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The influence of race/ethnicity on disadvantaged mothers' child care arrangements

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Abstract

This study uses data from the Fragile Families and Child Wellbeing Study [Reichman, N., Teitler, J., Garfinkel, I., & McLanahan, S. (2001). The fragile families and child wellbeing study: Sample and design. *Children and Youth Services Review, 23*, 303–326] to describe primary child care arrangements of employed, predominantly low-income mothers of 1-year olds, and to quantify their child care calculus in the post-welfare reform era. The sorting of children across arrangement types differs by mother's race/ethnicity: Hispanic children are most likely to be cared for maternal kin, Black children in organized centers, and White children by their fathers. Multinomial regression reveals that the association between race/ethnicity and arrangement type is largely – but not entirely – accounted for by mothers' socioeconomic, household, job, and cultural characteristics; interaction tests show that the associations between arrangement type and both poverty status and marital status are contingent on race/ethnicity. These findings indicate that disadvantage does not translate into child care arrangements similarly across racial/ethnic groups and child care policy must take into account structural and cultural differences associated with parents' race/ethnicity.
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The Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) of 1996, commonly known as "welfare reform," placed time limits on public assistance receipt and required most parents receiving public assistance to obtain paid employment or enroll in work-training programs. As a result, PRWORA and the state-level pilot programs that preceded it pushed millions of mostly single mothers into the labor force (Acs & Loprest, 2001). PRWORA also increased federal and state assistance for child care and added relative-provided care and registered family day care homes to the types of care for which qualified low-income parents could receive vouchers and subsidies (Greenberg, Lombardi, & Schumacher, 2000). Over the past decade, then, the population of families needing child care has expanded to include more single and low-income mothers, and the structure of constraints on low-income parents' child care decisions has shifted as well.

Ethnographers have described these shifts and how small groups of mothers have negotiated them (e.g., Buriel, 1998; Chaudry, 2004; Newman, 2001). How well these studies generalize to the larger population of poor and near-poor families in the post-welfare reform era remains unclear, however. The national distribution of children from low-income families across arrangement types has not been detailed since PRWORA's implementation nor has the

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child care calculus of low-income parents been quantified. Better specifying the processes by which children from poor and near-poor families are selected into particular arrangement types would benefit researchers' efforts to distinguish the developmental effects of arrangement types from the effects of factors that influence child care placement (Fuller, Holloway, & Liang, 1996). This study aims to illuminate the processes that select these children into different care arrangements, with a particular focus on identifying racial/ethnic differences in these processes—an important feature given the substantial evidence indicating that the developmental effects of high quality care are more pronounced for low-income children of color than for their White non-Hispanic counterparts (Burchinal, Campbell, Bryant, Wasik, & Ramey, 1997; Caughy, DiPietro, & Strobino, 1994; Lee, 2005).

We use a racially and ethnically diverse sample of employed but predominantly low-income mothers of 1-year old children from the Fragile Families and Child Wellbeing Study (hereafter, Fragile Families Study) (Reichman, Teitler, Garfinkel, & McLanahan, 2001). As we show below, descriptive analysis of this sample confirms that the sorting of these 1-year olds across arrangement types differs by mother's race/ethnicity. Our multivariate analyses investigate the sources of this variation. We first ask whether child care arrangements would be identical across these three racial/ethnic groups if all mothers had similar resources and faced comparable structural constraints. We then consider the possibility of racial/ethnic differences in the roles of job characteristics, household composition, and culturally specific values in mothers' child care decisions.

1. Explaining parents' child care decisions

1.1. Conceptual framework

The sorting of children across child care settings ultimately reflects their parents' child care decisions, and sociologists and economists have devoted considerable attention to understanding how this sorting occurs. Our analysis is guided by what Casper and Smith (2004, pp. 286–287) refer to as a "preferences-and-constraints" model of child care choice. The basic structure of this model derives from Becker's (1981) model of household production in which couples make simultaneous decisions about employment and household production—including fertility and child rearing—subject to their budget constraints, skill sets, and preferences. The preferences-and-constraints model assumes that parents weigh their preferences for different types of child care against both competing preferences (i.e., other goods and services they could buy if they did not purchase child care) and the constraints of time and money.

Typically, social scientists infer both preferences and constraints largely from family and job characteristics. Below, we review past research using the preferences-and-constraints framework with the aim of clarifying its relevance to understanding the child care calculus of economically disadvantaged parents. We then address the integration of racial and ethnic differences into the preferences-and-constraints framework.

1.2. Indicators of preferences and constraints

Conceptually, the chief constraints on parents' child care choices are time and budget. Budget constraints are typically measured as family income but in an economically disadvantaged population, subsidy receipt also is important. Although children from high-income families are more likely to be in center-care than children from middle- and lower-income families, children from low-income families are more likely to be in federally subsidized forms of care, such as Head Start (Capizzano & Adams, 2004; Hofferth, Shauman, Henke, & West, 1998). Poor families also are more likely to rely on non-market forms of care and relative-provided care than are middle- and higher-income families (Hofferth et al., 1998; NICHD ECCRN, 1997). Under PRWORA, poor and near-poor families can obtain cash subsidies to remunerate relatives who provide child care and other providers of informal care, perhaps encouraging greater use of these arrangement types. At the same time, however, recent ethnographies have described the disruption of kin-based child care arrangements as female relatives have themselves moved into the paid labor force in response to PRWORA's work requirements (Chaudry, 2004; Newman, 2001).

Time constraints, typically captured by parents' work schedules, also influence parents' ability to meet their child care preferences. Center-based care, for example, is widely available during the standard work week but less available for nights and weekends (Presser, 2003). It is not surprising, then, that parents who work standard schedules use center-care at higher levels and parents with irregular schedules or shift-work more often report relative- and father-provided care (Fuller et al., 1996; Han, 2004; Hofferth & Wissoker, 1992; Liang, Fuller, & Singer, 2000). Because low-income

parents, particularly those of color, are disproportionately represented in the types of occupations most likely to require non-standard and irregular schedules (Browne, 1999; Padilla, Radey, Hummer, & Kim, 2006), we would expect to see high levels of reliance on informal care arrangements in our sample of poor- and near-poor mothers.

