


Preschool Suspension and Expulsion for Young Children With Disabilities

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Abstract

Despite their negative effect, preschool suspension and expulsion are prevalent. Researchers have explored adverse childhood experiences and teachers’ racial bias that link to disproportionate suspension and expulsion in preschools, but little research has investigated disability status as a risk factor. This study investigates the extent to which preschool children with disabilities are related to exclusionary practices. We used weighted logistic regression to analyze data from the 2016 National Survey of Children’s Health. Results indicated that 5.4% of young children with disabilities had been either suspended or expelled, compared to 1.2% of children without disabilities. Accounting for child- and family-level covariates, disability status was not a strong indicator of preschool suspension or expulsion. Instead, young children with attention deficit disorder or attention deficit hyperactivity disorder or reported behavioral or conduct problems were much more likely to experience exclusionary practices. Implications for prevention and response efforts to address challenging behavior and promote inclusive practices in preschool settings for all children are discussed.

Preschool is an environment where children learn foundational skills necessary for future academic and social success (Mellhuish, 2011). Positive early learning experiences strongly affect whether students grow up to be healthy and productive members of society (Hebbler et al., 2007). However, participation in preschool is limited for many children due to the prevalence of suspension and expulsion in this population (Stegelin, 2018). Young children may experience suspension, when they are temporarily removed from their classroom, and expulsion, when educational services have been terminated. Removals may occur when children require additional adult support to follow classroom rules and routines or when they demonstrate challenging behavior (e.g., hitting, biting). When students are denied access to early education in the form of exclusionary disci-

pline, they are deprived of the learning experiences necessary for attaining prosocial outcomes as well as academic achievement (Gregory et al., 2010).

For students with disabilities, access to high-quality inclusive settings has shown positive effects on major outcomes relating to their quality of life (Division for Early Childhood, 2014; Hebbeler et al., 2007; Landa et al., 2010). Children with disabilities benefit from inclusive preschool settings through

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increased engagement, social acceptance, and friendships (Odom et al., 2011). In high-quality inclusive environments, teachers support children using both naturalistic and embedded instruction as well as explicit instructional practices (i.e., direct instruction) to ensure all children are participating and learning (Barton & Smith, 2015; Sandall & Schwartz, 2002).

Although the benefits of inclusion are well documented, some children with disabilities may be excluded from these settings through suspension or expulsion. There is evidence from teacher reports to show that preschoolers who are Black and male are more likely to be suspended and expelled (Gilliam & Shahar, 2006); however, no study to date reports the prevalence of exclusionary discipline for young children with disabilities based on parent-reported national data. Furthermore, little evidence is available to document disability status as an important consideration when interpreting preschool expulsion rates. In the following sections, we highlight the knowledge gap within the literature on suspensions and expulsions and describe the purpose of this study.

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Preschool Suspension and Expulsion

Preschool suspension and expulsion are prevalent despite their negative effect on children and families. Children in preschool programs are 3.2 times more likely to experience expulsion than children in other K–12 educational settings (Gilliam & Shahar, 2006). Exclusion from academic settings at any age denies students from accessing education and specialized instruction. Exclusion during preschool may be especially concerning given the importance of foundational skills, fostered in early educational environments, which subsequent growth depends upon (Noltemeyer et al., 2015; Noltemeyer & McLoughlin, 2012).

Gilliam (2005) studied state-funded preschool programs and found the expulsion rate was 6.7 out of 1,000 children, and over 10% of preschool teachers in state-funded preschool programs reported expelling at least one preschooler. Based on parent-reported data, Zeng et al. (2019) estimated that 174,309 preschoolers (2.0%) were suspended and 17,248 (0.2%) were expelled in 2015. When divided by 36 school weeks, the average weekly number of preschoolers who were suspended and expelled in state-funded preschool programs in the United States was estimated to be at least 4,842 and 479, respectively (Zeng et al., 2019).

Children who are denied access to early educational environments are at increased risk of academic failure, holding negative school attitudes, dropping out of high school, and being involved in the juvenile justice system (American Academy of Pediatrics [AAP], 2013; American Psychological Association Zero Tolerance Task Force, 2008; Petras et al., 2011). A plethora of research has supported the assertion that children who demonstrate problem behaviors in the preschool years are significantly more likely to develop behavior disorders later in life (Bayat et al., 2010; Drogan & Kern, 2014; Feil et al., 2014; Fox et al., 2006). Suspension is a primary tool for responding to student misbehavior (Achilles et al., 2007; Sharkey & Fenning, 2012) even though exclusion has not been shown to be associated with improving student behavior (Raffaele et al., 2002; Skiba et al., 2012; Zhang et al., 2004). Studies at the preschool level also show that exclusionary practices are not effective preventative efforts for decreasing incidences of behavior problems (Maag, 2012).

Recognizing the detrimental effects of exclusionary discipline and the ineffectiveness of these practices for promoting behavior change, the AAP has advocated for replacing out-of-school suspension and expulsion with early identification and prevention (AAP, 2013). Similarly, the U.S. Department of Health and Human Services and the U.S. Department of Education (2014) jointly released a policy statement pushing for zero rates of preschool suspension and expulsion, followed by a position statement from the National Association for the Education of

Young Children (2016) in partnership with multiple organizations concerned with the well-being of young children.

