

EARLY CHILDHOOD IOWA LONGITUDINAL STUDY ADDENDUM 1: EXPERIENCES OF CHILDREN ATTENDING HEAD START

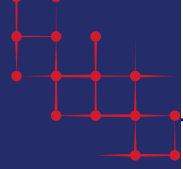
Heather Rouse, Ji-Young Choi, Laura Betancur

This project was supported by the Administration for Children and Families (ACF) of the United States (U.S.) Department of Health and Human Services (HHS) as part of a financial assistance award totaling \$100,500 with 100 percent funded by ACF/HHS (Grant number: 90YE0228-01-02).

This publication was also made possible by the Preschool Development Grant Birth to Five (Grant Number 90TP0030-01-00) from the Office of Child Care, Administration for Children and Families, U.S. Department of Health and Human Services as part of a grant totaling \$2,190,119 with 0% financed with non-governmental sources.



Iowa's Integrated Data System
for Decision-Making



ACKNOWLEDGEMENTS

SUGGESTED CITATION

Rouse, H.L., Choi, J.Y., Betancur, L. (2022). Early Childhood Iowa Longitudinal Study Addendum 1: Experiences of Children Attending Head Start. Report prepared for the Iowa Head Start Association, Des Moines, IA.

ACKNOWLEDGEMENTS

We gratefully acknowledge the help and support of the following individuals as part of I2D2 Data Stewardship Committee and Community Advisory Groups:

IOWA DEPARTMENT OF EDUCATION: Jay Pennington, Monica Garner

IOWA DEPARTMENT OF PUBLIC HEALTH: Kelsey Feller, Marcus Johnson-Miller

IOWA DEPARTMENT OF HUMAN SERVICES: Ryan Page

STAFF: William Abraham, Giorgi Chighladze, Jessica Bruning



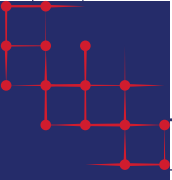
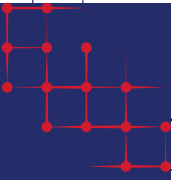


TABLE OF CONTENTS

- ACKNOWLEDGEMENTS 1
- TABLE OF CONTENTS 2
- EXECUTIVE SUMMARY 3
 - 1) *Some children enroll in Head Start for relatively short amounts of time:*..... 3
 - 2) *Experiencing concurrent pre-kindergarten arrangements is prevalent among Head Start attendees:*..... 3
 - 3) *Head Start children attending SWVPP had higher school readiness scores than children attending HS only:*..... 3
- OVERVIEW AND INTRODUCTION 4
- PROJECT OVERVIEW 4
- PROJECT DESIGN..... 5
- SAMPLE SELECTION PROCESS 8
- CHARACTERISTICS OF CHILDREN WHO ATTENDED HS PART OF THE YEAR 8
- SUMMARY OF KEY FINDINGS 9
- SAMPLE DESCRIPTIVES 9
- WHAT PERCENT OF CHILDREN PARTICIPATED IN OTHER PRE-K EXPERIENCES?..... 10
- CHILD AND FAMILY CHARACTERISTICS THAT RELATE TO PRE-KINDERGARTEN USE PATTERNS..... 10
- HOW DO PRE-K EXPERIENCES RELATE TO SCHOOL READINESS? 12
- DISCUSSION..... 13
- FINDINGS AND IMPLICATIONS FOR PRE-KINDERGARTEN SERVICES PROGRAMMING 13
- IMPLICATIONS FOR ENHANCING THE CAPACITY OF IOWA’S EARLY CHILDHOOD INTEGRATED DATA SYSTEM..... 13
- NEXT STEPS 14
- REFERENCES..... 15



EXECUTIVE SUMMARY

In response to questions posed after the 2019 Early Childhood Iowa Needs Assessment, I2D2 pursued additional funding to analyze children's experiences participating in Head Start (HS) programs. This addendum to the previous Early Childhood Iowa Longitudinal Study report explores the experiences of Iowa HS attendees the year before kindergarten by analyzing administrative records that were integrated and anonymized from public health vital statistics (birth records), childcare subsidy use, public school prekindergarten and kindergarten, and HS enrollment. With growing public investment in childcare services, Head Start families have increasing opportunities to participate in other public childcare services. Using Iowa's administrative data, we explored other experiences of Head Start children the year before entering kindergarten. Findings presented in this report fall within three predominant areas:

1) Some children enrolled in Head Start for relatively short amounts of time:

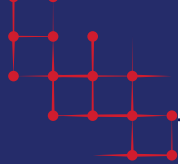
- 21% of children enrolled in Head Start stayed in the program for less than six months.
- Black children and those with various birth risks (having a teen, low educated, or a single mom and from households meeting the poverty status at birth) were more likely to have shorter Head Start experiences.

