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ORIGINAL PAPER

Family Structure and School-Based Parental Involvement: A Family Resource Perspective

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Abstract Little research has systematically studied the influence of family structure on school-based parental involvement. Using data from parents of children enrolled in grades 1–12 in the United States and interviewed in the 2007 National Household Education Study, we (a) delimited 10 family structure types, (b) estimated the differential levels of parental involvement across these family structures, and (c) statistically adjusted these levels for differences in family resources. We found that biological married parents had the highest levels of variety and frequency of involvement in school-based activities. While the extent of these differences were significantly reduced after accounting for family resources, residual differences remained between biological married parents and all other family structure types across at least one of the parental involvement measures, except for biological cohabiting parents. Analyses found that differences in social and cultural capital best accounted for the heightened levels of involvement among biological married parents.

Keywords Family resources · Family structure · Parental involvement in schools

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Introduction

The main research goal of this paper was to examine how different family structure types were associated with differential levels of parental involvement in the school lives of their children in grades 1–12 in the United States. We were motivated to examine this topic by known empirical trends but also gaps in the research. For some time now the research has been quite clear on two topics: (a) on average, children's educational outcomes are better when parents are highly involved in school settings; and (b) differences in family structure are associated with these same educational outcomes, where the best outcomes generally accrue to children raised by parents in intact first marriages (i.e., biological parents) (Cavanagh and Fomby 2012; Fan and Chen 2001; Jeynes 2010; Martin 2012; Thomson et al. 1994; Thomson and McLanahan 2012). However, far less research has systematically investigated how parental involvement varies across different types of family structures. We also know virtually nothing about the extent to which any differences in involvement are due to the unique effect of family structure type rather than the broader family characteristics (e.g., income) that accompany family structure types (Jeynes 2010, 2011).

To provide this needed contribution to the literature, we used data from the 2007 National Household Education Study that contained a nationally representative sample of over 9,500 parents of children in grades 1–12 in the United States. Our conceptual framework extended that of Thomson et al. (1994) who argued and demonstrated that two types of parental resources—time and money—largely explained the relationship between family structure and children's academic development. Based on this framework and past research, we tested two hypotheses. First, there will be an association between family structure and

school-based parental involvement such that the highest levels of involvement occurred within biological married households. Second, differences in economic, human, social, and cultural capital levels across family structure types will account for most of the associations between family structure and school-based parental involvement. Specifically, the higher levels of capital within biological married households will mostly explain their higher levels of school-based involvement.

To statistically test these hypotheses, we (a) delimited 10 family structure types to capture the variety of contemporary biological and non-biological two- and single-parent households, (b) used two variables for school-based parental involvement that measured the variety and frequency of such involvement, (c) used a baseline ordinary least squares regression model to estimate the differential levels of parental involvement across these family structures, and (d) then used additional regression models to statistically adjust these levels for differences in demographics and family resources. To the best of our understanding, this current research was the first to use these types of data, measures, and statistical approaches to understand the links family structure and parental involvement. In the following sections, we reviewed the most relevant research, elaborated our conceptual approach to derive our hypotheses, discussed our data, variables, and statistical approaches, presented the main results, and provided an interpretation of the results and suggestions for future research.

Literature Review

We focused on one aspect of parental involvement—that which occurs in the schools. School-based involvement is defined as parents' active participation in any school setting, such as parent-teacher meetings and extracurricular events, and which provides parents with behavioral interaction opportunities with teachers, school administrators, and other parents (Epstein 2001). We chose to study school-based involvement instead of home-based involvement given (a) the argument that it provides a stricter test of family structure effects, (b) that it is more consistently associated with positive educational outcomes, and (c) that it is a key activity in most K-12 reforms and programs aimed at improving student achievement (Epstein et al. 2011; Fan and Chen 2001; Hill and Tyson 2009; Jeynes 2011, 2012; Weiss et al. 2010).

Several well-cited older studies exist that found that two-parent households were more involved in school-based activities than single-parent and remarried households (Astone and McLanahan 1991; Downey 1994; McLanahan and Sandefur 1994). The focus of these studies, however, was not on parental involvement but on educational outcomes. Therefore, the associations between family structure and parental involvement included only limited controls.

Two recent studies used 1998–1999 data from the Early Childhood Longitudinal Study-Kindergarten Cohort. Cooper (2010) found that school-based involvement was greatest for two-parent households, where these households contained parents that were married or not and biological or adoptive. The three other types of family structures (one biological parent, stepfamily, unstable family structure) were negatively associated with school-based involvement. The second study found that single fathers were less likely to meet the child's teacher and attend teacher–parent conferences compared to single mothers (Dufur et al. 2010). These were the only two family types that were included in this study. A more recent study used 1998–2000 data from the NELS program and found that parental school involvement was lower among single mother, single father, cohabiting/step, and other family types when compared with a married biological household (Martin 2012). A final recent study used an early wave (2002) of the NHES data program (Stacer and Perrucci 2013). The analysis was limited to children in grades K-5, whites, blacks, and Latinos, and biological mothers or fathers, and used a dichotomous variable for family structure (two- vs. one-parent households). They found that parental involvement in school was significantly greater for two-parent households but among white respondents only.

The purpose of all four of these studies was quite different than ours, although the findings do provide a baseline association between family structure and school-based parental involvement. Cooper (2010) used family structure mostly as a control variable in modeling how family poverty and education levels influenced school-based involvement. Dufur et al. (2010) wanted to see if there were sex differences between single parents across over 30 dependent variables tapping child and parenting outcomes. Martin (2012) was interested in whether a wide range of family and parenting variables mediated any relationships between family structure and educational outcomes. Stacer and Perrucci (2013) set up their analyses to examine how the association between social and economic resources and parental involvement varied across white, black, and Latino parents. Because of their research goals, none of these four studies used a modeling strategy to determine whether the links between family structure and parental involvement changed after being statistically adjusted for family resources.

Conceptual Approach

Based on the above review of the limited literature, our first research hypothesis was *there will be an association*

between family structure and school-based parental involvement such that the highest levels of involvement occur within biological married households. In our study and previous research, family structure types are defined by the composition, membership, and relationship among the adult and child household members. Thus, we also know that family structure type is a chosen and nonrandom event, and that specific resources are more common to some family types than others (Thomson and McLanahan 2012). That is, family structure type is conceptualized as a sociological address (Brown 2004). Following the approach promoted by Thomson et al. (1994), subsequent studies have found that differences in economic resources and parental investment (i.e., money and time) largely account for the associations between family structure and child well-being, including educational well-being (Brown 2010; McLanahan and Percheski 2008; Thomson and McLanahan 2012).

