divided by congruent trials, adjusting for age, sex, and education. Follow-up analyses also assessed the association of these variables with mean reaction time (RT) for incongruent trials divided by congruent trials.
Results: Mean pupil dilation significantly differed across conditions (t = 3.74, mean difference = .13, 95% CI [.06, .20]) such that dilation was higher during the incongruent condition (mean [SD] dilation = .18 [.38] mm) relative to the congruent condition (mean [SD] dilation = .05 [.35] mm). A significant association was observed between pupil dilation and LC contrast ratio, such that increased levels of mean dilation during incongruent trials relative to congruent trials were observed at lower levels of LC contrast ratio (i.e., lower LC integrity; r = -.37, 95% CI [-.55, -.13]). This association was not observed for mean dilation during only congruent trials (r = -.08, 95% CI [-.31, .18]). Additionally, neither LC contrast ratio [r = .24, 95% CI [-.02, .46]) nor mean incongruent/congruent pupil dilation (r = .14, 95% CI [-.13, .37]) were associated with incongruent/congruent RT.
Conclusions: Findings suggest that increased pupil dilation during a demanding attentional task is indicative of increased compensatory effort needed to achieve the same level of performance for individuals with reduced LC biomarker integrity. Pupillometry assessment offers a low-cost, non-invasive, and scalable biomarker of LC dysfunction that may be indicative of preclinical AD.

Categories: Cognitive Neuroscience
Keyword 1: neurophysiology
Keyword 2: neuroimaging: structural
Keyword 3: attention
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11 Language Development of Primary-School-Aged Children with Autism Spectrum Disorder.

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Objective: Delayed speech and language development is one of the main diagnostic criteria for autism spectrum disorders (ASD) and is found almost in all children with ASD. Language development in children with ASD may differ from the norm both quantitatively (delayed speech development, reduced vocabulary, scarcity of speech and limitation in its use) and qualitatively (echolalias, violation of speech grammatical structure, difficulties in the communicative use of speech). Studying different aspects of language development in ASD is very important as it provides opportunities for finer diagnostics, as well as for targeted correction of communication disorders.
Participants and Methods: The study included 34 primary-school-aged children, who were diagnosed ASD using ADOS-2, diagnostic groups included “autism” (24 children) and “autism spectrum” (8 children). Speech development was assessed using the “Korablik” test on 9 parameters: distinguishing sounds; understanding and generating nouns, verbs and syntax; text understanding; sentences repetition. Kaufman test battery (KABC-II) and the Wechsler test (WISC-III) were used to assess non-verbal intelligence.
The sample was divided into two subgroups according to an educational program recommended by PMPC (Psychological, Medical and Pedagogical Commission). Group 1 included 15 children, attending program 8.1, which is recommended for children with ASD who reach developmental milestones before starting study. Group 2 included 19 children attending program 8.2, which is recommended for children with ASD who do not reach developmental milestones before starting study.
Results: In general, all children were the best successful in understanding and generating nouns, understanding verbs, and the least successful in understanding text and searching for sound in the word. Comparing subgroups using Mann-Whitney test revealed significant differences in all measured speech parameters, except for word repetition and noun generation. Group 2 demonstrated uneven results for separate subtests - minimum scores in some subtests coexisted with maximum in others. The group also showed uneven scores distribution inside the subtests, for example, half of the

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children did not cope with the task to determine a sound in a word, while the rest successfully completed at least 83% of the task. A significant positive correlation between all speech subtests was found in the group. Correlation analysis for parameters of speech development, severity of autistic manifestations and non-verbal intelligence revealed a significant direct relationship between the total scores of impressive and expressive speech and IQ and an inverse relationship with the severity of autistic manifestations and disorders of social and communicative behavior. No relationships like described above were found for group 1.
Conclusions: Obtained results indicate variability of reasons for delayed development of various language aspects in children with ASD.

Categories: Cognitive Neuroscience
Keyword 1: language: development
Keyword 2: autism spectrum disorder
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12 Examining Illness Perception Among Cognitively Healthy Older Adults

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Objective: An individual with dementia suffers from cognitive decline affecting not only memory but at least one of the other domains, such as personality, praxis, abstract thought, language, executive functioning, attention, and social skills. Further, the severity of the decline must be significant enough to interfere with daily functions. It is currently unknown whether any of the causes of dementia can be cured. Many challenges confront patients and their families, including a lack of knowledge about dementia and associated treatments; therefore, it is essential to study illness perception regarding dementia-related symptoms in order to improve psychoeducation and lower barriers to seeking assistance. How individuals perceive and make sense of early dementia symptoms can significantly impact their help-seeking behaviors (HS). Exploring illness-perception regarding dementia-related symptoms may contribute to the development of strategies for increasing HS, early diagnosis, and intervention. The objective of this study is to describe aspects of illness perception in cognitively healthy older adults and examine potential correlations with demographic variables, including age, gender, and education.
Participants and Methods: The cohort comprised 55 cognitively healthy older adults enrolled in a study examining Subjective Cognitive Decline. All participants performed > -1.5 SD on clinical neuropsychological testing. Participants were 70% female and 30% male; and self-identified as White = 78%, Black = 16%, Asian = 2%, Other = 4% and Non-Hispanic = 98%. Participants read a short vignette describing a person experiencing significant memory issues representative of an individual with mild dementia and answered seven follow-up questions regarding the cause of memory problems, the likely course of memory problems, and potential treatments for memory problems. Chi-square analyses examined the endorsement of items in relation to age, gender, and education.
Results: When asked about the likely cause of memory problems, 65% of participants endorsed neurologic disease, 53% of participants endorsed normal aging, 26% endorsed stress, 25% endorsed genes, 4% endorsed fate/luck, and 16% endorsed “Don’t know” for likely cause of symptoms. 64% of participants responded “will get worse”, 18% “will go up and down”, 16% “Don’t know”, and 2% “Other” in response to the progression of memory problems over time. For “Can he do anything to help [memory problems]?”, only 2% responded “No” while 76% responded “Yes” and 22% endorsed “Don’t know”. On a follow-up question regarding ways an individual could improve his cognitive difficulties, 78% “Social Engagement”, 73% “Exercise”, 64% endorsed “Medication”, 48% “Diet”, 42% Psychological Treatment”, 29% “Rehabilitation”, 9%” Don’t know” and 15% “Other.” Lastly, 58% of participants reported “Independence”, 33% “Identity,” 4% “Friends,” 4% “Respect,” and 1% “Don’t know” for things he may risk losing due to memory problems. Age, gender, and education were not associated with any of the above responses ($p > .05$).
Conclusions: Older adults demonstrate a range of ideas about the cause, course, and potential

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