Supply Effects and Black/White Differences in the Use of Congregate Care

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INTRODUCTION

In this paper, we examine the use of congregate care as a placement alternative for children who enter foster care.[1] Public policy in the United States favors the placement of children with families whenever possible, a preference that is rooted in uncertainties that have to do with whether congregate care has a net positive effect on the wellbeing of children (Dozier et al., 2014).

Our specific focus is on Black/White differences in the use of congregate care, which we measure as differences in the likelihood a young person will be placed in congregate care when the young person is placed in out-of-home care for the first time. When looking at the differences by race and without regard to the state or county where the youngster was living, among children age 10 and above, we find that Black children are placed first into congregate care 37 percent of the time. The comparable figure for White children is 33 percent; the ratio of the odds is 1.197. We are interested in what this gap might mean for policy and practice.

To deepen what we know about the Black/White gap in congregate care placement, we bring together two theoretical perspectives. We start with the notion of supply-induced demand. Attributed to Milton Roemer (Roemer, 1961), supply-induced demand refers to the idea that *built beds tend to be used*. To test whether the supply of congregate care beds affects the use of congregate care, we apply lessons from population biology that link the size of a population to the carrying capacity of the environment. In the case of congregate care, the carrying capacity is represented by the number of congregate care beds (Wulczyn & Halloran, 2017). Admission and discharge processes adapt to the carrying capacity and the size of the population is represented by the sustainable number of congregate care placements given the carrying capacity. We contend that admissions to congregate care will be higher where our measure of supply induced demand is strongest.

The second perspective draws on the theory of ecological similarity or racial invariance, depending on the authors (Sampson & Bean, 2006; Sampson & Groves, 1989; Steffensmeier, Ulmer, Feldmeyer, & Harris, 2010). As a theoretical perspective, ecological similarity has its origins in the work of Shaw and McKay (Shaw & McKay, 1942) following their observation that what they called social disorganization affected rates of juvenile delinquency. Extended in recent years by Robert Sampson and William J. Wilson, updated versions of the theory emphasize the role of social context and collective efficacy as the

[1] Foster care refers to a variety of placement types including foster family care, kinship care and congregate care. Congregate refers to non-family care. We use the terms foster care and out-of-home care interchangeably.

mechanisms that transmit the influence of a community on the people who live there including children. Methodologically, the theory stresses the extent to which similarities in ecological context are used to understand individual-level phenomena. The perspective is perhaps best summed up by the observation that growing up in a poor family is one thing; growing up in a poor family in the midst of other poor families is another thing altogether. In the latter case, concentration effects weaken collective efficacy around the common task of raising children.

To observe the influence of context on outcomes, it is important to apply robust statistical models (Raudenbush & Bryk, 2001). The goal is to compare outcomes for White and Black children who come from ecologically similar areas. Although finding White children raised under conditions similar to those affecting large numbers of Black children is difficult, that comparison tends to diminish Black/White differences in delinquency (Sampson & Wilson, 1995; Sampson & Groves, 1989). According to the theory of ecological similarity, the reason delinquency rates are higher among Black youth is that they are more likely to live in socially disorganized areas, a reality that is a by-product of economic and social segregation. Elevated rates of delinquency are, therefore, a by-product of contextual effects rather than a proclivity toward criminality.

We bring these two theoretical perspectives together as follows. We contend that the differences in the likelihood of being placed in congregate care for a Black as compared with a White child is largely a function of the context in which those placement decisions are being made. In particular, we posit that bed supply is the one feature of context that is largely missing from models that explain congregate care utilization and that the supply of congregate care beds tends to be greater in communities with more Black children. We also posit that Black/White differences will shrink once context is used to adjust the probability of placement in congregate care. In other words, when we look at entry into congregate care after controlling for the effects of context, we will find that the higher probability of placement for Black children relative to White children diminishes because Black children are more likely to be living in the places where the supply of congregate care induces demand, at least in part.

