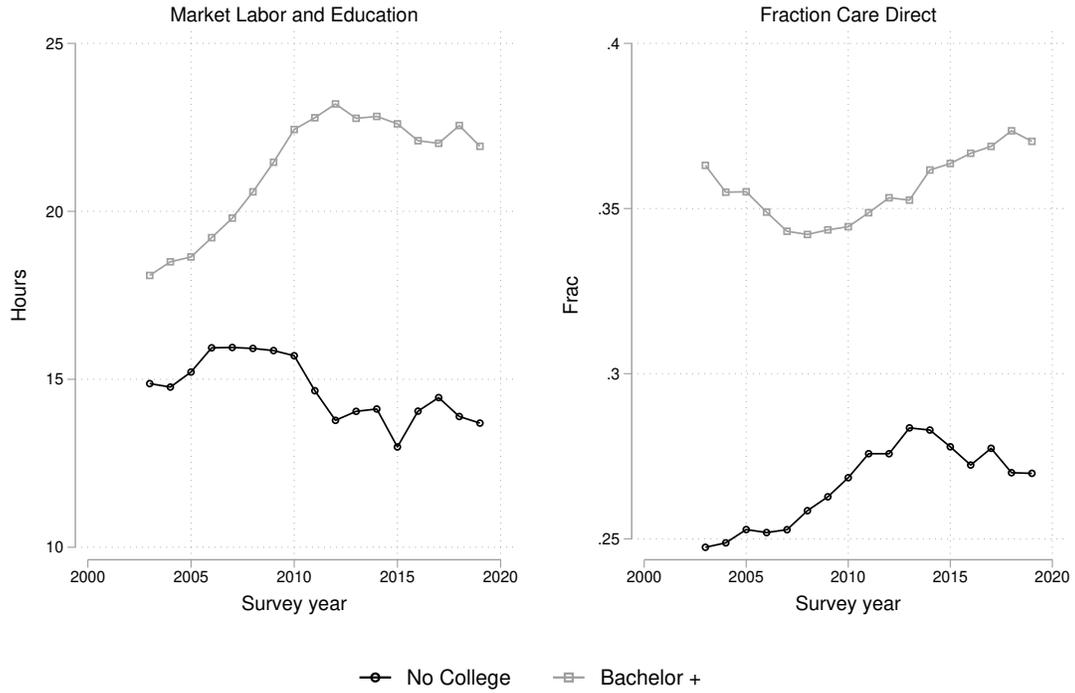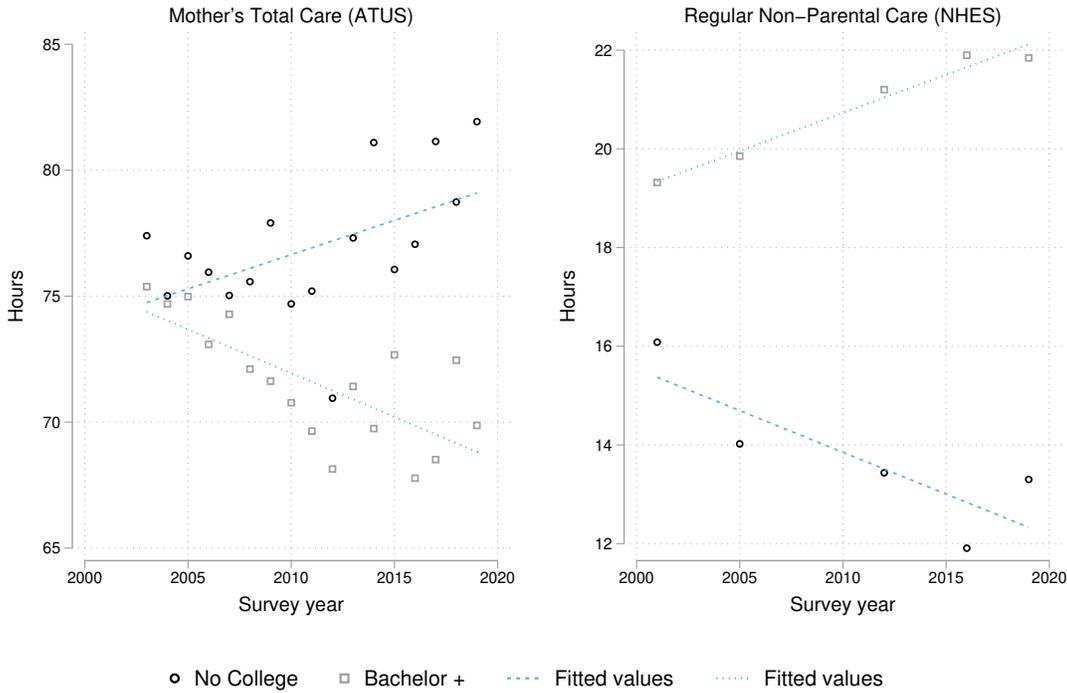# Appendix: Additional Tables and Figures

Figure A-1: Trends in Mother's Time Allocation by Maternal Education

Notes: Sample includes all households with at least one child under the age of 4. Five-year moving averages plotted. "Market Labor and Education Hours" is the mother's market labor and education/training hours. "Fraction Care Direct" is the fraction of all a mother's time spent around a child in which she is engaged in intense childcare activities.
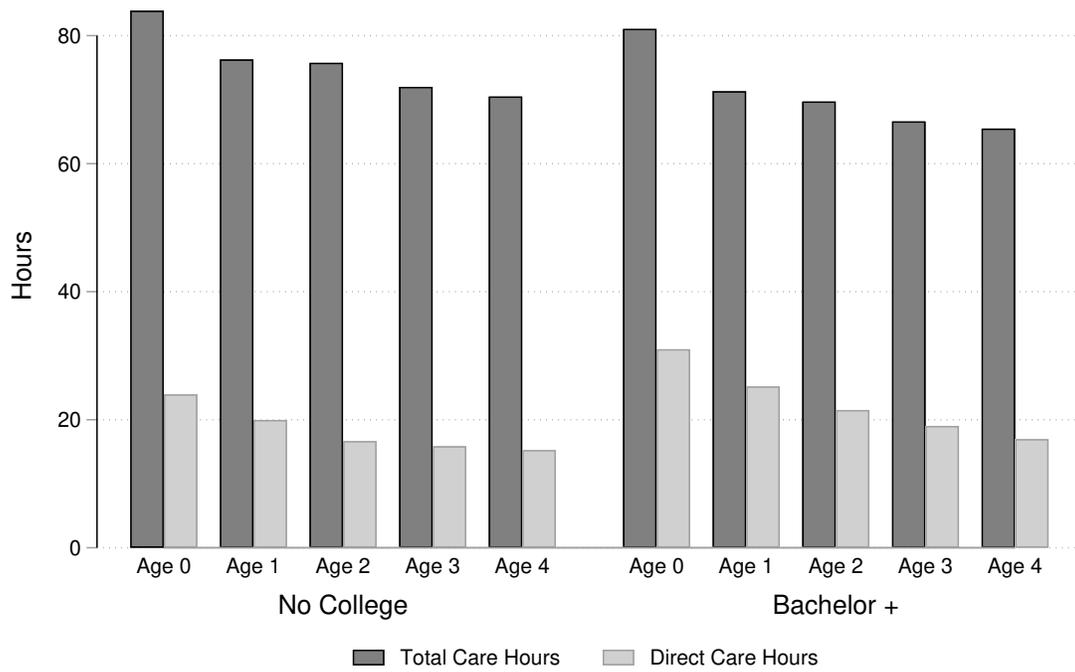Source: ATUS 2003-19.

Figure A-2: Trends in Maternal Care Hours and Non-Parental Hours by Mother Education

Notes: Non-parental is weekly hours in "regular" non-parental arrangements, provided by relatives, centers, or any other non-relative care providers.
Source: ATUS 2003-19: maternal care. NHES 2001-19: non-parental care.

Figure A-3: Mother's Time Allocation by Maternal Education and Age of Youngest child

Notes: Sample includes all households with at least one child under the age of 4. "Total Care Hours" includes all time the mother is around a child. "Direct Care Hours" is the subset of Total Care Hours in intense childcare activities. Source: ATUS 2003-19.

Table A-1: Relationships between Quality of Parental Care Received and Maternal Education

Panel A: Activities and Intensity

	Direct Care	Active	Educational	Screen Time
Some College	0.034*	0.031	0.012*	-0.032*
	(0.014)	(0.021)	(0.005)	(0.013)
College Grad Plus	0.048***	0.059**	0.018***	-0.039**
	(0.014)	(0.020)	(0.005)	(0.013)
Observations	1375	1375	1375	1375
Pooled Mean	0.231	0.621	0.0404	0.139
No College Mean	0.202	0.588	0.0295	0.165

Panel B: Parents Present

	Both Parents	M Only	F Only
Some College	0.063*	-0.092**	0.029
	(0.030)	(0.035)	(0.020)
College Grad Plus	0.080**	-0.138***	0.058**
	(0.026)	(0.031)	(0.021)
Observations	1375	1375	1375
Pooled Mean	0.358	0.533	0.109
No College Mean	0.307	0.617	0.0765

Notes: $*p < 0.1$, $**p < 0.05$, $***p < 0.01$. Heteroskedastic robust standard errors in parentheses. Education level refers to maternal education with High School or Less as the omitted category. Each panel-column reports estimates from a separate regression with the outcome listed in the column head. Outcomes are average weekly hours in select time category dived by average weekly parental care hours. Sample limited to children ages 0-4. All specifications include fixed effects for child age and survey year.
Source: PSID-CDS.