Risk Factors

The negative outcomes associated with exclusionary discipline practices have motivated the examination of factors that place students at risk for suspension or expulsion (American Psychological Association Zero Tolerance Task Force, 2008). Overall, there are three main child-level risk factors (i.e., age, gender, and race) of suspension and expulsion within early childhood settings. Specifically, Gilliam and Shahar (2006) found that 4-year-old children are 50% more likely to be expelled than 3-year-olds and that boys are 4.5 times more likely to be expelled than girls. Although Black children make up less than one fifth of all preschoolers in the United States, they account for half of all preschool suspensions and are more likely to be expelled as compared to their Latino, White, and Asian peers (Krezmien et al., 2006). Meanwhile, family-level factors are also associated with higher suspension and expulsion rates (Zulauf & Zinsser, 2019). For example, preschool children living in high-poverty areas are 4 times more likely to be suspended and expelled (Zeng et al., 2019). The disparities presented above in regard to race, gender, and economic statistics are not, however, adjusted for other factors, including student-level behavior. As a result, it is unclear whether these factors are themselves associated with a greater risk or are instead confounded with other explanatory factors.

Importantly, not all risk factors for exclusionary discipline at the preschool level are indicative of individual student characteristics but may be inseparable from the inequality in access to positive behavior support. Studies in K–12 settings have indicated that suspensions and expulsions are generally higher in settings when there are larger group sizes and higher child-to-teacher ratios (Noltmeyer et al., 2015) and more overall teacher job stress (Gilliam & Reyes, 2018; S. Miller et al., 2017). Exclusionary discipline has also been studied as related to individual- and classroom-level aggression, where classrooms with higher rates

of aggression were associated with lower rates of suspension and expulsion, but individual student demonstration of aggressive behavior was associated with increased rates of suspension and expulsion (Petras et al., 2011). Furthermore, teachers' implicit biases may serve as a viable partial explanation behind disparities in preschool expulsions. For example, in a study by Gilliam et al. (2016), Black children were more likely to be identified as exhibiting challenging behavior as compared to their White peers even when no challenging behavior occurred. Students who are exposed to inequitable educational opportunities and experiences may be more likely to be disproportionately suspended or expelled.

Disability and Suspension Expulsion

Whereas the connection between disability status and suspension and expulsion are documented in elementary and secondary research, there is a dearth of research related to the susceptibility of preschoolers with disabilities to exclusionary discipline. Elementary and secondary exclusionary-discipline research has identified high rates of disparities in exclusionary discipline for students with disabilities (Achilles et al., 2007; Losen et al., 2014; C. Miller, 2015). For example, Vincent and Tobin (2012) found that students with disabilities represent 11% of the student population, but they account for 20% of all suspensions. Although the data are alarming, merely using descriptive statistics to infer disproportionality can over- or underestimate the situation, and more advanced modeling is needed to estimate the inappropriate discipline practices for young children with disabilities. As a recent review (Morgan et al., 2019) suggests, there is no strong evidence suggesting that students with disabilities are more likely to be suspended or expelled compared with their peers in K–12 school settings, especially when individual-level behavior problems are adjusted.

Policy makers stress the concern that preschool suspension and expulsion of students with disabilities are a barrier to inclusion (U.S. Department of Health and Human Services & U.S. Department of Education, 2016). Research with a large elementary student sample suggests that disability status, along

with being male, being Black, low parent education, and low socioeconomic status, increases students' risk of suspension (Sullivan et al., 2014). Yet no evidence is available to document the current prevalence estimate of preschool suspension or expulsion for young children with disabilities. Although teachers reported using preschool suspension and expulsion practices at striking rates in general (Gilliam & Shahar, 2006), the rates may be higher for young children with disabilities based on the increased prevalence of exclusionary practices for students with disabilities in the older grades (U.S. Department of Health and Human Services & U.S. Department of Education, 2014). Estimating the prevalence of suspension and expulsion can draw policy makers' attention toward addressing this barrier to inclusion through prevention efforts, program support, and policy mandates. Understanding disability status and preschool suspension and expulsion may shed light on better support for this population in early childhood education settings.

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Objectives

To address the gaps in the literature based on exclusionary discipline in preschool, the objectives of this study are to (a) estimate the prevalence of suspension and expulsion due to behavioral problems in preschool settings based on parental report and (b) understand how disability status may be related to preschool expulsion and suspension. The following research questions were addressed: What are the preschool suspension and expulsion estimates for young children with and without disabilities? After controlling for child (behavioral problem, age, gender, home language, race, and ethnicity) and family (parent education and poverty level) risk factors, what is the likelihood of preschool suspension and expul-

sion for young children with disabilities compared to their peers? Are young children with a certain type of disability or certain characteristics more likely to be suspended or expelled?

We hypothesized that disability status would be related to expulsion and suspension when controlling for child and family demographic characteristics. We also hypothesized that students with autism spectrum disorder or language delay would increase the likelihood of suspension and expulsion as they tend to exhibit more challenging behavior (Matson & Rivet, 2008; Qi et al., 2019). This research extends what is known about how disability status affects the likelihood of experiencing exclusionary discipline in preschool settings. By examining the relationship between disability status and preschool expulsion and suspension through a nationally representative data set, the findings from this study can substantiate the need to reduce and, hopefully, eliminate exclusionary practices in preschool settings for children with disabilities due to challenging behaviors, so that all children have an opportunity to be present in preschool classes and the opportunity to learn.

