

**The Relationship of Intergenerational Poverty and Exclusionary School Discipline**

Utah State Board of Education

Data and Statistics

Wynn Shooter, Jimmy Hernandez, David Mackay, Malia McIlvenna

This paper is also available in the journal *Psychology in the Schools*:  
<https://onlinelibrary.wiley.com/journal/15206807>

## **The relationship of Intergenerational poverty and exclusionary school discipline**

### **Abstract**

Many prior studies have documented disparities in school discipline practices across racial, economic, and other student characteristics. The primary purpose of this study was to determine the extent to which students affected by intergenerational poverty (IGP) received infractions (incidents) and experienced exclusionary disciplines (suspensions and expulsions), relative to other student groups. To do so, this study examined incident and discipline rates, calculated the number of lost days of instruction per 100 students, considered the number of days lost based on disciplines received, and conducted an analysis of the disciplines received by students affected by IGP and similar peers. Results suggest that students affected by IGP have higher discipline rates than other student groups and were 1.78 times more likely to receive a discipline than similar peers. Policy considerations include a set of metrics useful at the state and local level for ongoing monitoring, the importance of data quality, and the need to revisit related policies and their implementations.

Key words: school discipline, exclusionary discipline, poverty, intergenerational poverty

## **Introduction**

Children born into situations of poverty face many challenges as they begin their formal education in classrooms. Researchers have demonstrated that poverty is related to a lack of school readiness, low academic achievement, increased chronic absence, increased behavioral incidents, and is generally considered a risk factor for success in school (Engle & Black, 2008; Gee, 2018, Wallace et al., 2008).

Poverty occurs when there is a lack of resources available to meet our most basic needs (Lacour & Tissington, 2011). The poverty experienced by children in this study is believed to be persistent and passed down from one generation to the next (Intergenerational Poverty). In this context, intergenerational poverty (IGP) is defined by the Utah's Intergenerational Poverty Mitigation Act as "poverty in which two or more successive generations of a family continue in the cycle of poverty and government dependence" (Intergenerational Poverty Mitigation Act, 2012, 2.a). In this case, children affected by IGP were identified by both their grandparents and parents use of public assistance for at least 12 months.

The purpose of this study was to explore one state education agency's incident and discipline data to determine the extent to which students affected by IGP receive infractions (incidents) and experience exclusionary disciplines, independently and relative to other student groups. We offer the following literature review as a foundation for this study.

## **Literature Review**

Suspensions and expulsions are the two most common disciplinary practices that remove students from the learning environment. Suspensions occur any time students are denied access to regular school attendance for 10 or fewer days (Noltemeyer et al., 2015).<sup>1</sup> Expulsions occur when

---

<sup>1</sup> Utah state code does not limit suspensions to 10 days.

students are unenrolled from school for engaging in certain behaviors that are problematic in a school setting. We refer to any disciplinary action intended to reduce undesired behaviors by removing or excluding a student from the learning environment as exclusionary discipline practices (McNeill et al., 2016). Although some authors claim exclusionary discipline practices are declining (Harper, 2020; Rafa, 2019), others maintain that they have “increased substantially over time” (Skiba et al., 2014, pg. 549).

Researchers have documented that creating lost days of instruction by removing students from the learning environment through exclusionary discipline practices can have many unintended, negative, and even long-lasting consequences (Gerlinger, et al., 2021; Rafa, 2019; Skiba, 2014). Increased risk of repeating a grade, increased risk of school dropout, poor academic performance, and future involvement with the juvenile justice system are commonly cited negative outcomes (Fabelo et al., 2011; Lacoé & Manly, 2019). For example, Wallace et al. (2008) argued that out-of-school suspensions lead to more suspensions, expulsions, and dropouts. Similarly, Gerlinger et al. (2021) concluded that exclusionary disciplines predict future delinquency. Likewise, in a review of evidence conducted by the American Psychological Association (2008), authors found that rather than sending a message that deters future misbehavior, suspension predicted future misbehaviors and more suspensions. Fabelo et al. (2011) found the same and added that students in their sample who received exclusionary discipline for non-criminal behaviors were almost three times as likely as their counterparts to engage with the juvenile justice system within the following year.

Many students, when excluded from school, find themselves in unsupervised settings (Wallace et al., 2008). This hints at some of the less explored consequences of exclusion, that of feeling disconnected and unsupported. Exclusionary discipline practices, especially when applied to non-violent offenses, are misaligned with research on adolescent behavior and development (S.J. Quinney College of Law, 2014). The exclusion can foster a lack of school connection (Noltemeyer et al., 2015) and alienate struggling students (Huang, 2018). This may be particularly troubling because as adolescents work

through their identity development, they need support from adults and positive peer relationships (APA, 2008). This is counter to exclusion. Simply put, engagement in the learning process promotes academic success, removing students from school does not (Skiba et al., 2011).

Exclusionary discipline practices are often institutionalized and implemented through zero tolerance policies, which are a prominent vehicle for many suspensions and expulsions. Frequently cited as problematic and ineffective (Heilbrun, et al., 2015; Rice, 2009; Skiba, 2014), this approach to school discipline “mandates the application of predetermined consequences, most often severe and punitive in nature, that are intended to be applied regardless of the gravity of behavior, mitigating circumstances, or situational context” (APA 2008, p. 852). Zero tolerance policies seek to deter problem behaviors with harsh disciplinary practices that remove students from the learning environment (Wallace et al., 2008).

Evidence suggests that suspensions and expulsions are not limited to dangerous or violent behavior including weapons, drugs, and gang-related activity. Instead of focusing only on exclusionary discipline for dangerous or violent behavior, zero tolerance policies are often responsible for excluding students from school for behaviors such as disruption, insubordination, smoking, tardiness, dress-code violations, and other discretionary infractions of school rules (Skiba & Losen, 2016; Wallace et al., 2008). Excluding students for such non-violent behaviors has been particularly problematic, with reports of students being removed from school for all types of misunderstandings and poor judgment that goes along with being a child or an adolescent (APA, 2008; Black, 2004; Fabelo et al., 2011).

Although most of the authors whose work we reviewed concluded flatly that exclusionary discipline practices, especially zero tolerance policies, do not work as intended (Mendez et al., 2002; Skiba, 2014; Skiba & Losen, 2016), proponents of such practices appreciate the value of removing disruptive students from the learning environment, where they were described as interfering with the educational experience of other students (Black, 2004; Noltemeyer et al., 2015). Some educators and

administrators favor exclusionary approaches to school discipline, including zero tolerance, as their preferred strategy for addressing misbehavior (Black, 2004; Griffith and Tyner, 2019).

Regardless of its proponents, a major criticism of zero tolerance is the repeated finding that, although such policies assume fairness by predetermining the same consequences for all students, there is a great deal of disproportionality among student groups (Black, 2004). The studies and reports we reviewed documented disparities, especially for Black students, Hispanic students, Native American students, and students with disabilities (see APA, 2008; Huang, 2018; Skiba et al., 2011; Skiba & Losen, 2016; Wallace et al., 2008). Further, the pervasive and persistent nature of racial disparities in school disciplinary practices exists within and beyond zero tolerance environments, with widespread agreement that certain student groups experience more exclusionary disciplines than others (Harper, 2020; Heilbrun et al., 2015; Lacoé & Manly, 2019; Raza, 2019; U. S. Government Accountability Office, 2018; Walsh & Little, 2018).

Interestingly, some authors suggested that no evidence exists to support the idea that some student groups engage in more misbehavior than other groups (Huang, 2018; Petras, et al., 2011; Skiba & Losen, 2016; Welsh & Little, 2018); and yet some student groups consistently receive harsher punishments for less severe and more discretionary behaviors (Welsh & Little, 2018; Skiba et al., 2011). For example, the APA (2008) reported that where no evidence exists suggesting that Black, Latino, or Native American students display more frequent or egregious offenses, they regularly received suspensions and expulsions at higher rates than other student groups. This begs the question, if well documented disparities are not due to differential misbehavior among student groups, then what is the underlying source of these disparities? While this is a critical question, providing explanations for why some student groups receive higher rates of exclusionary discipline than others is beyond the scope of this study. Authors have suggested many complex, multifaceted, influential factors such as Local Education Agency (LEA) and school level policy and practice, school leadership, teachers, student

behavior, and other factors that likely play a role in decisions of school discipline (Gilliam et al., 2016; Griffith & Tyner, 2019; Losen & Martinez, 2020a; Mendez et al., 2002; Skiba & Edl, 2004; Skiba, 2014; Welsh & Little, 2018)<sup>2</sup>.