Parents' preferences for care typically are indexed in large-scale sociological and economics studies by mother's education. Children of better-educated mothers are more likely to be in center care than in family day care or relative care (Early & Burchinal, 2001; Fuller et al., 1996; Hofferth et al., 1998; Rindfuss, Brewster, & Kavee, 1996). This relationship appears to be rooted in the association between mothers' educational attainment and their weighting of various arrangement attributes. Developmental characteristics are more salient to better-educated mothers while relational characteristics (e.g., knowing the provider) are more highly valued by less-educated mothers (Johansen, Leibowitz, & Waite, 1996). Although preferences, as captured by mother's educational attainment, are empirically distinct from income, we acknowledge that education effects may be difficult to detect statistically in a population defined by economic disadvantage.

Children's attributes also influence parents' preferences and constrain their decisions. Child's age is strongly tied to parents' child care choices (Baydar & Brooks-Gunn, 1991; Leibowitz, Waite, & Witsberger, 1988) and, not surprisingly, parents of infants prefer home-based and relative care (Riley & Glass, 2002). Somewhat older children may benefit from interaction with peers; thus, the parents of preschoolers are more likely to prefer organized care. The number of children needing supervision also enters into parents' child care calculus. Center care costs climb with each additional child; thus, families with more than one preschooler tend to rely more heavily on informal than organized care (Harris, Raley, & Rindfuss, 2002; Singer, Fuller, Keiley, & Wolf, 1998).

Family structure plays a role in parents' decisions. Two-parent families with more than one young child are less likely to use non-parental care; instead, parents schedule work so as to trade-off child care duties (Leibowitz et al., 1988; Singer et al., 1998). Similarly, families with teenage children or co-resident adults are less likely to use paid forms of care (Blau & Robbins, 1989; Connelly, 1992; Presser, 1989). Single mothers and teenage mothers are more likely to rely on relative-based care, in part because they are more likely to live with or near family members (Hogan & Kitagawa, 1985; McAdoo, 1997). Teen mothers also are less likely to have the maturity and organizational skills to coordinate infant care and other responsibilities (e.g., school, work) without the assistance of older relatives.

1.3. Race, ethnicity, and child care decisions

Race and ethnicity are associated with many of the constraints on parents' child care choices, including income, household composition, residential location, and employment characteristics. In sociological terms, race and ethnicity are "markers" of these constraints. But race and ethnicity also may mark parents' child care preferences insofar as these preferences reflect culturally-specific norms and values (Roschelle, 1997). The distinction between preferences and constraints is critical in explicating racial and ethnic differences in child care arrangements. Consider, for example, ethnographic evidence that kin-based networks are a particularly important form of care in low-income Black and Hispanic families (Hill, 1999; Keefe, 1996; Stack, 1974), a finding that may reflect either constraints or preferences. On the one hand, if child care centers or family day homes cannot be easily accessed from predominantly Black or Hispanic neighborhoods, reliance on relative-based care may be a response to structural constraints. On the other, parents of color may prefer relative-provided care because they believe that it protects children from the sense of "being different" in a predominantly White world or helps to reinforce cultural identification in a way that alternative arrangements could not (Uttal, 1996).

Although we lack direct measures of parents' child care preferences, the Fragile Families data include measures of cultural attachment. If child care decisions reflect racially or ethnically specific norms and values, then we would expect these measures to predict arrangement type and to account for any zero-order effects of race and ethnicity. Similarly, if recent arrivals to the United States wish to preserve or enhance their children's identification with their culture of origin, we might expect immigrant status to predict arrangement type. One recent study, for example, reported that first generation immigrants were less likely than native-born citizens to select center care for their toddlers (Brandon, 2004). Yet, immigrant status, like race and ethnicity, may reflect constraints as well as preferences. Buriel (1998) speculated that first-generation Latinos used center care significantly more than US-born Latinos because recent arrivals had fewer nearby relatives available to provide child care assistance.

Given the racial/ethnic differences in child care arrangements, the present study investigates two research questions to examine the sources of this variation in the child care calculus of disadvantaged mothers. First, would child care

arrangements be identical across Blacks, Hispanics, and Whites if all mothers had similar resources and faced comparable structural constraints? Second, are the influences of job characteristics, household composition, and culturally specific values in mothers' child care decisions contingent upon race/ethnicity?

2. Method

2.1. Sample

We use the Fragile Families and Child Wellbeing Study, a national dataset of urban mothers who gave birth between 1998 and 2000 in 20 U.S. cities (and 15 different states) selected through a stratified random sample (Reichman et al., 2001). Although the Fragile Families Study's guiding aim was to detail the social, economic, and health conditions of unmarried parents and their children, the sample included married mothers and, when weighted, provides estimates representative of the national cohort of births in cities with populations of at least 200,000 in 1999 (CRCW, 2005). Both mothers and fathers were interviewed in either English or Spanish roughly 72 h after giving birth. Follow-up data includes telephone interviews and home visits through the child's first 9 years. We use data collected from the mother at the child's birth and at the 1-year telephone follow-up when the children were, on average, 15 months old. Response rates were high; at baseline, 4898 mothers completed the questionnaire (87% and 82% response rates for unmarried and married mothers, respectively), and 4365 completed the Year 1 interview (90% and 91% response rates) (CRCW, 2005). The oversampling of unmarried mothers resulted in a racially and ethnically diverse (50% Black, 29% Hispanic, and 22% White) and highly disadvantaged sample (44% living below the poverty line); however, only 11% of all mothers and 17 percent of employed mothers received child care subsidies.

The analyses are based on the 1871 mothers who identified themselves as either Hispanic, non-Hispanic Black, or non-Hispanic White, who were employed at the Year 1 interview and relied on a non-custodial provider for child care, and who had complete data on the dependent and independent variables. Of the 4365 mothers interviewed at the Year 1 follow-up, 4168 (95.5%) reported their race/ethnicity as Hispanic, non-Hispanic Black, or non-Hispanic White; mothers of other races and ethnicities were excluded due to their small number. Employed mothers were selected because of both their need for child care during working hours and our substantive interest in the association between work characteristics and child care choice; too few non-employed mothers used child care to support a separate analysis. More than half ($n = 2200$) of the selected mothers reported receiving a regular paycheck for employment and most relied on someone other than a non-custodial parent for child care at least 10 h per week. Because mothers using child care less than 10 h a week ($n = 203$) were not asked to identify their child care providers, we excluded them from the sample.