Table A-2: Relationships between Quality of Parental Care Received and Maternal Education, HOME Score-Based Measures

	Total HOME Score	Caregiver-Child Observe	Environment	Survey
Some College	0.497***	0.388***	0.321***	0.411***
	(0.074)	(0.081)	(0.081)	(0.081)
College Grad Plus	0.823***	0.584***	0.608***	0.681***
	(0.069)	(0.075)	(0.078)	(0.070)
Observations	2186	1943	1887	2186

Notes: $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$. Heteroskedastic robust standard errors in parentheses. Education level refers to maternal education with High School or Less as the omitted category. Each column reports estimates from a separate regression with the outcome listed in the column head. Outcomes are standardized within age and survey year; standardized scores are mean 0 and standard deviation 1. All specifications include fixed effects for child age, survey year, and indicators for whether interviewer observed child-caregiver interactions or observed home.
Source: PSID-CDS.

Table A-3: Relationships between Parental Care Hours and Maternal Education

Panel A: Mother Time

	Total Care Hours	Direct Care Hours	Fraction Direct	Educ. Care Hours	Fraction Educ.
High School	-5.622*	4.356**	0.080***	-0.307	-0.002
	(2.821)	(1.535)	(0.019)	(0.465)	(0.006)
Some College	-9.798***	2.596	0.082***	-0.496	-0.004
	(2.698)	(1.468)	(0.018)	(0.441)	(0.006)
Bachelor Plus	-13.916***	5.678***	0.156***	-0.004	0.008
	(2.519)	(1.329)	(0.017)	(0.449)	(0.006)
Observations	2794	2794	2751	2794	2751
Pooled Mean	74.14	21.92	0.318	1.803	0.0254
LTHS Mean	84.77	18.07	0.216	2.212	0.0263

Panel B: Father Time

	Total Care Hours	Direct Care Hours	Fraction Direct	Educ. Care Hours	Fraction Educ.
High School	0.855	0.984	0.042	-0.076	-0.007
	(4.026)	(1.612)	(0.035)	(0.280)	(0.011)
Some College	0.929	2.449	0.056	0.158	0.000
	(3.755)	(1.396)	(0.030)	(0.297)	(0.011)
Bachelor Plus	0.918	4.928***	0.136***	0.306	0.007
	(3.631)	(1.361)	(0.029)	(0.267)	(0.011)
Observations	2082	2082	1987	2082	1987
Pooled Mean	48.34	11.60	0.290	0.984	0.0271
LTHS Mean	51.63	8.858	0.197	0.909	0.0239

Notes: $^*p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$. Heteroskedastic robust standard errors in parentheses. Sample is families with at least one child aged 4 or younger. Education level refers to maternal education in both panels with Less than High School as the omitted category. Each panel-column reports estimates from a separate regression with the outcome listed in the column head. All specifications include fixed effects for survey year and month, weekday indicator, and a full set of fixed effects for the age of each child in the household. Missing covariates recoded and a full set of dummy variables for missing covariates is included.
Source: ATUS 2016-19.

Table A-4: Within-Child Regressions of Non-Parental and Parental Care Quality, Overall and By Maternal Education Subsample

	(1) Parental Quality	(2) Parental Quality	(3) Parental Quality	(4) Parental Quality
Non-Parental Quality	0.121***	0.093*	0.079*	0.075*
	(0.022)	(0.044)	(0.039)	(0.035)
Observations	3050	900	1150	1000
Sample	All	No College	Some College	College+

Notes: Non-parental care quality measured using Arnett score of primary non-parental care arrangement. Parental care quality measured using frequency parents read to the child. Each column reports estimates from a separate regression. Observation numbers are rounded to nearest 50 to satisfy disclosure rules.
Source: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Birth Cohort (ECLS-B).

Table A-5: Within-Child Persistence in Parental, Non-Parental, and Aggregate Care Quality

	(1) QN(t+1)	(2) QN(t+1)	(3) QN(t+1)	(4) QP(t+1)	(5) QP(t+1)	(6) QP(t+1)	(7) AG(t+1)
QN(t)	0.139**		0.141**	0.131***		0.075**	
	(0.045)		(0.045)	(0.032)		(0.029)	
QP(t)		0.065*	-0.011		0.293***	0.291***	
		(0.030)	(0.040)		(0.028)	(0.055)	
AG(t)							0.391***
							(0.019)
Observations	600	1650	600	1200	8350	1250	3500

Notes: QN, QP, and AG are nonparental, parental and aggregate care quality, respectively. Longitudinal measures from the second wave of the ECLS-B survey when most children are between 1.5 and 3 years of age are referred to by t and from the third wave when most children are between 3 and 4 years of age by $t+1$. Observation numbers are rounded to nearest 50 to satisfy disclosure rules.
Source: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Birth Cohort (ECLS-B).

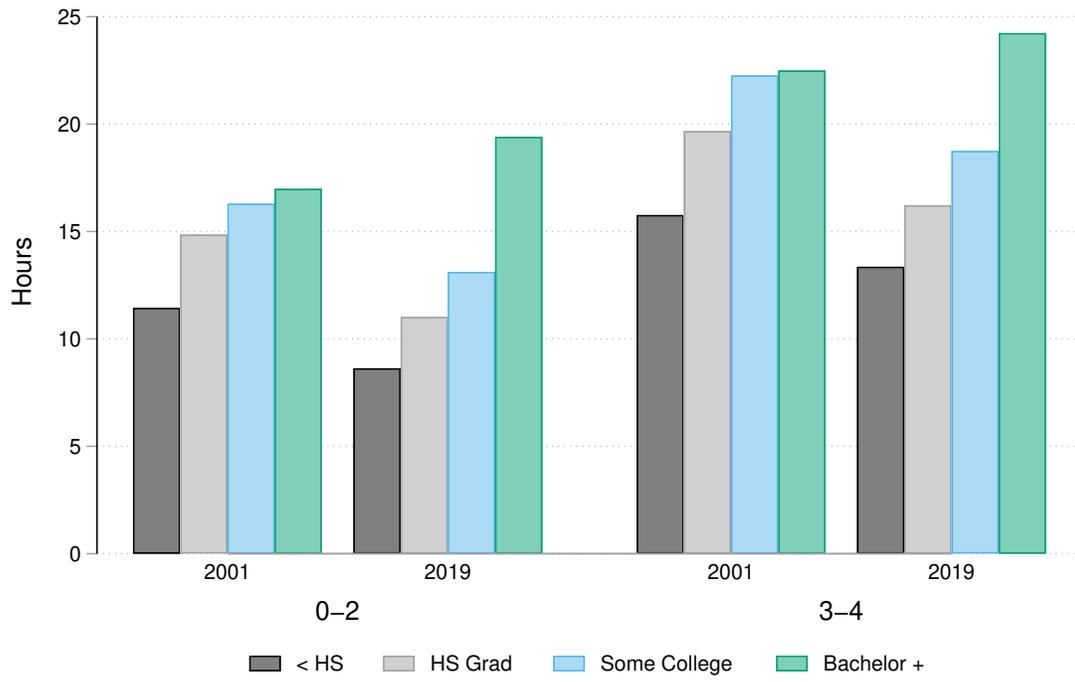Figure A-4: Average Non-Parental Care Quality by Parental Care Quality and Child Age Groups
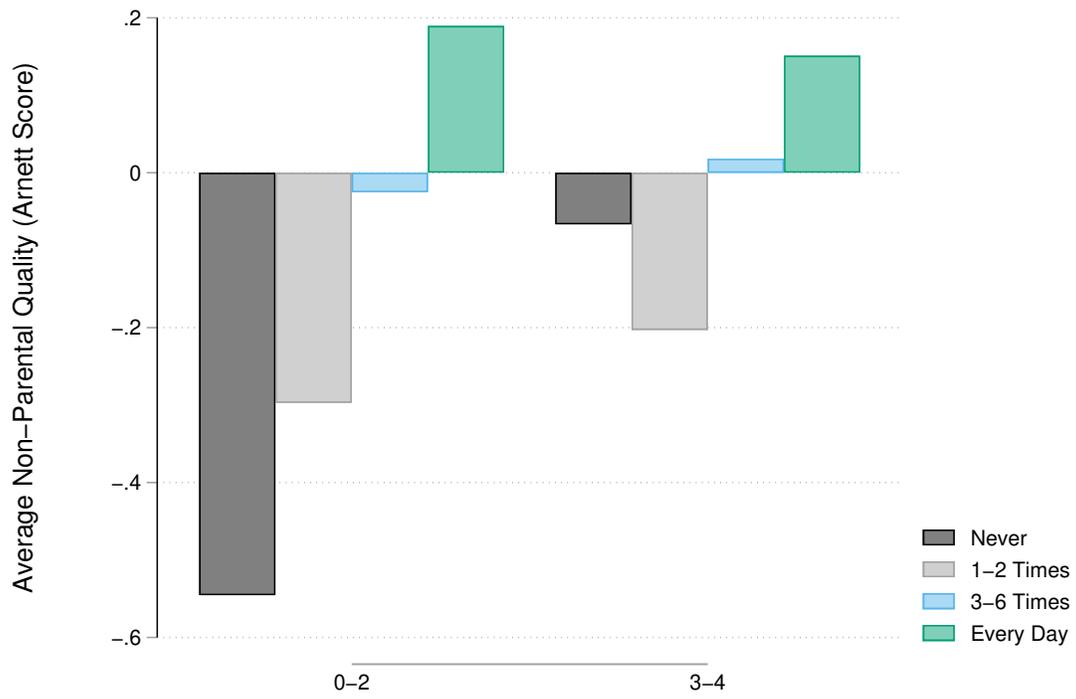
Notes: Non-parental care quality measured using Arnett score of primary non-parental care arrangement. Parental care quality measured using frequency parents read to the child.
Source: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Birth Cohort (ECLS-B).

