



The Effect of Grandparent Care on Children's Developmental Outcomes

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Abstract

- Our findings from OLS models indicate that time spent with grandparents increases children's internalizing and externalizing behavioral problems.
- However, findings from both waves of the CDS-PSID and child-specific fixed effects models reveal that the effect of grandparent care on children's behavioral outcomes is largely due to selection issues and unobserved heterogeneity.
- That is, once we take into account the host of unobservable variables that lead certain children into more time with their grandparents *and* into higher rates of behavioral problems, the effect of grandparent care disappears.
- We find only one effect that remains robust to fixed effects: boys' time accessible to, but not engaged with grandparents, is positively related to their externalizing behavioral problems.

Research Questions

- What is the effect of time spent with grandparents on children's internalizing and externalizing behavioral outcomes?
- Does the relationship between grandparent time and children's well-being vary depending on the *type* of time (accessible versus engaged time)?
- Does the relationship between grandparent time and children's well-being vary between poor and non-poor families?
- Does the relationship between grandparent time and children's well-being vary between boys and girls?

Hypotheses

- Hypothesis 1: Grandparent time may be negatively related to children's behavioral problems as grandparents provide a stable and committed relationship (Furstenberg, Brooks-Gunn, Morgan 1987; Lamb 1976; Parke 1979; Tinsley and Parke 1984).
- Hypothesis 2: Grandparent time may be positively related to children's behavioral problems if children are less supervised and engaged.

Methods

- OLS and First Difference Model (Individual Fixed Effects for 2 Time Periods) using waves I and II of the CDS.
- The Fixed Effects Model is as follows:

$$\Delta\gamma_i = \delta_0 + \beta_1\Delta\chi_i + \dots + \beta_k\Delta\chi_{ik} + \mu_i$$

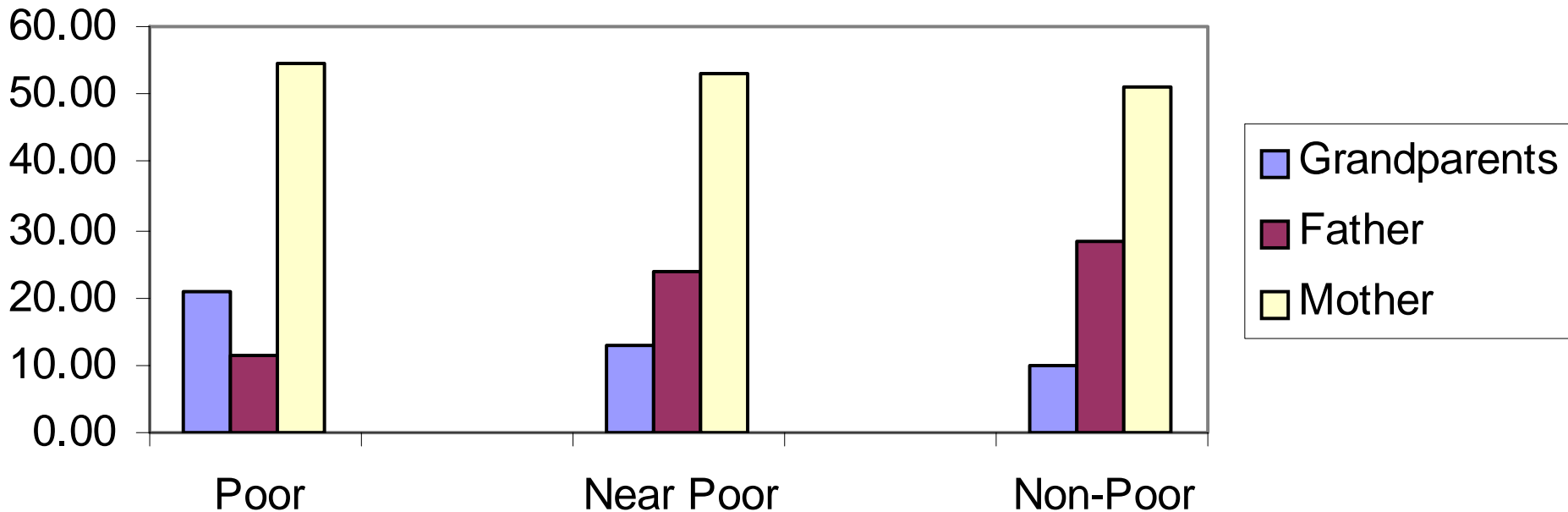
Where γ_i is a continuous measure of the child's internalizing or externalizing behavioral problems, χ_i is a continuous measure of the child's time spent with grandparents, χ_{ik} are other social and demographic child-level covariates, and μ_i captures error due to time-variant characteristics.

