

Concerning Discipline

**Examining Differences
in Disciplinary Practices
between Charter and
Traditional Public Schools**

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Do charter schools disproportionately use harsher disciplinary practices — particularly exclusionary practices — than traditional public schools? In recent years, this has become a particular concern among researchers, policymakers, and the media (Denice, Gross, & Rausch, 2015; Kern & Kim, 2016). A cover story headline in *Education Week*, for example, announced: “Charter schools’ discipline policies face scrutiny” (Zubrzycki, Cavanagh, & McNeil, 2013, p. 1). The article was accompanied by a large graphic that compared suspension and expulsion rates in charters and neighborhood schools in some of the country’s largest school districts. This increasing concern, however, has produced few empirical analyses (Johnson et al., 2016).

The attention to charter school disciplinary practices stems from a concern about exclusionary discipline more generally (Denice et al., 2015). Exclusionary discipline is commonly understood to mean any disciplinary action that removes or excludes students from their usual educational setting (Kern & Kim, 2016).

Although these practices have a place — particularly in creating safe learning environments — they have at least two significant downsides for excluded students: loss of learning opportunities and long term negative consequences, such as increased likelihood of dropping out or coming into contact with the criminal justice system (Black, 2016; Curran, 2019; Kern & Kim, 2016; Perry & Morris, 2014; Skiba, Arredondo, & Williams, 2014). Such consequences have compelled school leaders and policy makers to consider alternatives to exclusionary discipline (Gross, Tuchman, & Yatsko, 2016).

The notion that charter schools would disproportionately engage in such practices runs counter to the expectation of these public schools of choice. From the beginning, charter schools were intended, among other things, to serve as laboratories for innovation, providing opportunities for the larger public school sector to learn and improve (Johnson et al., 2016). If charters are instead relying on disciplinary practices that are increasingly proving inefficient, that means they are at least failing in their intent of innovation and, worse, potentially causing harm to students.

Evidence on Charter/TPS differences in Discipline

To date, the evidence is decidedly mixed. Some suggest suspension and expulsion rates are greater in charters compared to traditional public schools (TPS). Using the federal 2011-12 Civil Rights Data Collection (CRDC), Losen, Keith, Hodson, and Martinez (2016) found charter schools suspended 7.8% of all students enrolled, compared to non-charter schools, at 6.7%. Two years later, the same data continued to show charter schools suspended a greater percentage of students than TPS, although charter suspension rates were trending downward (Kern & Kim, 2016). At a state level, Angrist, Pathak, and Walters (2013) estimated urban charter middle school attendance in Massachusetts was associated with a higher number of days suspended compared to urban traditional public schools. Specifically, urban charter attendance was estimated to increase suspensions by 0.7 days in middle school and more than a full day in high school.

At a micro level, Johnson, Johnson, Richman, Demers, Gentile, and Lundquist (2016) studied disciplinary practices at the Ewing Marion Kauffman Charter School, drawing comparisons to other schools in Kansas City. Results indicated the Kauffman School suspended students at significantly higher rates compared with other schools in Kansas City. Almost half (48%) of Kauffman 5th-grade students received at least one suspension during the year, compared with 18% of 5th-graders districtwide. Kauffman in-school and out-of-school suspension rates were 28 and 22 percentage points higher than districtwide rates, respectively. Similarly, 48% of Kauffman 6th-grade students received at least one suspension during the year, compared with 23% of 6th graders districtwide. Both in-school and out-of-school suspensions were higher for Kauffman 6th graders. Approximately half (51%) of 7th-grade Kauffman students were suspended, compared with 33% of 7th graders districtwide. In-school suspensions appeared to drive the higher percentage of 7th graders receiving suspensions at the Kauffman School, as the percentage of students receiving an out-of-school suspension did not differ between Kauffman and district 7th graders. The authors concluded the differences could be due to (1) stricter discipline policies at the Kauffman School, which might result in the issuing of suspensions for less-severe infractions than at other schools; (2) the longer school day and school year at the Kauffman School, which provides more opportunities for students to misbehave and for suspensions to be issued; or (3) a larger number of behavior problems from Kauffman students than comparison students.

Such findings are not ubiquitous, however. In a national study, Gleason, Clark, Tuttle, and Dwoyer (2010) found students who attended oversubscribed charter schools were equally likely to be suspended during the school year compared to students who also applied but were not admitted to these schools. At the city level, Gross, Tuchman, and Yatsko (2016) found although charter schools in Washington, DC, reported greater suspension rates, they also showed a greater decline in those rates. In charter schools, short-term suspension rates between 2013 and 2014 declined by almost 3 percentage points relative to comparable TPS. The trend was similar for expulsions. Charter schools expelled students at a higher average rate than did TPS but also saw deeper declines in expulsion.

At the district level, Imberman (2011) used student-level data from the largest district in the southwest United States to analyze differences in school discipline metrics between charters and TPS. Discipline was measured as in-school suspension or stricter forms of punishment. He found in schools that begin as charters, as opposed to convert to charters, students receive fewer disciplinary infractions—0.5 to 0.8 instances per year compared to a precharter mean of 1.1. He further examined student discipline among students who left charters and returned to TPS. Results indicated more infractions after returning to TPS.

Racial/Ethnic Disparities in Discipline

In addition to aggregate differences in measures of discipline between charters and TPS, disparities based on race/ethnicity have drawn particular scrutiny. The root of such concern is research on disciplinary disparities more generally. A wide body of research suggests Black and LatinX students experience exclusionary discipline at rates greater than White peers (Anyon et al., 2014; Gregory & Fergus, 2017; Morris & Perry, 2016; R. J. Skiba et al., 2014). Lacoé and Steinber (2019) observed gaps in suspension rates between Black and White students have grown over time, doubling between 1989 and 2010. Data from the U.S. Department of Education Office for Civil Rights (Civil Rights Data Collection, 2014) illustrates a pattern of disproportionality in how discipline is meted out in schools based on race/ethnicity. Although Black students account for 16% of the student population, 32-42% of them were either suspended or expelled, while only 31-40% of White students were either suspended or expelled, despite comprising 51% of the student population.

Specific to charter/TPS differences, evidence is scant. Losen et al (2016) analyzed 2012 CDRC data and found nationally Black and Asian students in charters were consistently suspended at greater rates than those in TPS, but that was not so for other students of color, such as LatinX or Native Americans. Losen et al's analysis was cross sectional, but Gross et al's (2016) was longitudinal. They found charter schools showed statistically significant declines in the suspension rate of Black students, although their analysis was limited to two cities.

Study Context

As this rather sparse evidence suggests, concern about the disciplinary practices of charter schools is not informed by a large and robust body of research. We sought to contribute more to this important issue by using statewide data from Colorado to examine whether charter schools disproportionately use harsher disciplinary practices — particularly exclusionary practices — than traditional public schools. Colorado makes for an interesting study context for several reasons.

First, Colorado allowed for the creation of charter schools almost from the beginning of these public schools of choice. Minnesota adopted the first charter law in 1991, and Colorado adopted its charter law in 1993. Presently, more than 200 charter schools operate in Colorado, serving the educational needs of more than 100,000 students (Schlieman, 2016). Second, Colorado has seen its share of national attention for its disciplinary practices. Some of this came as a result of suspensions or expulsions that seemed inconsistent or even inexplicable. For example, a Colorado first-grader who sang lyrics from the song “Sexy and I Know It” to a peer was suspended for sexual harassment (CNN Wire Staff, 2012). In Grand Junction, a third-grade girl was suspended for violating the school's dress code after shaving her head to express solidarity with a friend battling cancer (Lofholm, 2014). A second grade Loveland student was suspended for throwing an imaginary grenade during recess while “trying to save the world from evil” (Maher, 2013). In Colorado Springs, a severely disabled student was suspended after his mother accidentally packed yogurt mixed with medical marijuana in his lunchbox (Cloos, 2015). As Griffin (2017) reported, in one school year, minor misbehaviors, such as disobedience, defiance, and “repeated interference” accounted for 85% of the 80,526 out-of-school suspensions in Colorado. Specific to charter schools, a Denver charter made national headlines when it was reported more than 1 in 3 students at the Knowledge Is Power Program's Northeast Denver Middle School were suspended — more than any of Denver's public schools that year (Kellogg, 2019).

Third, Colorado was among the first states to adopt school discipline reforms statewide (Freeman, 2014; North Forty News, 2014; Wachtel, 2012). House Bill 12-1345, known as the School Finance and School Discipline Bill, was signed by Gov. John Hickenlooper on May 19, 2012. The bill eliminated zero tolerance policies and, as discussed in more detail below, required school districts to incorporate disciplinary interventions to reduce the number of expulsions and referrals to law enforcement and to create intervention approaches that minimize student exposure to the criminal justice system.

