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Arkansas Student Discipline Report

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ARKANSAS STUDENT DISCIPLINE REPORT

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Executive Summary

This report examines student discipline in the Arkansas public schools. Using de-identified student- and infraction-level data from 2007-08 to 2016-17 provided by the Arkansas Department of Education, our research identifies trends and a number of key student outcomes related to student discipline in the Arkansas public schools. While the data are only limited to what schools report, there are several meaningful findings from this work.

1. **What are trends in reported student infractions and associated consequences?**
    - There has been an 87% increase in reported discipline infractions since 2012-13, with over 270,000 discipline referrals in 2016-17. We believe the increase in referrals likely reflects greater focus on reporting discipline infractions as opposed to an increase in misbehavior in Arkansas schools.
    - Over 80% of discipline referrals are for insubordination, disorderly conduct, or "other" infractions.
    - The majority of the increase in infraction referrals has been for "other" infractions. In 2016-17, additional reporting categories were included, but over a third of infractions remained identified only as "other."
    - Over 93% of discipline consequences are out-of-school suspension (OSS), in-school suspension (ISS), or "other" action. There has been a decline in reported reliance on OSS, ISS, and corporal punishment over time.
    - The majority of the increase in consequences has been for "other" actions. In 2016-17, additional reporting categories were included, but about 19% of consequences remained identified only as "other." While trends away from exclusionary discipline might indicate benefits for students, knowing more about what the "other" consequences are is important for understanding whether this represents a meaningful change for students.
2. **Are schools complying with Act 1329, which bans the use of OSS as a consequence for truancy?**
    - The use of OSS for truancy declined from about 14% of all truancy cases in 2012-13 to about 7% of cases in 2016-17.
    - In 2016-17, 76 schools reported at least five or more truancy infractions and reported using OSS in at least 10% of those cases. Many of these were concentrated in a few districts (e.g. 9 schools in the Little Rock School District and 8 schools in the Pulaski Country Special School District).
3. **Are there racial or programmatic disproportionalities in school discipline?**
    - Disproportionalities by race, free- and reduced- price lunch eligibility, and special education status exist both in terms of the number of referrals for infractions of various types, as well as in the likelihood of receiving exclusionary discipline, conditional on referral for a particular type of infraction. For example, black students

receive 117.6 referrals per 100 students, relative to only about 37-40 for white students, Hispanic students, or students of other races. Then, conditional on being written up for any infraction, Black students receive OSS, expulsions, or referrals to ALE in about 25% of these cases, relative to only about 15% for students of other races.

4. **Which types of schools are High-Exclusion schools?**
    - Certain types of schools in the state are more likely to administer lengthy exclusionary punishments: schools with greater proportions of black students, high schools, and middle schools (relative to elementary schools).
    - There also appears to have been a decline in severity used, on average, between 2014-15 and 2016-17.
5. **What is the relationship between student absenteeism and exclusionary discipline?**
    - There is a moderate correlation between student absenteeism and OSS days received, with the strongest correlations between grades 7 and 10.
    - Students marked as chronically absent in those grades had about 0.5 to 0.64 more days of OSS on average, compared to those not chronically absent.
    - This suggests that schools seeking to tackle absenteeism may consider discipline reforms as one possible solution.
6. **What is the relationship educational attainment and exclusionary discipline?**
    - Exclusionary discipline in high school (and particularly ninth grade) is associated with lower likelihood of high school graduation and lower likelihood of enrolling in college conditional on a variety of student characteristics as well as baseline achievement in eighth grade.
    - The magnitudes of these relationships decline after controlling for the behaviors (types of infractions) reported, although there is still a small relationship detected in some cases.

I. Introduction

This report was prepared by the Office for Education Policy for the Arkansas State Board of Education and the Arkansas Department of Education in response to Act 1329 of 2013 (State of Arkansas, 2013). The data used were de-identified student- and infraction-level information from 2007-08 to 2016-17 provided by the Arkansas Department of Education.

II. Student Discipline Trends over Time

Trends in behavioral infractions

Table 1 and Figure 1 present the frequency of various infraction types, over time. Beginning in 2016-17, some new reporting categories were included that previously were included in the general "other" category. These new categories include cellphones/electronic devices, stealing/theft, harassment/sexual harassment, public display of affection, terroristic threats, cyberbullying, and other. Note that, over time, the number of total "other" categories, including these new groups in 2016-17, increased. This does not necessarily mean that minor misbehaviors were on the rise, as it is possible some of the increase in trend could be due primarily to school districts increasing their reporting of these behaviors when they do occur.

In total, across all ten years, the most common types of infractions were disorderly conduct (28.7% of the total), insubordination (23.8%), and "other" infractions that do not fit into a state-level reporting category (28.1%). Importantly, these categories generally represent relatively minor, non-violent infractions. Further, disorderly conduct and insubordination are relatively subjective terms that could include a wide variety of behaviors. More objective infractions such as fighting (6.8%) and truancy (6.3%) are much rarer.

Trends in consequences used

Table 2 and Figure 2 present the frequency of various consequence types, over time. As with infractions, beginning in 2016-17, new reporting categories were reported that previously were included in the "other" consequences. These new types include detentions, warnings, bus suspensions, parent/guardian conferences, Saturday school, and other. In about 1.1% of all incidents, more than one consequence was listed for an infraction, so for the purposes of this report, the rates of each consequence type represent the most-severe/most-exclusionary type of consequence, but within each category there may have been some additional, more minor consequences attached as well. Across all ten years, the most common consequence types were in-school suspension (ISS), representing 37.3% of total consequences, "other" consequences (27.0%), and out-of-school suspensions (21.8%). Corporal punishment was used in about 12.6% of infractions. Referrals to ALE, expulsions, and no actions, are quite rare.

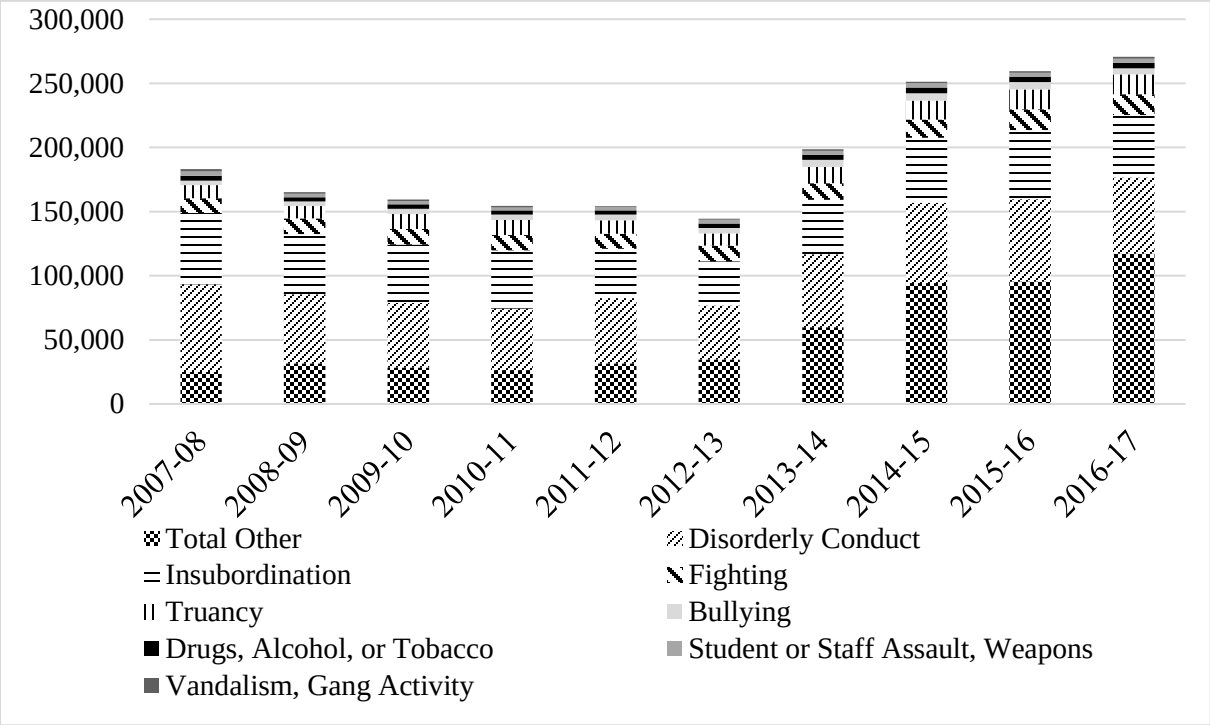
Over time, reports of "other" consequences grew substantially. In 2007-08, these consequences represented about 22% of all consequences, but this grew to about 43% by 2016-17. Over this same period, reliance on OSS decreased from about 23% to about 18%, ISS use has declined from 37% to 33%, and corporal punishment has declined from 16% to 6%.

Table 1: Frequency of infractions, by type (2007-08 to 2016-17)

	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	Total	% of Total
Disorderly Con.	68,210	53,969	50,266	48,132	50,854	42,124	57,072	62,674	64,072	59,417	556,790	28.7%
Insubordination	55,735	46,735	45,588	45,174	38,387	34,435	42,474	50,479	53,869	48,569	461,445	23.8%
Fighting	11,384	12,221	12,105	12,092	11,904	12,269	12,900	14,212	16,311	16,301	131,699	6.8%
Truancy	10,357	9,853	11,697	11,626	10,370	9,349	12,758	14,808	15,435	15,534	121,787	6.3%
Bullying	3,429	3,415	4,068	4,328	4,446	4,467	5,452	5,773	5,834	4,749	45,961	2.4%
Tobacco	2,556	2,199	2,230	1,961	1,899	1,963	2,408	2,771	2,434	2,224	22,645	1.2%
Student Assault	2,483	1,838	1,777	1,608	1,631	1,983	2,123	2,200	2,160	2,332	20,135	1.0%
Drugs	905	920	968	920	1,117	1,193	1,203	1,383	1,327	1,391	11,327	0.6%
Vandalism	1,355	945	824	893	677	730	1,075	1,076	1,051	1,173	9,799	0.5%
Knife	370	388	412	369	388	436	503	478	476	527	4,347	0.2%
Staff Assault	323	287	305	277	310	351	342	479	498	497	3,669	0.2%
Alcohol	312	286	286	309	277	290	333	377	319	385	3,174	0.2%
Gangs	400	357	332	175	107	127	102	108	170	130	2,008	0.1%
Explosives	45	46	57	60	50	42	52	40	33	46	471	0.0%
Guns	135	38	18	31	25	35	32	57	19	40	430	0.0%
Club	20	21	21	49	45	42	53	57	38	30	376	0.0%
Total Other	**25,045**	**31,665**	**28,493**	**26,322**	**31,640**	**34,684**	**59,738**	**94,340**	**95,511**	**117,271**	**544,709**	**28.1%**
Other										102,207	529,645	
Cellphone/Electronics										10,137	10,137	
Stealing/Theft										1,717	1,717	
Harassment/Sexual Harassment										1,431	1,431	
Public Display of Affection										850	850	
Terroristic Threats										639	639	
Cyberbullying										290	290	
Total	**183,064**	**165,183**	**159,447**	**154,326**	**154,127**	**144,520**	**198,620**	**251,312**	**259,557**	**270,616**	**1,940,772**	