2) Experiencing concurrent prekindergarten arrangements is prevalent among Head Start attendees:

- Over 60% of Head Start children experience multiple, concurrent childcare experiences the year before kindergarten.
- Out of the total Head Start sample, 44% of children participated in Statewide Voluntary Preschool Program (SWVPP), 8.3% utilized Child Care Assistance (CCA), and 8.7% had both CCA and SWVPP in addition to Head Start.

3) Head Start children attending SWVPP had higher school readiness scores than children attending HS only:

- Dually enrolled children showed higher scores in the socio-emotional, physical, language, cognitive, literacy, and math domains at the end of the prekindergarten, with literacy and math being the domains in which these children showed the most advantage.
- Given that Head Start and SWVPP offered half-day programs, the findings indicate it is beneficial to offer full-time schedule for children enrolled in Head Start.
- Expanding prekindergarten experiences is an opportunity to serve low-income children more comprehensively beyond what Head Start can do alone.
- Strong collaborations between Head Start and other services, especially with SWVPP, is important to increase efficiency, quality, and equity in early childhood education services.



OVERVIEW AND INTRODUCTION

PROJECT OVERVIEW

The purpose of this addendum is to describe findings from an extension of the Early Childhood Iowa Longitudinal Study (ECILS) that included integrated Iowa Head Start (HS) data. This additional analysis was generated in response to analytic questions generated during the [2019 ECI Needs Assessment](#). Subsequent legal agreements, data sharing, and fundraising provided access and resources to complete this work. The current report explores the experiences of Iowa HS attendees the year before kindergarten by analyzing administrative records that were integrated and anonymized from public health vital statistics (birth records), childcare subsidy use, public school prekindergarten and kindergarten, and HS enrollment.

While prior literature suggests that concurrent attendance in more than one early childhood education experience is common among children attending HS (Malone et al., 2013), we know little about who experiences it nor what effects such experiences have on children's school readiness. Understanding HS children's utilization of other publicly funded prekindergarten programs has particular policy relevance given the capacity of such information to inform systematic collaboration and coordination to improve outcomes. In this study, we assessed whether children enrolled in HS the year before kindergarten also attended Iowa's Statewide Voluntary Preschool Program (SWVPP) and/or participated in the Child Care Assistance (CCA) program.

This study provides the following information for Iowa's children who attended HS a year before entering kindergarten: (1) characteristics of children and families enrolled in HS; (2) differences between children who stayed in HS the majority of the academic year and children who enrolled HS for shorter academic months (due to early dropout or late enrollment); (3) percentage of HS children who had concurrent enrollment with CCA and/or SWVPP; (4) child and family characteristics related to multiple care enrollment across HS, CCA, and/or SWVPP; and (5) associations between HS children's multiple concurrent care experiences and school readiness skills.



PROJECT DESIGN

The target sample included all children who enrolled in kindergarten in Iowa during the 2016-2017 or 2017-2018 academic years, were born in Iowa, and participated in HS the year before entering kindergarten. The dataset was constructed using Head Start (HS) date and length of enrollment provided by HS grantees. This information was integrated with administrative records that had previously been integrated for the Early Childhood Iowa Longitudinal Study (ECILS). The original study included Iowa Department of Public Health Vital Statistics Birth Records (VS), Iowa Department of Human Services Child Care Assistance (CCA), Iowa Department of Education Funded Pre-school (DE PreK) enrollment data, Teaching Strategies GOLD assessment data, and Iowa Department of Education kindergarten enrollment records.

Data sharing for the purpose of this ECILS followed all applicable legal and ethical standards for protecting privacy and confidentiality as established by federal and state law and were governed by signed legal agreements by all state departments and Iowa State University. Extensive data cleaning and verification were conducted before the integration following standardized data verification procedures, including internal consistency and missing data reviews. After the completion of data integration, the data were anonymized, and the study team used anonymized data for all analyses.

Study variables were coded to analyze child characteristics, birth risks, prekindergarten enrollment in different programs, and school readiness skills (see Table 1). Many variables were dichotomized to facilitate counting birth risk factors.