Colorado’s Discipline Policies. The new bill changed the disciplinary policies contained within the state’s statutes governing school discipline: C.R.S. 22-33-106(1.2). Every school district in Colorado (including charter schools) must implement “proportionate” discipline in order to reduce the number of suspensions, expulsions, and referrals to law enforcement. Districts are required to implement prevention strategies and other approaches designed to minimize student absence and exposure to the juvenile and criminal justice system. Specific to the severest form of discipline, expulsion should be the last step taken in the disciplinary process, and even then only if a behavior plan has failed to solve the problem. School districts must employ policies designed to work with parents or guardians and with state agencies and community-based nonprofit organizations to develop alternatives to help students at risk of expulsion before it becomes necessary step and to support students unable to avoid expulsion with educational alternatives.

Moreover, state law places time limits on suspensions and expulsions. No school is permitted to expel or deny admission to a student for any period extending beyond one year nor suspend a student for more than 25 days. TPS boards and charter boards are ultimately responsible for determining each school’s suspension and expulsion policy and implementation (American Institutes for Research, n.d.). Nonetheless, Colorado state law provides a short list of circumstances under which a child may be suspended or expelled for cause in accordance with time limits and other provisions of state law. The circumstances include willful disobedience or open or persistent defiance of authority; willful destruction or defacement of property; behavior detrimental to the safety and wellbeing of others; or declaration as a “habitually disruptive” student (American Institutes for Research, n.d.). “Habitually disruptive” is clearly defined as a student who has engaged in material and substantive disruption on school grounds or at a school event three or more times. Other reasons include theft, defamation of a teacher or other staff member, carrying a firearm facsimile, preventing the education of others, possession of a dangerous weapon not including firearms, and drug possession, use, or sales. Colorado state law provides only one instance in which expulsion is mandatory: Possession of a firearm on school property carries a penalty of a mandatory one-year expulsion, with the provision for a case-by-case exception made only by the school district’s superintendent.

Additional Colorado policy encourages public schools, including charters, to explore several specific factors before suspending or expelling students. These factors, under C.R.S. 22-33-106(1.2), include the student’s age, disciplinary history, disabilities, seriousness of the violation, threat to others, and whether a lesser intervention might effectively address the violation. Alternative discipline categories in Colorado can include in-school suspension, classroom removal, mediation, counseling, and other positive behavioral intervention. Colorado legislative language specifies the use of restorative justice as a school’s first consideration to remediate offenses such as interpersonal conflicts, bullying, verbal and physical conflicts, theft, damage to property, class disruption, harassment and internet harassment, and attendance issues. Restorative justice involves mediation and counseling between the student, parents or guardians, the student’s teachers, school principals, the student’s school counselor, and a board representative approaching the violation by helping the student understand their actions in a broader, communal context.

Finally, because they are public schools, charter schools, like TPS, are required to comply with federal and state statutes, laws, and policies governing school discipline. Regulations governing the use of exclusionary practices in public schools cannot be independently determined and governed in the way of many other charter school operational functions. Differences between TPS and charter school discipline policy implementation exist only in the ways in which positive behavioral intervention programs are utilized at the individual school level (American Institutes for Research, n.d.; Schlieman, 2016). Yet, because charter school processes are operationally independent of local school boards—and given that TPS and charter boards are responsible for determining each school’s suspension and expulsion policies and practices—implementation and enforcement of policies can be inconsistent, both between TPS and charters and across all public schools more generally (Freeman, 2014; Lee, 2014). This leaves open the possibility that charters exhibit different disciplinary practices than TPS, despite the 2012 reform.

Methods

Therefore, this study was guided by two primary questions:

1. Is there a statistically significant difference in disciplinary metrics between charter schools and traditional public schools?
2. Are differences in discipline metrics between charter schools and traditional public schools moderated by schools’ percentage of racial/ethnic minorities?

Data and Sample

Data for the study were provided by the Colorado Department of Education. The disciplinary metrics of interest include the annual number of students that receive the following, measured at the school level: classroom removal, in-school suspension, out-of-school suspension, expulsion, law enforcement referral, other disciplinary action, and unduplicated count of students disciplined. Most of these disciplinary procedures are well known, but a few would benefit from definition. Law enforcement referrals generally stem from student behaviors that rise to a level of criminality or something similar that requires law enforcement investigation. Unduplicated counts represent the number of students who receive some form of disciplinary action. Some student behaviors result in more than one disciplinary action. Expulsion, for example, is preceded by suspension. Unduplicated counts remove such multiple actions. Each disciplinary type was converted to annual percentages by dividing the respective metrics by total school enrolment.

As described in greater detail below, the study’s analyses controlled for demographic profiles of the schools. Similar to Gross, Tuchman, and Yatsko (2016), the profiles included percentage of racial/ethnic minority students, percentage of students that qualified for free and reduced lunch, grades served in the school, and school size, all of which have been shown to be related to differences in the use of disciplinary procedures (Han & Akiba, 2011). We sought to use school performance as measured by student achievement, but state assessments changed significantly during the period of analysis, precluding their use.

The sample ($n = 1843$; charter $n = 208$) included almost all charter and traditional public schools in Colorado from 2011-12 to 2016-17. We excluded schools known not to serve the general population (e.g., correctional facilities) or purely online schools, since disciplinary actions do not have the same

application in such schools. Of course, schools — particularly charter schools — opened or closed during the study period, and some schools did not report data in certain years. This means the sample is an unbalanced panel, with some schools present in all years and others present only in a few years.

Analyses

Differences between charters and TPS were analyzed using OLS regression in a series of models. The first model analyzed differences after controlling for percentage of racial/ethnic minority students, percentage of students that qualified for free and reduced lunch, grades served in the school, and school size. This model included year fixed effects. The model took the form:

$$Y = \beta_0 + \beta_1(\text{charter}) + X + \phi + e$$

where

Y = disciplinary metrics

X = control variables (percentage of racial/ethnic minority students, percentage of students that qualified for free and reduced lunch, grades served in the school, and school size)

Φ = year fixed effects

e = error

The second model added to Model 1 an interaction variable to measure research question 2. Specifically, this variable interacted school type (charter/TPS) with percentage of racial/ethnic minority students. If, as some prior literature suggests, racial/ethnic minority students in charter schools are disciplined disproportionately, we should expect to see charters with greater percentages of racial/ethnic minority students reporting greater percentages on the disciplinary metrics. The model took the form:

$$Y = \beta_0 + \beta_1(\text{charter}) + \beta_2(\text{charter} * \text{minority percentage}) + X + \phi + e$$

The third model adds to Model 1 fixed effects for school district. Colorado is a large and diverse state, with densely populated urban centers and sparsely populated rural areas. Including school district fixed effects controls for characteristics of urbanicity known to be related to student behavior and school discipline (DeVoe, Peter, Noonan, Snyder, & Baum, 2005; Kupchik & Monahan, 2006). Note, these district fixed effects measure the district in which schools are located geographically, not the district authorizer. As in many states, school districts are the most common charter school authorizers in Colorado, but a statewide authorizer — the Charter School Institute — can also authorize charter schools. Thus, to capture the effects of urbanicity, district geography rather than authorizer was used. The model took the form:

$$Y = \beta_0 + \beta_1(\text{charter}) + X + \phi + \theta + e$$

where

θ = school district fixed effects

The fourth model was Model 1 with the aforementioned interaction variable and district fixed effects. The model took the form:

$$Y = \beta_0 + \beta_1(\text{charter}) + \beta_2(\text{charter} * \text{minority percentage}) + X + \phi + \theta + e$$

All analyses were completed with and without standard errors clustered on school. Results presented below include clustered standard errors. Differences in results with and without clustering were trivial.

These models were first applied to all schools in the sample, then to the sample reduced down only to school districts with charter schools present, and finally to the sample reduced even further to matched schools; that is, charter schools and TPS matched to the charters based on school demographics, school district, and grades served.¹ This procedure enabled us to compare charters to TPS statewide and then to perform the analyses with increasingly homogenous samples.

Results

We present detailed results below for each representation of the sample, but the overall findings are two-fold. First, students in Colorado charter schools are not subject to disciplinary procedures, such as suspension or expulsion, at rates greater than those in traditional public schools. In fact, to the extent significant differences are present between charters and TPS, rates in charter schools are less than those of TPS. Second, Colorado charter schools with greater percentages of racial/ethnic minority students do not report disproportionate rates of disciplinary procedures like suspension or expulsion.

All Schools

The first set of results compares Colorado charter schools to all TPS. As Table 1 indicates, charters in the sample do not differ much from TPS. Charters enroll a greater percentage of racial/ethnic minorities, although the percentage of students on free and reduced lunch is less. Charter schools also tend to be somewhat smaller than TPS.

Turning to disciplinary practices, the rates—presented in the bottom seven rows of the table—show charter schools most often report smaller percentages than TPS. In fact, on only one measure—classroom removal—is the rate greater among charters than TPS.