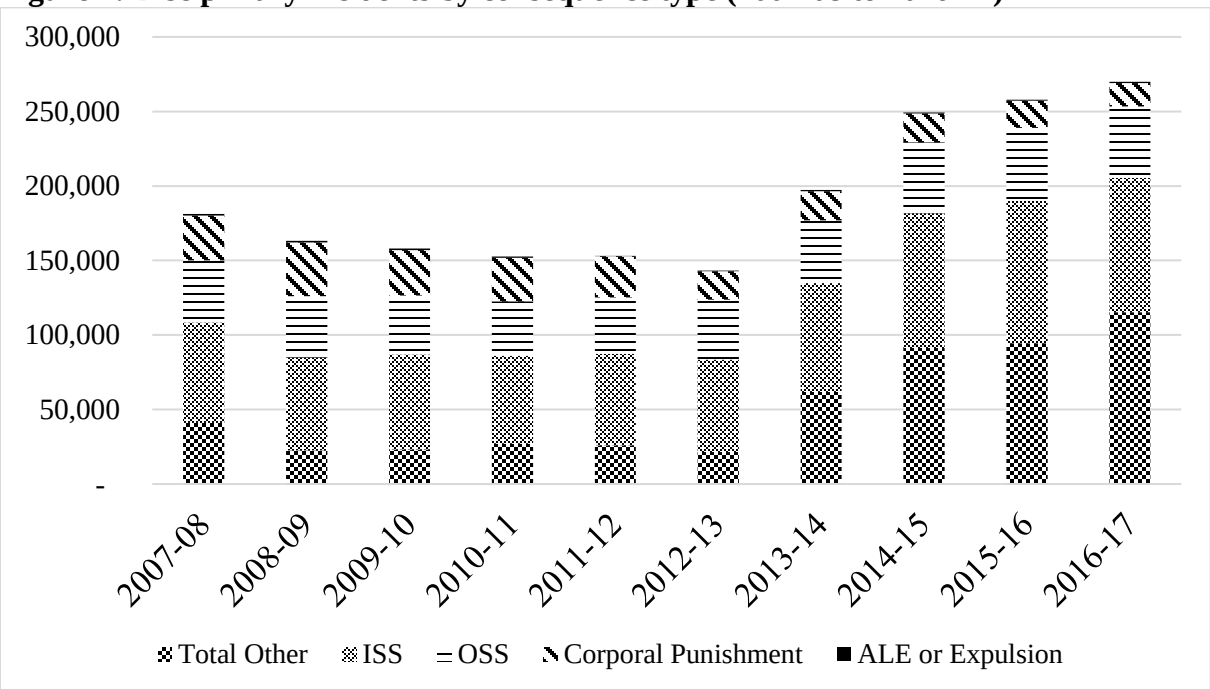
Note. Disorderly Con. = disorderly conduct. Beginning in 2016-17, a few of the largest "other" categories began being separately reported.

Figure 1: Disciplinary incidents by infraction type (2007-08 to 2016-17)



Note. Some infrequently reported infraction categories were grouped for ease of visibility and interpretation (e.g. drugs, alcohol, and tobacco were originally reported separately but grouped together, as were student assault, staff assault, and weapons, as well as vandalism and gang activity).

Figure 2: Disciplinary incidents by consequence type (2007-08 to 2016-17)



Note. "No action" (0.8% of the total) was not shown for ease of visibility and interpretation. ALE or expulsion are reported separately but grouped together for ease of visibility and interpretation.

Table 2: Frequency of consequences, by type (2007-08 to 2016-17)

	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	Total
Expulsion	149	135	321	192	95	200	248	165	170	151	**1,826**
	0.1%	*0.1%*	*0.2%*	*0.1%*	*0.1%*	*0.1%*	*0.1%*	*0.1%*	*0.1%*	*0.1%*	***0.1%***
ALE	920	915	793	619	253	317	586	538	646	559	**6,146**
	0.5%	*0.6%*	*0.5%*	*0.4%*	*0.2%*	*0.2%*	*0.3%*	*0.2%*	*0.2%*	*0.2%*	***0.3%***
OSS	41,674	41,185	39,452	36,590	37,714	40,139	42,094	47,641	48,872	47,864	**423,225**
	22.8%	*24.9%*	*24.7%*	*23.7%*	*24.5%*	*27.8%*	*21.2%*	*19.0%*	*18.8%*	*17.7%*	***21.8%***
ISS	67,300	62,233	63,655	59,031	61,509	62,033	72,934	90,346	95,560	90,228	**724,829**
	36.8%	*37.7%*	*39.9%*	*38.3%*	*39.9%*	*42.9%*	*36.7%*	*35.9%*	*36.8%*	*33.3%*	***37.3%***
Corporal Punishment	30,097	36,246	30,537	29,132	27,611	19,013	19,534	19,274	18,157	15,806	**245,407**
	16.4%	*21.9%*	*19.2%*	*18.9%*	*17.9%*	*13.2%*	*9.8%*	*7.7%*	*7.0%*	*5.8%*	***12.6%***
No Action	1,881	1,909	1,397	1,682	969	1,256	1,339	2,035	1,585	797	**14,850**
	1.0%	*1.2%*	*0.9%*	*1.1%*	*0.6%*	*0.9%*	*0.7%*	*0.8%*	*0.6%*	*0.3%*	***0.8%***
Total Other	**41,043**	**22,560**	**23,292**	**27,080**	**25,976**	**21,562**	**61,885**	**91,313**	**94,567**	**115,211**	**524,489**
	22.4%	***13.7%***	***14.6%***	***17.5%***	***16.9%***	***14.9%***	***31.2%***	***36.3%***	***36.4%***	***42.6%***	***27.0%***
Other	41,043	22,560	23,292	27,080	25,976	21,562	61,885	91,313	94,567	51,862	**461,140**
Detention										32,927	**32,927**
Warning										15,096	**15,096**
Bus Suspension										5,178	**5,178**
Parent/Guardian Conference										2,795	**2,795**
Saturday School										7,152	**7,152**
Other Non-exclusionary										201	**201**
Total	**183,064**	**165,183**	**159,447**	**154,326**	**154,127**	**144,520**	**198,620**	**251,312**	**259,557**	**270,616**	**1,940,772**

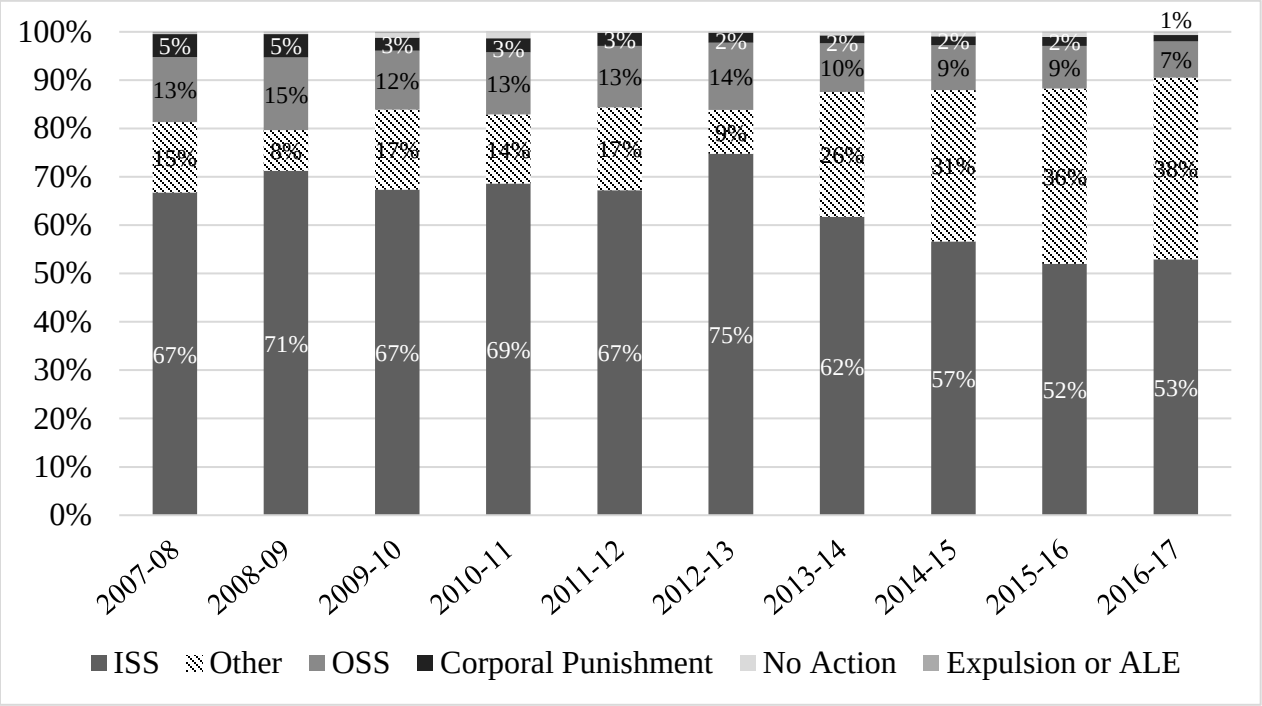
Note. About 1.1% of infractions resulted in more than one consequence type. The numbers reported indicate the most-exclusionary/severe consequence type. Thus, each category may include some incidents that resulted in the reported category plus some less exclusionary/severe consequences. For example, ALE includes 571 incidents for which OSS was also used, and 127 that included some non-exclusionary consequences. OSS included 12,750 infractions that also involved ISS or less exclusionary consequences. ISS included 6,944 infractions that included non-exclusionary consequences such as corporal punishment and other. Corporal punishment included 651 infractions with some "other" non-exclusionary consequences. The 201 "Other Non-exclusionary" are a combination of multiple categories within the "Total Other" category.

