

➤ Summary of Findings from the Fairfax Pre-k to 4th Grade Study 2016-2022

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Introduction and Study Overview

The Fairfax PreK-4 (FP4) project is part of the Early Learning Network, comprised of five research projects funded by the Department of Education's Institute for Education Sciences to investigate the school and classroom factors that contribute to students' success across the early years of schooling. These projects have a particular focus on the effects of experiences in publicly funded pre-kindergarten programs. The aim of the network is to advance policies and practices that can help close learning gaps and ensure sustained early learning success. FP4 is a longitudinal study of a large and diverse cohort of students, half of which were enrolled in publicly funded pre-kindergarten (pre-k) in Fairfax County. The study collected data on students' academic and social outcomes every year from PK to grade 3, gathered surveys of teachers' reports of students and their own attitudes and classroom practices, and conducted observations in students' classrooms from PK to second grade (interrupted by COVID). During the COVID disruption in the spring of 2020 (cohort in second grade), the study collected information from teacher surveys regarding the impact of COVID on teachers and students. During the 2020-2021 academic year (third grade) information was gathered on student academic, social, and motivational outcomes for almost 700 students, as well as on the impacts of COVID on schools' approaches to instruction and student support, and on teachers' practices and wellbeing. In the 2021-2022 school year, the study was extended to include students' fourth grade year. Students were then back in classrooms and the study team collected information on academic achievement and executive function through direct assessments, student well-being and engagement through a survey, and teachers' reports of students' social adjustment.

The purpose of this report is to present findings from the 4th grade year as they relate to COVID recovery, as well as the associations between early school experiences and students' 4th grade outcomes. The full study cohort includes a pre-k-enrolled subsample and a matched subsample of non-attenders recruited in kindergarten. Students and teachers in the pre-k subsample were recruited from all school and community pre-k programs in Fairfax County, VA. Students were eligible if they attended the program, turned 4 by the study's start, and were not receiving special education (except for speech). Overall, 1,498 out of the 1,878 (80%) parents with pre-k-eligible students consented to participate. As the pre-k cohort started kindergarten, a separate non-attender sample was recruited within the same elementary schools; both samples combined to form the longitudinal cohort for all subsequent data collection. In Kindergarten, the total sample size exceeded 2,500 students. Table 1 presents demographic characteristics of the sample and subsamples on which data were collected across time, including 4th grade. Of the sample enrolled in kindergarten (2,583), assessments were conducted with 781 students in 4th grade. Of those 781 4th graders, teachers provided information on social adjustment for 309 students. Across all grades k-4 in which students had an opportunity to participate in the study, data are available for all time points (including during COVID) from 247 students. The results presented in the sections that follow draw from these samples and subsamples.

As indicated in Table 1 and in prior reports, the demographic characteristics of the FP4 sample are somewhat different from those of the school division as a whole, as it does not include students from middle- and upper-income households. Overall, the project has followed this large and diverse cohort through fourth grade, retaining the diversity of the sample and a large proportion of the students throughout. Participation in the study has been excellent among students, teachers, and administrators, a feature that distinguishes the study among many longitudinal, school-based investigations. The students from whom data were collected in 4th grade are similar demographically to those participating in the study in kindergarten.

Table 1							
<i>Sample Demographics</i>							
Demographic indicators	In kindergarten sample, but not 4th grade sample	4th grade direct assessment sample	4th grade teacher report sample	K- 4th grade sample	Sig diff original sample v. direct assessment sample	Sig diff original sample v. teacher report sample	Sig diff original sample v. 3rd/4th grade sample
Child gender							
Male	0.49	0.50	0.49	0.53			
Female	0.51	0.50	0.51	0.47			
Parent education							
High school or less	0.62	0.63	0.60	0.66			
Greater than high school	0.38	0.37	0.40	0.34			
Household income							
In poverty	0.51	0.51	0.52	0.55			
Low income	0.49	0.49	0.48	0.45			
Home language							
English	0.18	0.15	0.17	0.14	*		
Spanish	0.57	0.64	0.62	0.64	***		
Other	0.25	0.21	0.21	0.22	*		
Preschool enrollment							
Non-attender	0.48	0.49	0.48	0.49			
Attender	0.52	0.51	0.52	0.51			
Sample size	1802	781	309	247			
<p><i>Note.</i> Sample estimates are not imputed. All demographic characteristics were drawn from the kindergarten year. *** $p < .001$ ** $p < .01$ * $p < .05$</p> <p>The 4th grade sample differed from the original kindergarten sample only in terms of the proportion of children who spoke English, Spanish, or other languages at home. The 4th grade sample had fewer children from English-speaking homes and homes that spoke other languages, and more children from Spanish-speaking homes.</p>							