DATA, METHODS, AND HYPOTHESES

For this study, we draw on the Multistate Foster Care Data Archive (the Archive), a repository of foster care placement records maintained by the Center for State Child Welfare Data located within Chapin Hall at the University of Chicago. The Archive is a longitudinally organized record of children placed in out-of-home care representing all children placed in foster care in 25 states. Placement histories in most instances span a period of time dating back to 2000. In some cases, the data go back to the early 1980s.

Today the Archive holds the records of more than 4 million children. We used a subset of 19 states for this analysis.

The record for each child contains a detailed history, from the date of their initial placement through each subsequent placement, discharge, and return. The record includes each type of placement experienced in temporal order. The data also include demographic information and the county where the child was living when the child was placed in foster care.

For the analysis presented here, we examine admissions into foster care of children placed for the first time between 2010 and 2016 by state and county. Only children age 10 and above are included in the analysis because placements of younger children into congregate care, although they do happen, are relatively rare.

For the analysis, we rely on logistic regression. The dependent variable in the model is the probability of placement into congregate care as a first placement type. As a general matter, there are three possible placement types. Congregate care is non-family-based care and includes group homes along with various residential settings as defined by the states. Foster care and kinship care are family-based placement options and are the preferred choice from a policy and practice perspective. The distinction between foster care and kinship care has to do with whether the child is known to the foster family. Kinship care means that the child has a blood relationship with the foster parents although some states do include fictive kin within the kinship category. There are a small number of other placement types. For this analysis, we have dropped these placements from the sample.

The independent variables are grouped into two clusters: those that describe the children placed and those that describe the county where the child was living at the time of placement. Child-level variables, in addition to age at entry, include race and gender. Age refers to the young person's age at time of their initial placement.

County-level variables include urbanicity, an index of social disadvantage, and a measure of the supply effect on demand. Urbanicity captures the urban character of the county, using the classification scheme developed by the National Center for Health Statistics (Ingram & Franco, 2014). We reorganize the six categories into three: the large urban core counties, other large urban counties, and non-urban counties. Details of the NCHS classification scheme are found in the Appendix. For socioeconomic disadvantage, we categorize each county relative to their state on four indicators collected by the 2010 U.S. Census: poverty rate, percentage of people with less than a high school education, unemployment rate, and percentage of homes with a single head of household. For example, counties with a higher rate of poverty

than the state poverty rate are were assigned a value of one; counties with a lower poverty rate were assigned a value of zero. The results are summed across the four indicators to create an index ranging from 0 to 4. A county with a score of 0 would have a low rate of socioeconomic disadvantage since it is below the state average on each of the indicators. Conversely, a county with a score of 4 would have a high rate of socioeconomic disadvantage because it is above the state average on each of the indicators. The indicators used and the index assembled from those indicators have been shown in prior research to be correlated with the rates of contact with the child welfare system and entry into out-of-home care (Coulton, Korbin, Su, & Chow, 1995; Wulczyn, Gibbons, Snowden, & Lery, 2013).

Regarding whether demand is supply induced, we replicate methods adapted by Wulczyn and Halloran (2017) from population biology. Convergent cross-mapping (CCM) is rooted in the idea that systems produce time series data tied to the structure of the system. In our study, we hypothesize that the structure of the system is reflective of resource dependencies that systematically impact the number of admissions and discharges. The hypothesized resource constraint is the number of congregate care beds. CCM tests admissions and discharges for evidence of such a constraint. If structure is found in the time series then we have evidence that the observed data come from a system wherein the size of population is constrained by the available resources. As a consequence, admissions cause exits and exits cause admissions, not at the person-level but at the aggregate or system-level.

To test for the resource constraint, we assembled the number of admissions and discharges each week for each county in the data set for as many weeks as possible using the Archive's data . At a minimum, we have 10-years-worth of weekly admission and discharges into congregate care. For each county time-series, we computed the CCM coefficient and tested whether the coefficient is statistically significant. We also divided the counties into three groups based on the magnitude of the coefficient and its statistical significance. For one group of counties, the CCM coefficient could not be calculated. Generally, these are small counties where the number of admissions and discharges is small and the time series data reveal no apparent structure. For a second group of counties, the CCM coefficient could be calculated but the magnitude of the coefficient did not reach statistical significance. For the third group of counties, the CCM coefficient was both large and statistically significant. From this grouping of counties, we created dummy variables corresponding to counties with a strong supply signal (group three) and a weak supply signal (group two). Counties without a signal (group one) are the omitted or comparison group. We expect the likelihood of placement in congregate care to be higher in counties with a strong supply signal than in counties with either a weak signal or no detectable signal, all else being equal.