The literature regarding school discipline experiences of students from low-income backgrounds is mixed. Some researchers who considered the relationship of race, poverty, and school disciplines, found race to be a leading predictor over poverty status (Gregory et al., 2014; Skiba et al., 2011; Skiba, 2014). Skiba et al. (2014) suggested that the interrelationships of race and poverty are not easily untangled from one another. They argued that the influence of poverty may play less of a role than initially thought and they downplayed the role of poverty in favor of race/ethnicity as much more prevalent predictor. Likewise, Welsh and Little (2018) concluded that disparities in school disciplines are too complex and multifaceted to be explained solely by poverty status. While they acknowledged that students from low-income backgrounds received higher rates of exclusionary discipline, they maintained that poverty status was not uniquely responsible for the disparities. These findings align with those of Gregory et al., (2014), who used low-income status as a covariate in a multilevel regression model and concluded that low-income status did not predict exclusionary discipline.

On the other hand, many researchers and authors have highlighted the role of poverty status in explanations of school discipline disparities. Wallace et al., 2008, pointed out that incidents are higher for students from disadvantaged backgrounds, Petras et al. (2011) acknowledged the influence of poverty status on disparities in exclusionary disciplines, and Huang (2018) referenced several studies that found students from low-income backgrounds were more likely to receive suspensions than their non-low-income peers. In the results of Theriot et al.'s (2010) multilevel regression model, poverty status, previous suspensions, and past incident severity were significant independent predictors of exclusionary disciplines, where the interaction of minority status and poverty was not. Other examples

---

<sup>2</sup> Interested readers will appreciate Welsh and Little's (2018) comprehensive review of potential causes of disparities.

include, Jordan and Anil's (2009) study, which found that students from low-income backgrounds were as much as eight times more likely to receive disciplinary referrals than their peers. Anderson and Ritter (2016) reported that, controlling for race, students from low-income backgrounds were 1.2 times more likely to receive exclusionary disciplines, without controlling for race, they were 1.5 times more likely to receive exclusionary disciplines. Similarly, Barrett et al. (2017) found that students from low-income backgrounds were 1.75 times as likely to be suspended as were their non-low-income counterparts.

In the studies we reviewed, students from low-income backgrounds often experienced higher discipline rates than their more resourced counterparts and were generally believed to be particularly at risk of experiencing negative outcomes from suspensions (Losen & Martinez, 2020; Noltemeyer et al., 2015; Theriot, et al., 2010). While we cannot explain the apparent conflict across some previous studies, we speculate that disproportionality likely varies across contexts (policy, administration, schools, teachers, etc.) such that the role of poverty status may be more pronounced in some contexts than others.

Understanding why students from low-income backgrounds are overrepresented in some school discipline contexts is inherently complicated. While some researchers have defined and studied poverty as an income level threshold, others have more carefully considered the lived reality of families and individuals who experience poverty (Aber et al., 1997; Engle & Black, 2008). One approach to this is to recognize the multiple, interrelated components of the systems within which poverty exists and perpetuates. For example, Yoshikawa, Aber, and Beardslee (2012) suggested three mechanisms of poverty that include the individual, relationships, and context. Similarly, Jozefowicz-Simbeni and Allen-Meares (2002) proposed that poverty be understood through the lens of Bronfenbrenner's (1979) ecological systems model, which focuses on the interrelated "nested structures" in which individuals' development is influenced not only by factors within the individual, but also by community (family, neighborhood, school) and policy level factors (p. 3).



Taking such a systems-oriented approach to understanding the experience of poverty may help inform our understanding of its relationship with school discipline. At the individual level, children born into impoverished families often experience adversity and developmental challenges such as poor housing, poor nutrition, and overall lack of access to basic resources that are important for human development (Engle & Black, 2008; Najman et al., 2018; Pollak & Wolfe, 2020). Family life may include parents struggling with job instability, housing instability, mental and physical health challenges, depression, marital conflict, and many sources of stress (Flouri & Midouhas, 2016; Yoshikawa et al., 2012). At the community level, children from low-income backgrounds are more likely to attend schools with high populations of low-income students and to live in neighborhoods impacted by poverty (Jozefowicz-Simbeni & Allen-Meares, 2002; Yoshikawa et al., 2012). This typically means less access to high quality food, specialized school programs, recreational resources, and other developmental supports than their more resourced counterparts. Beyond that, individuals are affected by national, state, and regional situations, attitudes, and policies that affect their daily lives.

Some authors have made compelling cases that children born in situations of poverty have familial experiences that predispose future behavioral incidents in school. For example, Najman et al. (2018) suggested that it is not only the financial poverty that is transmitted from one generation to the next, but also the associated lifestyle and attitudes. Payne (2008) explained that children from families in which the parents have minimal formal education receive habits of learning and communication that often do not align with those of the formal school setting. Flouri and Midouhas (2016) concluded that “Family poverty is strongly associated with children’s emotional (internalizing) and behavioral (externalizing) problems” (p. 817). On a positive note, parents can also play a critical role in supporting their children to overcome disadvantages of poverty (Kiernan & Kensah, 2011).

Adding to this, other authors have emphasized how the effects of poverty impact children as they enter the school setting. Aber and colleagues (1997) noted that stress, family instability, and lack of

educational and developmental resources in the home can all lead to substandard cognitive development for children. This was echoed by Sanchez (2021) who described the brains of students from impoverished families as developing with less emotional and behavioral regulatory control. Further, Sanchez (2021) cited that students from impoverished childhoods are less likely to respond to positive cues (smiles, pleasant voice tone) and more likely to respond to negative cues (aggressiveness, glares, angry tones). Jozefowicz-Simbeni and Allen-Mears (2002) noted that children born into poverty are more likely to experience depression, be involved in delinquent activities, and to be less engaged in school. Considering the developmental challenges and the cumulative effects of growing up poor, it is not surprising to find reports of increased school discipline experiences among students from low-income backgrounds. From these explanations of how poverty affects children, there is little question that poverty status could play a noteworthy role in the disproportionality of school discipline.

Given the circumstances described above, our primary research question is, while controlling for covariates, what is the relationship between students' IGP status and receiving disciplines? Before answering that question, we also considered several additional research questions:

- Which student groups have the highest incident and discipline rates?
- To what extent do some student groups miss more days of instruction than others due to exclusionary disciplines?
- When offenses are more subjective (and/or for non-violent, non-criminal behaviors), do some student groups receive more exclusionary disciplines than others? If so, which student groups are most affected?

## **Methods**

### ***Data Preparation***

The state education agency received a list of persons between the ages of 5 and 25 whose families received Public Assistance (PA) in 2013 through 2021. Participation in public assistance included receiving cash assistance, subsidies for childcare, Children's Health Insurance Program (CHIP), the Supplemental Nutritional Assistance Program (SNAP), or Medicaid. The students described as affected

by IGP in this study were identified by their parents *and* grandparents use of public assistance for at least one full year. If these students become adults and receive public assistance, they would be the third generation to experience this level of poverty. This is a sub-group of students who are presumably more affected by poverty than those students who are typically identified as low-income in education enrollment data by their participation in free or reduced priced school lunch programs. We used the list of students affected by IGP to match students to education records available in the state education agency's data warehouse. While researchers had the ability to identify students as affected by IGP, it is worth noting that the poverty status of students affected by IGP is protected and educators would not be able to directly identify students as being members of an IGP group.

The source file included a total of 1,594,482 distinct records for the nine years, or an average of approximately 138,273 person records per year. Many of the persons in the source file had records for more than one year (including persons with records in all eight years). The source data included 465,683 distinct persons who matched 323,352 distinct individuals to PK-12 enrollment records for the 2013 through 2021<sup>3</sup> school years, resulting in a match rate of 69%. This match was based on first and last names, date of birth, and gender. Of the 323,352 individuals in the matched PA data, 88,769 (24%) were identified as having received public assistance. We joined school incident and discipline data to this matched data to create a dataset that included enrollment data, a column indicating if students had received public assistance and school incident and discipline data. This was the main data set used to calculate descriptive statistics and examine relationships of exclusionary disciplines received among student groups.

