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variance) and Rote Verbal Memory (Factor 3) (10% of variance). Stepwise regression analysis revealed that DRS Conceptualization and to a lesser extent WMS-R Logical Memory I predicted Factor 1 ($R^2 = .28, p < .0001$), that DRS Memory and to a lesser extent DRS Conceptualization predicted Factor 2 ($R^2 = .29, p < .0001$), and that DRS Memory alone predicted Factor 3 ($R^2 = .12, p < .002$). Our findings suggested that factors of verbal reasoning, conceptual verbal recall, and rote verbal recall underlie the competency performance of AD patients on LS3-LS5 of the CCTI, and that frontal and medial temporal cognitive functions are associated with the first and second factors, and medial temporal cognitive functions with the third factor.

Ebben, P. A.

Birth Order Relationships Among Children with Attention Deficit Hyperactivity Disorder and Specific Learning Disabilities.

A review of the birth order literature has revealed few studies investigating the relationship between birth order and two frequently diagnosed childhood disorders: Attention Deficit Hyperactivity Disorder (ADHD) and Specific Learning Disabilities (SLD). Previous research has generated inconclusive results with the ADHD population, while studies on children with SLDs appear to be more consistent with second and later-borns being over represented in that population. There is some difficulty determining the reliability and validity of previous findings, particularly because specific diagnostic procedures were either not discussed or questionnaires were used as the primary means of diagnosis. Studies utilizing neuropsychological evaluations could not be found. The sparcity of research, the inconsistency of the findings, and questionable methodology prompted this study. Children and adolescents (3–17 years of age) who were administered “complete” neuropsychological evaluations in the neuropsychology laboratory at W.A. Foote Memorial Hospital in Jackson, MI from 9/92 to 7/96 were eligible for inclusion. Children with “provisional” diagnoses were excluded. The total number of usable evaluations totaled 171. Some descriptive features of the sample include: 67% were male, 89% had presenting problems that included “attention” difficulty with only 44% having a confirmed diagnosis of ADHD, 53% received a diagnosis of SLD, 13% were diagnosed with multiple SLDs, and 19% were diagnosed with both ADHD and SLD. Of those referred for attention problems but not diagnosed as such, 6% did not satisfy criteria for any DSM-IV diagnosis, 31% received one diagnosis (most often a SLD), 39% received two diagnoses, and 24% received 3 or more diagnoses. Chi square tests of independence did not yield significant differences between first, second, or later-borns with respect to the following groups: ADHD vs. non-ADHD, SLD vs. non-SLD, ADHD vs. SLD, and SLD + ADHD vs. non-SLD + non-ADHD. If birth order totals for each group (ADHD, SLD, and ADHD + SLD) were compared to an expected value that was equal among all groups, a goodness-of-fit analysis indicated that second born children were significantly more likely to be diagnosed with a SLD than other birth order groups: $\chi^2 (3, N = 74) = 19.51, p < .05$. No other significant differences were found. The descriptive statistics suggest that utilization of a comprehensive diagnostic procedure such as a neuropsychological evaluation is critical for proper diagnosis and effective treatment planning given the number of children with multiple disorders and/or disturbances that are masked by what appears to be a primary attention deficit.

Egan, G. J., Kilts, C. D., & Gideon, D. A.

A PET Clue to Eyewitness Unreliability in Facial Identification.

This study examined the functional organization of the normal human brain for the perception of emotions in faces. One aim of this study was to explore how the perception of facial emotion is related to facial identification. PET images of the brains of nine healthy male
volunteers were acquired during the presentation of eight face or non-face visual stimulus processing tasks. Altered synaptic activity during each of these tasks was mapped by changes in regional cerebral blood flow (rCBF) for each subject. Image subtraction techniques were used to isolate differences in emotional from non-emotional tasks involving faces. Four tasks consisted of judgments of emotion intensity in dynamic and static versions of angry and happy facial expression. Four control tasks consisted of judgments of orientation in dynamic and static versions of emotionally neutral facial expressions and non-face objects. When the subjects analyzed faces for emotional content, sites of deactivation were found that correspond closely to sites of activation associated with face identification reported by other studies. The results suggest that synaptic activity during emotional processing is suppressed in the temporal and frontal regions that process facial information related to the identity of the individual. This divided processing scheme for analyzing faces may explain some of the difficulty that eyewitnesses, especially those who are involved emotionally, experience when trying later to identify the perpetrator of a crime. Survival instincts may activate synapses for emotion identification with a consequential reduction in form identification in dangerous circumstances.

Entwistle, P. C., & Erbaugh, C.
Performance on the Wisconsin Card Sort Compared to Cognitive and Attentional Measures in Children.
The purpose of this study was to explore the use of the Wisconsin Card Sort with children referred because of attention and learning problems. There were 78 children, 21 females and 57 males, ranging in age from 3–19 years, and ranging in grades from preschool through the twelfth grade. Tests administered include the Wisconsin Card Sort, California Verbal Learning Test, Stanford Binet IV edition, Conners Rating Scales, and the Weschler Scales III edition. Multiple analyses were completed on the measures. The Wisconsin Card Sort Test total correct correlated with age (p < .0119), IQ correlated with CVLT trials 1 (p < .0001) and 2 (p < .0016), and total correct (p < .0002). Conners teacher hyperactivity index scores correlated with Stanford Binet quantitative reasoning (p < .0565). Parent hyperactivity index correlate with Wisconsin Card Sort percentage of errors (p < .0173), and Stanford Binet sentence repetition (p < .0769), digit recall (p < .0268), and short-term memory (p < .0449). Conners parent impulsivity correlated with Wisconsin Card Sort number of errors (p < .0359), set breaks (p < .0597), and CVLT delay (p < .0498). Matrices was associated with perseverations (p < .0857) and percent of errors (p < .0273) on the Wisconsin Card Sort and the total correct on the CVLT (p < .0046). Prefrontal lobe function does appear to be associated with verbal learning, impulsivity, day dreaming, and the number of errors is associated with cognitive inefficiencies.

Entwistle, P. C., Kalinsky, R., & Erbaugh, C.
Sequential Processing in Young Children.
The purpose of this study is to explore the relationships between sequential and simultaneous processing in a sample of children ages 3–7. The children were referred to a pediatric clinic by parents due to attention and learning problems. Forty-six children were in the sample. IQs ranged from 70–121 on the Stanford Binet IV edition. All of the children were given the Kaufman Assessment Battery (K-ABC), the Stanford Binet IV edition, and the Vineland Social Maturity Scales, and the parents and preschool teachers were administered the Conners Scales. Mental processing composite was associated with Stanford Binet IQ and hyperactivity. Sequential Processing (hand movements, word order, and number recall) was associated with attentional problems. Gestalt closure, which requires visual synthesis, was associated with the Conners Teacher Scales, emotional indulgence and conduct scales.