To account for the nested structure of the data (i.e., within counties and counties within states), we use hierarchical models with county random intercepts and state fixed effects. We follow a stepwise approach to the analysis that tracks our theoretical orientation. The first phase of the analysis uses only the child-level variables. We expect to find that Black youth are more likely than White youth to be placed into congregate care and that this effect will persist even after controlling for other child-level factors Together these results, which are without the effects of county context, substantiate the claim that Black youth are more likely to be placed in congregate care.

The second phase of the analysis introduces county random effects and state fixed effects to the model. Among other things, the county random effects account for unobserved differences between the counties. The random effects also account for differences in the size of the counties so that large counties do not unduly influence the results. If large counties have unusually high congregate care placement rates and/or large populations of Black or Hispanic children, then the random effects model adjusts for that unevenness within the data. The state fixed effects account for unobserved between-state differences. With the addition of the county random and state fixed effects we expect some adjustment to the residual direct effect of race on congregate care placement (McGuire, Alegria, Cook, Wells, & Zaslavsky, 2006).

As the third and final step, we add county attributes to the model to test whether the Black congregate care placement rate differs from the White congregate care placement rate in counties that are ecologically similar. Per the theory, we expect the Black/White gap to close considerably, if not altogether, once ecological similarity has been explicitly added to the model.

FINDINGS

Descriptive statistics. We start with a simple descriptive summary of the youth in the sample, with an emphasis on child-level characteristics, county characteristics, and the likelihood of placement into congregate care. Table 1 shows the number of youth in the sample by race and ethnicity, gender and age. Overall, in this collection of states, 33.2 percent of the 10- to 17-year olds entering care between 2010 and 2016 were first placed in a congregate care setting.

As expected, the likelihood of placement into congregate is greater for Black youth than either White or Hispanic youth. The ratio of the Black/White odds is 1.19. The ratio of the Hispanic/White odds is .89, which is indicative of a lower risk of placement into congregate care among Hispanic youth. We are interested in how these odds change as child characteristics and attributes of context are added to the statistical model.

Table 1 also shows the likelihood of placement into congregate care by gender and age. Males are more likely to be placed in congregate care than females. The likelihood of congregate care placement increases as the age of admission increases until it peaks at age 16 (46.8%).

Table 1: First Placement Type by Race/Ethnicity, Gender, and Age at Admission: 2010 - 2016

	Number				Percent			
Row Labels	Congregate Care	Foster Care	Kinship Care	Grand Total	Congregate Care	Foster Care	Kinship Care	Grand Total
Race/ethnicity								
Black	16,437	17,978	10,170	44,585	36.9%	40.3%	22.8%	100.0%
Hispanic	14,655	18,521	15,103	48,279	30.4%	38.4%	31.3%	100.0%
White	22,708	25,186	21,360	69,254	32.8%	36.4%	30.8%	100.0%
Gender								
Female	25,712	35,422	25,127	86,261	29.8%	41.1%	29.1%	100.0%
Male	28,088	26,263	21,506	75,857	37.0%	34.6%	28.4%	100.0%
Age at admission								
10	3,246	9,647	7,925	20,818	15.6%	46.3%	38.1%	100.0%
11	3,595	8,653	7,244	19,492	18.4%	44.4%	37.2%	100.0%
12	4,827	8,244	6,683	19,754	24.4%	41.7%	33.8%	100.0%
13	6,801	7,946	6,270	21,017	32.4%	37.8%	29.8%	100.0%
14	8,686	7,754	5,788	22,228	39.1%	34.9%	26.0%	100.0%
15	10,231	7,756	5,334	23,321	43.9%	33.3%	22.9%	100.0%
16	10,257	7,122	4,539	21,918	46.8%	32.5%	20.7%	100.0%
17	6,158	4,563	2,851	13,572	45.4%	33.6%	21.0%	100.0%
Grand Total	53,801	61,685	46,634	162,120	33.2%	38.0%	28.8%	100.0%