Using the data described above, we created a second data set that included a matched comparison group of similar students from the 2020 enrollment data who had not received public assistance. We did not include whether or not students had school incidents or disciplines in the

---

<sup>3</sup> Although we matched 9 years of data, we only used three years in descriptive analyses and one year in the logistic regression equation.

matching criteria, which allowed us to determine the extent to which students who are similar in many other characteristics besides poverty status have experienced similar exclusionary discipline practices. To create the comparison group, we used the nearest neighbor method from the ‘MatchIt’ package in R (Ho et al., 2011). This allowed us to find a statistically derived comparison group that was similar to the poverty cohort based on characteristics of school year, school, gender, race/ethnicity, English learner status, and special education status. This approach matched the students in the treatment group with students in the control group based on similarity of propensity scores. To get the most robust estimates for the control group, we conducted a *many-to-one* match. This was possible due to the large sample size from which to select and match the control group (Olmos & Govindasamy, 2015). We assessed the accuracy of the match by examining propensity scores and the standardized mean differences (SMD) for each covariate; these values were generally close to zero (Greifer, 2021; Olmos & Govindasamy, 2015). Table 1 shows the number of K – 12 students affected by IGP and their matched counterparts whose families had not received public assistance.

*Table 1. Counts of students affected by poverty and students in the matched comparison group.*

<b>Year</b>	<b>IGP Group</b>	<b>Matched Comparison Non-Poverty Group</b>
<b>2018</b>	28,041	68,807
<b>2019</b>	27,548	67,739
<b>2020</b>	27,919	68,077

In sum, we used two final data sets in our analyses. One was the complete file with no matched comparison group and the other included the matched comparison group for all three years (Table 1). Both data sets included enrollment data (race/ethnicity, special education status, low-income status, English learner status, and gender), a column indicating if students were affected by IGP, and incident and discipline data.

***School Incident and Discipline Data***

Over the past several years, the state education agency has worked with LEA administrators to improve the quality and completeness of incident and discipline data. Recent efforts to address underreporting have resulted in large increases in reported incidents, especially from SY 2017 to SY 2018. While we believe that incident and discipline data are still underreported, we concluded that the incident data from SY 2018 through SY 2020 was of sufficient quality and quantity to use for research and evaluation. That said, there were noteworthy outliers and unique patterns of reporting over the three years of data included in this study. We removed LEAs that reported no incidents or disciplines for any one or more of the three years from SY 2018 to SY 2020. Otherwise, we included all reported incident and discipline data from 137 LEAs in 2018 and 149 LEAs in 2019 and 2020.

Most tables in the results display metrics from SY 2020. With 154 LEAs in the state in SY 2020, 97% of LEAs are included in the analyses. This includes 41 school districts, 108 charter schools, and 1,043 schools. Among the schools, 177 (17%) were in rural areas, 552 (53%) schools were in suburban areas, 140(13%) were in towns, and 174 (17%) schools were in urban areas.<sup>4</sup> Enrollment counts at the LEAs varied from 86,081 to 36 students, with the 12 largest districts representing 72% of the students included in the analyses.

Incident and discipline data are reported to the state education agency annually. An incident may involve one or more students, a student may be involved in more than one incident, and each student may be reported with one primary infraction (incident) and up to four secondary infraction types. For this study, we used only primary incidents. Consistent with federal guidelines, we removed all suspensions of less than half a day and converted all suspensions of a half day or more to one day.

---

<sup>4</sup> Institute of Education Sciences locale classifications: [https://nces.ed.gov/programs/edge/docs/LOCALE\\_CLASSIFICATIONS.pdf](https://nces.ed.gov/programs/edge/docs/LOCALE_CLASSIFICATIONS.pdf)

The state education agency incident data includes 21 distinct incident types. Rather than examine each incident type and related disciplines, we organized the incidents into five groups<sup>5</sup> (Table 2). Our decision-making for creating the incident groupings was largely directed by the literature, particularly the idea that some students receive harsher punishments for offenses that are more subjective, and/or for non-violent, non-criminal behaviors. Given the number of incident types, it was also a matter of practicality to group them. We used these incident groupings to look for differences in the types of incidents received by student groups. After reviewing the incident descriptions reported in the *other* incident type, we decided to exclude it from analyses because many of the incidents were misclassified by submitters and likely should have been included in existing incident types. Discipline data used in this study included in-school and out-of-school suspensions, expulsions, and duration (number of days of suspension or expulsion).

Table 2. Incident type categories.

<b>Illegal</b>	<b>Discretionary</b>	<b>Harassment</b>	<b>Truancy</b>	<b>Other</b>
Physical Assault	Disruption	Harassment, non-sexual	Truancy	Other
Sexual Assault	Threat/Intimidation	Harassment, sexual		
Homicide		Bullying		
Fighting				
Robbery				
Alcohol				
Tobacco				
Marijuana				
Controlled substance				
Uncontrolled substance				
Distribution				
Weapon				
Arson				
Terroristic threat				

Note: The category of *other* accounted for 21% of incidents.

**Data Analyses**

We analyzed these data using descriptive and inferential statistics. The descriptive statistics focus on examining differences in school incident and discipline counts, percentages, and lost days of instruction due to exclusionary discipline for several student groups. The first of which, the primary

<sup>5</sup> Truancy and Other represent the original incident categories and are used here as their own stand-alone groups.

group of interest, is based on three types of students' poverty status, 1) *IGP* (students affected by IGP, who by definition are also low-income), *low-income* (students who received free or reduced-price lunch, and 3) *not low-income* (students who were not identified as low-income or IGP). To create discrete groups for comparison, we removed students identified as IGP from low-income counts. The second student group consists of seven race/ethnicity categories. The presentation of race/ethnicity group varies by analyses; in Table 3, Table 4, and Figure 1, race/ethnicity groups are displayed as including and not including student groups affected by IGP. In other figures and tables, students affected by IGP are included in the race/ethnicity group comparisons unless otherwise noted. We conducted no significance tests for the interactions of race and poverty status, however we included these comparisons in the descriptive statistics to further illuminate the role of IGP in school discipline. Finally, a third grouping includes four other demographic groups of students (female, male, students with disabilities (special education), and English learners) that follow the same conventions as the presentation of race/ethnicity groups in the tables and figures. To better examine potential disparities in incidents and disciplines across student groups we calculated the following metrics. The first of these metrics (1 and 2) rely on calculations based on enrollment counts, a second group of metrics (3) uses incidents to examine discipline rates and disciplines to examine lost days of instruction.

1. We calculated the incident and discipline rates represented by each student group, and the percentage each student group represented in enrollments compared to incident and discipline counts. Calculations for these enrollment-based metrics are available in the table notes.
2. We calculated the rate of lost instruction days due to exclusionary disciplines for each student group. We made this calculation by dividing the number of lost days by enrollment counts for each group and multiplying the result by 100 to get the number of lost days per 100 students enrolled (Losen & Martinez, 2020b).

- $\text{Lost days} = (\text{count of lost days} / \text{enrollment count}) * 100$

3. For all incidents and for each of the groupings of incident types, we calculated incident-based discipline rates and lost days of instruction per discipline for each student group.

- Incident-based discipline rate = sum of disciplines / sum of incidents
- Lost days of instruction = number of days of lost instruction / number of disciplines

To better understand the relationship between students' poverty status and reported disciplinary actions, we calculated the odds that students affected by IGP would receive disciplines. With the matched comparison group that included demographically similar students, we used logistic regression to predict the likelihood that students affected by IGP would receive a discipline.

## Results

Table 3 and Table 4 present summaries of counts and percentages of incidents and disciplines received by student groups. Of the 28,666 students who received at least one incident, 10,317 (36%) received more than one incident. The total number of disciplines was 17,571, with 11,917 students receiving at least one discipline, and 3,031 students receiving more than one discipline.

Among the poverty status group, students affected by IGP had the highest incident (9.5%) and discipline (4.7%) rates followed by students who were low income (6.4% and 2.9% respectively) and students who were not low-income (2.8% and 1% respectively). Similarly, 4.4% of students affected by IGP received more than one incident, compared to 2.5% of students identified as low income and .8% of students who were not low-income. Students affected by IGP had more than double the percent of incidents than low-income students and more than six times the percent of incidents as students who were not identified as low-income. The patterns were much the same for discipline counts. The percent of students affected by IGP receiving incidents has increased over the past three years from 8% in 2018, 9.4% in 2019, and 9.5% in 2020. The percent of disciplines received by students affected by IGP were 4% in 2018 and 4.7% in 2019 and 2020.



Among race/ethnicity groups, every group affected by IGP had higher incident and discipline rates than their non-IGP counterparts. Students of Multiple Race, Hispanic, and White students had the biggest differences in incident and discipline rates based on poverty status. Native American and Black students had the highest incident rates (9.1% and 7.3% respectively) and the highest discipline rates (3.8% and 3.9% respectively).

