

Towards identifying school-level factors reducing disciplinary exclusions of American
Indian/Alaska Native students

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Abstract

Our study examined the relationship between the Native American community's recommendations for improving outcomes for American Indian/Alaska Native (AI/AN) students and school level practices in Oregon. We merged data on teacher practices from the 2009 National Indian Education Study (NIES) with data reflecting disciplinary exclusions. Our unweighted sample consisted of 40 elementary schools, 40 middle schools, <10 high schools, and 10 K-8/12 schools. Results indicated that the majority of teachers did not participate in recommended professional development nor did they integrate Native culture into instruction. Although correlations between participation in professional development and use of Native culture were significant, linear regression outcomes indicated no significant association between school level practices and disciplinary exclusion patterns of AI/AN students. Follow-up analyses of K-8/12 schools, which had the lowest rates of disciplinary exclusions for AI/AN students, indicated that greater AI/AN enrollment density was associated with lower out-of-school suspension rates. Based on our analyses and current efforts in Oregon to improve educational outcomes for AI/AN students we recommended greater emphasis on (a) disaggregating discipline data by student race, (b) meaningful collaboration between state departments of education and Native community leaders, (c) schools' accountability for reaching out to Native parents and community members, and (d) sharing disaggregated data with all relevant stakeholders.

Towards identifying school-level factors contributing to the disciplinary exclusion of American Indian/Alaska Native students

Educational Outcomes for AI/AN students

Across the United States, American Indian/Alaska Native (AI/AN) students experience poor educational outcomes, including high drop-out rates, low graduation rates, and low academic achievement (Faircloth & Tippeconnic, 2010). From 1997 to 2007, the AI/AN dropout rate showed an increasing trend with 20% of 16 to 24 year olds having dropped out of school in 2007 (Aud, Fox, & KewalRamani, 2010). In 2006, the national graduation rate for AI/AN students was 50% compared to 69% of all U.S. students (Faircloth & Tippeconnic, 2010). Based on the 2007 National Assessment of Educational Progress (NAEP) data, 51% of AI/AN 4th graders and 44% of AI/AN 8th graders scored below the basic level in reading, and 2009 NAEP results showed that 34% of AI/AN 4th graders and 44% of AI/AN 8th graders scored below the basic level in mathematics. The National Indian Education Association reports that AI/AN students' academic performance has stagnated since 2005 and that AI/AN students remain highly over-represented among students targeted for special education services and students suspended or expelled from school (NEA, 2010-2011).

Oregon has the 10th largest AI/AN student population in the U.S., with approximately 2% of its student population being AI/AN (Faircloth & Tippeconnic, 2010). AI/AN student outcomes in Oregon are similar to those across the United States. The disciplinary exclusion rates for AI/AN students are almost twice as high as those for White students, and the percent of instructional days AI/AN students lose to disciplinary exclusions is about twice as high as the percent of instructional days White students lose to disciplinary exclusions (Vincent, Sprague,

Tobin, 2012). In Oregon, as across the nation, AI/AN students also tend to perform lower academically than their White peers (Sprague & Vincent, 2012). Overall, disciplinary exclusion has been found ineffective as a means to change student behavior or improve academic achievement (Skiba, Peterson, & Williams, 1997). Students who are excluded from school have a high likelihood of dropping out or entering the juvenile justice system (Christle, Jolivette, & Nelson, 2005), and they are likely to be alienated from school since they view school personnel as unhelpful in resolving the issues that lead to disciplinary exclusion (Costenbader & Markson, 1998).

The Native American Community's Recommendations to Improve AI/AN Student Outcomes

Research suggests that both school and student level factors are associated with poor disciplinary outcomes. The top reasons AI/AN students identify for dropping out are expulsion and lack of interest (NEA, 2010-11; NIEA, 2008; Swisher, Hoisch, & Pavel, 1992). Among the school-level factors contributing to drop-out and student disengagement are school size, irrelevant curricula, and lack of parent involvement (Faircloth & Tippeconnic, 2010). The Native American community provides clear guidance on what school level factors might improve disciplinary as well as academic outcomes for AI/AN students. These factors include emphasis on (a) Native culture in pre-service and in-service teacher training, (b) use of tribal traditions, customs, and languages to promote students' positive identity development and sense of belonging, and (c) increasing Native parents' participation in school events and local policy making (Chavers, 2000; CHiXapkaid et al., 2008; Demmert, Towner, & Yap, 2003; NCAI/NIEA, 2010, Swisher & Tippeconnic, 1999). Because of the geographical isolation of many AI/AN students and because of their relatively small numbers in the U.S. public schools (1% of the overall U.S. public school student population; Aud et al., 2010), only a handful of

studies provide empirical support for these recommendations (Demmert et al., 2003).

For example, Bacon, Kidd and Seaberg (1982) examined the effect of bilingual (Cherokee and English) instruction on students' reading and math achievement and found that students who received bilingual instruction scored higher in reading and math than those who received instruction only in English. Similarly, Franks (1988) examined the effect of Choctaw and English instruction on the reading outcomes of elementary aged students and found that students exposed to bilingual instruction made better progress than those who were not exposed to the program. Rosier and Holm (1980) looked at reading and math instruction in Navajo on students' later achievement in these core subjects. Students who were instructed in Navajo, their native language, performed higher on reading and math assessments. Wright, Taylor, and Macarthur (2000) examined the extent to which instruction could retain knowledge of the heritage language for Inuit students. Bilingual education was successful in retaining knowledge of the heritage language. Taken together, this theoretical and empirical evidence supports the importance of incorporating Native culture to create culturally meaningful learning environments that are perceived as relevant by AI/AN students and therefore, perhaps, create a context and culture in the school that reduces the likelihood of disciplinary problems.

