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School Suspensions and Adverse Experiences in Adulthood

Kerrin C. Wolf and Aaron Kupchik

The “school-to-prison pipeline” and the negative effects of suspensions, expulsions and school arrests have received increasing national attention recently. Researchers have documented some of the potential harms of these exclusionary school discipline practices for students, including academic difficulties, increased misconduct, and future justice system contact. However, these investigations have been somewhat limited in scope, as they tend to focus only on students’ academic outcomes and juvenile justice system involvement. In this paper we seek to expand upon prior studies by considering how school suspensions may affect youth in peripheral and long-lasting ways. Using data from the National Longitudinal Survey of Adolescent to Adult Health, we analyze whether being suspended from school relates to the likelihood of students experiencing a number of adverse events and outcomes when they are adults. We find that being suspended increases the likelihood that a student will experience criminal victimization, criminal involvement, and incarceration years later, as adults.

Keywords school discipline; school-to-prison pipeline; suspension; student misbehavior; punishment

Over the past three decades, schools in the U.S. have increasingly relied on suspensions, expulsions, and criminal justice oriented security practices

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(Hirschfield & Celinska, 2011). Despite steadily declining rates of student misbehavior and crime that mirror declines in juvenile delinquency more broadly (see Robers, Kemp, Rathbun, Morgan, & Snyder, 2014), schools have increasingly turned to harsh punishments and zero tolerance policies. These disciplinary policies have been coupled with heightened security measures, including the use of security cameras and school resource officers, full-time police officers who are stationed in schools. Some contend that these efforts to maintain school safety have resulted in the “criminalization” of American students, as their behavior has been increasingly controlled through means that are reminiscent of the criminal justice system (Hirschfield, 2008).

Scholars and youth advocates have voiced concern over the consequences many students experience as a result of these practices, including the creation of the “school-to-prison pipeline.” The pipeline metaphor represents a complex phenomenon in which students who are subjected to exclusionary school discipline are pushed towards the juvenile and criminal justice systems (Kim, Losen & Hewitt, 2010; Kupchik, 2014; Skiba, Arredondo, & Williams, 2014). Since the mid-1990s, as schools have increasingly turned to exclusionary school discipline practices (Kim, Losen, & Hewitt, 2010), they have also exposed more and more students to the potential harms of school exclusion. These harms, which include school failure, increased misconduct, dropout, and future juvenile justice system contact, have now been fairly well documented (see Fabelo et al., 2011). Prominent civil rights advocacy groups, including the Advancement Project, the NAACP and the ACLU, have devoted a great deal of attention to these potential harms and strategies for reducing exclusionary school punishments (see Kim et al., 2010).

Yet these investigations have been somewhat limited in scope, as they tend to focus only on academic outcomes and juvenile justice system involvement. In this paper we seek to expand upon prior studies by considering how school suspension can influence young people in peripheral and long-lasting ways that go well beyond the focus of prior research. There are several reasons to hypothesize that the harms of school exclusion might be even broader than considered by existing research (e.g. Perry & Morris, 2014). Specifically, exclusionary discipline can interrupt students’ educational progress, lead to disengagement from their school communities, and label them as deviants. Therefore, prior research leads us to expect that these students’ prospects in adulthood will be negatively affected.

Our goal in this paper is to broaden the literature by exploring potential future harms to students of school suspension that have not previously been considered. While this paper does not test any specific theories that might explain the relationship between being suspended and subsequent adverse experiences, we discuss potential explanations for this relationship below to demonstrate the plausibility of our hypothesis. We use a nationally-representative longitudinal data-set to test hypotheses that students who are suspended in school are more likely than others to experience a variety of negative outcomes in adulthood (ages 24–32): mental health disorders (depression or anxiety), drug use, criminal victimization, criminal involvement, and incarceration.

We find that experiencing a suspension relates to greater likelihood that an individual will be a crime victim, commit criminal acts, and be incarcerated in adulthood.

The Punitive Age of School Discipline and Security

Beginning in the 1990s, public schools in the United States have increasingly turned to exclusionary school discipline practices as routine responses to student misbehavior, even when the infractions are relatively minor. Exclusionary school discipline includes an array of punitive responses to student misbehavior, all of which have the effect of removing students from their classrooms. These responses include expulsion, arrest, out-of-school suspensions, and in-school-suspensions.¹ It also includes informal disciplinary responses, such as sending a student home early from school or isolating a student in an office or other non-classroom setting during the school day. While exclusionary school discipline has long been a feature of American public education, the use of exclusionary school discipline became more systematic and commonplace in the last two decades (Kim et al., 2010). Further, exclusionary discipline, and particularly suspension, is most commonly handed out in response to relatively minor forms of misbehavior such as defiance of authority, as opposed to serious acts of violence (Kupchik, 2010).

During the 1980s and early 1990s, violence and drugs in American schools emerged as a policy priority. The available statistics and anecdotal evidence suggested that these problems were common in American schools, particularly those in poor, urban settings (Midlarskey & Klain, 2005; Skiba, 2013). In response, the federal government passed two key pieces of legislation aimed at addressing the problem. The first piece of legislation, the Gun Free Schools Act of 1995, made education funding contingent on the adoption of zero tolerance policies that mandated the expulsion of students who brought weapons on school property. Following its enactment, zero tolerance policies spread rapidly throughout the country (Stinchcomb, Bazemore, & Riestenberg, 2006). States and school districts often expanded the scope of their zero tolerance policies beyond weapons offenses to include drug offenses, interpersonal violence, and more minor misbehavior. Not surprisingly, the spread of zero tolerance policies led to a significant increase in suspensions and expulsions (Skiba et al., 2014).