Male students had notably higher percentages of incidents and disciplines and higher incident and discipline rates than females, especially if they were affected by IGP. Special education students also had markedly high incident and discipline rates. Among all four of the *other demographic groups*, students affected by IGP had higher incident and discipline rates than their non-IGP counterparts. Figure 1 shows that for students affected by IGP, discipline rates increase steadily leading up to grade 8, where they peaked and declined through grade 12.

Table 3. Counts and percentage of incidents by student group (SY2020)

Student Groups	Group Count	Percent of Enrollment	Incident Count	Percent of Incidents	Count of Students with Incidents	Incident Rate	Count of students with More Than One Incident	Percent of Students with More than One Incident
<b>IGP</b>	27,919	4.1%	8,660	31.0%	2,658	9.5%	1,241	4.4%
<b>Low-income</b>	206,506	30.0%	30,029	15.0%	13,292	6.4%	5,197	2.5%
<b>Not low-income</b>	460,032	67.0%	20,619	4.5%	12,716	2.8%	3,879	0.8%
<b>Race/Ethnicity</b>								
<b>Asian</b>	11,973	1.74%	492	4.10%	272	2.30%	87	0.70%
<b>Asian x IGP</b>	124	0.02%	19	15.30%	n≤10	n≤10	n≤10	n≤10
<b>Black</b>	9,571	1.39%	1,669	17.40%	695	7.30%	271	2.80%
<b>Black x IGP</b>	686	0.10%	194	28.30%	52	7.60%	21	3.10%
<b>Multiple Races</b>	20,001	2.91%	2,017	10.10%	882	4.40%	311	1.60%
<b>Multiple Races x IGP</b>	1,192	0.17%	345	28.90%	125	10.50%	59	4.90%
<b>Native Am.</b>	5,676	0.83%	923	16.30%	518	9.10%	206	3.60%
<b>Native Am. x IGP</b>	1,683	0.24%	411	24.40%	211	12.50%	93	5.50%
<b>Hispanic</b>	117,800	17.15%	17,504	14.90%	7,317	6.20%	2,815	2.40%
<b>Hispanic x IGP</b>	6,742	0.98%	3,916	58.10%	797	11.80%	428	6.30%
<b>Pacific Islander</b>	10,635	1.55%	804	7.60%	460	4.30%	140	1.30%
<b>Pacific Islander x IGP</b>	711	0.10%	57	8.00%	38	5.30%	n≤10	n≤10
<b>White</b>	487,137	70.91%	27,991	5.70%	15,849	3.30%	5,249	1.10%
<b>White x IGP</b>	17,353	2.53%	3,942	22.70%	1,433	8.30%	622	3.60%
<b>Other Demographic Groups</b>								
<b>Female</b>	320,323	46.63%	14,335	4.50%	7,848	2.50%	2,509	0.80%
<b>Female x IGP</b>	13,630	1.98%	2,740	20.10%	873	6.40%	385	2.80%
<b>Male</b>	338,766	49.31%	35,638	10.50%	18,134	5.40%	6,571	1.90%
<b>Male x IGP</b>	14,289	2.08%	6,074	42.50%	1,785	12.50%	856	6.00%

Student Groups	Group Count	Percent of Enrollment	Incident Count	Percent of Incidents	Count of Students with Incidents	Incident Rate	Count of students with More Than One Incident	Percent of Students with More than One Incident
English Learner	63,392	9.23%	8,415	13.30%	3,483	5.50%	1,313	2.10%
English Learner x IGP	1,969	0.29%	638	32.40%	166	8.40%	77	3.90%
Special Ed.	83,622	12.17%	13,784	16.50%	5,817	7.00%	2,382	2.80%
Special Ed. x IGP	6,969	1.01%	2,829	40.60%	779	11.20%	367	5.30%

Total enrollment = 687,008

Percentage of enrollment = group enrollment / total enrollment

Incident count = count of incidents

Percent of incidents = count of incidents within group / group count

Incident rate = count of students with incidents / group count

Percent of students with more than one incident = count of students with more than one incident / group count

Table 4. Counts and percentages of disciplines by student group (SY2020)

Student Groups	Discipline Count	Percent of Disciplines	Count of Students with Disciplines	Discipline Rate	Count of Students with More Than One Discipline	Percent of Students with More Than One Discipline
IGP	2,274	8.1%	1,321	4.7%	461	1.7%
Low-income	9,114	4.4%	5,991	2.9%	1,641	0.8%
Not Low-income	6,183	1.3%	4,605	1.0%	929	0.2%
<b>Race/Ethnicity</b>						
Asian	158	1.3%	115	1.0%	19	0.2%
Asian x IGP	n≤10	7.3%	n≤10	4.0%	n≤10	n≤10
Black	590	6.2%	374	3.9%	109	1.1%
Black x IGP	42	6.1%	31	4.5%	n≤10	n≤10
Hispanic	4,938	4.2%	3,269	2.8%	851	0.7%
Hispanic x IGP	779	11.6%	398	5.9%	160	2.4%
Multiple Races	593	3.0%	404	2.0%	105	0.5%
Multiple Races x IGP	107	9.0%	66	5.5%	26	2.2%
Native American	320	5.6%	215	3.8%	52	0.9%
Native American x IGP	141	8.4%	86	5.1%	33	2.0%
Pacific Islander	355	3.3%	267	2.5%	56	0.5%
Pacific Islander x IGP	29	4.1%	22	3.1%	n≤10	n≤10
White	8,343	1.7%	5,947	1.2%	1,383	0.3%
White x IGP	1,167	6.7%	715	4.1%	228	1.3%
<b>Other Demographic Groups</b>						
Female	3,448	1.1%	2,545	0.8%	513	0.2%
Female x IGP	598	4.4%	368	2.7%	107	0.8%
Male	11,849	3.5%	8,042	2.4%	2,061	0.6%
Male x IGP	1,676	11.7%	953	6.7%	354	2.5%
English Learner	2,586	4.1%	1,741	2.7%	441	0.7%
English Learner x IGP	168	8.5%	91	4.6%	35	1.8%
Special Ed.	4,745	5.7%	2,961	3.5%	916	1.1%
Special Ed. x IGP	810	11.6%	438	6.3%	171	2.5%

