Profiles of 2007-2008 Entering Kindergartners on Comprehensive Indicators of School Readiness:
A Baseline Study of the Chemung County School Readiness Project

EXECUTIVE SUMMARY

By

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June, 2009

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Executive Summary

The Chemung County School Readiness Project (SRP) is a community-wide collaborative providing an array of child and family care services to all residents in the region through a multi-agency partnership of providers, with an aim to increase school readiness levels and the overall well-being of children. This executive summary provides the highlights of a “baseline” study of the SRP, making reference to selected tables, figures and appendices available in the full-length report. Please see the full-length report for details.

Objectives

The objectives of the study were to:

(1) Record current levels of school readiness in a representative sample of kindergartners (K) in three school districts at Chemung County, using eight (8) measures of school readiness and a newly-derived Comprehensive School Readiness (CSR) measure based on local norms.

(2) Examine the predictive validity of the Comprehensive School Readiness (CSR) measure with reference to the literature on school readiness and child development, and test its reliability in classifying “ready” versus “unready” children.

(3) Examine the extent to which the theoretical assumptions and logic underlying the Chemung SRP are supported by the data.

(4) Describe current patterns and levels of service utilization by Chemung county parents/families on a range of services aligned with the goals of the SRP.

What is a “Baseline” Study?

A “baseline” study provides an early set of measurements and observations against which we can compare the long-term impact of a project in a community or target population. Results from the present study will serve as points of comparison to evaluate the long-term effectiveness of the SRP in a future K-cohort. To maximize utility of results, descriptive profiles of children and parents at Chemung county were recorded on relevant indicators before the SRP became a firmly established collaborative of services. Please see Appendix A of the full length report for the long term SRP evaluation plan, set in consultation with local stakeholders.

Methods

Research Design

The study employed a cross-sectional, survey design to gather and analyze data on children’s school readiness, family background characteristics, and levels of service utilization by the parent community. The return rate for teacher-rated child instruments was 95% (293 of 305); parent survey returns were at 56% (171 of 305).
Sample Selection

For the survey, we selected every third child of the 2007-08 roster from each K-classroom in all elementary schools at the three school districts (the strata) in Chemung county. The composition of the sample closely matched the county-wide population (N=942) on breakdowns by gender, age, and White and Asian ethnic categories, but varied slightly on other ethnic groups (Table 1A).

Data-gathering Tools

We used three (3) main survey instruments to gather data and derive a number of measures. The children were formally observed by trained teachers for one semester in school and classroom settings, and rated on eight (8) pre-academic and behavioral areas of readiness using the Child Observation Record (COR) and Teacher-Child Rating Scale (TCRS). A third survey tool, the Parent Appraisal of Children’s Experiences (PACE) provided parent reports of child and family background in terms of home environment, early care, education and child’s health history. To gauge school readiness levels more comprehensively, we derived a norm-referenced, Comprehensive School Readiness (CSR) measure combining the individual scores from the COR and TCRS scales using county-wide norms from 2007-08. The indices were all evaluated and met psychometric criteria for acceptable levels of validity and reliability (Tables 2-3, Tables 6-8, Appendix B).

Lastly, we examined frequency distributions and descriptive statistics on selected SRP-related service indicators to document current levels of use by Chemung county parents. Breakdowns are available for the county and by school district (Tables 10 to 17).

Results

Baseline Performance on Individual School Readiness Indicators

Means (M) and Standard Deviations (SD) on the COR sub-scales, where the maximum possible score is 5, were as follows:

- M= 3.14 (SD=.89) on Initiative;
- M=3.53 (SD=.99) on Language and Literacy;
- M=3.54 (SD=.94) on Movement and Music; and
- M=2.94 (SD=.91) on Science.

The TCRS sub-scale results, where the maximum possible score is 40, were as follows:

- M=27.3 (SD=8.96) on Task Orientation;
- M=28.3 (SD=8.27) on Behavior Control;
- M=28.9 (SD=7.22) on Assertiveness; and
- M=30.6 (SD=7.81) on Peer Social Skills.

Results on four health indicators, based on parent reports on the PACE, were as follows:

- M=0.39 on the number of Allergies, with a range from 0-2 (SD=.59);
- M=0.95 on Breathing Problems, with a maximum score of 10 (SD=2.10);
- M=6.93 on Sleeping Problems, with a maximum score of 22 (SD=3.2);
Results based on Norm-referenced, Composite School Readiness (CSR) Measure

“Ready” children on the CSR were placed above average on at least 5 of 8 COR/TCRS indicators. Based on a validated cut-score of 5 on the CSR to determine school readiness:

- 53% of the Chemung 2007-08 sample were found to be not ready for school;
- 47% of the Chemung 2007-08 sample were ready for school;
- 15% of the sample fell below average on all 8 COR/TCRS scales, receiving CSR scores of 0;
- 14% placed above average on all 8 COR/TCRS scales, receiving CSR scores of 8.

Broken down by school district, the numbers were similarly split by about half in the ready and not ready categories, with no statistically significant differences between the three (3) districts. Please see Tables 5-6 in full length report.

Predictive Validity and Consistency of CSR Classifications

The statistically significant discriminant function (Wilks Lambda=.63, p<.000) suggested that the strongest, positive correlates of a child’s school readiness status were: being female, having better mental and physical health, having greater levels of educational support, and having better care at home, mediated via college-educated mothers. Preschooling at age 3 was also a positive but weaker correlate. The strongest negative predictors, also statistically significant and theoretically consistent with the readiness and child development literature, included a history of childhood health problems and exposure to traumatic events at home. Note that when a predictor has a negative influence, child readiness levels go down when the values on the predictor increase; with positive predictors, child readiness levels goes up when values on the predictor increase. All these factors together separated “ready” from “unready” groups.