The benefits of infusing Native culture to deliver academic curricula for AI/AN students have been described as an increased sense of belonging, positive identity development, increased self-awareness and cultural awareness, and increased understanding between AI/AN students and their families and their non-AI/AN peers (CHiXapkaid et al., 2008; Keeshig-Tobias, 2003; Tsui & Alanis, 2004). While a predominantly White educational system focuses on the academic achievement of students as the primary purpose of schools, the Native American community focuses on cultural well-being as the most critical area of current educational practices. To

achieve cultural well-being, students need to learn to negotiate successfully two different cultures, acquire knowledge about their history and language, develop a positive Native identity, and develop positive connections to their culture (CHiXapkaid et al., 2008; Demmert, 1994).

Current Efforts to Improve Educational Outcomes for AI/AN Students in Oregon

Oregon schools enroll approximately 11,900 AI/AN students. In 2006, the Oregon Department of Education (ODE) formulated the Oregon American Indian/Alaska Native Education State Plan (see <http://www.ode.state.or.us/search/results/?id=112>) to improve service to its AI/AN student population. The Oregon AI/AN Education State Plan echoes the recommendations made by the National Indian Education Association and specifies 11 goals, including strengthening partnerships between schools and AI/AN parents and tribal leaders, assuring that public school personnel are knowledgeable about and responsive to the needs of AI/AN students, and integrating Native culture into the curriculum and instruction. Quarterly Government-to-Government Indian Education Cluster (G2) meetings provide members of the Native community, members of the Oregon Department of Education, and school personnel opportunities to connect and work toward implementation of the goals specified in the Oregon AI/AN Education State Plan.

In 2009, the year the data for our analyses described below were collected, the nine tribes located in Oregon had government-to-government status and were authorized to contract with state agencies for Indian education through state statute. Native American culture and history were part of Oregon's academic standards and the school curriculum and the State Board of Education had approved AI/AN students' opportunity to learn their native language as part of their education program. The AI/AN Education State plan stipulated that members from the Native community should be involved in advisory boards, and teacher certification for speakers

of Native American languages was promoted through state statute. However, the Oregon Department of Education did not have a state-funded Indian education coordinator, did not have targeted funding for Indian education programs, and the state did not have a policy focused on reducing the achievement gap between AI/AN and other students (Smiley & Sather, 2009).

Since 2009, the state of Oregon has made great strides in creating greater collaboration and accountability for implementing the goals specified in the AI/AN Education State Plan. Based on recent meetings, the G2 has initiated a series of web-based trainings focused on (a) implementation of the achievement compact, (b) training school districts to formulate school improvement plans that contain strategies to facilitate equitable outcomes for all students, and (c) developing a data system to increase connectivity across organizations and stakeholders and raise accountability for outcomes (personal communication on November 16, 2012 with Steve Woodcock, Tribal Liaison, Oregon Department of Education). The achievement compact is a “partnership agreement between the state and a school district or other institution of public education that defines key measures of student success and sets targets for achievement, as defined by the district or institution.” (Oregon Education Investment Board, 2012). The primary purposes of the achievement compact are to help Oregon schools define key measures of student success and achieve the 40/40/20 goal (40% earn bachelor degrees, 40% earn 2-year degrees, and 20% earn a high school diploma or equivalent), retain students in school, and boost graduation rates. In the school improvement plans, schools will formulate strategies to implement recommended practices, support their priorities with documentation (e.g. the Oregon AI/AN Education State Plan), and provide community members the opportunity to provide feedback through written input via a letter template made publicly available. By June 2013, 50% of Oregon schools will have an improvement plan in place, and by June 2014, the remaining 50%

will have done so. On-going data collection is intended to boost accountability for implementation of recommended practices and provide information for practitioners, policy makers, and community members.

Finally, the Oregon Teacher Standards and Practices Commission requires that teachers complete continuing professional development in at least one of 7 areas (learning communities, leadership, resources, data, learning designs, implementation, and outcomes). A total of 25 hours of professional development per year need to be completed. While none of the 7 areas are specific exclusively to the education of AI/AN students, all of them are relevant. Teachers select their professional development activities in consultation with their supervisor, or with an individual approved by the supervisor. Given that schools are required to collect academic achievement as well as disciplinary exclusion data, it would be reasonable to assume that principals may be aware of potential inequities primarily affecting AI/AN students and could then direct their teachers to complete professional development activities in relevant areas.

Purposes of the Current Study

Given the disproportionate over-representation of AI/AN students in disciplinary exclusions, and given Oregon's current efforts to improve outcomes for its AI/AN students, the overall purposes of the current study were (a) to examine to what extent the recommendations made by the Native community to improve outcomes for AI/AN students and echoed in the Oregon AI/AN Education State Plan have been implemented in Oregon schools, (b) if implementation occurred, how the recommended practices were related to disciplinary outcomes for students from AI/AN backgrounds, and (c) if implementation did not occur, what policy recommendations might be suggested to encourage greater implementation and ultimately improved outcomes for AI/AN students in Oregon. Very few data-based studies on the extent to

which the Native community's recommended practices are implemented and how implementation affects student outcomes exist. Therefore, our study was intended to be largely exploratory.

Method

Data Sources

Data from the National Indian Education Study (NIES) present an unparalleled source of information on the extent to which the strategies recommended by the Native community and empirically supported by the literature are translated into practice. NIES data collection occurs biannually and consists of two parts. During part I, a nationally representative sample of 4th grade and 8th grade students' completes the National Assessment of Educational Progress (NAEP) assessments in reading and math. For part II, all students in schools that participate in the NAEP assessment and report any AI/AN enrollment complete a student questionnaire, their math and reading teachers complete a teacher questionnaire, and the school administrator completes the school background questionnaire (National Center on Education Statistics, 2011). The student questionnaire gives students the opportunity to report their perceptions of their school and home environments. The teacher questionnaire asks teachers to report their efforts to provide learning environments where AI/AN students can succeed through professional development in the form of independent study, college coursework, or in-service trainings, as well as integration of Native culture into the delivery of academic curricula. The school background questionnaire asks school administrators to report on policies and practices within their school relevant to AI/AN students' success, including school-wide efforts to increase participation of family and community members in school activities. These data are collected in part II of the NIES directly map onto the Native community's recommendations for improving

AI/AN students' disciplinary and academic outcomes, and thus allow data-based inquiry into the relationship between the recommendations and student outcomes. We currently have access to the NIES data collected in the spring of 2009.