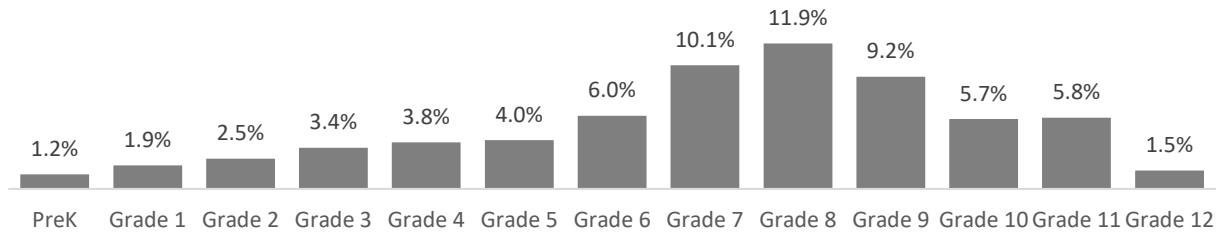
Discipline count = count of disciplines

Percent of disciplines = count of disciplines within group / group count

Discipline rate = count of students with disciplines / group count

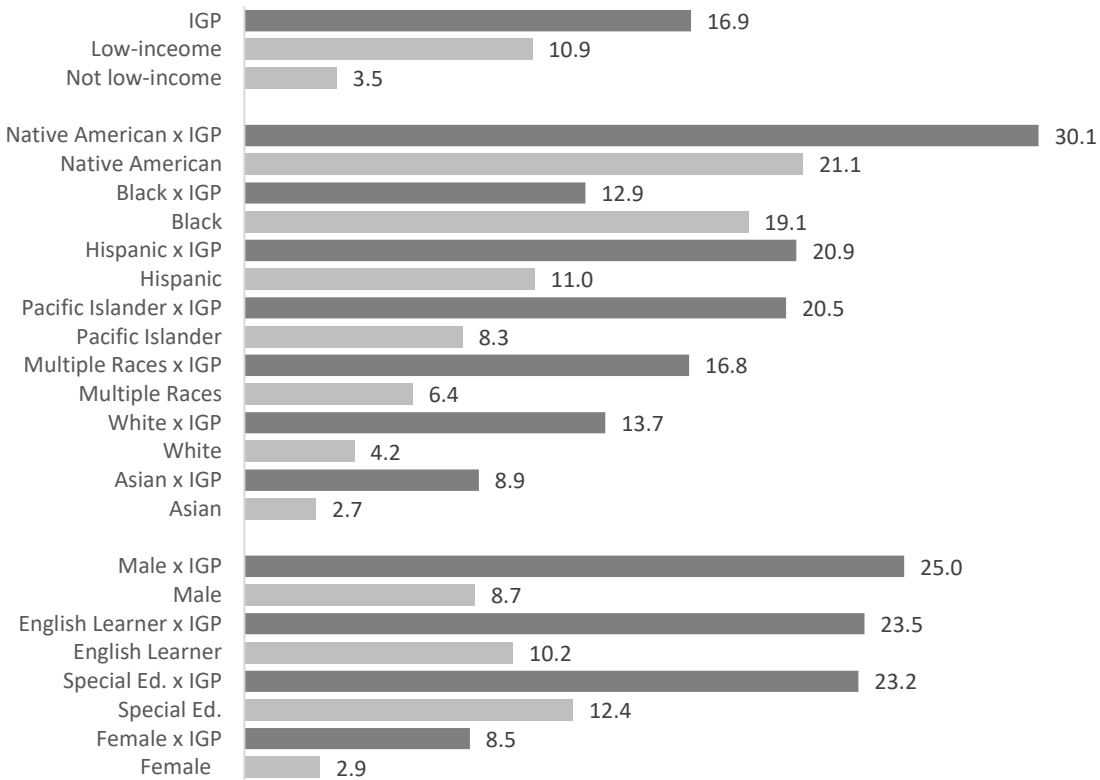
Percent of students with more than one discipline = count of students with more than one discipline / group count

Figure 1. Grade level discipline rates for students affected by IGP



Following the work of Losen and Martinez (2020b) we calculated the number of lost days per 100 students for student groups (Figure 2). One important value of this metric is that it adjusts for differences in enrollment counts and provides a meaningful comparison across student groups. Statewide, students lost 6.3 days of instruction per 100 students due to exclusionary discipline practices. In contrast, students affected by IGP lost 16.9 days, students from low-income backgrounds lost 10.9 days, and students who were not low-income lost 3.5 days. In 2018 students affected by poverty lost 16.5 days, and in 2019 they lost 18.8 days per 100 students. Among non-IGP race/ethnicity groups, Native American, Black, and Hispanic students lost the most days of instruction. Among students affected by IGP, all student groups except Black students experienced more lost days of instruction than their non-IGP counterparts. Male students lost 3 times as many days as females. Special education students lost 13.3 days per 100 students.

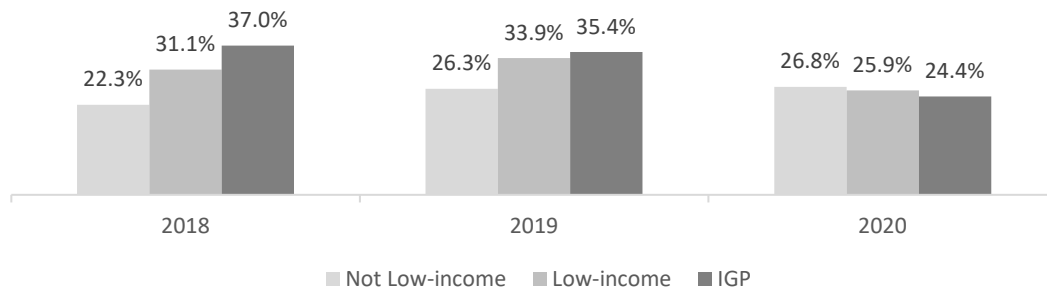
Figure 2. Number of lost days of instruction per 100 students.



Note: Calculations of lost days include suspensions and expulsions.

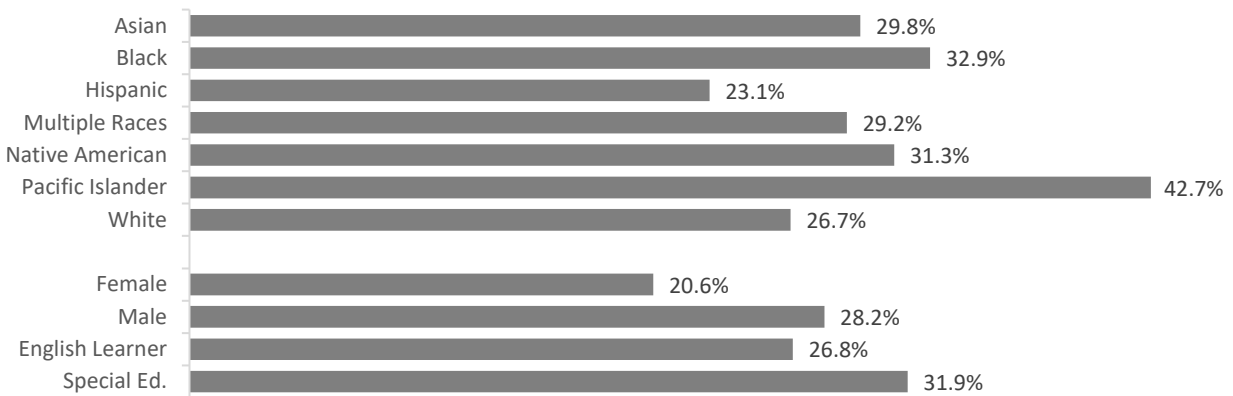
In contrast to the enrollment-based metrics presented above, incident-based discipline rates show the extent to which student groups received disciplines relative to the incidents they received. Figure 3 shows that, in SY 2020, incident-based discipline rates for students affected by IGP were slightly lower than their counterparts who were not low-income. This was opposite for the previous two years, as incident-based discipline rates of students affected by IGP have decreased over the past three years. Figure 4 indicates that for race/ethnicity groups, Pacific Islanders and Black students had the highest incident-based discipline rates in SY 2020, which was also the case for all three years (not shown). Although incident-based discipline rates for other demographic groups were slightly lower in 2020 than in previous years, they generally followed similar patterns as SY 2020 across the three years (not shown).

Figure 3. Incident-based discipline rates for poverty status groups SY 2018 – 2020.



Note: Incident-based discipline rate = sum of disciplines / sum of incidents

Figure 4. Incident-based discipline rates for demographic groups in SY 2020.



In response to literature suggesting that some student groups received higher rates for non-criminal incidents (Fabelo et al., 2011; S. J. Quinney College of Law, 2014), we calculated the incident-based discipline rate for each incident category for each student group (Table 4). Of the four groups of incidents, illegal incidents had the highest incident-based discipline rates, followed by harassment, discretionary, and truancy. Among the poverty status group, students affected by IGP had the lowest incident-based discipline rate for illegal incidents and discretionary incidents, but the highest for harassment related incidents. Pacific Islanders stood out as having a notably high incident-based discipline rate for harassment. They were second only to Native American students as having the highest rate for discretionary incidents. Special education students had a relatively high incident-based discipline rate for harassment and discretionary incidents, the two most subjective incident types.

To better understand the impact of receiving disciplines, we also included the number lost days per discipline. Among poverty status groups, students affected by IGP had the fewest lost days overall and the fewest lost days for illegal incident types. This means that for the number of disciplines they received, they lost fewer days of instruction than the other two poverty status groups. The contrast of lost days across the remaining three incident types was less remarkable, with students affected by IGP having slightly more lost days than the other two student groups for harassment related incidents and fewer for discretionary related incidents.

Among the race/ethnicity groups, two groups stood out as disproportionately affected by lost days of instruction due to disciplines (Table 5). Native American and Black students had the most lost days per discipline overall, as well as the most lost days for illegal, harassment, and discretionary related incidents. Given previous findings from the literature and the enrollment-based metrics in this results section, Special Education students had relatively fewer lost days per discipline than expected. This was true overall and for all incident types except truancy.

Table 5. Incident-based discipline rates and lost days per discipline for incident groupings in SY 2020.