The second piece of legislation, the Violent Crime Control and Enforcement Act of 1994, provided support and funding for school resource officer programs

1. In certain schools, students facing in-school-suspensions receive educational support and other services while they are serving their suspension. In these situations, their exclusion from the classroom is less disruptive than other forms of disciplinary exclusion. However, many students serving in-school-suspensions do not receive such supports. Further, even when such supports are in place, the students' education is still disrupted.

through the Office of Community Oriented Policing Services. School districts received funding to contract with local police departments to place trained police officers in schools. These officers respond to incidents of student misbehavior, such as breaking up fights in the hallways, and arrest students accused of criminal behavior, thus expanding the potential disciplinary consequences facing students. Importantly, arrests are not mutually exclusive of school disciplinary responses, so students often face suspensions or expulsions in addition to delinquency or criminal charges (Kupchik, 2010). Thus, just as schools increasingly turned to suspensions and expulsions, they also integrated the justice system into their disciplinary responses to student misbehavior.

In addition to stationing school resource officers in their hallways, American schools also introduced other heightened security measures. These measures included security cameras, random locker and personal property searches, identification cards, metal detectors, and strictly controlled school entrance and exit procedures (Hirschfield, 2008). It is reasonable to assume that these measures contributed to the expanded use of exclusionary school discipline punishments, as they made it more likely for students to be caught violating school rules, mandated strong disciplinary responses to relatively innocuous behavior (such as talking back or acting disorderly), and provided additional strict rules for students to violate (such as requiring students to always carry their identification cards) (Lyons & Drew, 2006).

The Effects of Exclusionary School Discipline Policies

Not surprisingly, the number of suspensions and in-school arrests grew as the punitive school discipline trend became entrenched (see, e.g. Losen, 2011; New York Civil Liberties Union, 2013; Skiba et al., 2014). More than three million students are suspended each year in the United States (see Losen, Hodson, Keith, Morrison, & Belway, 2015). Data also suggest that the use of other exclusionary actions are more common now than they were two decades ago, including arrests in school (e.g. Advancement Project, 2005; Blue Ribbon Commission on School Discipline, 2007; Fields & Emshwiller, 2014; Krezmien, Leone, Zablocki, & Wells, 2010).

Prior research clearly and consistently documents a significant relationship between exclusionary school discipline and academic failure. For example, Raffaele Mendez (2003) demonstrated a relationship between being suspended and subsequent suspensions and academic struggle. Likewise, Fabelo et al. (2011) found that students who were either suspended or expelled were more likely to drop out of school or be held back a grade. Suh and Suh (2007), as well as Balfanz, Byrnes, and Fox (2015) and Shollenberger (2015), similarly reported a connection between being suspended and dropping out. Sweeten (2006) demonstrated a correlation between juvenile justice involvement and failing to graduate, and Hirschfield (2009) demonstrated a link between being arrested and dropping out of school. Further, Perry and Morris (2014) found

that relatively high frequencies of suspension over time reduce the reading and math test scores of students *not* directly involved in exclusionary school punishment, showing that suspension rates relate to academic difficulties across entire student bodies.

Some, such as Fabelo et al. (2011), have found a correlation between being suspended and eventually being involved in the justice system (see also Arum & Beattie, 1999; Shollenberger, 2015). Likewise, several researchers have demonstrated a link between educational failure and criminal involvement in adulthood (e.g. Western, 2006). For example, Lochner and Moretti (2004) analyzed three national data sets that all suggested that the more education a person attains, the less likely they are to be involved in crime as an adult. As Skiba et al. (2014) contend, existing research “present[s] a strong case that, above and beyond individual, family, and community risk factors, exclusionary school discipline makes a significant contribution in and of itself to a range of negative developmental outcomes” (556).

While it is important for schools to establish moral authority through the implementation of clear rules that are consistently and firmly enforced (Arum, 2003; Grant, 1988), the evidence suggests that the current disciplinary environment goes far beyond this standard, with negative effects. Harsh punishments are often perceived as unfair, and as a result they might deteriorate the school social climate (see Kupchik, 2010; Noguera, 1995; Nolan, 2011; Way, 2011). Prior research shows that schools with inclusive social climates, where students feel respected, listened to, and part of a school community, have less student misbehavior than other schools (for reviews, see Cook, Gottfredson, & Na, 2009; Gottfredson, 2001). Thus, in a manner that is consistent with procedural justice theory and related work showing that citizens are more likely to abide by laws and follow legal authorities they perceive to be just (see Tyler, 1988; Tyler & Huo, 2002), this body of research suggests that the overuse of exclusionary punishments might actually result in a less inclusive social climate, and hence there is more student misconduct (Chen, 2008; Hemphill, Toumbourou, Herrenkohl, McMorris, & Catalano, 2006; Kupchik, 2010).

Importantly, exclusionary school punishments are distributed very unevenly across the population of school-aged youth. Youth of color, particularly Black youth, are considerably more likely to be punished in school than are White youth (see Losen et al., 2015; Skiba et al., 2014). Approximately one in seven Black students is suspended each year, compared to one in twenty of their White counterparts (Losen & Martinez, 2013). This disproportionality in punishment begins in pre-school (U.S. Department of Education Office for Civil Rights, 2014), and rates of misbehavior (i.e., differential involvement across racial groups) do not account for these racial discrepancies (Rocque & Paternoster, 2011; Skiba et al., 2014; Wolf, 2013). Additionally, schools with large populations of racial/ethnic minorities are more likely to rely on exclusionary, criminal justice-oriented security and punishment, rather than restorative or inclusionary practices (Irwin, Davidson, & Hall-Sanchez, 2013; Kupchik & Ward,

2014; Payne & Welch, 2010; Welch & Payne, 2010). Thus, exclusionary school discipline practices are likely exacerbating existing racial inequality.

