

Project Abstract

Title: Evaluating the Impact of Early Intervention Services on Young Children with Autism Spectrum Disorders and their Families: A State Systems Approach
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Scientific evidence demonstrates that Autism Spectrum Disorders (ASD) can be diagnosed in children as young as eighteen months of age and significant positive change occurs in children's development with early intervention. State early intervention programs (EIPs) under the Individuals with Disabilities Education Act are the front-line service delivery systems for infants and toddlers with disabilities and serve an increasing number of children with ASD. In the 2008-09 program year (July 1-June 30), the New York State Early Intervention Program (NYSEIP) provided services to 4,486 young children diagnosed with ASD and their families at a cost of nearly \$90 million. Given the import and resources allocated to early intervention for this population, states need scientifically validated approaches for systematic evaluation of program impact to inform families and public officials and guide quality improvement efforts.

The overarching goal of the proposed study is to model an approach to evaluating the impact of participation in EIPs on children with ASD and their families that can be used in New York (NY), other states, and nationally for program evaluation and quality improvement purposes. Previously, NYSEIP developed outcome goals common to families participating in the EIP using concept mapping (Trochim, 1989a), with stakeholders to identify child and family outcomes. Items generated were used to develop two measurement scales: the Impact on Family Scale (IFS) and Impact on Child Scale (ICS). Data analyzed through the Rasch framework (Bond & Fox, 2001; Rasch, 1960; Wright & Masters, 1982) indicated both scales had high reliability and construct validity.

Building on this work, the project will use concept mapping to develop ASD-specific outcome items to include in the IFS and ICS. The modified IFS and ICS and a Family Centered Services Scale (FCSS, NCSEAM, 2005) will be administered to 300 families of children with ASD and 100 families of children with other developmental problems. Parents will also be asked to complete the Parenting Stress Index, Family Outcomes Scale, and PDD Behavioral Index (PDDBI). The PDDBI provider version will be completed by the child's primary service provider for the ASD sample. Rasch analysis will be used to evaluate the reliability and validity of the ASD-Specific scales. Differential item functioning analyses and factor analyses will be used to investigate whether the ASD-specific items measure the same constructs as the existing items or measure a separate construct unique to children and families affected by ASD. The modified ICS will be used to test a model of the impact of early intervention services on children with ASD. In these analyses, the ICS, change in the PDDBI, an assessment of child progress based on entry and exit Early Childhood Outcome scores, and an objective assessment of child progress based on clinical record reviews, will represent the latent construct of impact of services on the child. Using a Latent Class Model analysis, we will estimate the accuracy of each dichotomized assessment score relative to the latent true impact, and derive an assessment of child impact based on the observed measures that best reflects the unobserved true impact. The optimized child impact variable will be used to investigate the effects of family characteristics and service delivery variables on the impact of services on the child, directly and indirectly through families' perception of quality of services and the impact of services on the family.