2.2. Measurement

2.2.1. Dependent variable

Mothers who reported using child care provided by someone other than a custodial parent for 10 h or more weekly were asked to identify their primary arrangement (i.e., the arrangement in which the child spent the most time) and where the care was provided. We collapsed their responses into five categories: (i) maternal relative care, (ii) paternal relative care, (iii) non-relative home care, (iv) center care, and (v) parental (i.e., father) care. Maternal relative care includes family members of the mother, her partner, or her partners' relatives, and paternal care includes family members of the father or his partner. Non-relative home care includes children cared for in an informal group setting, such as a neighbor's house, with other children. Center care includes both day care centers and Head Start/Early Head Start programs. Mothers who reported either that they relied only on care provided by a custodial parent or that the child's (non-resident) father was the primary care-giver were coded as using parental care.

2.2.2. Independent variables

Our independent variable of primary interest, *race/ethnicity*, is based on information obtained at the baseline interview. Mothers were asked their race and if they were of Hispanic or Latino origin or descent. Mothers who indicated that they were not of Hispanic or Latino origin were coded as Black or White based on their response to the race question. Mothers who stated that they were of Hispanic or Latino origin were coded as Hispanic regardless of race. This measurement of Hispanic/Latino origin is not ideal insofar as it pools groups that have somewhat different socioeconomic profiles and patterns of ethnic reaffirmation (Bean & Tienda, 1987); however, we believe that our

indicator does capture a critical dimension of ethnic identification in a context in which Hispanics are gaining ground demographically, socially, and politically.

The Fragile Families data include multiple indicators of the key concepts in the constraints and preferences framework. To aid in interpreting our results, we categorized these indicators according to whether they represented socioeconomic, job, or household characteristics or culturally specific values. Note, however, that the effects of each variable were evaluated both with and without other similarly categorized indicators.

Socioeconomic characteristics included maternal education (less than high school, high school diploma or GED, or more than high school), whether the mother was a teenager at the child's birth, and household poverty level at Year 1 (less than 100, 100–200%, or more than 200%). In preliminary analyses, we included whether or not the mother received a child care subsidy or voucher; however, this variable failed to attain significance in any model specification, probably because most mothers receiving subsidies or vouchers used center-care. Three additional *household characteristics* measured at Year 1 are included: mother's relationship with the child's father (married, cohabiting, neither), whether the child's grandmother lived in the household, and whether the household included children under 5 years old other than the focal child.

Work characteristics were measured at Year 1 and included mother's weekly work hours, her occupation, and her work schedule. The indicator of time worked weekly, coded numerically, unfortunately pertains only to the mother's primary job and thus underestimates actual hours worked. Primary occupation was coded one if the respondent was employed in a white-collar job, as defined by the U.S. Census. Work schedule was coded one to indicate an irregular schedule, based on the mother's response to questions about whether she sometimes worked evenings (6–11 p.m.), nights (11 p.m.–7 a.m.), weekends, or at different times each week.

The analyses include two indicators of *culturally specific values*. The first, cultural attachment is coded one for mothers who agreed or agreed strongly with the statement, "I feel an attachment to my own racial or ethnic heritage." Immigrant status was coded one for mothers who were born outside the U.S. or U.S. territories.

2.3. Analysis

The analysis consisted of three steps. First, we tested the bivariate associations between child care and each of the independent variables and between race/ethnicity and each of the explanatory variables. Design-based *F*-tests identified the statistically significant associations. We then modeled the association between race/ethnicity and arrangement type using multinomial logistic regression which is appropriate for polytomous dependent variables with no natural ordering (Menard, 1995). As in logistic regression, one value of the dependent variable is designated as the comparison or reference category; in our models, the comparison category is parental care. We present relative risk ratios which are the analog of the odds ratios used in logistic regression. Like odds ratios, relative risk ratios are calculated as the antilogs (i.e., exponentiated values) of the model coefficients and their interpretation is similar. Risk ratios with values greater than one indicate the percentage *increase* in the probability of the specific arrangement type relative to the probability of parental care that is associated with a unit change in the independent variable. Risk ratios lower than one indicate the percentage *decrease* in the relative probability associated with a unit increase in the independent variable. Significance levels were evaluated using Huber–White standard errors, explained variance was evaluated using Nagelkerke R^2 (Nagelkerke, 1991), and all models were estimated using STATA, version 8. Although the results and discussion focus on the contribution of covariates on racial/ethnic differences in child care arrangements, we also present the final model with the relative risk ratios for all covariates. Third, to test for the conditioning effects of race/ethnicity, we entered into the additive models multiplicative terms representing the statistical interaction of each predictor with race/ethnicity and then assessed changes in model fit. To minimize collinearity problems, interaction terms were evaluated separately and in blocks (socioeconomic, work, household, and cultural). To illustrate the significant interactions, we present predicted probabilities calculated for race-specific models.

3. Results

3.1. Bivariate results

Table 1 presents the percentage distributions of the independent and dependent variables for the total sample and by racial/ethnic group. All descriptive estimates are weighted using a constructed variable to adjust for sampling effects

Table 1
Design-adjusted percentages and bivariate tests: employed mothers of 1-year olds using non-maternal care, by race and ethnicity