Explaining Broader Future Consequences of Exclusionary Discipline

In sum, the body of prior research demonstrates that: (a) exclusionary school punishment is used frequently in schools, particularly for youth of color and in response to minor forms of misconduct, and (b) these punishments negatively impact students' academic outcomes and increase their risk of future justice system involvement. As we state above, this leaves a large gap in the research, since other potential outcomes are insufficiently addressed in the literature. Furthermore, the research we review above is limited to exploring negative outcomes that occur during childhood, such as school failure, school misbehavior, and involvement with the juvenile justice system (for an exception, see Kupchik & Catlaw, 2015).² We still know little about how exclusionary school discipline shapes outcomes as adults.

There are several reasons to hypothesize that experiences with exclusionary school discipline relate to a host of negative long-term outcomes that have not been fully assessed by this prior body of research. First, exclusionary school discipline often disrupts students' learning because it removes them from their regular classrooms (see, e.g. Noltemeyer, Ward, & Mcloughlin, 2015). One study estimated that suspensions caused students to lose approximately 18 million days of instruction during the 2011–2012 school year (St. George, 2015). Students often receive no formal instruction during those periods and fall behind their classmates. While some schools provide suspended and expelled students with educational materials to be completed while they are out of class, their ability to learn alongside their classmates with their teachers' direct tutelage is nevertheless compromised (e.g. Pakorski, 2010). When disciplined students return to the classroom, they face the challenge of catching up to their peers without the benefit of the educational opportunities their peers experienced while they were removed from class (e.g. Khadaroo, 2014; Pakorski, 2010). Even students who are committed to succeeding in school may be unable to recover academically following a period of exclusion.

In addition to physically removing students from school, exclusionary school discipline may lead to student disengagement and alienation (see Skiba et al., 2011, 2014). Exclusion via suspension, arrest, or expulsion may cause a student to feel a lack of support from the learning community, causing a natural reaction of disengagement. The educational disruption described above can cause students to withdraw from their education, particularly if they struggle with

2. This study found that experiencing suspensions predicted a lower likelihood of voting and participation in civic activities in adulthood. It offers a precedent for considering long-term life outcomes, though studying a different set of future events than considered in the current paper.

material that was taught when they were not in class and are not offered supports or services to enable them to catch up with their peers. Additionally, to the extent they feel they were mistreated when being disciplined, they may not want to work towards a positive relationship with their teachers and school administrators. Notably, various studies suggest such a connection between exclusionary school discipline practices, lost educational opportunities, and student disengagement (see Skiba et al., 2014).

Exclusionary school discipline might also have a labeling effect on disciplined students. Labeling theory holds that once a person is publicly labeled as deviant, he or she often has difficulty shedding that label and may come to embrace that label as part of his or her self-identity, engaging in what Lemert (1967) termed “secondary deviance”. Being labeled as deviant through formal punishment creates a number of challenges that lead to further deviance and/or sanctions by authority, including heightened monitoring by authority figures, presumptions of involvement in future misbehavior, increased interactions with deviant peers, and blocked pro-social opportunities (see Liberman, Kirk, & Kim, 2014; Paternoster & Iovanni, 1989). Labeling theory likely applies to excluded students because they are often aware of the labels that have been affixed to themselves and their peers in school (e.g. Ferguson, 2000). Teachers and administrators are notified when their students are subject to exclusionary discipline and disciplined students’ peers become aware because disciplined students are conspicuously missing from class. Students then return to their class or school environment as known troublemakers and they receive heightened scrutiny, quick blame, and additional discipline when classroom disruption subsequently occurs (Adams & Evans, 1996; Bowditch, 1993). Labeling may also lead students to believe that they should behave in such a way that fulfills their label. Similarly, labeled students may be more likely to disengage from the classroom and develop antagonistic relationships with their teachers and school administrators, particularly if they struggle to catch up with their school work or if they feel they were unfairly treated.

Further, exclusionary school punishment may shape future outcomes by preparing youth for marginalized social and occupational roles. While in school, youth learn far more than academics—they also learn behavioral scripts that prepare them for their future roles as adult citizens. Prior research documents the powerful socializing effects that school experiences—including school discipline—have in preparing youth for the future social, political and economic roles (e.g. Bowles & Gintis, 1977; Willis, 1977). For example, one recent study finds that school suspension predicts future civic and political disengagement; the authors hypothesize that this is because suspended students learn anti-democratic values and behaviors from exclusionary punishment (Kupchik & Catlaw, 2015). It is possible that exclusionary school punishment likewise teaches students that they have little social value, which might in turn make future deviant and harmful behaviors more likely.

Considered together, the potential effects of school disengagement, alienation, labeling and diminished social worth may also threaten students' long term mental health. In an American Psychological Association report, Skiba et al. (2006) noted, "[T]here are a number of reasons to be concerned that such policies may create, enhance, or accelerate negative mental health outcomes for youth" (p. 10), though research examining these potential outcomes is limited. Moreover, excluding students from their learning communities through suspension or expulsion often fails to address, and may even exacerbate, underlying causes for their misbehavior, which can be rooted in mental health challenges (see Skiba et al., 2006).

Thus, exclusionary school punishment might have both direct effects on future behaviors (by socializing them into certain behavior patterns) and/or indirect effects (as mediated by labeling, school alienation, or poor school performance). Each of these potential theoretical mechanisms leads us to suspect that school exclusion relates to long-term developmental limitations beyond academic failure and juvenile justice system involvement. In particular, we test the following hypotheses:

- (1) Students who have been suspended at school are more likely than others to be the victims of crime in adulthood.
- (2) Students who have been suspended at school are more likely than others to experience depression or anxiety in adulthood.
- (3) Students who have been suspended at school are more likely than others to report using illicit drugs in adulthood.
- (4) Students who have been suspended at school are more likely than others to be involved in criminal activity in adulthood.
- (5) Students who have been suspended at school are more likely than others to be incarcerated in adulthood.