TABLE 1. ORIGINAL AND ANALYTIC VARIABLES

VITAL STATISTICS: At the time of the focal child's birth		
Analytic Variable	Variable (original name)	Description of how the analytic variable was created
Urban residency	residence_county_name	An indicator was created for whether child's family resided in an urban (=1) or rural (=0) county at child's birth according to the Iowa Community Indicators (IPC) information for each county.
Preterm/low birth weight (LBW)	weight_infant gestation	These two variables were combined into a preterm/low birth weight variable identifying children who were either born prior to 36 weeks or less than 2500 grams.
Teen mother	year_born_parenta, month_born_parenta, birth_yr_vs, and birth_mo_vs	These three source variables were used to construct both mother and child's birth dates. Teen mothers were identified when the mother's age was younger than 20 years old at the time of the child's birth.
Low maternal education	education_parenta	Mothers with low education at child's birth were identified if they had less than a HS education.
Single mother	married_during_pregnancy	Mothers unmarried at the time of birth were identified as single mothers.
Inadequate prenatal care	month_prenatal_care_start and total_prenatal_care_visits	Month_prenatal_care_start indicated a month a mother started prenatal care. Total_prenatal_care_visits included the number of visits to prenatal care. Mothers with inadequate prenatal care were identified if they received no prenatal care during the first trimester or having fewer than four prenatal visits total.

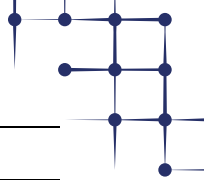


Table 1 continued....

Poverty	wic_received payment_source	A proxy for poverty was created by an indicator that designed whether mothers received <i>WIC</i> or <i>Medicaid</i> during pregnancy or delivery.
Tobacco	pregnancy_tobacco_use_derived, average_daily_cigarettes_prepreg, average_daily_cigarettes_trimester1, average_daily_cigarettes_trimester2, and average_daily_cigarettes_trimester3	Pregnancy_tobacco_use_derived identified whether they ever smoked during pregnancy. Average_daily_cigarettes_prepreg indicated an average number of cigarettes smoked during three months prepregnancy. Average_daily_cigarettes_trimester1, average_daily_cigarettes_trimester2, and average_daily_cigarettes_trimester3 indicated an average number of cigarettes smoked during each trimester. Mothers who smoked at any time during their pregnancy was coded.

DEPARTMENT OF EDUCATION: 2016-2017 | 2017-2018 enrollment

Analytic Variable	Variable (original name)	Description of how the analytic variable was created
Year of enrollment	cohort	Indicator for child's kindergarten enrollment in the year cohort 2016-2017 or 2017-2018.
SWVPP enrollment	swvpp1516 or swvpp1617	Indicator of child's swvpp enrollment in the year 2015-2016 or 2016-2017.

HEAD START: 2015-2016 | 2016-2017 enrollment the year before kindergarten

Analytic Variable	Variable (original name)	Description of how the analytic variable was created
Child female	gender	Child gender was coded as 1 = <i>female</i> and 0 = <i>male</i> .
Child race	race and hispanic	Race was categorized in Asian, African American or Black, Hispanic or Latino, Multiracial or biracial, Unspecified, and Other (includes American Indian, Alaska Native, Native Hawaiian or Pacific Islander, and Other)
Child age at enrollment	enrolled_date and birthday	Child age (months) at enrollment was generated by subtracting childbirth date from enrollment date.
Length of enrollment	enrolled_date and termination_date	Number of days enrolled during academic year was generated by subtracting enrollment date from termination date.

GOLD: 2015-2016 | 2016-2017 Fall and Spring the year before kindergarten

Analytic Variable	Variable (original name)	Description of how the analytic variable was created
Raw scores	objective1a- objective23	Fall and Spring raw scores calculated according to Teaching Strategies' handbook for the GOLD assessment (Lambert, 2020). Scores were calculated for Social-emotional, Physical, Language, Cognitive, Literacy, Mathematics.
Age at Spring assessment	birthdate, social_emotional_date, physical_date, language_date, cognitive_date, literacy_date, mathematics_date	Child age (months) at moment of assessment was generated by subtracting childbirth date from assessment date at Spring.

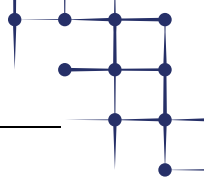


Table 1 continued...

CCA: 2015-2016 2016-2017, the year before kindergarten		
Analytic Variable	Variable (original name)	Description of how the analytic variable was created
CCA enrollment	periodstartdate, periodenddate	Indicator on whether child received payments during the year before kindergarten, in the 2015-2016 or 2016-2017 academic year.
Year of enrollment	periodstartdate, periodenddate	Variable indicated whether child was enrolled the year before kindergarten by indicating whether that year fell during or between any available start and end date.



SAMPLE SELECTION PROCESS

This study initially included 3,782 children (a) who enrolled in kindergarten in Iowa during the 2016-2017 or 2017-2018 academic years, (b) enrolled in one 17 (out of 18) HS grantee's programs the year before kindergarten, and (c) were born in Iowa. With these sampling criteria, we could include HS children who also have data on birth characteristics and school enrollment. We found that 3.73% of children enrolled in HS in Iowa were born outside of Iowa or did not attend kindergarten in Iowa.