Student Groups	Lost Days	Illegal		Harassment		Discretionary		Truancy	
		Incident-based Discipline Rate	Lost Days	Incident-based Discipline Rate	Lost Days	Incident-based Discipline Rate	Lost Days	Incident-based Discipline Rate	Lost Days
<b>IGP</b>	2.08	60.7%	2.69	37.8%	2.20	16.1%	1.55	6.4%	1.23
<b>Low-income</b>	2.47	63.9%	3.17	31.5%	2.07	17.1%	1.67	6.6%	1.27
<b>Not Low-income</b>	2.63	62.5%	3.31	33.6%	2.04	20.3%	1.92	5.6%	2.47
<b>Race/Ethnicity</b>									
<b>Asian</b>	2.02	61.7%	2.25	40.0%	1.86	10.6%	1.52	20.0%	1.55
<b>Black</b>	3.03	66.4%	3.62	37.8%	2.38	20.1%	2.01	7.4%	1.19
<b>Hispanic</b>	2.51	66.0%	3.29	31.1%	2.20	13.8%	1.63	7.2%	1.50
<b>Pacific Islander</b>	2.67	69.1%	3.18	51.3%	1.97	26.0%	1.98	15.5%	1.07
<b>Native American</b>	3.70	66.3%	5.13	32.6%	2.49	29.5%	3.03	4.5%	1.47
<b>Multiple Races</b>	2.11	64.5%	2.42	38.7%	2.23	20.4%	1.47	4.5%	3.18
<b>White</b>	2.38	60.7%	3.03	32.8%	1.98	21.0%	1.75	5.3%	1.76
<b>Other Demographic Groups</b>									
<b>Female</b>	2.56	69.9%	3.29	23.7%	2.19	13.6%	1.55	6.1%	1.59
<b>Male</b>	2.45	61.0%	3.12	35.7%	2.05	19.2%	1.77	6.3%	1.67
<b>Special Ed.</b>	2.16	63.6%	2.73	38.2%	1.89	23.5%	1.57	6.1%	2.04
<b>English Learner</b>	2.51	65.4%	3.20	33.6%	2.33	14.7%	1.66	8.9%	1.35

Incident-based discipline rate = sum of disciplines / sum of incidents

Lost days per discipline = number of days of lost instruction / sum of disciplines

In addition to the descriptive statistics presented above, we ran the same logistic regression model three times, once for each year. The outcome variable for all models was whether or not students received exclusionary disciplines. The model presented in Table 7 shows results from the analysis using the matched comparison group and included only IGP group membership as the predictor (see Table 6 for student counts included in the model). This model compares students who are similar on school year, school, gender, race/ethnicity, special education status, and English learner status and shows that students affected by IGP were 1.78 times more likely than similar peers to receive a discipline. We ran this model independently for each of the three years and found that for each year, students affected by IGP were significantly more likely than similar peers to experience exclusionary disciplines. The likelihood of receiving disciplines has remained relatively stable across the years, with a slight decrease in 2020 (2018 = 1.86; 2019; = 1.91).

Table 6. Counts of students affected by IGP and non- IGP comparison group for SY 2020.

Student Groups	Non-IGP Comparison Group	IGP Group	Non-IGP and Received Discipline	IGP and Received Discipline
Asian*	244	124	3	5
Black	1,559	686	64	31
Hispanic	16,480	6,742	585	398
Multiple Races	2,762	1,192	72	66
Native American	3,244	1,683	130	86
Pacific Islander	1,672	711	35	22
White	42,163	17,353	740	715
Low-income	32,655	26,314	1,190	1,279
Female	32,864	13,630	424	368
Male	35,213	14,289	1,204	953
Special Education	15,924	6,969	562	438
English learner	4,040	1,969	120	91

\* Asian students were removed from the model due to low N size.

Table 7. Matched comparison group logistic regression for IGP cohort on receiving discipline.

	Estimate	Std. Error	z value	Exp β	p
(Intercept)	-3.381	0.020	-168.02	0.034	<0.001
IGP Cohort	0.574	0.030	19.42	1.775	<0.001

McFadden pseudo r<sup>2</sup> = 0.009

**Discussion**

The purpose of the present study was to understand the extent to which students affected by IGP were receiving incidents and disciplines, relative to other student groups. This discussion responds to each of the research questions, notes the study's limitations, offers policy considerations, and proposes possibilities for future research.

***Which student groups had the highest incident and discipline rates?***

Among the three poverty status groups, students affected by IGP had the highest incident and discipline rates, relative to enrolment counts. Every race/ethnicity group affected by IGP had higher incident and discipline rates than their non-IGP counterparts. Students of Multiple Race, Hispanic, and White students had the biggest differences in incident and discipline rates based on poverty status, with Native American and Black students representing the highest incident and discipline rates overall, regardless of IGP status. These findings are consistent with many studies that have identified the same student groups as disproportionately affected by exclusionary discipline practices (APA 2008, Black 2004, Wallace et al., 2008).

Interestingly, when considering disciplines received relative to incidents received, students affected by IGP saw decreased incident-based discipline rates over the past three years. In fact, in SY 2020, they reported the lowest incident-based discipline rates of the three poverty groups. Considering both the enrollment-based discipline rates, and the incident-based discipline rates, it appears that for SY 2020, although students affected by IGP received more disciplines than their counterparts, they received fewer disciplines per incident than low-income students and students who were not low income.

***To what extent do some student groups miss more days of instruction than others due to exclusionary disciplines?***

We answered this question from the perspective of lost days relative to student counts and lost days relative to disciplines received. Regarding the former, students affected by IGP were losing more days per 100 students than low-income students and students who were not low-income combined.



Native American, Black, and Hispanic students were losing the most days among race/ethnicity groups. These groups were missing two to three times or more days than White students. Among students affected by IGP, all but Black students experienced higher numbers of lost days of instruction than their non-IGP counterparts. Special Education students stood out as losing 12.4 days per 100 students and for Special Education students who were also affected by IGP as losing 23.2 lost days per 100 students. These findings align with persistent findings from previous studies, which have pointed to similar disparities (APA, 2008; Huang, 2018; Skiba et al., 2011).

Relative to the disciplines they received, student affected by IGP lost fewer days than their counterparts. This provides evidence that even though students affected by IGP are disproportionality represented in incident and discipline rates, the number of days they lost based on disciplines received were actually fewer than the other poverty status groups. For race/ethnicity groups, Native American, Black, and Pacific Islanders students were missing between 3.7 and 2.7 days per discipline.

***When the offense is subjective (and/or non-violent, non-criminal), do some student groups receive more exclusionary disciplines than others? If so, which student groups are most affected?***

Two metrics informed this question. *Incident-based discipline rates* provided a metric of disciplines received relative to incidents received, and *lost days* calculated the days lost relative to disciplines received. We considered the discretionary incident grouping and, to some extent, the harassment grouping to represent incidents that were more subjective than those in the illegal grouping (see Table 1).

One consideration for interpreting the lost days of instruction metric is that it functions within a small range of values. Most suspensions ranged between one and three days, so we expect the means to remain relatively low. This may be at least partially responsible for our observation that disparities in these findings were not as drastic for some student groups as expected based on concerns raised in the literature. That said, there were clear, unexplainable differences among student groups. For illegal incidents, students affected by IGP received the fewest disciplines per incident and the fewest days lost

per discipline, but for harassment related incidents they received more disciplines and lost days than their counterparts. Some student groups, such as Pacific Islanders received more disciplines than other students for illegal and harassment related incidents. The number of lost days relative to disciplines received by Native American students was notably higher than all other race/ethnicity groups for all but truancy related incident types.

***While controlling for covariates, what is the relationship between students' poverty status and exclusionary disciplines?***

There was a positive relationship between being identified as affected by IGP and receiving a discipline, such that students who were identified as affected by poverty were 1.78 times more likely than similar peers to receive a discipline. This finding is consistent with literature concluding that students from low-income backgrounds experience more disciplines than their more resourced peers (Welsh & Little, 2018).

***Limitations***

This study has not provided a complete explanation of how various student groups experience exclusionary disciplines. It has pointed to disparities in school discipline practices across student groups, but the statistical model we ran explained very little variance. While poverty status, race/ethnicity, and other student characteristics can predict disparities in exclusionary disciplines across student groups, many other factors should be considered. For example, the literature points to teachers, school administrators, and policies as important predictors of exclusionary disciplines (APA, 2008; Gilliam et al., 2016; Losen & Martinez, 2020b; Skiba et al., 2011; Welsh & Little, 2018). This study did not consider those predictors and readers should recognize that as an important limitation.

Data quality is an ongoing challenge in school discipline research (Stern & Rogers, 2019). We are reliant upon schools and LEAs to accurately report incidents and disciplines. While we have seen the quality and completeness of these data increase in recent years, there remains cause for approaching these data with caution.