We are unable in this study to determine the precise theoretical mechanism(s) that may be responsible for such a path; instead our goal is to use exploratory analysis to extend the literature, since (to our knowledge) no prior studies consider the relationship of school exclusion and future drug use, criminal victimization, or mental health. While prior research does consider the relationship between school punishment and both crime and future incarceration, our analyses reach much further into the future than most prior research (e.g. Fabelo et al., 2011). The one exception to this of which we are aware is Shollenberger's (2015) research, finding that boys suspended for 10 or more days were more likely than others to have been incarcerated by their late 20s; here we re-consider this question while extending the research focus in new directions, by exploring additional life outcomes.

Methods

To test these hypotheses we analyze data from the National Longitudinal Survey of Adolescent to Adult Health (Add Health).³ This is a nationally representative survey conducted by the University of North Carolina Population Center. The first wave of Add Health data were collected from youth in grades 7–12 during the 1994–1995 school year, based on a cluster sample of 80 high schools (selected from a sampling frame of 26,666) and their feeder schools. Within these sampled schools, 90,118 students were sampled for in-school interviews, and an administrator from each school completed an administrator interview. Of this total sample, 20,745 students were randomly selected to complete in-home interviews at multiple waves, and their parents were interviewed as well.

Our sample includes all cases with valid responses for in-school wave 1 questionnaires, wave 1 and wave 2 school administrator interviews, in-home wave 1 questionnaires, in-home wave 1 parental questionnaires, in-home wave 3 questionnaires, and in-home wave 4 questionnaires ($N = 7,858$). The wave 1 data were collected in 1994–1995, wave 2 data in 1996, wave 3 in 2001–2002, and wave 4 data in 2007–2008. This multi-wave data-set covering approximately 14 years provides a unique opportunity to follow students into adulthood so that we can assess the relationship between school suspension and multiple negative outcomes years later, while controlling for multiple potentially confounding factors.

Dependent Variables

For our dependent variables we created several dichotomous indicators of problematic behaviors at wave 4 in order to capture experiences in adulthood. We constructed the first four of these variables (each one but incarceration) based on exploratory oblimin rotated factor analyses, keeping only those indicators that load highly together on a single factor. After using the factor analyses to establish variables that cluster together, we then explored their interitem reliability (Cronbach's alpha scores) to be sure that they are

3. This research uses data from Add Health, a program project designed by J. Richard Udry, Peter S. Bearman, and Kathleen Mullan Harris, and funded by a grant P01-HD31921 from the Eunice Kennedy Shriver National Institute of Child Health and Human Development, with cooperative funding from 17 other agencies. Special acknowledgment is due to Ronald R. Rindfuss and Barbara Entwisle for assistance in the original design. Persons interested in obtaining Data Files from Add Health should contact Add Health, The University of North Carolina at Chapel Hill, Carolina Population Center, 123 W. Franklin Street, Chapel Hill, NC 27516-2524 (addhealth@unc.edu). No direct support was received from grant P01-HD31921 for this analysis.

internally consistent. We then collapsed each down to a dichotomous variable, indicating the presence or absence of any of the outcomes described in each category below, due to the relatively rare nature of each specific behavior or outcome. The final dependent variable listed, incarceration, is taken directly from a dichotomous variable in wave 4 of the Add Health data. Each is described in Table 1:

- (1) *Any victimization* is a dummy variable that indicates whether respondents report any of the following happening in the past 12 months: (a) having something stolen worth more than \$50, (b) seeing someone shot or stabbed,⁴ (c) being threatened with a knife or gun, (d) being shot or stabbed, (e) being slapped, hit chocked or kicked, or (f) being beaten up in the past 12 months (Cronbach's alpha = .92).
- (2) *Depression or Anxiety* is a dummy variable that indicates whether the respondent answered affirmatively to either of two distinct survey questions: (a) that s/he has ever been told by a doctor, nurse or other health care provider that s/he has depression, or (b) told by a doctor, nurse or other health care provider that s/he has anxiety or panic disorder (Cronbach's alpha = .64).
- (3) *Any drug use* is a dummy variable that indicates whether respondents ever took any of the following: (a) prescription drugs that were not prescribed for him/her, (b) marijuana, (c) cocaine, (d) crystal methamphetamine, or (e) "other" illegal drugs (Cronbach's alpha = .76).
- (4) *Any crime* is a dummy variable that indicates that the respondent committed any of the following within the past 12 months: (a) deliberately damaging property, (b) theft of something worth over \$50, (c) breaking into a building to steal something, (d) threatening something with a weapon, (e) selling any drugs, (f) theft of something worth less than \$50, (g) participating in a group fight, (h) buying, selling, or holding stolen property, (i) unauthorized use of someone's credit card or bank card, (j) deliberately writing a bad check, or (k) getting into a serious physical fight (Cronbach's alpha = .67).
- (5) *Incarceration* indicates that the respondent reports ever being incarcerated for at least a year after age eighteen.⁵

4. We include observation of violence because prior research finds that youth are often victims of trauma when observing serious violence (see Siegfried, Ko, & Kelley, 2004). Further, these questions were asked together as a single series within the Add Health survey, and show very high reliability score when considered together.

5. We operationalize incarceration this way because incarceration for at least one year likely means conviction on a felony offense, which entails significantly greater social, economic and political costs than conviction on a misdemeanor, including restriction of employment opportunities, public benefits and voting rights (see Alexander, 2010).