Next, children who stayed in HS for less than six months in the school year were excluded. All data from one HS grantee (N=353) was dropped due to the grantee-level missing data on serving children's length of enrollment. This resulted in dropping a total of 798 children, leaving our final analytical sample to be a total of 2,984 children enrolled in 16 HS grantees. This sample restriction reduces the possibility of falsely identifying children to have multiple, concurrent care experiences when they simply changed/moved to another program in a given school year.

Characteristics of Children Who Attended HS Part of the Year

Including only the children with valid data about their length of HS attendance (N= 3,429), a comparison of the characteristics of children attending HS for less than three months, between 3 and 6 months, and over six months was estimated (see Table 4). The shorter enrollment duration could be due to either the early dropout or late enrollment. Descriptive statistics showed that children who attended HS for six months or more were less likely to be Black than children who attended less than six months, have a teen mom, have a low educated mom, and being born in poverty.

TABLE 2. CHARACTERISTICS OF CHILDREN WHO WENT TO HS ONLY PART OF THE YEAR

	All sample N= 3,429	< 3 months N=266	Between 3 & 6 N=179	> 6 months N= 2,984
Asian	1.21%	1.54%	7.86%	1.17%
Black	10.76%	19.59%	14.91%	8.79%
Hispanic	15.44%	17.53%	15.53%	15.95%
Multiracial	8.18%	7.21%	9.31%	7.80%
Other race	0.89%	1.03%	0%	0.67%
White	63.52%	53.09%	53.38%	65.62%
Low birth weight	8.13%	7.21%	5.59%	8.29%
Teen mom	15.19%	18.56%	26.08%	14.51%
Low mom ed	17.37%	19.58%	24.84%	17.48%
Single mom	64.20%	71.13%	76.40%	63.10%
Poverty	90.64%	94.84%	96.89%	90.08%
Inadequate prenatal care	12.21%	13.92%	13.66%	12.39%
Tobacco	39.40%	37.63%	44.72%	39.37%



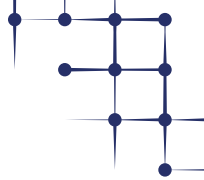
SUMMARY OF KEY FINDINGS

Sample Descriptives

Table 3 presents descriptive statistics of the sample. Our sample included 65.48% of White children, followed by 16.25% Latino/Hispanic, 8.45% Black, and 7.61% multiracial. There was also considerable variability in most of the risk indicators, with the exception of low birthweight and poverty at birth, which over 90% and 86% of the children experienced, respectively. A higher percentage of poverty was expected in a sample of families that use HS services, which primarily serves families with low income.

TABLE 3. DESCRIPTION OF THE FINAL SAMPLE (N=2,984)

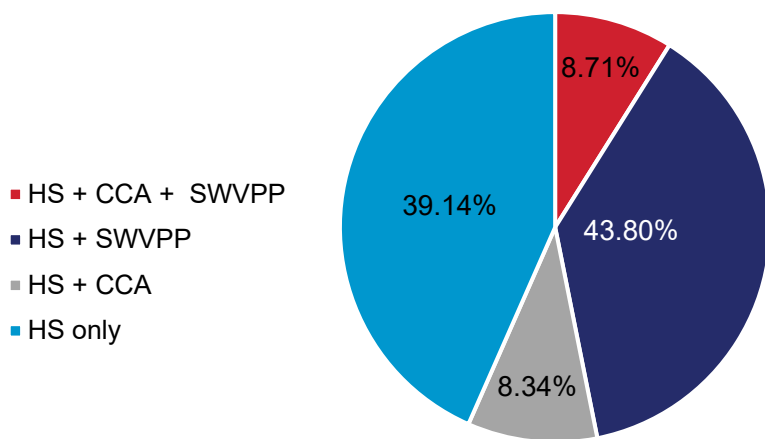
Variables	<i>M or %</i>	<i>S.D.</i>
Child characteristics		
Female	48.63%	
Race/ethnicity		
Asian	1.24%	
Black	8.45%	
Latino/Hispanic	16.25%	
Multiracial	7.61%	
Other	0.97%	
White	65.48%	
Birth risks		
Low birth weight	9.55%	
Teen mom	14.81%	
Low mom education	17.50%	
Single mom	63.40%	
Poverty	89.34%	
Inadequate prenatal care	11.15%	
Tobacco use during pregnancy	39.34%	
School readiness		
Age at TS GOLD assessment	62.09	3.59
Fall socioemotional scores	47.07	8.13
Fall physical scores	30.14	3.82
Fall language scores	43.98	7.38
Fall cognitive scores	48.08	7.76
Fall literacy scores	39.15	12.07
Fall math scores	27.99	7.20
Spring socioemotional scores	57.78	8.29
Spring physical scores	35.62	3.84
Spring language scores	52.83	7.75
Spring cognitive scores	59.69	8.93
Spring literacy scores	59.55	14.63
Spring math scores	38.67	7.80



What Percent of Children Participated in Other Pre-K Experiences?