Questions Addressed in this Report

The current report addresses four primary questions:

1. To what extent is there evidence of learning loss and/or recovery across the COVID disruption period (grades 2-4) for students assessed across all occasions ($n = 247$)?
2. For students assessed at 4th grade ($n = 781$), to what extent is there evidence of change in academic functioning since kindergarten, and are these changes related to factors such as

pre-k enrollment, family income, or home language? Similarly, is there evidence of changes and associations with these factors for students whose 4th grade teachers reported on their social adjustment ($n = 309$)?

3. To what extent are students' executive function or self-reported engagement and wellbeing related to factors such as pre-k enrollment, family income, or home language?
4. How do teachers describe their own well-being and the pandemic's impact on home life and emotional health?

In analyzing data related to any of these questions, it is important to remember that the study is not an experimental test of the impacts of pre-k or any other educational experience. Therefore, we have used a variety of statistical methods to control or adjust for a range of factors that may contribute to the outcome of interest. In all cases, we try to isolate the effects from a set of "inputs," such as pre-k, or time of exposure to reading instruction, from other factors in order to make an informed estimate of the role that these various inputs play in shaping students' learning and development. And, because the FP4 sample is so diverse, we always conduct analyses that examine the extent to which results for any given question were different for children on the basis of their race, ethnicity, or home language. The summaries that follow briefly describe what we have learned from these analyses.

Findings

1. To what extent is there evidence of learning loss and/or recovery across the COVID disruption period (grades 2-4) for students assessed across all occasions ($n=247$)?

Table 2 presents descriptive statistics for students' academic performance on the subtests of the Woodcock Johnson for the subsample for whom data are available at all occasions across k-4 ($n = 247$) and those for whom data are available in k and grade 4 ($n = 781$). For the grade 4 sample, we also present results by students' home languages. Of note when interpreting these data is that, in 4th grade, the assessment of students' literacy skills was changed from that used across pre-k – 3 (Letter-Word Identification) to Passage Comprehension. Thus, the assessment task shifted from a narrow focus on single word decoding to one of reading and understanding brief passage of text, a more educationally and developmentally appropriate task for 4th graders. Because of this shift, it is not possible to interpret changes from prior grades to grade 4 for student literacy.

Outcomes	Time point	K-Fourth grade sample ($n = 247$)	Fourth grade sample ($n = 781$)	Fourth grade sample by home language		
				English ($n = 116$)	Spanish ($n = 494$)	Other ($n = 164$)
Literacy ^a	Fall of K	95.2 (14.3)	94.2 (14.8)	99.1 (13.4)	89.9 (12.7)	103.1 (16.0)
	Spring of G3	98.7 (15.0)	##	##	##	##
	Spring of G4	86.9 (13.3)	86.4 (12.8)	89.8 (12.5)	83.5 (12.5)	93.1 (10.6)
Language	Fall of K	87.7 (11.7)	87.8 (12.1)	98.1 (9.4)	89.9 (12.7)	103.1 (16.0)
	Spring of G3	88.5 (9.8)	##	##	##	##
	Spring of G4	88.4 (9.1)	87.9 (9.5)	93.8 (9.6)	85.6 (8.8)	90.5 (9.1)
Applied Problems	Fall of K	96.3 (12.3)	95.1 (12.9)	102.6 (11.3)	92.3 (12.2)	97.7 (13.3)
	Spring of G3	91.6 (15.6)	##	##	##	##
	Spring of G4	93.1 (14.9)	91.4 (15.5)	94.1 (15.8)	88.1 (14.3)	99.3 (15.5)
Quantitative Concepts	Fall of K	91.7 (15.1)	90.0 (14.8)	97.1 (13.5)	86.3 (13.9)	95.9 (14.6)
	Spring of G3	89.8 (17.3)	##	##	##	##
	Spring of G4	95.6 (16.5)	94.7 (16.9)	98.5 (18.7)	91.0 (14.9)	103.1 (17.7)

Note: ## indicates that sample students were not assessed on the Woodcock-Johnson at that time point. ^a Between kindergarten and third grade, literacy skills were assessed with the Letter Word Identification subtest of the Woodcock Johnson. In fourth grade, literacy skills were assessed with the Passage Comprehension subtest of the Woodcock Johnson.