Table 1 Descriptive statistics for variables in analysis

Variable	n	%	Mean	Std. Dev.	Min.	Max.
Dependent Variables						
Any Victimization	7858	38			0	1.0
Depression / Anxiety	7858	19			0	1.0
Drug Use	7796	56			0	1.0
Crime	7833	16			0	1.0
Incarcerated	7858	14			0	1.0
Student-Level Independent Variables						
Ever Suspended	9612	25			0	1.0
Age	9617		14.83	1.57	11	20.0
Female	9622	52			0	1.0
ESL	9622	11			0	1.0
Hispanic	9622	16			0	1.0
Black	9622	22			0	1.0
American Indian	9622	2			0	1.0
Asian American	9622	7			0	1.0
Other Race/Ethnicity	9622	5			0	1.0
No Mother in Res.	9622	4			0	1.0
No Father in Res.	9622	28			0	1.0
Parents' Education	9622		2.82	1.35	0	5.0
Grades	9430		2.20	.76	1	4.0
Highest Grade Completed	7622		13.26	1.87	6	22.0
Low Self-Esteem	9604		1.92	.59	1	5.0
Mental Health	9612		.58	.39	0	2.8
Religious Attendance	9461		2.69	1.39	0	4.0
Marijuana Use (ln)	9377		.53	1.17	0	6.9
Cocaine Use (ln)	9529		.03	.28	0	6.6
Inhalant Use (ln)	9527		.09	.42	0	6.4
Other Drug Use (ln)	9500		.13	.60	0	6.7
Delinquency	9583		.29	.36	0	3.0
School-Level Independent Variables						
Verbal Punishment	9622	40			0	1.0
Cheating Punishment	9622	3			0	1.0
Fighting Punishment	9622	72			0	1.0
Smoking Punishment	9622	45			0	1.0
Officer	9622	45			0	1.0
Metal Detector	9622	23			0	1.0
Surveillance Cameras	9622	9			0	1.0
Gang Code	9622	92			0	1.0
Public School	9622	84			0	1.0
Avg. Attendance	9622		1.98	.89	1	5.0
Avg. Class Size	9622		26.57	5.82	10	38.0
Suburban	9622	51			0	1.0
Rural	9622	20			0	1.0
Prop. Non-white Students	9622		.45	.36	0	1.0

Independent Variables

Our primary independent variable, suspension, indicates whether the respondent had ever been suspended by the wave 1 interview. The coefficient for this variable will indicate how a history of suspension by wave 1 relates to future outcomes, while controlling for several school, family, and individual characteristics that may predispose some respondents to be at greater risk of future negative outcomes. Following prior work on outcomes of school punishment (e.g. Hemphill et al., 2006; Perry & Morris, 2014), we focus on suspension in our analysis because it is the most common form of exclusionary school discipline that is included in the Add Health data.⁶

Importantly, as we discuss above, the potential path from school suspension to future negative outcomes might be mediated by school failure, either because suspension physically removes students from learning opportunities or because it alienates them from school. We thus include a variable indicating the highest grade in school each respondent has completed by wave 3. This helps us achieve our goal of exploring the independent relationship between school suspension and future negative outcomes, after accounting for this important confounding and potentially mediating factor.⁷

We include a number of control variables, based on prior longitudinal research of the effects of exclusionary school discipline (e.g. Fabelo et al., 2011; Kupchik & Catlaw, 2015) and on research on deviant and criminal behavior. In addition to age (at wave 1) and sex (measured as female = 1, male = 0), some of these control variables are designed to remove the influence of structural disadvantage, which may negatively influence academic achievement, while positively relating to deviance and future life outcomes (see Messner & Rosenfeld, 2013). These variables include race/ethnicity (we include variables for Hispanic, Black, American Indian, Asian American, and "Other" race/ethnicity, with White withheld as a contrast); "ESL", which indicates whether English is not the respondent's first language; parents' education levels (the highest level either parent reached, with 1 = less than high school and 5 = graduate

6. While expulsions are an important outcome as well, they are far less frequent than suspension, and as a result less appropriate for logistic regression analyses. We do not include a measure of suspension or expulsion because these two punishments are very different and carry different costs to students. More informal forms of exclusion, such as being sent home during the school day, were not captured by the Add Health survey.

7. In preliminary models we had included a dummy variable indicating whether respondent had graduated from high school by wave 3, running models both with and without this variable to test its influence as a mediator between suspension and the dependent variables. While the coefficients for suspension did change somewhat with inclusion of this variable, none of the coefficients in the models reported here became non-significant after adding graduation (full results available upon request). Thus, rather than school completion substantially mediating the effect of suspension, the two seem to exert independent effects, as we describe in greater detail below, and we include highest grade completed as part of our final models.

education); whether the respondent lives without his/her mother, and; whether the respondent lives without his/her father (see, e.g. Petts, 2009).

Other variables control for the presence and strength of respondents' social bonds, which one would expect to serve as protective factors against future negative outcomes (Hirschi, 1969). Here we include the respondent's academic grades (the mean, scored where 1 = A and 4 = F, of English, history/social studies, math, and science), which is both a mark of academic success and of bonds to school. As an additional measure of prosocial bonds, we include a variable for how often a respondent attended religious services in the last 12 months, ranging from 1 = never to 4 = once a week or more.

Given the importance of self-esteem in shaping youths' behaviors (e.g. Donnellan, Trzesniewski, Robins, Moffitt, & Caspi, 2005), we create an index measuring respondent's low self-esteem, which we expect to positively relate to future negative outcomes. This is computed by taking the mean response to the following statements, answered along a scale of 1 = strongly agree to 5 = strongly disagree: "you have a lot of good qualities," "you are physically fit," "you have a lot to be proud of," "you like yourself just the way you are," "you feel like you are doing everything just about right," "you feel socially accepted," and "you feel loved and wanted" (Cronbach's alpha = .8474).