Finally, the incident groupings that we created to determine differences in exclusionary disciplines were limited by the incident types available to us. There was no clear line for examining difference in subjective incidents. Similarly, compared to some of the subjective incidents referenced in the literature, the state education agency data did not offer the granularity needed to provide a comprehensive answer regarding disparities in disciplines based on incident type.

### **Conclusion and Policy Recommendations**

Our approach to exploring potential disparities in the school incident and discipline experience of students affected by IGP in particular, and other student groups in general, was to use multiple metrics. We considered within-group incident and discipline rates based on group counts, and the count of lost days per 100 students. We also calculated discipline rates based on the incidents students received, and to better understand disparities in the magnitude or severity of disciplines, we calculated the number of days lost based on disciplines received.

Considering only one or even a few of these metrics could have led to unbalanced conclusions. Examining the enrollment count-based metrics, we concluded that students affected by IGP had consistently higher incident rates, discipline rates, and lost more days per 100 students than their counterparts. In contrast, incident-based discipline rates told a slightly different story, with incident-based discipline rates over the past three years declining for students affected by IGP, even to the point of being lower than the other poverty groups in SY 2020. The same can be said for lost days relative to disciplines received in SY 2020. Based on the number of disciplines they received, students affected by IGP were losing fewer days than their counterparts. We believe that this underscores the need to consider multiple metrics when examining differences among student groups in school incident and discipline data. Perhaps, along with varied contexts, the lack of multiple metrics and varied approaches to analyses contributes to explaining the mixed findings regarding the relationship of poverty status and school discipline found in previous literature. The metrics in this paper could serve, at least partially, as

a guide to other state and local education agencies interested in examining potential disparities in their school discipline data.

The findings from Utah are clear that students affected by IGP were disproportionately represented in school incidents and disciplines. However, one cannot conclude from these results that students from low-income or IGP backgrounds were or were not the result of discrimination, educator bias<sup>6</sup>, or misdirected policy. It was not within the scope, nor possible from the data available, for this exploratory study to explain why the disparities occur. Referring to the literature for an explanation, some authors presented convincing cases that growing up in impoverished environments may predispose students toward an increased likelihood of experiencing school incidents and disciplines (Flouri & Midouhas, 2016; Sanchez, 2021). This might result from a lack of access to basic resources needed for human development and school readiness, as well as attitudinal and cultural influences of growing up in families and communities impacted by poverty.

Systems-oriented approaches to understanding poverty provide a valuable model for interpreting the experiences of students from impoverished backgrounds. Such recognition that poverty is not a single, unidimensional construct, but rather exists within complex lived experiences, provides insight into, not only how poverty and its effects should be studied and understood, but also offers a lens through which to develop policy and practice considerations in response to the current study's results. For example, Jozefowicz-Simbeni & Allen-Mears's (2002) application of Bronfenbrenners (1979) ecological systems model offers a useful framework. At the individual level, education has often been promoted as transformational and as a key to overcoming poverty and creating new opportunities (Engle & Black, 2008). Each student brings various degrees of health, well-being, ability, and preparedness to the school setting. Recognizing and responding early when students need supports may be critical to their success. At the community level, schools can play a critical role by creating supportive

---

<sup>6</sup> Educators were not privy to which students were or were not affected by IGP.

environments. This might include offering specialized programs, connecting students and families to critical resources, and adopting comprehensive school climate frameworks that focus on supporting students. Other examples might include relationship building, restorative justice, social-emotional learning, and structural interventions (e.g., Positive Behavioral Interventions and Supports) (Noltemeyer et al., 2015; Skiba & Losen, 2016). At the policy level, LEAs and schools might revisit the use of zero tolerance and other policies that could unnecessarily increase exclusionary disciplines and replace them with policies that recognize the unique needs of various student groups.

As noted in the limitations, data quality is an ongoing challenge. It is impossible to identify and address school discipline related issues unless data are properly reported, collected, managed, and analyzed. This requires infrastructure, coordination, and clear communications to data submitters. Ultimately, these data should accurately reflect student-level experiences and school-level practices (Harper, 2020). Achieving this goal requires guidance from data collectors regarding what constitutes an incident and actionable definitions for each incident type.

We offer no explanation for why students affected by IGP had relatively high incident and discipline rates, but based on the disciplines they received, lost fewer days than low-income students and students who were not low-income. Future research might investigate this phenomenon. Regarding methodology, future research might include additional explanatory variables. The inclusion of additional school-level variables would have required new data collections currently unavailable in our state system. Research questions that integrate school level data might consider the role of school climate, include the relationship of zero tolerance policies and disparities across student groups, the role of school administrator and teacher attitudes toward school discipline, and what policy changes might decrease the type of disparities found in the current study. In addition to explanatory variables, related outcomes such as chronic absenteeism, drop-out rates, referrals to alternative schools and/or the juvenile justice system, and academic outcomes are worth future consideration (Ayoub et al., 2019;

Gage et al., 2016). Accounting for the influence of variables like those described above would better reflect the complexity of poverty. As such, future studies might utilize a model such as Bronfenbrenner's or a similar systems-oriented approach to studying the role of poverty and its relationship to school discipline. Many approaches could be taken to further the statistical analyses in the current paper. For example, researchers might look for statistical differences across student groups, perhaps determining if the values like those in our descriptive tables are statistically different from one another. Multi-level models that account for school-level variance have been used by other researchers (Petras et al., 2011; Theriot et al., 2010) and will likely further build our understanding of the relationships of various student groups and disciplines. Given the descriptive results in the current study, and the mixed findings from previous research, future studies might also examine the interaction effect of race and poverty.

## References

- Aber, J. L., Bennett, N. G., Conly, D. C., & Li, J. (1997). The effects of poverty on child health and development. *Annual Reviews Public Health, 18*, 463 – 483.
- American Psychological Association (2008). Are zero tolerance policies effective in the school? An evidentiary Review and Recommendations. *American Psychologist, 63*(9), 852-862. DOI: 10.1037/0003-066X.63.9.852.
- Anderson, K., & Ritter, G. (2016). Disparate use of exclusionary discipline: Evidence on inequities in school discipline from a US state. *Education Policy Analysis Archives, 25*(49), 1 – 36.
- Ayoub, L. H., Jensen, E., Sandwick, T., Kralstein, D., Hahn, J. W., & White, E. (2019). *School discipline, safety, and climate: A comprehensive study in New York City*. Center for Court Innovation, NY.
- Barrett, N., McEachine, A., Mills, J. N., Valant, J. (2017). Disparities in student discipline by race and family income. Technical Report by Education Research Alliance for New Orleans.
- Black, S. (2004). Schools don't need extreme policies to be safe and secure: Beyond zero tolerance. *American School Board Journal*.

Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*.

Harvard University Press, Cambridge, MA.

Engle, P. L., & Black, M. M. (2008). The effect of poverty on child development and educational

outcomes. *Annals of the New York Academy of Sciences*, 1136, 243 – 256.

doi:10.1196/annals.1425.023.

Fabelo, T., Thompson, M. D., Plotkin, M. P., Carmichael, D., Marchbanks, M. P., & Booth, E. A. (2011).

*Breaking school rules: A statewide study of how school discipline relates to students' success*

*and juvenile justice involvement*. Report by Council of State Governments Justice Center, New

York, NY.

Flouri, E., & Midouhas, E. (2016). School composition, family poverty and child behavior. *Social*

*Psychiatry*, 51, 817 – 826.

Gage, N. A., Larson, A., Sugai, G., Chafouleas, S. M. (2016). Student perceptions of school climate as a

predictors of office discipline referrals. *American education Research Journal*, 53(3), 492 – 515.

DOI: 10.3102/0002831216637349.

Gee, K. (2018). Minding the gaps in absenteeism: Disparities in absenteeism by race/ethnicity, poverty

and disability. *Journal of Education for Students Placed at Risk*, 23(1-2), 204 – 208.

Gerlinger, J., Viano, S., Gardella, J. H., Fisher, B. W., Curran, C. F., and Higgins, E. M. (2021). Exclusionary

school discipline and delinquent outcomes: A meta-analysis. *Journal of Youth and Adolescence*,

50, 1493-1509. <https://doi.org/10.1007/s10964-021-01459-3>.

Gilliam, W. S., Maupin, A. N., Reyes, C. R., Accavitti, M., Schic, F. (2016). *Do early educators' implicit*

*biases regarding sex and race relate behavior expectation and recommendations of preschool*

*expulsions and suspensions?* Research Study Brief from Yale Child Study Center, New Haven, CT.