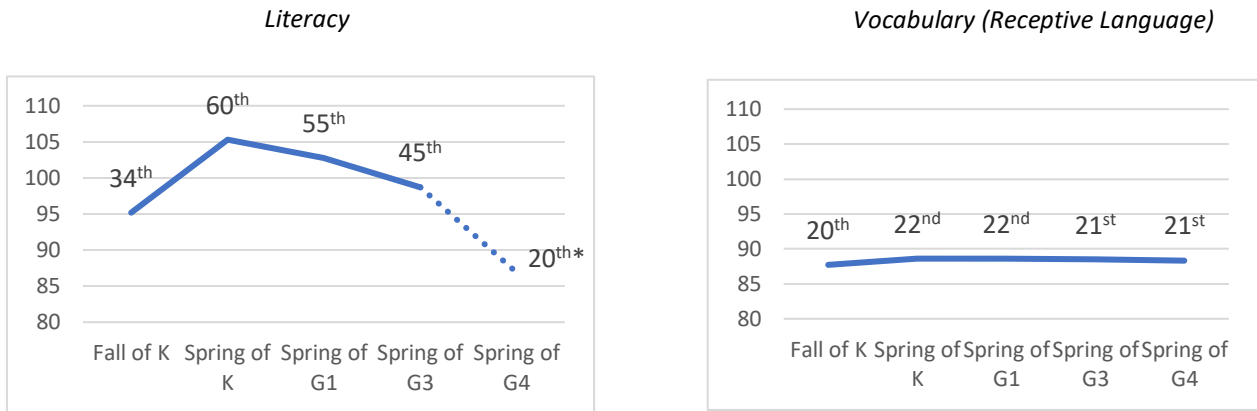
As noted in Table 2, Passage Comprehension, used to assess literacy in fourth grade, was a more difficult assessment than the subtest given in k and third grade (Letter-Word Identification), and students' standard scores drop from K and 3rd grade levels when compared to 4th grade. Literacy standard scores in 4th grade are more consistent with students' performance in the area of Language (assessed by Receptive Vocabulary). Based on the K-4th grade sample, ($n = 247$) results from the two mathematics subtests suggest a modest recovery in performance.

The findings for the K-4th grade sample of 247 students are presented graphically in Figure 1. This representation depicts the difficulty of the Passage Comprehension subtest in the area of Literacy and students similar performance on this measure in 4th grade as their performance on Language/Vocabulary, which remained flat across K-4th grade. Also of note, as mentioned above, is

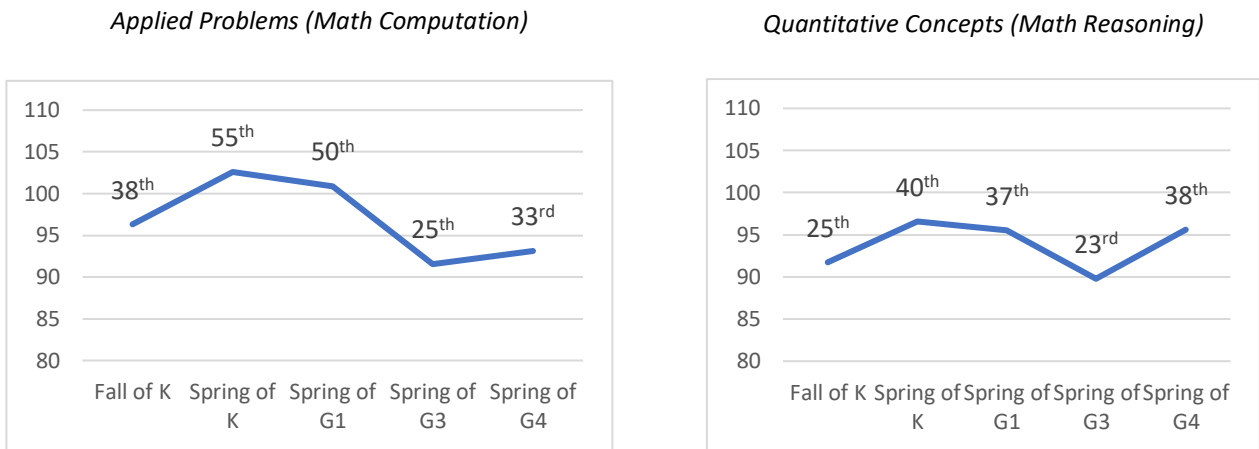
the suggestion of recovery for math skills, which was statistically significant for Quantitative Concepts.