Because one of our dependent variables assesses depression and anxiety, we control for the presence of these and other mental health issues in respondents' childhoods at wave 1; this allows us to assess how suspension shapes future mental health above and beyond one's state at wave 1. We create an index from the mean score of 19 questions, each answered from 0 = never or rarely to 3 = most of the time or all of the time, concerning respondents' negative feelings about themselves. Questions include "You felt depressed," "You thought your life had been a failure", "You felt that people disliked you" and other similar questions, all of which loaded highly onto a single factor during exploratory factor analysis (4 questions that indicated positive feelings were reversed coded for consistency; Cronbach's alpha = .8634).

Our individual-level independent variables also include several variables that measure students' drug use and delinquency at wave 1. These measures are important, since by controlling for student misbehavior we are able to consider the independent effect of suspension, disentangled from individuals' propensities for misbehavior that might themselves bring about the suspensions. They also allow us to consider negative outcomes while controlling for variation in past risky behaviors. These variables include a series of natural logarithms of the numbers of times the respondent reports that he/she has used each of the following variables (with a different variable for each substance): marijuana, cocaine, inhalants, and other drugs. We also created a delinquency index, computed as the mean ordinal responses (along a scale of 0 = never to 3 = 5 or more times) indicating the frequency of respondents committing each of fourteen different offenses and misbehaviors over the past 12 months (Cronbach's alpha = .8314): graffiti, damage to property, lying to parents, theft from a store, fighting, injuring someone badly, car theft, theft (over \$50), burglary,

threat with a weapon, selling drugs, petty theft (less than \$50), group fight, and creating a public disturbance. We expect each of these measures of prior risky or deviant behavior to positively relate to wave 4 negative outcomes.

We also control for variation at the school-level that may confound the relationship between suspension and future outcomes, particularly measures of school punishment and security practices. These school characteristics are important here because they expose youth to varying levels of school discipline and can shape the school social climate, thus they may positively relate to one's risk of school punishment overall and the school disciplinary climate (Kupchik, 2010). Variables of this kind from the wave 1 school administrator surveys include: whether a student who is caught on a first offense of cheating is suspended or expelled (cheating punishment); whether a student who is caught on a first offense of fighting is suspended or expelled (fighting punishment); whether a student who is caught on a first offense of "verbally abusing a teacher" is suspended or expelled (verbal punishment); whether a student who is caught on a first offense of smoking is suspended or expelled (smoking punishment). Variables from the wave 2 school administrator survey include: whether there is a security officer or police officer on duty during school hours (officer); whether students walk through metal detectors as they enter the building (metal detectors); whether the school has surveillance cameras (surveillance); and whether students are prohibited from wearing "certain colors," or whether "bandanas or other gang paraphernalia" are prohibited (anti-gang rules). Based on prior research on school rules and policing, and their potential negative effects on students (e.g. Nolan, 2011), we expect each of these to positively relate to future negative outcomes.

To control different types of schools and overall student engagement, we include variables indicating whether the school is a public school, the reported average attendance at the school (from 1 = 95% to 5 = 75–79%), the reported average class size, and the area in which the school is located (suburban and rural, with urban withheld as a contrast). Finally, since school punishment can vary across schools, with more intense punishments delivered more often in schools with larger proportion of youth of color (Payne & Welch, 2010; Welch & Payne, 2010), we include a variable for the proportion of respondents sampled within each school who report to be of a race/ethnicity other than "White".

Analytic Strategy

Each of our dependent variables is dichotomous, necessitating logistic regression models. Yet because students are initially sampled within schools, they do not represent independent observations and standard logistic regression would not be suitable. As is commonly done for this structure of data (students nested within schools), we compute a series of Multi-level logistic regression models, with random intercepts for different schools. In order to aid

interpretation and to obtain estimates of within-school effects that are unbiased by between-school effects, all individual-level variables are centered at their group means (see Enders & Tofghi, 2007). After missing cases were removed, samples included in the regression models range from $n = 6276$ to $n = 7171$. All analyses are in Stata 12.0, using the sampling weights provided in the data-set to adjust for the likelihood of being selected into the initial sample and being maintained until wave 4.

Results

Being suspended relates to greater likelihood of each negative consequence years later, as an adult; this result is statistically significant in three of our five models. We find that suspension by wave 1 significantly predicts greater odds by wave 4 of: victimization (the odds are 22% greater for students who were suspended), criminal activity (31% greater), and (consistent with Shollenberger, 2015) being incarcerated (72% greater). Since variables are group-mean centered, these coefficients show the within-school results, or how students who were suspended compare to others within their school, on average. These results are shown in Table 2. Though students who were suspended are at greater risk of depression/anxiety and drug use, these results are not statistically significant (though $p = .061$ for drug use). Note that the effect on crime and incarceration is particularly strong, even after controlling for delinquency, drug use, and a variety of risk factors (e.g. mental health, self-esteem, and religiosity). These findings are consistent with prior research that finds a correlation between being suspended and subsequent juvenile justice system contact (Fabelo et al., 2011), though our analyses consider these outcomes over a much longer term, when respondents are well into their adulthoods. The fact that we find a strong and fairly consistent effect of suspension by wave 1 for each of these negative consequences, even when controlling for prior delinquency, offers strong support for our hypothesis that suspension is related to previously overlooked negative consequences years down the road.