Methods Continued

- **Sample:** Black and White children from both waves of the CDS.
- **Outcome Variable:** Behavior Problem Index. Based on responses by primary caregiver to whether a set of 32 problems is often, sometimes, or never true of the child. Externalizing measures aggressive behavior; internalizing measures withdrawn behavior.
- **Key Independent Variables:** Accessible and engaged time with grandparents from time diary. Following Lamb (1985), we refer to time where grandparent is engaged with child as “engaged time” and time where grandparent is accessible to, but not engaged with, child as “accessible time”.
- **Control Variables:** Number of children in family unit, family structure, family income, child’s sex, child’s race. In fixed effects models, all time-invariant characteristics are controlled for.

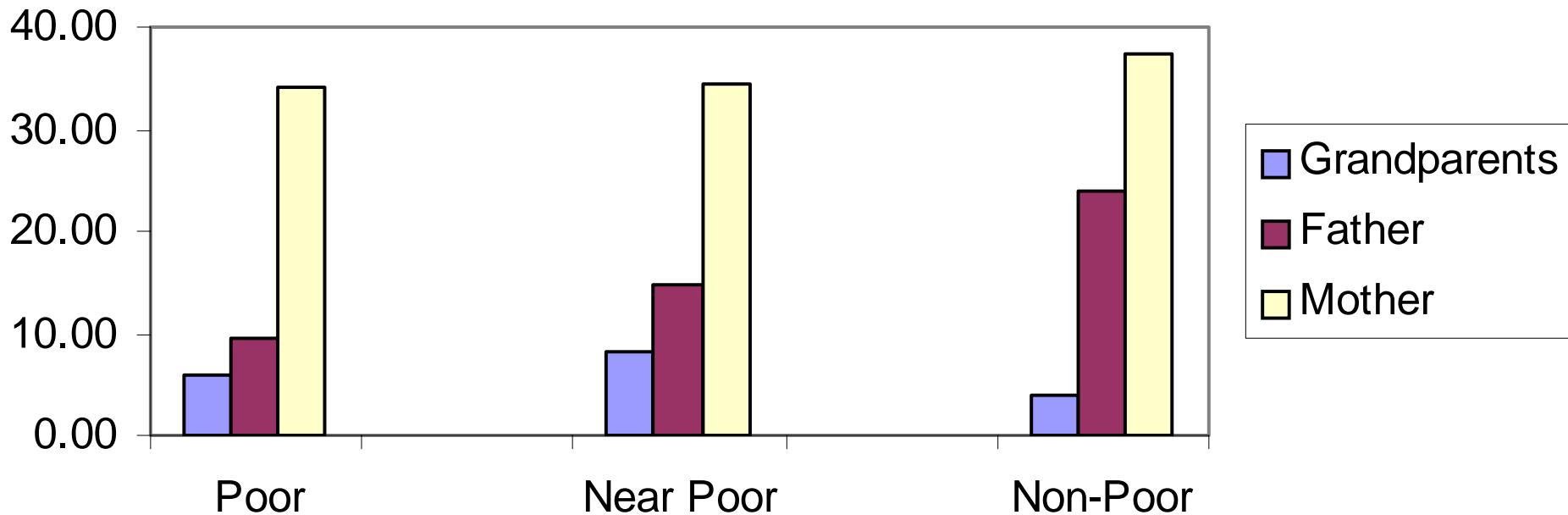
Descriptive Findings

Children Aged 0-5 Weekly Engaged & Accessible Hours with Grandparents, Father, Mother (1997 CDS)