III. Legal Compliance with Act 1329 Ban on OSS for Truancy

In March 2013, the Arkansas state legislature passed Act 1329 (State of Arkansas, 2013), which among other things, banned the use of OSS as a consequence for truancy. This law did not explicitly mention the use of any other alternative solutions to respond to truancy, and did not explicitly ban the use of any other types of consequences including expulsions, referrals to ALE, or ISS. Truancy has represented about 6% of total reported infractions during the past ten years, with about 121,787 reported truancy cases over this period. As indicated in Table 1, while there was an average of about 10,500 infractions per year during the first six years, reports of truancy have increased somewhat in the last four years, to over 15,000 in each of the past two years. The rise in these reports does not necessarily mean that students are actually truant at higher rates than they used to be, as it could simply be a result of increased reporting over time.

To assess compliance with this new policy change, we report the share of truancy incidents that resulted in each type of consequence, over time. Figure 3 shows that the use of OSS as a consequence for truancy has not been eliminated, as Act 1329 intended. Use of OSS for truancy *has* declined, however, from about 14% of all truancy incidents in 2012-13 to about 7% in 2016-17. At the same time, reliance on "other" consequences as a response for truancy has greatly increased from about 9% in 2012-13 to about 38% in 2016-17. Although ISS for truancy was not banned by Act 1329, the use of ISS for truancy has also declined significantly after this policy change was passed from about 75% of cases in 2012-13 to about 53% in 2016-17. Thus, there appears to have been a shift towards not suspending students – either in or out of school – for truancy, yet the policy did not eliminate OSS use for truancy, as intended.

Figure 3: Consequences for truancy (2007-08 to 2016-17)



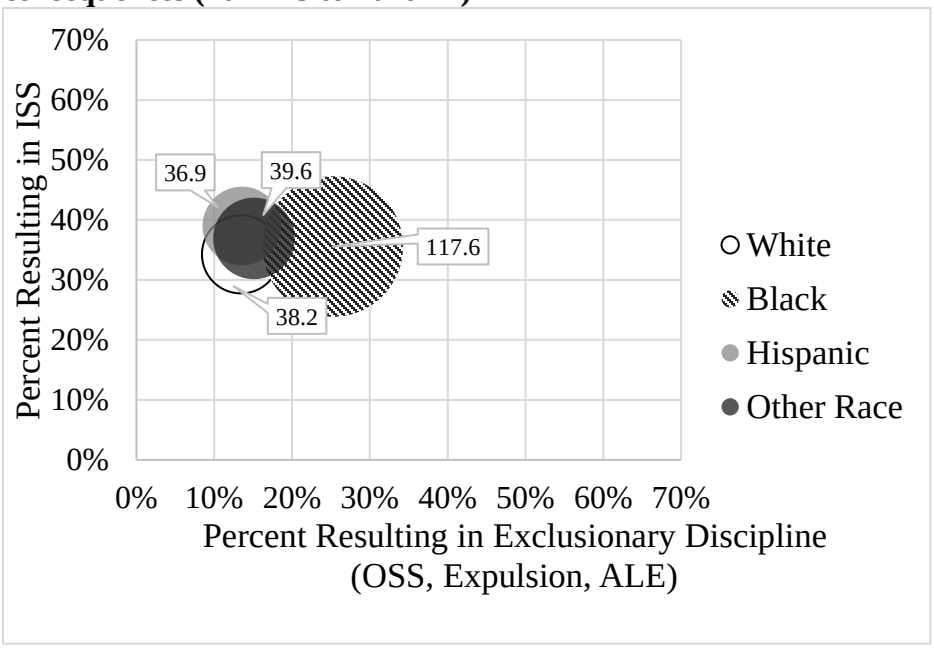
To test for school-level compliance with this policy change, we use the infraction-level data, with the associated consequences, to note which schools used OSS as a consequence for truancy in 2016-17. Specifically, we report the set of 76 schools that had five or more truancy infractions in 2016-17 and reported using OSS in 10% or more of those cases. By focusing on the schools that report at least at these levels, we limit the likelihood that we identify a school that only reported truancy or use of OSS in response as a fluke or reporting error. These 76 schools are listed in Appendix Table A. In addition, we denote, among this list of schools, whether they also used OSS as a consequence for truancy at least once in 2015-16. There were three districts with three or more schools using OSS for truancy in at least 10% of truancy incidents in 2016-17: Little Rock SD (9 schools), Pulaski County Special SD (8 schools), and Watson Chapel SD (3 schools). In addition, 12 schools, including the 9 in Little Rock SD, used OSS in response to truancy for 100% of 2016-17 truancy cases.

IV. Disproportionalities in Student Discipline

Racial disproportionalities in referrals and consequences

To illustrate the racial disparities in both referrals and consequences, we present a series of bubble charts for all infraction types, as well as the five most common infraction types (disorderly conduct, insubordination, other, fighting, and truancy). Each of these bubble charts is produced using the three most recent years of data (2014-15 to 2016-17), to represent the recent discipline climate in the state. Each of these bubble charts (Figures 4-9) displays racial disproportionalities in the number of infractions per 100 students in a group (indicated by the relative size of the bubbles), as well as in the types of consequences received as a result (indicated by the location of the center of the bubble on the vertical and horizontal axes).

Figure 4: Racial disparities in disciplinary referrals (all infractions) and associated consequences (2014-15 to 2016-17)



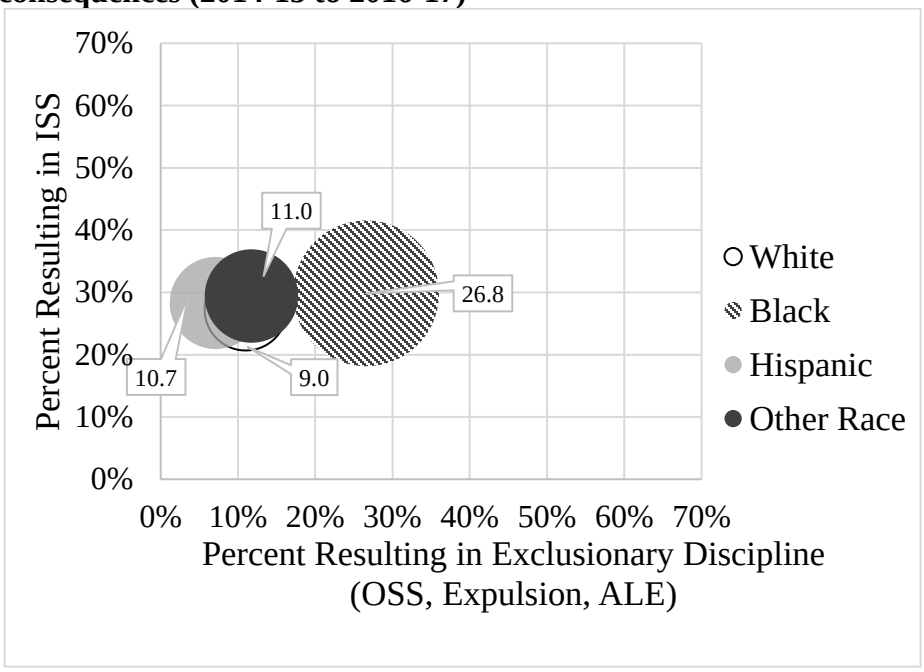
Note. Relative sizes of the bubbles (labelled) indicate the number of infractions per 100 students in racial subgroup.

Figure 4, for example, shows that black students receive about 117.6 infractions per 100 students, or an average of more than one infraction per student per year. This is quite high relative to all other racial groups in the state, who tend to receive about 37-40 referrals per 100 students. Not only are black students in the state much more likely to be referred for disciplinary infractions, they also are more likely to receive exclusionary discipline as a result. Approximately 25% of all infractions for black students result in exclusionary discipline, relative to only about 13.5% for White and Hispanic students, and about 15% for students of other races. Thus, black students in the state are overrepresented both in terms of referrals, and in terms of exclusionary discipline conditional on a referral.

Next, we discuss these same disparities for the most common types of infractions in the state. Figure 5 shows that black students receive 26.8 referrals for disorderly conduct, per 100 students, relative to only about 9.0 referrals per 100 white students. Thus, black students are about 3.0 times as likely as white students in the state to be referred for disorderly conduct. Then, conditional on being written up for this type of infraction, black students are also much more likely than all other racial groups to receive exclusionary discipline.

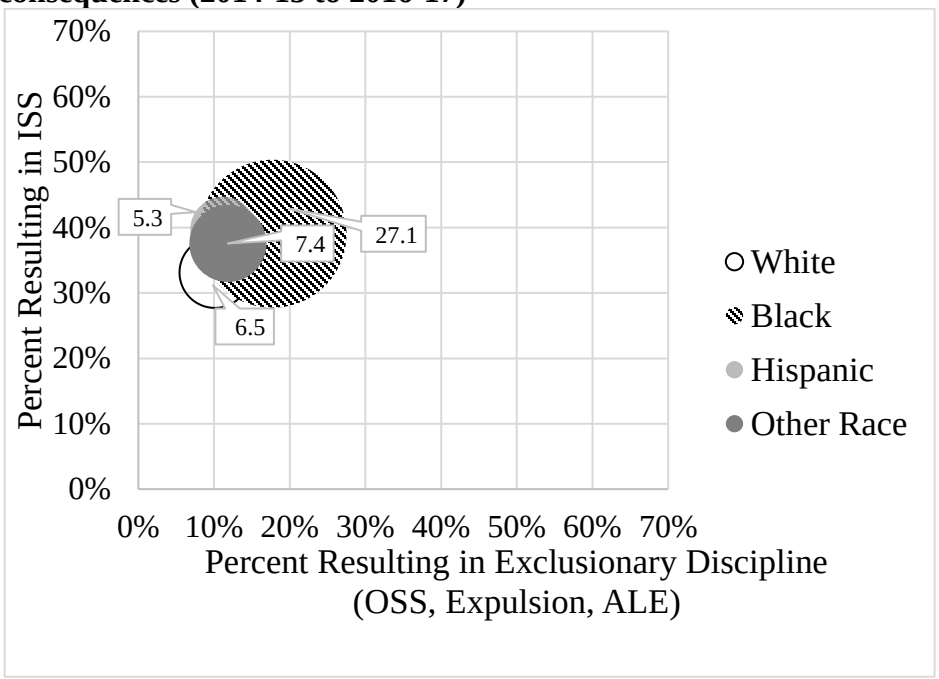
Similar patterns can be seen for the other frequent infraction types (insubordination, other, fighting, and truancy) where black students tend to be overrepresented in both referrals and exclusionary discipline conditional on referral. Only one infraction type, fighting, resulted in exclusionary discipline for another racial subgroup, Hispanic students, at similar rates that Black students experience (over 60% for both groups).