	Black	Hispanic	White	Total
Dependent variable				
Type of care[b,c,***]				
Maternal relative	24.5	35.0	25.7	27.6
Paternal relative	5.5	8.2	7.9	6.8
Non-family care	15.3	17.8	20.0	17.2
Center care	29.5	17.6	20.5	24.0
Parental care	25.3	21.5	26.0	24.4
Socioeconomic characteristics				
Maternal education[a,b,c,***]				
Less than HS degree	16.7	28.1	12.2	18.6
HS degree or GED	38.0	31.0	24.9	32.7
Greater than HS degree	45.2	40.9	62.9	48.7
Teenage mother				
Yes	16.3	12.8	11.6	14.2
Poverty level[a,b,***]				
Extreme (below 100%)	33.0	38.8	11.8	29.0
Moderate (100–200%)	30.2	30.5	19.8	27.5
Above (above 200%)	36.9	30.7	68.4	43.5
Job characteristics				
Hours employed[a,b,c,***]				
1–19 h	3.7	7.2	13.0	7.1
20–34 h	17.8	21.2	27.3	21.2
35 or more hours	78.5	71.6	59.6	71.7
Non-standard work schedule[c,*]				
Yes	67.0	58.4	63.2	63.7
White-collar job[a,b,*]				
Yes	64.4	64.8	72.7	66.7
Household structure				
Relationship status[a,b,c,***]				
Single	47.6	35.7	23.7	38.2
Cohabiting	32.1	36.2	19.7	29.9
Married	20.2	28.1	56.7	31.9
Grandmother in home[a,b,*]				
Yes	20.0	21.4	13.5	18.7
Additional toddlers				
Yes	36.7	34.7	31.3	34.7
Culturally specific values				
Attached to ethnic heritage				
Yes	82.9	79.0	80.0	81.1
Immigrant[a,c,***]				
Yes	4.7	20.8	3.1	8.5
N	968	437	466	1871

Asterisks indicate significance levels for design-adjusted tests of relationship between race/ethnicity and child care arrangement: (*) $p < 0.05$, (**) $p < 0.01$, (***) $p < 0.001$. Letters indicate race/ethnic difference in arrangement type at $p < 0.05$ or better: (a) Hispanic–White difference; (b) Black–White difference; (c) Hispanic–Black difference.

including probability of selection, non-response, and poststratification variables based on marital status, education, race/ethnicity, and age (Carlson, 2006). Of particular interest for our purposes is the diversity of primary child care arrangements used in this population. One-fourth of mothers relied on the child's father for care rather than using non-parental arrangements for their 1-year-olds. Over one-fourth of mothers used their own relatives, while only 7% used relatives of their child's father. Seventeen percent used non-relative home care where children were cared for in an informal setting with other children. The remaining one-fourth of mothers used formal center care, including Head Start programs.

A design-based *F*-test confirmed that race/ethnicity is a statistically significant predictor of child care arrangements in this population; additional analysis revealed that this association is driven largely by significant contrasts between Blacks and Hispanics and Blacks and Whites. Black mothers reported significantly lower levels of relative-provided care for their 1-year-olds, higher levels of center care, and somewhat lower levels of non-family care than either White or Hispanic mothers. We return to these differences below, in our discussion of the multivariate analyses.

Table 1 also shows that primary child care arrangement type is significantly associated with indicators of mother's socioeconomic status (educational attainment, poverty status), household characteristics (relationship status, child's grandmother in home), job characteristics (hours employed, schedule, white collar), and her immigrant status. The distribution of mothers across each of these variables differs significantly by race/ethnicity. Whites were more likely than Blacks and Hispanics to have progressed beyond high school and Blacks were more likely to have done so than Hispanics. Whites also were less likely than either Hispanics or Blacks to be poor or near-poor. White mothers' income advantage did not arise from working more hours; Whites were less likely than both Blacks and Hispanics to work full-time. At the same time, significantly more Whites than Blacks or Hispanics were in white-collar jobs. Whites were much more likely to live in nuclear-family households – with a spouse and without their children's grandmother – than either Blacks or Hispanics. Black mothers were the most likely to be single and not cohabiting with their child's father. Although substantially higher proportions of Hispanics than either Blacks or Whites were immigrants, they were no more likely to express attachment to their cultural heritage.

Together, these bivariate relationships suggest a picture of greater disadvantage for Blacks and Hispanics than for Whites. This shared disadvantage does not translate into comparable child care arrangements, however; the bivariate tests also suggest that Hispanics' child care arrangements are more similar to Whites' than to Blacks' arrangements. We turn now to our multivariate investigation of the effects of mothers' socioeconomic, job, household, and cultural characteristics on child care arrangement type.

3.2. Regression analysis: explaining the association of race/ethnicity and child care

Table 2 presents the relative risk ratios for race/ethnicity and the fit statistics from six multinomial logistic regression models: a baseline model, four models that control each set of explanatory variables separately, and a full model that includes all of the explanatory variables simultaneously. To obtain all possible race/ethnic comparisons, each model was run twice: once with non-Hispanic Whites as the omitted category for race/ethnicity and once with non-Hispanic Blacks as the omitted category. All five blocks of predictors significantly improved the model fit using log likelihood ratio tests.

The baseline model results (Table 2, Model 1) indicate that Hispanic mothers are more likely than either Blacks or Whites to rely on their own relatives than on the child's father for child care, more likely than Blacks to rely on non-family day care than the child's father, and less likely than Blacks to use center-care. The Nagelkerke R^2 value, although low, is statistically significant ($p < 0.001$).

Adding the block of socioeconomic variables to the baseline model leads to a significant improvement in model fit and a corresponding increase in Nagelkerke R^2 (Model 2, Table 2). Differences in socioeconomic resources, however, do little to explain racial/ethnic differences in child care arrangements. Although the Hispanic–Black difference in center care is reduced to statistical insignificance, most of the Hispanic–Black contrasts observed in Model 1 remain. Moreover, controlling for socioeconomic factors amplifies two contrasts involving Whites. Black mothers are more likely than their White counterparts to rely on center care than on parental care, and Hispanic mothers are more likely than White mothers to rely on non-family care than on parental care.