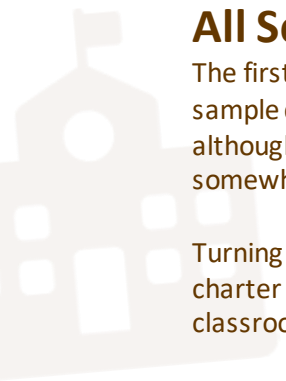
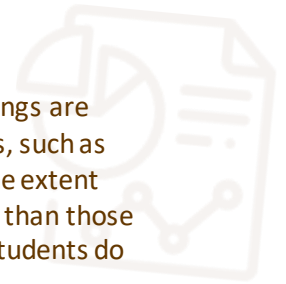


Table 1: Descriptive Statistics for All Schools Sample

	TPS		Charter	
	Mean	SD	Mean	SD
Percent minority	0.44	0.26	0.47	0.31
Total enrollment	492.99	403.48	472.39	343.01
Free reduced lunch	0.48	0.27	0.39	0.31
Classroom removal (count)	1.31	12.62	3.55	42.42
In school suspension (count)	20.99	57.16	13.98	48.25
Out school suspensions (count)	36.86	66.30	22.02	35.19
Expulsions (count)	0.92	2.90	0.32	1.15
Law enforce referral (count)	3.97	14.88	0.69	2.11
Other (count)	5.76	47.55	4.66	34.63
Unduplicated count (count)	36.46	55.96	24.36	35.45
Classroom removal (percent)	0.00	0.03	0.01	0.08
In school suspension (percent)	0.04	0.10	0.03	0.09
Out school suspensions (percent)	0.07	0.13	0.06	0.09
Expulsions (percent)	0.00	0.01	0.00	0.00
Law enforce referral (percent)	0.01	0.03	0.00	0.01
Other (percent)	0.01	0.07	0.01	0.06
Unduplicated count (percent)	0.07	0.10	0.06	0.07

When subjected to regression analyses, the results are consistent with those in the descriptive statistics. As Table 2 illustrates, differences between charters and TPS are either not statistically significant, or significant differences show charters with rates less than those of TPS. Using Model 4 as the example, differences in classroom removals, law enforcement referrals, and other actions were not significant. Specific to exclusionary discipline—the type that has generated so much concern—charters rates lag behind those of TPS.

Similarly, and specific to question 2, charters with greater percentages of minority students do not appear to differ from other types of schools, save for one metric—law enforcement referrals. On that measure, charter schools with greater percentages of minority students report smaller rates of referrals than other schools.



Table 2: Regression Results for All Schools Sample

	Model 1	Model 2		Model 3	Model 4	
	Charter	Charter	Pctmin*charter	Charter	Charter	Pctmin*charter
Class removal	0.003	0.002	0.001	0.002	0.004	-0.003
In school susp	-0.007	-0.009	0.003	-0.009	-0.020*	0.023
Out school susp	-0.022*	-0.012	-0.020	-0.028*	-0.032*	0.008
Expulsion	-0.001*	0.000	-0.002*	-0.001*	-0.001*	0.000
Lawenforc ref	-0.005*	-0.001	-0.007*	-0.003*	0.000	-0.007*
Other	-0.003	0.007	-0.021*	-0.002	0.000	-0.005
Undup count	-0.017*	-0.006	-0.022	-0.019*	-0.021*	0.005
District fixed effects	no	no	no	yes	yes	yes

* $p < .05$. Note: Full regression results can be found in the appendix.

Only Districts with Charter Schools

When the sample is limited only to districts with charter schools, the results are quite similar. According to descriptive statistics, the rates of classroom removals are slightly greater in charter schools, but on all other measures, charter rates are equal to or less than TPS (see Table 3).

Table 3: Descriptive Statistics for only Districts with Charter Schools

	TPS		Charter	
	Mean	SD	Mean	SD
Percent minority	0.47	0.27	0.47	0.31
Total enrollment	575.52	416.30	472.39	343.01
Free reduced lunch	0.47	0.29	0.39	0.31
Classroom removal (count)	1.23	13.48	3.55	42.42
In school suspension (count)	23.56	62.47	13.98	48.25
Out school suspensions (count)	44.02	72.96	22.02	35.19
Expulsions (count)	1.04	3.11	0.32	1.15
Law enforce referral (count)	4.93	16.80	0.69	2.11
Other (count)	5.84	53.00	4.66	34.63
Unduplicated count (count)	41.86	61.05	24.36	35.45
Classroom removal (percent)	0.00	0.03	0.01	0.08
In school suspension (percent)	0.04	0.08	0.03	0.09
Out school suspensions (percent)	0.08	0.14	0.06	0.09
Expulsions (percent)	0.00	0.01	0.00	0.00
Law enforce referral (percent)	0.01	0.04	0.00	0.01
Other (percent)	0.01	0.06	0.01	0.06
Unduplicated count (percent)	0.07	0.10	0.06	0.07

Likewise, reducing the sample only to districts with charter schools does little to change the regression results. As Table 4 illustrates, and focusing on Model 4, differences between charters and TPS are either not statistically significant, or significant differences show charters with rates less than those of TPS. Moreover, charters with a greater percentage of minority students do not appear to differ from other types of schools, except for law enforcement referrals, where, again, charter schools with greater percentages of minority students report smaller rates of referrals than other schools. Compared to Table 2, the coefficients are almost identical.

Table 4: Regression Results for only Districts with Charter Schools

	Model 1	Model 2		Model 3	Model 4	
	Charter	Charter	pctminXcharter	Charter	Charter	pctminXcharter
Class removal	0.003	0.004	-0.003	0.001	0.003	-0.004
In school susp	-0.003	-0.014	0.021	-0.007	-0.019*	0.025
Out school susp	-0.034*	-0.028*	-0.011	-0.028*	-0.031*	0.006
Expulsion	-0.001*	-0.001	-0.001	-0.001*	-0.001*	0.000
Law enforc ref	-0.006*	-0.004*	-0.004	-0.003*	0.000	-0.006*
Other	0.000	0.010	-0.020*	-0.001	0.002	-0.006
Undup count	-0.019*	-0.014	-0.010	-0.018*	-0.019*	0.004
District fixed effects	no	no	no	yes	yes	yes

* $p < .05$. Note: Full regression results can be found in the appendix.

Matched Schools Sample

When the sample is at its most homogenous, the trends mimic those of the other iterations of the sample. Where there are differences, the charter school rates are even less than those of TPS. As Table 5 indicates, differences in out of school suspension and unduplicated count rates are wider in the matched sample. This is because the TPS rates are greater in the matched sample than in the other versions of the sample.



Table 5: Descriptive Statistics for only Matched Schools

	TPS		Charter	
	Mean	SD	Mean	SD
Percent minority	0.44	0.28	0.47	0.31
Total enrollment	552.32	396.00	476.73	343.06
Free reduced lunch	0.45	0.28	0.39	0.31
Classroom removal (count)	3.18	27.24	3.59	42.70
In school suspension (count)	25.20	76.35	14.11	48.54
Out school suspensions (count)	47.76	77.78	22.22	35.36
Expulsions (count)	1.00	2.64	0.32	1.16
Law enforce referral (count)	5.11	16.06	0.70	2.12
Other (count)	6.33	35.56	4.71	34.85
Unduplicated count (count)	45.02	64.07	24.57	35.61
Classroom removal (percent)	0.01	0.05	0.01	0.08
In school suspension (percent)	0.04	0.11	0.03	0.09
Out school suspensions (percent)	0.11	0.24	0.06	0.09
Expulsions (percent)	0.00	0.01	0.00	0.00
Law enforce referral (percent)	0.01	0.07	0.00	0.01
Other (percent)	0.01	0.04	0.01	0.06
Unduplicated count (percent)	0.09	0.15	0.06	0.07

Finally, regression results with the matched sample tell a consistent story (Table 6). Again focusing on Model 4, differences between charters and TPS are either not statistically significant, or significant differences show charters with rates less than those of TPS. And charters with greater percentages of minority students do not appear to differ from other types of schools.

Table 6: Regression Results for only Matched Schools

	Model 1	Model 2		Model 3	Model 4	
	Charter	Charter	pctminXcharter	Charter	Charter	pctminXcharter
Class removal	0.000	0.007	-0.015	-0.003	0.003	-0.012
In school susp	-0.008	-0.014	0.012	-0.010	-0.017	0.015
Out school susp	-0.063*	-0.044*	-0.039	-0.056*	-0.047*	-0.019
Expulsion	-0.002*	-0.001	-0.002	-0.002*	-0.002*	-0.001
Law enforc ref	-0.009*	-0.007*	-0.005	-0.006*	-0.003	-0.008
Other	0.003	0.007	-0.008	0.002	0.005	-0.005
Undup count	-0.035*	-0.026*	-0.02	-0.032*	-0.029*	-0.008
District fixed effects	no	no	no	yes	yes	yes

* $p < .05$. Note: Full regression results can be found in the appendix.