Figure 5: Racial disparities in disciplinary referrals (disorderly conduct) and associated consequences (2014-15 to 2016-17)



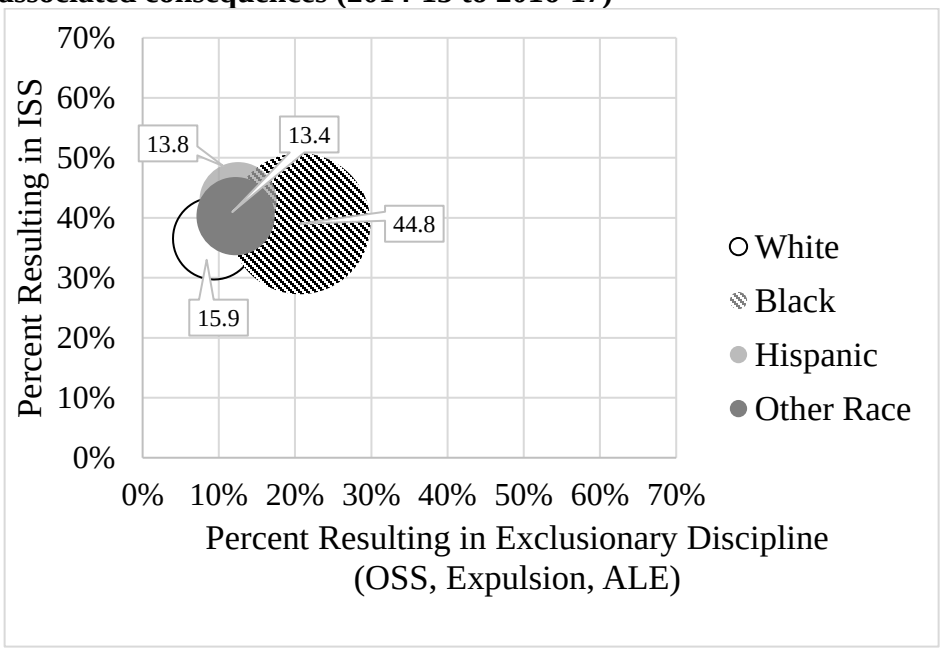
Note. Relative sizes of the bubbles (labelled) indicate the number of infractions per 100 students in racial subgroup.

Figure 6: Racial disparities in disciplinary referrals (insubordination) and associated consequences (2014-15 to 2016-17)



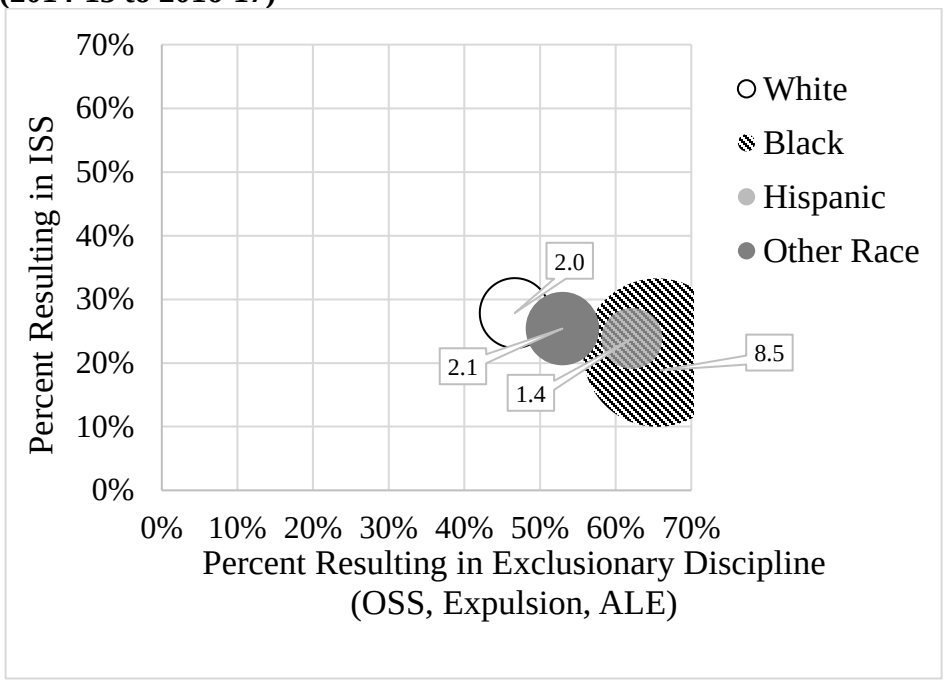
Note. Relative sizes of the bubbles (labelled) indicate the number of infractions per 100 students in racial subgroup.

Figure 7: Racial disparities in disciplinary referrals ("other" non-specified infractions) and associated consequences (2014-15 to 2016-17)



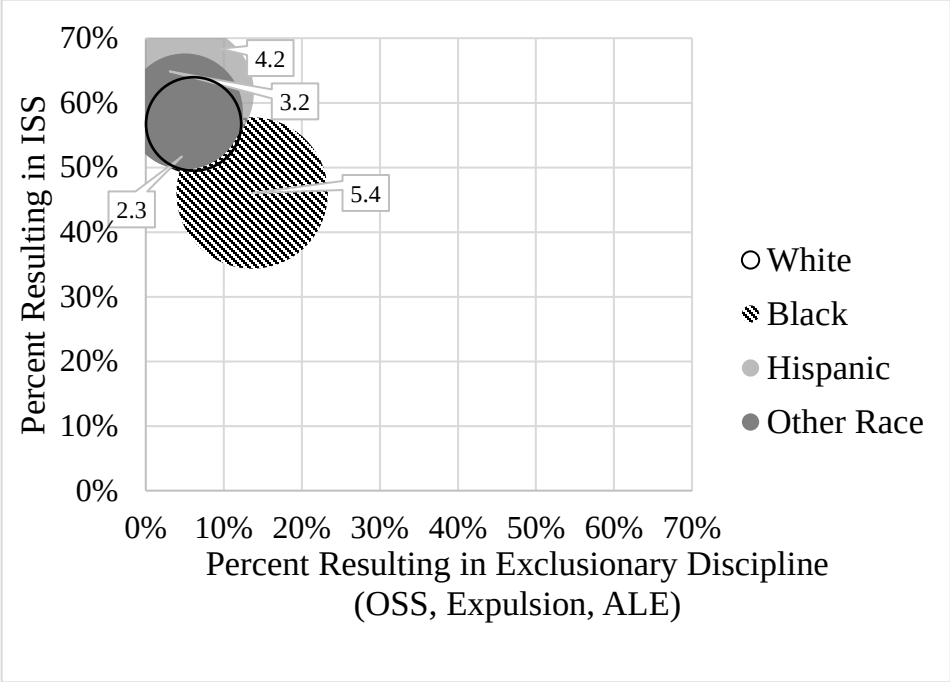
Note. Relative sizes of the bubbles (labelled) indicate the number of infractions per 100 students in racial subgroup.

Figure 8: Racial disparities in disciplinary referrals (fighting) and associated consequences (2014-15 to 2016-17)



Note. Relative sizes of the bubbles (labelled) indicate the number of infractions per 100 students in racial subgroup.

Figure 9: Racial disparities in disciplinary referrals (truancy) and associated consequences (2014-15 to 2016-17)



Note. Relative sizes of the bubbles (labelled) indicate the number of infractions per 100 students in racial subgroup.

Disproportionalities in referrals and consequences for low-income students and students with disabilities

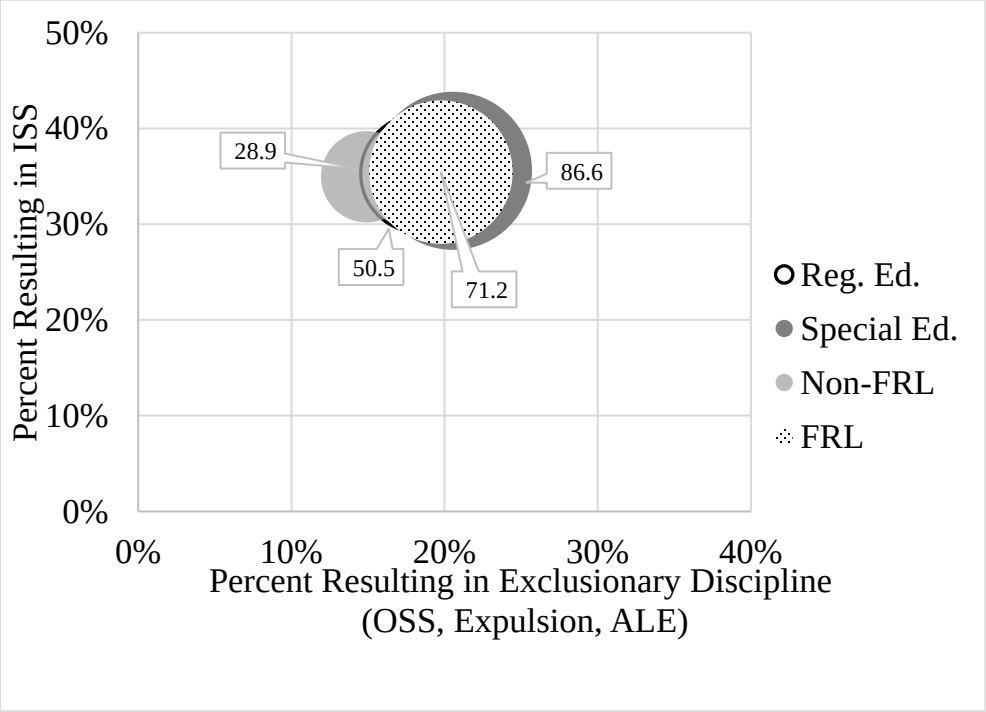
We also present similar figures showing the relative disparities in referrals and consequences for low-income students, as measured by free- and reduced-price lunch (FRL) eligibility, as well as for students with disabilities (SWDs). Figure 10 shows these figures for all infractions, and Figures 11-13 represent the disparities for each of the three most common infraction types (disorderly conduct, insubordination, and "other").

Figure 10 shows that FRL students and students with disabilities are over-represented in referrals. FRL students receive about 71.2 discipline referrals per 100 students, relative to about 28.9 per 100 for their non-FRL peers in the state, indicating their referral rate is about 2.5 times

that of non-FRL students. Special education students receive about 86.6 referrals per 100 students, relative to only 50.5 for their regular education peers, a disparity of about 1.7 times. Similar disparities can be seen for each of the three most common types of infractions (disorderly conduct, insubordination, and other) in Figures 11-13. For all these types of consequences, FRL students and SWDs are more likely to be referred than their peers.