Method

Data Source

This study used the 2016 National Survey of Children's Health (NSCH) data set collected as a mail and web-based survey between June 2016 and February 2017 in the United States. The NSCH was designed to produce national data on the physical and emotional health of American children between birth and 17 years of age. A total of 364,150 households were screened with a questionnaire to determine if they met the criteria (i.e., having at least one child age 0 to 17 living in the household) for the survey, and the final data set included 50,212 participants. The survey oversampled children 0 to 5 years with special health care needs and supports sample generalization for the current study with the weighting procedure. The respondents were primarily parents and guardians living with the children. A full description of the survey methods has been published (U.S. Census Bureau, 2018).

Table 1. Sample Demographic Characteristics, National Survey of Children's Health 2016.

Variable	Children without disabilities (<i>n</i> = 11,634)			Children with disabilities (<i>n</i> = 1,494)			<i>p</i>
	Pop est.	%	SE	Pop est.	%	SE	
Age							
3	2,409,386	27.3	1.1	25,169	13.1	5.3	<.001
4	3,248,695	36.8	1.3	96,828	50.5	8.2	
5	3,181,059	36.0	1.3	69,559	36.3	7.4	
Gender							
Male	4,459,163	50.4	1.3	139,942	73.1	7.3	<.001
Female	4,379,978	49.6	1.3	51,614	26.9	7.3	
Home language							
Other	999,615	11.4	1.2	6,866	3.6	2.3	<.001
English	7,760,273	88.6	1.2	184,691	96.4	2.3	
Hispanic origin							
No	6,883,444	77.9	1.5	179,889	93.9	2.6	<.001
Yes	1,955,696	22.1	1.5	11,668	6.1	2.6	
Race							
Other	1,594,142	18.0	1.1	41,225	21.5	6.7	<.001
Black	1,246,594	14.1	1.1	46,084	24.1	7.9	
White	5,998,404	67.9	1.3	104,247	54.4	8.3	
Behavioral problem							
No	58,872,830	95.4	0.2	7,610,671	71.6	1.1	<.001
Yes	2,812,442	4.6	0.2	3,011,951	28.4	1.1	
Parent education							
Less than high school	7,939,534	12.8	0.6	1,290,746	12.1	1.2	.797
High school	13,954,685	22.5	0.5	2,402,361	22.6	0.5	
More than high school	40,046,894	64.7	0.6	6,957,033	65.3	1.3	
Poverty level							
<100%	1,561,704	17.7	1.2	80,914	42.2	8.7	<.001
100% to 200%	1,588,199	18.0	1.1	30,469	15.9	5.1	
>200%	5,689,238	64.4	1.4	80,173	41.9	7.7	

Note. Pop. est. = population estimate.

Participants

The analyses for this study were restricted to 13,218 children between 3 and 5 years of age who were attending preschool or childcare during the time the survey was completed in 2016–2017. Of the children included in this sample, 1,494 children were reported to have at least one of the disability conditions defined later. Table 1 presents the sample breakdown of parents reporting children with and without disabilities. At the time the survey was completed, within the sample of children with disabilities, half (50.5%) were 4 years old, 36.3% of children were 5 years old, and 13.1% were 3 years old. Males composed the majority

(73.1%) of students with disabilities. In terms of race, children with disabilities were identified as White (54.4%), Black (24.1%), and Other (21.5%). Approximately 28% of the children with disabilities had behavioral or conduct problems reported by health care providers or educators. About 6.1% of the sample were identified as Hispanic. Most of the sample (96.4%) spoke English as their home language. About 42.2% of the households were below the poverty level, and 65.3% of parents reported having more than high school as their highest education.

We conducted a weighted chi-square independence test to explore whether there were systematic differences and further guide the

logistic model estimates. Statistically significant differences ($p < .001$) were noted between groups for most of the variables except parent education ($p = .797$). To increase estimate precision and control for these systematic differences (Murnane & Willett, 2010), we included the demographic variables as covariates in the subsequent analysis.

Variables

Suspension and expulsion. Participants reported if they were asked to keep their child home from any childcare or preschool because of their child's behavior, such as hitting, kicking, biting, tantrums, or disobeying. Suspension was coded if the participants chose "Yes, I was told to pick up my child early on one or more days" or "Yes, I had to keep my child home for one full day or more." Expulsion was defined as "Yes, permanently; I was told my child could no longer attend this childcare center or preschool." An important consideration is to avoid having empty or small cells when conducting logistic regression (Hosmer & Lemeshow, 2000). We did a cross-tab analysis between the predictors and the outcome variables and realized that there were too few cases for the expulsion dependent variable. The logistic regression model would likely possess inadequate power to detect statistically significant effects (e.g., either unstable with large standard errors or did not run at all). Therefore, we created a suspension-only variable and a new binary variable that indicated whether the child had either suspension, expulsion, or both (1) or no suspension or expulsion (0).

Disability status. Children's disability status was based on parents' or guardians' report. Participants were asked if their child had one of the following conditions: brain injury, cerebral palsy, Down syndrome, epilepsy or seizure disorder, Tourette syndrome, anxiety or depression, developmental delay, intellectual disability, speech or language disorder, learning disability, autism, or attention deficit hyperactivity disorder (ADHD). Table 2 presents the major categories of the children's diagnosis. We created a dichotomous variable if the participants indicated *yes* to at least one of the conditions.