Discussion and Conclusion

This study examined whether charter schools disproportionately use harsher disciplinary practices—particularly exclusionary practices—than traditional public schools. It also analyzed whether charter schools with greater percentages of racial/ethnic minorities discipline students at comparatively greater rates. Results indicated students in Colorado charter schools are not subject to disciplinary procedures at rates greater than those in traditional public schools. To the extent significant differences are present between charters and TPS, rates in charter schools are *less* than those of TPS. Further, Colorado charter schools with greater percentages of racial/ethnic minority students do not report disproportionate rates of disciplinary procedures. Even more to the point, charter schools appear not to rely on exclusionary discipline practices more than TPS and on some metrics—suspensions and expulsions—even *less* so than TPS. These findings held across all iterations of the sample—from statewide comparisons to a homogenous matched sample—and different econometric models (i.e., with and without district fixed effects).

Such results contradict prior studies suggesting charter schools rely on exclusionary discipline more than TPS (Johnson et al., 2016; Losen et al., 2016), and instead appear consistent with work by Gleason, Clark, Tuttle, and Dwoyer (2010) that found students who attended oversubscribed charter schools were equally likely to be suspended during the school year compared to students who also applied, but were not admitted to these schools.

These findings are also consistent with a body of literature that considers whether charter school leaders “push out” certain groups of students (Zimmer & Guarino, 2013). The theorized motivation to do so is improving the school’s academic profile and minimizing costs by pushing out educationally challenging students (Zimmer & Guarino, 2013). Of the

disciplinary procedures studied here, the most relevant is expulsion. If charter leaders were motivated to divest themselves of certain students, we might expect to see greater expulsion rates among charters. Yet, our results find not only do charter schools not expel at rates greater than TPS, they do so at rates *less* than TPS. Our findings appear consistent with other work that finds charters, at least in Colorado, do not appear to be pushing students out (Winters, Clayton, & Carpenter, 2017).

For those who have expressed concern about charters disproportionately using exclusionary discipline (Denice et al., 2015; Kern & Kim, 2016), these results should be encouraging. Indeed, such results suggest it may be beneficial to examine *why* Colorado’s charters appear to use these disciplinary polices at rates less than TPS. Unfortunately, our data do not provide direct answers to this question, but the results suggest this may be a fruitful inquiry.

One explanation may, of course, be structural. For example, charters are often smaller, which prior research has suggested is related to less use of disciplinary procedures like we study here (Han & Akiba, 2011). Another may be cultural. From the beginning, charter schools were intended to serve as laboratories for innovation (Johnson et al., 2016). Thus, as Dauter and Fuller (2011) describe, one might expect innovative, autonomous, or less rule-bound schools to engage students differently or more thoroughly. They might, for example, be early adopters of discipline reforms that include relationship-building, multi-tiered systems of behavioral support, emotional literacy, and culturally-responsive approaches, all of which eschew traditional disciplinary practices (Kern & Kim, 2016).

Indeed, according to Kern and Kim, a number of charter school leaders have successfully leveraged their autonomy to rethink approaches to discipline, leading the National Charter School Resource Center (NCSRC) to develop a toolkit to aide school leaders in adopting such approaches.

Yet another explanation for our findings may be simple selection bias. Our analyses use school level, rather than student level data, and although we use various controls and matching procedures to create homogenous groups, there is always the possibility differences between charters and TPS are a function of the students who select into the schools. Further research, using student level data and procedures or designs that allow for causal estimates, would be particularly helpful additional research.

This study is also limited in its geographical scope. We examined data from one state. Similar analyses could be completed with nationwide data drawn from the School Survey on Crime and Safety or the Civil Rights Data Collection through the U.S. Department of Education. Analyses could also be completed using student level data drawn from the National Center for Education Statistics. Databases like the High School Longitudinal Study of 2009 measure whether and to what extent students are suspended or expelled. These datasets also indicate the type of schools students attend, including charter schools.

Our results would also be complemented by research that examines the perceptions of those involved in the schooling process, such as parents, teachers, and students. For one of these groups—parents—some extant studies suggest parents are attracted to and satisfied with the disciplinary practices of charter schools. In general, literature indicates school safety and student discipline are among the most important aspects of parental perceptions of school quality and in exercising

choice (Barrows, Peterson, & West, 2017; Carpenter & Winters, 2015; Grube & Anderson, 2018; May, 2006; Schneider, Teske, & Marschall, 2000; Stewart & Wolf, 2014; Weiher & Tedin, 2002). Charter school parents often believe them to be better than TPS based on perceptions of safety and discipline practices (Duman, Aydin, & Ozfidan, 2018; May, 2006; Viteritti, 2002). Indeed, Weiher and Tedin (2002) and others found discipline and safety influence many parents' decisions to enroll their children in charters. Adzima (2014) used data from a charter school waitlist in Pennsylvania to determine factors leading parents away from TPS and found parents preferred non-traditional models of education, including safety and discipline practices, and believed charter schools were superior to TPS in this respect. Once in a charter school, parents appear pleased with the disciplinary environment in their schools (Barrows et al., 2017). In a national survey of parental satisfaction with K-12 public schools, including charter schools, Cheng and Peterson (2017) reported charter school parents are 10 percentage points more likely to be satisfied than their TPS counterparts with school order and discipline. Although revealing, this small number of studies could benefit from additional work examining why charter parents are so satisfied.

As for teachers, further research could use the Teaching and Learning Conditions survey to examine how teachers in the different sectors perceive the disciplinary culture in the schools. Carpenter (2019) successfully used these data to examine differences in teacher perceptions of school leadership between charters and TPS. The same could be done for discipline. Other complementary research could use the Colorado Smart Source survey (<https://www.colorado.gov/pacific/cdphe/smart-source>) to examine differences between sectors in relevant policies and procedures or the Healthy Kids Colorado survey (<https://www.colorado.gov/pacific/cdphe/hkcs>)

to examine differences in student perceptions of school environments and discipline between charters and TPS. A potentially useful analysis could be the relationship between student perceptions of school safety, disciplinary practices, and school type. Implicit in all of this is a presumed relationship between disciplinary practices like suspension and expulsion and school safety, but the nature of that relationship specific to charters and the differences between charters and TPS remain largely understudied.

Such analyses and sources would be invaluable in deepening our understanding of differences between charters and TPS. As we approach the 30th anniversary of the creation of charter schools, much remains to be known beyond the ubiquitous question about achievement differences between charters and TPS. Understanding more about discipline, school environment, and leadership—to name just a few—the extent to which charters differ from TPS on these measures, and why they differ would provide much-needed insight into what is arguably one of the most significant educational policy interventions going.

Endnote

1. Matched samples have been used in other research on charter schools and disciplinary practices. Specifically, Johnson et. al. (2016) used propensity score matching (PSM) to create a control group of TPS students against which to compare students from a charter school. Because our unit of analysis is schools rather than students, PSM is not particularly fitting, but we used a generally similar procedure by matching charters and TPS on school demographics, school district, and grades served. Specifically, we used the study's control variables—percentage of racial/ethnic minorities, total school enrollment, and percentage of students on free and reduced lunch—and a measure of school performance to create a composite score. That score was then used to match charter schools to TPS within their respective geographic districts and by grade levels served.

To create the composite score, an across-years mean was created for each demographic variable for each school. Similarly, we used the 2015-16 and 2016-17 state assessment results for each school to create a mean achievement performance score for each school. We could not use the achievement data in the primary analyses—due to changes in state assessments during the period studied—but using two years of data from the current assessment system could still be useful in the matching procedure. All of these means were converted into z-scores and then combined into a composite score through a simple arithmetic average.

To make the matches, schools were sorted within district on the composite score and then matched to a TPS with the closest composite score (i.e., nearest neighbor) and serving the same grades. Finally, we analyzed whether there was a significant difference in the composite score between the matched charter and TPS samples. T-test results showed no significant difference on the composite score. T-test results did, however, show significant differences on the demographic and performance variables used to create the composite score. Therefore, we elected to include the demographic variables as covariates in the matched sample analyses.