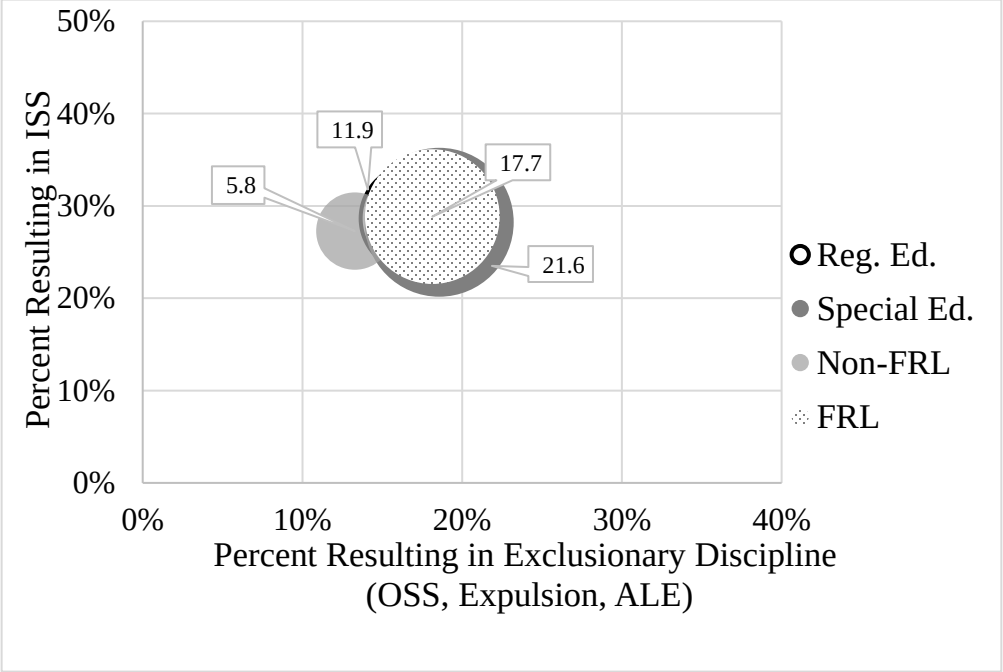
Interestingly, there are less obvious disparities in the types of discipline used when comparing between special education and regular education students. More disparities exist between FRL and non-FRL students. Non-FRL students are less likely to receive exclusionary discipline for these types of infractions than all other groups, on average.

Figure 10: Special education and income disparities in disciplinary referrals (total infractions) and associated consequences (2014-15 to 2016-17)



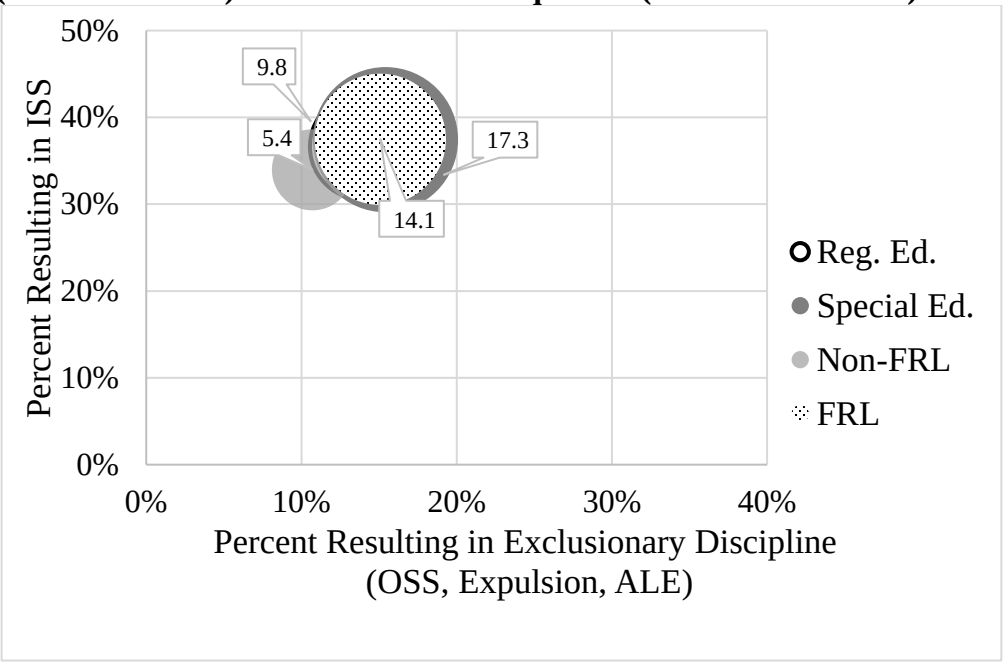
Note. Relative sizes of the bubbles (labelled) indicate the number of infractions per 100 students in each subgroup.

Figure 11: Special education and income disparities in disciplinary referrals (disorderly conduct) and associated consequences (2014-15 to 2016-17)



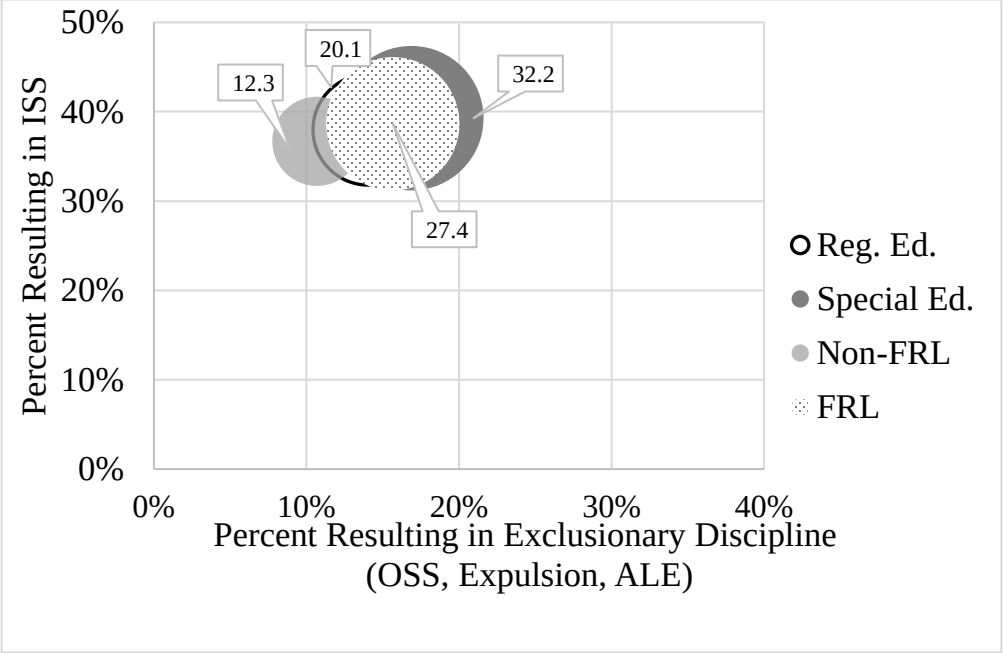
Note. Relative sizes of the bubbles (labelled) indicate the number of infractions per 100 students in each subgroup.

Figure 12: Special education and income disparities in disciplinary referrals (insubordination) and associated consequences (2014-15 to 2016-17)



Note. Relative sizes of the bubbles (labelled) indicate the number of infractions per 100 students in each subgroup.

Figure 13: Special education and income disparities in disciplinary referrals ("other" non-specified infractions) and associated consequences (2014-15 to 2016-17)



Note. Relative sizes of the bubbles (labelled) indicate the number of infractions per 100 students in each subgroup.

V. School Severity Index: Assessing Which Types of Schools are High-Exclusion Schools

The results mentioned so far indicate that exclusionary discipline is administered disproportionately to students of color, low-income students, and special education students, and that this type of discipline is related to a lower likelihood of high school graduation and college enrollment. Therefore, to identify what types of schools might be ideal for programmatic or policy interventions, we construct what we refer to as a "School Severity Index" (Anderson & Ritter, 2017). We use a two-stage residuals approach, focusing on the three most recent years of our data (2014-15 through 2016-17). Essentially, in the first stage, we predict the number of days of exclusionary discipline as a function of the types of factors that reasonably could predict the type or length of consequence received for a particular disciplinary incident. For example, the type of infraction, grade level, school year, and the number of total infractions for that student up

to that point in the school year are all factors that might reasonably affect a school leader's decision about how to respond. Then, we use this model to test which schools, on average, mete out longer or shorter punishments, relative to the state average. This creates a school-by-year level measure of the SSI, which we regress on school characteristics to assess what types of schools administer longer punishments. For more details on this approach, see Appendix B.

We conduct this two stage approach using three different definitions of "exclusionary consequences" to test the robustness of these results:

1. OSS and expulsions
2. OSS, expulsions, and referrals to ALE
3. OSS, expulsions, referrals to ALE, and ISS

In addition, we use two imputation methods to deal with incidents in which the days of the consequence was missing; we either impute the mean number of days or the modal number of days for that type of consequence. Thus, we present six different models in Table 3.

We regress each of these six SSI measures on school characteristics such as the log of school enrollment, demographic characteristics of students served, whether or not the school is an open enrollment charter, the grade level configuration of the school, and school-year fixed effects. The results, in Table 3, tell a relatively consistent story across all columns. All else equal, schools with more black students tend to administer longer consequences. Each 10 percentage point increase in share of black students is associated with approximately 0.012-0.0135 days longer punishments, per incident. Elementary schools use the shortest punishments (relative to other grade configurations), typically about 0.3-0.6 days shorter depending on the type of consequences included in the measure. Further, larger schools tend to administer shorter

punishments. One interesting point, which suggests that schools in the state are moving towards less exclusionary consequences over time, is that on average, schools administered shorter exclusionary punishments in the 2016-17 school year, relative to the 2014-15 school year.