Therefore, our approach in this study was to take into account these differing resources in order to not overestimate the genuine net association between family structure and parental involvement. We conceptualized that it was perhaps these resources—and not family structure, per se—that were associated with higher or lower levels of involvement. It was also important that our study extend the types and range of family resources beyond those just measuring money and time. To this end, we focused on variables that were (a) distributed unequally across family types, (b) known predictors of parental involvement or educational outcomes, and (c) measured in the NHES:07. Due to (a) and (b) above, we forward the second research prediction: *Differences in economic, human, social, and cultural capital levels across family structure types will account for most of the associations between family structure and school-based parental involvement. Specifically, the higher levels of capital within biological married households will mostly explain their higher levels of school-based involvement.*

Economic and Human Capital

We know that households headed by two married biological parents differ economically and educationally from most other types, especially those headed by single parents. On average, households with intact biological parents are more likely to have higher economic and human capital levels, which are generally defined as education levels, income levels, and employment status (Fomby and Sennott 2013; Kennedy and Fitch 2012; McLanahan and Sandefur 1994). Research also finds differences in school-based involvement across these characteristics—involvement in schools is lower among lower educated and income households and parents who are under- or unemployed (Fomby and Sennott 2013; Jeynes 2012).

Kim (2009) argued that lower levels across these resources should not be seen as deficits or deficiencies as nearly all parents want to be involved in the educational lives of their children. The patterns we see in parental involvement are due less to the absolute characteristics of parents and due more to the barriers faced by parents with these characteristics (Kim 2009). The barriers faced by lower-status parents tend to center on teacher perceptions, program diversity and flexibility, school policies and leadership, family-work complexities, parental beliefs of their efficacy, communication styles, and prior negative experiences with involvement (Cooper 2010; Hornby and Lafaele 2011). Indeed, the education levels of parents may be the most important of all the variables in this capital group. In a review of the literature, Lareau and Calarco (2012) found that college educated parents were more likely to intervene in schools to manage the educational lives of their children, more likely to persist in their attempts to be involved, and less likely to be intimidated by the expert statuses of school personnel.

Social and Cultural Capital

As elaborated by Hofferth et al. (1998), social capital resides at the intra-familial and extra-familial levels, or within and external to the family as originally conceptualized by Coleman (1988). Social capital within the family is generally measured by the quality and activities of the parent–child relationship whereas social capital external to the family is the parents' connections to other parents and institutions that promote educational outcomes. Foremost of these connections is the concept of intergenerational closure—knowing and communicating with the parents' of their children's friends.

Research has found that parents who have greater levels of social capital within and outside of the family also had higher levels of school-based involvement (Dufur et al. 2013; Epstein 2001). Also, across a wide range of studies and measures, there was a general consensus that intra- and extra-familial social capital was greater and of higher quality in two-biological-parent family forms (Amato 2005). It did not appear that the addition of a second parent in a stepfamily or cohabiting household led to increases in either type of social capital when compared to single parents (Berger and McLanahan 2012; Brown 2010; McLanahan and Percheski 2008). One of the within-family social capital measure that was consistently associated with higher levels of school involvement was parent–child interaction and communication (Lee and Bowen 2006). For extra-familial social capital, the parents' connections to other parents, especially that of discussing school-related topics (i.e., intergenerational closure) appeared to most

enhance involvement and the efficiency of such involvement (Martin 2012).

The concept of cultural capital is also invoked to guide research on parental involvement. Cultural capital is centered on the idea of inequality—inequality based on the fit between an individual's culture and the culture of the institutions within a society (Lareau 2003). An individual's culture represents their knowledge of and disposition to act, think, and understand in culturally-relevant ways that allow them to play the field of social relations inherent in institutions (Lareau and Calarco 2012). In terms of educational systems, levels and types of cultural capital possessed by parents allow them to differentially interact in, involve themselves in, and comply with the rules and expectations this system (Lareau and Calarco 2012). The ways in which schools reach out to and request parental involvement also favor those parents with greater levels of cultural capital (Lareau 2003; Trotman 2001).

The most common proxy measures of cultural capital are class-based that tap into specialized characteristics that allow individuals to enter into interactional processes (Lareau and Calarco 2012). For involvement in schools, these include occupational status, immigrant status, language spoken, and knowledge of educational systems (Klugman et al. 2012; Lareau and Calarco 2012; Lee and Bowen 2006). These characteristics vary across family structure types and are generally in higher quantities and qualities in biological married households (Lareau and Weininger 2003; Powell et al. 2006). The higher levels of involvement are also connected to the parents' awareness of involvement opportunities and the ways in which to become involved. Other research from a cultural capital approach has found that parents who were immigrants, non-English speaking, and unsure of how to educationally socialize their children had lower levels of school-based involvement in schools (Carreon et al. 2005; Turney and Kao 2009).

Data and Methodology

Data

Data were from the 2007 wave of the Parent and Family Involvement in Education surveys, which was part of the general National Household Education Surveys Program (NHES). Detailed methodology for the 2007 wave can be found in Hagedorn et al. (2008). The sample size for 2007 was 10,681 parents or parent guardians. This research omitted students in kindergarten, those who were home-schooled, and those with missing values on the dependent variables. We omitted kindergarten children given the wide differences in enrollment requirements across the 50 states (Griffith et al. 2003). The resulting study sample size was

Table 1 Description of study variables: NHES 2007

	Range	M	SD
Variety of involvement	0–7	4.01	1.35
Frequency of involvement (log)	0–4.59	1.71	.94
Family structure			
Two Parent			
Biological married (REF)	0–1	.60	–
Biological cohabiting	0–1	.02	–
Stepfather (biological mother, remarried)	0–1	.06	–
Stepmother (biological father, remarried)	0–1	.02	–
Biological mother cohabiting	0–1	.02	–
Biological father cohabiting	0–1	.01	–
Non-biological parents	0–1	.05	–
One Parent			
Biological mother	0–1	.14	–
Biological father	0–1	.03	–
Non-biological	0–1	.06	–
Economic and human capital			
Household income	1–14	10.36	3.78
Work hours	1–90	32.15	15.13
Less than high school degree	0–1	.05	–
High school degree or equivalent	0–1	.19	–
Some postsecondary education	0–1	.29	–
College degree	0–1	.24	–
Post-baccalaureate degree (REF)	0–1	.24	–
Social and cultural capital			
Help with homework	0–4	1.89	1.25
Family meals together	0–3	2.44	.78
Intergenerational closure	0–4	1.74	1.19
Knowledge of education	5–20	13.58	2.08
Intervene in school	0–1	.80	–
Both parents English speaking (REF)	0–1	.84	–
One parent non-English speaking	0–1	.03	–
Only parent non-English speaking	0–1	.12	–
Controls: school characteristics			
% Black and Hispanic	1–4	2.44	1.13
Urban (REF)	0–1	.32	–
Suburban	0–1	.39	–
Town or rural	0–1	.29	–
Enrollment size	1–4	2.68	1.01
Public	0–1	.84	–
Controls: family and child characteristics			
White, non-Hispanic (REF)	0–1	.61	–
Black, non-Hispanic	0–1	.11	–
Hispanic	0–1	.19	–
Asian or Pacific Islander	0–1	.03	–
Other	0–1	.05	–
Household size	2–8	4.10	1.17
Moved	0–1	.03	–
Child is female	0–1	.49	–