It is also worth noting that these negative future effects of school suspension are clear even when controlling for academic performance (grades at wave 1) and eventual academic achievement (highest grade one has completed by wave 3). This result indicates a direct effect of suspension on future victimization, crime and incarceration, above and beyond the impact school suspension has on academic failure and disengagement from school. Prior research has already established that school punishment adversely affects academic performance and achievement (e.g. Fabelo et al., 2011); here we show that in addition to any effect that might be mediated by school failure, suspension also has an effect that is independent of its influence on academic success.

Results for other variables, which we include in our models to control for individual- and school-level variation that may shape these negative

Table 2 Random-intercept logistic regression results, Exp(B) reported

	Victimization	Depression/ Anxiety	Drug Use	Crime	Incarceration
<i>Student-level Variables</i>					
Ever Suspended	1.22**	1.11	1.16	1.31**	1.72***
Age	.99	.94*	.84***	.86***	1.01
Female	.82***	2.64***	.69***	.45***	.36***
ESL	.97	.43***	.70**	.87	1.03
Black	1.30**	.35***	.66***	1.32*	1.55**
Hispanic	.98	.70*	.87	.98	.91
American Indian	1.13	1.04	.80	.96	1.01
Asian American	.80	.39***	.63**	1.07	.92
Other Race/ Ethnicity	.87	1.26	1.53*	.92	1.00
No Mother in Res.	1.03	.82	1.06	1.18	.89
No Father in Res.	1.11	.94	1.11	1.03	1.22*
Parents' Education Grades	1.02	1.00	1.15***	1.04	1.02
Highest Grade Level	1.02	1.05	1.09	1.17**	1.19**
Low Self-Esteem	.95**	.95*	.98	.95*	.78***
Mental Health	.99	1.14***	1.13*	.92	.91
Relig. Attendance	1.17	2.16***	.89	1.50***	1.14
Marijuana Use	.97	.97	.92***	.96	.98
Cocaine Use	1.03	1.01	1.59***	1.15***	1.20***
Inhalant Use	.92	1.30*	.79	1.03	1.06
Other Drug Use	1.04	1.16*	1.24*	.96	1.11
Delinquency	.95	1.01	1.06	.95	.95
	1.24*	.85	2.64***	1.86***	1.92***
<i>School-level Variables</i>					
Verbal Punishment	1.06	1.01	1.06	1.17	.91
Cheating Punishment	.78	1.42	.57	.86	1.29
Fighting Punishment	1.01	.87	1.36*	.87	.85
Smoking Punishment	.95	1.07	.94	.98	.86
Officer	.85*	.91	.63**	.68**	.81
Metal Detector	1.07	.75*	.96	.94	1.24
Surveillance	1.14	1.12	1.11	1.08	.95
Gang Code	1.09	1.28	1.09	1.81**	1.52
Public School	1.05	1.17	.93	1.09	1.26
Avg. Attendance	1.08	1.11*	1.20*	1.14*	1.21*
Avg. Class Size	.99	.99	1.03*	1.00	.99
Suburban	1.08	.92	.87	1.07	.89
Rural	1.04	.80	.64*	.76	1.10
Prop. Non-white	1.44**	.37***	.35***	1.49*	.92
Intercept	.38***	.25***	.90	.07***	.06***
SD(Intercept)	.07	.07	.46	.18	.40
Log-likelihood	-4445.11***	-2915.33***	-3802.69***	-2478.58***	-2119.47***

* $p < .05$; ** $p < .01$; *** $p < .001$.

consequences, are largely as one would expect.⁸ Older youth (at wave 1), females, and youth who attend religious services often are consistently less likely to experience negative consequences, though females are at greater risk of depression and anxiety. Students with worse grades, who reported more marijuana use, and who scored high on the delinquency index are more likely than others to experience multiple negative consequences.

Black students are significantly more likely to experience victimization, criminal activity and incarceration. These findings are consistent with national crime statistics that consistently find higher rates of victimization (e.g. Truman, Langton, & Planty, 2013), criminal activity (e.g., Loeber et al., 2015), and incarceration (e.g. Carson, 2014) among Black youth. We also find that Black students are less likely to experience depression/anxiety or either drug use measure. While the result for drug use is consistent with prior research (Watt, 2008), the result for depression and anxiety point toward the complicated nature of studying racial disparities in mental health (see Himle, Baser, Taylor, Campbell, & Jackson, 2009).

Regarding school-level variables, the presence of an officer relates to lower odds of victimization, drug use, or crime, and students in schools with lower average attendance are at significantly greater risk of all negative outcomes except for criminal victimization. Students in schools with larger proportions of youth of color are at greater risk of subsequent victimization and criminal activity, but lower risk of depression/anxiety and drug use. Finding that the presence of an officer relates to lower odds of negative outcomes years later is intriguing, particularly because it contradicts a growing literature that demonstrates how the presence of police in schools can impair the school social climate (Kupchik, 2010; Nolan, 2011); this result suggests the need for further research on the long-term impacts of policing in schools.

Discussion

The results of our analyses add a novel and important piece to the rapidly growing literature on effects of exclusionary school punishment. We find that students who are suspended in school by the time they are in grades 7–12 are at significantly greater risk of criminal victimization, criminal activity, and incarceration years later as adults, even when controlling for dozens of relevant student-level and school-level variables. This finding complements research from across the U.S. that consistently shows negative consequences of exclusionary school punishment (e.g. Fabelo et al., 2011; Kim et al., 2010; Shollenberger, 2015), while extending the literature on this issue in several

8. Given the large number of independent variables, and that we report five models, there are too many significant coefficients for us to discuss each one here. Instead we summarize consistent results, or those that we observe in three or more models, here. For all results, see Table 2.

ways. One, we find connections between suspensions and future problems that have not previously been considered, including criminal victimization. Two, our use of longitudinal data with 14 years between our primary predictor variable (suspension) and dependent variables allows us to consider the relationship between suspension and negative outcomes years down the road, after students have completed their education and passed the age of majority. Our findings suggests that the consequences of exclusionary school punishment are broader and longer-lasting than considered in most prior research.