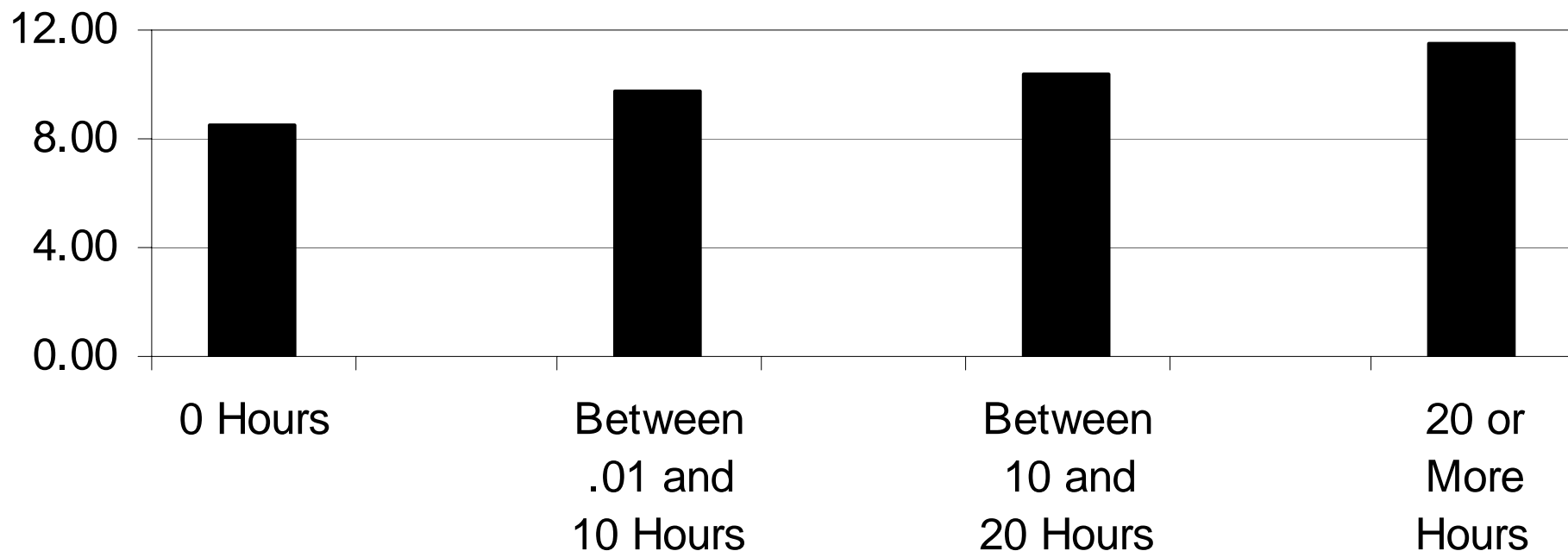
Descriptive Findings

Children Aged 6-12 Weekly Engaged & Accessible Hours with Grandparents, Father, Mother (1997 CDS)