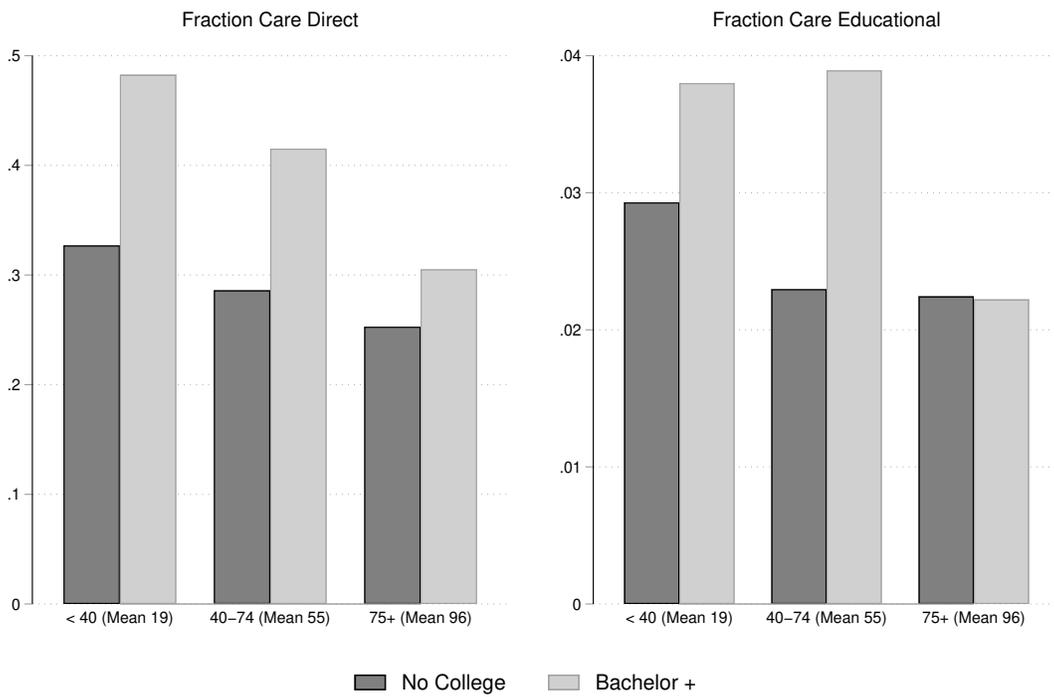Figure A-5: Average Weekly Non-Parental Care Hours by Child Age
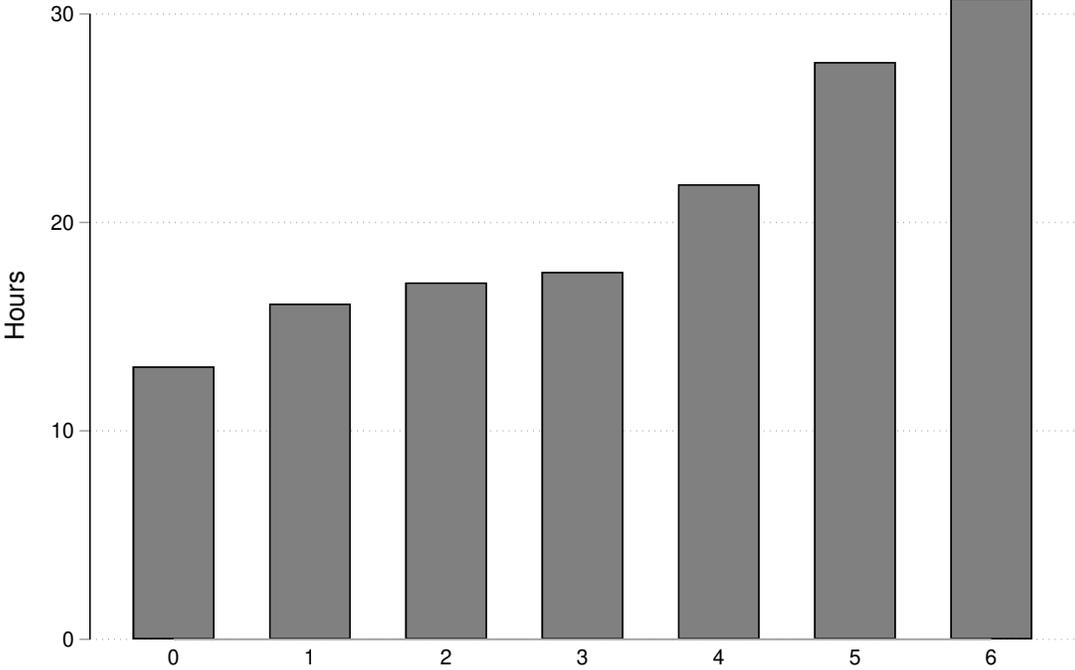
Notes: Comprehensive non-parental care hours for each child.
Source: NSECE 2012.

Figure A-6: Trend in Non-Parental Hours by Child Age and Maternal Education

Notes: Average weekly hours in "regular" non-parental arrangements, provided by relatives, centers, or any other non-relative care providers.
Source: NHES 2001, 2019.

Figure A-7: SES Gradient in Maternal-Care Quality by Mother's Total Child Care Hours

Fraction Care Direct

Fraction Care Educational

< 40 (Mean 19)   40–74 (Mean 55)   75+ (Mean 96)

< 40 (Mean 19)   40–74 (Mean 55)   75+ (Mean 96)

No College   Bachelor +

Notes: Mother's total child care hours extrapolated from single diary day account for low values of total maternal care hours.
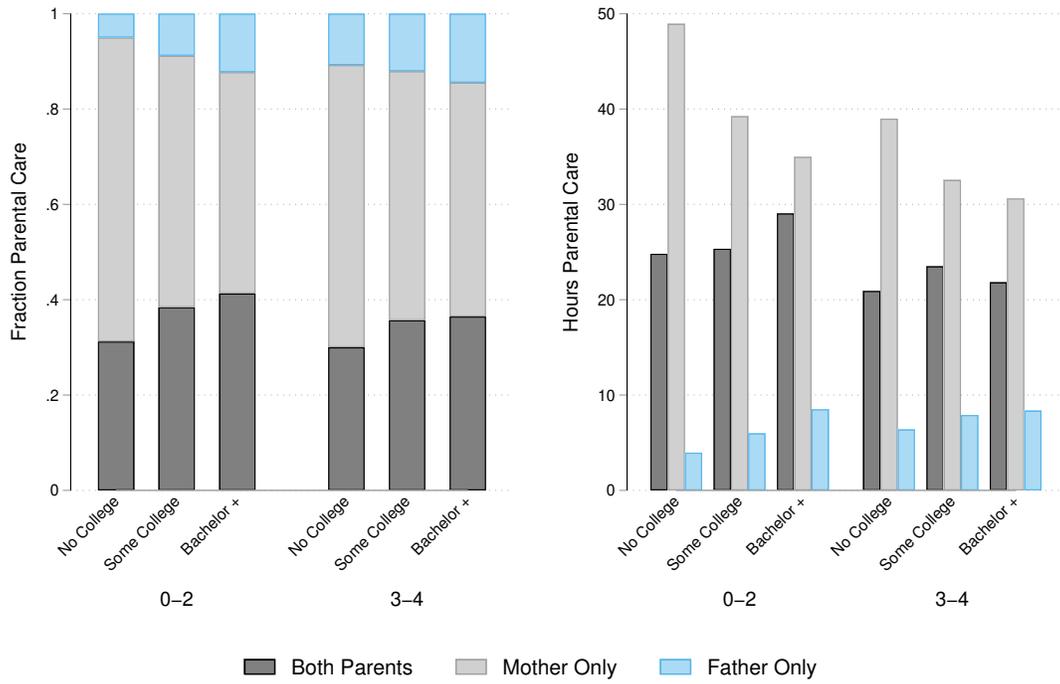Source: ATUS 2016-19.