Table 1 continued

	Range	M	SD
Grade level of child	1–12	2.44	1.12
Academic achievement	1–5	3.98	.91

9,504 parents who reported on a focal child. The design of the NHES did not include any sampling at the school-level, so clustering of students within schools was not an issue for regression-based analyses. All analyses used the survey weight provided by NCES in the NHES data files. The weight was necessary to account for differential probabilities of selection and to reduce potential bias due to non-response and differential coverage of subpopulations. With the survey weight, the NHES 2007 data were nationally representative of all civilian, non-institutionalized students in kindergarten to grade 12 in the 50 states and the District of Columbia for the school year in which the data were collected.

All study variables are in Table 1. We used two separately-reported variables to measure school-based parental involvement, which may provide a more robust test of our predictions than a single indicator. The first was a measure of the variety of activities in which parents could be involved during the 2007 school year. A summed composite index termed Variety of Involvement (alpha = .75) measured whether at least one of the parents was involved (1 = yes; 0 = no) in 7 different school activities: (a) general school meeting, (b) parent-teacher association meeting, (c) regularly-scheduled parent–teacher conference, (d) school or class event, (e) volunteer, (f) committee member, and (g) fundraising participant. This variable ranged from 0 to 7 where higher scores indicated involvement in a wider variety of activities. The second was a measure of the extent of involvement during 2007. A variable termed Frequency of Involvement measured the number of times one or both of the parents attended meetings and participated in school activities during the school year. This variable ranged from 0 to 90 where higher scores indicated greater frequency of involvement in school meetings and activities. In all analyses, this variable was log transformed (natural) to correct for skewness.

We used four questions from the NHES about the mother's and father's or parent guardian's marital status, relationship to focal child, and living arrangements to delimit 10 different family structure types. The types included 7 two-parent households and 3 one-parent households in which the focal child lived. For two parent households, we distinguished among (a) biological parents who were married (our reference category), (b) biological parents who were cohabiting, (c) a biological mother who was remarried (termed stepfather), (d) a biological father who was remarried (termed stepmother), (e) a biological mother who was cohabiting, (f) a biological father who was cohabiting, and (g) a household with non-biological parents or guardians (mostly grandparents). For one-parent households, we distinguished among (h) a biological mother, (i) a biological father, and (j) a household with a non-biological parent or guardian (mostly a grandparent).

The full set of family variables across the capital categories is in Table 1, where most of the variables are self-explanatory by the naming and coding. In this section, we describe fully only those variables that were not self-explanatory. For economic and human capital, the NHES contained measures of household annual income (a 14-item category where 1 = less than $5,000 and 14 = more than $100,000), average weekly work hours of parent(s), and the highest education level of a parent present in the household.

For social capital, the NHES measured two within-family activities: the number of days in an average week that an adult helped the focal child with homework (0 = never to 4 = five or more days), and the number of days in the past week that most or all of the family members ate dinner together (0 = not at all to 4 = five or more times). We used a measure of intergenerational closure to estimate the extent of outside family social capital. The NHES asked the parent about how many parents do you talk to regularly in your neighborhood, community, or child's school who have children about the same age? This variable ranged from 0 = none to 4 = more than 10 parents.

For cultural capital, we used three proxy measures. The first was a five-item index (alpha = .89) measuring the extent to which the respondents agreed with five statements about their roles and responsibilities in their child's education (e.g., I know how to help my child do well in school). We labeled this variable knowledge of education that ranged from 5 to 20 where higher scores indicated greater awareness. The second was whether the parent intervened in the school when disagreeing with school actions (0 = no; 1 = yes). The third was an NHES-created variable indicating the extent to which English was spoken in the home, in which we created three dummy-coded measures.

In our regression analyses, we controlled for a number of school and family characteristics that may influence school-based parental involvement (Fomby and Sennott 2013; Grigg 2012; Herrold and O'Donnell 2008; Hill and Tyson 2009; Kim 2009; McNeal 2012). These variables served entirely as controls and not as conceptual or empirical foci of this paper. The school variables tapped the characteristics of: location (where urban served as the reference), enrollment size (NHES-created variable where 1 = under 300, 2 = 300–599, 3 = 600–999, and 4 = 1,000 or more), public (0 = no, 1 = yes), and an

NHES-created variable that used the zip code of the school to measure the percent of blacks and Hispanics living in the school district (1 = less than 6 % to 4 = more than 40 %). For the family and child characteristics, we used the NHES-created variable to indicate the race of the child, how many people lived at home, whether the child was female, the grade level of the child, and how well the child was doing academically (1 = mostly F's to 5 = mostly A's).

Methodology

We statistically addressed our research questions in several ways. First, we computed the mean levels of parental involvement for all 10 family structure types. We then calculated a difference-in-means test to determine if the mean levels of involvement for biological married households were different from those of the 9 other family types. Second, for both measures of parental involvement we estimated a series of ordinary least squares (OLS) regression equations to determine (a) the baseline associations between family structure and parental involvement, using biological married households as the reference category; and (b) the extent to which any associations between family structure and parental involvement were removed after accounting for differences in economic, human, social, and cultural capital. Third, we then used the equation proofed in Clogg et al. (1995) to test whether there was a significant change in a regression coefficient between the baseline and fuller models.

OLS techniques were chosen for both parental involvement measures as both variables exhibited properties of a normally distributed, ratio-level measure. Frequency of involvement readily adhered to these properties after being log-transformed. For variety of involvement, this measure ranged from 0 to 7 with a mean of 4.01, a standard deviation of 1.35, and a skewness of −.38. Even though the number of response values was somewhat limited at eight, this measure did include a meaningful zero value, had interpretable and consistent distances between each value, and had ratios that could be calculated. To test our hypotheses and the role of family resources in the link between family structure and parental involvement, we estimated four OLS regression equations for each measure of school-based parental involvement. Model 1 was the baseline equation and included the family structure and control variables. Model 2 included the family structure, economic and human capital, and control variables. Model 3 included the family structure, social and cultural capital, and control variables. Lastly, Model 4 was the saturated equation and the family structure, economic and human capital, social and cultural capital, and control variables. The saturated equation was

$$PI_i = \alpha + \beta 1 Fam_i + \beta 2 Econhum_i + \beta 3 Socul_i + \delta Controls_i + \varepsilon_I;\ \text{for } (i = 1,\ldots,n; n > p),$$

where i is parent or guardian, n is the number of observations in the dataset, and p is the number of estimated parameters. Where PI is estimated level of school-based parental involvement, α is shared intercept, $\beta 1$ is vector of coefficients for family structure variables, Fam is matrix of family structure variables, $\beta 2$ is vector of coefficients for economic and human capital variables, Econhum is matrix of economic and human capital variables, $\beta 3$ is vector of coefficients for social and cultural capital variables, Socul is matrix of social and cultural capital variables, δ is vector of coefficients for control variables, Controls is matrix of control variables, ε is independent and identically distributed random error terms.