Figure 1

Plots of Academic Outcomes (Standard Scores) for k-4 Subsample (n=247)



* Used different assessment in 4th grade



Data labels are percentiles based on the WJ-III NU standardized scores.

Overall, the pattern of results suggests that when students returned to school for in-person instruction in 4th grade, their performance on math skills began to recover; in some areas, such as quantitative concepts, to a significant degree. We do not see a similar pattern in literacy skills, but this could be due to the fact that a different and more difficult assessment was used in 4th grade. Additionally, literacy instruction and tasks focus increasingly on comprehension in 4th grade, and students' language skills and vocabulary play a more prominent role in their performance. Data show that students' language skills remained fairly flat across time and were below national norms.

2. For students assessed at 4th grade ($n = 781$), to what extent is there evidence of change in academic functioning since kindergarten and are these changes related to factors such as pre-k enrollment, family income, or home language? Similarly, is there evidence of changes and associations with these factors for students whose 4th grade teachers reported on their social adjustment ($n = 309$)?

Table 3 presents results for academic outcomes across the K-4 period for the subsample of students assessed in grade 4 ($n = 781$) for whom data were available from the kindergarten assessment. These findings provide a snapshot of students' progress relative to national norms for the Woodcock-Johnson subtests employed. Results are presented for comparisons of students' performance in kindergarten, 4th grade, and their change in performance across the k-4 period relative to pre-k enrollment, maternal education, family income, student gender, and home language (English, Spanish, other).

Table 3

Adjusted Models for Academic Outcomes (4th grade sample, $n = 781$)

Outcome	Time point	Group contrast					
		Pre-K attender (vs. non-attender)	High School degree or less (vs. > HS)	Poverty (vs. low income)	Male (vs. female)	English (vs. Spanish)	English (vs. Other)
Literacy ^a	Fall of K	5.68 ***	-3.23 **	-2.87 *	1.07	5.95 ***	-5.49 **
	Spring of G4	1.05	-3.22 **	-2.01	-1.26	4.05 **	-3.79 **
	Change K-G4	-4.48 ***	0.34	0.64	-2.10 *	-1.70	1.65
Language	Fall of K	3.93 ***	-2.91 **	-3.45 ***	0.53	10.68 ***	7.70 ***
	Spring of G4	0.43	-2.68 **	-2.46 **	2.06 ***	5.89 ***	2.80 *
	Change K-G4	-4.02 ***	0.13	1.41	1.22	-4.98 ***	-4.88 ***
Applied Problems	Fall of K	6.74 ***	-4.43 ***	-4.17 ***	0.59	5.99 ***	-3.22 *
	Spring of G4	0.98	-3.50 **	-3.32 **	4.84 ***	2.81	-5.84 **
	Change K-G4	-5.85 ***	1.33	0.69	4.70 ***	-2.51	-8.66 ***
Quantitative Concepts	Fall of K	4.38 ***	-4.34 **	-4.11 ***	1.17	6.83 ***	-0.22
	Spring of G4	1.47	-4.23 **	-3.90 **	4.63 ***	3.82 *	-5.44 *
	Change K-G4	-2.59 *	0.37	0.39	3.52 ***	-2.48	-5.52 **

Note. ^a Between kindergarten and third grade, literacy skills were assessed with the Letter Word Identification subtest of the Woodcock Johnson. In fourth grade, literacy skills were assessed with the Passage Comprehension subtest of the Woodcock Johnson.
*** $p < .001$ ** $p < .01$ * $p < .05$

Results indicate that by the spring of 4th grade, there is no significant evidence of the benefits of enrollment in pre-k and that across this period, the children not enrolled in pre-k appear to have

caught up to their pre-k enrolled peers for all 4 academic assessments. These results indicate that children who did not attend pre-k “caught up” to their pre-k-attender peers by making greater gains across the study period.

In the spring of 4th grade, across all academic tests, students performed more poorly when their mothers had a high school degree or less education, they came from households with income below the Federal poverty line, or were from Spanish-speaking households (relative to English-speakers). A gender gap in math (favoring boys) appeared by 4th grade. Speakers of “other” languages gained skills more rapidly than did English or Spanish speakers and Spanish speakers did not gain language skills at the same rates as children from households in which English or an Other language was spoken.

Overall, these results for academic achievement skills extend prior reports on the benefits of enrollment in pre-k, followed by rapid gains on the part of children who were not enrolled which eventually close the distance between them and their pre-k enrolled peers. The results also indicate well-described performance gaps for students from lower income households and in households in which parents have lower levels of education.