Figure A-8: Distribution of Child Hours in Non-Parental Care Types by Maternal Education and Labor Supply (Ages 0-2)
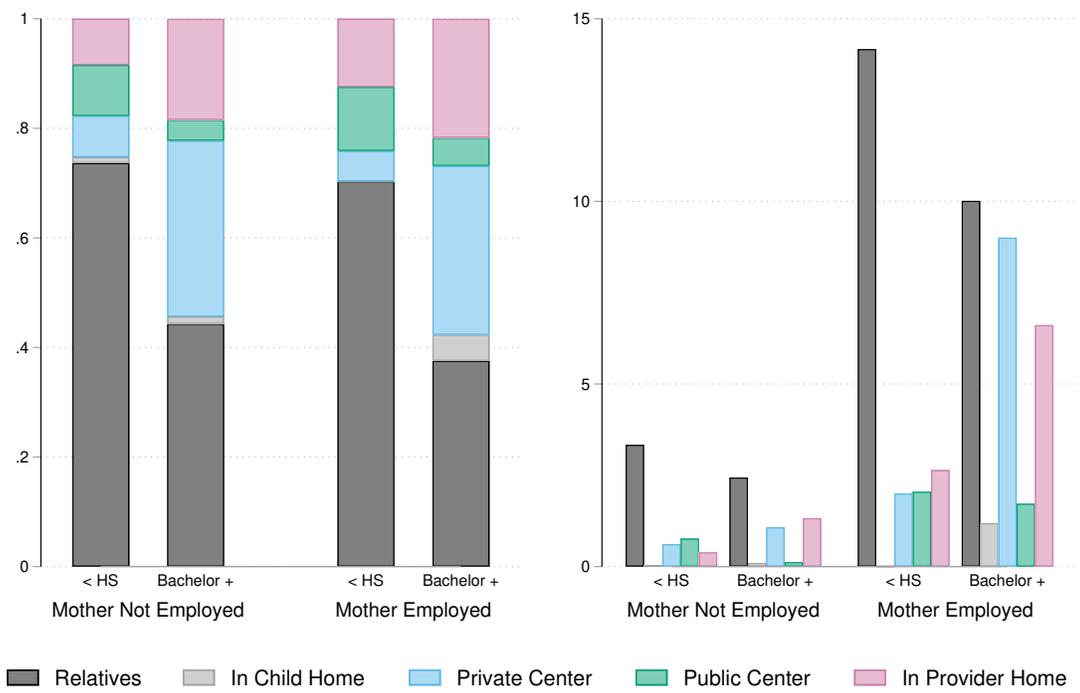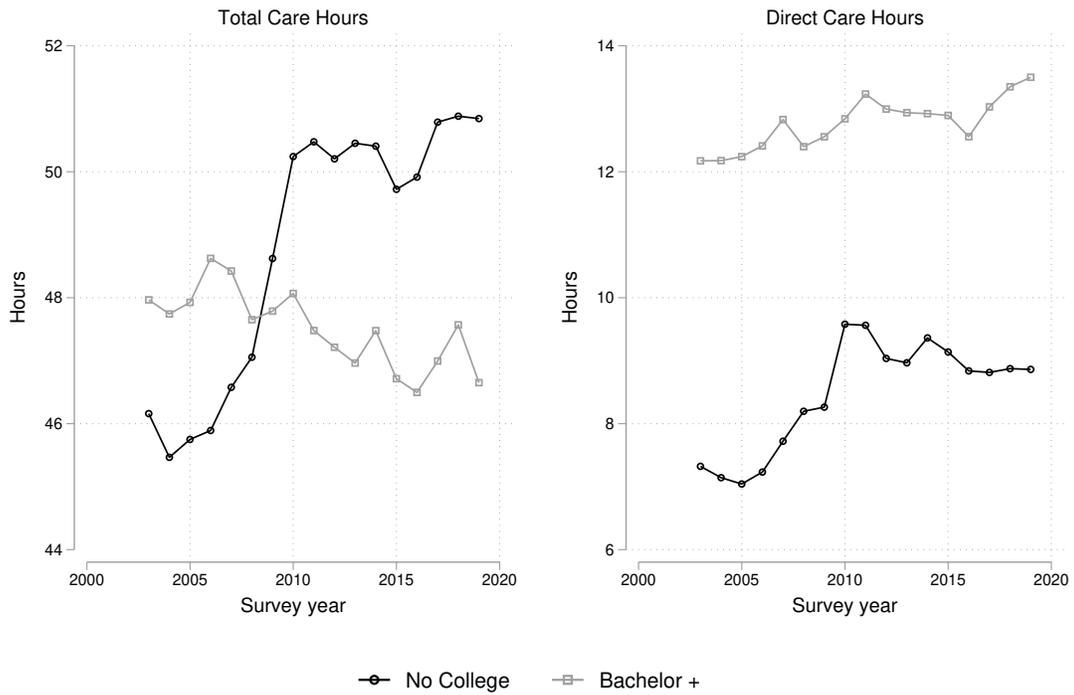

Notes: Distribution of hours in "regular" non-parental arrangements. Source: NSECE 2012.

Figure A-9: Distribution of Parents Present by Child Age and Mother Education

Notes: Parent considered present if actively participating or present but not participating.
Source: PSID-CDS.

Figure A-10: Trends in Fathers's Time Allocation by Maternal Education

Total Care Hours

Direct Care Hours
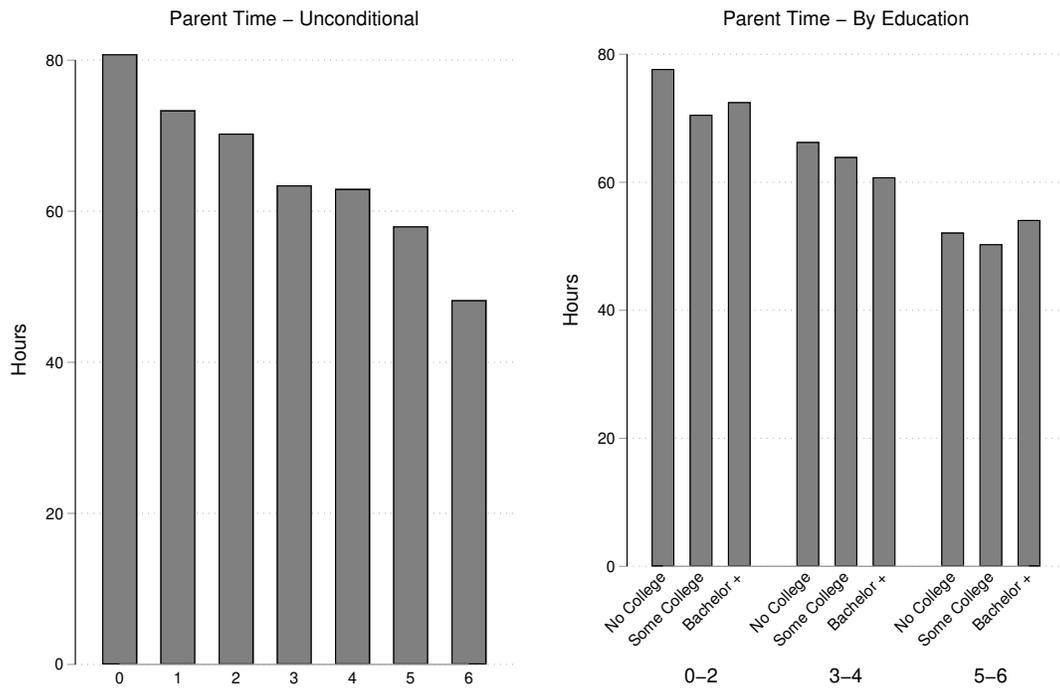
●— No College   ☐— Bachelor +

Notes: Sample includes all households with at least one child under the age of 4. Five-year moving averages plotted.
"Total Care Hours" includes all time the father is around a child. "Direct Care Hours" is the subset of Total Care
Hours in intense childcare activities.
Source: ATUS 2003-19.

Figure A-11: Distribution of Non-Parental Care Hours by Child Age and Maternal Education
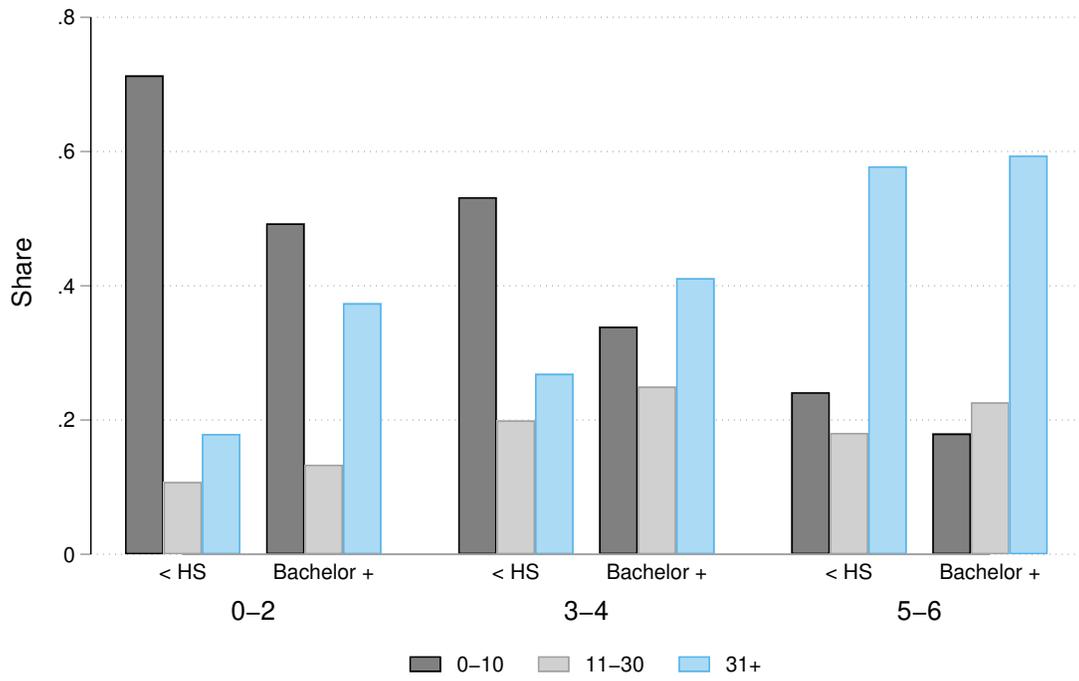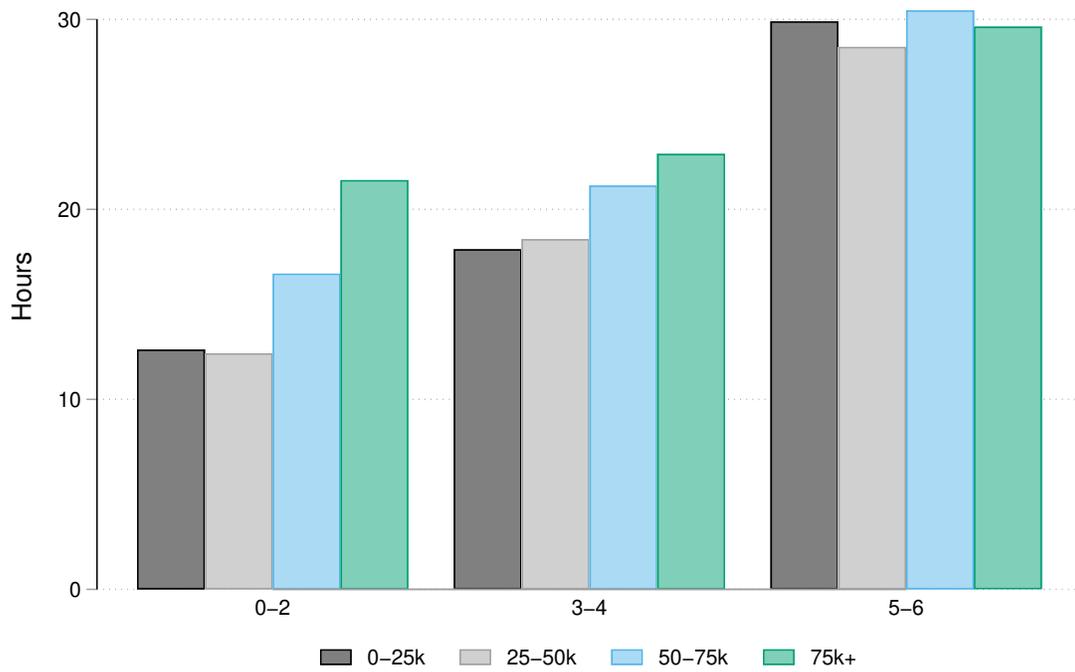

Notes: Comprehensive non-parental care hours for each child.
Source: NSECE 2012.