We used the suggested Taylor series linearization approximation to estimate our standard errors (Hagedorn et al. 2008). The Taylor series approach is a survey design-based method, which takes account of the probability weight, clustering, and stratification of the survey. Going beyond robust estimation techniques, the Taylor method explicitly controlled for both stratification and clustering. This is done by using two variables to identify the stratum and the primary sampling unit (PSU). The stratum-level variable is the indicator of the variance estimation stratum from which the unit was selected. The PSU is a numeric identification number for the unit within the stratum.

We considered and estimated two other modeling strategies (results available upon request). The first were count models (e.g., Poisson, negative binomial) but these models resulted in a poor fit given that our variety of parental involvement measure did not have the typical properties of count variables (Cameron and Trivedi 2013), e.g., concentration of data on a few small discrete values (mostly 0 and 1), skewed positively, and intrinsically heteroskedastic with variance increasing with the mean. For the Poisson distribution, we could not satisfy the requirement of equality between mean and variance. Finally, the variety of parental involvement measure was not really a traditional count event—infrequently occurring and repeatable—because the activities that comprised it are all substantively different events. The second strategy was the modeling of an ordered logistic equation. However, as stated above, our measure resembled a ratio-level variable much more than an ordinal-level variable. Surprisingly, the results using ordered logistic and OLS were nearly identical.

Summary Statistics

Table 1 shows that biological married parents made up the bulk of the households (60 %) in which children of the

Table 2 Unadjusted means and differences in parental involvement by family structure: NHES 2007

Family structure	Mean level (SD)		Difference in means	
	Variety	Frequency (log)	Variety	Frequency (log)
Two parent				
Biological married	4.72	2.01	–	–
	(1.67)	(.97)		
Biological cohabiting	3.97	1.48	−.75***	−.53***
	(1.89)	(.93)		
Stepfather	3.83	1.59	−.89***	−.42***
	(1.67)	(.90)		
Stepmother	3.87	1.65	−.85***	−.36***
	(1.64)	(.89)		
Biological mother cohabiting	3.57	1.39	−1.15***	−.62***
	(1.69)	(.88)		
Biological father cohabiting	3.17	1.31	−1.55***	−.70***
	(1.55)	(.79)		
Non-biological parents	3.98	1.62	−.74***	−.39***
	(1.79)	(.94)		
One parent				
Biological mother	3.69	1.46	−1.03***	−.55***
	(1.77)	(.88)		
Biological father	3.48	1.43	−1.23***	−.58***
	(1.71)	(.85)		
Non-biological	3.65	1.36	−1.07***	−.65***
	(1.83)	(.92)		

*** Significantly different than two biological married parents at $p < .001$

NHES 2007 lived. The next most common household was that of a single biological mother, which represented 14 % of all family structure types. Less common were those of a stepfather (6 %), two non-biological parents or guardians (5 %), and a single non-biological parent or guardian (6 %). The least common types were biological cohabiting parents (2 %), stepmother (2 %), a biological mother who is cohabiting (2 %), a biological father who is cohabiting (1 %), and a single biological father (3 %). These figures were quite similar to those for the general US population in 2009 (Kreider and Ellis 2011).

In Table 2, we found that the unadjusted means for both measures of parental involvement were consistently and significantly greater among married biological parents than the other nine family types (all at $p < .001$). The absolute differences ranged from −.74 to −1.55; in standard deviations, these ranged from .55 to 1.15 of a standard deviation, which represented modest to quite large differences (Cohen 1988). The lowest levels of variety of parental involvement occurred among biological fathers who were cohabiting (3.17) and single biological fathers (3.48). Interestingly, the family type with the smallest differences from that of biological married parents was for households with two non-biological parents or guardians (3.98). Even so, this family type was still over one-half of a standard deviation lower compared to the biological married parents. These same patterns repeated themselves for frequency of parental involvement where married biological parents had levels of involvement that were statistically greater compared to all other family structure types. The sizes of the differences were moderate to large—ranging from four-tenths to three-fourths of a standard deviation. Once again, the lowest levels of involvement occurred to biological fathers who were cohabiting, followed closely by single non-biological parents or guardians and biological mothers who were cohabiting. The family structure types with the least amount of difference to those of biological married parents occurred in the two-parent households of stepmothers, stepfathers, and non-biological parents or guardians. Nevertheless, even these differences were almost one-half of a standard deviation.

Results

We present the findings of our regression analyses and hypotheses testing in two sections. In the first, we tested the first hypothesis by reporting the statistical relationships between family structure and school-based parental

involvement in the baseline regression model as well as the regression models that adjusted for differences in economic, human, social, and cultural capital. In the second, we explicitly tested the second hypothesis by using the Clogg et al. (1995) method to test for invariance of regression coefficients across the four models. This evaluated which family resource(s) best explained any links between family structure and parental involvement. These results are presented in a separate table.

Family Structure and Parental Involvement

The results for variety of parental involvement are in the left-hand panel in Table 3. Model 1 confirmed at $p < .001$ that variety of parental involvement was significantly lower for all nine family types when compared to the reference category of biological married parents, net of the control variables. The regression equation in Model 2 added the economic and human capital variables, and once adjusting for economic and human capital differences there was no statistical difference in variety of involvement between biological married parents and their cohabiting counterparts. Three other family types had decreases in their coefficients sizes: a biological mother who is cohabiting, a single biological mother, and a single non-biological parent or guardian. Yet, even with these decreases in coefficient sizes, these parents still exhibited statistically lower involvement levels when compared to biological married parents. Among these capital variables, the significant findings were in the expected direction.