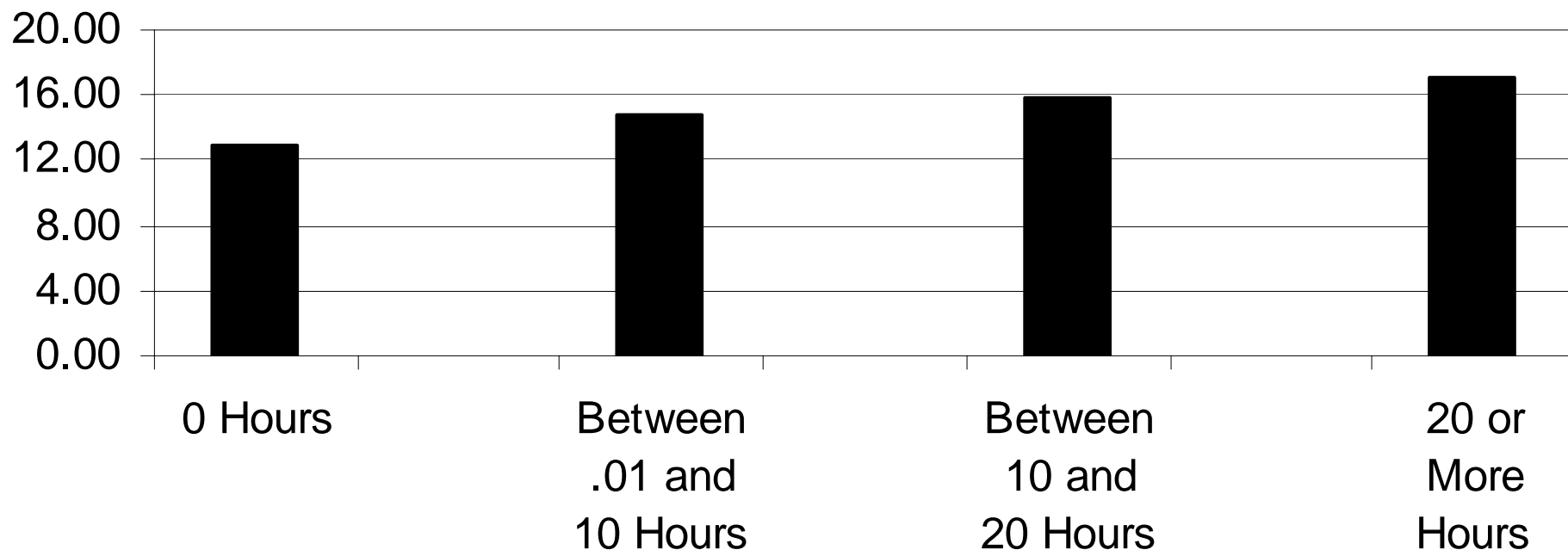
Descriptive Findings

Mean Internalizing BPI by Engaged Hours per Week with Grandparents (1997, 2002)