In the logistic regression model, we also included seven dummy-coded variables indicating whether a child had developmental delay, speech disorder, learning disability, low-incidence disability, anxiety, autism, and attention deficit disorder (ADD) or ADHD. The low-incidence-disability category included all other federally defined disability categories listed earlier that were combined because of low cell size.

Covariates. The multivariate analyses were adjusted for a number of child characteristics that might be associated with preschool suspension or expulsion based on previous literature (Sullivan et al., 2014). These variables included behavioral or conduct problem reported by health care providers or educator (yes, no), child age (3, 4, and 5 years old), gender (male, female), race (White, Black, Other), ethnicity (Hispanic, non-Hispanic), parent highest education (less than high school, high school, and more than high school), and poverty ratio ($>100\%$, 100% – 200% , $<200\%$).

Data Analysis

All analyses were conducted with the "survey" package (Lumley, 2004) in R (R Core Team, 2013) to account for unequal probability of selection of households and children, nonresponse, and the underlying demographic distribution of U.S. noninstitutionalized children (Cheema, 2014). We used weighted descriptive statistics to estimate the prevalence of suspensions and expulsions between preschoolers with and without disabilities. Then, bivariate analyses (chi-square test of independence) were used to explore potential differences between children with and without suspension and expulsion based on child and family characteristics.

To estimate the associations between disability status and reports of preschool suspension and expulsion, we used weighted sequential logistic regression with the disability status added in Model 1. Model 2 added the child-level variables (i.e., behavioral problem, age, gender, home language, race, and ethnicity), Model 3 continued to

Table 2. Child Disability Condition ($n = 1,494$), National Survey of Children's Health 2016.

Category	%	95% CI	Unweighted count ^a
Brain injury	0.07	[0.04, 0.12]	39
Cerebral palsy	0.05	[0.02, 0.10]	24
Down syndrome	0.02	[0.01, 0.05]	18
Epilepsy	0.16	[0.09, 0.28]	60
Tourette syndrome	0.01	[0.01, 0.02]	2
Depression	0.03	[0.01, 0.07]	11
Anxiety	0.26	[0.18, 0.37]	126
Developmental delay	1.34	[1.12, 1.59]	593
Intellectual disability	0.10	[0.06, 0.17]	51
Speech disorder	1.69	[1.45, 1.98]	756
Learning disability	0.57	[0.41, 0.77]	199
Autism	0.37	[0.27, 0.50]	143
ADHD	0.50	[0.34, 0.73]	144

Note. CI = confidence interval; ADHD = attention deficit hyperactivity disorder.

^aThe unweighted count is larger than the disability sample size as some children may have more than one condition.

add family-level (i.e., parents' highest education and poverty level) variables, with control for the variables in Models 1 and 2. To further identify if children with a certain type of disability were more likely to be suspended or expelled, in Model 4 we replaced the dichotomous disability variable with seven dummy-coded variables specifying the child's disability type. Then, for the exploratory purpose, we created a series of interaction terms (e.g., Disability \times Gender) to further detect if certain subpopulations are more likely to be suspended or expelled (i.e., moderating effect). As mentioned earlier, there are too few cases for the expulsion dependent variable and the output would have large confidence intervals; we thus conduct the same models with just the suspension-only and the suspension-and/or-expulsion dependent variables. The p value was adjusted using Bonferroni correction to control for Type I error (Abdi, 2007). Model fit was evaluated using the Nagelkerke R^2 effect size. This effect size presents the R -squared value as a transformation of the $-2\ln [L(\text{MIntercept})/L(\text{MFull})]$ statistic that is used to determine the convergence of a logistic regression. The value may range from 0 to 1, with higher values indicating better model fit (Long & Freese, 2006).

Results

Suspension and Expulsion by Disability Status

To understand the potential association between disability status and preschool suspension and expulsion, we first conducted a chi-square test of independence. This result (see Table 3) suggested that there was a significant association ($\chi^2 = 90.65$, $p < .001$). About 5.4% of young children with disabilities had been either suspended or expelled in the past year, whereas the estimate was only 1.5% for young children without disabilities. More specifically, survey respondents who had children with disabilities reported that they were told (a) to pick up their child early on one or more days (1.8%, $SE = 0.5$), (b) to keep their child home for one full day (2.2%, $SE = 1.1$), or (c) that their child could no longer attend the childcare center or preschool due to the child's disruptive behaviors (0.5%, $SE = 0.2$). Among the specific disability type, children with ADD or ADHD were among the highest percentage being suspended (pick up early, 9.6%, $SE = 3.4$; in-home suspension, 13.6%, $SE = 6.7$) or expelled (2.0%, $SE = 0.9$). Table 3 provides the suspension and expulsion estimates for the other type of disability. In contrast, estimates for suspension and

Table 3. Descriptive Statistics of Parent-Reported Children With and Without Preschool Suspension and Expulsion, National Survey of Children's Health 2016.

