD symptoms on both proactive ( $B = 2.44$ ,  $p < .001$ ) and reactive ( $B = 2.36$ ,  $p < .001$ ) aggression.

**Conclusions:** This study is the first to consider the relations of CP, DPCF processes, and subtypes of aggression among youth living in environments with high rates of community violence. Among youth with CP, high levels of inhibitory control may be associated with lower rates of reactive aggression in the context of peer relations. As such, problem-solving interventions targeting processes related to DPCF, such as inhibitory control, may be useful among youth living in neighborhoods high in community violence who exhibit CP. Strengthening these cognitive processes may result in better behavioral outcomes and peer relations.

**Categories:** Emotional and Social Processes

**Keyword 1:** executive functions

**Keyword 2:** conduct disorder

**Keyword 3:** aggression

**Correspondence:** Val Everett, MA; Temple University; [valerie.everett@temple.edu](mailto:valerie.everett@temple.edu)

## 43 A Qualitative Study to Establish a Culture Specific Presurgical Psychological Screening for Patients with Degenerative Spinal Disease in Taiwan

Chih-Yu Yang<sup>1,2</sup>, Dar-Ming Lai<sup>3</sup>, Chi-Cheng Yang<sup>2,4</sup>

<sup>1</sup>Clinical Psychology Center, National Taiwan University Hospital, Taipei, Taiwan. <sup>2</sup>Department of Psychology, National Chengchi University, Taipei, Taiwan. <sup>3</sup>Division of Neurosurgery, Department of Surgery, National Taiwan University Hospital, Taipei, Taiwan. <sup>4</sup>Holistic Mental Health Center, Taipei City Hospital, Taipei, Taiwan

**Objective:** Presurgical psychological screening (PPS) is a procedure for mitigating possible unfavorable outcomes after spinal surgery. Although the effectiveness of PPS on degenerative spinal diseases has been investigated in Western studies, a potential cultural influence on PPS is still unknown. This study thus aims to explore the experiences of Taiwanese people before spinal surgery and