Model 3 included the social and cultural capital variables, which were all significantly associated with parental involvement in the expected directions. With the addition of these variables, most of the family structure coefficients were reduced in size from those in Model 1. We again see that there was no statistical difference in variety of involvement between married and cohabiting biological parents, but there remain statistically significant differences between biological married parents and eight of the other family structure types. The sizes of these differences, though, were considerably less than those in Model 1—ranging from about one-tenth to one-half of a standard deviation. A fully saturated equation was elaborated in Model 4, which included all the variables across the capital groups. In this full model, we again see that there was no statistical difference between married and cohabiting biological parents in their levels of involvement. Further, the size of the negative coefficients associated with all other eight family structure types were lowered compared to Model 1. However, this saturated model did not account for all of the differences in variety of parental involvement between biological married parents and the other eight family structure types. Biological married parents still had statistically higher levels of involvement compared to eight of the nine other family types. The size of the family structure coefficients ranged from a smallish .10 of a standard deviation for a single non-biological parent or guardian to a large .50 of a standard deviation for a biological father who was cohabiting.

As a robustness check on our OLS results, we included a parallel set of Model 4 regression coefficients in Table 3 that were estimated with an ordered logistic equation. These coefficients represented maximum likelihood estimates. As reported above, the findings from the ordered logistic model were nearly identical to those from the OLS model, with only a few differences in coefficient size and significance.

Identical regression equations were estimated for frequency of parental involvement and the coefficients are in the right-hand panel of Table 3. The pattern of results was quite similar to those for variety of parental involvement. Model 1 reaffirmed the findings in Table 2 that the highest frequencies of parental involvement accrued to households with biological parents who were married, compared to the parent(s) in the nine other family structure types. In Model 2, the variables tapping economic and human capital were entered into the regression equation. Similar to the previous results, these variables removed the statistical differences in frequency involvement between married and cohabiting biological parents and appeared to lower some of the size of the negative coefficients among four of the other eight family structures (biological mothers who were cohabiting, two non-biological parent households, single biological mothers, and single non-biological parents or guardians). Nonetheless, all of the negative coefficients remained statistically significant for all family types except for biological cohabiting. Overall, biological married parents had frequency of involvement values that ranged from one-tenth to four-tenths of a standard deviation higher.

Model 3 again included the social and cultural capital variables, and which were again all significantly associated with parental involvement in the expected directions. This set of capital variables removed the statistical significance of the negative coefficients for stepmother and biological father cohabiting households. Now among two-parent families, only stepfather, biological mother cohabiting, and non-biological households continued to have statistically lower levels of frequency of involvement compared to biological married parents. These differences were very small, averaging about one-tenth of a standard deviation. For single parents, all three types of households continued to have significantly lower levels of frequency of involvement compared to their biological married counterparts, where the effect sizes were about one-fifth of a standard deviation or less. The full model (Model 4) included all of the family capital variables and eliminated

Table 3 Unstandardized regression coefficients for associations between family structure and school-based parental involvement in school: NHES 2007

Variables	Variety of parental involvement					Frequency of parental involvement			
	Model 1	Model 2	Model 3	Model 4		Model 1	Model 2	Model 3	Model 4
				OLS	Logistic				
Family structure									
2 parent									
Biological married (REF)									
Biological cohabiting	−.626***	−.256	−.061	−.080	−.121	−.208***	−.040	−.062	−.067
	(.129)	(.111)	(.078)	(.066)	(.077)	(.055)	(.033)	(.030)	(.026)
Stepfather	−.449***	−.428***	−.301***	−.271***	−.191***	−.206***	−.190***	−.112**	−.103**
	(.043)	(.039)	(.041)	(.042)	(.023)	(.034)	(.031)	(.029)	(.027)
Stepmother	−.322**	−.402***	−.256*	−.225*	−.141**	−.257***	−.211***	−.115	−.049
	(.107)	(.077)	(.101)	(.106)	(.066)	(.063)	(.053)	(.055)	(.029)
Biological mother cohabiting	−.818***	−.503***	−.464***	−.367***	−.332***	−.381***	−.210**	−.167**	−.130*
	(.224)	(.105)	(.080)	(.078)	(.088)	(.112)	(.076)	(.056)	(.043)
Biological father cohabiting	−.961***	−.943***	−.788**	−.661**	−.444***	−.397**	−.374**	−.111	−.106
	(.190)	(.188)	(.160)	(.164)	(.051)	(.141)	(.129)	(.086)	(.051)
Non-biological parents	−.448***	−.331***	−.187**	−.213**	−.202***	−.196***	−.108**	−.075*	−.054
	(.166)	(.090)	(.077)	(.081)	(.054)	(.052)	(.039)	(.027)	(.017)
1 Parent									
Biological mother	−.606***	−.269***	−.323***	−.219***	−.198**	−.283***	−.101***	−.146**	−.079**
	(.183)	(.081)	(.100)	(.068)	(.059)	(.080)	(.041)	(.036)	(.022)
Biological father	−.798***	−.722***	−.528***	−.481***	−.409***	−.353***	−.294***	−.212***	−.182***
	(.184)	(.131)	(.094)	(.085)	(.021)	(.077)	(.068)	(.060)	(.044)
Non-biological	−.560***	−.331***	−.210***	−.137*	−.156*	−.336***	−.205***	−.175***	−.110***
	(.169)	(.108)	(.067)	(.065)	(.078)	(.089)	(.045)	(.042)	(.029)
Economic and Human Capital									
Household income		.106***		.063***	.039***		.050***		.015***
		(.033)		(.019)	(.005)		(.007)		(.003)
Work hours		.002		.003	.001		−.002		−.002
		(.002)		(.002)	(.001)		(.002)		(.002)
Less than high school degree		−.920***		−.705***	−.931***		−.367***		−.307***
		(.078)		(.070)	(.099)		(.054)		(.018)
High school degree or equivalent		−.567***		−.368***	−.559***		−.289***		−.243***
		(.074)		(.049)	(.051)		(.041)		(.027)
Some postsecondary education		−.308***		−.184***	−.256***		−.141***		−.116***
		(.079)		(.043)	(.045)		(.019)		(.018)

Table 3 continued

Variables	Variety of parental involvement					Frequency of parental involvement			
	Model 1	Model 2	Model 3	Model 4		Model 1	Model 2	Model 3	Model 4
				OLS	Logistic				
College degree		−.115**		−.066	.041		−.045		−.035
		(.030)		(.029)	(.050)		(.022)		(.011)
Post-baccalaureate degree (REF)									
Social and Cultural Capital									
Help with homework			.134***	.113***	.081***			.023***	.025***
			(.009)	(.008)	(.016)			(.004)	(.003)
Family meals together			.080***	.077***	.092***			.030***	.026**
			(.019)	(.018)	(.022)			(.005)	(.007)
Intergenerational closure			.387***	.336***	.565***			.235***	.216***
			(.022)	(.029)	(.017)			(.015)	(.009)
Knowledge of education			.152***	.101***	.088***			.045***	.037***
			(.021)	(.009)	(.007)			(.007)	(.006)
Intervene in school			.477***	.414***	.322***			.129***	.109***
			(.035)	(.027)	(.047)			(.011)	(.010)
Both English speaking (REF)									
One parent non-English speaking			−.405***	−.271***	−.394***			−.390***	−.232***
			(.077)	(.056)	(.021)			(.060)	(.019)
Only parent non−English speaking			−.555***	−.250***	−.337***			−.344***	−.222***
			(.082)	(.065)	(.019)			(.058)	(.044)
Fit statistics									
R^2 (adjusted R^2)	.181 (.180)	.235 (.234)	.304 (.302)	.352 (.350)		.089 (.088)	.139 (.138)	.214 (.211)	.236 (.233)
Δ in R^2 (from Model 1)		.054***	.123***	.171***			.050***	.125***	.147***
Wald χ^2					3,079.4***				