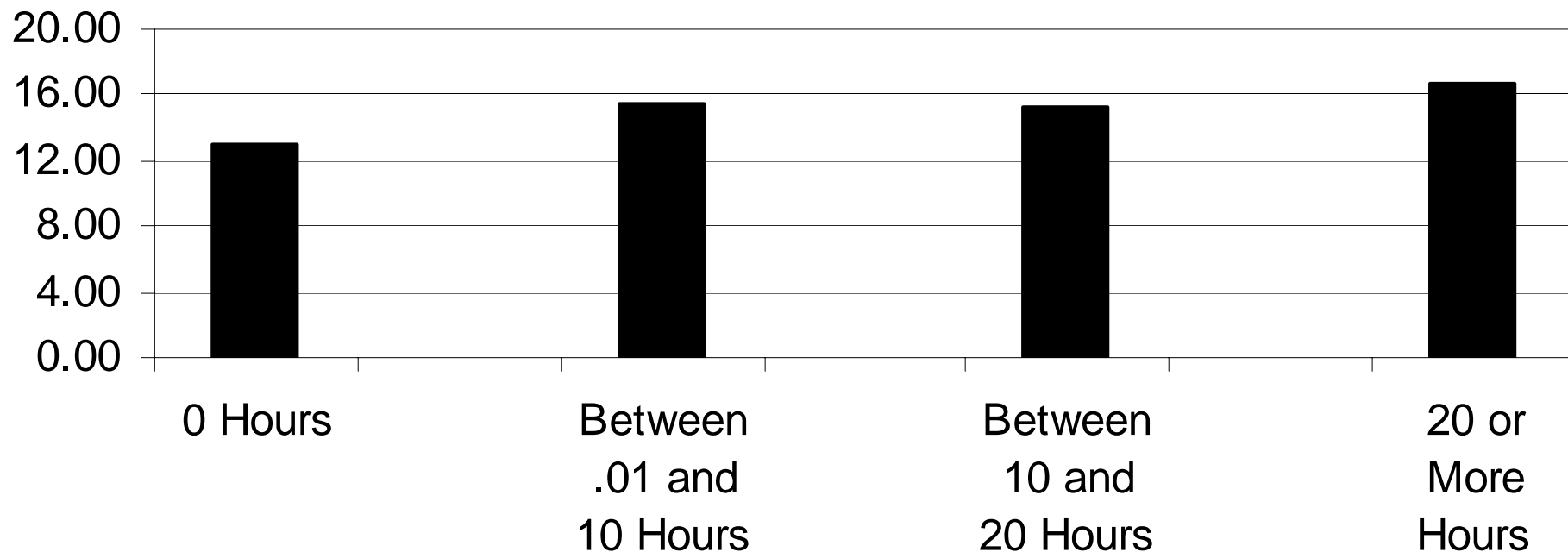
Descriptive Findings

Mean Externalizing BPI by Engaged Hours per Week with Grandparents



Descriptive Findings

Mean Externalizing BPI by Accessible Hours per Week with Grandparents



Descriptive Findings

Mean Internalizing BPI by Accessible Hours per Week with Grandparents

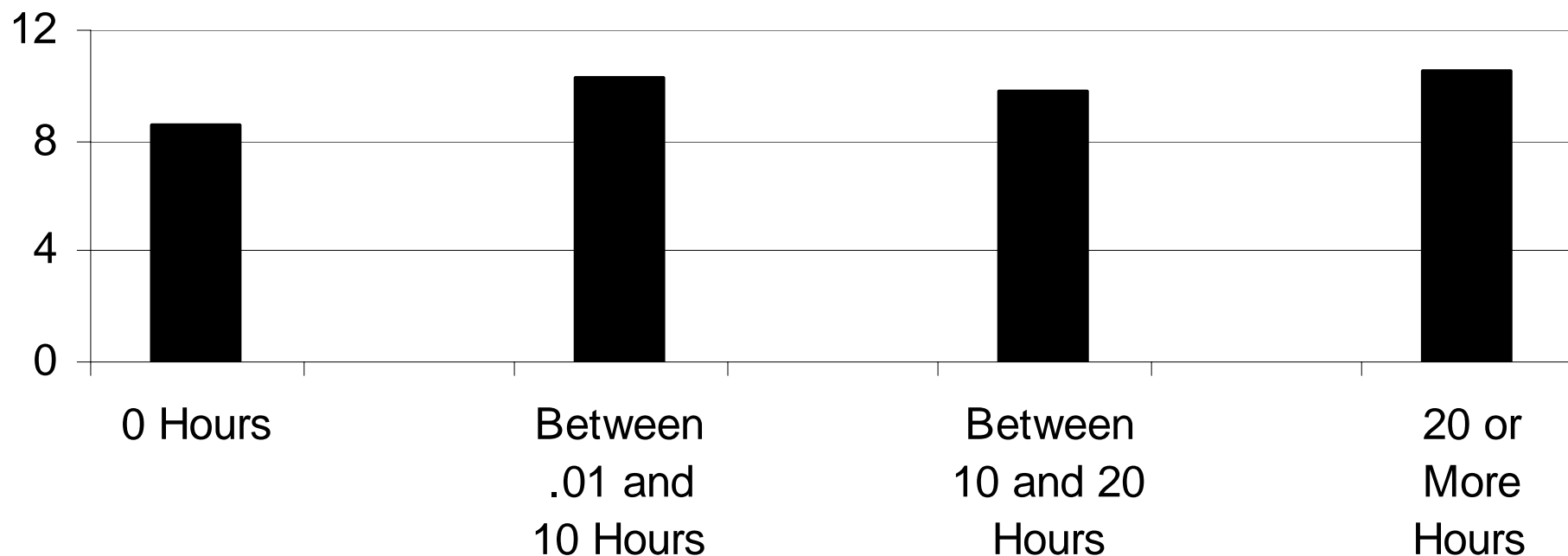


Table 1. Unstandardized Coefficient Estimates of Grandparent Accessible Time on Child Behavior Outcomes: OLS and Fixed Effects Models, 1997 and 2002 CDS (standard errors below)

	Total BPI		Externalizing BPI		Internalizing BPI	
	OLS	F.E.	OLS	F.E.	OLS	F.E.
Grandparent Accessible Time is Between 0 and 10 Hours ^a	5.263** (0.912)	0.021 (0.325)	3.137** (0.539)	0.056 (0.207)	2.031** (0.379)	-0.041 (0.144)
Grandparent Accessible Time is Between 10 and 20 Hours ^a	5.248** (1.692)	0.518 (0.484)	3.175** (0.966)	0.493 (0.308)	1.887** (0.709)	-0.050 (0.214)
Grandparent Accessible Time is 20 or More Hours ^a	3.534 (2.001)	0.505 (0.518)	2.317* (1.098)	0.682* (0.330)	1.160 (0.922)	-0.164 (0.229)
Number of Children in Family Unit	0.266 (0.283)	0.163 (0.107)	0.160 (0.170)	0.110 (0.068)	0.136 (0.121)	0.068 (0.047)
Family Income	-3.680** (0.370)	-0.959** (0.131)	-2.107** (0.219)	-0.594** (0.084)	-1.414** (0.150)	-0.253** (0.058)
Single Mother ^b	0.561 (0.947)	1.777** (0.305)	0.371 (0.536)	1.106** (0.194)	0.209 (0.427)	0.533** (0.135)
Other ^b	-0.194 (0.849)	2.561** (0.327)	-0.157 (0.500)	1.382** (0.208)	-0.011 (0.360)	0.997** (0.145)
Girl	-1.627** (0.500)		-1.328** (0.300)		-0.374 (0.215)	
African American	-1.193 (0.753)		-0.613 (0.446)		-0.807* (0.325)	
Constant	61.091** (4.285)	31.740** (1.489)	35.211** (2.547)	18.724** (0.949)	23.359** (1.727)	10.962** (0.658)
Number of Child-Years	4428	4440	4430	4442	4430	4442
R-Squared	0.06	0.05	0.06	0.05	0.05	0.02