We found that 60.86% of the HS children were concurrently enrolled in other state-supported preschool programs (Child Care Assistance [CCA] and/or Statewide Voluntary Preschool Program [SWVPP]). Specifically, 8.34% of HS children additionally attended other childcare programs with CCA, 43.80% of HS children participated in the SWVPP, and 8.71% of HS children had CCA and SWVPP experiences concurrently (see Figure 1). These statistics indicate that 52.51% of HS children concurrently enrolled in SWVPP, and 17.05% of HS children concurrently received CCA.

FIGURE 1. RATES OF PARTICIPATION IN MULTIPLE PRE-K SERVICES



Child and Family Characteristics That Relate to Pre-Kindergarten Use Patterns

We examined how child and family characteristics differed among four groups of HS children: (a) HS children who did not have an additional state-supported prekindergarten arrangement (39.14%); (b) HS children who also attended SWVPP (43.80%; hereafter HS+SWVPP group); (c) HS children who also received CCA (8.34%; hereafter HS+CCA group); and (d) HS children who additionally experienced both CCA and SWVPP (8.71%; hereafter HS+SWVPP+CCA group). Four groups were compared on the following characteristics (also listed in Table 3): demographics (i.e., race), birth risk characteristics (i.e., low birth weight, inadequate prenatal care, exposure to tobacco during pregnancy, poverty, single mother, low mother education, and teen mother), and urbanicity.

Regarding demographic characteristics, groups of children who received CCA (HS+CCA and HS+SWVPP+CCA) had a higher percentage of Black children and children who resided in urban areas and a lower percentage of Asian or White children relative to groups without CCA (HS-Only and HS+SWVPP). No difference in race/ethnicity or residency (urban vs. rural) was found between the HS-Only group and HS+SWVPP or between HS+CCA and HS+SWVPP+CCA.

TABLE 4. RACE/ETHNICITY BY CHILDCARE GROUP

Race/ethnicity	HS only	HS + CCA	HS + SWVPP	HS, CCA + SWVPP
Asian	1.7 ^a	0 ^b	1.1 ^{ab}	.4 ^b
Black	5.9 ^a	18.3 ^b	7.9 ^a	16.8 ^b
Hispanic	15.4 ^{ab}	12.8 ^{ac}	18.4 ^b	9.2 ^c
Multiracial	6.4 ^a	10.6 ^{ab}	7.4 ^a	13.2 ^b
Other race	1.2 ^a	.0 ^a	.4 ^a	.4 ^a
White	69.4 ^a	58.3 ^b	64.8 ^a	60.0 ^b

Note. Different superscripts across subgroups indicate there are significant differences across groups. Shared superscripts indicate no significant differences.