Table 3: School Severity Index as a function of school characteristics (2014-15 to 2016-17)

	(1)	(2)	(3)	(4)	(5)	(6)
SSI based on total days of:	OSS, Expulsion (Mean Imputed)	OSS, ALE, Expulsion (Mean Imputed)	ISS, OSS, Expulsion (Mean Imputed)	OSS, Expulsion (Mode Imputed)	OSS, ALE, Expulsion (Mode Imputed)	ISS, OSS, Expulsion (Mode Imputed)
Log of School Enrollment	-0.040**	-0.040**	-0.040*	-0.040**	-0.040**	-0.041**
	(0.019)	(0.019)	(0.021)	(0.019)	(0.019)	(0.020)
School % Special Ed.	-0.059	-0.042	-0.019	-0.059	-0.044	-0.020
	(0.110)	(0.117)	(0.164)	(0.110)	(0.116)	(0.162)
School % LEP	0.274	0.281	0.299	0.273	0.281	0.301
	(0.271)	(0.280)	(0.290)	(0.271)	(0.277)	(0.287)
School % FRL	-0.054	-0.054	-0.074	-0.054	-0.058	-0.077
	(0.061)	(0.064)	(0.071)	(0.061)	(0.063)	(0.070)
School % Hispanic	-0.246	-0.253	-0.249	-0.245	-0.250	-0.248
	(0.238)	(0.246)	(0.254)	(0.238)	(0.243)	(0.252)
School % Black	0.120***	0.129***	0.135***	0.119***	0.127***	0.133***
	(0.042)	(0.043)	(0.048)	(0.042)	(0.043)	(0.047)
School % Other Minority	0.250	0.257	0.155	0.249	0.252	0.150
	(0.177)	(0.182)	(0.212)	(0.177)	(0.180)	(0.210)
Open Enrollment Charter	0.001	-0.002	-0.072	0.001	-0.001	-0.070
	(0.067)	(0.069)	(0.075)	(0.067)	(0.068)	(0.074)
Middle School	0.301***	0.310***	0.615***	0.301***	0.307***	0.613***
	(0.018)	(0.019)	(0.021)	(0.018)	(0.018)	(0.021)
High School	0.312***	0.313***	0.564***	0.311***	0.314***	0.565***
	(0.023)	(0.023)	(0.025)	(0.023)	(0.023)	(0.025)
Other or Missing Grade Configuration	0.304***	0.313***	0.506***	0.304***	0.310***	0.504***
	(0.037)	(0.038)	(0.039)	(0.037)	(0.038)	(0.039)
2015-16 Year	0.001	0.008	0.007	0.001	0.004	0.003
	(0.014)	(0.014)	(0.015)	(0.014)	(0.014)	(0.014)
2016-17 Year	-0.064***	-0.062***	-0.149***	-0.064***	-0.064***	-0.152***
	(0.013)	(0.013)	(0.014)	(0.013)	(0.013)	(0.013)
Constant	0.701***	0.717***	1.254***	0.702***	0.713***	1.250***
	(0.127)	(0.131)	(0.140)	(0.127)	(0.129)	(0.139)
Observations	2,943	2,943	2,943	2,943	2,943	2,943
Adjusted R-squared	0.173	0.169	0.381	0.173	0.171	0.385

Note. Elementary schools are the reference group for school grade configurations (middle school, high school, and other/missing). 2014-15 school year is the reference group for year. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

VI. Student Absenteeism and Student Discipline

Arkansas' Every Student Succeeds Act (ESSA) plan includes chronic absenteeism as an indicator of student engagement. The state defines a student as chronically absent if he or she misses at least 10% of school days enrolled. We use quarterly attendance data to calculate these measures at a student-by-year level. Note, the rates of chronic absenteeism and percent of days absent may differ from other numbers at the state, because we create these measures at a student level, combining, in some cases, observations from multiple schools. Students enrolled less than ten days are dropped.

In Table 4, we show, by grade level, the percent of students chronically absent, the average percent of days absent, the average number of OSS days, and the correlation between the percent of days absent and OSS days, focusing on the three most recent years (2014-15 to 2016-17). There is a clear correlation between student absenteeism and OSS days, particularly in grades 7-10 ($r = 0.40$ to 0.44), suggesting that schools interested in improving absenteeism might need to consider whether exclusionary discipline such as OSS is contributing to chronic absenteeism and whether there are alternative approaches that would reengage students in the learning environment.

Table 4: Student absenteeism and OSS days, by grade level (2014-15 to 2016-17)

Grade Level	Pct. of students chronically absent	Avg. pct. of days absent	Avg. OSS days (mean imputed)	Correlation between pct. of days absent and OSS days
K	15.4%	5.9%	0.78	0.23
1	12.4%	5.3%	0.86	0.25
2	10.8%	5.0%	0.94	0.29
3	10.1%	4.9%	0.98	0.30
4	10.4%	4.9%	1.10	0.31
5	10.3%	4.8%	1.32	0.28
6	11.1%	4.9%	1.77	0.38
7	11.9%	5.0%	2.03	0.44
8	14.0%	5.4%	2.18	0.43
9	15.4%	5.7%	2.43	0.43
10	16.9%	6.0%	2.00	0.40
11	18.9%	6.5%	1.72	0.32
12	19.7%	6.8%	1.33	0.25

To further demonstrate the relationship between OSS days and chronic absenteeism, Table 5 shows, by grade level, the number of days of OSS for two types of students: chronically absent and not chronically absent. In all grades, those marked as chronically absent have, on average, between 0.13 and 0.64 more days of OSS, with the largest differences in grades 7-10 (0.50 to 0.64 days).

Table 5: Student absenteeism and OSS days, by grade level (2014-15 to 2016-17)

	OSS Days (Mean Imputed)		
Grade Level	Not Chronically Absent Students	Chronically Absent Students	Diff.
K	0.73	0.86	0.13
1	0.79	0.93	0.14
2	0.87	1.02	0.15
3	0.91	1.07	0.17
4	1.02	1.21	0.19
5	1.21	1.46	0.25
6	1.60	1.97	0.37
7	1.77	2.32	0.55
8	1.88	2.44	0.56
9	2.12	2.76	0.64
10	1.75	2.26	0.50
11	1.54	1.89	0.35
12	1.21	1.45	0.24

VII. Relationship Between Exclusionary Discipline and Educational Attainment (High School Graduation and College Enrollment)

To explore the relationships between exposure to exclusionary discipline and educational attainment, we predict multiple outcomes (on-time high school graduation and college enrollment). Specifically, we predict enrollment in any college (two or four year) within one year and within two years of expected high school graduation.

Predicting high school graduation

We predict high school graduation for six cohorts of students we can observe in 8th through 12th grade. These are the cohorts of eighth graders in 2007-08 through 2012-13. We predict on-time high school graduation as a function of the following variables:

- Math and reading achievement scores in 8th grade
- Student demographic characteristics: race, gender, FRL-status in 8th grade, special education status in 8th grade, and limited English proficiency (LEP) status in 8th grade
- Count of exclusionary discipline incidents from 9th grade through 12th grade (we also estimate some models that separate these out by year)
- Binary indicators for number of years observed in the Arkansas public school system between 9th grade and 12th grade (e.g. separate indicators for 1 year, 2 year, etc.)
- In some models, we include binary indicators for the counts of each of 17 infraction types between 9th grade and 12th grade (we also estimate some models that separate these out by year)

The results, in Table 6, indicate that each exclusionary discipline incident a student experiences between grades 9 and 12 is associated with an approximately 0.25 percentage point lower likelihood of graduating on time (columns 1 and 2). This estimate is quite small, but is essentially the relationship between the exclusionary discipline and the likelihood of graduation holding constant all other factors in the model. In columns 3 and 4, we test whether the timing of these consequences might matter, and the results suggest that exclusionary discipline in ninth grade has the strongest predictive power for failure to graduate from high school on time.

Table 6: On-time high school graduation as a function of exclusionary discipline, infractions, and student characteristics

	Dep. Var. = Graduate High School On Time			
	(1)	(2)	(3)	(4)
Total Exclusion Count Grade 9-12	-0.0024***	-0.0026***		
	(0.0004)	(0.0006)		
Exclusion Count in Grade 9			-0.0031***	-0.0015
			(0.0011)	(0.0012)
Exclusion Count in Grade 10			-0.0006	-0.0009
			(0.0010)	(0.0013)
Exclusion Count in Grade 11			-0.0015	-0.0015
			(0.0005)	(0.0013)
Exclusion Count in Grade 12			-0.0004	-0.0010
			(0.0005)	(0.0014)
8th Grade Math Z-Score	-0.0003	-0.0003	0.0009***	0.0009***
	(0.0005)	(0.0005)	(0.0003)	(0.0003)
8th Grade ELA Z-Score	0.0019***	0.0019***	0.0007**	0.0007**
	(0.0005)	(0.0005)	(0.0004)	(0.0004)
Male	0.0038***	0.0038***	-0.0005	-0.0005
	(0.0006)	(0.0006)	(0.0004)	(0.0004)
FRL	-0.0007	-0.0007	-0.0006	-0.0005
	(0.0007)	(0.0007)	(0.0004)	(0.0004)
Special Education	-0.0056***	-0.0055***	-0.0003	-0.0002
	(0.0014)	(0.0015)	(0.0009)	(0.0009)
Limited English Proficiency	0.0007	0.0007	0.0008	0.0008
	(0.0018)	(0.0018)	(0.0011)	(0.0011)
Constant	0.895***	0.895***	0.996***	0.996***
	(0.0440)	(0.0440)	(0.0004)	(0.0004)
Indicators for race/ethnicity	Y	Y	Y	Y
Indicators for num. of yrs. in each grade 9-12	Y	Y	Y	Y
Num. of each infraction type in grades 9-12		Y		
Num. of each infraction type in each grade 9-12				Y
Observations	134,289	134,289	126,682	126,682
Adjusted R-squared	0.462	0.462	0.623	0.623

Note. Indicators for number of years in each grade are separate, by grade-level. Race/ethnicity indicators include black, Hispanic, Asian, Hawaiian/Pacific Islander, Native American/Native Alaskan, and two or more races, with white as the reference group. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Predicting college enrollment

We predict college enrollment within one year and within two years of high school graduation as a function of 8th-12th grade observable data. Students who did not graduate high school are excluded from the sample. We are able to observe eighth grade through two years post-high school for 4 cohorts of students (those who were eighth graders in 2007-08 through 2010-11). Students who were eighth graders in 2007-08 would be in their second year after high school in 2013-14, and those who were eighth graders in 2010-11 would be in their second year after high school in 2016-17 (the last year of our data).

We predict college enrollment as a function of the following variables:

- Math and reading achievement scores in 8th grade
- Student demographic characteristics: race, gender, FRL-status in 8th grade, special education status in 8th grade, and limited English proficiency (LEP) status in 8th grade
- Count of exclusionary discipline incidents from 9th grade through 12th grade (we also estimate some models that separate these out by year)
- Binary indicators for number of years observed in the Arkansas public school system between 9th grade and 12th grade (e.g. separate indicators for 1 year, 2 year, etc.)
- In some models, we include binary indicators for the counts of each of 17 infraction types between 9th grade and 12th grade (we also estimate some models that separate these out by year)

The results of these models, predicting college enrollment within one year and within two years are quite similar to each other (see Table 7). In column 1 of each set, there is a 3.2 – 3.3 percentage point decline in the likelihood of college enrollment for each incident of exclusionary

discipline. These percentage point declines should be compared to an overall one-year enrollment rate of 47.7% and an overall two-year enrollment rate of 50.3% observed in our data. However, in column 2, after controlling for the types of infractions that led to these exclusionary consequences, the magnitude of this relationship is only about one third the size. Even conditional on reported behavioral infractions, the likelihood of enrolling in college is about 1 percentage point lower for each exclusionary consequence. In columns 3 and 4 for each set, we test whether the timing (grade level) of these exclusionary consequences matter. While exclusionary discipline in all four grade levels is related to negative outcomes in column 3 of each set (which does not control for reported infraction types), the results in column 4 of each set, which condition on reported infraction types, suggest that grade nine and grade ten exclusionary discipline are associated with declines in the likelihood of college enrollment, but that exclusionary discipline in the later high school grades are not. This suggests, perhaps, that the early high school years may be an important time for setting students on the right path in terms of discipline and academic outcomes.