Variable	Did not attend school	No suspension or expulsion	Pick up early on 1 or more days	Keep my child for 1 full day	Could not attend school
Children without disabilities					
Pop. est.	2,234,856	7,560,579	91,589	17,027	9,662
%	22.5	76.3	0.9	0.2	0.1
SE	1.2	1.2	0.2	0.1	0.0
Children with disabilities					
Pop. est.	243,047	1,200,532	27,914	33,207	7,586
%	16.1	79.4	1.8	2.2	0.5
SE	2.0	2.2	0.5	1.1	0.2
Developmental delay					
Pop. est.	124,113	515,596	10,974	21,298	4,546
%	18.3	76.2	1.6	3.1	0.7
SE	6.1	6.1	0.6	1.8	0.3
Speech disorder					
Pop. est.	198,935	745,564	7,842	21,298	2,793
%	20.4	76.4	0.8	2.2	0.3
SE	4.6	4.6	0.3	1.2	0.2
Learning disability					
Pop. est.	92,006	225,454	6,521	11,415	680
%	27.4	67.1	1.9	3.4	0.2
SE	10.9	10.5	1.0	2.6	0.2
Low-incidence disability^a					
Pop. est.	31,010	85,471	11,827	1,084	680
%	23.8	65.7	9.1	0.8	0.5
SE	8.7	9.7	7.5	0.8	0.5
Anxiety					
Pop. est.	27,582	101,370	9,773	4,645	3,701
%	18.8	68.9	6.6	3.2	2.5
SE	5.4	6.5	3.0	1.9	1.1
Autism					
Pop. est.	18,640	192,376	2,088	9,532	1,921
%	8.3	85.7	0.9	4.2	0.9
SE	3.5	5.1	0.7	3.7	0.4
ADD or ADHD					
Pop. est.	17,162	154,309	21,984	31,165	4,603
%	7.5	67.3	9.6	13.6	2.0
SE	2.9	7.9	3.4	6.7	0.9

Note. Pop. est. = population estimate; ADD = attention deficit disorder; ADHD = attention deficit hyperactivity disorder.

^aLow-incidence disability included brain injury, cerebral palsy, Down syndrome, epilepsy or seizure disorder, Tourette syndrome, and depression.

expulsion of children without disabilities were 0.9% ($SE = 0.2$), 0.2% ($SE = 0.1$), and 0.1% ($SE = 0.3$), respectively.

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Logistic Regression

In order to test the hypothesis that preschool students with disabilities experience suspensions and expulsions at higher rates than their peers without disabilities, we conducted a number of hierarchical logistic regression models controlling for child and family demographic information (see Tables 4 and 5). The model fit index (i.e., Nagelkerke R^2) for the suspension-only dependent variable model improved from 0.05 in Model 1 to 0.31 in Model 4 with the covariates included. Similarly, the model fit index improved from 0.04 in Model 1 to 0.30 in Model 4 with the covariates included for the model with suspension and/or expulsion as the dependent variable.

Suspension model. In Model 1, results suggested that children with disabilities were 3.3 times (95% confidence interval [CI] = [1.57, 6.89], $p < .001$) more likely than their peers without disabilities to experience suspension. However, disability status was no longer a significant predictor after child- and family-level covariates were included. Instead in Model 2, young children with reported behavioral or conduct problems were 12.8 times (95% CI = [6.90, 23.64], $p < .001$) more likely than their peers to be suspended. Meanwhile, Hispanic children were 3.4 times (95% CI = [1.42, 8.25], $p = .006$) more likely than their peers to be suspended. Other covariates (i.e., age, gender, race) were not significant. In Model 3, we added the family-level factors, but none of these contextual variables were significant. In addition, adding these predictors did not attenuate the significant predictors in Model 2. Specifically, we observed that

young children with reported behavioral or conduct problems (odds ratio [OR] = 11.61, 95% CI = [6.56, 20.54], $p < .001$) and Hispanic children (OR = 3.69, 95% CI = [1.50, 9.06], $p = .004$) were more likely to be suspended. In Model 4, we replaced the dichotomous disability variable with the seven dummy-coded disability type and results suggest that young children with ADD or ADHD were more likely to be suspended (OR = 5.50, 95% CI = [2.04, 14.82], $p < .001$). Furthermore, we attempted to individually add a two-way interaction term of interest, including Disability \times Behavior, Disability \times Gender, Disability \times Race, Disability \times Age, Disability \times Hispanic, and so on. However, neither of the interaction terms was significant at the Bonferroni adjustment level, or some of the models did not emerge at all.

young children with ADD or ADHD were more likely to be suspended (OR = 6.24, 95% CI = [2.47, 15.78], $p < .001$).

Suspension-and/or-expulsion model. In Table 5, we present the results of the four hierarchical logistic models, and the pattern was quite similar to the suspension-only model. Specifically, in Model 1, results suggested that children with disabilities were 3.7 times (95% CI = [1.84, 7.29], $p < .001$) more likely than their peers without disabilities to experience suspension. However, disability status was no longer a significant predictor after child- and family-level covariates were included. In Model 2, young children with reported behavioral or conduct problems were 16.2 times (95% CI = [8.98, 29.05], $p < .001$) more likely than their peers to be suspended. Meanwhile, Hispanic children were 3.3 times (95% CI = [1.39, 7.69], $p = .007$) more likely than their peers to be suspended. Other covariates (i.e., age, gender, race) were not significant. In Model 3, still we observed that young children with reported behavioral or conduct problems (OR = 13.83, 95% CI = [7.54, 25.39], $p < .001$) and Hispanic children (OR = 3.61, 95% CI = [1.47, 8.87], $p = .005$) were more likely to be suspended. In Model 4,

Table 4. Weighted Logistic Regression of Risk Factors and Preschool Suspension, National Survey of Children's Health 2016.