^a: Reference Category: 0 Hours

^b: Reference Category: Two Parents

Note: robust standard errors used in OLS model

* significant at 5%; ** significant at 1%

Table 2. Unstandardized Coefficient Estimates of Grandparent Engaged Time on Child Behavior Outcomes: OLS and Fixed Effects Models, 1997 and 2002 CDS (standard errors below)

	Total BPI		Externalizing BPI		Internalizing BPI	
	OLS	F.E.	OLS	F.E.	OLS	F.E.
Grandparent Accessible Time is Between 0 and 10 Hours ^a	3.457** (0.836)	0.211 (0.284)	2.212** (0.490)	0.179 (0.181)	1.261** (0.347)	0.106 (0.126)
Grandparent Accessible Time is Between 10 and 20 Hours ^a	5.333** (1.576)	-0.178 (0.476)	2.940** (0.844)	-0.067 (0.304)	2.306** (0.728)	-0.080 (0.211)
Grandparent Accessible Time is 20 or More Hours ^a	6.585** (1.850)	1.128 (0.612)	3.865** (1.080)	0.632 (0.390)	2.678** (0.779)	0.509 (0.271)
Number of Children in Family Unit	0.316 (0.284)	0.162 (0.107)	0.184 (0.170)	0.105 (0.068)	0.161 (0.120)	0.074 (0.047)
Family Income	-3.724** (0.373)	-0.969** (0.131)	-2.136** (0.220)	-0.606** (0.083)	-1.425** (0.152)	-0.251** (0.058)
Single Mother ^b	0.534 (0.963)	1.781** (0.304)	0.355 (0.545)	1.126** (0.194)	0.190 (0.433)	0.512** (0.134)
Other ^b	-0.424 (0.828)	2.554** (0.326)	-0.271 (0.488)	1.419** (0.208)	-0.134 (0.351)	0.946** (0.144)
Girl	-1.621** (0.502)		-1.328** (0.300)		-0.370 (0.216)	
African American	-1.003 (0.757)		-0.491 (0.445)		-0.739* (0.329)	
Constant	61.392** (4.326)	31.840** (1.487)	35.432** (2.566)	18.865** (0.948)	23.387** (1.746)	10.889** (0.657)
Number of Child-Years	4428	4440	4430	4442	4430	4442
R-Squared	0.06	0.05	0.06	0.05	0.05	0.03

^a: Reference Category: 0 Hours

^b: Reference Category: Two Parents

Note: robust standard errors used in OLS model

* significant at 5%; ** significant at 1%

Multivariate Findings

■ Summary of Findings from Tables 1 and 2:

- OLS models reveal that children's time with grandparents increases their internalizing and externalizing behavioral problems. Differences are similar for both engaged and accessible time-use.
- Fixed effects models reveal that the effect of children's time with grandparents on behavioral outcomes is spurious and due to unobservable factors. Once we control for these factors, significant effects dissolve.
- However, one drawback of the fixed effects model is that time-invariant characteristics drop out of the equation. Therefore, we must run separate models for boys and girls. We turn to that next.



Multivariate Findings

- Does the effect of grandparent time on children's behavioral outcomes vary by child's sex?

Table 3. Unstandardized Coefficient Estimates of Grandparent Accessible Time on Child Behavior Outcomes: Fixed Effects Models By Child Sex, 1997 and 2002 CDS (standard errors below)

	Boys		Girls	
	Externalizing BPI	Internalizing BPI	Externalizing BPI	Internalizing BPI
Grandparent Accessible Time is Between 0 and 10 Hours ^a	0.213 (0.309)	0.126 (0.212)	-0.015 (0.276)	-0.196 (0.195)
Grandparent Accessible Time is Between 10 and 20 Hours ^a	0.885* (0.443)	-0.069 (0.304)	0.130 (0.425)	-0.030 (0.301)
Grandparent Accessible Time is 20 or More Hours ^a	1.166* (0.458)	0.259 (0.314)	0.115 (0.475)	-0.624 (0.336)
Number of Children in Family Unit	0.206* (0.097)	0.117 (0.066)	0.002 (0.096)	0.013 (0.068)
Family Income	-0.417** (0.123)	-0.163 (0.085)	-0.750** (0.112)	-0.340** (0.080)
Single Mother ^b	1.141** (0.278)	0.741** (0.191)	1.100** (0.269)	0.337 (0.190)
Other ^b	1.341** (0.299)	0.885** (0.205)	1.450** (0.289)	1.138** (0.204)
Constant	17.100** (1.395)	9.948** (0.958)	20.111** (1.284)	11.939** (0.908)
Number of Child-Years	2254	2254	2188	2188
R-Squared	0.04	0.02	0.06	0.03