All models included the control variables listed in Table 1. Standard errors are in parentheses and were estimated with a Taylor series linearization method

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

one additional significant coefficient from Model 3—that for households with two non-biological parents. Now, among two-parent households only stepfather and biological mother cohabiting households had significantly lower levels of involvement when compared to their biological and married counterparts, but the size of the differences were practically small. For single-parent households, all three household types continued to have statistically significant lower levels of involvement when compared to biological married parents, but the sizes of the differences were also practically small.

We used a wide range of control variables in all regression models for both measures of school-based parental involvement. While they were used entirely for control, it is worth noting that our results were very similar to that of past research and no findings emerged that would contradict known trends (results available upon request). In Models 4, we found that involvement was greater for parents that (a) were white, non-Hispanic, (b) did not move the previous school year, (c) reported on a female child, (d) had a child in a lower grade, (e) had a child with higher academic performance, and (f) whose child was enrolled in a school with a lower percentage of blacks and Hispanics, in an urban setting, with a smaller enrollment, and that was private.

The Explanatory Roles of Family Capital

In Table 3, we found that family capital differentials may explain some of the greater involvement among biological married parents. To confirm these findings, it was important that we statistically tested whether any change in a regression coefficient was significant. In this section, we interpret the results in Table 4 that examined the extent to which different types of family capital explained the higher levels of involvement among biological married households. Table 4 is comprised of the following information: (a) the values represent how much the negative coefficient for each family structure type was reduced compared to its baseline value in Model 1, Table 3b values that are accompanied by a superscripted "a" indicate that the reduction in the coefficient was not statistically significant, (c) values that are underlined indicate that the negative coefficient was not longer statistically significant, and (d) the % increase in R^2 indicates the increase in explained variance compared to that in Model 1.

Looking back at Model 1 from Table 3, we found that all of the nine family structures had significantly lower levels of parental involvement compared to biological married households. Yet, we also saw in subsequent models that some of these negative associations decreased in size and statistical significance—with some becoming non-significant. In Table 4, overall, it appears that Model 4 that contained all of the family capital variables did the best in explaining the lower levels of involvement among the nine family structure types when compared to married biological families. Indeed, the values in the last column show that the full range of capital variables in Model 4 accounted for between 30 and 87 % of the lower levels of involvement among these family structure types when compared to biological married households. Overall, these models accounted for an average reduction in the negative coefficients of about 53 % for variety of parental involvement and 66 % for frequency of parental involvement. Further, the variables in Model 4 increased the explained variance by 94 and 165 %, respectively, and accounted for two prior findings. The first was the entire significance of the negative coefficient attached to two-parent biological cohabiting households for variety of parental involvement. The second was the entire significance of the negative coefficients attached to two-parent biological cohabiting, stepmother, biological father cohabiting, and non-biological parent households for frequency of parental involvement.

When comparing the explanatory role of economic and human capital (Model 2) to that of social and cultural capital (Model 3), it is clear that our study variables tapping social and cultural capital were better at explaining the higher levels of involvement among biological married parents compared to the other nine family structure types. We made this conclusion based on four patterns revealed in Table 4. First, the social and cultural capital variables in Model 3 significantly reduced the size of the negative coefficients for all nine family structure types in both measure of parental involvement, and fully explained four of the negative associations. The magnitude of the percentage reductions ranged from 18 % (association between two-parent biological father cohabiting and variety of parental involvement) to 90 % (association between two-parent biological cohabiting and variety of parental involvement). On the other hand, the economic and human capital variables in Model 2 were able to significantly reduce only four of the nine negative coefficients associated with variety of involvement and five of the nine negative coefficients associated with frequency of involvement. Furthermore, the magnitudes of the reductions were much smaller than those found in Model 3. Second, as a result, the average reduction in the Model 1 coefficients was greater in Model 3 than for those in Model 2—45 versus 24 % for variety of parental involvement and 55 versus 36 % for frequency of parental involvement. Third, the increase in R^2 produced by Model 3 was between two- and three-times greater than that produced in Model 2. Fourth, it appears that the large explanatory role of Model 4 was driven more by the social and cultural capital variables

Table 4 Percentage reduction in the negative associations between family structure type and parental involvement and increase in explained variance, by regression models in Table 3: NHES 2007

Family structure	Variety of parental involvement		
	Economic and human capital (Model 2)	Social and cultural capital (Model 3)	All capital resources (Model 4)
Two parent			
Biological cohabiting	59.11	90.26	87.22
Stepfather	4.68[a]	32.96	39.64
Stepmother	24.84[a]	20.50	30.12
Biological mother cohabiting	38.51	43.28	55.13
Biological father cohabiting	1.87[a]	18.00	31.22
Nonbiological parents	26.12[a]	58.26	52.46
One parent			
Biological mother	55.61	46.70	63.86
Biological father	9.52[a]	33.83	39.72
Nonbiological	40.89	62.50	75.54
Average reduction in coefficient	23.50	45.14	52.77
% Increase in R^2	29.83	67.96	94.48
	Frequency of parental involvement		
Two parent			
Biological cohabiting	80.77	70.19	67.79
Stepfather	7.77[a]	45.63	50.00
Stepmother	17.90[a]	55.25	80.93
Biological mother cohabiting	44.88	56.17	65.88
Biological father cohabiting	5.79[a]	72.04	73.30
Nonbiological parents	44.90	61.73	72.45
One parent			
Biological mother	64.31	48.41	72.08
Biological father	16.71[a]	39.94	48.44
Nonbiological	38.99	47.92	67.26
Average reduction in coefficient	35.78	55.25	66.46
% Increase in R^2	56.17	140.45	165.17

We used the equation in Clogg et al. (1995) to test for a statistically significant reduction in coefficients compared to those from Models 1, Table 3. All values in the table represented statistically significant reductions in coefficient sizes except for those indicated with a superscript

Underlined values indicate that the corresponding regression coefficient in Table 3 was not statistically significant

[a] Not a statistically reduction at $p < .05$ (two-tailed)

and less by the economic and human capital variables. We based this conclusion on the similarity in values in both Tables 3 and 4 between Model 3 and Model 4 relative to those between Model 2 and Model 4.