Variable	Model 1			Model 2			Model 3			Model 4		
	OR	95% CI	p	OR	95% CI	p	OR	95% CI	p	OR	95% CI	p
Disability	3.29	[1.57, 6.89]	<.001	1.70	[0.87, 3.33]	.122	1.69	[0.85, 3.34]	.131	—	—	—
Problem behavior				12.77	[6.90, 23.64]	<.001	11.61	[6.56, 20.54]	<.001	10.44	[4.93, 22.11]	<.001
Gender				1.98	[0.81, 4.83]	.133	1.87	[0.73, 4.79]	.193	1.95	[0.78, 4.87]	.152
Home language				3.73	[0.94, 14.83]	.061	3.41	[0.92, 12.60]	.066	3.61	[0.81, 16.45]	.053
Hispanic				3.43	[1.42, 8.25]	.006	3.69	[1.50, 9.06]	.004	3.76	[1.53, 9.22]	.004
Race				0.48	[0.18, 1.25]	.133	0.50	[0.21, 1.18]	.112	1.94	[0.82, 4.60]	.133
				0.56	[0.19, 1.66]	.292	0.71	[0.26, 1.97]	.511	1.25	[0.33, 4.72]	.744
Age				0.23	[0.08, 0.67]	.077	0.25	[0.09, 0.66]	.125	0.25	[0.10, 0.64]	.114
				0.40	[0.15, 1.10]	.151	0.48	[0.19, 1.22]	.076	0.48	[0.19, 1.20]	.076
Parent education							1.31	[0.38, 4.55]	.954	1.01	[0.28, 3.68]	.987
							0.96	[0.26, 3.62]	.672	1.39	[0.32, 6.05]	.664
Poverty							2.68	[0.99, 7.27]	.049	2.76	[1.03, 7.37]	.046
							3.39	[1.01, 11.43]	.615	3.53	[1.02, 12.18]	.602
Developmental delay										1.56	[0.59, 4.12]	.371
Speech disorder										0.62	[0.28, 1.39]	.244
Learning disability										0.20	[0.04, 1.01]	.052
Low-incidence disability										3.53	[0.41, 4.11]	.249
Anxiety										0.83	[0.24, 2.90]	.766
Autism										1.38	[0.35, 5.54]	.647
ADD or ADHD										5.50	[2.04, 14.82]	<.001

Note. The reference groups were children without disability, children without parent-reported problem behavior, female, English as home language, non-Hispanic, White, 3 years old, parent with more than high school education, >200% poverty ratio, and children without disability or problem behavior. OR = odds ratio; CI = confidence interval; ADD = attention deficit disorder; ADHD = attention deficit hyperactivity disorder.

Table 5. Weighted Logistic Regression of Risk Factors and Preschool Suspension Expulsion, National Survey of Children's Health 2016.

Variable	Model 1			Model 2			Model 3			Model 4		
	OR	95%CI	p	OR	95%CI	p	OR	95%CI	p	OR	95%CI	p
Disability	3.66	1.84, 7.29	<.001	1.42	0.77, 2.65	.263	1.48	0.81, 2.73	.205	—	—	—
Problem Behavior				16.15	8.98, 29.05	<.001	13.83	7.54, 25.39	<.001	30.16	11.15, 81.53	<.001
Gender				2.12	0.93, 4.80	.073	2.00	0.85, 4.70	.112	0.49	0.21, 1.12	.090
Home language				3.19	0.86, 11.86	.083	3.03	0.91, 10.16	.072	3.17	0.94, 10.70	.063
Hispanic				3.26	1.39, 7.69	.007	3.61	1.47, 8.87	.005	0.28	0.11, 0.67	.005
Race				0.47	0.19, 1.13	.090	0.50	0.23, 1.08	.076	1.97	0.92, 4.25	.082
				0.55	0.19, 1.57	.266	0.74	0.27, 2.02	.557	1.39	0.39, 4.93	.606
Black				0.29	0.11, 0.77	.190	0.31	0.12, 0.77	.299	1.67	0.70, 4.00	.250
Age				0.54	0.22, 1.36	.095	0.63	0.26, 1.52	.051	0.50	0.25, 1.00	.050
Parent education							1.02	0.22, 4.63	.979	0.98	0.23, 4.23	.979
							1.41	0.33, 5.98	.644	1.39	0.32, 6.04	.656
Poverty							0.32	0.09, 1.08	.065	0.31	0.09, 1.06	.061
							0.65	0.28, 1.54	.330	0.67	0.29, 1.55	.344
Developmental delay										1.26	0.49, 3.24	.635
Speech disorder										0.54	0.24, 1.19	.123
Learning disability										0.15	0.03, 0.70	.016
Low-incidence disability										3.74	0.43, 32.75	.233
Anxiety										1.43	0.48, 4.22	.523
Autism										2.60	0.76, 8.94	.130
ADD or ADHD										6.24	2.47, 15.78	<.001

Note. The reference groups were children without disability, children without parent-reported problem behavior, female, English as home language, non-Hispanic, White, 3 years old, parent with more than high school education, >200% poverty ratio, and children without disability or problem behavior. OR = odds ratio; CI = confidence interval; ADD = attention deficit disorder; ADHD = attention deficit hyperactivity disorder.

we again replaced the dichotomous disability variable with the seven dummy-coded disability type, and results suggest that young children with ADD or ADHD were more likely to be suspended (OR = 6.24, 95% CI = [2.47, 15.78], $p < .001$). All other disability types were not significant.