The Oregon Department of Education (ODE) annually compiles data on exclusionary discipline. The third author of this paper has gained access to this dataset reflecting type and duration of exclusionary discipline practices at the student level. Of particular interest to us were out-of-school suspensions (OSS). OSS was defined as a temporary removal from the regular school to another setting, and therefore constituted a disciplinary consequence that was most disruptive and consequential to the student's social and academic success. Expulsions occurred very infrequently, and were thus of less interest to us. Each OSS event was associated with a duration measured in half day increments. Thus, we could calculate the number of instructional days students lost due to disciplinary exclusion. Because discipline data were collected at the student level, we could also differentiate between students suspended out of school once and students suspended out of school multiple times. The racial/ethnic background of each student involved in an exclusionary discipline event was coded following federal guidelines. Because we used discipline data from the 2008-2009 academic year to match the NIES data collected in spring 2009, student race/ethnicity was reported with the following, now outdated, 5 racial/ethnic categories: American Indian/Alaska Native, Asian/Pacific Islander, Hispanic, Black, and White.

Sample

In the 2008-2009 academic year, there were a total of 1310 schools in Oregon, 1110 of which enrolled AI/AN students. In an unweighted sample of these schools, teachers and administrators completed the 2009 NIES teacher and school background questionnaires. This sample consisted of 40 elementary schools, 40 middle schools, <10 high schools, and 10 K-8/12

schools. All schools were public schools. Table 1 provides an overview of our sample's enrollment and socio-economic status as measured by percentage of students on free and reduced lunch. Because White students are commonly used as the comparator group, and because the majority of the student population in Oregon is White, we show enrollments for AI/AN and White students only.

Table 1: Enrollment and students on free or reduced lunch (FRL)

	Elementary (n = 40)	Middle (n = 40)	High (n = <10)	K-8/12 (n = 10)
Total Enrollment	15,120	23,460	770	3710
Pct Students on FRL	48.48%	51.44%	63.63%	38.54%
Number (Percent) of AI/AN Students	880 (5.82%)	850 (3.62%)	200 (28.57%)	190 (5.12%)
Number (Percent) of White Students	10,890 (72.02%)	15,730 (67.05%)	500 (64.94%)	2530 (68.19%)

A total of 270 teachers from these schools completed the teacher questionnaire; 10 were from AI/AN backgrounds. One administrator per school completed the school background questionnaire. Based on school administrator report, the majority of schools (n = 50) had 0% AI/AN teachers, and 20 schools had 1-5% AI/AN teachers. A total of 30 administrators reported that their schools had 0% AI/AN staff, and 30 reported that their school had 1-5% AI/AN staff. The majority of administrators (n = 60) reported the percent of their AI/AN enrollment as 1-5%, and n = 80 administrators described their schools as “low AI/AN density.”

Analytical Strategies

We first conducted descriptive analyses to assess the extent to which (a) AI/AN students were disproportionately represented among students with one or multiple OSS compared to their White peers, and (b) the schools in our sample implemented the practices recommended by the Native community and reflected in the Oregon AI/AN Education State Plan. We calculated the extent to which AI/AN and White students were disproportionately represented among students

suspended out of school once and multiple times both as a percentage of their total enrollment, and as the risk they experienced of being suspended out of school in relation to all other students. Separate calculations were performed for elementary, middle, high, and K-8/12 schools to observe potential differences between school levels. Because we were also interested in the number of instructional days students lost due to disciplinary exclusions, we calculated the percent of student days lost for AI/AN and White students by first summing the number of half days associated with disciplinary exclusions and then dividing the sum by the group's total enrollment multiplied by 170 days (the average length of the school year in Oregon).

Because our initial analysis indicated that K-8/12 schools had the overall lowest OSS rates and the smallest discrepancies between AI/AN and White students, we followed up by further disaggregating discipline data in K-8/12 schools by grade level (K-5, 6-8, 9-12) to examine patterns across grade levels in this subset of our sample. Because of the overall low numbers of OSS occurring at the K-8/12 grades, risk ratios were not calculated.

To assess the extent to which Oregon teachers implemented the practices recommended by the Native community and reflected in the Oregon AI/AN Education State Plan we aggregated responses to items on the NIES surveys querying teachers about their professional development activities and their use of Native language and culture in instruction to the school level and calculated the percent of respondents per response option. Because only one principal per school responded to items assessing parent involvement in school activities, no aggregations were necessary. We again calculated the percent of respondents per response option. Finally, to assess if a relationship existed between implementation of the Native community's recommended practices and OSS rates for AI/AN students, we conducted correlations and linear regressions (see Appendix for more detail on data preparation for statistical testing).

Results

Figure 1 presents an overview of the extent to which AI/AN and White students were represented among students with one and multiple out of school suspensions as a percentage of their respective total enrollment. At the elementary level, the percentage of AI/AN students suspended out of school once was 1.22 percentage points larger than the percentage of White students suspended out of school once. At the middle school level, the percentage point difference increased to 3.71. At the high school level, the percentage of White students suspended out of school was 1.6 percentage points larger than the percentage of AI/AN students suspended out of school. In K-8/12 schools, the percentages of AI/AN and White students suspended out of school once was almost identical. For students suspended multiple times, very small difference in percentage points existed at the elementary school level (0.8), the middle school level (0.94) and in the K-8/12 schools (0.18). At the high school level, however, the percentage of AI/AN students suspended out of school multiple times was 5.7 percentage points larger compared to the percentage of White students suspended out of school multiple times.