^a: Reference Category: 0 Hours

^b: Reference Category: Two Parents

Note: robust standard errors used in OLS model

* significant at 5%; ** significant at 1%

Table 4. Unstandardized Coefficient Estimates of Grandparent Engaged Time on Child Behavior Outcomes: Fixed Effects Models By Child Sex, 1997 and 2002 CDS (standard errors below)

	Boys		Girls	
	Externalizing BPI	Internalizing BPI	Externalizing BPI	Internalizing BPI
Grandparent Accessible Time is Between 0 and 10 Hours ^a	0.238 (0.264)	0.137 (0.181)	0.188 (0.247)	0.082 (0.175)
Grandparent Accessible Time is Between 10 and 20 Hours ^a	0.198 (0.430)	-0.132 (0.295)	-0.310 (0.426)	-0.009 (0.302)
Grandparent Accessible Time is 20 or More Hours ^a	1.002 (0.586)	0.493 (0.402)	0.437 (0.518)	0.544 (0.367)
Number of Children in Family Unit	0.200* (0.097)	0.119 (0.066)	0.002 (0.096)	0.024 (0.068)
Family Income	-0.441** (0.123)	-0.166 (0.085)	-0.753** (0.112)	-0.340** (0.080)
Single Mother ^b	1.167** (0.278)	0.740** (0.191)	1.092** (0.268)	0.279 (0.190)
Other ^b	1.417** (0.298)	0.879** (0.205)	1.429** (0.288)	1.036** (0.204)
Constant	17.404** (1.395)	9.967** (0.957)	20.119** (1.282)	11.847** (0.908)
Number of Child-Years	2254	2254	2188	2188
R-Squared	0.04	0.02	0.06	0.03

^a: Reference Category: 0 Hours

^b: Reference Category: Two Parents

Note: robust standard errors used in OLS model

* significant at 5%; ** significant at 1%

Multivariate Findings

■ Summary of Fixed Effects Findings from Tables 3 and 4:

- Does grandparent time affect boys and girls differently?
 - We report one significant outcome: Spending ten or more hours per week accessible to grandparents, but not engaged with grandparents, increases boys' externalizing behavioral problems.
 - We find no effect of accessible time on boys' internalizing behavioral problems.
 - We find no effect of engaged time on boys' internalizing or externalizing problems.
 - We find no effect of engaged or accessible time on girls' internalizing or externalizing behavioral problems.

Multivariate Findings

- Does the effect of grandparent time on children's behavioral outcomes vary by family poverty status?
 - No. Findings are similar across poverty groups and are not sensitive to how poverty groups are demarcated, meaning that looking at the near poor (income-to-needs between 1 and 2) with poor (income-to-needs below 1) compared to all others, *or* looking at the poor compared to all others does not change results. Results are also similar between fixed effects and OLS models.

Summary of Research

- Correlations between negative behavioral outcomes and grandparent care are largely spurious and due to the host of characteristics that make families with higher rates of grandparent care different from other families.
- We do, however, report one significant direct effect of grandparent care on boys' outcomes: spending more than 10 hours per week accessible to, but not engaged with grandparents, increases boys' externalizing problems. This is in line with previous research findings on boys' heightened sensitivity to the type of child care that they receive (Baydar and Brooks-Gunn 1991).

Limitations and Future Research

- In future research we will examine variable effects by grandparent's age, grandparent's educational attainment, co-residence, maternal employment hours, other types of child time use, and importantly, the type of activities that grandparents engage in with children.
- One limitation is that BPI is reflective of the caregiver's evaluations of children, rather than the child's evaluation of him or herself.
- Finally, individual-fixed effects models rely on individual variation across time. If there is limited variation, then we may not pick up significant effects. And if variation differs between boys and girls, we might pick up effects for one group and not the other.