The discriminant function analysis yielded a linear combination of variables that separated “ready” from “unready” children with 79% accuracy at a cut-point set at the median (a CSR score of 5). This analysis was done with 137 cases with complete data on all variables. The best prediction function was derived through a comparative analysis of three different cut scores. The overall evidence suggested that the CSR has adequate predictive validity, given the magnitude of the correlations of the CSR with child background factors known to affect school readiness. Please see Tables 7-8 in full length report.

Validation of the SRP Logic Model

The SRP assumes that comprehensive community services which support better health, early care, and education of children will likely lead to higher levels of school readiness. The results of the discriminant function analysis lent support to the logic and theoretical assumptions of the SRP. The strongest predictors of school readiness point to several SRP services that already exist, and areas that could be strengthened, broadened and/or continued.
Does the Type of Preschool Affect School Readiness in Children?

This analysis compared readiness levels of children who attended public, private, family-based and other preschools. On two pre-academic COR scales and two social-emotional indicators on the TCRS, children who attended private preschools had a statistically significant edge over others. Attendance in private schools is typically related to socio-economic status of families.

Current SRP Service Utilization Levels

The results on current service utilization levels by parents in the community are based on PACE items relevant to the SRP. Note that service utilization on some items is need-based, and may be contingent on diagnosed health issues of children. Low levels of use do not always indicate an undesirable trend. Highlights of results follow, indicating missing data for different items to assist in interpretation.

- Preschool usage at age 3: 30% children (with 45% missing responses)
- Preschool usage at age 4: 49% children (with 45% missing responses)
- Cumulative preschool usage for two years: 29% children (53% unknown or missing)
- Professional services or agency involvement with children: 9% children (47% missing responses)
- Visits to doctor: 56% children (43% missing responses)
- Visits to dentist: 44% children (46% missing responses)
- Early health intervention services: 7% children (46% missing responses)
- Use of prescription drugs for child: 13% children (43% missing)

Please see Tables 10-17 in full length report for further details.

Key Conclusions and Recommendations for the Use of Results

The following conclusions are drawn based on a holistic review of the results.

1. The current county-wide child readiness rate of 47% with the CSR cut-score of 5, is based on a high return rate of 95% on measures that were found to be adequately valid and reliable.

2. The underlying “program theory” and logic of the Chemung SRP service delivery model, which aims to provide seamless and comprehensive care to children to better prepare them for formal schooling, were validated with the results.

3. Among the strongest and statistically significant predictors of school readiness were the following:
   - better and continuing overall health of the child,
   - child exposure to informal educational opportunities at home,
   - child living in a trauma-free family environment,
   - formal preschooling of child that starts early (at age 3),
   - parenting by more educated mothers and caregivers,
• consistent levels of parent care for children.

(4) The findings of the baseline study may be used for a long-term evaluation of the impact of the Chemung SRP using the COR, TCRS, and the norm-referenced CSR measures.

(5) The sampling design, readiness instruments, and classification procedures have been tested and found to be adequate, and pending a forthcoming predictive validity study on another sample, may be used without change for the final evaluation.

(6) The baseline results may be useful for SRP program personnel and community stakeholders in better organizing services and programs that are deemed to be presently underutilized by the community, keeping in mind the missing data on parent survey items.

(7) In practical, programmatic terms, the 2007-08 county-wide child readiness rate of 47% on the CSR shows some room for growth, and indicated uneven distributions on individual COR and TCRS readiness indicators. Distributions also varied by district, although not statistically different. Services may be directed or strengthened in areas known to predict school readiness in a comprehensive sense. The SRP stakeholders may consider the utility of results for the design of more targeted services for children and families in different districts.

Limitations

The following cautionary points are offered to guard against over-interpretation and over-generalization of results. The baseline study results are consistent with the literature on school readiness and child development, but mainly correlational and descriptive. The child readiness data based on numbers of 270+ may be considered meaningful, reliable and representative. The discriminant function analysis was based on 137 cases and found to be reasonably representative and theoretically valid. However, a cross-validation with a larger sample would be desirable. On PACE survey items with 40-50% missing responses, results at this time may not be generalizable or representative of the county.
CLIENTS AND SPONSORS

This report was prepared for stakeholders of the *School Readiness Project* at Chemung County, New York and Michael Rebell at The Campaign for Educational Equity at Teachers College, Columbia University. We thank the sponsors of the study.

**Community Foundation of Elmira-Corning and the Finger Lakes, Inc.**
- Nancy Van Fleet
- Randi Hewit
- Sara E. Palmer
- John Sirianni

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- Michael Mustico
- Richard Niles
- John Peck
- Randy Reid
- Richard Rossettie
- Ginger Schirmer
- Christine Sharkey
- Patricia Thompson
- Tony Tripeny
- George Welch
- Rachel Wood
ACKNOWLEDGMENTS

We thank the following individuals for their participation and helpful contributions in carrying out different parts of this work.

Chemung County School Readiness Council Members
Raymond Bryant
Mary Beth Fiore
Ron Hatch
Carl Hayden
Joseph Hochreiter
Linda Huffner
Donald Keck
Michael Krusen
Ralph Marino
Nykole Parks
Benjamin Riggs
Thomas Santulli
Theresa Woodworth

Chemung County School Readiness Project (SRP) Steering Committee Members
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Children’s Institute, Rochester, NY
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SRP Baseline Study
AERI, Teachers College Columbia University
June 2009
This report is a product of the:

Assessment and Evaluation Research Initiative (AERI)

Teachers College, Columbia University

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SRP Baseline Study
AERI, Teachers College Columbia University
June 2009

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