Comparison of Models 1 and 3 shows that controlling for job characteristics leaves the zero-order Hispanic–Black and Hispanic–White differences unchanged, although these variables do improve the model's fit. Adding the job characteristic indicators to the baseline model also pushes the Black–White difference in the relative probability of using non-family care to statistical significance. Comparison of Models 4 and 5 to the baseline model reveals similar

Table 2
Relative risk ratios (95% confidence intervals) showing race effects on arrangement type: employed mothers of 1-year olds

Primary arrangement	Maternal relative vs. parental care	Paternal relative vs. parental care	Non-family care vs. parental care	Center care vs. parental care
1. Baseline				
Mother's race/ethnicity				
Black vs. White	1.09 (0.80, 1.49)	0.77 (0.48, 1.22)	0.73 (0.52, 1.03)	1.28 (0.94, 1.75)
Hispanic vs. White	1.63 (1.14, 2.33)**	1.14 (0.67, 1.94)	1.17 (0.78, 1.74)	0.84 (0.56, 1.26)
Hispanic vs. Black	1.49 (1.10, 2.03)**	1.49 (0.92, 2.41)	1.61 (1.12, 2.30)**	0.66 (0.46, 0.93)*
Log likelihood	−2831.61			
Nagelkerke R^2	2.3%			
N	1871			
2. Controls for socioeconomic characteristics				
Mother's race/ethnicity				
Black vs. White	1.17 (0.85, 1.62)	0.97 (0.60, 1.58)	0.95 (0.66, 1.36)	1.45 (1.04, 2.02)*
Hispanic vs. White	1.82 (1.25, 2.66)**	1.58 (0.90, 2.78)	1.74 (1.14, 2.67)*	1.05 (0.69, 1.60)
Hispanic vs. Black	1.56 (1.14, 2.13)**	1.62 (1.00, 2.65)	1.84 (1.27, 2.66)**	0.73 (0.51, 1.04)
Log likelihood	−2790.79			
Nagelkerke R^2	6.7%			
N	1871			
3. Controls for job characteristics				
Mother's race/ethnicity				
Black vs. White	0.97 (0.70, 1.33)	0.73 (0.45, 1.17)	0.65 (0.45, 0.94)*	1.20 (0.86, 1.67)
Hispanic vs. White	1.55 (1.07, 2.25)*	1.14 (0.66, 1.96)	1.12 (0.74, 1.69)	0.82 (0.54, 1.25)
Hispanic vs. Black	1.60 (1.17, 2.20)**	1.57 (0.96, 2.56)	1.71 (1.18, 2.48)**	0.69 (0.48, 0.99)*
Log likelihood	−2753.23			
Nagelkerke R^2	10.5%			
N	1871			
4. Controls for household structure				
Mother's race/ethnicity				
Black vs. White	0.97 (0.70, 1.34)	0.71 (0.44, 1.17)	0.75 (0.52, 1.07)	1.15 (0.83, 1.60)
Hispanic vs. White	1.54 (1.06, 2.24)*	1.02 (0.59, 1.77)	1.24 (0.83, 1.88)	0.82 (0.54, 1.24)
Hispanic vs. Black	1.60 (1.16, 2.19)**	1.43 (0.88, 2.32)	1.67 (1.16, 2.41)**	0.71 (0.50, 1.02)
Log likelihood	−2772.97			
Nagelkerke R^2	8.5%			
N	1871			
5. Controls for culturally specific values				
Mother's race/ethnicity				
Black vs. White	1.09 (0.80, 1.48)	0.76 (0.48, 1.21)	0.72 (0.51, 1.02)	1.29 (0.95, 1.77)
Hispanic vs. White	1.73 (1.19, 2.51)**	1.12 (0.64, 1.96)	1.06 (0.69, 1.61)	0.97 (0.54, 1.47)
Hispanic vs. Black	1.59 (1.15, 2.19)**	1.47 (0.88, 2.44)	1.47 (1.01, 2.15)*	0.75 (0.52, 1.08)
Log likelihood	−2819.89			
Nagelkerke R^2	3.6%			
N	1871			
6. Full model				
Mother's race/ethnicity				
Black vs. White	0.84 (0.60, 1.20)	0.72 (0.43, 1.20)	0.70 (0.47, 1.03)	1.09 (0.76, 1.56)
Hispanic vs. White	1.52 (1.00, 2.30)	1.12 (0.61, 2.07)	1.27 (0.79, 2.02)	0.94 (0.60, 1.49)
Hispanic vs. Black	1.79 (1.26, 2.53)**	1.56 (0.92, 2.64)	1.82 (1.22, 2.73)**	0.87 (0.59, 1.28)
Log likelihood	−2651.17			
Nagelkerke R^2	20.3%			
N	1871			

* $p \leq 0.05$.
** $p \leq 0.01$.

results: the Hispanic–Black and Hispanic–White differences in use of maternal relatives remain largely unchanged, as does the Hispanic–Black difference in use of non-family day care.

It is only in the full model (Model 6) that we observed a substantial attenuation of any of the significant racial/ethnic differences that characterized the baseline model and intermediate specifications (see Table 3 for the final model with the relative risk ratios for all covariates). The Hispanic–White differences and Black–White differences are completely eroded in the full model; only the Hispanic–Black differences in the relative probabilities of reliance on relative-provided care and non-family care obtain significance in the full specification. Indeed, these differences are unaltered from the baseline specification.

Table 3
Multinomial logistic model of arrangement type: relative risk ratios (95% confidence intervals)

