

Purpose: To better understand why pervasive developmental disorder (PDD) is associated with pregnancy and birth complications (PBCs). **Methods:** Our sample included 18 multiple-incidence families and 42 single-incidence families (78 children with autism and 88 unaffected siblings). Mothers were interviewed using a standardized measure of obstetric optimality, the degree to which the pre-, peri-, and neonatal periods are free of complications (the ideal score is 100). Data were also collected regarding family history of the broader autism phenotype (PDD-like traits subthreshold for diagnosis). The proportion of second- and third-degree relatives with this phenotype was used as an index of family loading. The analysis was designed to compare three competing hypotheses: etiological heterogeneity (PBCs cause some cases of PDD), epiphenomena (PBCs are caused by PDD itself or genetic liability to PDD), and gene-environment interactions (PBCs increase risk of PDD, but only in the presence of a high-risk genotype). We first confirmed whether there was general association between decreased optimality and PDD in our sample. Next, we analyzed the relationship between optimality and family loading separately in affected and unaffected subgroups using linear regression (dependent variable, optimality score; independent variables, family loading and birth order; other variables had no effect on optimality: maternal age, proband IQ, and gender). **Results:** (1) Children with PDD have lower optimality (higher PBC rates) than their unaffected siblings (group means 87.7 and 90.4, respectively; $T_{164} = 2.91$; $p = .004$). Birth order has a significant effect on optimality ($F[3,162] = 5.46$; $p = .001$), but does not account for differences caused by PDD; (2) High family loading for the broader autism phenotype is associated with low optimality in affected and unaffected siblings. The heterogeneity model is unsupported: this predicts that low family loading should be associated with low optimality in affected children (i.e., that PBCs cause PDD in "nongenetic" cases). The gene-environment interactions model is unsupported: this predicts that high family loading should be associated with high optimality in unaffected siblings (i.e., if there is a high-risk genotype, low PBCs protect against PDD). The "epiphenomena model" is the only model consistent with the data. (3) Family loading for PDD itself is not associated with optimality (i.e., optimality in affected and unaffected siblings does not depend on whether the family is single- or multiple-incidence). **Conclusion:** The association between obstetric adversity and autism/PDD is most likely caused by shared familial liability between decreased optimality and the broader phenotype of autism, but not by PDD itself.

Concurrent and Predictive Validity of the Clinical Linguistic and Auditory Milestone Scale and the Mental Developmental Index of the Bayley Scales of Infant Development, R. G. Voigt, F. R. Brown III, J. C. Rozelle, J. K. Fraley, C. L. Jensen, and W. C. Heird; Mayo Clinic, Rochester, Minnesota; Baylor College of Medicine and USDA/ARS Children's Nutrition Research Center, Houston, Texas.

The Clinical Adaptive Test/Clinical Linguistic and Auditory Milestones Scale (CAT/CLAMS) is a neurodevelopmental assessment instrument designed to enhance the ability of physicians to recognize children with developmental delays. It can be administered in 10 to 15 minutes by physicians with no formal training in psychometrics and yields quantitative scores that correlate well with the Mental Developmental Index (MDI) of the Bayley Scales of Infant Development (BSID) at the same age in both asymptomatic and developmentally delayed children. However, data concerning the extent to which CLAMS scores at an early age correlate with either CLAMS or MDI scores at older ages are scarce. This study provides such data. The subject population was a group of breast-fed term infants ($n = 38$) participating in an ongoing study of maternal dietary docosahexaenoic acid supplementation. The CLAMS was administered at 12 and 30 months of age by a developmental

pediatrician. The BSID was administered at 30 months of age by a developmental psychologist. The mean CLAMS scores at 12 and 30 months of age, respectively, were 104.5 ± 14.3 and 108.1 ± 14.9 . The mean MDI at 30 months was 107.1 ± 13.1 . Correlation coefficients were the following: CLAMS versus MDI at 30 months, 0.731; CLAMS at 12 versus 30 months, 0.501; and CLAMS at 12 months versus MDI at 30 months, 0.532. We also investigated the concurrent validity between CLAMS and MDI scores at 12 months of age in 29 healthy term and preterm infants participating in a study of early dietary α -linolenic acid intake. The mean CLAMS and MDI scores, respectively, were 99.1 ± 14.0 and 95.0 ± 12.9 ($r = .56$). These data provide further evidence that CLAMS scores of healthy infants correlate well with MDI scores at both 12 and 30 months of age. They also indicate that CLAMS scores at 12 months correlate favorably with both CLAMS and MDI scores at 30 months of age. These findings and the ease of administration of the CAT/CLAMS make this instrument an excellent choice for the assessment of early development by primary care physicians.

Validity of StimQ, a Scale for Assessing the Cognitive Home Environment, A. L. Mendelsohn, B. P. Dreyer, C. S. Tamis-LeMonda, and P. Ahuja; Pediatrics and Applied Psychology, New York University, New York, New York.

Purpose: StimQ is an office-based scale designed to measure cognitive stimulation in the home environment of young children. There are three age-specific forms: StimQ-I (Infant) for 5 to 12 month olds, StimQ-T (Toddler) for 12 to 36 month olds, and StimQ-P (Preschool) for 36 to 72 month olds. StimQ-T has previously been shown to be well correlated with the Home Observation for Measurement of the Environment inventory and to have good test-retest reliability, internal consistency, and construct validity (based on factor analysis). This study evaluated the predictive and concurrent validity of StimQ by measuring its association with cognitive and language development. **Methods:** Three separate studies were performed, each evaluating a different form of the StimQ. **Study 1:** As part of a longitudinal study of cognitive development of children in poor families, 27 newborns were observed over a 24-month period. StimQ-I was obtained at 8 months, and Bayley MDI was performed at 24 months. **Study 2:** A convenience sample of 70 toddlers presenting to an urban public hospital pediatric clinic was enrolled. StimQ-T was obtained at 18 to 36 months. A Bayley MDI was obtained concurrently. **Study 3:** A convenience sample of 43 preschoolers presenting to an urban public hospital pediatric clinic was enrolled. StimQ-P was obtained between 36 and 72 months. The Expressive and Receptive One Word Picture Vocabulary Tests were obtained concurrently. In each study, the administrator of the Bayley Scales was blinded to the StimQ results. **Results:** **Study 1:** The correlation between StimQ-I obtained at 8 months and the Bayley MDI obtained at 24 months was 0.38 ($p = .05$, $n = 27$). **Study 2:** The correlation between StimQ-T and Bayley MDI obtained at 18 to 36 months was 0.45 ($p = .002$, $n = 43$). In a multiple regression analysis adjusting for age, sex, mother's age, Hollingshead socioeconomic status (based on parental education and occupation), and primary language, StimQ-T remained significantly associated with Bayley MDI ($sr = .42$, $p = .005$). **Study 3:** In preschool children aged 36 to 72 months, the correlation between StimQ-P and expressive language was 0.31 ($p = .03$, $n = 49$), whereas the correlation with receptive language was 0.32 ($p = .02$, $n = 49$). In multiple regression analyses adjusting for age, sex, mother's age, SES, and primary language, StimQ-P remained significantly associated with expressive language ($sr = .33$, $p = .03$) and receptive language ($sr = .38$, $p = .01$). **Conclusions:** StimQ offers a valid and reliable office-based assessment of children's cognitive home environment. Clinicians and investigators should use StimQ to evaluate the home environment when a home visit is not feasible.