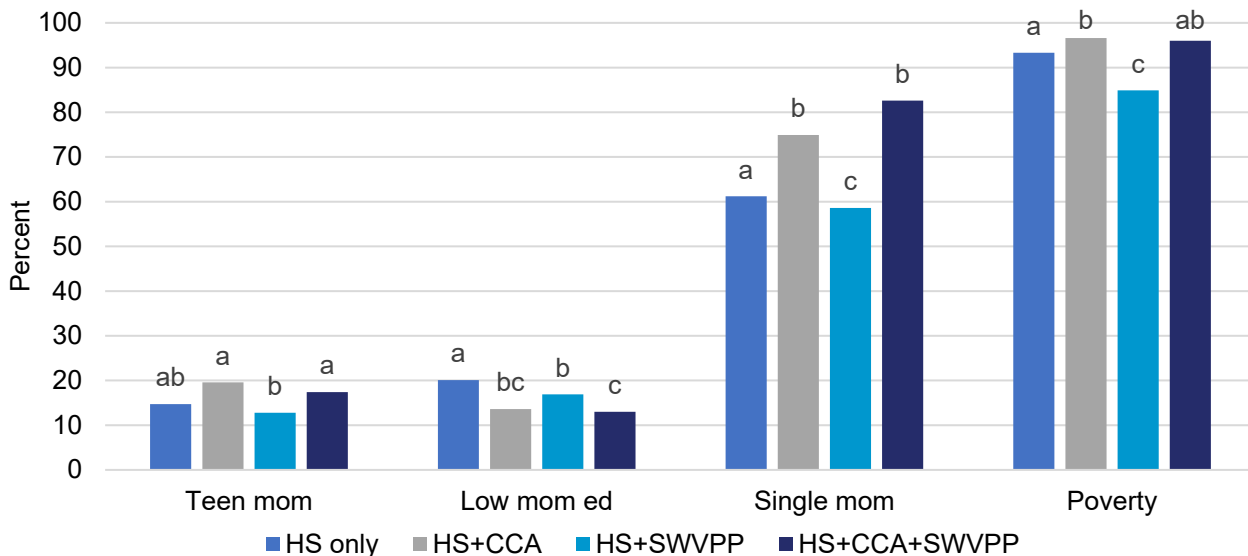


Some of the significant findings relating to birth risks are presented in Figure 2. Across all groups, the HS+SWVPP group had the fewest risk characteristics at birth. A lower percentage of children in the HS+SWVPP group were born to teen mothers (12.8% vs. 15-20%) or single mothers (58.6% vs. 61-82%) and lived in poverty at birth (85% vs. 93-97%). However, a higher percentage of children in the HS+SWVPP group were born to mothers without a high school degree compared to the HS+CCA+SWVPP and HS+CCA groups (17% vs. 13-13.6%).

Children receiving CCA (HS+CCA and HS+SWVPP+CCA) had more risk characteristics at birth than other groups. They had a higher percentage of birth to a teen mother (17-19.6% vs. 13-14.7%), single mother (75.0-82.6% vs. 58-61%), and household poverty at birth (96-96.6% vs. 85-93%). However, they had a lower percentage of mothers with low education (13-13.6% vs. 17-20%).

Compared to the other three groups, a higher percentage of the HS-Only group had mothers who were less educated (20% vs. 13-17%) but married (61.2% unmarried vs. 75-83% unmarried) at birth. The HS only group, relative to HS+SWVPP group, included a higher percentage of children living in poverty at birth (93.3% vs. 85%). We found no or minimal group differences in maternal tobacco use during pregnancy, inadequate prenatal care, and low-birth weight.

FIGURE 2. BIRTH RISKS BY CHILDCARE GROUP

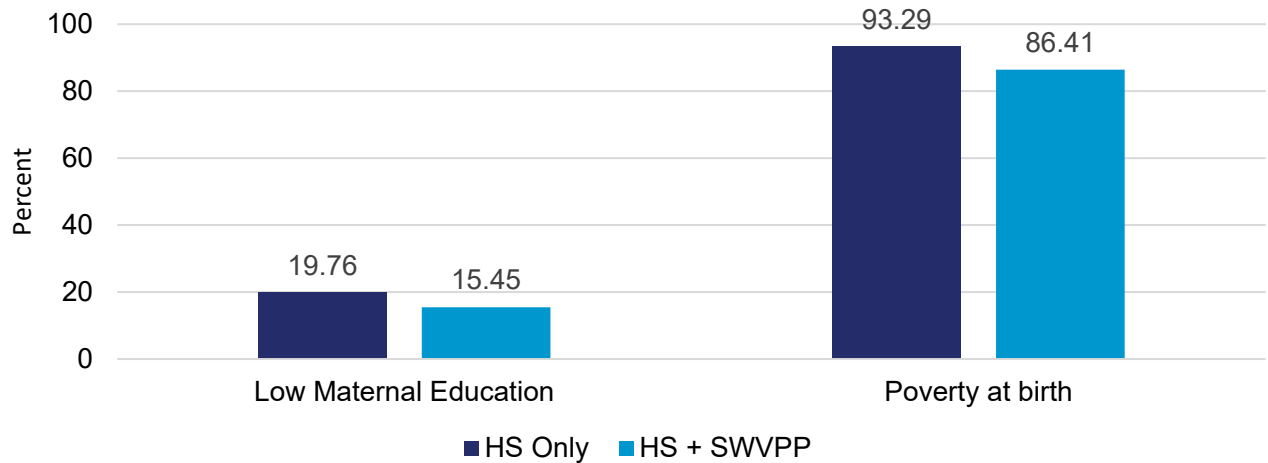


Note. Different superscripts across subgroups indicate there are significant differences between them, while shared superscripts indicate no significant differences were found. Group differences are presented by a, b, and c, with the same alphabet indicating no group differences and different alphabet indicating statistically significant group differences.

Considering that children receiving CCA can have very different experiences (hours and time in care, program curriculum focus, characteristics of care provider, etc.), we conducted a follow-up analysis by re-grouping HS children into two groups based only on SWVPP enrollment. Two groups were (a) HS-Only group, who did not have SWVPP dual enrollment (47.5%; combining HS-Only and HS+CCA groups) and (b) HS+SWVPP group, who had HS and SWVPP dual-enrollment (52.5%; combining HS+SWVPP and HS+SWVPP+CCA groups). As shown in Figure 3, results indicated that a higher percentage of children in HS-Only group, relative to HS+SWVPP group, had less educated mothers (15.5% vs 19.8%) and experienced poverty at birth (86.4% vs 93.3%). There were no differences in any other characteristic.