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Appendix

Full Regression Results

Table A1: Classroom Removal, All Schools Sample

	Model 1		Model 2		Model 3		Model 4	
	Coeff	<i>p</i>	Coeff	<i>p</i>	Coeff	<i>p</i>	Coeff	<i>p</i>
Intercept	0.002	0.177	0.002	0.116	0.001	0.875	0.000	0.918
Percent minority	-0.009	0.033	-0.009	0.046	-0.003	0.582	-0.003	0.656
Total enrollment	0.000	0.011	0.000	0.017	0.000	0.924	0.000	0.896
FRL	0.000	0.002	0.000	0.002	0.000	0.376	0.000	0.378
Charter	0.003	0.419	0.002	0.559	0.002	0.515	0.004	0.390
2013	0.000	0.801	0.000	0.797	0.000	0.823	0.000	0.826
2014	-0.001	0.206	-0.001	0.210	-0.001	0.236	-0.001	0.241
2015	-0.001	0.617	-0.001	0.620	-0.001	0.686	-0.001	0.701
2016	-0.001	0.640	-0.001	0.643	0.000	0.706	0.000	0.720
2017	-0.002	0.115	-0.002	0.123	-0.002	0.155	-0.002	0.173
Middle	0.007	0.002	0.007	0.003	0.006	0.008	0.006	0.009
High	0.003	0.009	0.003	0.016	0.001	0.567	0.001	0.544
Elem/Middle	0.003	0.035	0.003	0.056	0.004	0.063	0.004	0.101
Middle/High	0.007	0.049	0.007	0.049	0.004	0.112	0.003	0.138
Elem/Midd/High	0.011	0.165	0.011	0.147	0.011	0.206	0.011	0.201
Pctmin*charter			0.001	0.937			-0.003	0.773
District fe	no	no	no	no	yes	yes	yes	yes

Table A2: In School Suspension, All Schools Sample

	Model 1		Model 2		Model 3		Model 4	
	Coeff	<i>p</i>	Coeff	<i>p</i>	Coeff	<i>p</i>	Coeff	<i>p</i>
Intercept	-0.015	0.001	-0.015	0.001	-0.020	0.110	-0.018	0.140
Percent minority	0.011	0.350	0.011	0.404	0.006	0.622	0.003	0.826
Total enrollment	0.000	0.817	0.000	0.816	0.000	0.686	0.000	0.631
FRL	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000
Charter	-0.007	0.143	-0.009	0.307	-0.009	0.052	-0.020	0.016
2013	-0.003	0.132	-0.003	0.127	-0.003	0.151	-0.003	0.142
2014	-0.006	0.004	-0.006	0.004	-0.006	0.007	-0.006	0.006
2015	-0.004	0.096	-0.004	0.088	-0.005	0.042	-0.005	0.035
2016	-0.001	0.638	-0.001	0.633	-0.002	0.453	-0.002	0.425
2017	0.001	0.694	0.001	0.697	0.000	0.861	0.000	0.906
Middle	0.073	0.000	0.073	0.000	0.073	0.000	0.073	0.000
High	0.035	0.000	0.035	0.000	0.035	0.000	0.035	0.000
Elem/Middle	0.014	0.000	0.014	0.000	0.021	0.000	0.022	0.000
Middle/High	0.059	0.000	0.059	0.000	0.072	0.000	0.073	0.000
Elem/Midd/High	0.028	0.005	0.029	0.009	0.030	0.007	0.031	0.009
Pctmin*charter			0.003	0.919			0.023	0.297
District fe	no	no	no	no	yes	yes	yes	yes

Table A3: Out of School Suspension, All Schools Sample

	Model 1		Model 2		Model 3		Model 4	
	Coeff	<i>p</i>	Coeff	<i>p</i>	Coeff	<i>p</i>	Coeff	<i>p</i>
Intercept	-0.031	0.000	-0.032	0.000	-0.025	0.064	-0.024	0.070
Percent minority	0.075	0.000	0.077	0.000	-0.046	0.152	-0.047	0.147
Total enrollment	0.000	0.554	0.000	0.518	0.000	0.000	0.000	0.000
FRL	0.001	0.000	0.001	0.000	0.002	0.000	0.002	0.000
Charter	-0.022	0.002	-0.012	0.253	-0.028	0.001	-0.032	0.009
2013	-0.009	0.000	-0.009	0.000	-0.009	0.000	-0.009	0.000
2014	-0.011	0.000	-0.011	0.000	-0.012	0.000	-0.012	0.000
2015	-0.001	0.671	-0.001	0.699	-0.003	0.310	-0.003	0.302
2016	0.000	0.930	0.000	0.902	-0.002	0.420	-0.002	0.412
2017	0.000	0.935	0.000	0.892	-0.001	0.723	-0.001	0.708
Middle	0.107	0.000	0.107	0.000	0.120	0.000	0.120	0.000
High	0.077	0.000	0.078	0.000	0.111	0.000	0.111	0.000
Elem/Middle	0.028	0.000	0.028	0.000	0.039	0.000	0.039	0.000
Middle/High	0.138	0.000	0.138	0.000	0.190	0.000	0.190	0.000
Elem/Midd/High	0.072	0.018	0.070	0.023	0.099	0.003	0.099	0.003
Pctmin*charter			-0.020	0.322			0.008	0.721
District fe	no	no	no	no	yes	yes	yes	yes

Table A4: Expulsion, All Schools Sample

	Model 1		Model 2		Model 3		Model 4	
	Coeff	<i>p</i>	Coeff	<i>p</i>	Coeff	<i>p</i>	Coeff	<i>p</i>
Intercept	0.000	0.524	0.000	0.939	-0.001	0.227	-0.001	0.203
Percent minority	0.000	0.821	0.000	0.549	-0.001	0.589	-0.001	0.619
Total enrollment	0.000	0.159	0.000	0.128	0.000	0.005	0.000	0.005
FRL	0.000	0.022	0.000	0.017	0.000	0.120	0.000	0.121
Charter	-0.001	0.000	0.000	0.322	-0.001	0.000	-0.001	0.012
2013	-0.001	0.000	-0.001	0.000	-0.001	0.000	-0.001	0.000
2014	-0.001	0.000	-0.001	0.000	-0.001	0.000	-0.001	0.000
2015	-0.001	0.000	-0.001	0.000	-0.001	0.000	-0.001	0.000
2016	-0.001	0.000	-0.001	0.000	-0.001	0.000	-0.001	0.000
2017	-0.001	0.000	-0.001	0.000	-0.001	0.000	-0.001	0.000
Middle	0.003	0.000	0.003	0.000	0.003	0.000	0.003	0.000
High	0.004	0.000	0.004	0.000	0.005	0.000	0.005	0.000
Elem/Middle	0.001	0.000	0.001	0.000	0.001	0.001	0.001	0.001
Middle/High	0.006	0.001	0.006	0.001	0.008	0.001	0.008	0.001
Elem/Midd/High	0.001	0.000	0.001	0.000	0.003	0.000	0.003	0.000
Pctmin*charter			-0.002	0.000			0.000	0.427
District fe	no	no	no	no	yes	yes	yes	yes

Table A5: Law Enforcement Referral, All Schools Sample

	Model 1		Model 2		Model 3		Model 4	
	Coeff	<i>p</i>	Coeff	<i>p</i>	Coeff	<i>p</i>	Coeff	<i>p</i>
Intercept	-0.004	0.000	-0.005	0.000	-0.006	0.056	-0.006	0.038
Percent minority	0.003	0.214	0.004	0.126	-0.014	0.177	-0.012	0.217
Total enrollment	0.000	0.005	0.000	0.007	0.000	0.748	0.000	0.789
FRL	0.000	0.062	0.000	0.055	0.000	0.035	0.000	0.035
Charter	-0.005	0.000	-0.001	0.307	-0.003	0.005	0.000	0.879
2013	-0.001	0.078	-0.001	0.084	-0.001	0.050	-0.001	0.054
2014	-0.001	0.002	-0.001	0.003	-0.001	0.001	-0.001	0.001
2015	-0.001	0.116	-0.001	0.130	-0.001	0.032	-0.001	0.035
2016	-0.001	0.163	-0.001	0.178	-0.001	0.023	-0.001	0.026
2017	-0.002	0.000	-0.002	0.000	-0.002	0.000	-0.002	0.000
Middle	0.009	0.000	0.009	0.000	0.009	0.000	0.009	0.000
High	0.013	0.000	0.013	0.000	0.015	0.000	0.016	0.000
Elem/Middle	0.003	0.000	0.002	0.000	0.000	0.805	0.000	0.902
Middle/High	0.024	0.021	0.024	0.021	0.030	0.030	0.030	0.031
Elem/Midd/High	0.007	0.007	0.007	0.013	0.008	0.002	0.008	0.005
Pctmin*charter			-0.007	0.001			-0.007	0.008
District fe	no	no	no	no	yes	yes	yes	yes

Table A6: Other Discipline, All Schools Sample

	Model 1		Model 2		Model 3		Model 4	
	Coeff	<i>p</i>	Coeff	<i>p</i>	Coeff	<i>p</i>	Coeff	<i>p</i>
Intercept	0.002	0.365	0.001	0.680	0.014	0.133	0.013	0.139
Percent minority	-0.013	0.044	-0.011	0.095	-0.013	0.095	-0.012	0.118
Total enrollment	0.000	0.358	0.000	0.301	0.000	0.569	0.000	0.551
FRL	0.000	0.000	0.000	0.000	0.000	0.027	0.000	0.027
Charter	-0.003	0.389	0.007	0.328	-0.002	0.530	0.000	0.974
2013	-0.002	0.162	-0.002	0.170	-0.002	0.200	-0.002	0.202
2014	-0.003	0.029	-0.003	0.031	-0.003	0.036	-0.003	0.037
2015	-0.005	0.001	-0.005	0.001	-0.006	0.000	-0.006	0.000
2016	-0.001	0.637	-0.001	0.672	-0.001	0.687	-0.001	0.695
2017	0.019	0.000	0.019	0.000	0.019	0.000	0.019	0.000
Middle	0.015	0.000	0.016	0.000	0.015	0.000	0.015	0.000
High	0.012	0.000	0.013	0.000	0.010	0.000	0.010	0.000
Elem/Middle	0.004	0.072	0.004	0.112	0.003	0.200	0.003	0.230
Middle/High	0.017	0.064	0.017	0.065	0.019	0.100	0.019	0.103
Elem/Midd/High	0.008	0.140	0.006	0.248	0.009	0.092	0.009	0.125
Pctmin*charter			-0.021	0.011			-0.005	0.520
District fe	no	no	no	no	yes	yes	yes	yes