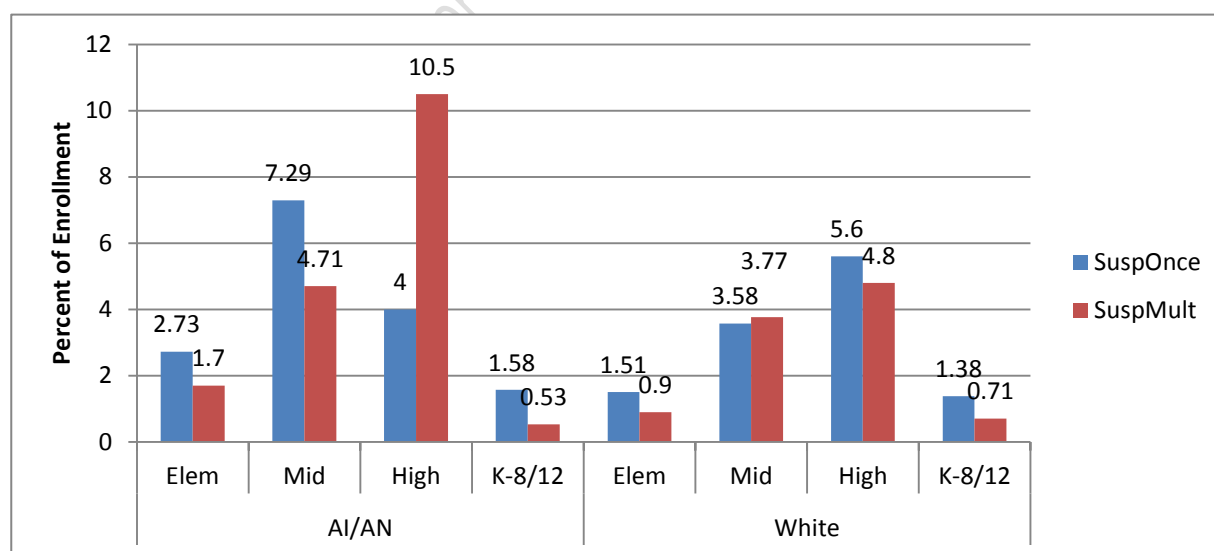


Figure 1: Students suspended once and multiple times across school levels as a percentage of total enrollment

Students in K-8/12 schools experienced the overall lowest OSS rates. In addition, discrepancies between AI/AN and White students were smallest. Disaggregated by grade levels, K-8/12 schools had fluctuations similar to those seen across school levels, with the middle grades (6th-8th) having the highest OSS rates. Across all grades in the K-8/12 schools, the percentage of AI/AN students suspended multiple times exceeded the percentage of White students suspended multiple times.

Table 2 summarizes the risk ratios for AI/AN students and White students experiencing one or multiple OSS across school levels

		Elementary (n = 40)	Middle (n = 40)	High (n < 10)	K-8/12 (n = 10)
AI/AN	One OSS	1.92	1.85	.75	.90
	Multiple OSS	1.94	1.22	2.20	.46
White	One OSS	1.02	.68	1.71	.52
	Multiple OSS	.89	.89	.53	.34

At the elementary level, AI/AN students were almost twice as likely as all other students to be suspended out of school once and multiple times. At the middle school level, they were almost twice as likely to be suspended out of school once, and almost equally as likely to be suspended out of school multiple times. At the high school level, AI/AN students were less likely than all others to be suspended out of school once, but more than twice as likely to be suspended out of school multiple times. In K-8/12 schools, AI/AN students were less likely than all others to be suspended once or multiple times. In comparison, White students were less likely than all other students to be suspended out of schools multiple times across all school levels. At the elementary school level, they were as likely as all others to be suspended once, and at the high school level, they were almost twice as likely to be suspended multiple times. With the exception

of multiple suspensions at the high school level, White students experiences lower likelihoods of suspensions than AI/AN students at all school levels.

Figure 2 shows the percent of AI/AN and White student days lost due to OSS across school levels.

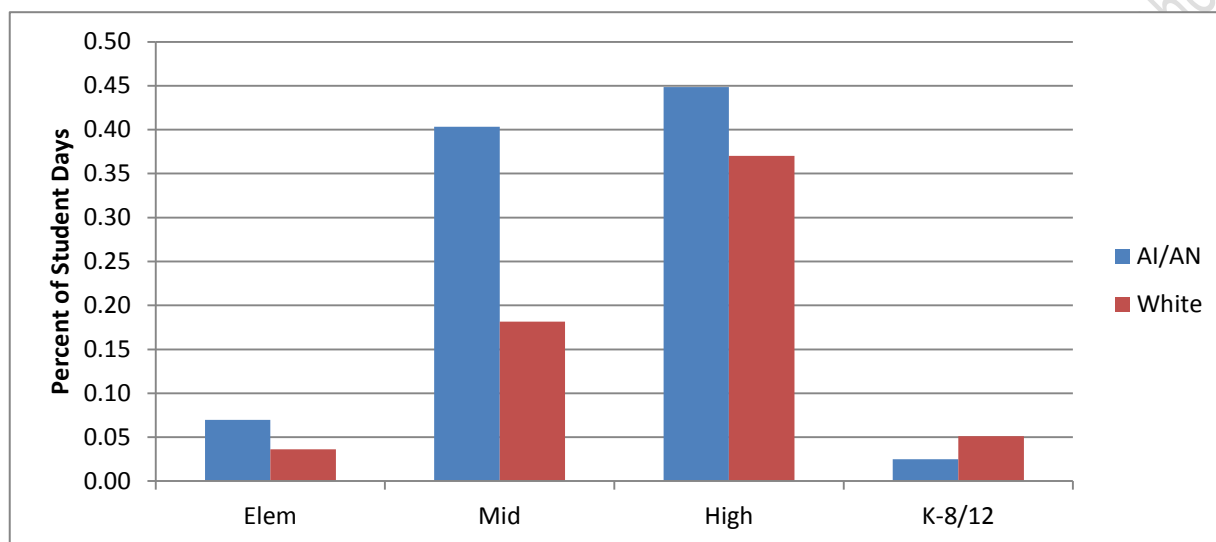


Figure 2: Percent of student days lost by racial/ethnic group and school level.

