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The research question for this study asked whether impairment scores for children in the federal system-of-care program differ between children who live in rural areas and children who live in either small cities or in urban cities. Thus, analyses were conducted at the regional level rather than at the individual level. The authors compared aggregated functional impairment scores between each group of children; after controlling for age, gender and race, few differences were found between the rural and nonrural samples. Further, age proved to be a more influential predictor of impairment than geographic area.

All participants for the study were recruited from 26 system-of-care sites located throughout the United States. Each site self-identified as being located in either a rural or nonrural (i.e., a small city or urban city) area; data from the 2000 Census verified each response. This process resulted in the selection of eight rural sites and 18 nonrural sites; about one-third of participating children were from rural areas (n = 4013), and the rest were from nonrural areas (n = 9666). Children from rural areas were on average 11.23 (SD = 3.83) years old, while children from nonrural areas were about a year older, at 12.34 (SD = 3.69). Almost half of the children in the rural sample (45%) were 12 years of age or younger, as were 56% of children from the nonrural sample. Gender distributions in each sample were about the same; females comprised 35% of the rural and 34% of the nonrural samples. There were more Caucasian children in the rural (64.9%) than in the nonrural (47.8%) sample, and African-American children comprised 11% of the rural, and 18.7% of the nonrural sample.

At intake into services, the Child and Adolescent Functional Assessment Scale (CAFAS) was completed for each child; aggregated scores are provided in Table 1, with higher scores indicating greater impairment (see *Data Trends* #25 for a theoretical discussion of functional impairment). At first glance, it would seem that youth from nonrural areas have higher degrees of impairment when compared to youth from rural areas. Yet a series of analyses revealed otherwise.

Table 1. Site-level functional impairment by region (N = 26 sites)

Functional impairment, M (SD)	Rural (n = 4013)	Nonrural (n = 9666)
Eight score total CAFAS	87.05 (9.61)	92.45 (13.44)
School	17.84 (1.74)	19.56 (1.83)
Home	17.83.(2.20)	17.30 (2.90)
Community	7.83 (1.47)	9.63 (3.16)
Behavior Toward Others	15.98 (1.72)	16.22 (2.34)
Moods and Emotions	14.12 (1.91)	14.22 (3.10)
Self-harmful Behavior	5.63 (1.75)	6.33 (2.90)
Substance Use	3.39 (1.79)	4.65 (3.18)
Thinking	4.44 (0.96)	4.54 (1.50)

The first analysis identified the nonrural sample as having a significantly higher CAFAS Total score; subscales for *school*, *community*, and *substance use* were also significantly higher among the nonrural sample than the rural sample. No significant differences between groups were found for the *behavior toward others*, *home*, *mood*, *self-harmful behavior*, and *thinking* subscales. Next, controls for age, gender, and race were factored into the model, revealing considerable changes between each analysis. For example, CAFAS Total score and the subscales for *community* and *substance use* were no longer statistically significant between the rural and nonrural groups. However, differences between groups revealed significant improvement in the *home* subscale score for the nonrural sample. No new differences in the *behavior toward others*, *mood*, *self-harmful behavior* and *thinking* subscales were revealed between regions when this analysis was performed.

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To determine whether age, gender, or race had the most influence on these results, a third analysis was conducted. Compared to the controls for gender and race, age had the strongest influence on the aggregated scores. Specifically, among the nonrural group the control for age eliminated statistical differences on the CAFAS Total score, and on the *community* and *substance use* subscales. Controlling for age continued to reveal low levels of impairment among the nonrural sample for the *home* subscale, but scores for the *school* subscale remained high for these children.

In summary, the first analysis indicated that children in the nonrural sample displayed more impairment on the CAFAS Total score and on three out of eight subscales when compared to children in the rural sample. After further analysis, impairment scores for nonrural children reduced to nonsignificance for the CAFAS Total score and for three subscales, but significantly increased for the *home* subscale. After controlling for age in the third analysis, children from nonrural areas remained significantly less impaired on the *home* subscale, but more impaired on the *school* subscale when compared with the rural group. With the exception of the *home* and *school* subscales, these analyses brought impairment scores for rural and nonrural children into close range with each other, suggesting that children in these groups are "more similar than different" (p. 460). The study also supports a case-mix methodology, in which researchers consider the demographic composition of a group or community rather than its geographic region.

Generally, risk-factors associated with city life (e.g., an abundance of crime, substance abuse, densely populated low-income neighborhoods, etc.) imply an influence on the development or exacerbation of impairment problems among children who live in cities. While this may be the case for nonrural children, results of this study discourage the inference that rural children need fewer supports and services than nonrural children. Rather, both rural and nonrural children have similarly high levels of impairment. These results "remind policymakers and funding agents that youth in rural areas need equity in both access and resources for mental health services" (p. 452).

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