What Else to Look For: Characteristics of Children at Risk for Social-Emotional/Behavioral Health Problems

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Background

Many US State-wide screening initiatives (e.g., TN AAP, Iowa DoE) focus on detecting social-emotional/behavioral health problems (SEBH). While a worthy goal, intervening with children at risk for social-emotional/behavioral health problems (SEBH) may require a thoughtful view of overall development. Symptoms of SEBH (e.g., emotional distress, acting out) may be due to communication or motor deficits (e.g., when children do not understand what they are asked to do; if frustrated by difficulties expressing themselves; in the presence of motor delays that make it hard to execute self-help or academic tasks). Family psychosocial risk factors may also contribute to SEBH problems. The goals of this study are to identify child and family characteristics associated with SEBH and to assist professionals in assessment, referral, and intervention decisions.

Methods, Subjects and Sites

Using 2019 data from *PEDS® Tools Online*, 25,551 children were administered (in English, Spanish or other languages): both *Parents' Evaluation of Developmental Status (PEDS (R)®* and *PEDS: Developmental Milestones® (PEDS:DM®),* and 33% (N = 8511) were also administered the *Modified Checklist of Autism in Toddlers – Revised (MCHAT-R).* Children were 52% male and 48% female, ranging in age from birth to 8-years: 34% (N =8,567) were 3-years of age and older. Settings, 15% of which were rural, included Head Start/Early Head Start, public schools and primary health care. Sites were located across 15 US States and represented all four US Census Bureau Regions.

Demographic data were collected on children and families: 16% were Black/African-American, 22% Latino, 2% American Indian/Native American, 3% Asian, 1% Pacific Islanders. Family psychosocial risk factors (and rates) included: a) not speaking English well (25%); b) poverty rates below Federal thresholds (18%); and, c) lack of a high school education (33%). Overall, 20% of families had two or more psychosocial risk factors. Professionals used any of the freely available 70+ *PEDS® Online* translations (in about 15% of encounters) and tended to administer measures by interview (rather than by parent self-report) when families had psychosocial risk factors.

Results

Professionals and/or parents identified 14% of children (N = 3618/25551) as at risk for social-emotional/behavioral health problems on *PEDS (R)®*. Children in the 3- to 8-year age range were 3 times more likely to be at SEBH risk than were younger children (24% versus 9%)[OR = 3.1; 95%CI (2.86 – 3.30) p < .001]. Boys were slightly more likely to have SEBH risk than girls (9% versus 6%) [OR = 1.4; 95%CI (1.26 – 1.48) p < .001].

Children with SEBH risk were far more likely to have high developmental risk (Path A) on *PEDS (R)®* than were children without SEBH risk (65% versus 12%).; or to have moderate developmental risk (Path B) (31% versus 10%). In children 3 – to 8-years of age, high developmental risk was 8 times more likely when SEBH risk was present [OR = 8.0; 95%CI (8.67 – 9.72) p < .0001] and moderate developmental risk was more than 2 times as likely [OR = 2.5; 95%CI (2.27 – 2.78) p < .001]. Via discriminant function analysis (DFA), SEBH risk was correlated with specific developmental concerns including: Receptive Language (.71), School skills (.70), Self-Help (.67), Expressive Language (.58), and Fine Motor (.45) while

Gross Motor (.26), Health/Other (.25) and Global/Cognitive (.13) were non-contributory ([$\chi^2_{(8)}$ = 19968.09, p < .0001].

On the PEDS:DM®, children with SEBH risk had more unmet milestones (mean = 1.86, SD = 1.84) than those not at risk (mean = .88, SD = 1.30) [$t_{(25549)}$ = 35.92, p < .001]. Of the SEBH risk group, 31% had two or more unmet milestones (versus 11% in children without SEBH risk). Via DFA, correlates of SEBH risk on PEDS:DM® were unmet milestones in Reading (.62), Expressive Language (.62), Fine Motor (.57), Receptive Language (.56), Self-Help (.55), Math (.51) and Social-emotional (.51) while Gross Motor was non-contributory (.17) [$\chi^2_{(8)}$ = 1614.22, p < .0001].

Among children administered the MCHAT-R, 20% of those with SEBH risk failed, in contrast with 4% of those without risk. Thus children at risk for SEBH had nearly 6 times the risk of ASD [OR = 5.9; 95%CI (4.92 – 7.07) p < .001].

When viewing the combination of at-risk results on *PEDS® Tools* plus the *MCHAT-R,* 41% of children with SEBH risk were also at high risk for other developmental problems (versus 12% without SEBH risk) and 34% were at moderate risk (versus 19% without SEBH risk). Overall, 75% of children with SEBH risk appeared to have other developmental difficulties versus 23% of children without SEBH risk[OR = 6.5; 95%CI (6.03 – 7.08) p < .0001].

Because *PEDS (R)®*, *PEDS:DM®* and the *MCHAT-R* enjoy numerous translations, children's risk for SEBH did not differ between English and non-English speakers (p = .17). Nevertheless, minority ethnicity/race are closely associated with psychosocial risk factors and so only the latter were used in a DFA. Predictors of SEBH risk included: Not speaking English well (.96), not having graduated from high school (.60), and income below Federal poverty thresholds (.33) [$\chi^2_{(3)}$ = 147.92, p < .0001]. Children with SEBH risk were almost twice as likely to have families with two or more of the above psychosocial risk factors (33%) as compared to children without SEBH risk (23%) [OR = 1.7; 95%CI (1.57 – 1.82) p < .001].

Regional differences in SEBH risk were negligible: New England states (12%), Midwest (12%), South (13%). Western states had higher rates (24%) due to participation by clinics working with extremely vulnerable families – homeless/facing eviction, non-English-speaking, dealing with food instability, domestic violence, etc. Children living in rural areas had more than 2 times the risk of SEBH (28%) than children living in urban/suburban areas (14%) [OR = 2.4; 95%CI (1.95 – 2.96) p < .001].

Conclusion
SEBH risk is common and apparent in 14% of children birth to 8-years of age. Older children (3- to 8-years of age) had 3 times the risk of younger children. SEBH risk is highly associated with developmental risk including: Parents/professionals concerns about language, fine motor, self-help and school skills; multiple unmet milestones across most developmental domains, and; elevated risk for ASD. Families are more likely to have psychosocial risk factors such as limited education, difficulty speaking English and poverty. The findings suggest that SEBH initiatives should consider adding: a) broad developmental assessment ; b) comprehensive interventions that address SEBH as well as developmental and academic problems, and; c) services that help families with psychosocial challenges.