Across elementary, middle, and high schools, AI/AN students lost more student days to out of school suspensions than their White peers. The largest discrepancy between the two racial/ethnic groups in student days lost existed at the middle school level, where AI/AN students lost more than twice the number of student days than White students. In K-8/12 schools, outcomes were reversed: White students lost more than twice the number of student days than AI/AN students.

Figure 3 provides an overview of the extent to which teachers in Oregon schools availed themselves of professional development opportunities to improve outcomes for AI/AN students and integrated Native culture into instruction. Figure 4 provides an illustration of the extent to which school administrators reported family and community participation in school activities.

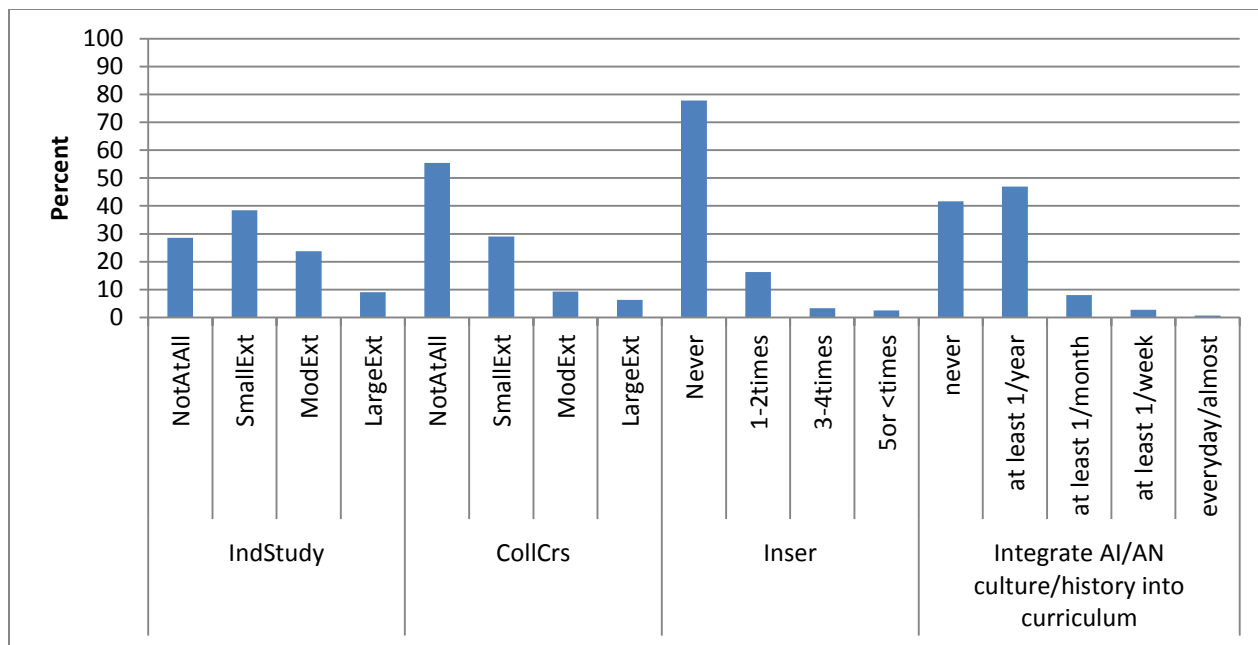


Figure 3: Teacher professional development and use of Native culture

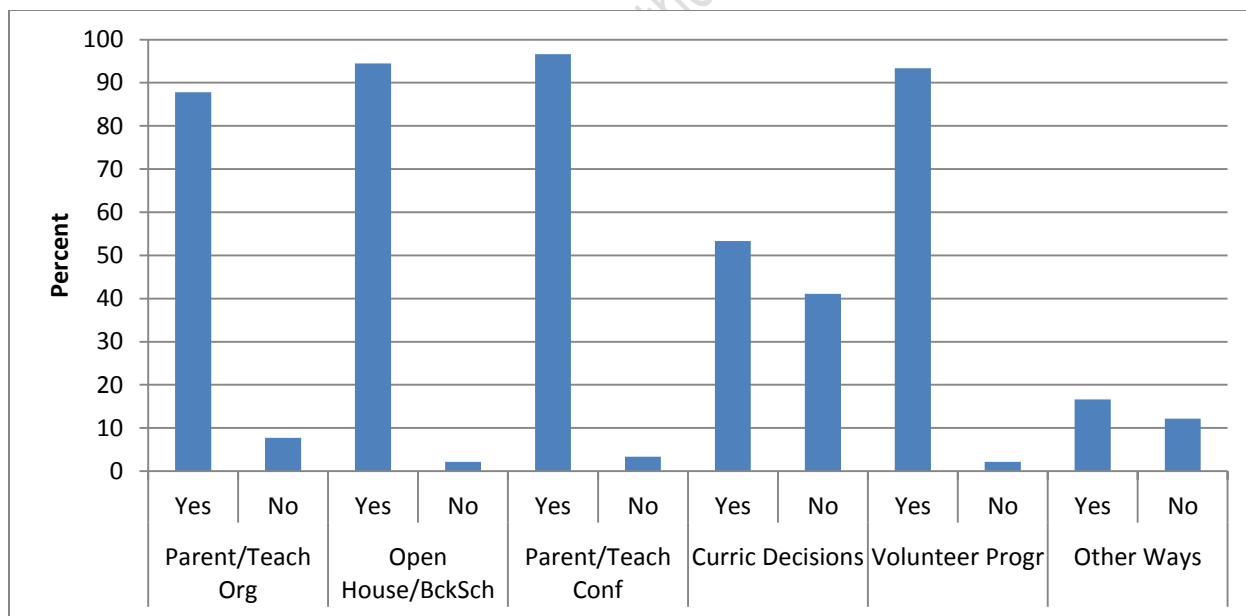


Figure 4: School-wide family and community participation

Across all schools in our sample, teachers reported very little engagement in professional development opportunities focused on improving outcomes for AI/AN students. While 67%