The fourth-grade teachers for 309 of these students also provided information on students’ social adjustment; these results are provided descriptively in Table 4. All ratings are based on a 1-5 rating system in which a rating of 5 is considered “high” on that aspect of adjustment. Reports from these students’ kindergarten teachers are also included in Table 4. By and large these findings indicate the students, on average, were considered well-adjusted by their teachers at these two points in time. Also of note is student absences (# of days), which appear to increase in 4th grade relative to kindergarten and 1st grade.

Outcome	Time point	Mean (standard deviation)
Task orientation	Fall of K	3.42 (1.04)
	Spring of G4	3.46 (1.07)
Frustration tolerance	Fall of K	3.45 (0.92)
	Spring of G4	3.49 (0.98)
Social skills	Fall of K	3.99 (0.82)
	Spring of G4	4.01 (0.91)
Conduct problems	Fall of K	1.78 (0.84)
	Spring of G4	1.67 (0.85)
Teacher-child conflict	Fall of K	1.42 (0.64)
	Spring of G4	1.63 (0.90)
Teacher-child closeness	Fall of K	4.07 (0.84)
	Spring of G4	3.93 (0.84)
School absences	K	7.17 (5.83)
	G1	7.17 (10.08)
	G4	8.48 (8.06)

Table 5 (similar to Table 3) presents findings for these teacher-reported social adjustment outcomes relative to factors such as pre-k enrollment and student or family demographics. By and large there were no associations between 4th grade teachers' ratings of students' social adjustment or changes in teachers' ratings from k to grade 4 and whether students were enrolled in pre-k, or from a family in which their mother had a high school degree or less or of low income. Students who were enrolled in pre-k did have significantly fewer missed school days in kindergarten and in 4th grade. Unlike the results for academic achievement, there were no differences in students' social adjustment related to different home languages. What did emerge was clear indication that teachers rated girls as better adjusted in terms of their persistence on tasks, tolerance of frustration, and lower levels of conduct problems and conflict with the teacher.

Table 5*Social Adjustment across the K-4 period (n=309), Controlling for Demographic Factors*

Outcome	Time point	Group contrast					
		Pre-K attender (vs. non-attender)	High School degree or less (vs. > HS)	Poverty (vs. low income)	Male (vs. female)	English (vs. Spanish)	English (vs. Other)
Task orientation	Fall of K	0.25	-0.21	-0.34 *	-0.24	0.10	-0.02
	Spring of G4	0.14	0.06	-0.36 *	-0.67 ***	0.10	-0.19
	Change K-G4	-0.03	0.37	-0.04	-0.31	0.30	0.03
Frustration tolerance	Fall of K	0.01	-0.02	-0.20	-0.18	0.19	0.24
	Spring of G4	-0.07	0.16	-0.18	-0.39 ***	0.21	0.10
	Change K-G4	-0.10	0.26	0.05	-0.21	0.22	0.01
Social skills	Fall of K	0.01	-0.09	-0.10	-0.14	-0.07	0.21
	Spring of G4	-0.04	0.17	-0.31 *	-0.21	0.16	0.15
	Change K-G4	-0.10	0.42 *	-0.25	0.03	0.44 *	0.06
Conduct problems	Fall of K	0.03	0.00	0.40 **	0.34 ***	0.17	0.05
	Spring of G4	0.12	-0.05	-0.02	0.55 ***	-0.02	-0.03
	Change K-G4	0.12	-0.07	-0.35 **	0.22 *	-0.39 *	-0.22
Teacher-child conflict	Fall of K	0.06	-0.04	0.20	0.25 **	0.06	-0.03
	Spring of G4	0.16	-0.11	0.07	0.37 ***	-0.09	-0.16
	Change K-G4	0.11	-0.08	-0.03	0.14	-0.32	-0.29
Teacher-child closeness	Fall of K	-0.01	0.02	-0.05	-0.34 ***	0.17	0.13
	Spring of G4	0.13	-0.08	0.06	-0.19	0.25	0.39 *
	Change K-G4	0.17	-0.05	0.12	0.19	0.01	0.19
School absences	K	-2.99 ***	-0.48	-0.05	0.97	1.76	0.67
	G1	-3.40	-0.47	3.03	0.78	1.07	1.91
	G2	-0.50	-1.56 *	-0.74	0.50	1.30	2.19
	G4	-3.35 ***	-0.67	2.16 *	0.87	0.60	1.95
	Change K-G4	-0.44	-1.19	1.55	0.10	-1.35	1.75

Note. *** $p < .001$ ** $p < .01$ * $p < .05$.