Our results also contribute to the literature by including both individual- and school-level variables. Here we find that individual-level characteristics—particularly suspension, sex, academic achievement, and a history of delinquency and drug use—are the most consistent and robust predictors of future negative outcomes. Yet some school characteristics do indeed matter, such as the presence of an officer, average attendance rates, and school-level race/ethnicity. We encourage future researchers to consider the presence of an officer as a potential protective factor, especially given the noted negative effects of police officers in school (e.g. Nolan, 2011), and to investigate the robust but inconsistent relationship between school-level race/ethnicity and negative future outcomes. These results offer an important contribution toward current policy debates, particularly regarding the school-to-prison pipeline (the subject of a December 2012 Senate Subcommittee hearing) and racial disproportionality in school punishment (the subject of February 2013 guidance from the Department of Education and Department of Justice). If suspended students are more likely to experience criminal involvement, incarceration, and victimization when they become adults, it seems that schools should make every effort to avoid the use of suspensions and other exclusionary punishments. Since Black youth are at significantly greater risk of school suspension (e.g. Rocque & Paternoster, 2011), they are thus at greater risk of suffering from these negative consequences stemming from suspension. Collectively, this research makes a very strong case for the abandonment of exclusionary discipline except in very rare instances where such actions are the only option. This conclusion is strengthened by the lack of evidence demonstrating that exclusionary school discipline practices make schools safer or improve the lives of punished students (see Cook et al., 2009).

This conclusion is further strengthened by the existence of several alternative strategies for addressing student misbehavior that have seen success in a wide variety of school settings. For example, positive behavioral interventions and supports (PBIS), which features an increasingly comprehensive set of responses to student misbehavior, has been identified an effective way to address student misbehavior, both in reducing the number of disciplinary incidents and in keeping at-risk students in school (see Sprague & Nishioka, 2012). Likewise, social and emotional learning (SEL), which focuses on developing students' abilities to build positive social relationships and manage emotions, appears to effectively prevent student misbehavior and build positive mental health skills (see Osher, Bear, Sprague, & Doyle, 2010). Restorative justice,

which relies on collaborative problem solving to address the needs of victims and offenders, is another promising approach to student misbehavior that schools have successfully implemented (see Schiff & Bazemore, 2012; Stinchcomb et al., 2006).

Despite the contributions our research makes, the analyses we present here are also limited in important ways. Because we cast a wide net and consider several very different outcomes—criminal behavior, criminal victimization, incarceration, drug use, and mental health—our models lack specificity in terms of including a full set of predictor variables uniquely shaped for each outcome. Though we include a long list of control variables that matches or exceeds those of most prior studies, it is certainly possible that other individual characteristics not included here spuriously relate to both suspension and our dependent variables, and drive the results we see. For example, our analysis does not account for significant early life events, such as changes in family structure, violence victimization, or early negative developmental influences (e.g. lead exposure), which might influence both likelihood of suspension and future adverse life outcomes. We also do not account for experiences after one's schooling years, such as employment or marriage, which may be associated with anti-social behaviors and mental health disorders in adulthood (see, e.g. Donley, Habib, Jovanovic, Kamkwala, et al., 2012; Krohn, Hall, & Lizotte, 2009). As a result we are unable to make concrete claims about causality.

Relatedly, we are unable here to determine the theoretical mechanisms that drive the connection between being suspended and negative future outcomes. Though above we discuss a number of theoretical explanations for why suspension may shape these future negative outcomes, each of which is rooted in prior research, we are unable to specify more precisely which may be the best explanation for the effects we see. Instead, our results suggest that for many reasons, the negative ramifications of suspension that have been well documented persist and influence individuals' outcomes as adults. We encourage future studies to investigate these mechanisms and test specific theories that might explain the relationships we find.

Another limitation is that our primary predictor, suspension, comes from wave 1 interviews completed in 1994–1995, at the very start of the massive buildup in school discipline and security and increases in suspensions. While reaching back this far chronologically allows for a robust longitudinal analysis, it also means that our measure is taken during a different era—or perhaps early on in the current era—when school suspension may have affected students in different ways than it does today. Further, the events that have transpired since our outcome variables were measured (2007–2008), including the massacre at Sandy Hook Elementary School and resulting efforts to increase the numbers of police in schools, suggest that the importance of suspension might have only grown since these measures were taken. Finally, the fact that we found relatively little influence of school-level variation on students' future outcomes suggests the need to include additional school-level variables, such

as per pupil funding, quality of curriculum, and availability of social services for students; though these factors are outside the scope of this paper's focus, we recommend that future research consider how student outcomes are shaped over the long term by factors other than school punishment, including these school-level characteristics.

Despite these limitations, our analyses offer a unique and important view into potential consequences of school punishment. As we discuss above, prior research illustrates several harms that can come to youth as a result of school punishment. But to our knowledge, no prior research has considered potential effects on drug use, mental health limitations, or criminal victimization. Further, we are unaware of any prior research that has offered quantitative evidence that suspended students are more likely to be involved in crime well into adulthood. Our research is broad and exploratory, but it also uses a reputable, national-level, longitudinal data-set to find connections between suspension and several negative consequences. These connections are consistent with both prior research on problems that come from excessive school punishment, and with theoretical predictions of the effects of suspensions. We encourage future research to continue this exploration by addressing each of these negative consequences in greater detail.

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