reported that they engaged in individual study “not at all” or “to a small extent,” 84% reported that they took relevant college courses “not at all” or “to a small extent” and 94% reported that they completed relevant professional development activities “never” or “1-2 times.” Most importantly, the vast majority of them (88%) reported that they integrated Native culture into the curriculum “never” or “at least once a year.” School administrators, on the other hand, largely reported that they included family and community members in parent/teacher organizations, open house or back to school events, and parent teacher conferences. Only slightly more than half of the respondents (53%) reported that family and community members were included in curricular decisions.

Table 3 summarizes the outcomes of the correlations between school-level factors (teacher professional development, teacher use of Native culture in instruction and family/community participation) and OSS rates for AI/AN students. Statistically significant positive correlations existed between teacher engagement in professional development and use of Native culture in instruction. Very little association existed between school level factors and OSS rates for AI/AN students. While there was no significant correlation between teacher use of Native culture and AI/AN OSS rates, statistically significant correlations existed between teacher attendance of college courses, inservice, and professional development in general and AI/AN OSS rates. Unfortunately, the correlation outcomes were in the unexpected direction. However, since correlation does not imply causation, and since our dataset represented only 1 year, it might be reasonable to assume that higher OSS rates for AI/AN students might encourage teachers to seek out professional development opportunities focused on improving outcomes for those students.

Table 3. Pearson's r values for correlations between all variables.

	IndepSt	CollCrS	Inserv	ProfDev	UseNatCult	FamCommPart
IndepSt	1					
CollCrS	.480 p<.0005	1				
Inserv	.204 P = .056	.490 p<.0005	1			
UseNatCulture	.370 p<.0005	.448 p<.0005	.303 p = .005	.505 p<.0005	1	
FamCommPart	.139 p = .209	.055 p = .620	-.032 p = .773	.055 p = .621	-.061 p = .590	1
AI/AN OSSRate	.174 p = .101	.233 p = .027	.274 p = .009	.206 p = .052	.057 p = .598	-.023 p = .835
PctDaysLost	.168 p = .113	.136 p = .200	.156 p = .144	.136 p = .204	.003 p = .977	-.114 p = .305

As expected, based on the outcomes of our descriptive analyses and correlations, linear multiple regression results were statistically non-significant. None of the school level variables significantly predicted AI/AN OSS rates or percent of AI/AN student days lost.

Follow-up Analysis with K-8/12 schools

Because the K-8/12 school showed the lowest overall OSS rates and smallest discrepancies between AI/AN and White students, we conducted qualitative follow-up analyses to examine (a) where these schools were located, and (b) how they differed in their school-wide practices. Of the 10 K-8/12 schools in our sample, 5 were located in Multnomah County, a large and densely populated urban area in Oregon; the remaining 5 were located in rural, more sparsely populated counties. Overall enrollment in these schools ranged from 110 to 580 students; AI/AN enrollment ranged from 0.82% to 52.81%. Schools with the highest AI/AN enrollment density had the lowest overall enrollment. The schools with the highest AI/AN enrollment (4%, 10%, 10% and 53% respectively) had the lowest OSS rates for AI/AN and White students and were located in remote rural areas. The schools with the lowest AI/AN

enrollment (.82% and .87% respectively), as well as the school with an average AI/AN enrollment for Oregon (1.80%) had no OSS involving AI/AN students.

The school with the highest AI/AN enrollment density had zero OSS for AI/AN as well as White students. Teachers in this school reported the highest use of Native Culture in instruction on the NIES survey (mean of 3.83 on a 5-point scale), and the highest engagement in staff development focused on AI/AN issues (mean of 2.75 on a 4-point scale). It also had the highest number of teachers who identified as AI/AN as well as a Title VII Indian Education Coordinator. In addition, it had a strong booster program linking students with community volunteers in athletic activities.

Parent involvement and strong community relationships were a feature that schools with low OSS rates for AI/AN and White students seemed to share. One of the schools with a 10% AI/AN enrollment and 0 OSS for AI/AN as well as White students sought active input from parents through an on-line survey asking parents to rate the extent to which their child's education is adequately challenging, whether homework assignments are meaningful, and whether they as parents feel well-informed about school activities and welcome in the school. Similarly, the school with the lowest AI/AN enrollment (.82%) 0 OSS for AI/AN students and 3 one-time suspensions for White students (.88% of the White enrollment) has a very active community engagement committee that reaches out to community members through personal contacts and emphasizes interactions between school personnel, parents, and community members. Parent participation was the most central feature of the principal's message. And finally, the school with the second lowest AI/AN enrollment (.87%) also reported its strong parent involvement in school activities through volunteering, site council membership, and the PTA.

The school with average AI/AN enrollment (1.80%) did not suspend any of its AI/AN students out of school. It received a rating of “outstanding” on the Oregon Report Card, and its core values included mutual trust, meaningful instruction, high expectations for everyone, family and community involvement, and meaningful assessment. The school’s mission statement defined learning as a partnership between family members, students, and the entire community. The school offered a focus option program that emphasized student leadership and was team-taught in multi-age classrooms.