Table 7: College enrollment (within one year and within two years) as a function of exclusionary discipline, infractions, and student characteristics

	Dep. Var. = College Enrollment within 1 Year				Dep. Var. = College Enrollment within 2 Years			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Total Excl. Count Grade 9-12	-0.032***	-0.009***			-0.033***	-0.010***		
	(0.001)	(0.002)			(0.001)	(0.002)		
Exclusion Count in Grade 9			-0.022***	-0.009***			-0.025***	-0.011***
			(0.002)	(0.003)			(0.002)	(0.003)
Exclusion Count in Grade 10			-0.035***	-0.017***			-0.037***	-0.019***
			(0.003)	(0.003)			(0.003)	(0.003)
Exclusion Count in Grade 11			-0.044***	-0.002			-0.044***	-0.001
			(0.004)	(0.004)			(0.004)	(0.005)
Exclusion Count in Grade 12			-0.030***	-0.007			-0.027***	-0.005
			(0.004)	(0.005)			(0.004)	(0.005)
8th Grade Math Z-Score	0.081***	0.079***	0.081***	0.079***	0.078***	0.076***	0.078***	0.076***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
8th Grade ELA Z-Score	0.063***	0.061***	0.063***	0.061***	0.065***	0.063***	0.065***	0.063***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Male	-0.070***	-0.063***	-0.070***	-0.063***	-0.069***	-0.062***	-0.069***	-0.062***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
FRL	-0.131***	-0.129***	-0.131***	-0.129***	-0.128***	-0.125***	-0.128***	-0.125***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Special Education	-0.079***	-0.078***	-0.078***	-0.078***	-0.083***	-0.082***	-0.082***	-0.083***
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Limited English Proficiency	-0.028***	-0.026***	-0.028***	-0.025***	-0.027***	-0.025***	-0.027***	-0.025***
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
Constant								
	0.144***	0.138***	0.144***	0.138***	0.139***	0.133***	0.139***	0.133***
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Indicators for race/ethnicity	Y	Y	Y	Y	Y	Y	Y	Y
Indicators for num. of yrs. in each grade 9-12	Y	Y	Y	Y	Y	Y	Y	Y
Num. of each infraction type in grades 9-12		Y				Y		
Num. of each infraction type in each grade 9-12				Y				Y
Observations	103,706	103,706	103,706	103,706	103,706	103,706	103,706	103,706
Adjusted R-squared	0.330	0.336	0.330	0.336	0.347	0.353	0.347	0.353

Note. Indicators for number of years in each grade are separate, by grade-level. Race/ethnicity indicators include black, Hispanic, Asian, Hawaiian/Pacific Islander, Native American/Native Alaskan, and two or more races, with white as the reference group. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

VIII. Discussion and Key Takeaways

This report analyzed a number of key student outcomes related to student discipline in the Arkansas public schools. While the data are only limited to what schools report, there are several meaningful findings from this work. We conclude with a number of key takeaways and recommendations:

1) There has been an increase in reporting of "other" infractions and "other" consequences over time. In 2016-17, additional reporting categories were included, but "other" infractions still represented about 38% of all infractions, and "other" consequences still represented about 19% of all consequences. The state should continue to assess whether the reporting categories reflect the current needs of the state.
2) There has been a decline in reported reliance on OSS, ISS, and corporal punishment over time. Expulsions and referrals to ALE have remained quite rare over the past ten years. While trends away from exclusionary discipline might indicate benefits for students, knowing more about what the "other" consequences are, which increased greatly over the time period, is important for understanding whether this represents a meaningful change for students.
3) Although Act 1329, passed in March 2013, prohibits the use of OSS as a response to truancy, use of OSS for truancy only declined from about 14% of all truancy cases in 2012-13 to about 7% of cases in 2016-17. In 2016-17, 76 schools reported at least five or more truancy infractions and reported using OSS in at least 10% of those cases. Many of these were concentrated in a few districts (e.g. 9 schools in the Little Rock School District and 8 schools in the Pulaski Country Special School District).
4) Disproportionalities by race, free- and reduced- price lunch eligibility, and special education status exist both in terms of the number of referrals for infractions of various types, as well as in the likelihood of receiving exclusionary discipline, conditional on referral for a particular type of infraction. For example, black students receive 117.6 referrals per 100 students, relative to only about 37-40 for white

students, Hispanic students, or students of other races. Then, conditional on being written up for any infraction, Black students receive OSS, expulsions, or referrals to ALE in about 25% of these cases, relative to only about 15% for students of other races.

5) Certain types of schools in the state are more likely to administer lengthy exclusionary punishments: schools with greater proportions of black students, high schools, and middle schools (relative to elementary schools). There also appears to have been a decline in severity used, on average, between 2014-15 and 2016-17.
6) There is a moderate correlation between student absenteeism and OSS days received, with the strongest correlations between grades 7 and 10. Students marked as chronically absent in those grades were about 0.5 to 0.64 more days of OSS on average, compared to those not chronically absent. This suggests that schools seeking to tackle absenteeism may consider discipline reforms as one possible solution.
7) Exclusionary discipline in high school (and particularly ninth grade) is associated with lower likelihood of high school graduation and lower likelihood of enrolling in college conditional on a variety of student characteristics as well as baseline achievement in eighth grade. The magnitudes of these relationships decline after controlling for the behaviors (types of infractions) reported, although there is still a small relationship detected in some cases.

References

Anderson, K. P., & Ritter, G. W. (2017). Disparate use of exclusionary discipline: Evidence on inequities in school discipline from a U.S. state. Education Policy Analysis Archives, 25(49). Retrieved from http://dx.doi.org/10.14507/epaa.25.2787

State of Arkansas (2013). *Act 1329: An act to evaluate the impact of school discipline on student achievement; and for other purposes.* Retrieved from http://www.arkleg.state.ar.us/assembly/2013/2013R/Acts/Act1329.pdf

Appendix Table A: Schools that had at least 5 truancy incidents in 2016-17 of which at least 10% resulted in OSS

				2015-16		2016-17	
School LEA	School Name	District LEA	District Name	Num. Truancy Incidents (2015-16)	Percent Resulting in OSS (2015-16)	Num. Truancy Incidents (2016-17)	Percent Resulting in OSS (2016-17)
6040703	MAUMELLE CHARTER HIGH SCHOOL	6040700	ACADEMICS PLUS SCHOOL DISTRICT	8	12.5%	8	12.5%
1002010	ARKADELPHIA HIGH SCHOOL	1002000	ARKADELPHIA SCHOOL DISTRICT	42	0.0%	80	11.2%
6301003	BAUXITE MIDDLE SCHOOL	6301000	BAUXITE SCHOOL DISTRICT	5	0.0%	5	20.0%
5201002	BEARDEN HIGH SCHOOL	5201000	BEARDEN SCHOOL DISTRICT	9	11.1%	20	15.0%
401010	LINCOLN JUNIOR HIGH SCHOOL	401000	BENTONVILLE SCHOOL DISTRICT	10	0.0%	9	11.1%
4201003	BOONEVILLE JR HIGH SCHOOL	4201000	BOONEVILLE SCHOOL DISTRICT	20	0.0%	14	14.3%
6303026	BRYANT MIDDLE SCHOOL	6303000	BRYANT SCHOOL DISTRICT	9	0.0%	19	10.5%
4304004	CABOT JUNIOR HIGH SOUTH	4304000	CABOT SCHOOL DISTRICT	N/A	N/A	26	11.5%
2402007	CHARLESTON HIGH SCHOOL	2402000	CHARLESTON SCHOOL DISTRICT	3	100.0%	7	42.9%
1201002	CONCORD HIGH SCHOOL	1201000	CONCORD SCHOOL DISTRICT	3	0.0%	8	12.5%
2301016	RUTH DOYLE MIDDLE SCHOOL	2301000	CONWAY SCHOOL DISTRICT	7	14.3%	8	12.5%
201006	CROSSETT HIGH SCHOOL	201000	CROSSETT SCHOOL DISTRICT	24	45.8%	24	16.7%
201008	CROSSETT MIDDLE SCHOOL	201000	CROSSETT SCHOOL DISTRICT	19	15.8%	14	14.3%
6701005	DEQUEEN JUNIOR HIGH SCHOOL	6701000	DEQUEEN SCHOOL DISTRICT	33	39.4%	32	12.5%
5901002	DES ARC HIGH SCHOOL	5901000	DES ARC SCHOOL DISTRICT	14	7.1%	5	20.0%
3502009	ROBERT F MOREHEAD MIDDLE SCHOOL	3502000	DOLLARWAY SCHOOL DISTRICT	N/A	N/A	9	88.9%
802007	EUREKA SPRINGS HIGH SCHOOL	802000	EUREKA SPRINGS SCHOOL DISTRICT	4	0.0%	23	21.7%
7203020	FAYETTEVILLE HIGH SCHOOL	7203000	FAYETTEVILLE SCHOOL DISTRICT	641	10.3%	347	10.1%
6201011	FORREST CITY HIGH SCHOOL	6201000	FORREST CITY SCHOOL DISTRICT	48	52.1%	61	55.7%
4603010	FOUKE HIGH SCHOOL	4603000	FOUKE SCHOOL DISTRICT	7	0.0%	6	16.7%
4603011	PAULETTE SMITH MIDDLE SCHOOL	4603000	FOUKE SCHOOL DISTRICT	5	40.0%	5	60.0%
3002009	GLEN ROSE HIGH SCHOOL	3002000	GLEN ROSE SCHOOL DISTRICT	2	0.0%	6	16.7%
6602047	GREENWOOD FRESHMAN CENTER	6602000	GREENWOOD SCHOOL DISTRICT	N/A	N/A	7	14.3%
6602043	GREENWOOD HIGH SCHOOL	6602000	GREENWOOD SCHOOL DISTRICT	32	0.0%	20	10.0%
2304022	GUY-PERKINS HIGH SCHOOL	2304000	GUY-PERKINS SCHOOL DISTRICT	7	0.0%	7	14.3%
203017	HAMBURG MIDDLE SCHOOL	203000	HAMBURG SCHOOL DISTRICT	15	6.7%	7	14.3%
2903011	YERGER JUNIOR HIGH SCHOOL	2903000	HOPE SCHOOL DISTRICT	20	25.0%	36	38.9%
6004009	JACKSONVILLE HIGH SCHOOL	6004000	JACKSONVILLE NORTH PULASKI SCHOOL DIST.	N/A	N/A	167	27.5%
6004008	JACKSONVILLE MIDDLE SCHOOL	6004000	JACKSONVILLE NORTH PULASKI SCHOOL DIST.	N/A	N/A	161	21.7%
903018	LAKESIDE HIGH SCHOOL	903000	LAKESIDE SCHOOL DIST(CHICOT)	17	41.2%	18	16.7%
2606043	LAKESIDE MIDDLE SCHOOL	2606000	LAKESIDE SCHOOL DIST(GARLAND)	19	0.0%	9	22.2%
3810027	WALNUT RIDGE HIGH SCHOOL	3810000	LAWRENCE COUNTY SCHOOL DISTRICT	37	21.6%	33	18.2%
6001001	CENTRAL HIGH SCHOOL	6001000	LITTLE ROCK SCHOOL DISTRICT	5	100.0%	11	100.0%
6001077	CLOVERDALE MIDDLE SCHOOL	6001000	LITTLE ROCK SCHOOL DISTRICT	N/A	N/A	13	100.0%
6001002	HALL HIGH SCHOOL	6001000	LITTLE ROCK SCHOOL DISTRICT	27	100.0%	37	100.0%
6001013	HENDERSON MIDDLE SCHOOL	6001000	LITTLE ROCK SCHOOL DISTRICT	5	100.0%	13	100.0%
6001063	J.A. FAIR HIGH SCHOOL	6001000	LITTLE ROCK SCHOOL DISTRICT	21	100.0%	14	100.0%
6001062	MABELVALE MIDDLE SCHOOL	6001000	LITTLE ROCK SCHOOL DISTRICT	3	100.0%	7	100.0%
6001003	MANN MAGNET MIDDLE SCHOOL	6001000	LITTLE ROCK SCHOOL DISTRICT	7	100.0%	9	100.0%
6001064	MCCLELLAN MAGNET HIGH SCHOOL	6001000	LITTLE ROCK SCHOOL DISTRICT	78	100.0%	41	100.0%