Primary arrangement	Maternal relative vs. parental care	Paternal relative vs. parental care	Non-family care vs. parental care	Center care vs. parental care	Conditioned by race/ethnicity
Mother's race/ethnicity					
Black vs. White	0.85 (0.60–1.20)	0.72 (0.42–1.20)	0.70 (0.47–1.03)	1.09 (0.76–1.56)	–
Hispanic vs. White	1.52 (1.00–2.30)	1.12 (0.61–2.07)	1.27 (0.79–2.02)	0.94 (0.60–1.49)	
Socioeconomic characteristics					
Educational attainment					
Less than High School	0.71 (0.48–1.05)	0.99 (0.54–1.82)	0.40** (0.24–0.64)	0.43** (0.28–0.65)	No
High School	0.76 (0.55–1.05)	1.19 (0.73–1.95)	0.71 (0.49–1.03)	0.64** (0.46–0.90)	
Teenage mother					
Yes	0.93 (0.64–1.36)	0.98 (0.54–1.76)	0.83 (0.51–1.37)	0.83 (0.54–1.26)	No
Poverty status					
Extreme	1.00 (0.69–1.46)	0.48* (0.27–0.86)	0.57* (0.36–0.89)	0.98 (0.66–1.45)	Yes
Moderate	1.02 (0.71–1.47)	0.44** (0.25–0.77)	0.80 (0.53–1.19)	0.99 (0.68–1.44)	
Work characteristics					
Number of hours employed					
Per hour	1.04** (1.03–1.05)	1.03** (1.01–1.05)	1.04** (1.03–1.06)	1.04** (1.02–1.05)	No
Work an irregular schedule					
Yes	0.65** (0.49–0.87)	0.61* (0.40–0.94)	0.56** (0.40–0.77)	0.45** (0.34–0.60)	No
Work at a white-collar job					
Yes	1.61** (1.21–2.13)	2.20** (1.40–3.46)	1.88** (1.34–2.64)	2.25** (1.67–3.04)	No
Household composition					
Relationship status					
Single	2.05** (1.40–3.01)	1.27 (0.67–2.43)	2.39** (1.54–3.70)	2.65** (1.76–3.97)	Yes
Cohabiting	0.95 (0.66–1.37)	2.09** (1.24–3.52)	0.99 (0.65–1.49)	1.17 (0.80–1.72)	
Grandmother in home					
Yes	2.26** (1.57–3.26)	1.42 (0.78–2.60)	0.75 (0.46–1.23)	1.04 (0.69–1.58)	No
Additional toddlers					
Yes	0.78 (0.59–1.03)	1.23 (0.81–1.87)	0.83 (0.60–1.15)	1.08 (0.81–1.44)	No
Culturally specific values					
Attached to cultural heritage					
Yes	1.49* (1.06–2.09)	1.04 (0.63–1.71)	0.96 (0.66–1.40)	0.94 (0.67–1.32)	No
Immigrant					
Yes	1.13 (0.70–1.82)	1.56 (0.78–3.11)	2.22** (1.33–3.72)	0.79 (0.44–1.44)	+
Log likelihood	−2651.17				
Nagelkerke R^2	20.3%				
N	1871				

+: interaction not tested because only 4.8% of Blacks ($N = 46$) and 3% of Whites ($N = 14$) are immigrants.
* $p \leq 0.05$.
** $p \leq 0.01$.

Table 4
Relative risk ratios (95% confidence intervals) from multinomial logistic regression of arrangement type on all covariates and significant interactions

Primary arrangement	Maternal relative vs. parental care	Paternal relative vs. parental care	Non-family care vs. parental care	Center care vs. parental care
Mother's race/ethnicity				
Black	1.01 (0.55–1.85)	0.98 (0.43–2.27)	0.85 (0.46–1.55)	0.91 (0.50–1.64)
Hispanic	3.02** (1.43–6.36)	1.01 (0.33–3.04)	0.73 (0.31–1.69)	0.92 (0.40–2.13)
Poverty status				
Extreme	1.04 (0.41–2.60)	0.94 (0.28–3.18)	0.24* (0.06–0.95)	0.69 (0.25–1.91)
Black interaction	0.89 (0.28–2.81)	0.45 (0.11–1.86)	2.37 (0.53–10.70)	1.66 (0.55–5.04)
Hispanic interaction	1.15 (0.41–3.22)	0.50 (0.10–2.45)	4.37 (0.87–21.94)	1.60 (0.43–5.93)
Moderate	0.42* (0.20–0.87)	0.36 (0.12–1.04)	0.39* (0.18–0.85)	0.43* (0.20–0.92)
Black interaction	3.64** (1.50–8.78)	0.96 (0.25–3.71)	2.30 (0.88–6.02)	3.06* (1.24–7.57)
Hispanic interaction	2.43 (0.86–6.87)	1.99 (0.45–8.67)	3.71* (1.19–11.56)	3.19* (1.00–10.11)
Relationship status				
Single	7.09** (3.14–16.00)	2.04 (0.60–6.92)	3.64** (1.45–9.11)	5.18** (2.23–12.07)
Black interaction	0.23** (0.09–0.62)	0.66 (0.15–2.86)	0.52 (0.18–1.53)	0.46 (0.17–1.24)
Hispanic interaction	0.14** (0.05–0.42)	0.09 (0.08–1.12)	0.64 (0.19–2.19)	0.40 (0.12–1.30)
Cohabiting	1.67 (0.77–3.56)	2.21 (0.85–5.74)	1.76 (0.81–3.83)	1.42 (0.65–3.11)
Black interaction	0.56 (0.22–1.41)	0.62 (0.18–2.11)	0.31* (0.12–0.84)	0.86 (0.33–2.19)
Hispanic interaction	0.33* (0.12–0.89)	1.32 (0.34–5.16)	0.77 (0.26–2.29)	0.55 (0.18–1.69)
Log likelihood	−2617.48			
Nagelkerke R^2	22.2%			
N	1871			

* $p \leq 0.05$.
** $p \leq 0.01$.

3.3. Testing the conditional effects of race/ethnicity

The additive models assume that the effects of resources and constraints on women's child care decisions are similar across mothers of different race/ethnicities; however, our tests for statistical interactions provide evidence that this assumption is not valid. Table 4 presents model fit statistics and selected relative risk ratios from a model which includes those multiplicative terms that significantly improve model fit (relative to the full additive model shown in Table 3) as well as the full set of explanatory variables. To aid in the interpretation of these interactions, we estimated race-specific predicted probabilities of using each child care arrangement; the results, which we present graphically in Figs. 1 and 2, show quite clearly the conditioning effects of race/ethnicity.

The additive model indicates that single mothers are more likely than married mothers to rely on maternal relatives for child care than on their child's father (R.R.R. = 2.05, $p < 0.001$). The non-additive model, however, suggests that this pattern is more characteristic of White mothers than their Black and Hispanic counterparts. The differences are illustrated in Fig. 1. Panel A shows that, although all three groups of single mothers have relatively high propensities to rely on their own relatives for child care, use of kin-provided care is highest among Whites. Further, single White mothers are less likely than their Black and Hispanic counterparts to use their child's father as a care-provider. The differences between Whites and both Blacks and Hispanics are also apparent in the distributions for married mothers (Panel C). Here, reliance on maternal kin for child care is highest among Hispanics and lowest among Whites, while reliance on the child's father is highest among Whites and lowest among Hispanics. Panel B shows that child care use patterns are less well-differentiated by race/ethnicity among cohabitors, although it should be noted that Black mothers who cohabit are significantly more likely to use non-family care than are White or Hispanic mothers.