Table A7: Unduplicated Count, All Schools Sample

	Model 1		Model 2		Model 3		Model 4	
	Coeff	<i>p</i>	Coeff	<i>p</i>	Coeff	<i>p</i>	Coeff	<i>p</i>
Intercept	-0.009	0.013	-0.010	0.005	0.019	0.083	0.020	0.076
Percent minority	0.025	0.011	0.028	0.007	-0.038	0.067	-0.039	0.066
Total enrollment	0.000	0.008	0.000	0.006	0.000	0.000	0.000	0.000
FRL	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000
Charter	-0.017	0.000	-0.006	0.381	-0.019	0.000	-0.021	0.010
2013	-0.008	0.000	-0.008	0.000	-0.008	0.000	-0.008	0.000
2014	-0.010	0.000	-0.010	0.000	-0.010	0.000	-0.010	0.000
2015	-0.007	0.000	-0.007	0.001	-0.008	0.000	-0.008	0.000
2016	-0.005	0.026	-0.004	0.030	-0.006	0.003	-0.006	0.003
2017	0.003	0.247	0.003	0.218	0.002	0.458	0.002	0.467
Middle	0.100	0.000	0.100	0.000	0.105	0.000	0.105	0.000
High	0.083	0.000	0.083	0.000	0.097	0.000	0.097	0.000
Elem/Middle	0.026	0.000	0.026	0.000	0.033	0.000	0.033	0.000
Middle/High	0.117	0.000	0.116	0.000	0.144	0.000	0.144	0.000
Elem/Midd/High	0.059	0.000	0.057	0.000	0.070	0.000	0.070	0.000
Pctmin*charter			-0.022	0.149			0.005	0.768
District fe	no	no	no	no	yes	yes	yes	yes

Table A8: Classroom Removal, Only Districts with Charter Schools Sample

	Model 1		Model 2		Model 3		Model 4	
	Coeff	<i>p</i>	Coeff	<i>p</i>	Coeff	<i>p</i>	Coeff	<i>p</i>
Intercept	-0.001	0.447	-0.001	0.284	-0.002	0.622	-0.003	0.545
Percent minority	0.004	0.335	0.004	0.373	0.007	0.208	0.008	0.180
Total enrollment	0.000	0.354	0.000	0.378	0.000	0.675	0.000	0.663
FRL	0.000	0.562	0.000	0.582	0.000	0.259	0.000	0.261
Charter	0.003	0.384	0.004	0.207	0.001	0.790	0.003	0.482
2013	0.000	0.983	0.000	0.978	0.000	0.984	0.000	0.976
2014	-0.001	0.463	-0.001	0.471	-0.001	0.461	-0.001	0.470
2015	0.000	0.950	0.000	0.942	0.000	0.954	0.000	0.941
2016	0.001	0.598	0.001	0.601	0.001	0.589	0.001	0.589
2017	0.000	0.779	0.000	0.801	0.000	0.806	0.000	0.833
Middle	0.007	0.010	0.007	0.012	0.008	0.007	0.008	0.009
High	0.001	0.551	0.001	0.581	0.001	0.496	0.001	0.491
Elem/Middle	0.002	0.131	0.002	0.199	0.005	0.037	0.005	0.070
Middle/High	0.003	0.332	0.003	0.342	0.003	0.336	0.003	0.385
Elem/Midd/High	0.013	0.118	0.012	0.110	0.013	0.110	0.013	0.107
Pctmin*charter			-0.003	0.815			-0.004	0.734
District fe	no	no	no	no	yes	yes	yes	yes

Table A9: In School Suspension, Only Districts with Charter Schools Sample

	Model 1		Model 2		Model 3		Model 4	
	Coeff	<i>p</i>	Coeff	<i>p</i>	Coeff	<i>p</i>	Coeff	<i>p</i>
Intercept	-0.015	0.001	-0.014	0.001	-0.019	0.113	-0.016	0.143
Percent minority	-0.006	0.527	-0.009	0.347	0.002	0.878	-0.002	0.871
Total enrollment	0.000	0.123	0.000	0.108	0.000	0.619	0.000	0.551
FRL	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000
Charter	-0.003	0.453	-0.014	0.088	-0.007	0.145	-0.019	0.034
2013	-0.001	0.541	-0.001	0.517	-0.001	0.576	-0.001	0.549
2014	-0.003	0.283	-0.003	0.270	-0.003	0.324	-0.003	0.310
2015	-0.002	0.466	-0.002	0.428	-0.002	0.443	-0.002	0.402
2016	0.002	0.570	0.001	0.604	0.001	0.648	0.001	0.684
2017	0.006	0.064	0.006	0.075	0.005	0.082	0.005	0.096
Middle	0.068	0.000	0.067	0.000	0.070	0.000	0.069	0.000
High	0.026	0.000	0.026	0.000	0.031	0.000	0.031	0.000
Elem/Middle	0.011	0.000	0.012	0.000	0.016	0.000	0.017	0.000
Middle/High	0.088	0.000	0.089	0.000	0.092	0.000	0.093	0.000
Elem/Midd/High	0.023	0.044	0.025	0.050	0.024	0.047	0.026	0.050
Pctmin*charter			0.021	0.354			0.025	0.281
District fe	no	no	no	no	yes	yes	yes	yes

Table A10: Out of School Suspension, Only Districts with Charter Schools Sample

	Model 1		Model 2		Model 3		Model 4	
	Coeff	<i>p</i>	Coeff	<i>p</i>	Coeff	<i>p</i>	Coeff	<i>p</i>
Intercept	-0.017	0.003	-0.018	0.003	-0.026	0.052	-0.025	0.055
Percent minority	0.015	0.425	0.017	0.392	-0.058	0.069	-0.059	0.068
Total enrollment	0.000	0.001	0.000	0.001	0.000	0.000	0.000	0.000
FRL	0.001	0.000	0.001	0.000	0.002	0.000	0.002	0.000
Charter	-0.034	0.000	-0.028	0.012	-0.028	0.000	-0.031	0.007
2013	-0.009	0.000	-0.009	0.000	-0.010	0.000	-0.010	0.000
2014	-0.010	0.002	-0.010	0.003	-0.010	0.002	-0.010	0.002
2015	0.001	0.849	0.001	0.836	0.001	0.854	0.001	0.861
2016	0.001	0.842	0.001	0.828	0.001	0.805	0.001	0.812
2017	0.002	0.600	0.002	0.582	0.002	0.568	0.002	0.576
Middle	0.126	0.000	0.126	0.000	0.133	0.000	0.133	0.000
High	0.103	0.000	0.103	0.000	0.123	0.000	0.122	0.000
Elem/Middle	0.035	0.000	0.035	0.000	0.036	0.000	0.037	0.000
Middle/High	0.235	0.000	0.235	0.000	0.249	0.000	0.250	0.000
Elem/Midd/High	0.093	0.001	0.092	0.001	0.105	0.000	0.106	0.000
Pctmin*charter			-0.011	0.590			0.006	0.756
District fe	no	no	no	no	yes	yes	yes	yes

Table A11: Expulsion, Only Districts with Charter Schools Sample

	Model 1		Model 2		Model 3		Model 4	
	Coeff	p	Coeff	p	Coeff	p	Coeff	p
Intercept	0.001	0.002	0.001	0.005	-0.001	0.335	-0.001	0.317
Percent minority	-0.003	0.008	-0.003	0.015	-0.002	0.395	-0.001	0.413
Total enrollment	0.000	0.023	0.000	0.019	0.000	0.002	0.000	0.002
FRL	0.000	0.000	0.000	0.001	0.000	0.065	0.000	0.066
Charter	-0.001	0.000	-0.001	0.175	-0.001	0.000	-0.001	0.005
2013	-0.001	0.000	-0.001	0.000	-0.001	0.000	-0.001	0.000
2014	-0.001	0.000	-0.001	0.000	-0.001	0.000	-0.001	0.000
2015	-0.001	0.000	-0.001	0.000	-0.001	0.000	-0.001	0.000
2016	-0.001	0.002	-0.001	0.002	-0.001	0.002	-0.001	0.002
2017	-0.001	0.001	-0.001	0.001	-0.001	0.000	-0.001	0.000
Middle	0.003	0.000	0.003	0.000	0.003	0.000	0.003	0.000
High	0.005	0.000	0.005	0.000	0.005	0.000	0.005	0.000
Elem/Middle	0.001	0.000	0.001	0.000	0.001	0.005	0.001	0.005
Middle/High	0.010	0.002	0.010	0.002	0.011	0.001	0.011	0.001
Elem/Midd/High	0.002	0.000	0.002	0.000	0.003	0.000	0.003	0.000
Pctmin*charter			-0.001	0.070			0.000	0.704
District fe	no	no	no	no	yes	yes	yes	yes