Figure A-12: Parental Care Hours Received

Parent Time – Unconditional

Parent Time – By Education

25

Figure A-13: Average Weekly Non-Parental Care Hours by Child Age and Family Income

Notes: Comprehensive non-parental care hours for each child.
Source: NSECE 2012.

26

Figure A-14: Trend in Center Hours
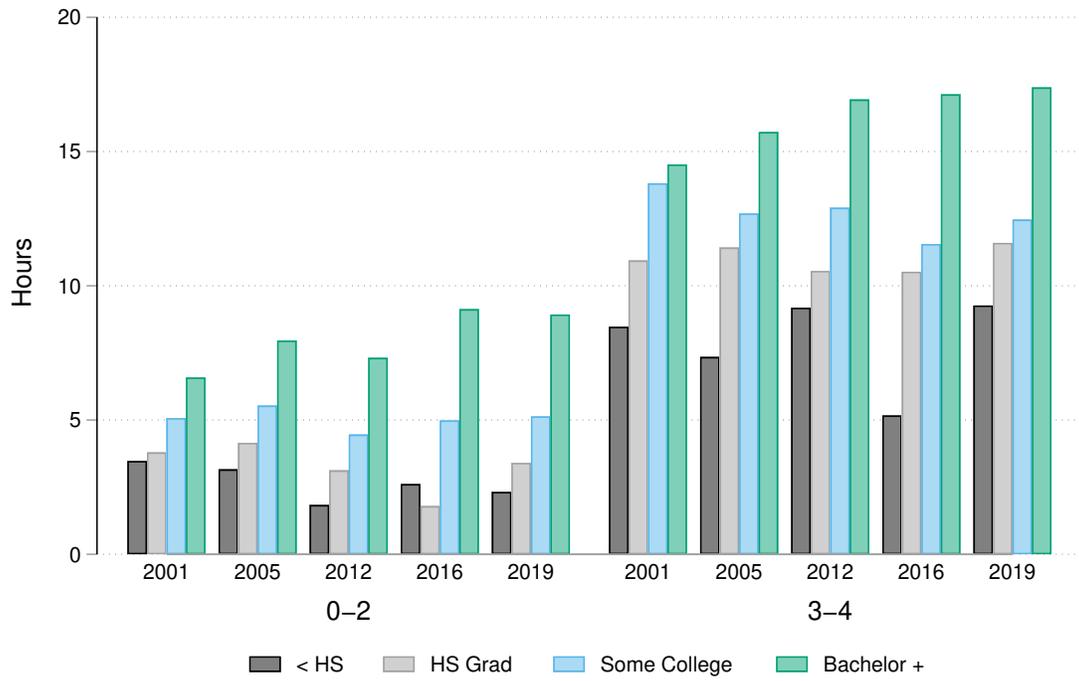
Notes: Average weekly hours in "regular" childcare arrangements provided by centers.
Source: NHES.

Figure A-15: Enrollment in Any Nursery, Pre-K, or Higher Schooling
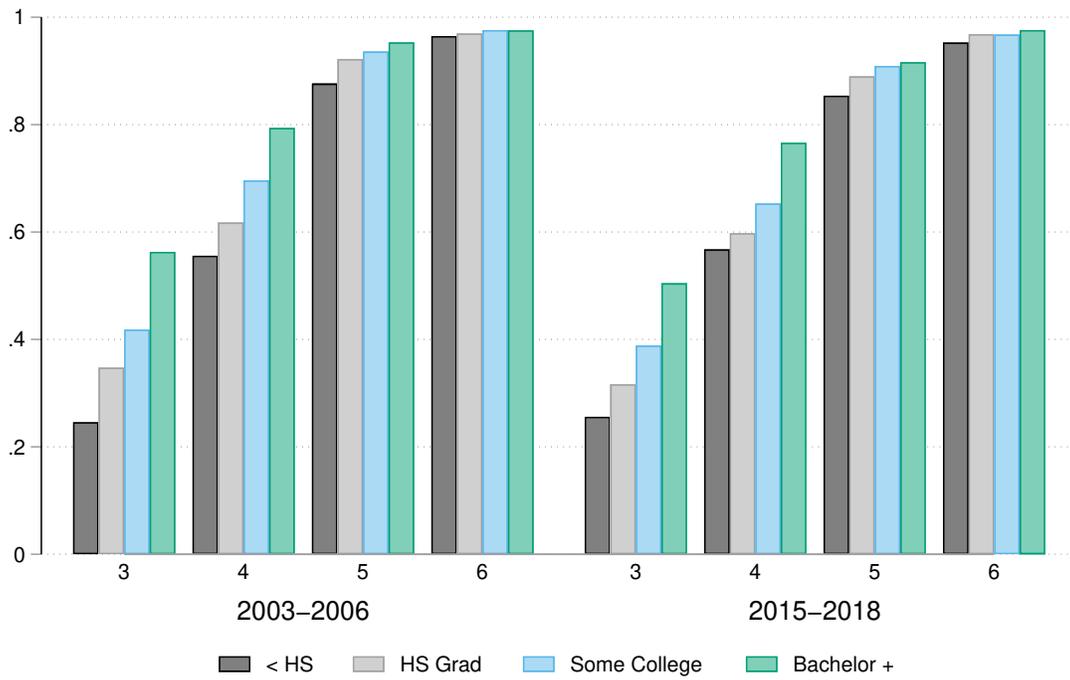
Figure A-16: Enrollment in Full-Day Nursery, Pre-K, or Higher Schooling
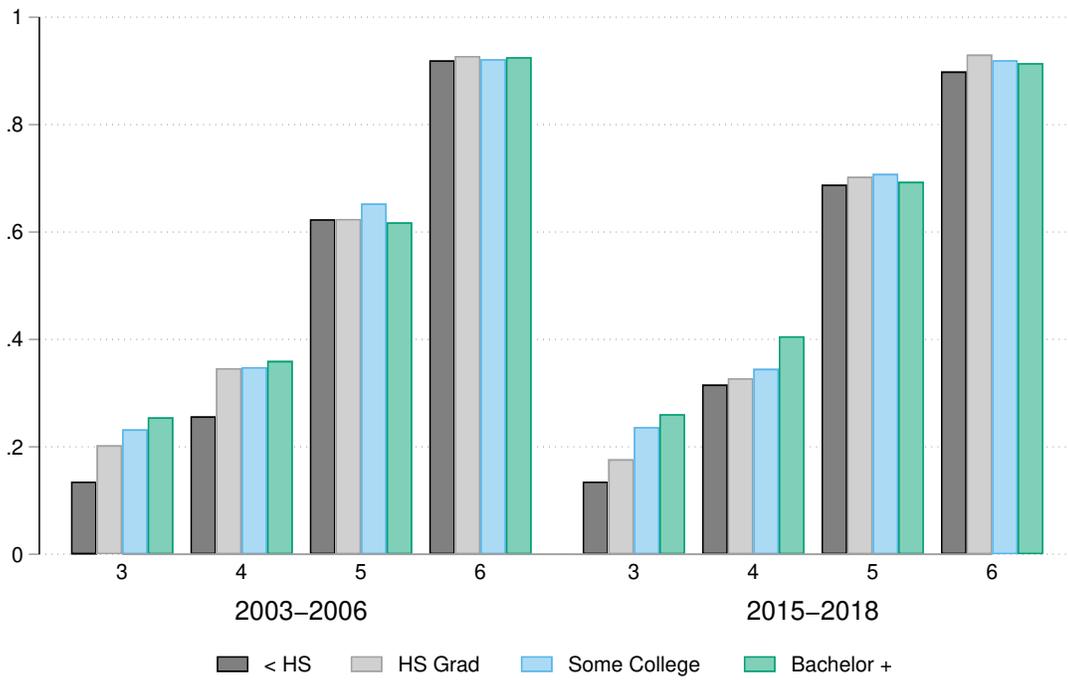
Figure A-17: Usage of Any Non-Parental Care, by Mother's Education and Child Age
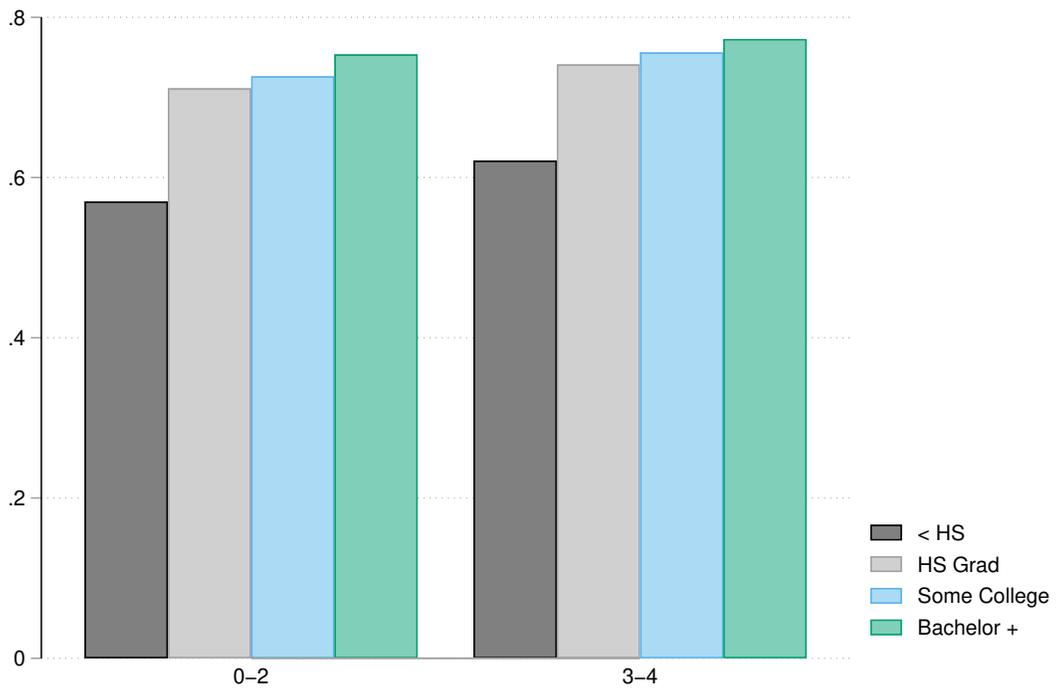
Source: SIPP 2018.

