Data Trends Summaries of research on mental health services for children and adolescents and their families

Source: Hodges, K., & Wotring, J. (2000). Client Typology Based on Functioning across Domains Using the CAFAS: Implications for Service Planning. *The Journal of Behavioral Health Services and Research*, *27*(3), 257-270.

The area of impairment is a critical issue in children's mental health, as it helps to define serious emotional disability (SED) and identifies those children most in need of services. As pointed out by Canino et al. (*Data Trends*#25), impairment is a multifaceted construct that is difficult to measure. "[I]t is possible that a child's functioning maybe be highly impaired in one area and relatively functional in another...the difficulties in distinguishing between impairment and diagnosis are further compounded when degrees of functioning must also be ascertained" (*Data Trends*#25).

This current article examines Child and Adolescent Functioning Assessment Scale (CAFAS) ratings in a new way. Instead of looking just at youth who score at the severe levels of impairment on the CAFAS subscales, Hodges and Wotring use a cluster analysis technique to form new typologies that cut across subscales.

Age and Sex:	~
age range:	7-17
mean age:	11.9
% of preadolescents:	54%
Male:	61%
Ethnicity*:	
Caucasian:	72%
African descent:	21%
Hispanic:	.2%
Other/multi:	4.8%
Household demographics	
Annual income:	
>\$10K	36%
\$10-20K	35%
< \$20K	29%
Caregiver status	
Divorced/Separated	48%
Married	27%
Never married	23%
Unknown	2.0%
Mother figure in home	84%
Father figure in home	47%

For this analysis, Hodges & Wotring used data on 4,758 youth being treated by 26 community mental health service providers (CMHSPs) in the state of Michigan between March 1997-March 1998 (see sidebar). Goals of the analysis were to identify degree of impairment among youth being served, to inform policy and resource allocation, and to help service providers assess their treatment programs.

Cluster analysis identifies similar groupings that occur within larger groups; i.e., data are identified and clustered (or, "rearranged") into new groupings (called "clusters"). This method allows researchers to look at the same data from different perspectives. In this study, mean youth subscale scores (i.e., School/Work, Home, Community, Behavior toward Self and Others, Moods/Emotions, Self-Harmful Behavior, Substance Use, and Thinking) from the CAFAS were "reorganized" into five clusters. CAFAS scales for caregiver resourcefulness, past and current service use, and DSM-IV diagnoses were also utilized in the study.

Based on mean CAFAS subscale scores showing degree of impairment for the total sample, the authors devised five clusters hierarchially ranked from most to least impaired. Thus, the first cluster identified the most impaired youth. The five clusters were: 1) Substance Users/Externalizing, 2) Comorbid/Self-Harmful, 3) Delinquent, 4) Marked/School Problems, and 5) Adjustment Problems with Impairment/Secondary Prevention. While the sidebar shows demographics for the total sample (N= 4,758), Table 1 outlines the demographics for the total sample once "rearranged" into the five clusters (household demographics were relatively consistent across clusters).

Results revealed that the smallest number of youth (6% of the total sample) fell under the Substance Users/Externalizing category, yet this group had the highest level of impairment overall. These youth were impaired in multiple areas, including "...behavioral problems at school and at home, delinquent behavior, and, in some cases, depressed feelings and caregivers who are having difficulty providing the nurturance and

Continued...

For more information, contact kutash@mirage.fmhi.usf.edu; Website: http://rtckids.fmhi.usf.edu

Prepared by the Research and Training Center for Children's Mental Health, Louis de la Parte Florida Mental Health Institute, University of South Florida, 13301 Bruce B. Downs Blvd. Tampa, FL 33612, (813) 974-4661

The Center is jointly funded by the National Institute on Disability and Rehabilitation and the Center for Mental Health Services, SAMHSA, U.S. Department of Health and Human Services.

guidance needed by these youths" (p. 266). Rates of past and curent legal problems for this group were "equal to youths in the Delinquent cluster" (p. 266).

The Comorbid/Self-Harmful cluster was marked by youth who had behavioral problems in all eight domains of the CAFAS subscales and who showed the highest levels of Self-Harmful behavior.

The Delinquent cluster found high CAFAS subscale scores in School, Home, and Community; youth falling into this cluster had higher mean scores for problems in the community than did youths grouped in the Substance Users/Externalizing cluster. However, even though youth in the Delinquent cluster showed high impairment, "only a small number showed evidence of other complicating psychiatric factors" (p. 266).

Cluster	(n) %
Substance Abuse/Externalizing • 13 yrs or older: 97%	264 06%
• gender: not reported by authors <i>Comorbid/Self-Harmful</i> • age: "mixed"	651 13%
male: 55% Delinquent 13 yrs or older: 63% male: 77%	681 14%
Marked/School Problems 12 years or younger: 64% male: 67%	1,469 13%
Adj Prob w/ Impairment/ Secondary Prevention • 12 years or younger: 63% • male: 50%	1,719 36%

Of youth in the Marked/School Problems cluster, the most often occurring high CAFAS subscale scores were in the area of School/Work.

More youth were grouped under the Adjustment Problems with Impairment/Secondary Prevention cluster than any other, and this group revealed a high incidence of adjustment and anxiety disorders. The term "secondary prevention" was included because youths in this group would most likely benefit from "effective and timely intervention" (p. 260).

In conclusion, the ability to assess degree of impairment, and in what areas, has implications for policy and for resource allocation. The 26 service providers who participated in this study responded positively to the information generated by cluster analysis. They confirmed that the findings corresponded to their in-service experiences (e.g., "many delinquents were being seen in their clinics" p. 267), and were interested in further groupings (e.g., terminations from treatment, pre- and post- intake changes, etc.) to help them improve outcomes through appropriate allocation of resources.

Although there are not enough data to conduct such analyses now, "preliminary analyses suggesed that there was less success with youth" in the Substance Users/Externalizing and Delinquent clusters" (p. 267), and "identification of treatment protocols for each of the client types is currently being undertaken" (p. 267). A proxy for group membership was also devised (resulting in the term, "CAFAS Client Type") for new clients so that "specialized treatment protocols for these youths can be developed and studied for their effectiveness and friendliness to families" (p. 267). Cluster analysis is a relatively new technique for looking at data, and more work needs to be done in this area with other impairment measures. However, it appears that the new typologies generated by cluster analysis can be helpful to service providers.

For more information, contact kutash@mirage.fmhi.usf.edu; Website: http://rtckids.fmhi.usf.edu The Center is jointly funded by the National Institute on Disability and Rehabilitation and the Center for Mental Health Services, SAMHSA, U.S. Department of Health and Human Services.