Of the four schools with the lowest OSS rates for both AI/AN and White students, two schools implemented Positive Behavioral Interventions and Supports (PBIS), a school-wide approach to behavior support that is predicated on proactively teaching and regularly reinforcing a set of clearly defined behavioral expectations (Sprague & Walker, 2010). Two schools did not implement PBIS.

While overall, high AI/AN enrollment density seems to be associated with low OSS rates for AI/AN students, strong parent engagement through personal relationship building and active outreach to community members was one feature all schools with low AI/AN OSS rates had in common, regardless of AI/AN enrollment density. The Native community’s emphasis on relationship building and careful nurturing appears reflected in policies and practices of schools with low AI/AN disciplinary exclusion rates.

Limitations

A number of considerations limit the interpretation of our results. High standard deviations for all student outcome measures indicate that there was tremendous variability in our sample, and that the representativeness of means was limited. On the other hand, the lack of variability in the school-level variables resulted in highly positively skewed distributions that

made statistical analysis difficult. Our efforts to normalize distributions through data transformations resulted in approximations of normality, yet did not create distributional properties that met the assumptions on which the statistical test was based. As such, our outcome should be interpreted as purely exploratory.

Only a limited number of teachers per school completed the questionnaires. While the NIES sampling procedure was carefully designed to capture nationally representative samples of students, it is unknown to what extent the sampling of teachers is nationally representative. Thus, inferences drawn from our sample to the population of teachers are tentative and need to be interpreted carefully.

Our analyses were based on a snapshot of data from one year only. Given that school personnel are apt to vary the type of professional development they complete each year, we were unable to observe trends in professional development activities across multiple years and its potential relationship to student discipline outcomes.

Finally, interpretation of outcomes must be considered within the context of a relatively small sample size. Replications of the current study with a larger sample comprising all states might yield important additional information.

Discussion and Recommendations

Our study showed that, despite Oregon's efforts to improve educational outcomes for AI/AN students through (a) the Oregon AI/AN Education State Plan, (b) School Improvement Plans, (c) integrating Native culture into the curriculum and academic standards, and (d) requiring all teachers to have training in Native culture and history, teachers self-report very low levels of engagement in professional development focused on teaching AI/AN students and very low levels of using Native culture in instruction. These outcomes suggest that Oregon's policies

intended to improve AI/AN student outcomes are yet to produce the desired outcomes. Potential reasons for this disconnect between policy and practice might include the following (Personal communication with the President of the Oregon Indian Education Association on Monday, Nov 19, 2012):

- While much of the public school system's practices and policies are data-driven, the Native community values relationships. To establish positive relationships, school personnel need to actively reach out to tribal members to initiate conversations and build trust. For example, the Superintendent of one Oregon school district, accompanied by two school principals, recently visited one of Oregon's tribes and initiated relationships that resulted in a public K-8 school being operated on Indian lands. Too often members of the Native community feel alienated by school personnel being too focused on data-driven outcomes at the expense of carefully nurtured, meaningful and collaborative relationships.
- Building trusting relationships between AI/AN students and teachers appears to be more likely to occur in smaller, more intimate schools. For example, the comparatively small K-8/12 schools in our sample appeared to exemplify more positive outcomes for AI/AN students and also emphasized relationship building between families and school personnel.
- While Oregon's efforts to encourage each school to formulate a School Improvement plan are welcomed by the Native community, schools might need to specifically invite and support members of the Native community to participate in the process.

Collaborative participation is likely to be most successful when meaningful discussion occurs and opportunities to provide feedback are predictable. Members of the Native

community can respond most meaningfully if they are given time to deliberate responses to critical issues. Title VII Indian Education Coordinators might need to be part of the committees formulating the school improvement plan.

- Meetings convened by school personnel are often solution-driven. The Native community places emphasis on carefully identifying causes of observed problems before formulating responses and implementing actions. Instead of proposing solutions without having clearly identified causes, proposed solutions often do not yield the desired outcomes.
- AI/AN students and their families often distrust teachers and school personnel due to historical alienation from schools. To reverse this distrust into trusting relationships, in-depth discussions between AI/AN families and school personnel might be necessary.

Based on this information about why the disconnect between the Native community's recommendations to improve educational outcomes for AI/AN students and school personnel practices persists, we would like to suggest the following policy recommendations:

- Regular review of discipline data disaggregated by student race/ethnicity needs to occur so that school personnel have adequate and ongoing knowledge about disciplinary disproportionality in their schools. Based on this knowledge school leaders can then reach out to the Native community and invite their guidance on how to interpret patterns and reverse disturbing trends. While data provide important tools to make decisions, meaningful decisions to improve discipline outcomes for AI/AN students might need to be based on regular discussions with Native community members.
- Meaningful collaborations between policy makers, practitioners, and Native community members appear necessary. While the Native community has invested

- great care in defining specific goals intended to improve outcomes for AI/AN students, specific action plans to implement the identified goals were less defined.
- Comprehensive data systems that connect policy and practice might be beneficial. Linking data on school improvement plans, school personnel’s professional development activities, school practices, and student outcomes would allow us to draw meaningful conclusions about what predicts AI/AN students’ success most strongly and how scarce resources can be most wisely invested.
 - Sharing and discussing results from surveys completed by students and staff members (e.g. the NIES surveys) with those who contributed to those results might promote a sense of ownership of the outcomes and encourage working towards solutions for the problems documented in the data.
 - Sharing and discussing data might also be beneficial in demonstrating a need for professional development in specific areas and encourage teachers and practitioners to participate in needed trainings.
 - While the current emphasis on evidence-based practice is certainly beneficial, policy makers as well as practitioners might need to examine the evidence on which “best practice” is based. “Best practice” often appears to be “culturally neutral.” However, best practices might need to be merged with culturally responsive practices.