Figure A-18: Usage of Any Non-Relative Care, by Mother's Education and Child Age
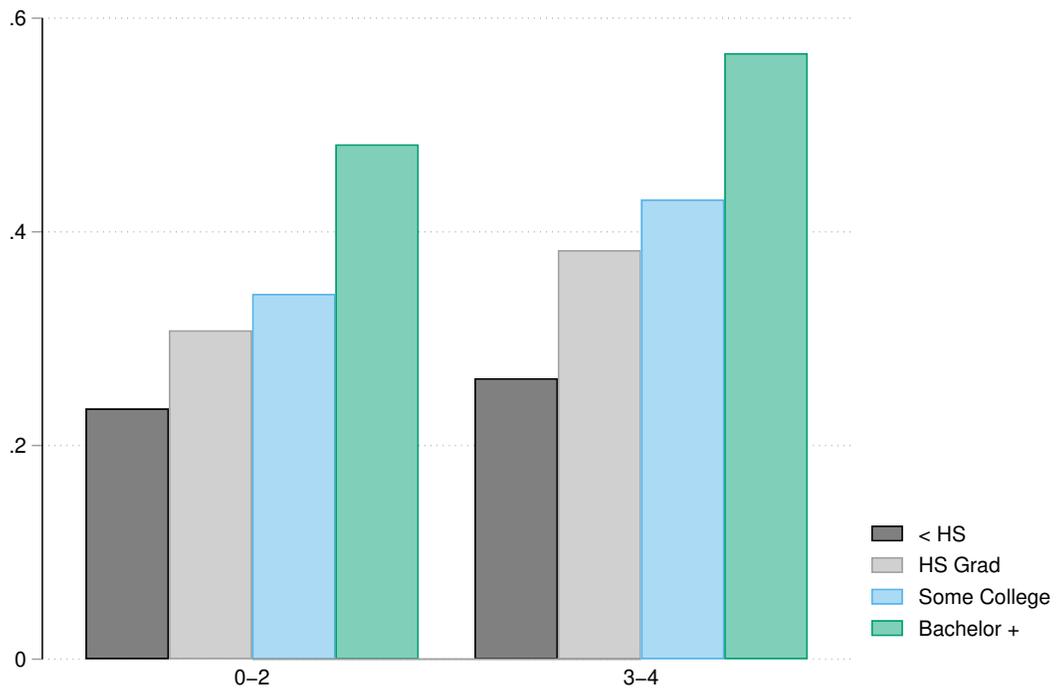
Notes: Non-Relative Care includes center-based, in-provider home ("family day-care"), Head Start, and any other non-relative provider care.
Source: SIPP 2018.

Figure A-19: Distribution of Hours in Non-parental Care Types by Family Income
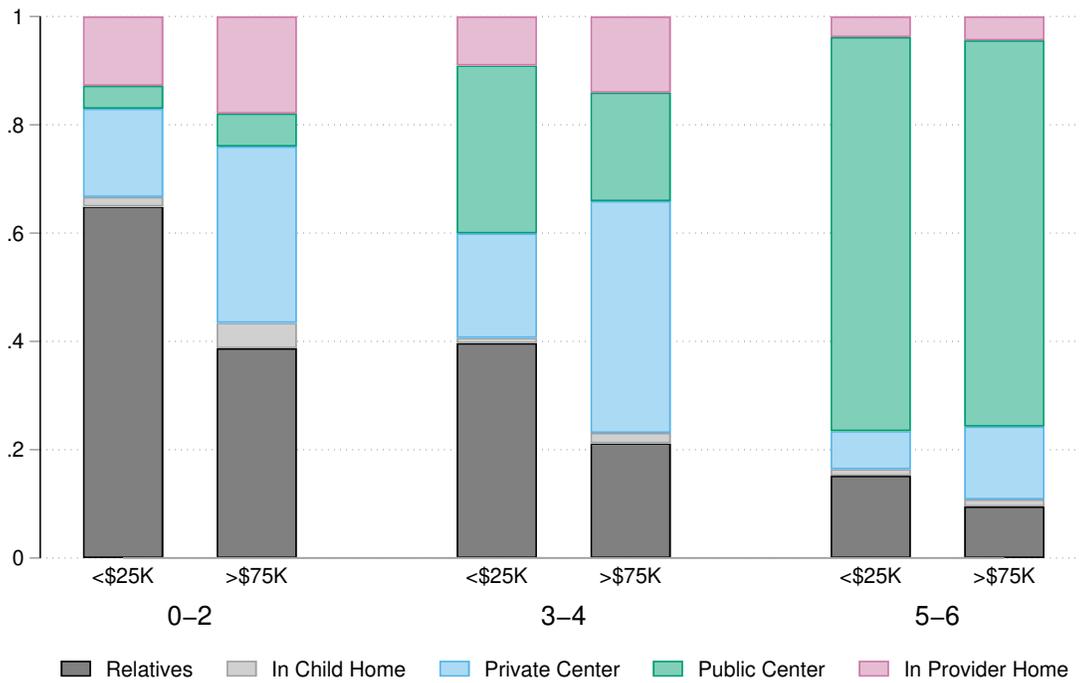
Notes: Distribution of hours in "regular" non-parental arrangements. Public Center includes Head Start, school-based preschool, and K-12. Source: NSECE 2012.

Figure A-20: Distribution of Child Hours in Non-Parental Care Types by Maternal Education and Labor Supply (Ages 3-4)
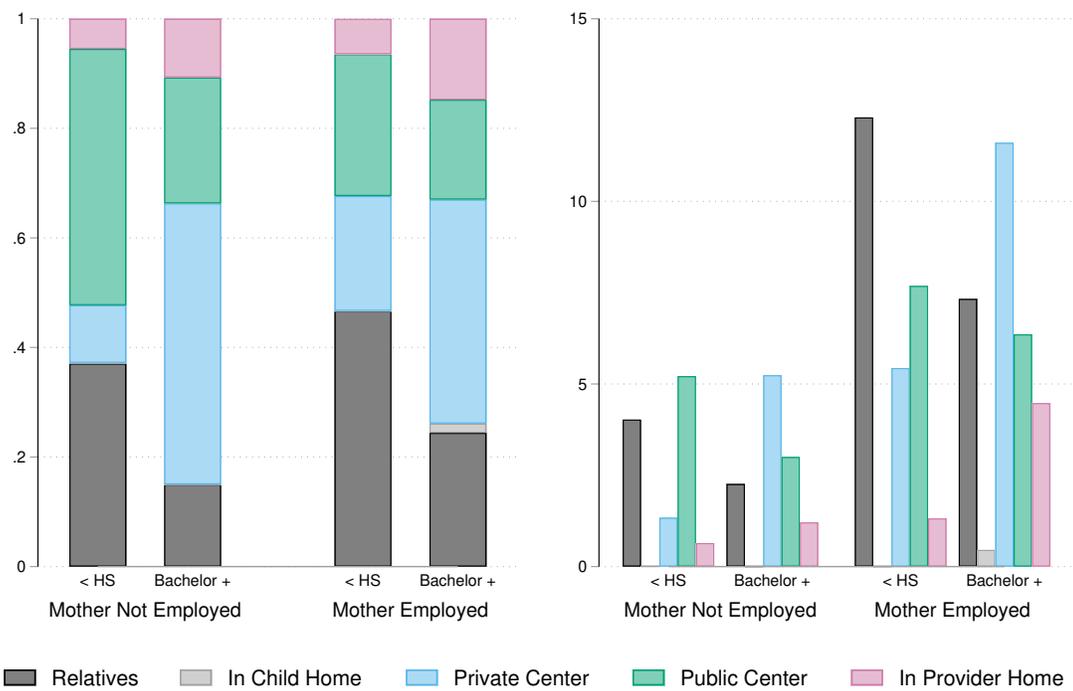
Notes: Distribution of hours in "regular" non-parental arrangements. Source: NSECE 2012.