3. To what extent is students' executive function or self-described engagement and wellbeing related to factors such as pre-k enrollment, family income, or home language?

The next set of results pertain to assessments of students' executive function skills in 4th grade and 4th graders' own reports of engagement and wellbeing. Descriptive results are provided in Table 6. These suggest that on average, students' executive function skills (assessed by two different standard tasks) were within the average range with regard to available norms. For students' own reports of engagement and well-being, they provided ratings on a 1-5 scale for engagement and social connectedness and a 1-3 point scale for emotional and behavioral outcomes. Overall students reported themselves as highly engaged and as feeling connected to friends, parents, peers, and teachers, with somewhat higher levels of connection to parents and teachers. ("Friends" refers to students' close friendships, while "peers" refers to the broader social group students interact with in the classroom.) Students described themselves as generally prosocial and with modest levels of concern related to emotional problems (e.g., anxiety) and hyperactivity (e.g., attentiveness).

As was the case with prior outcomes in academic and social adjustment domains, these results were further examined relative to pre-k enrollment and a range of demographic factors, with those results reported in Table 7. Overall, few significant differences were detected. The only clear pattern was in associations with student gender: boys reported feeling less connected with friends and teachers while reporting a greater sense of connection to peers than did girls. Girls reported greater prosocial behavior and fewer conduct problems while also reporting a higher level of emotional concerns in areas of anxiety and sadness. In the area of executive functions, boys performed significantly higher on the assessment measuring cognitive inhibition skills.

Fourth grade outcomes	Mean (standard deviation)
Engagement	4.07 (0.61)
Connectedness to friends	3.97 (0.66)
Connectedness to parents	4.33 (0.50)
Connectedness to peers	3.62 (0.67)
Connectedness to teachers	4.08 (0.62)
Prosocial	2.62 (0.33)
Emotional problems	1.83 (0.48)
Conduct problems	1.45 (0.37)
Hyperactivity	1.83 (0.42)
Executive functions: Flanker	90.03 (13.17)
Executive functions: Dimensional Card Sort	95.13 (14.79)

Fourth grade outcomes	Group contrast					
	Pre-K attender (v. non-attender)	High School degree or less (v. > HS)	Poverty (v. low income)	Male (v. female)	English (v. Spanish)	English (v. Other)
Engagement	-0.05	0.03	0.09	0.00	0.05	-0.00
Connectedness to friends	-0.08	0.01	0.05	-0.10 *	-0.01	-0.02
Connectedness to parents	-0.01	0.02	-0.01	0.06	-0.08	-0.04
Connectedness to peers	0.05	0.02	-0.02	0.09 *	-0.03	-0.07
Connectedness to teachers	-0.04	-0.01	-0.01	-0.08 *	0.02	-0.07
Prosocial	-0.02	0.03	0.09 **	-0.05 *	0.04	0.00
Emotional problems	-0.04	0.01	0.03	-0.15 ***	-0.03	-0.06
Conduct problems	-0.02	-0.06	0.03	0.06 *	-0.01	0.03
Hyperactivity	0.03	-0.05	-0.03	-0.03	0.05	0.12 *
EF: Flanker	-0.58	-3.51 **	-1.62	2.50 **	-0.70	-2.60
EF: Dimensional Card Sort	0.13	-1.81	-1.07	0.09	-0.19	-2.88

Note. *** $p < .001$ ** $p < .01$ * $p < .05$.

It is notable that no differences in students' executive function skills or their sense of engagement, connection or emotional/behavior concerns were detected for groups that differed by pre-k enrollment, maternal education, poverty level, or home language. Despite the challenging circumstances of the pandemic, these students describe themselves and their social and emotional experiences as relatively positive. It is possible that the return to in-person school provided students with social and emotional supports and social opportunities they found valuable. However, the

emotional concerns described by the girls should be taken seriously because they often go undetected.

4. How do teachers describe their own well-being and the pandemic’s impact on home life and emotional health?

Teachers completed self-report surveys describing their levels of burnout (personal accomplishment and exhaustion) as well as an inventory of home-life impacts of COVID. Figure 2 indicates that there was a small decrease in teachers’ self-reported personal accomplishments, and a larger increase in emotional exhaustion. This is aligned with anecdotal evidence from teachers and principals, who have indicated that teachers continue to feel the after-effects of the pandemic acutely.