Discussion

To date, no research studies have exclusively investigated the likelihood of suspension and expulsion for preschool children with disabilities at the national level. This study fills an important knowledge gap by providing an updated estimate of preschool suspension and expulsion for young children with disabilities based on parent-reported data. Despite the effort in recent years to promote inclusive education for all children, we found that 5.4% of young children with disabilities had been either suspended or expelled in a year. Children with ADD or ADHD were among the highest percentage being suspended (pick up early, 9.6%, $SE = 3.4$; in-home suspension, 13.6%, $SE = 6.7$) or expelled (2.0%, $SE = 0.9$). The results of this study are consistent with previous K–12 literature showing that children with disabilities are suspended at higher rates than their peers without disabilities (Sullivan et al., 2014). For example, students with disabilities represent 11% of the student population, but they accounted for 20% of all suspensions at the K–12 settings (Vincent & Tobin, 2012). Our findings extend the literature in that exclusionary practices may start in preschool for young children with disabilities and suggest that strategies to prevent challenging behaviors should be implemented in an effort to reduce the prevalence of suspension and expulsion in preschool settings (e.g., Vinh et al., 2016).

To estimate the likelihood of exclusionary practices while adjusting for individual and contextual variables, we conduct a number of logistic regressions. The initial model suggested that young children with disabilities were 3.3 times more likely to be suspended or expelled. However, the association between disability status and the dependent variable

was not significant when individual-level covariates were added to the model. Instead, children with reported behavioral problems were much more likely to experience exclusionary practices after controlling for child age, gender, race, ethnicity, parent education, and poverty ratio (Gilliam, 2005; Gilliam & Shahar, 2006; Zeng et al., 2019). The pattern we identified aligns with research conducted at the K–12 settings (Morgan et al., 2019). Several reasons may explain why children with reported behavioral and conduct problems are more likely to be suspended or expelled. Research estimates that 4% to 6% of preschoolers have serious emotional and behavioral disorders that are challenging for classroom teachers (National Center for Children in Poverty, 2002). In these cases, teachers may often resort to expulsion and suspension as a means to address challenging behaviors (Anderson, 2015). As noted by Feil et al. (2014) and Hemmeter et al. (2007), children who present with more behavior challenges are more likely to be expelled.

Further analysis indicates young children with ADD or ADHD were at higher risk to be suspended or expelled compared with other disability types. This may partially explain why disability status did not become a significant predictor, as there might be large variance within the disability category. Particularly, preschoolers with ADD or ADHD may lack the necessary social skills, judgment, and ability to conceal offenses, which can increase their likelihood of enacting challenging behaviors (Eikeseth et al., 2007). Children with ADD or ADHD may also have higher rates of exclusionary discipline due to low-resource early childhood programs, where teachers and program directors do not have the necessary resources or strategies to support this vulnerable population. When early childhood educators have the tools needed to promote positive behavior for all students in the classroom setting, preschool expulsions and suspensions should be reduced; however, not all settings have resources to implement these behavioral support strategies.

Previous literature suggests racial and gender bias as the main risk factors in preschool

suspension and expulsion (Gilliam & Shahar, 2006). However, we do not observe these two variables as significant factors in our model. Instead, children's behavior history is a more salient factor in explaining preschool suspension and expulsion. Further interaction analysis also suggests race and gender do not have a moderating effect. Although compelling evidence (Gilliam et al., 2016) suggests teachers' implicit racial and gender bias do exist, we suspect that they do not explain the whole complex phenomenon. Children's actual behavior incident and disability status may further contribute to teachers' decision in suspending or expelling a child. Together with previous literature investigating risk factors at the family (Zeng et al., 2019) and school levels (S. Miller et al., 2017; Zulauf & Zinsser, 2019), this study helps contribute to better understanding the vulnerable population and informs cross-system collaboration and holistic policy prevention.

We advance the argument and confirm that children with disabilities may have high suspension expulsion rates, and preschool children with reported behavioral conduct problems and children with ADHD or ADD are more likely to be suspended or expelled. With increased attendance in preschool settings, all children (including children with challenging behavior or disabilities) will have the opportunity to learn academic and life skills important for future success and thus will be more likely to avoid negative outcomes associated with suspension and expulsion. Inclusion practices are well documented as beneficial for young children with disabilities (Hebbeler et al., 2007; Landa et al., 2010; McLean & Cripe, 1997). We argue that this is an inclusion crisis if we do not take appropriate measures to address suspension and expulsion practices for preschool children with reported behavioral or conduct problems and children with ADHD or ADD.