Table 2 shows how first placement varies by county characteristics. Urban counties have higher rates of first placement into congregate care than non-urban areas. Foster care is the most common first placement regardless of county type. . In counties with a strong supply effect on demand, the likelihood of first placement into congregate care is 35.4 percent; in areas where the supply effect is weak, the likelihood of placement in congregate care is 28.6 percent.

Table 2: First Placement Type by Urbanicity and Supply Effect: 2010 - 2016

	Number				Percent			
Row Labels	Congregate Care	Foster Care	Kinship Care	Grand Total	Congregate Care	Foster Care	Kinship Care	Grand Total
Urbanicity								
Urban core	16,437	17,978	10,170	44,585	34.1%	34.6%	31.3%	100.0%
Other urban areas	14,655	18,521	15,103	48,279	35.6%	39.5%	24.9%	100.0%
Non-urban areas	22,708	25,186	21,360	69,254	27.7%	41.2%	31.1%	100.0%
Supply Effect								
Weak	15,314	23,799	14,408	53,521	28.6%	44.5%	26.9%	100.0%
Strong	38,487	37,886	32,226	108,599	35.4%	34.9%	29.7%	100.0%
Grand Total	53,801	61,685	46,634	162,120	33.2%	38.0%	28.8%	100.0%

Multivariate models. To test the ecological similarity hypothesis, we develop a series of increasingly complex multivariate models, starting with an intercept only model and finishing with a random intercept model that includes attributes of the counties where the young people were living when they entered care. As the models increase in complexity, we expect the Black/White gap to attenuate.

Table 3 presents three simple, fixed-effects logistic regression model intended to establish the Black/White gap along with the Hispanic/White gap. Model 1 is an intercept only model that replicates the overall probability of placement in congregate care (33.2%, see Table 1). Model 2 in Table 3 shows the odds ratio for Blacks relative to Whites (1.197) and Hispanics relative to Whites (.893). Model 3 adds other characteristics of the young people. Consistent with the figures shown in Table 1, males are more likely to enter congregate care than females (1.503). The positive correlation between age and congregate care placement shown in Table 1 is also replicated. The odds of first placement in congregate care are highest for 16- and 17-year-olds. The intercept represents the probability of first placement in congregate care for a White, 10-year old females. Based on these data, Hispanics have the lowest likelihood of placement in congregate care.

Table 3: Logistic Regression Model – Child-level Effects on Placement in Congregate Care

Effect	Estimate	Std Err	Prob. t	(Probability)/ Odds Ratio
Model 1				
Intercept	-0.6998	0.005274	<.0001	(33.2%)
Model 2				
Intercept	-0.7177	0.008095	<.0001	(32.8%)
Race/ethnicity				
Whites	Reference			
Hispanic	-0.1127	0.01279	<.0001	0.893
Blacks	0.1797	0.01272	<.0001	1.197
Model 3				
Intercept	-1.929	0.02121	<.0001	(12.7%)
Race/ethnicity				
Whites	Reference			
Hispanic	-0.07226	0.01323	<.0001	0.930
Blacks	0.1566	0.01317	<.0001	1.170
Age at placement				
Spell age 10	Reference			
Spell age 11	0.2057	0.02666	<.0001	1.228
Spell age 12 -13	0.7835	0.02212	<.0001	2.189
Spell age 14-15	1.379	0.02147	<.0001	3.971
Spell age 16 - 17	1.5707	0.02201	<.0001	4.810
Gender				
Female	Reference			
Male	0.4073	0.01098	<.0001	1.503

Table 4 replicates Model 3 of Table 3 but adds state fixed effects and county random effects (random intercepts). The aim is to see how the Black/White and Hispanic/White gaps change as more information is added. When the results in Table 4 are compared with Table 3, the odds ratios associated with the Black/White gap and the Hispanic/White gap are essentially unchanged. State differences are substantial.