Appendix Table A Cont'd.: Schools that had at least 5 truancy incidents in 2016-17 of which at least 10% resulted in OSS

				2015-16		2016-17	
School LEA	School Name	District LEA	District Name	Num. Truancy Incidents (2015-16)	Percent Resulting in OSS (2015-16)	Num. Truancy Incidents (2016-17)	Percent Resulting in OSS (2016-17)
6001005	PARKVIEW MAGNET HIGH SCHOOL	6001000	LITTLE ROCK SCHOOL DISTRICT	8	100.0%	13	100.0%
4712044	MANILA HIGH SCHOOL	4712000	MANILA SCHOOL DISTRICT	4	0.0%	6	33.3%
1804014	MARION JUNIOR HIGH SCHOOL	1804000	MARION SCHOOL DISTRICT	11	27.3%	6	50.0%
5604018	MARKED TREE MIDDLE SCHOOL	5604000	MARKED TREE SCHOOL DISTRICT	9	0.0%	11	45.5%
7403013	MCCRORY HIGH SCHOOL	7403000	MCCRORY SCHOOL DISTRICT	13	23.1%	5	20.0%
1611041	NETTLETON JUNIOR HIGH SCHOOL	1611000	NETTLETON SCHOOL DISTRICT	23	0.0%	10	10.0%
3005030	OUACHITA HIGH SCHOOL	3005000	OUACHITA SCHOOL DISTRICT	3	0.0%	6	33.3%
2404017	OZARK HIGH SCHOOL	2404000	OZARK SCHOOL DISTRICT	18	11.1%	12	33.3%
407703	PEA RIDGE MANUF. & BUSINESS ACAD.	407000	PEA RIDGE SCHOOL DISTRICT	9	0.0%	12	16.7%
3505044	JACK ROBEY MIDDLE SCHOOL	3505000	PINE BLUFF SCHOOL DISTRICT	50	80.0%	31	71.0%
3505042	PINE BLUFF HIGH SCHOOL	3505000	PINE BLUFF SCHOOL DISTRICT	662	1.4%	60	73.3%
6103010	POCAHONTAS HIGH SCHOOL	6103000	POCAHONTAS SCHOOL DISTRICT	N/A	N/A	5	20.0%
5804014	POTTSVILLE HIGH SCHOOL	5804000	POTTSVILLE SCHOOL DISTRICT	15	6.7%	23	73.9%
6003095	CLINTON ELEMENTARY SCHOOL	6003000	PULASKI COUNTY SPECIAL SCHOOL DISTRICT	1	100.0%	9	22.2%
6003120	FULLER MIDDLE SCHOOL	6003000	PULASKI COUNTY SPECIAL SCHOOL DISTRICT	112	17.9%	17	29.4%
6003102	HARRIS ELEMENTARY SCHOOL	6003000	PULASKI COUNTY SPECIAL SCHOOL DISTRICT	1	100.0%	9	44.4%
6003127	JOE T. ROBINSON HIGH SCHOOL	6003000	PULASKI COUNTY SPECIAL SCHOOL DISTRICT	377	8.5%	414	13.8%
6003151	MAUMELLE HIGH SCHOOL	6003000	PULASKI COUNTY SPECIAL SCHOOL DISTRICT	315	18.1%	261	20.7%
6003149	MAUMELLE MIDDLE SCHOOL	6003000	PULASKI COUNTY SPECIAL SCHOOL DISTRICT	65	6.2%	56	14.3%
6003108	OAK GROVE ELEMENTARY SCHOOL	6003000	PULASKI COUNTY SPECIAL SCHOOL DISTRICT	25	12.0%	16	31.3%
6003125	WILBUR D. MILLS HIGH SCHOOL	6003000	PULASKI COUNTY SPECIAL SCHOOL DISTRICT	641	11.1%	453	15.2%
6053703	PREMIER HIGH SCHOOL OF LR	6053700	RESPONSIVE ED SOL. PREMIER HIGH SCHOOL OF LR	1	100.0%	8	100.0%
6054703	QUEST MIDDLE SCHOOL OF LR	6054700	RESPONSIVE ED SOL. QUEST MIDDLE SCHOOL OF LR	22	45.5%	23	56.5%
7307032	RIVERVIEW HIGH SCHOOL	7307000	RIVERVIEW SCHOOL DISTRICT	74	32.4%	55	16.4%
406703	SILOAM SPRINGS HS CONV. CHARTER	406000	SILOAM SPRINGS SCHOOL DISTRICT	173	13.3%	151	10.6%
406049	SILOAM SPRINGS MIDDLE SCHOOL	406000	SILOAM SPRINGS SCHOOL DISTRICT	7	28.6%	7	28.6%
1507037	MORRILTON JUNIOR HIGH SCHOOL	1507000	SOUTH CONWAY COUNTY SCHOOL DISTRICT	4	0.0%	16	12.5%
7207062	HAR-BER HIGH SCHOOL	7207000	SPRINGDALE SCHOOL DISTRICT	12	41.7%	15	33.3%
104025	STUTTGART HIGH SCHOOL	104000	STUTTGART SCHOOL DISTRICT	42	4.8%	38	10.5%
4605024	COLLEGE HILL MIDDLE	4605000	TEXARKANA SCHOOL DISTRICT	15	6.7%	31	12.9%
4605703	WASHINGTON ACADEMY	4605000	TEXARKANA SCHOOL DISTRICT	13	100.0%	8	100.0%
1705034	VAN BUREN FRESHMAN ACADEMY	1705000	VAN BUREN SCHOOL DISTRICT	N/A	N/A	11	27.3%
3509066	COLEMAN ELEMENTARY SCHOOL	3509000	WATSON CHAPEL SCHOOL DISTRICT	3	0.0%	9	11.1%
3509067	WATSON CHAPEL HIGH SCHOOL	3509000	WATSON CHAPEL SCHOOL DISTRICT	126	8.7%	136	37.5%
3509068	WATSON CHAPEL JR. HIGH SCHOOL	3509000	WATSON CHAPEL SCHOOL DISTRICT	17	17.6%	114	11.4%
1803703	ACADEMIES OF W. MEMPHIS CHARTER	1803000	WEST MEMPHIS SCHOOL DISTRICT	11	100.0%	5	100.0%

Appendix B: Analytic methods for two-stage School Severity Index

To assess whether certain types of schools tend to assign longer punishments for similar types of infractions, we use a two-stage residuals analysis approach. In the first stage, we predict the number of days of exclusionary discipline as a function of factors related to a particular disciplinary incident that might reasonably predict the type (exclusionary or not) and length of consequence received. In this first stage, we do not include student demographic information other than grade level, which could be associated with the type or severity of consequence used.

The first stage model predicts days punished as the following function:

$$DaysPunished_i = f(\tau_i, \phi_i, \lambda_t, \alpha_i, \varepsilon_i)$$

where i indexes at the disciplinary incident level, $DaysPunished_i$ is the total number of days of punishment, τ_i is a vector of indicators for the 17 infraction types, ϕ_i is a vector of indicators for whether the infraction was the first, second, third, etc., for that student that year (a total of 10 indicators for 1-9 and 10 or more), λ_t is a vector of school-year indicators for 2015-16 and 2016-17, with 2014-15 as the reference group, α_i is a vector of grade-level indicators, and ε_i is the infraction-level idiosyncratic error (clustered at the student level).

We estimate this model using three different definitions of "days punished" to test the robustness of these results to summing days across the following categories of consequences:

1. OSS and expulsions
2. OSS, expulsions, and referrals to ALE
3. OSS, expulsions, referrals to ALE, and ISS

In addition, we use two approaches to deal with incidents in which the consequence days were not reported; we impute the mean or the modal number of days for that consequence type.

After estimating each of these six models, in each case, the residuals generated by the model are averaged at a school-by-year level to produce a measure of whether a school, on average, gave out longer punishments (residuals greater than 0) or shorter punishments (residuals less than 0), relative to the state average, for a similar type of infraction for a student in the same grade with a similar number of past disciplinary infractions. We refer to these six different residual types as various measures of a School Severity Index (SSI).

In the second stage, we predict the SSI as a function of school-level demographic characteristics to assess which school characteristics are associated with disciplinary practices:

$$SSI_{st} = f(X_{st}, \lambda_t, \varepsilon_{st})$$

Where s indexes at the school level, X_{st} is a vector of school level characteristics (log of enrollment, an indicator for open-enrollment charter schools, indicators for middle, high school, or other school grade-level types (with elementary schools as the reference group), and the percent of the student population that is FRL-eligible, percent of students by race, percent

receiving special education services, percent limited English proficient (LEP), λ_t is vector of school-year indicators, and ε_{st} is the school-level idiosyncratic error.