Limitations

There are a few limitations to consider along with the results of this study. First, data on suspension and expulsion rates have been noted to be difficult to validate. Data in this

study were reported by parents and cannot be corroborated by other data sources. Similarly, the question related to suspension and expulsion in the survey did not account for in-school or in-program suspension, where children may have been removed from their typical settings but remained in the school building. We can assume that these unreported data would increase the rates of suspension overall, but we do not have further information to determine if preschoolers with disabilities received in-program or in-school suspensions more often than peers without disabilities. Second, although this study reports on prevalence of suspension and expulsion, we do not have information on the frequency of occurrence, nor do we have information across a child's preschool years. Also parents could choose only one of the suspension or expulsion responses, and it is possible that some children may experience both suspension and expulsion in the past year. Therefore, the estimate is likely to be underestimated. Third, the disability information used for this study was based on parent report, and clinical evidence is not available to confirm or deny whether children had a disability at the time the survey was completed. It is possible that a child may have had more than one type of disability, and we could not differentiate a child's primary disability condition.

Implications for Policy and Practice

Although there is an increased interest in ending suspension and expulsion practices in early childhood settings, many children and families experience these practices on a regular basis (Zeng et al., 2019). Additionally, policies focused on restricting suspension and expulsion practices in early childhood programs generally affect only programs receiving public funding. Therefore, children in privately funded early childhood programs are still susceptible to suspension and expulsion practices. Children with disabilities attend both public and private settings. Policies limiting the use of suspension and expulsion should include a focus on children with disabilities and be more encompassing of all

early childhood settings, regardless of funding source.

Although much of the focus has been on expanding the reach of preschool and childcare to more children and families, it is also important to plan for sustaining the participation of children and families in preschool and childcare settings. In the future, ideally, more children and families will have access to early childhood programs, and fewer of those children and families will experience suspension and expulsion practices. Along with expanding programs, it is important to support the development of an effective workforce to ensure high-quality early childhood experiences for all.

In order to achieve lower rates of exclusionary discipline among children with disabilities, early childhood programs and professionals need to feel confident and competent in supporting children with diverse needs (e.g., social-emotional, cognitive, behavioral) in their early childhood settings. We recommend expanding the types of supports early childhood programs and professionals have access to in order to meet the needs of *all* children. Although support may vary depending on the early childhood program, comprehensive professional development opportunities and practice-based coaching that is focused on pertinent issues, such as challenging behaviors, social-emotional development, mental health, and trauma, may be beneficial in reducing suspension and expulsion rates (Perry et al., 2008).

Preschool is a unique time period when children are learning how to behave. For instance, preschoolers are learning how to identify and express a range of emotions, how to regulate those emotions, how to follow directions, and how to make friends. Preschool should be a safe place for children to practice, fail, and ultimately, learn school-appropriate behaviors. Solely attributing the issue to teachers' implicit racial bias may not attenuate the issue of suspension and expulsion. Instead efforts should be made to expand and enhance classroom and school environment supports to create supportive systems that support not only children with challenging behaviors but also teachers who are struggling with challenging behaviors in their classrooms.

Future Research

Future research should aim to describe the phenomena of suspension and expulsion of preschoolers with disabilities with greater precision. Knowledge in this line of research could be improved by understanding what experiences of suspension for preschoolers entail, such as the severity of the exclusionary practice. Because the NSCH data set did not comprehensively define suspension or expulsion, this examination was unable to capture consistency in the experience of suspension across this sample of preschoolers. In future studies, it would be very helpful to have information describing the relocation context of suspension, including the length of suspension (hours, days, etc.), and information about the relocation setting (e.g., home, separate classroom, office) to provide clearer distinctions between suspension experiences. Furthermore, whereas a binary description of suspension and expulsion was investigated in this study, future inquiry might examine the frequency of suspensions and expulsions experienced by preschoolers with disabilities. Although we do also want to see if disparity exists for expulsion, there is not a big enough sample size and the model is unstable with large variance. Questions of how often preschoolers with disabilities who receive suspension or expulsion are moved to more restrictive settings away from peers without disabilities is an important question that can highlight the magnitude of exclusionary discipline practices. Moreover, although child-level characteristics were the main focus of this study, we added contextual covariates (i.e., parent educational background and socioeconomic status) at the family level to account for the variance. Unfortunately, the data available from the NSCH do not allow us to examine factors such as teacher bias and other classroom contextual factors that may affect suspension and expulsion rates. Future research on the use of exclusionary practices for children with disabilities should examine contextual factors at the teacher and classroom.

Future research may also use qualitative inquiry to understand what types of disability may tend to be particularly challenging for teachers and paraprofessionals to educate and

support in the classroom. Such questions could clarify if preschoolers with disabilities are experiencing suspension or expulsion as a result of challenges associated with their disability and could account for other explanations. Along these lines, the relationship between teacher and paraprofessional training and support for responding to the needs of their students with disabilities within the classroom could also be examined. To ensure that policy affects practice, it is essential to understand the decision making that leads to suspension and expulsion so that interventions address the root causes of the use of these extreme disciplinary procedures in early childhood settings. Collectively, this information would provide more reliable descriptions of suspension and expulsion of preschoolers receiving special education services. Information from this line of inquiry can be used to substantiate and shape educator training and prevention efforts to reduce incidences of preschool suspension and expulsion.

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The data were accessed through Child and Adolescent Health Measurement Initiative, Data Resource Center for Child and Adolescent Health.

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