Table 4: Hierarchical Logistic Regression Model with County
Random State Fixed Effects and Child-level Effects on Placement in Congregate Care

Effect	Estimate	Std Err	Prob. t	(Probability)/ Odds Ratio
Intercept	-2.6288	0.05879	<.0001	(6.7%)
Race/ethnicity				
Whites	Reference			
Hispanic	-0.08373	0.01579	<.0001	0.920
Blacks	0.1613	0.01523	<.0001	1.175
Age at placement				
Spell age 10	Reference			
Spell age 11	0.226	0.02778	<.0001	1.254
Spell age 12 -13	0.8533	0.02314	<.0001	2.347
Spell age 14-15	1.4889	0.02261	<.0001	4.432
Spell age 16 - 17	1.7544	0.02335	<.0001	5.780
Gender				
Female	Reference			
Male	0.4165	0.01168	<.0001	1.517
State fixed effects				
State A	0.8489	0.04878	<.0001	2.337
State B	0.2289	0.04088	<.0001	1.257
State C	-0.06032	0.05399	0.2639	0.941
State D	0.7025	0.05765	<.0001	2.019
State E	0.373	0.04537	<.0001	1.452
State F	0.2067	0.04936	<.0001	1.230
State G	-0.457	0.04622	<.0001	0.633
State H	0.5974	0.05495	<.0001	1.817
State I	0.6512	0.04936	<.0001	1.918
State J	1.0175	0.06234	<.0001	2.766
State K	1.4345	0.04591	<.0001	4.198
State L	1.4567	0.05346	<.0001	4.292
State M	1.342	0.04795	<.0001	3.827
State N	-0.187	0.04602	<.0001	0.829
State O	0.9089	0.04519	<.0001	2.482
State P	0.1488	0.05277	0.0048	1.160
State Q	Reference			

Table 5 expands on the results in Table 4 with the inclusion of variables that describe the counties: urbanicity, social disadvantage, and the supply effect on demand. These characteristics are intended to isolate ecologically similar counties. The more socially disadvantaged counties have similar rates of congregate care utilization, as measured by first placements into congregate care, and those rates are lower than the rate for the least disadvantaged county. Regarding the supply effect on demand, counties where the supply effect is strong have substantially higher rates of fist placement in congregate care. In fact, of the all the contextual factors, the supply effect on demand (1.696 and 1.862 for counties with a

weak and strong signal, respectively) is the most important. Finally, the large urban core counties have the highest rates of first placement in congregate care .

Taken together urbanicity, social disadvantage, and a strong supply effect on demand reduce the Black/White disparity in congregate care placement substantially, from 1.197 (see Model 1 of Table 1) to 1.08 in Table 5, a result that supports the theory of ecological similarity. In essence, when ecologically similar counties are compared with one another, the gap between the Black and White experience fades, but does not go away entirely. Interestingly, the Hispanic/White difference grows, Hispanic youth being even less likely than White youth to be placed first into congregate care. This latter finding is touched upon in the conclusions.

Table 5: Hierarchical Logistic Regression Model with County Random Effects, State Fixed Effects, County Characteristics, and Child-level Effects on Placement in Congregate Care

Effect	Estimate	Std Err	Prob. t	(Probability)/ Odds Ratio
Intercept	-2.6663	0.06993	<.0001	6.5%
Race/ethnicity				
Whites	Reference			
Hispanic	-0.1349	0.01608	<.0001	0.874
Blacks	0.08071	0.01573	<.0001	1.084
Age at placement				
Spell age 10	Reference			
Spell age 11	0.2333	0.02791	<.0001	1.263
Spell age 12 -13	0.8621	0.02325	<.0001	2.368
Spell age 14-15	1.4977	0.02274	<.0001	4.471
Spell age 16 - 17	1.7589	0.02348	<.0001	5.806
Gender				
Female	Reference			
Male	0.4194	0.01175	<.0001	1.521
Social Disadvantage				
Index - 0	Reference			
Index - 1	-0.1267	0.02767	<.0001	0.881
Index - 2	-0.1098	0.01347	<.0001	0.896
Index - 3	-0.03174	0.008622	0.0002	0.969
Index - 4	-0.1119	0.006461	<.0001	0.894
Supply effect on demand				
No signal	Reference			
Signal	0.5283	0.03154	<.0001	1.696
Strong signal	0.6214	0.02455	<.0001	1.862
Urbanicity				
Large Urban Core	Reference			
Other Large Urban	-0.1971	0.02563	<.0001	0.821
Non-urban areas	-0.2816	0.03088	<.0001	0.755
State fixed effects				