The state of Oregon has initiated great efforts in creating school environments where students from AI/AN backgrounds can succeed. Ongoing and planned collaborations between the State Department of Education and the Oregon Indian Education Association focused on bridging data-based approaches with meaningful relationship building are likely to contribute to greater disciplinary equity for AI/AN students.

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Appendix: Technical Notes

Percentage and Risk Ratio Calculations for Discipline Data

We calculated the number of students from each racial/ethnic group who were suspended out of school once and multiple times and divided that number by the total enrollment of the respective racial/ethnic group to arrive at percentages. Differences in percentage points would allow us to assess disproportionate representation among students with one or multiple OSS. Because percentages can be misleading when enrollment numbers differ greatly, as is the case for comparing the small AI/AN population with the large White population in Oregon's schools, we also calculated relative risk ratios for AI/AN and White students. Risk ratios were calculated according to the guidelines provided by the Office of Special Education Programs/Westat Technical Assistance Guide (2004): For example we arrived at the relative risk ratio for AI/AN students as follows: (a) We calculated the risk for AI/AN students by dividing the number of AI/AN students suspended out of school by the number of AI/AN students enrolled and multiplying by 100; (b) we calculated the risk for all non-AI/AN students by dividing the sum of all other students suspended out of school by the sum of all other students enrolled and multiplying by 100, and (c) we dividing the risk for AI/AN student by the risk for all other students. The resulting number allowed us to assess the likelihood of AI/AN students to be suspended compared to all other students. Values over 1.00 represented higher likelihoods than all other students, and values lower than 1.00 represented likelihood lower than all other students.

We also calculated the percent of instructional days lost due to disciplinary exclusion by multiplying the number of students enrolled by 170 (the average number of days in the Oregon school year) and then dividing the total number of days lost by the total number of student days

and multiplying by 100. For example, the 880 AI/AN students enrolled in the elementary schools contained in our dataset generated $880 * 170 = 149,600$ student days; the cumulative duration of all disciplinary events involving AI/AN students in the elementary schools was 192 days. Thus, .13% of AI/AN instructional days were lost to disciplinary exclusions.

Percentage Calculations for NIES Teacher and School Background Questionnaire Data

Two items on the teacher questionnaire reflected professional development efforts: (1) “To what extent have you acquired knowledge, skills, and information specific to teaching AI/AN students from each of the following sources? (a) independent reading and study, (b) college courses or other classes or workshops with a focus on teaching AI/AN students (scored on a 4 point scale ranging from 1 = not at all, 2 = small extent, 3 = moderate extent to 4 = large extent) and (2) “During the last two years, how many times have you attended in-service classes and workshops to help you improve the academic performance of AI/AN students?” (scored on a 4-point scale ranging from 1 = never, 2 = 1 or 2 times, 3 = 3 or 4 times, to 4 = 5 or more times).

The teacher questionnaire also provided information on teacher use of Native culture. Reading teachers’ were asked to report their use of Native culture by recording the frequency with which they (a) integrate AI/AN culture/history into reading/language arts curriculum, (b) integrate issues that affect AI/AN populations into reading/language arts curriculum, (c) read literature with AI/AN themes, (d) read literature by AI/AN authors, (e) read/discuss AI/AN issues/concerns, (f) have students write about experiences/issues affecting AI/AN populations, and (g) have students write about their own experiences as AI/AN students. Math teachers’ were asked to report their use of Native culture by recording the frequency with which they (a) integrate AI/AN culture/history into math curriculum, (b) integrate issues affecting AI/AN populations into math curriculum, (c) solve math problems reflecting typical AI/AN situations,

(d) integrate math with AI/AN themes, (e) study traditional AI/AN mathematics, and (f) study math within traditional AI/AN contexts. Frequency was scored on a 5-point scale: 1 = never, 2 = at least once a year, 3 = at least once a month, 4 = at least once a week, and 5 = every day or almost.

The school background questionnaire item of interest to us was “What are the main ways in which the families of your students, or members of your local community, are involved with your school? (a) parent-teacher organizations, (b) open house or back-to-school nights, (c) parent-teacher conferences, (d) school curriculum decisions, (d) volunteer programs, and (e) any other way.” These items were scored as “yes,” “no,” or “don’t know.” Teachers were asked to provide their racial/ethnic background; data on the racial/ethnic background of school administrators were not represented in our dataset.

We computed cumulative measures for (a) teacher professional development, (b) teacher use of Native culture, and (c) family/community participation by averaging the scores of the individual questionnaire items. For example, the teacher professional development measure represented the average of the scores on (a) independent study, (b) college courses, and (c) in-service workshops. Similarly, we computed the average of the scores querying teacher use of Native culture and the average of the scores for all items querying family and community participation. We then aggregated teacher professional development and teacher use of Native culture to the school level by averaging across teachers within school. Because only one administrator per school completed the family/community participation items, no aggregation to the school level was necessary.

Data Preparation for Linear Multiple Regression

Finally, we used linear multiple regression to examine the extent to which school level

factors, were associated with differences in disciplinary exclusions of AI/AN students. We conducted separate linear regressions for each grade level. We conducted separate analyses for teacher practices (i.e. professional development and use of Native culture) and for school-level practices (i.e. family/community involvement). All independent variables were entered into the model simultaneously, because we had no a priori hypotheses about the predictive power of each variable. Prior to conducting the regression analyses, we examined each variable for normality of distribution (Howell, 2002). For all variables, the Kolmogorov-Smirnov and the Shapiro-Wilk tests were statistically significant, meaning that data violated assumptions of normality. We performed the following data transformations: log10, square root, and inverse. Because the dependent variables included 0, we added +1 to the transformation calculations. Although none of the transformations resulted in statistically non-significant normality tests, the inverse transformation resulted in data that approached normality based on visual inspections of the normal and detrended q-q plots (Tabachnik & Fidell, 2001). All analyses were therefore completed with the transformed variables.