Figure 2

Teacher-reported Personal Accomplishments and Emotional Exhaustion across Years

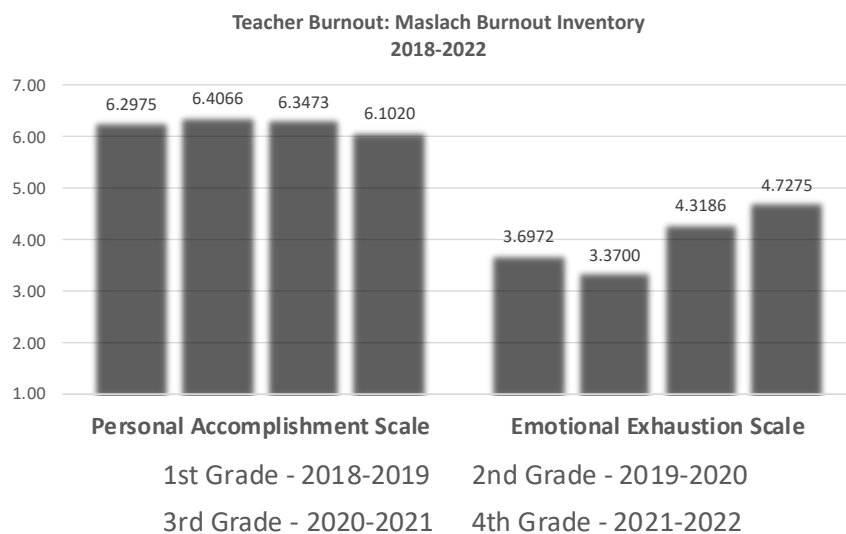
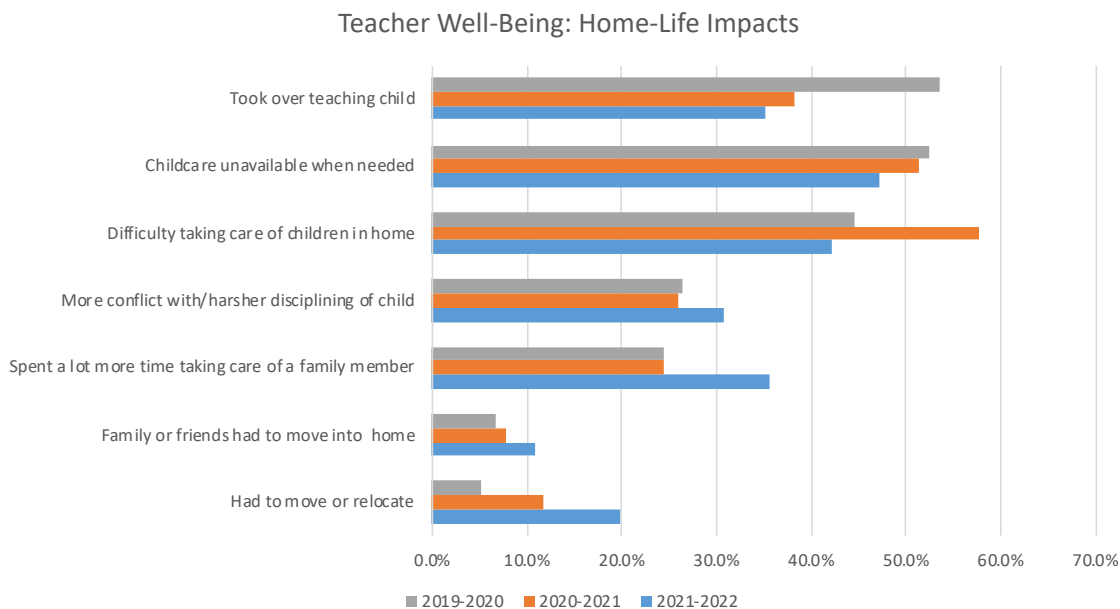


Figure 3 shows teachers’ responses to the home life inventory. In the spring 2022 survey, fewer teachers reported problems with childcare, but more teachers reported conflict with children, more time spent taking care of a family member, and that they had to move or relocate. These results indicate the ongoing stressors that teachers are contending with, both in terms of their own emotional resilience and burnout, and in terms of home life challenges.

Figure 3

Home-life Impacts of COVID from Spring 2020 through Spring 2022.



Summary and Implications

The results of this research are correlational and descriptive and cannot be used to make definitive policy prescriptions. With that caveat, we offer the following implications and recommendations based on these findings, in combination with the larger body of research on child development and education in early and middle childhood.