Effect	Estimate	Std Err	Prob. t	(Probability)/ Odds Ratio
State A	0.7015	0.05114	<.0001	2.017
State B	0.227	0.04302	<.0001	1.255
State C	0.101	0.05687	0.0757	1.106
State D	0.7545	0.05945	<.0001	2.127
State E	0.6087	0.04833	<.0001	1.838
State F	0.4193	0.05172	<.0001	1.521
State G	-0.1287	0.04846	0.0079	0.879
State H	0.6343	0.05733	<.0001	1.886
State I	0.9678	0.05156	<.0001	2.632
State J	1.1165	0.06373	<.0001	3.054
State K	1.5475	0.04787	<.0001	4.700
State L	1.6558	0.05503	<.0001	5.237
State M	1.5886	0.05019	<.0001	4.897
State N	0.1877	0.04904	0.0001	1.206
State O	1.1338	0.04765	<.0001	3.107
State P	0.5796	0.05609	<.0001	1.785
State Q	Reference			

Summary and Implications

A substantial line of research has established that children of color who encounter the child welfare system have different experiences than White children. Explanations for these differences tend to focus on differing needs, racial bias, and policy effects (Fluke, Jones, Jenkins, & Ruehrdanz, 2011; Hines, Lee, Osterling, & Drabble, 2007; Osterling, D'andrade, & Austin, 2008), a framework that mimics how the Institute of Medicine differentiates the sources of health disparities (Smedley, Stith, & Nelson, 2003). On nearly all measures of risk—poverty, family structure, unemployment, and adult education levels—Blacks face significantly higher risks than Whites.

Maltreatment is the main entry point into the child welfare system and there is a significant body of research pointing to higher rates of maltreatment among Black children (Drake & Jonson-Reid, 2010; Drake, Lee, & Jonson-Reid, 2009; Sedlak, McPherson, & Das, 2010). Research also suggests that, along the various decision points that determine whether a child will be placed (i.e., investigation, disposition, and service choice), Black children have a greater likelihood of moving forward in the system than either Hispanic or White children (Needell, Brookhart, & Lee, 2003; Rivaux et al., 2008), perhaps because they are less likely to be offered in-home services (Marts, Lee, McRoy, & McCroskey, 2008; U S Government Accountability Office, 2011).

Despite the substantial body of research that has already been done, there are important deficits in knowledge that impinge on efforts to address these Black/White differences. First, research has focused almost exclusively on the residual direct effect of race on child welfare contact in its various forms (Lê

Cook, McGuire, Lock, & Zaslavsky, 2010). For example, after controlling for age, Medicaid eligibility, substance use, mental health disorder, developmental disability, placement type, and place of residence, Becker and Jordan (Becker & Jordan, 2007) found that White children left foster care at a rate 35 percent faster than children of other races. Courtney (M. E. Courtney, 1994) and Courtney and Wong (M. E. Courtney & Wong, 1996) controlled for age, poverty, family structure, health, and residence and found a residual direct effect of race regardless of discharge outcome (i.e., reunification or adoption). Connell, Katz, Saunders, & Tebes (Connell, Katz, Saunders, & Tebes, 2006), Hines et al. ((Hines et al., 2007), Akin (Akin, 2011)), and Harris and Courtney (M. Harris & Courtney, 2003) all adopted similar analytic strategies with different covariates and found comparable results: Black children leave foster care more slowly than children who are non-Black.