The effects of poverty status, too, are contingent on mother's race/ethnicity. In the additive model, the probability of using non-family care relative to the probability of using care provided by the child's father is about 43% lower for mothers living below the poverty line compared to their more advantaged counterparts. As Fig. 2 shows, this pattern is more characteristic of White and Black mothers than of Hispanic mothers. Comparison of Panels A and C shows that Hispanic mothers who live below the poverty line use non-family care at about the same level as their counterparts who have incomes of 200 percent of the poverty level or more. Among Black mothers, non-family care is more than

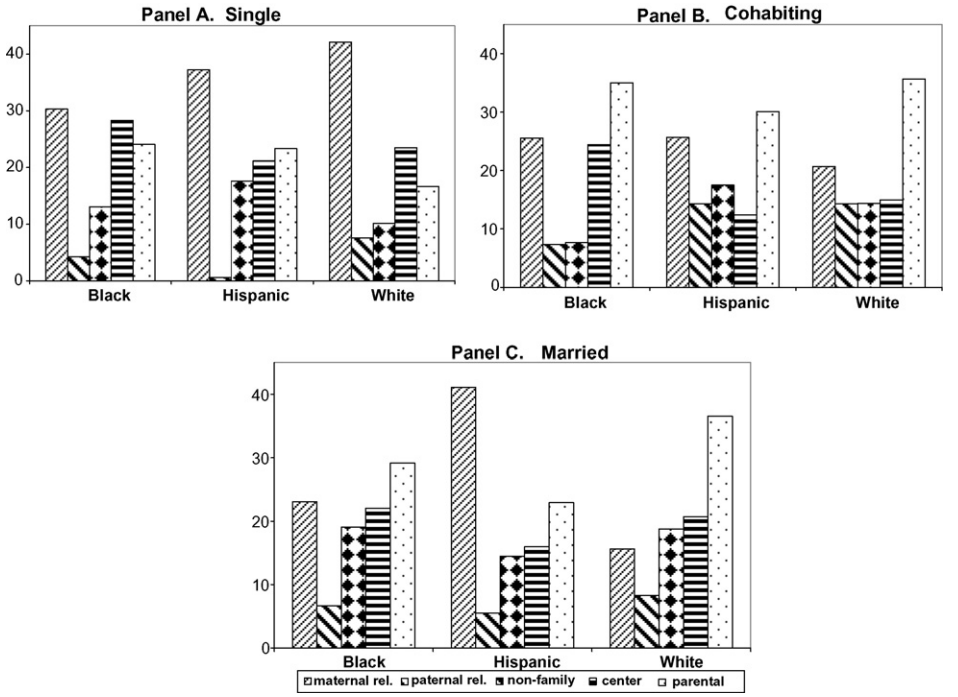

Fig. 1. Adjusted percentage distribution across arrangement types, by race/ethnicity and relationship status.

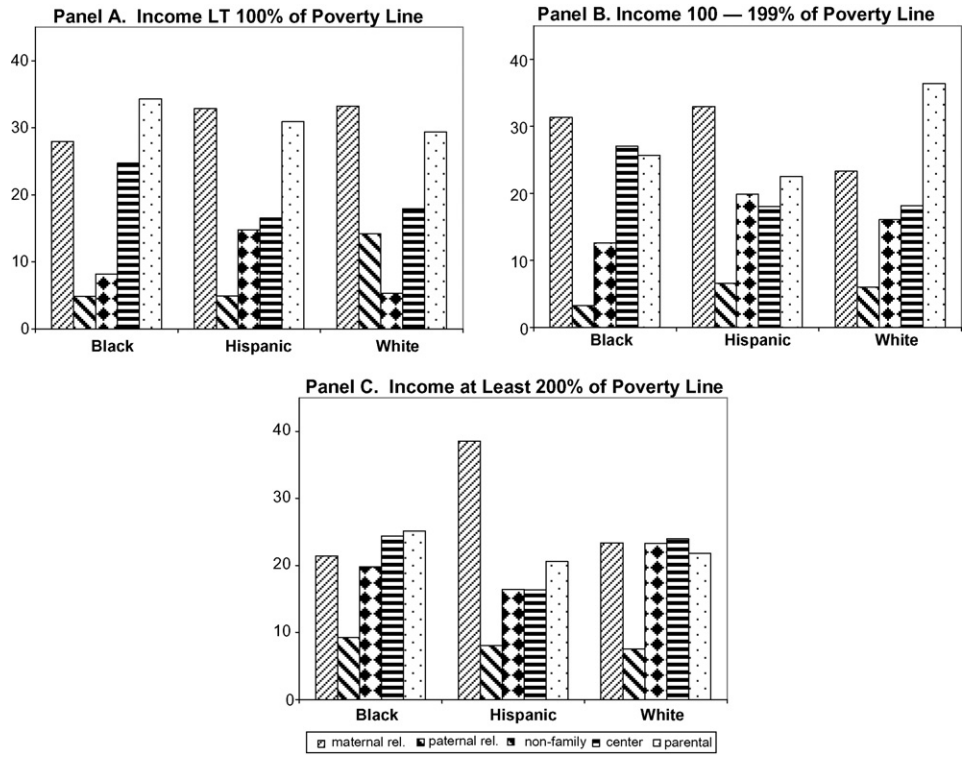

Fig. 2. Adjusted percentage distribution across arrangement types, by race/ethnicity and poverty status.

twice as high among economically advantaged mothers compared to their poorer sisters, and among White mothers reliance on non-family care is nearly four times higher among the economically advantaged.

3.4. Evaluation of endogeneity

It is well-recognized in the research literature (e.g., Casper & Smith, 2004) and by policy makers that the local child care supply and characteristics of particular arrangement types also may constrain parents' employment decisions. That is, mothers' work schedule, job characteristics, and even their status as labor force participants may be influenced by the arrangements they make for their children's care. Indeed, the logic of federal child care subsidies is an explicit recognition of the endogeneity of child care arrangements to mothers' employment. To assess the possible influence of endogeneity on our coefficient estimates, we compared the coefficients and p-values in the models reported here to the parameter estimates from models re-specified to exclude the work variables. With the exclusion of the work variables from the model, the estimated effects of educational attainment on the use of maternal relatives attained significance at $p < 0.05$ as did the relative probability of non-family care for Hispanic mothers (results available on request). The remaining parameters were stable across the two model specifications, however, suggesting that endogeneity has not biased our findings.

