Music Perception Skills (PROMS; Zentner, M. & Strauß, H. 2017). It was hypothesized that individuals with AgCC would have diminished music perception abilities when compared to a neurotypical control group.
Participants and Methods: Participants included 10 high-functioning adults with AgCC that had an intelligence quotation within the normal range (FSIQ>80) and 63 neurotypical controls who were recruited via Cloud Research. During the PROMS the participants were asked to listen to two different sound excerpts after which they were asked whether the second sound was the same or different from the first (correct answers= 2 points, uncertain answers= 1 point, and remaining answers not coded). The participants answered questions in four different areas of musical perception: Melody, Tuning, Accent, and Tempo.
Results: Results indicated that there was not a significant difference between the control group and the AgCC participants on music perception skills on the overall PROMS scores $F(1,72)= .365$, P-value= .548. Tested individually, none of the 4 individual domains showed a significant difference: Melody $F(1,72)=2.67$, P-value= .107; Tuning $F(1,72)= .271$, P-value= .606; Accent $F(1,72)= .017$, P-value= .897; or Tempo $F(1,72)=.106$, P-value= .746.
Conclusions: Contrary to the hypothesis of this study, the results showed that the participants with AgCC did not perform significantly differently in the PROMS total score when compared to neurotypical controls, nor were there significant differences in any of the four of the subtests (Melody, Tuning, Accent, and Tempo). Thus these high-functioning individuals with AgCC did not have deficient music perception abilities. These findings demonstrate that although the auditory system may be affected in some individuals with AgCC, we do not see differences in musical perception skills in high-functioning individuals with AgCC.

Categories: Behavioral Neurology/Cerebral Lateralization/Callosal Studies
Keyword 1: corpus callosum
Keyword 2: auditory processing disorder
Keyword 3: congenital disorders
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3 The Aesthetics of Empathy in Agenesis of the Corpus Callosum

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Objective: Previous research suggests that individuals with isolated Agenesis of the Corpus Callosum (AgCC) have cognitive and psychosocial deficiencies that include impaired recognition of the emotions of others (Symington et al., 2010) and a diminished ability to infer and describe the emotions of others (Paul et al., 2021; Turk et al., 2010). In addition, galvanic skin responses effectively discriminated between emotional images despite atypical emotion ratings (Paul et al, 2006), supporting a dissociation between cognitive and affective empathy in AgCC. Likewise, atypical patterns of visual attention to faces corresponded with impaired emotion recognition in AgCC (Bridgman et al, 2014), suggesting that atypical visual attention in AgCC negatively impacts the ability to identify others' emotions. This study used the Multifaceted Empathy Test [MET] (Foell et al., 2018) to examine the impact of visual aesthetics (photo composition) on empathetic feelings (affective empathy) and situational emotion recognition (cognitive empathy) in persons with AgCC. Both cognitive and affective empathy scores are typically higher on MET stimuli composed according to the "Golden Spiral" (Callaway, 2022).
Participants and Methods: Results from 50 control participants recruited from Cloud Research were compared to responses from 19 participants with AgCC and normal-range FSIQ (>80). Data was gathered through an online version of the MET, which uses a series of photographs of individuals displaying an emotion, half of which adhere to the compositional technique known as "The Golden Spiral." To measure cognitive empathy, the participants are asked to pick the correct emotion being displayed with three distractors for each item. To measure affective empathy, they are then asked on a sliding scale, "how much do you empathize with the person shown" (1 = Not at all, 7 = Very much).
Results: Repeated measures mixed ANOVAs revealed no difference between AgCC and

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control groups on affective empathy, and as expected on the MET, both groups had significantly higher ratings for photos composed according to the Golden Spiral (AgCC, ηp2 = .071; control, ηp2 = .136). In contrast, the AgCC group scored significantly lower than controls overall on cognitive empathy, ηp2 =.065. Exploratory post-hoc found a significant group difference in cognitive empathy only on photos composed according to the Golden Spiral, ηp2 = .090, with the scores in the AgCC group unimpacted by composition type while the control group exhibiting significantly higher scores Golden Spiral images, ηp2 = .254. **Conclusions:** Empathic deficits in AgCC were restricted to the cognitive component, while affective empathy was not impaired. Visual aesthetics of photo composition influenced affective empathy ratings in both AgCC and control groups. However, adults with AgCC had diminished ability to give cognitive labels to the emotional states of others, which was not enhanced by the formal aesthetics of stimuli. Thus the corpus callosum seems to facilitate the ability to cognitively label emotions by facilitating visual attention. It also suggests that the corpus callosum does not facilitate affective empathy, in part because it does not appear to determine whether formal aesthetics influences the processing of visual stimuli in AgCC or neurotypical controls.

Categories: Behavioral Neurology/Cerebral Lateralization/Callosal Studies
Keyword 1: corpus callosum
Keyword 2: emotional processes
Keyword 3: social cognition
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4 Neuropsychological Functioning in an Active Duty Service Member with Partial Agenesis of the Corpus Callosum and Bilateral Ventriculomegaly.

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Objective: Partial agenesis of the corpus callosum (PACC) is a rare brain birth defect characterized by incomplete development of the corpus callosum, the primary white matter bundle that connects the right and left hemispheres. PACC can be associated with other congenital abnormalities, including malformation of the brain's ventricular system, such as colpocephaly or ventriculomegaly, and it is typically considered a pediatric diagnosis. Clinically, this condition may present with a broad continuum of cognitive and socioemotional difficulties ranging from significant day-to-day impairment to relative independence. Newly diagnosed PACC with ventriculomegaly in adults is very rare (0.020–0.025%) and little is known about neuropsychological functioning in adults with this condition. The aim of this case study is to add to the literature base for better PACC neuropsychological conceptualization. **Participants and Methods:** This case study involves neuropsychological evaluation of cognitive and behavioral health functioning of a 37-year-old active duty service member (ADSM) with recently identified PACC and ventriculomegaly (via incidental imaging finding). The ADSM reported a history of learning difficulty, though she was able to earn rank of sergeant first class in a low density military occupation specialty (i.e., Mortuary Affairs) over an 18.5 year active duty career. **Results:** Cognitive testing was notable for consistently low to exceptionally low attention and processing speed scores. Mild executive dysfunction was also noted in the areas of planning and inhibition. Emotionally, she endorsed mild somatic and depression symptoms. Interpersonally, she was shy and avoidant with longstanding characterological traits characterized by worry, insecurity, and general tendency to catastrophize. **Conclusions:** This case adds to the broad clinical presentation of PACC with ventriculomegaly, and highlights that even in the context of a significant congenital brain deformity and longstanding cognitive deficits, independent functioning can be achieved.

Categories: Behavioral Neurology/Cerebral Lateralization/Callosal Studies
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Keyword 2: brain structure
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