FIGURE 3. RISK CHARACTERISTICS OF CHILDREN BY GROUP

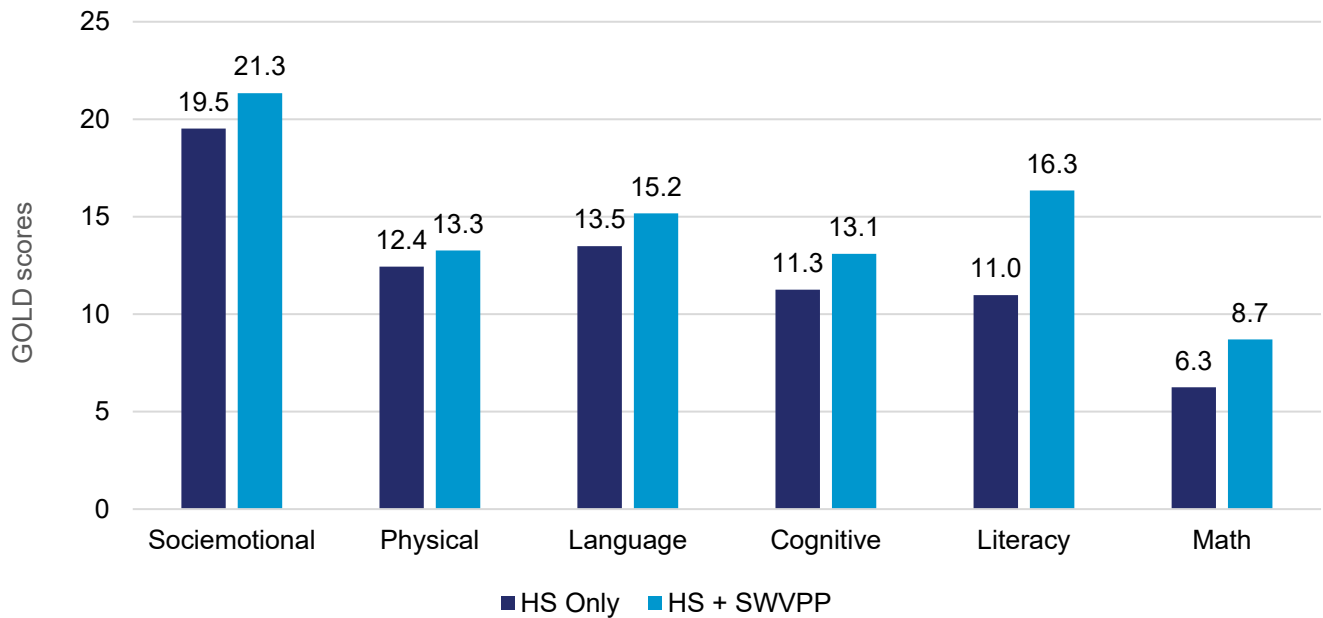


Note. All shown results were statistically different.

How Do Pre-K Experiences Relate to School Readiness?

We compared HS-exit school readiness skills between children who attended HS+SWVPP and those who attended HS only, controlling for their CCA utilization. Results of multiple regression analyses with robust standard errors (considering the nesting of children within HS grantees) showed that children enrolled in HS and SWVPP showed higher scores in all examined developmental domains (see Figure 4). Specifically, HS children who were concurrently enrolled in SWVPP presented higher skills in socio-emotional, physical, language, cognitive, literacy, and math domains at the end of the prekindergarten year in comparison to children who attended HS only. Across all analyses, we controlled for the baseline skills assessment in the fall of the school year, child age at the assessment, basic demographic characteristics, and child/family risk indicators (e.g., poverty, maternal education).

FIGURE 4. PREKINDERGARTEN OUTCOMES BY GROUP



Note. All shown results were statistically different



DISCUSSION

With integrated administrative data from Head Start with other public prekindergarten, vital statistics birth records, and school readiness scores, we were able to study the patterns of publicly supported prekindergarten usage, child and family characteristics related to those patterns, and the potential effect of such patterns on HS children's school readiness. This study provides important information about the capacity of integrated administrative data to inform program evaluation work for Early Childhood Iowa and suggests opportunities for enhancing data relevance for future programmatic work.