4. Discussion

4.1. Race/ethnicity and child care preferences and constraints

Our analysis focused on racial/ethnic differences in non-maternal child care arrangements among employed but predominantly low-income mothers of 1-year-old children. The descriptive analyses showed that children were distributed across a variety of arrangements and that this distribution was associated with mother's race/ethnicity. Blacks used lower levels of relative care, higher levels of center care, and lower levels of non-family care than either Whites or Hispanics. Hispanic mothers were more likely than either Whites or Blacks to rely on their relatives for child care, and White mothers had somewhat higher levels of reliance on non-family care. We also found that Blacks and Hispanics faced greater socioeconomic disadvantage and more structural constraints than Whites, but this shared disadvantage did not translate into similar patterns of child care use.

The multivariate analyses revealed that although the effects of mothers' socioeconomic, job, household, and cultural characteristics were consistent with the preferences-and-constraints framework guiding our analyses, no single set of characteristics accounted for the association between race/ethnicity and arrangement type. Their combined effects, however, were sufficient to reduce this association substantially, leaving only statistically significant differences between Hispanics and Blacks: a higher probability of reliance on maternal kin and non-family care among Hispanic women. With the exception of these differences, our findings suggest that racial/ethnic differences in arrangements would largely disappear if Black, Hispanic, and White mothers were similarly situated.

Although this finding appears to contradict studies (e.g., Early & Burchinal, 2001) reporting significant net racial/ethnic differences in child care arrangements, particularly with respect to kin-provided child care, it is consistent with work reporting a recent decline in kin care among Blacks (Brewster & Padavic, 2002) and only minimal racial/ethnic differences in the child care choices of low-income, single, welfare-to-work mothers (Huston, Chang, & Gennetian, 2002). Are the child care arrangements of mothers who are socially and economically disadvantaged less differentiated by race/ethnicity than those of parents in the larger population? Although a direct answer to this question is well beyond the scope of this investigation, the results of our tests for racial/ethnic interactions provide some insight.

Similar to Fuller et al. (1996), we observed statistically significant interactions between race/ethnicity and mother's living arrangements and poverty status. Considering the living arrangements interactions first, we found that among single mothers, Whites are most likely to rely on maternal relatives for child care and Blacks are least likely. Black single mothers, however, have the highest probability of reliance on the child's father for child care, a finding that may reflect their greater likelihood of maintaining at least a friendly relationship with their child's father—61% of unmarried, non-cohabiting Blacks were at least friends with their child's father compared to less than 50% of Hispanics and Whites. Among married and cohabiting mothers, Whites are least likely to rely on maternal relatives as care-providers and somewhat more likely than Blacks or Hispanics to rely on the child's father. These differences suggest that White

relatives step in to provide child care assistance when it is otherwise unavailable, but are, in general, less involved in child care. The relatives of Hispanic and Black mothers, in contrast, are more consistently involved in child care.

The interaction between race/ethnicity and poverty status is driven by racial/ethnic differences in reliance on non-family day care. Among both Blacks and Whites, mothers with incomes exceeding 200% of the poverty level are more likely to use non-family day care than their poor and near-poor counterparts. The latter groups' lower use of non-family care is complemented by higher use of center-based care, suggesting that poor and near-poor Black and White women are taking advantage of their eligibility for subsidized organized care. Hispanics, however, use non-family care at similar rates regardless of poverty status. It is unclear why. It may be that Hispanics prefer care by people they know (e.g., friends or neighbors) to more formal arrangements. Alternatively, this interaction may reflect ethnically specific structural constraints. In this regard, we note that recent research on child care access in California indicates that center care is less available in predominantly Hispanic neighborhoods than in otherwise comparable White areas (Hirshberg, 2002). Further, it is possible that language differences – more prevalent among the Hispanic mothers in our sample – engender a lesser propensity to use formal care arrangements.

4.2. Limitations and research and policy implications

It bears noting that our analyses address only the primary child care arrangement for the focal child in the Fragile Families data. Accordingly, our results pertain to just one dimension of the complex calculus of employed, disadvantaged women's child care decisions; we do not observe how the choice of a primary arrangement type is affected by the need to patch together multiple arrangements. Another important limitation is the lack of explicit data on parental preferences and child care access; as suggested in the preceding paragraph, such data would shed much needed light on the association between race/ethnicity and child care arrangements. Less obvious, perhaps, is the potential contribution of such data to efforts to evaluate the success of the child care policies associated with welfare reform. Clearly, future policy efforts would benefit from a better understanding of disadvantaged parents' child care preferences, their awareness of the child care benefits for which they are eligible, and the adequacy of these benefits for meeting parents' child care needs.

One aim of the increased child care funding attached to the PRWORA was to enhance child development by improving at-risk parents' access to high quality child care, typically defined as care in organized centers. Although substantial dollar amounts have been devoted to enhancing parents' access to center-based care (Administration for Children & Families, 2006), we found that employed mothers in this predominantly low-income, unmarried sample relied most often on other arrangement types for their child's primary care, including relatives or the child's father. We cannot assume that this finding reflects a preference among these mothers for family-provided care – as past research suggests (Riley & Glass, 2002) – or parents' lack of access to or awareness of alternative forms of care. Future policy efforts should recognize the possibility of quality care in both formal and informal settings and attend both to mothers' structural constraints and their preferences.

Beyond creating an environment where child care availability is responsive to mothers' constraints and preferences, policy makers should recognize the complex calculus mothers face when arranging care for their young children; race/ethnicity, structural constraints, and preferences intersect as mothers negotiate care. Poverty level and relationship status, for example, influence care decisions differently for Black, Hispanic, and White mothers. Funding cannot target one form of care over another. Instead, funding decisions should consider mothers' unique decision-making processes and promote quality care in an array of developmentally appropriate settings. As the reliance on non-paternal care increases, mothers deserve a true choice among high-quality child care arrangements, regardless of their racial/ethnic group.

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