Academic Performance

Results of our 4th grade assessments follow national trends in suggesting that students lost significant ground during the pandemic. Math data indicate that students are beginning to recover some of that ground, although there is still substantial work to be done. Researchers looking at recovery strategies have recommended extending learning time, either by lengthening the school day, the school year, or expanding coverage of specific content areas during the school day as a potential strategy for remediation (Hanover Research, 2020). One-on-one or small group high-dosage tutoring can also be effective at improving literacy and math performance (Nickow et al., 2020).

Pre-K and Child Characteristics

Fairfax public pre-k attenders performed better than non-attender peers on academic measures at the start of kindergarten, but grew less over time than those peers, resulting in null effects of pre-k attendance by 4th grade. This pattern is typical of evaluations of pre-k programs and does not suggest that the pre-k program is not effective; instead, it appears that elementary grades are effective at bringing non-attenders up to the level of attenders once they start school.

Other child characteristics did predict performance in 4th grade. English language learners made greater language gains from kindergarten to 4th grade than monolingual English students, partially closing the English vocabulary gap. Boys scored higher than girls in mathematics. Gender gaps were also apparent in social-emotional skills. Boys had lower teacher-rated task orientation (the ability to focus on tasks and complete work) compared to girls in 4th grade, higher levels of conduct problems, and more teacher-student conflict. Boys exhibiting low classroom engagement and elevated disruptive behaviors may need additional support to learn how to manage their emotions and solve social problems in constructive ways.

Self-Reported Engagement and Wellbeing

Students told us they felt moderately engaged in school and moderately connected to the adults, peers, and friends in their lives. They did report slightly elevated emotional, conduct, and hyperactivity problems. In the wake of COVID, multiple researchers have found increases in students' mental health concerns, including anxiety, depression, and stress symptoms (Elharake et al., 2022). In a joint statement, the American Academy of Pediatrics, the American Academy of Child and Adolescent Psychiatry, and the Children's Hospital Association called for substantial policy initiatives to address students' mental health, including increased school-based mental health care, family access to mental health care, and suicide prevention (American Academy of Pediatrics et al., 2021). As with academic recovery, mental health recovery is likely to require a long-term effort that includes school-based prevention as well as resources to address students' more serious concerns.

Teachers' Wellbeing

Teachers reported some aspects of home life had improved since the beginning of the pandemic; for example, fewer reported having responsibility for teaching a child at home or difficulty finding child care. However, some indicators have worsened over time. Teachers reported more conflict with

their children this year compared to last year, more time spent caring for family members, and more reported needing to move or relocate. At work, teachers' sense of personal accomplishment decreased while emotional exhaustion went up. Overall, these results echo national data suggesting that stress and burnout are common among American educators in the wake of the pandemic, tied to poor working conditions and concerns about supporting students' academic needs (Steiner et al., 2022). Strengthening the school community, giving teachers time to focus on core academic recovery, and providing time for teachers to form strong relationships with students and colleagues may alleviate some feelings of burnout and strengthen teachers' commitment to staying in the field.

Conclusions

The unprecedented disruptions to schooling and family life as a result of the pandemic have led to extraordinary challenges in education. These challenges reveal themselves in this report from 4th grade largely in declining gains in student achievement and in teachers' reports of fatigue and exhaustion. Notably, what is also evident is the value of the return to in-person schooling and the resilience of students across the board. Within months of returning to school, students' declining performance in mathematics knowledge and skill (both areas particularly responsive to formal instruction) leveled off or increased significantly. Students' well-being, social adjustment, and executive function skills, after more than 2 years of pandemic-related challenges, all appear to be relatively unaffected. Students' own reports of engagement show them to be positive about peers, teachers, and their schoolwork after returning to in-person learning. Notably, these results were consistent regardless of students' demographic backgrounds. Two findings indicate concerns that warrant further exploration and attention: the emergence of emotional concerns reported by girls, and the stresses and exhaustion reported by teachers.

In sum, these results, for this cohort of now-5th graders, suggest that continued attention to strengthening students' academic skills (though tutoring, individualized or small group instruction), building relationships with teachers and peers, and increasing attention to socioemotional and mental health issues, are valuable strategies for addressing the near- and long-term impacts of the pandemic. As important are the concerns noted by teachers and the need to strengthen supports for them. The value of teachers to students is borne out in the students' prioritizing of their relationships with teachers as a key support. Resources that strengthen teachers' well-being and reduce fatigue (planning time, mental health supports, wellness supports, child care support, etc.) could be valuable investments in the workforce. The evidence from these analyses suggest that the students are slowly, but steadily recovering while their teachers, upon whom students depend for continued recovery, would benefit from additional supports.

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