Table 1. Distribution of providers by program type and by borough, 2017-18 school year

Borough		DOE K12	DOE pre-k	NYCEEC	Charter	Private providers	Total
		UPK providers					
Bronx	# of providers	116	11	218	5	84	434
	row pct.	26.7	2.5	50.2	1.2	19.4	100.0
Brooklyn	# of providers	201	22	386	2	367	978
	row pct.	20.6	2.3	39.5	0.2	37.5	100.0
Manhattan	# of providers	110	6	144	5	304	569
	row pct.	19.3	1.1	25.3	0.9	53.4	100.0
Queens	# of providers	164	29	332	4	174	703
	row pct.	23.3	4.1	47.2	0.6	24.8	100.0
Staten Island	# of providers	45	3	66	0	35	149
	row pct.	30.2	2.0	44.3	0.0	23.5	100.0
Total	# of providers	636	71	1,146	16	964	2,833
	row pct.	22.5	2.5	40.5	0.6	34.0	100.0

Note. Authors' calculations using publicly-available data from NYC's OpenData portal.
DOE K12 - Pre-k program in K-12 school run by NYC Department of Education; DOE pre-k - Independent pre-k center run by NYC Department of Education; NYCEEC - New York City Early Education Center

Table 2. Demographic composition of UPK classrooms, by student race/ethnicity

Panel A. Enrollment composition

	All students		White		Black		Hispanic		Asian	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
% white	20.4	(28.7)	60.7	(29.4)	5.1	(11.9)	10.3	(17.0)	14.1	(18.8)
% black	22.0	(27.8)	5.5	(10.9)	57.2	(28.7)	17.3	(19.7)	7.0	(13.6)
% Hispanic	37.7	(28.2)	19.1	(18.5)	29.7	(23.7)	58.8	(25.2)	24.9	(19.9)
% Asian	16.8	(23.8)	11.6	(14.7)	5.3	(10.4)	11.1	(16.5)	50.5	(29.3)
% other non-white	3.2	(5.4)	3.3	(4.7)	2.7	(4.5)	2.5	(4.2)	3.6	(5.4)

Panel B. Gaps in enrollment composition

	black-white gap	Hispanic-white gap	Asian-white gap
% white	-55.6 *	-50.3 *	-46.6 *
% black	51.8 *	11.8 *	1.5 *
% Hispanic	10.6 *	39.8 *	5.8 *
% Asian	-6.3 *	-0.5 *	38.9 *
% other non-white	-0.6 *	-0.7 *	0.3 *

Note. Authors' calculations using publicly-available data from NYC's OpenData portal. All estimates are weighted to be representative of the average child in each group in the 2017-2018 school year. Gaps reported as raw (unstandardized) differences across groups. Gaps in Panel B may not match reported differences in Panel A exactly due to rounding. * p < .05.

Table 3. Pre-k program quality by student race/ethnicity

Panel A. Program quality

	All students		White		Black		Hispanic		Asian	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Overall ECERS score (1-7)	4.28	(0.73)	4.44	(0.72)	4.06	(0.73)	4.27	(0.73)	4.38	(0.69)
Language reasoning	5.32	(1.01)	5.46	(0.97)	5.08	(1.08)	5.33	(0.99)	5.41	(0.94)
Interaction	5.27	(1.23)	5.47	(1.05)	4.94	(1.38)	5.31	(1.23)	5.38	(1.16)
Activities	4.63	(0.96)	4.81	(0.97)	4.37	(0.95)	4.63	(0.97)	4.77	(0.87)
Personal care routines	2.76	(0.86)	2.78	(0.87)	2.71	(0.82)	2.77	(0.85)	2.75	(0.94)
Space and furnishings	3.96	(0.77)	4.06	(0.79)	3.82	(0.74)	3.95	(0.76)	4.04	(0.77)
Program structure	4.00	(1.42)	4.42	(1.38)	3.64	(1.42)	3.87	(1.40)	4.21	(1.35)
Overall CLASS score (1-7)	5.27	(0.47)	5.39	(0.43)	5.17	(0.53)	5.23	(0.45)	5.31	(0.43)
Emotional support	6.43	(0.45)	6.52	(0.38)	6.32	(0.53)	6.41	(0.45)	6.49	(0.42)
Classroom organization	6.26	(0.54)	6.38	(0.45)	6.11	(0.63)	6.24	(0.53)	6.34	(0.48)
Instructional support	3.12	(0.80)	3.28	(0.84)	3.08	(0.84)	3.06	(0.75)	3.12	(0.76)

Panel B. Gaps in program quality

	black-white gap	Hispanic-white gap	Asian-white gap
Overall ECERS score (1-7)	-0.51 *	-0.23 *	-0.09 *
Language reasoning	-0.38 *	-0.13 *	-0.06 *
Interaction	-0.42 *	-0.12 *	-0.07 *
Activities	-0.46 *	-0.19 *	-0.05 *
Personal care routines	-0.09 *	-0.02	-0.04 *
Space and furnishings	-0.31 *	-0.14 *	-0.02
Program structure	-0.55 *	-0.39 *	-0.15 *
Overall CLASS score (1-7)	-0.48 *	-0.34 *	-0.17 *
Emotional support	-0.45 *	-0.25 *	-0.08 *
Classroom organization	-0.50 *	-0.27 *	-0.07 *
Instructional support	-0.25 *	-0.28 *	-0.21 *