Figure A-21: Distribution of Hours in Care Type by Family Income and Maternal Labor Supply (Ages 0-2)
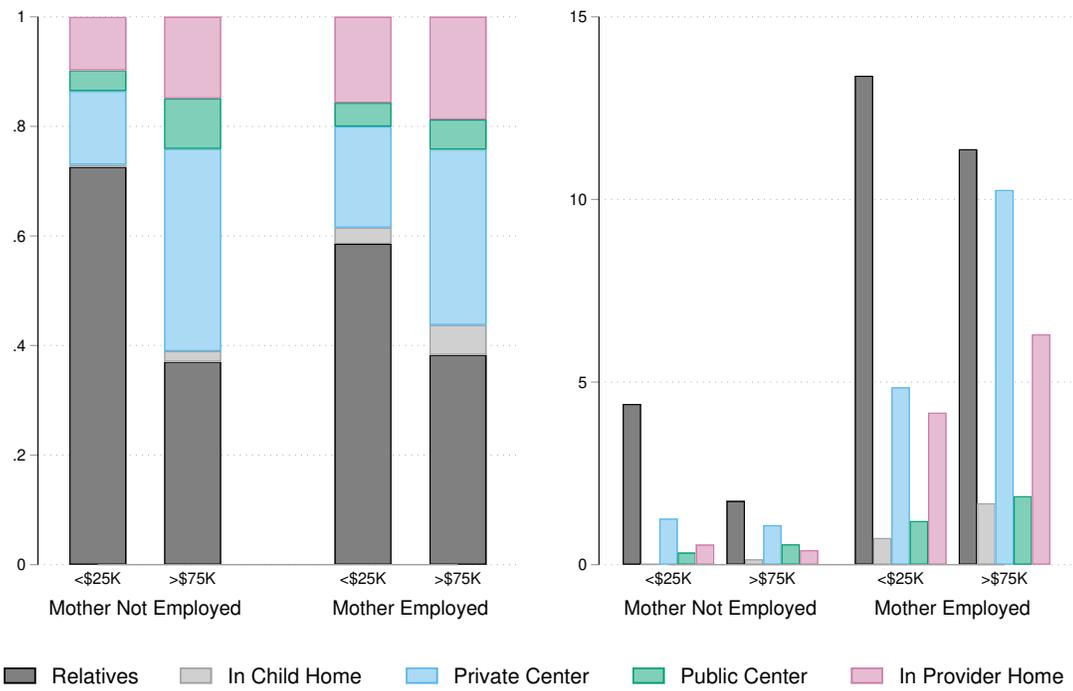
Notes: Distribution of hours in "regular" childcare arrangements. Dollar figures in 2012 dollars.
Source: NSECE.

Figure A-22: Distribution of Hours in Care Type by Family Income and Maternal Labor Supply (Ages 3-4)
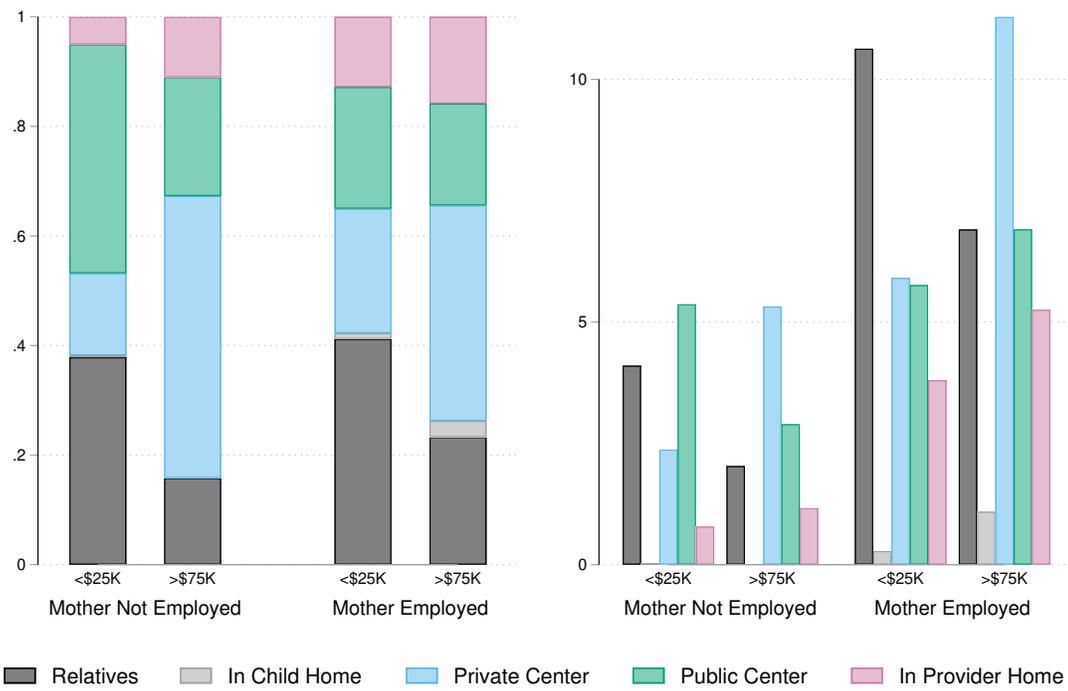
Notes: Distribution of hours in "regular" childcare arrangements. Dollar figures in 2012 dollars.
Source: NSECE.

Figure A-23: Cost Per Hour of Center-Based Care (Ages 0-4)
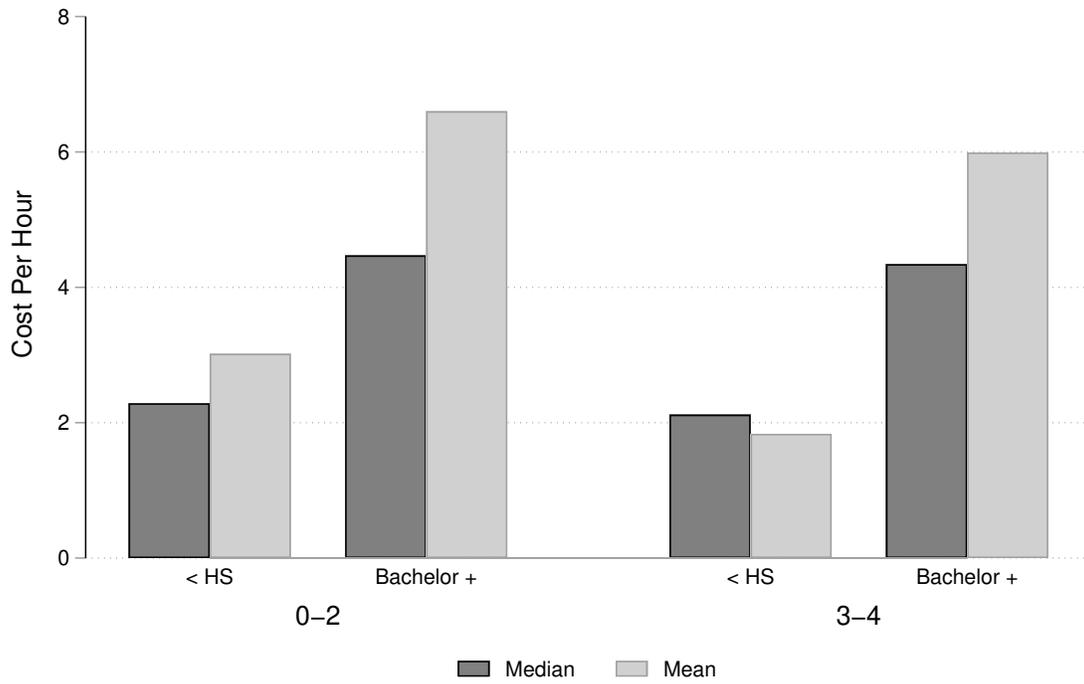
Source: NSECE.

Figure A-24: Average Arnett Score With and Without Head Start by Family Income
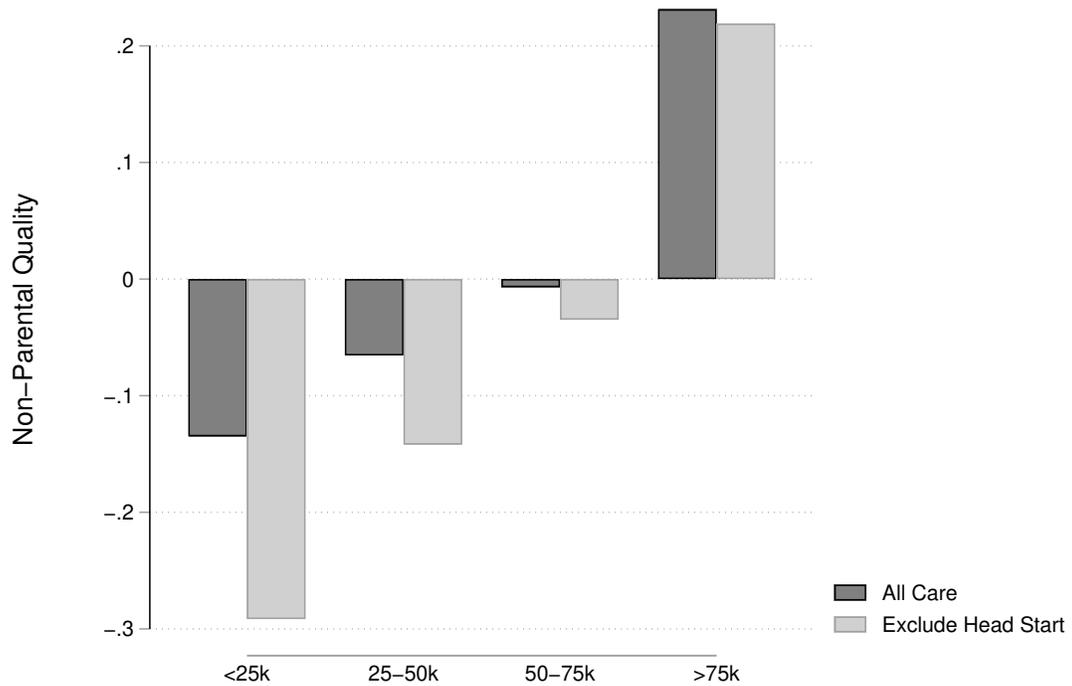
Notes: Average Arnett score computed using primary care arrangement. Average excluding Head Start is computed as hours-weighted average Arnett score for each cell excluding respondents whose primary care arrangement is Head Start.
Source: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Birth Cohort (ECLS-B).