Conclusions

This study provided a contemporary examination of the associations between family structure and parental involvement, which is a link that has not been fully examined empirically (Jeynes 2010, 2011). By using the NHES:07 and its large sample size, we were able to delimit 10 different family structure types, which was significantly more than appears in prior research. Based on existing research and extending the family resource perspective of Thomson et al. (1994), this study tested two research hypotheses. First, we hypothesized that there will be an association between family structure and school-based parental involvement such that the highest levels of involvement occur within biological married households. Second, we hypothesized that differences in economic, human, social, and cultural capital across family structure types will account for most of the higher levels of school-based involvement among biological married households. We found statistical support for both hypotheses.

The unadjusted means showed that biological married parents had the highest levels of variety and frequency of involvement in school-based activities and events. This pattern was confirmed in the baseline regression models that only adjusted for control variables, where parents in the other nine family structure types were significantly less involved than biological married parents in their children's schools across the two measures of involvement. The sizes of the differences in involvement were not only statistically significant, but practically quite large as well. These results supported our first research hypothesis.

However, a fair number of the negative associations between family structure and parental involvement were reduced in size or became non-significant altogether after statistically adjusting for differences in family capital across the family types. For variety of parental involvement, there was no longer any difference between biological parents who were married and those who were cohabiting. All of the other eight family types continued to have lower involvement levels, although the sizes of the coefficients diminished significantly and statistically. For frequency of involvement, five of the nine family types continued to exhibit lower levels of involvement compared to biological married parents: two-parent households containing a stepfather and biological mother cohabiting and all three single-parent types. Again, even though the negative associations remained after statistically adjusting for the capital variables, they remained at a significantly-reduced level. On the other hand, levels of frequency of involvement did not differ between biological married households and two-parent households of biological cohabiting, stepmother, biological father cohabiting, and non-biological. Thus, unlike some past research (Brown 2004; Martin 2012; Schneider et al. 2005), it *does* appear that the physical presence of a second adult, even one that is non-biological, was beneficial in terms of frequency of parental involvement. But, we did not see this second adult effect with the addition of a non-biological adult for variety of parental involvement.

These results supported our second research hypothesis and the conceptual approach adopted in this study. We further examined the role of specific categories of family capital variables in their ability to account for the higher levels of involvement among biological married parents. We found that the regression models containing all of the economic, human, social, and cultural capital variables did the best in explaining the family structure effects. Yet, it did appear that differences in social and cultural capital variables across family structure types were the major contributors to this explanatory role, whereas differences in economic and human capital were a smaller contributor. Saying this, it is still clear that all measures of family resources—economic, human, social, and cultural capital—played a role in explaining the greater involvement of biological married households.

Overall, a complex combination of biology and adult presence influenced parental involvement. Our findings were consistent with past research on the relative disadvantages of living in a single parent household compared to biological married parents. These disadvantages, however, were fairly small in size after adjusting for differences in family capital. Our results were mixed among two-parent households, but we generally found fewer differences in parental involvement than past research on other child outcomes would suggest. This was especially true for biological cohabiting households, where we found that their net levels of involvement were not statistically different than those of biological married parents. Our findings for cohabiting biological parents run counter to the marriage movement and its arguments that marriage confers unique benefits for children, and studies that found a host of poorer child outcomes in two-biological-parent cohabiting families compared to two-biological-parent married families (Brown 2010; Freistadt and Strohschein 2013).

For the other eight family structure types, especially those of one-parent households, the lower levels of involvement in school-based activities have potentially significant implications. Foremost among these implications is that lower involvement by parents is consistently linked to poorer educational outcomes among their children, net of selectivity. A lengthy body of research has found that higher levels of school-based parental involvement lead to positive academic outcomes in kindergarten and the elementary and secondary levels. These positive effects of involvement accrue across all racial, ethnic, gender, and socioeconomics statuses (Jeynes 2011). A series of meta-analyses of over a combined 100 quantitative studies jointly concluded that parental involvement in schools was significantly, positively, moderately, and practically associated with academic outcomes. The effect sizes ranged from .08 to .50 (Fan and Chen 2001; Hill and Tyson 2009; Jeynes 2010, 2011).

The mechanisms linking parental involvement to educational outcomes are equally important to children and adolescents, and those residing in family structures other than biological married or cohabiting may miss out on these developmental benefits. Specifically, the separate settings of family and school represent "overlapping spheres of influence" where each has distinct roles but overlapping and common goals (Epstein 2001). This view follows directly from the ecological approach to development by Bronfenbrenner (2005) in which the school and home have unique and combined effects on individual growth. The research consensus is that active school-based participation and involvement by parents produces the following developmental mechanisms and outcomes: more control and awareness of their children's academic behaviors, greater access to education-specific resources, the formation of beneficial relationships with teachers and other parents, higher-order skill development among their children, improved emotional functioning among their children, and higher educational aspirations and motivations (Fan and Williams 2010; Jeynes 2011; Wang and Sheikh-Khalil 2013).

There are also longer-term implications of our findings. While we focused on parents of students in grades 1–12, an

emerging literature has shown that parental involvement in K-12 schools—including involvement in college preparation activities—is a strong predictor of whether the child will enroll in college, whether this will be a 4-year institution, and the quality of the institution (Perna and Titus 2005; Rowan-Kenyon et al. 2008; Sandefur et al. 2006). This occurs because parents who are more involved in school-based activities also become more involved in and aware of college planning requirements and activities and are more likely to discuss these issues with their children at home (Myers and Myers 2012; Wimberly and Noeth 2004. We know that family structure influences college-going outcomes through a variety of mechanisms (e.g., economic, knowledge), but our research adds to this literature by showing that family structure may operate through school-based parental involvement to affect a child's higher education opportunities. The longer-term implications are significant given that the lack of a college education is a strong stratifying mechanism underlying the reproduction of intergenerational inequalities that inhere in family structures other than biological married and especially in single-parent structures (Martin 2012; McLanahan and Percheski 2008).

These implications have important and enduring policy ramifications, which are already known in the US but needs to be re-emphasized whenever possible. Specifically, future policy must continue to focus on ways to increase parental involvement among those who traditionally have low rates of participation. But we know this already, as most K-12 reforms, policies, and programs aim to increase parental involvement and family–school partnerships as strategies for improving student achievement and reducing educational inequities (Blackmore and Hutchison 2010; Epstein et al. 2011; Weiss et al. 2010). Indeed, parental involvement is a key element of the No Child Left Behind (NCLB) act of 2001, as schools are mandated to develop and implement strategies to actively involve parents in their children's education (Center for Parental Leadership 2005). The parental involvement component of the NCLB act was an explicit recognition of the differences in and barriers to participation rates among families. Section 1,118 focused on the barriers to greater participation by parents with particular attention to parents who are economically disadvantaged, are disabled, have limited English proficiency, have limited literacy, or are of any racial or ethnic minority background (United States Department of Education 2002). Unfortunately, it does not appear that parents who have traditionally struggled to be involved in school-based activities experienced elevated levels of involvement after the passage of NCLB (Myers and Myers 2013). Our findings suggest that future policies also need to include family structure as a stratifying characteristic that significantly conditions the extent to which parents are able to be involved in school-based activities that benefit their children.