Findings and Implications for Pre-Kindergarten Services Programming

Findings from this work describe Iowa families' utilization of public prekindergarten programs and services. We found that 21% of children enrolled in HS stayed in the program for less than six months. Black children and those with various birth risks (having a teen, low educated, or single mom and from a household meeting the poverty status at birth) were more likely to have shorter HS experiences, reflecting less stability in their HS experience. Efforts to further explore the reasons behind leaving HS early or entering late can expand our understanding of how to enhance stability in child care experiences for HS children.

Results indicated that experiencing concurrent prekindergarten arrangements is prevalent among HS attendees, with over 60% of HS children experiencing multiple, concurrent childcare experiences the year before kindergarten. This evidences the importance of HS collaboration with other services, especially with SWVPP services, to increase efficiency, quality, and equity in service offerings.

Results also revealed that child care utilization patterns differ among families with different characteristics. Specifically, single mothers and Black families may be in higher need of childcare, as they were more prone to use multiple childcare arrangements. Thus, it's important to consider whether longer or more flexible schedules and collaboration among programs would accommodate family's needs while providing more stable childcare to children. Also, low-educated mothers were less likely to use multiple childcare services. Future work can unveil whether less utilization of programs beyond HS is due to the limited information and resources these mothers have access to. This evidence could inform strategies for outreach and improve enrollment among children who need the experience the most.

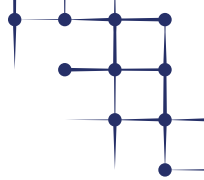
Finally, results showed that HS children attending SWVPP had higher school readiness scores than children attending HS only. Both programs offered half-day programs only at the time of data collection, thus the findings indicate the benefit of higher preschool exposure for children enrolled in HS. These results suggest that expanding prekindergarten programs is an opportunity to serve low-income children more comprehensively beyond what HS can do alone (Bassok, 2012). Findings from this report imply the importance of program collaboration to maximize the utilization of prekindergarten resources to better serve children.

Implications for Enhancing Iowa's Integrated Data System for Decision-Making

Previous analyses using Iowa's Integrated Data System for Decision-Making (I2D2) have enhanced strategies and processes of data usage to inform service usage. This report moved a step further by integrating Head Start data into an existing integrated dataset, the Early Childhood Iowa Longitudinal Study.

The data management, cleaning, integration, analysis, and reporting processes used were implemented and refined as a result of our work. However, our process suggested an important area of development for consideration. This study utilized HS data from 16 out of the 18 grantees in the State. No data were obtained from one HS grantee, and data from one of the grantees with available data contained no information regarding length of enrollment. Future studies of HS would benefit from having integrated data from all 18 grantees.

The creation of program enrollment ages, lengths of enrollment, and completion variables using HS records was a good test of how I2D2 can utilize rich information that is linked to program dates and childbirth dates to understand timing, duration, and concurrent services. One of the unique purposes of I2D2 is to help state and local leaders better understand patterns in service use, identify gaps in services for vulnerable children, and make connections between programs by understanding factors that precede or follow service utilization. This project allowed the I2D2 data team to generate programming code using dates that will be useful in future efforts designed to dig deeper into service utilization timing, duration, and co-occurrence.



Next Steps

The present report includes HS children's experiences in three public preschool experiences: HS, CCA, and SWVPP. Future research would benefit from creating surveys that collect data from children and families with private preschool experiences. Additionally, given that CCA care experiences are very diverse, the research could benefit from collecting information about the schedule, curriculum, and type of childcare provider in CCA programs.

Our study findings showed that HS children attending SWVPP concurrently had higher school readiness than children attending HS only. More analysis is required to understand whether the identified SWVPP benefits were due to the longer duration of center-based care exposure (full-day) or an effect of SWVPP itself. Recently, some HS services in Iowa have started to offer full-time schedules. By collecting and analyzing data capturing this new trend, future studies can explore differences in children's school readiness between full-day HS vs. HS+SWVPP (half day each).

The higher school readiness skills found in the HS+SWVPP group compared to the HS only group raises an important question of whether such differences persist beyond the preschool year. Next steps could involve an analysis of associations with outcomes at kindergarten and elementary school. This information would inform on the patterns of prekindergarten usage that may be more beneficial for children's long-term school achievement.



REFERENCES

Bassok, D. (2012). Competition or collaboration? Head Start enrollment during the rapid expansion of state prekindergarten. *Educational Policy*, 26(1), 96-116. <https://doi.org/10.1177/0895904811428973>

Malone, L., Carlson, B. L., Aikens, N., Moiduddin, E., Klein, A. K., West, J., ... Rall, K. (2013). *Head Start family and child experiences survey (FACES): 2009 cohort user guide*. Washington, DC: Office of Planning, Research, and Evaluation (OPRE), Administration for Children and Families, U. S. Department of Health and Human