Table A12: Law Enforcement Referral, Only Districts with Charter Schools Sample

	Model 1		Model 2		Model 3		Model 4	
	Coeff	<i>p</i>	Coeff	<i>p</i>	Coeff	<i>p</i>	Coeff	<i>p</i>
Intercept	-0.002	0.094	-0.002	0.069	-0.005	0.074	-0.006	0.048
Percent minority	-0.007	0.227	-0.007	0.293	-0.017	0.106	-0.016	0.139
Total enrollment	0.000	0.456	0.000	0.481	0.000	0.956	0.000	0.901
FRL	0.000	0.023	0.000	0.024	0.000	0.015	0.000	0.016
Charter	-0.006	0.000	-0.004	0.031	-0.003	0.022	0.000	0.850
2013	-0.001	0.080	-0.001	0.085	-0.001	0.058	-0.001	0.063
2014	-0.001	0.113	-0.001	0.115	-0.002	0.079	-0.002	0.082
2015	-0.001	0.360	-0.001	0.367	-0.001	0.319	-0.001	0.331
2016	-0.001	0.382	-0.001	0.391	-0.001	0.280	-0.001	0.291
2017	-0.002	0.024	-0.002	0.026	-0.003	0.011	-0.002	0.012
Middle	0.011	0.000	0.011	0.000	0.010	0.000	0.011	0.000
High	0.016	0.000	0.016	0.000	0.017	0.000	0.018	0.000
Elem/Middle	0.003	0.000	0.003	0.000	-0.001	0.751	-0.001	0.666
Middle/High	0.046	0.021	0.045	0.021	0.046	0.019	0.046	0.020
Elem/Midd/High	0.009	0.001	0.009	0.001	0.009	0.000	0.008	0.001
Pctmin*charter			-0.004	0.103			-0.006	0.020
District fe	no	no	no	no	yes	yes	yes	yes

Table A13: Other Discipline, Only Districts with Charter Schools Sample

	Model 1		Model 2		Model 3		Model 4	
	Coeff	<i>p</i>	Coeff	<i>p</i>	Coeff	<i>p</i>	Coeff	<i>p</i>
Intercept	-0.002	0.392	-0.003	0.120	0.014	0.104	0.014	0.108
Percent minority	-0.012	0.068	-0.009	0.184	-0.021	0.003	-0.020	0.006
Total enrollment	0.000	0.706	0.000	0.819	0.000	0.630	0.000	0.602
FRL	0.000	0.002	0.000	0.002	0.000	0.001	0.000	0.001
Charter	0.000	0.965	0.010	0.146	-0.001	0.785	0.002	0.779
2013	-0.001	0.340	-0.001	0.371	-0.001	0.424	-0.001	0.432
2014	-0.001	0.302	-0.001	0.324	-0.001	0.356	-0.001	0.361
2015	-0.002	0.115	-0.002	0.131	-0.002	0.140	-0.002	0.140
2016	0.002	0.315	0.002	0.277	0.003	0.118	0.003	0.109
2017	0.021	0.000	0.021	0.000	0.022	0.000	0.022	0.000
Middle	0.012	0.000	0.013	0.000	0.014	0.000	0.014	0.000
High	0.009	0.002	0.010	0.001	0.011	0.000	0.012	0.000
Elem/Middle	0.001	0.431	0.001	0.643	0.001	0.819	0.000	0.881
Middle/High	0.024	0.218	0.023	0.231	0.028	0.161	0.028	0.167
Elem/Midd/High	0.005	0.390	0.003	0.608	0.007	0.250	0.006	0.319
Pctmin*charter			-0.020	0.011			-0.006	0.467
District fe	no	no	no	no	yes	yes	yes	yes

Table A14: Unduplicated Count, Only Districts with Charter Schools Sample

	Model 1		Model 2		Model 3		Model 4	
	Coeff	<i>p</i>	Coeff	<i>p</i>	Coeff	<i>p</i>	Coeff	<i>p</i>
Intercept	-0.004	0.263	-0.005	0.193	0.019	0.081	0.019	0.073
Percent minority	-0.010	0.404	-0.008	0.510	-0.048	0.017	-0.049	0.017
Total enrollment	0.000	0.001	0.000	0.001	0.000	0.000	0.000	0.000
FRL	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000
Charter	-0.019	0.000	-0.014	0.056	-0.018	0.000	-0.019	0.010
2013	-0.007	0.000	-0.007	0.000	-0.007	0.000	-0.007	0.000
2014	-0.007	0.005	-0.007	0.005	-0.007	0.006	-0.007	0.005
2015	-0.003	0.310	-0.003	0.321	-0.003	0.283	-0.003	0.278
2016	-0.001	0.717	-0.001	0.737	-0.001	0.773	-0.001	0.767
2017	0.007	0.015	0.007	0.014	0.007	0.012	0.007	0.012
Middle	0.105	0.000	0.106	0.000	0.110	0.000	0.110	0.000
High	0.091	0.000	0.091	0.000	0.103	0.000	0.103	0.000
Elem/Middle	0.026	0.000	0.026	0.000	0.029	0.000	0.029	0.000
Middle/High	0.169	0.000	0.169	0.000	0.179	0.000	0.179	0.000
Elem/Midd/High	0.065	0.000	0.064	0.000	0.072	0.000	0.072	0.000
Pctmin*charter			-0.010	0.470			0.004	0.801
District fe	no	no	no	no	yes	yes	yes	yes

Table A15: Classroom Removal, Matched Sample

	Model 1		Model 2		Model 3		Model 4	
	Coeff	<i>p</i>	Coeff	<i>p</i>	Coeff	<i>p</i>	Coeff	<i>p</i>
Intercept	-0.006	0.216	-0.009	0.060	-0.002	0.839	-0.006	0.494
Percent minority	0.004	0.670	0.011	0.477	-0.006	0.643	0.001	0.968
Total enrollment	0.000	0.937	0.000	0.877	0.000	0.928	0.000	0.951
FRL	0.000	0.551	0.000	0.524	0.000	0.864	0.000	0.870
Charter	0.000	0.993	0.007	0.108	-0.003	0.503	0.003	0.668
2013	0.003	0.378	0.003	0.359	0.003	0.433	0.003	0.418
2014	-0.002	0.536	-0.002	0.551	-0.002	0.478	-0.002	0.482
2015	0.002	0.696	0.002	0.671	0.002	0.656	0.002	0.645
2016	0.002	0.617	0.002	0.598	0.002	0.597	0.002	0.590
2017	0.001	0.837	0.001	0.795	0.001	0.787	0.001	0.767
Middle	0.017	0.031	0.017	0.032	0.018	0.037	0.018	0.041
High	0.000	0.998	0.000	0.837	0.005	0.064	0.005	0.061
Elem/Middle	0.008	0.097	0.007	0.152	0.015	0.048	0.014	0.090
Middle/High	0.001	0.447	0.000	0.786	0.005	0.160	0.004	0.254
Elem/Midd/High	0.014	0.112	0.013	0.123	0.020	0.039	0.019	0.040
Pctmin*charter			-0.015	0.339			-0.012	0.554
District fe	no	no	no	no	yes	yes	yes	yes

Table A16: In School Suspension, Matched Sample

	Model 1		Model 2		Model 3		Model 4	
	Coeff	<i>p</i>	Coeff	<i>p</i>	Coeff	<i>p</i>	Coeff	<i>p</i>
Intercept	-0.038	0.001	-0.036	0.001	0.013	0.659	0.018	0.537
Percent minority	0.005	0.787	-0.001	0.979	-0.028	0.298	-0.036	0.230
Total enrollment	0.000	0.175	0.000	0.166	0.000	0.250	0.000	0.247
FRL	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000
Charter	-0.008	0.174	-0.014	0.213	-0.010	0.122	-0.017	0.239
2013	0.005	0.386	0.005	0.386	0.005	0.395	0.005	0.395
2014	-0.003	0.644	-0.003	0.636	-0.003	0.710	-0.003	0.708
2015	-0.001	0.868	-0.001	0.844	-0.001	0.932	-0.001	0.911
2016	-0.001	0.837	-0.002	0.814	-0.001	0.888	-0.001	0.871
2017	0.002	0.781	0.002	0.806	0.002	0.777	0.002	0.798
Middle	0.063	0.000	0.062	0.000	0.063	0.000	0.062	0.000
High	0.021	0.001	0.021	0.002	0.026	0.000	0.026	0.000
Elem/Middle	0.030	0.000	0.030	0.000	0.036	0.000	0.037	0.000
Middle/High	0.143	0.000	0.143	0.000	0.151	0.000	0.152	0.000
Elem/Midd/High	0.043	0.014	0.044	0.018	0.052	0.014	0.053	0.021
Pctmin*charter			0.012	0.660			0.015	0.645
District fe	no	no	no	no	yes	yes	yes	yes