Limitations and Future Research

Our findings and evaluations must be placed in the context of the four main limitations of this study. First, the data are cross-sectional. Even though there is no real doubt about causal ordering of the independent and dependent variables—that is, it is highly unlikely that parental involvement influences family structure—our study and the NHES data cannot untangle the processes that are implicit in our conceptual framework. We posited that family resources in the form of capital were capable of explaining some or all of the associations between family structure and parental involvement. Yet, for true mediation to occur, the variables in these three frameworks would need to occur chronologically between family structure and parental involvement. They did not. Future research would need to use data that could tease out these processes, especially how family structure influences capital resources that, in turn, influence parental involvement in schools. By knowing how these processes flow, any program that seeks to enhance school-family connections could better target those family-level variables that vary across family types and also enhance participation (Epstein et al. 2011). The cross-sectional data also did not permit us to measure the marital transition history of parents, which is just as important to educational outcomes as is a current family structure (Cavanagh et al. 2006).

Second, we delimited 10 different family structure types and had two measures of school-based involvement, but were obviously limited by space to pursue two important research questions that were raised by our findings. Thus, we suggest that research pursue these two lines of inquiry together. Our results showed that the pattern of involvement across the nine family types other than biological married differed depended on the measure of school-based involvement. While all eight of these nine family types had significantly lower levels of involvement for variety of involvement, only five of these nine had lower levels of involvement on frequency of involvement. These findings suggest that future research will need two updates. The first is to elaborate a full theoretical, empirical, and statistical study that delineates and examines the expected differences across each these nine (or more) family structure types, perhaps with an explicit focus on one- versus two-parent households, biological versus non-biological households, female- versus male-headed households, and parent versus parent–guardian households. If the data were available, it would also be important to examine less common family forms, such as households with adopted and long-term

fostered children and same-sex unions. The second update is to unpack the differences in our measures of school-based involvement. That is, why did parents differ more in variety of involvement than in frequency of involvement? The zero-order correlation between these two measures was significant and positive but very modest ($r = .18$, $p < .001$), suggesting that they may be tapping into two different aspects of involvement.

One possibility is that parents who may have practical difficulties in attending school-based activities pick-and-choose and specialize in certain types. For example, single parents, especially mothers, often experience the greatest work-family conflict and least control of work schedules (Minnotte 2012), and therefore may forego attending some of the activities that other parents can or choose to attend regularly. Other research finds that parents often forego involvement in school-based activities because of a sense of being unwelcomed, teacher perceptions, program diversity, timing, and flexibility, and school policies and leadership (Cooper 2010; Hornby and Lafaele 2011; Kim 2009). That is, some parents—especially middle class parents—were better able to open the metaphorically "closed doors" of schools and classrooms to become more involved in their children's educational lives (Hassrick and Schneider 2009).

We briefly examined this possibility by breaking out the seven activities that comprised our index of Variety of Involvement and looking at the mean values across family structure types (results available upon request). We did find a definite pattern. It appeared that biological married parents were much more likely to be involved in four activities: attending a school or class event, being a volunteer in the school, being a member on a school committee, and participating in a school fundraising event. It is possible that these types of activities include time, scheduling, commitment, interpersonal, and resource-related factors that distinguish them from other types of school-based activities.

Third, we could not fully explain the statistical associations between family structure and parental involvement. All types of single-parent households had lower levels of variety and frequency of involvement even after statistically adjusting for the full set of study variables. For two-parent families, five of the six types continued to exhibit lower levels of variety of involvement after adjusting for the full set of study variables. We did not find differences in variety or frequency of involvement between biological cohabiting and married parents. Even though we included a rich and wide-ranging set of capital variables that were theoretically and empirically linked to parental involvement, family structure still mattered for involvement. For all its strengths, the NHES:07 did not collect information on every adult that may have participated in the child's school, including that of the non-residential parent. Therefore, it was possible that we overestimated the associations between family structure and school-based involvement. For example, single mothers often receive substantial amount of social and instrumental support from nonresidential fathers and other adults (Jackson et al. 2013).

We also may have overestimated the influence of family structure because the NHES:07 did not collect information on the strength of parent–child relationships or the quality of parenting above and beyond our measures of social and cultural capital. Our research included 10 different family structure types, which was far more than most research demarcated. Yet, these measures of family structure really considered just two issues: biology and relationship status/living arrangement. An emerging line of research suggests that child well-being depends on more than biology, relationship status, and living arrangements. A number of studies found that the benefits of living with two biological married parents were diminished in the presence of high levels of family and martial conflict. These studies also found that the detriments of being raised by a single parent were offset if the child had a positive relationship with the non-resident parent or was in a household with a positive family climate (Musick and Meier 2010; Phillips 2012).

This suggests that family context is important to untangling the link between family structure and parental involvement. Future research will need to examine how contextual factors condition the link between parental involvement and educational outcomes. For example, Neymotin (2013) found that community factors increased the effects of parental involvement on adolescent behavioral outcomes, such as involvement with neighbors and community child-groups. It will also be important to understand family structure effects as they differ across the gender of the child. There is some evidence from non-US research that family structure may impact education outcomes differently for boys and girls, with the strongest negative effects of non-traditional structures accruing to boys (Cid and Stokes 2012).

Fourth, and finally, even though our study was one of the few to include control variables that tapped school characteristics, the NHES:07 did not contain information about specific school policies that have been shown to enhance parental involvement. For example, one structural change arising from the No Child Left Behind act was the development of over Parental Information and Resources Centers PIRCs attached to US school districts. According to Finkel (2011), these PIRCs are valuable resources in that they provide training and information to parents and district personnel that appear to bolster family engagement in schools. Another school action that may enhance parental involvement is the parent–school compact. This compact

outlines how parents, schools, and staff will jointly develop parental involvement activities to improve student academic achievement. In analyzing the compacts of three elementary schools in Connecticut, Henderson et al. (2011) found that parental involvement increases in quantity and quality when schools take these compacts seriously. Consistent with Epstein (2001) and Epstein et al. (2011), future research will need to consider the overlapping spheres of and connections between families and schools to develop a more well-rounded picture of how family structure conditions parents' ability to participate in the educational lives of their children.

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