Table A-6: Components of Mother Care Hours - Time Trend

Panel A: 2003 - 2006

	Educ. Care Hours	Recr. Care Hours	Physical Care Hours	Travel Care Hours	Secondary Care Hours	Proximity Hours
High School	0.357	1.508***	1.458*	0.087	0.128	-4.767**
	(0.203)	(0.386)	(0.689)	(0.186)	(1.060)	(1.593)
Some College	0.563**	1.726***	2.053**	0.451*	-0.911	-9.269***
	(0.193)	(0.353)	(0.656)	(0.183)	(1.026)	(1.537)
Bachelor Plus	1.234***	3.250***	3.947***	0.545**	0.004	-10.984***
	(0.191)	(0.359)	(0.664)	(0.173)	(0.999)	(1.461)
Observations	5387	5387	5387	5387	5387	5387
Pooled Mean	1.678	4.551	12.46	1.880	15.74	38.38
LTHS Mean	1.168	2.638	10.68	1.596	15.97	45.85

Panel B: 2016 - 2019

	Educ. Care Hours	Recr. Care Hours	Physical Care Hours	Travel Care Hours	Secondary Care Hours	Proximity Hours
High School	-0.307	1.542	2.624*	0.497	-2.870	-7.108**
	(0.465)	(0.826)	(1.044)	(0.382)	(2.441)	(2.518)
Some College	-0.496	0.595	2.094*	0.403	-3.183	-9.211***
	(0.441)	(0.727)	(1.039)	(0.345)	(2.422)	(2.497)
Bachelor Plus	-0.004	2.001**	2.743**	0.938**	-4.500	-15.094***
	(0.449)	(0.662)	(0.932)	(0.334)	(2.447)	(2.331)
Observations	2794	2794	2794	2794	2794	2794
Pooled Mean	1.803	5.274	12.73	2.111	14.76	37.46
LTHS Mean	2.212	3.360	10.65	1.842	18.62	48.08

Notes: *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$. Heteroskedastic robust standard errors in parentheses. Sample limited to families with at least one child aged 4 or younger. All specifications include fixed effects for survey year and month, weekday indicator, and a full set of fixed effects for the age of each child in the household.
Source: ATUS.

Table A-7: Components of Father Care Hours - Time Trend

Panel A: 2003 - 2006

	Educ. Care Hours	Recr. Care Hours	Physical Care Hours	Travel Care Hours	Secondary Care Hours	Proximity Hours
High School	-0.052	1.591***	1.922***	0.078	2.286*	-1.991
	(0.187)	(0.441)	(0.484)	(0.142)	(1.098)	(1.662)
Some College	0.064	2.010***	2.804***	0.292*	2.968**	-2.352
	(0.191)	(0.464)	(0.480)	(0.143)	(1.069)	(1.494)
Bachelor Plus	0.364*	1.877***	4.111***	0.422**	3.163**	-4.983***
	(0.179)	(0.346)	(0.444)	(0.144)	(1.012)	(1.430)
Observations	3738	3738	3738	3738	3738	3738
Pooled Mean	0.763	3.376	4.824	0.845	10.79	26.48
LTHS Mean	0.656	1.579	1.953	0.645	7.929	29.30

Panel B: 2016 - 2019

	Educ. Care Hours	Recr. Care Hours	Physical Care Hours	Travel Care Hours	Secondary Care Hours	Proximity Hours
High School	-0.076	0.555	0.371	0.134	1.961	-2.090
	(0.280)	(1.177)	(0.940)	(0.261)	(2.211)	(3.151)
Some College	0.158	0.668	1.427	0.197	0.692	-2.213
	(0.297)	(0.942)	(0.849)	(0.246)	(2.085)	(2.847)
Bachelor Plus	0.306	0.522	3.372***	0.729**	1.493	-5.504*
	(0.267)	(0.876)	(0.891)	(0.263)	(2.007)	(2.735)
Observations	2082	2082	2082	2082	2082	2082
Pooled Mean	0.984	4.298	5.278	1.037	10.56	26.18
LTHS Mean	0.909	3.494	3.623	0.831	9.954	32.82

Notes: $^*p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$. Heteroskedastic robust standard errors in parentheses. Sample limited to families with at least one child aged 4 or younger. All specifications include fixed effects for survey year and month, weekday indicator, and a full set of fixed effects for the age of each child in the household.
Source: ATUS.

Table A-8: Relationships between Parental Care Hours and Maternal Education - Additional Controls

Panel A: Mother Time

	Total Care Hours	Direct Care Hours	Fraction Direct	Educ. Care Hours	Fraction Educ.
High School	-1.279	5.087***	0.068***	-0.198	-0.001
	(2.393)	(1.509)	(0.019)	(0.506)	(0.007)
Some College	-2.042	4.529**	0.068***	-0.376	-0.005
	(2.370)	(1.513)	(0.018)	(0.502)	(0.007)
Bachelor Plus	-4.618	7.085***	0.126***	0.087	0.005
	(2.380)	(1.502)	(0.019)	(0.501)	(0.007)
Observations	2794	2794	2751	2794	2751
Pooled Mean	74.14	21.92	0.318	1.803	0.0254
LTHS Mean	84.77	18.07	0.216	2.212	0.0263

Panel B: Father Time

	Total Care Hours	Direct Care Hours	Fraction Direct	Educ. Care Hours	Fraction Educ.
High School	1.552	0.989	0.044	-0.193	-0.011
	(3.505)	(1.472)	(0.034)	(0.286)	(0.012)
Some College	3.756	3.378*	0.056	0.083	-0.005
	(3.249)	(1.375)	(0.030)	(0.305)	(0.012)
Bachelor Plus	4.763	5.915***	0.125***	0.194	0.000
	(3.235)	(1.381)	(0.029)	(0.287)	(0.012)
Observations	2082	2082	1987	2082	1987
Pooled Mean	48.34	11.60	0.290	0.984	0.0271
LTHS Mean	51.63	8.858	0.197	0.909	0.0239

Notes: $^*p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$. Heteroskedastic robust standard errors in parentheses. Sample is families with at least one child aged 4 or younger. Education level refers to maternal education in both panels with Less than High School as the omitted category. Each panel-column reports estimates from a separate regression with the outcome listed in the column head. All specifications include fixed effects for survey year and month, weekday indicator, and a full set of fixed effects for the age of each child in the household. Missing covariates recoded and a full set of dummy variables for missing covariates is included. Additional controls consist of respondent age, presence of father, marital status, maternal and paternal employment, and an indicator if mother is in school.
Source: ATUS 2016-19.

Table A-9: Relationships between Quality of Parental Care Received and Maternal Education - Additional Controls

Panel A: Activities and Intensity

	Direct Care	Active	Educational	Screen Time
Some College	0.027	0.014	0.012*	-0.023
	(0.014)	(0.019)	(0.005)	(0.012)
College Grad Plus	0.037**	0.042*	0.014**	-0.023
	(0.012)	(0.020)	(0.005)	(0.013)
Observations	1375	1375	1375	1375
Pooled Mean	0.231	0.621	0.0404	0.139
No College Mean	0.202	0.588	0.0295	0.165

Panel B: Parents Present

	Both Parents	M Only	F Only
Some College	0.025	-0.037	0.012
	(0.025)	(0.030)	(0.018)
College Grad Plus	-0.009	-0.035	0.044*
	(0.027)	(0.030)	(0.019)
Observations	1375	1375	1375
Pooled Mean	0.358	0.533	0.109
No College Mean	0.307	0.617	0.0765

Notes: $^*p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$. Heteroskedastic robust standard errors in parentheses. Education level refers to maternal education with High School or Less as the omitted category. Each panel-column reports estimates from a separate regression with the outcome listed in the column head. Outcomes are average weekly hours in select time category dived by average weekly parental care hours. Sample limited to children ages 0-4. Additional controls include indicators for whether the child lives with both parents, mother marital status, labor force participation of mother and father, and a full set of fixed effects for the ages of each child in the household.
Source: PSID-CDS.

Table A-10: Quality of Parental Care Received - Levels

	Both Parents	M Only	F Only	Direct Care	Active	Educ	Screen
Some College	1.570	-8.001**	2.185	1.633	-0.253	0.811**	-3.387***
	(2.336)	(2.510)	(1.206)	(0.963)	(1.675)	(0.280)	(0.906)
College Grad Plus	2.132	-9.757***	3.164**	2.120*	0.559	1.127***	-4.339***
	(2.109)	(2.312)	(1.190)	(0.870)	(1.529)	(0.276)	(0.940)
Observations	1375	1375	1375	1375	1375	1375	1375
Pooled Mean	24.31	36.98	7.021	15.10	41.16	2.566	9.400
No College Mean	23.03	44.38	5.071	13.96	41.16	1.827	12.03

Notes: $^*p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$. Heteroskedastic robust standard errors in parentheses. Sample limited to children ages 0-4. All specifications include fixed effects for child age and survey year.
Source: PSID-CDS.

Table A-11: Relationships between Quality of Parental Care Received and Maternal Education, HOME Score-Based Measures - Additional Controls

	Total HOME Score	Caregiver-Child Observe	Environment	Survey
Some College	0.437***	0.318***	0.251***	0.402***
	(0.073)	(0.084)	(0.073)	(0.079)
College Grad Plus	0.675***	0.447***	0.469***	0.580***
	(0.071)	(0.079)	(0.074)	(0.072)
Observations	2186	1943	1887	2186

Notes: $^*p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$. Heteroskedastic robust standard errors in parentheses. Education level refers to maternal education with High School or Less as the omitted category. Each column reports estimates from a separate regression with the outcome listed in the column head. Outcomes are standardized within age and survey year; standardized scores are mean 0 and standard deviation 1. Additional controls include indicators for whether the child lives with both parents, mother marital status, labor force participation of mother and father, and a full set of fixed effects for the ages of each child in the household.
Source: PSID-CDS.