Table A17: Out of School Suspension, Matched Sample

	Model 1		Model 2		Model 3		Model 4	
	Coeff	<i>p</i>	Coeff	<i>p</i>	Coeff	<i>p</i>	Coeff	<i>p</i>
Intercept	-0.02	0.15	-0.03	0.09	-0.01	0.88	-0.01	0.74
Percent minority	0.05	0.35	0.07	0.24	-0.12	0.21	-0.11	0.26
Total enrollment	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00
FRL	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00
Charter	-0.06	0.00	-0.04	0.04	-0.06	0.00	-0.05	0.02
2013	0.00	0.66	0.00	0.70	0.00	0.69	0.00	0.70
2014	-0.01	0.28	-0.01	0.29	-0.01	0.38	-0.01	0.39
2015	0.01	0.72	0.01	0.68	0.01	0.57	0.01	0.56
2016	0.00	0.91	0.00	0.87	0.00	0.78	0.00	0.77
2017	0.00	0.90	0.00	0.85	0.00	0.87	0.00	0.85
Middle	0.12	0.00	0.12	0.00	0.13	0.00	0.13	0.00
High	0.09	0.00	0.09	0.00	0.10	0.00	0.10	0.00
Elem/Middle	0.07	0.00	0.07	0.00	0.07	0.00	0.07	0.00
Middle/High	0.36	0.00	0.36	0.00	0.35	0.00	0.35	0.00
Elem/Midd/High	0.15	0.00	0.14	0.00	0.16	0.00	0.16	0.00
Pctmin*charter			-0.04	0.23			-0.02	0.54
District fe	no	no	no	no	yes	yes	yes	yes

Table A18: Expulsion, Matched Sample

	Model 1		Model 2		Model 3		Model 4	
	Coeff	<i>p</i>	Coeff	<i>p</i>	Coeff	<i>p</i>	Coeff	<i>p</i>
Intercept	0.002	0.022	0.002	0.104	-0.003	0.106	-0.003	0.102
Percent minority	-0.003	0.359	-0.002	0.549	-0.005	0.424	-0.004	0.469
Total enrollment	0.000	0.003	0.000	0.003	0.000	0.004	0.000	0.004
FRL	0.000	0.190	0.000	0.186	0.000	0.197	0.000	0.197
Charter	-0.002	0.000	-0.001	0.087	-0.002	0.000	-0.002	0.033
2013	-0.002	0.018	-0.001	0.019	-0.001	0.021	-0.001	0.021
2014	-0.002	0.014	-0.002	0.014	-0.002	0.015	-0.002	0.015
2015	-0.002	0.066	-0.002	0.071	-0.002	0.071	-0.002	0.074
2016	-0.002	0.128	-0.002	0.135	-0.002	0.119	-0.002	0.122
2017	-0.002	0.098	-0.002	0.106	-0.002	0.080	-0.002	0.083
Middle	0.003	0.000	0.004	0.000	0.004	0.000	0.004	0.000
High	0.005	0.000	0.005	0.000	0.005	0.000	0.005	0.000
Elem/Middle	0.002	0.003	0.002	0.003	0.002	0.002	0.002	0.002
Middle/High	0.015	0.028	0.015	0.028	0.014	0.026	0.014	0.026
Elem/Midd/High	0.004	0.000	0.004	0.000	0.004	0.001	0.004	0.001
Pctmin*charter			-0.002	0.148			-0.001	0.422
District fe	no	no	no	no	yes	yes	yes	yes

Table A19: Law Enforcement Referral, Matched Sample

	Model 1		Model 2		Model 3		Model 4	
	Coeff	<i>p</i>	Coeff	<i>p</i>	Coeff	<i>p</i>	Coeff	<i>p</i>
Intercept	-0.004	0.220	-0.005	0.159	0.004	0.543	0.002	0.805
Percent minority	-0.016	0.322	-0.013	0.400	-0.055	0.128	-0.051	0.153
Total enrollment	0.000	0.482	0.000	0.470	0.000	0.515	0.000	0.505
FRL	0.000	0.166	0.000	0.164	0.001	0.097	0.001	0.097
Charter	-0.009	0.002	-0.007	0.048	-0.006	0.002	-0.003	0.430
2013	0.000	0.823	0.000	0.843	0.000	0.748	0.000	0.766
2014	0.000	0.984	0.000	0.978	0.000	0.995	0.000	0.998
2015	0.003	0.554	0.003	0.545	0.003	0.530	0.003	0.519
2016	0.003	0.492	0.003	0.482	0.003	0.499	0.003	0.488
2017	0.001	0.835	0.001	0.810	0.000	0.942	0.000	0.913
Middle	0.009	0.000	0.009	0.000	0.011	0.000	0.011	0.000
High	0.015	0.000	0.015	0.000	0.015	0.000	0.015	0.000
Elem/Middle	0.009	0.025	0.009	0.027	0.007	0.028	0.007	0.038
Middle/High	0.075	0.076	0.075	0.076	0.073	0.069	0.072	0.070
Elem/Midd/High	0.016	0.007	0.016	0.008	0.015	0.009	0.014	0.011
Pctmin*charter			-0.005	0.240			-0.008	0.120
District fe	no	no	no	no	yes	yes	yes	yes

Table A20: Other Discipline, Matched Sample

	Model 1		Model 2		Model 3		Model 4	
	Coeff	<i>p</i>	Coeff	<i>p</i>	Coeff	<i>p</i>	Coeff	<i>p</i>
Intercept	0.002	0.519	0.001	0.837	0.026	0.031	0.024	0.035
Percent minority	-0.030	0.014	-0.026	0.015	-0.019	0.182	-0.016	0.203
Total enrollment	0.000	0.048	0.000	0.048	0.000	0.052	0.000	0.051
FRL	0.000	0.004	0.000	0.004	0.000	0.120	0.000	0.121
Charter	0.003	0.566	0.007	0.420	0.002	0.539	0.005	0.486
2013	-0.003	0.170	-0.003	0.171	-0.003	0.183	-0.003	0.183
2014	-0.004	0.095	-0.004	0.096	-0.004	0.095	-0.004	0.095
2015	-0.003	0.463	-0.003	0.471	-0.004	0.370	-0.004	0.371
2016	-0.002	0.632	-0.002	0.649	-0.002	0.657	-0.001	0.664
2017	0.008	0.134	0.008	0.117	0.008	0.124	0.008	0.116
Middle	0.004	0.276	0.005	0.240	0.005	0.069	0.005	0.068
High	0.014	0.037	0.014	0.037	0.014	0.020	0.014	0.020
Elem/Middle	0.002	0.558	0.002	0.644	0.002	0.590	0.001	0.682
Middle/High	0.004	0.340	0.003	0.382	0.006	0.174	0.005	0.202
Elem/Midd/High	-0.004	0.401	-0.005	0.382	0.000	0.936	-0.001	0.854
Pctmin*charter			-0.008	0.341			-0.005	0.511
District fe	no	no	no	no	yes	yes	yes	yes

Table A21: Unduplicated Count, Matched Sample

	Model 1		Model 2		Model 3		Model 4	
	Coeff	<i>p</i>	Coeff	<i>p</i>	Coeff	<i>p</i>	Coeff	<i>p</i>
Intercept	-0.012	0.137	-0.016	0.067	0.066	0.000	0.064	0.001
Percent minority	0.001	0.963	0.010	0.755	-0.095	0.106	-0.091	0.128
Total enrollment	0.000	0.023	0.000	0.021	0.000	0.005	0.000	0.005
FRL	0.001	0.000	0.001	0.000	0.002	0.001	0.002	0.001
Charter	-0.035	0.000	-0.026	0.032	-0.032	0.000	-0.029	0.015
2013	-0.003	0.345	-0.003	0.359	-0.003	0.346	-0.003	0.349
2014	-0.007	0.262	-0.007	0.267	-0.007	0.311	-0.007	0.312
2015	-0.004	0.618	-0.004	0.643	-0.003	0.685	-0.003	0.694
2016	-0.003	0.645	-0.003	0.674	-0.003	0.698	-0.002	0.706
2017	0.003	0.729	0.003	0.689	0.002	0.770	0.002	0.758
Middle	0.101	0.000	0.102	0.000	0.109	0.000	0.109	0.000
High	0.085	0.000	0.085	0.000	0.091	0.000	0.091	0.000
Elem/Middle	0.053	0.000	0.052	0.000	0.056	0.000	0.056	0.000
Middle/High	0.240	0.000	0.239	0.000	0.239	0.000	0.238	0.000
Elem/Midd/High	0.096	0.000	0.095	0.000	0.109	0.000	0.108	0.000
Pctmin*charter			-0.020	0.332			-0.008	0.709
District fe	no	no	no	no	yes	yes	yes	yes