By way of comparison, very few published studies have been carried out with an eye toward explaining Black/White placement differences. Gibbons et al. (Gibbons, Hur, Bhaumik, & Bell, 2007) used a random effects Poisson regression model to examine county-level placement rates, but their focus was on whether efforts carried out by the public agency in Illinois had an impact on placement rates over time. Lery (Lery, 2009) examined neighborhood structure and foster care entry risk in an effort to understand whether spatial scale affects parameter estimates. Freisthler, Gruenewald, Remer, Lery, and Needell (Freisthler, Gruenewald, Remer, Lery, & Needell, 2007) studied spatial variation across a range of child welfare events, including entry to foster care, but their main objective was to understand the role of alcohol outlets on entry patterns. In short, few studies consider how racial disparities vary over place and time.

In this paper, we tried to explain the Black/White difference in congregate care placement. Our aim was to show that when ecologically similar areas are compared, the gap shrinks substantially. We were particularly interested in the supply effect on demand. In counties where the supply effect on demand is strong, of the rate of first placement into congregate care is higher. In practical terms, this means that children are placed in congregate care as part of a dynamic that sustains utilization of congregate care based on the availability of beds. Three quarters of Black children live in counties where the supply effect is strong compared to half of White children.

In sum, the evidence suggests that context effects account for much but not all of the Black/White gap in congregate care placement. From a policy perspective, the finding that supply effects are implicated means that reducing this gap will require policy solutions that address bed supply. Unfortunately, to our knowledge, few if any states are actively engaged in bed planning in a rigorous fashion. Instead, states tend to prefer strategies that strengthen screening mechanisms as a way to control access to congregate

care. Provisions of the Family First Prevention Services Act of 2018 pertaining to congregate utilization reflect this tendency. For example, Section 50742 of the Act ties federal reimbursement to assessment and documentation of the need for placement in a Qualified Residential Treatment Program (*Family First Prevention Services Act*, 2018). However, if supply effects demand, there is reason to believe that screening mechanisms will be more effective if the supply effects have been mitigated by aligning the supply of beds with expectations regarding the level of need for congregate care placement measured at the population-level.

Unlike the Black/White difference, the Hispanic/White differences did not attenuate when contextual factors were added to the model. Of course, this undercuts the ecological similarity theory. One would expect smaller differences once context is taken into account. Preliminary exploration suggests that this may be an artifact of the sample states. Briefly, 75 percent of the Hispanic children live in just 5 of the included states. In that subsample of states, the rates of placement into congregate care of Hispanic children are substantially lower in part because congregate care utilization in those same states is lower overall. That said, in counties with larger Hispanic populations and a strong as opposed to a weak effect of supply on demand, the odds ratio for placement into congregate care versus not being placed in congregate care among Hispanic relative to White children is 1.18. Stratified models that account for between-state differences in the local population may reveal a distinct supply effect that brings the empirical results into alignment with the theory. In either case, the results highlight the fact that context affects what happens to children in out-of-home care in ways that are largely sidestepped, theoretically and methodologically, in many if not all studies of child welfare policy and practice.

APPENDIX

Urbanicity is based on the classification scheme used by the National Center for Health Statistics. The NCHS urban-rural classification scheme classifies all U.S. counties and county equivalents into six levels: four for metropolitan counties and two for nonmetropolitan counties. In our study we reduced these to three levels.

Appendix Table 1. Urbanicity levels

Current study	National Center for Health Statistics categories	National Center for Health Statistics definition
Urban core	Large central metro	Counties in micropolitan statistical areas (MSAs) of populations of 1 million or more that: 1. contain the entire population of the largest principal city of the MSA, or 2. have their entire population contained in the largest principal city of the MSA, or 3. contain at least 250,000 inhabitants of any principal city of the MSA.
Other large urban areas	Large fringe metro	Counties in MSAs of populations of 1 million or more people, that did not qualify as large central metro counties
	Medium metro	Counties in MSAs of populations of 250,000 to 999,999
Non-urban areas	Small metro	Counties in MSAs of populations less than 250,000
	Micropolitan	Counties in MSAs
	Noncore	Nonmetropolitan counties that did not qualify as micropolitan

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