- Gregory, A., Allen, J. P., Mikami, A. Y., Hafen, C. A., Pianta, R. (2014). Eliminating the racial disparity in classroom exclusionary discipline. *Journal of Applied Research on Children: Informing Policy for Children at Risk*, 5(2), 1 – 24.
- Griefer, N. (2021). *Assessing balance*. CRAN Packages repository reference manual, retrieved from <https://cran.r-project.org/web/packages>.
- Griffith, D., & Tyner, A. (2019). *Discipline Reform through the Eyes of Teachers*. Washington, DC: Thomas B. Fordham Institute (July 30, 2019). <http://fordhaminstitute.org/national/research/discipline-reform-through-the-eyes-of-teachers>.
- Harper, K. (2020). *School discipline reform is still needed, but is discipline policy still the solution?* National Association of State Boards of Education. Alexandria, VA.
- Heilbrun, A., Cornell, D., Lovegrove, P. (2015). Principal attitudes regarding zero tolerance and racial disparities in school suspensions. *Psychology in the Schools*, 52(5), 489-499. DOI: 10.1002/pits.21838.
- Ho, D.E., Imai, K., King, G., & Stuart (2011). MatchIt: Nonparametric preprocessing for parametric casual inference. *Journal of Statistical Software*, 42(8), 1-28.
- Huang, F. L., (2018). Do black students misbehave more? Investigating the differential involvement hypothesis and out-of-school suspensions. *The Journal of Educational Research*, 111(3), 284-294.
- Intergenerational Poverty Mitigation Act, Title 35A, Chapter 9 (2012). [https://le.utah.gov/xcode/Title35A/Chapter9/35A-9-S102.html?v=C35A-9-S102\\_1800010118000101](https://le.utah.gov/xcode/Title35A/Chapter9/35A-9-S102.html?v=C35A-9-S102_1800010118000101)
- Jordan, J. L., & Anil, B. (2009). Race, gender, school discipline, and human capital effects. *Journal of Agricultural and Applied Economics*, 41(2), 419-429.
- Jozefowicz-Simbeni, M. H. & Allen-Mears, P. (2002). Poverty and schools: Intervention and resource building through school-linked services. *Children and Schools*, 24(2), 123 – 136.



- Kiernan, K. E., & Kensah, F. K. (2011). Poverty, family resources and children's early educational attainment: The mediating role of parenting. *British Educational Research Journal*, 37(2), 317 – 336.
- Lacoe, J., & Manley, M. (2019). *Disproportionality in school discipline: An assessment in Maryland through 2018*. Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Mid-Atlantic.
- Lacour, M. & Tissington, L. D. (2011). The effects of poverty on academic achievement. *Educational Research Reviews*, 6(7), 522 – 527.
- Losen, D. L, & Martinez, P. (2020a). *Is California doing enough to close the school discipline gap?* The Center for Civil Rights Remedies. University of California: Los Angeles, CA.
- Losen, D. J. & Martinez, P. (2020b). *Lost opportunities: How disparate school discipline continues to drive differences in the opportunity to learn*. Palo Alto, CA/Los Angeles, CA: Learning Policy Institute; Center for Civil Rights Remedies at the Civil Rights Project, UCLA.
- Losen, D. J., Martinez, P., & Shin, G.H.R. (2021). *Disabling Inequity: The Urgent Need for Race-Conscious Resource Remedies*. The Center for Civil Rights Remedies at the Civil Rights Project, UCLA: Los Angeles, CA.
- McNeill, K. F., Friedman, B. D., & Chavez, C. (2016). Keep them so you can teach them: Alternatives to exclusionary discipline. *International Public Health Journal*, 8(2), 169-181.
- Mendez, L. R., Knoff, H. M., & Ferron, J. M. (2002). School demographic variables and out-of-school suspension rates: A quantitative and qualitative analysis of a large, ethnically diverse school district. *Psychology in the Schools*, 39(3), 259-277. DOI: 10.1002/pits.10020.
- Najman, J. M., Bor, W., Ahmadabadi, Z., Williams, G. M., Alati, R., Mamun, A. A., Scott, J. G., & Clavarino, A. M. (2018). The inter-and intra-generational transmission of family poverty and hardship

- (adversity): A prospective 30 year study. PLoS ONE 13(1): e0190504. <https://doi.org/10.1371/journal.pone.0190504>.
- Noltemeyer, A. L., Ward, R. M., & Mcloughlin, C. (2015). Relationship between school suspension and student outcomes: A meta-analysis. *School Psychology Review, 44*(2), 224-240.
- Olmos, A., & Govindasamy, P. (2015). Propensity scores: A practical introduction using R. *Journal of Multidisciplinary Evaluation, 11*(25), 68-88.
- Payne, R. (2008). Nine strategies help raise the achievement of students living in poverty. *Educational Leadership, April*, 48 – 52.
- Payne, R. K. (2009). Poverty does not restrict a student's ability to learn. *Phi Delta Kappan, January*, 371 - 372.
- Petras, H., Masyn, K. E., Buckley, J. A., Jalongo, N. S., & Kellam, S. (2011). Who is most at risk for school removal? A multilevel discrete-time survival analysis of individual-and context-level influences. *Journal of educational psychology, 103*(1), 223.
- Pollak, S. D., & Wolfe, B. L. (2020). Maximizing research on the adverse effects of child poverty through consensus measures. *Developmental Science, 23*, 1 – 11. DOI: 10.1111/desc.12946.
- Rafa, A. (2019). *The status of discipline in state policy*. [Policy Analysis] Denver CO: Education Commission of the States.
- Rice, S. (2009). Education for toleration in an era of zero tolerance school policies: A Deweyan analysis. *Educational studies. American Educational Studies Association, 45*, 556-571. DOI: 10.1080/00131940903338308.
- Sanchez, H. (2021). Arrested development: Poverty impacts brain function and student behavior, often spurring unconscious biases from educators. *Principal, 101*(2), 24 – 27.

- Skiba, R. J., Horner, R. H., Chung, C., Rausch, M. K., May, S. L., & Tobin, T. (2011). Race is not neutral: A national investigation of African American and Latino disproportionality in school discipline. *School Psychology Review, 40*(1), 85-107.
- Skiba, R. J. (2014). The failure of zero tolerance.
- Skiba, R. J., Arredondo, M. I., & Williams, N. T. (2014). More than a metaphor: The contribution of exclusionary discipline to a school-to-prison pipeline. *Equity and Excellence in Education, 47*, 546 – 564.
- Skiba, R. J., Chung, C. G., Trachok, M., Baker, T. L., Sheya, A., & Hughes, R. L. (2014). Parsing disciplinary disproportionality: Contributions of infraction, student, and school characteristics to out-of-school suspension and expulsion. *American Educational Research Journal, 51*(4), 640-670.
- Skiba, R. & Edl, H. (2004). The disciplinary practices survey: How do Indiana's principals feel about discipline? Policy Brief from Center for Evaluation and Education Policy, Indiana University, Bloomington, IL.
- Skiba, R. J., & Losen, D. J. (2016). From reaction to prevention: Turning the page on school discipline. *American Educator, 4*- 12.
- S. J. Quinney College of Law (2014). From fingerprint to fingerprints: The school-to-prison pipeline in Utah. University of Utah: Salt Lake City, UT.
- Stern, A., & Rogers, C. (2019). *Building a foundation for school discipline reform: Action steps for states to improve the collection and use of school discipline data*. [Policy Brief of the Mid-Atlantic Comprehensive Center]. San Francisco, CA: WestEd.
- Theriot, M. T., Craun, S. W., & Dupper, D. R. (2010). Multilevel evaluation of factors predicting school exclusion among middle and high school students. *Children and Youth Services Review, 32*, 13 – 19.

United States Government Accountability Office (2018). K-12 education discipline disparities for black students, boys, and students with disabilities. Report to Congressional Requesters.

Wallace, J. M., Goodkind, S., Wallace, C. M., Bachman, J. G. (2008). Racial, ethnic, and gender differences in school discipline among U. S. high school student: 1991-2005. *Negro Educational Review*, 59, (1-2), 47-62.

Welsch, R. O., & Little. S. (2018). The school discipline dilemma: A comprehensive review of disparities and alternative approaches. *Review of Educational Research*, 88(5). 752-794.

Yoshikawa, H., Aber, J. L., & Beardslee, W. R. (2012). The effects of poverty on the mental, emotional, and behavioral health of children and youth. *American Psychologist*, 67(4), 272 – 284. DOI: 10.1037/a0028015.