Note. Authors' calculations using publicly-available data from NYC's OpenData portal. All estimates are weighted to be representative of the average child in each group in the 2017-2018 school year. Gaps in Panel B are reported in standard deviation units, and may not match reported differences in Panel A exactly due to rounding. * p < .05.
ECERS - Early Childhood Environment Rating Scale; CLASS - Classroom Assessment Scoring System

Table 4. Relationship between demographic composition of provider and standardized quality ratings

Panel A. ECERS ratings

	(1)	(2)	(3)	(4)	(5)
proportion Black	-0.94 ***	-0.84 ***	-1.08 ***	-0.94 ***	-0.83 ***
	(0.10)	(0.13)	(0.18)	(0.17)	(0.17)
proportion Hispanic	-0.30 **	-0.30 *	-0.45 **	-0.35 *	-0.28
	(0.10)	(0.13)	(0.16)	(0.16)	(0.16)
proportion Asian	-0.14	-0.45 ***	0.09	0.07	0.09
	(0.12)	(0.13)	(0.22)	(0.21)	(0.21)
proportion other nonwhite	0.25	0.05	0.27	1.10	1.05
	(0.44)	(0.45)	(0.59)	(0.57)	(0.57)
N	1782	1782	1782	1782	1782

Panel B. CLASS ratings

	(1)	(2)	(3)	(4)	(5)
proportion Black	-0.71 ***	-0.71 ***	-0.88 **	-0.80 **	-0.74 **
	(0.10)	(0.12)	(0.27)	(0.27)	(0.28)
proportion Hispanic	-0.52 ***	-0.48 ***	-0.51	-0.47	-0.44
	(0.09)	(0.10)	(0.27)	(0.27)	(0.28)
proportion Asian	-0.26 *	-0.29 **	-0.14	-0.14	-0.20
	(0.12)	(0.10)	(0.38)	(0.37)	(0.36)
proportion other nonwhite	0.25	0.35	0.00	-0.08	0.22
	(0.39)	(0.39)	(1.11)	(1.09)	(1.06)
N	1545	1545	1545	1545	1545
School district fixed effects		X			
Census tract fixed effects			X	X	X
Income requirement				X	X
DOE program					X
DOE pre-k program					X

Note. Authors' calculations using publicly-available data from NYC's OpenData portal. Outcomes are reported in standard deviation units. Estimates are weighted by 2017 school enrollment.
* p<.05 ** p<.01 *** p<.001.
ECERS - Early Childhood Environment Rating Scale; CLASS - Classroom Assessment Scoring System

Table 5. Census tract level estimates of the association between tract demographics and presence of at least 1 nearby UPK provider who scored high on the ECERS

Panel A. Providers within .25 miles

	Any providers with ECERS rating >=					
Tract level variable	50th pctile	75th pctile	90th pctile	50th pctile	75th pctile	90th pctile
pr. Black	-0.25 **	-0.26 **	-0.15 ***	-0.14 *	-0.16 *	-0.08
	(0.09)	(0.08)	(0.03)	(0.07)	(0.07)	(0.07)
pr. Hispanic	0.05	0.02	0.04	0.01	-0.01	0.10
	(0.17)	(0.10)	(0.08)	(0.09)	(0.08)	(0.09)
pr. Asian	-0.05	-0.04	-0.07	0.05	0.09	0.00
	(0.14)	(0.14)	(0.08)	(0.11)	(0.11)	(0.11)
pr. Other race/ethnicity	-0.25	-0.44 *	-0.32	-0.23	-0.36	-0.23
	(0.22)	(0.22)	(0.44)	(0.30)	(0.25)	(0.24)
N	2127	2127	2127	2127	2127	2127
Borough FE	X	X	X			
District FE				X	X	X

Panel B. Providers within .5 miles

	Any providers with ECERS rating >=					
Tract level variable	50th pctile	75th pctile	90th pctile	50th pctile	75th pctile	90th pctile
pr. Black	-0.038	-0.117	-0.239 ***	-0.038	0.03	-0.072
	(0.04)	(0.10)	(0.07)	(0.08)	(0.08)	(0.11)
pr. Hispanic	0.00	-0.03	0.08	-0.03	0.00	0.21
	(0.08)	(0.18)	(0.20)	(0.09)	(0.13)	(0.15)
pr. Asian	0.06	0.17	-0.03	0.11	0.30 ***	0.15
	(0.05)	(0.14)	(0.21)	(0.06)	(0.11)	(0.18)
pr. Other race/ethnicity	-0.01	-0.12	-0.23	0.07	-0.04	0.01
	(0.04)	(0.27)	(0.22)	(0.13)	(0.18)	(0.24)
N	2127	2127	2127	2127	2127	2127
Borough FE	X	X	X			
District FE				X	X	X

Note. Authors' calculations using publicly-available data from NYC's OpenData portal. Estimates are presented as average marginal effects, and can be interpreted as the average percentage point change associated with a 1 percentage point increase in each variable. All models include the tract-level proportions of the population that are black, Hispanic, Asian, some other race, and multiple races. The omitted group is the proportion of the population that is white. All estimates control for the total land area and population density of each census tract, as well as a composite measure of SES. * p<.05 ** p<.01 *** p<.001.
ECERS - Early Childhood Environment Rating Scale