Student Sense of Belonging in Schools: Predictive Factors

The purpose of this brief is to explore findings on students' sense of belonging and experiences in school, through responses to the Student Educational Equity Development (SEED) Survey. The SEED survey's focus on student experience and sense of belonging within the school community offers insight into the barriers students experience in their engagement with school. Sense of belonging and engagement are foundational for attendance and educational outcomes.[1] The programs within Aligning for Student Success: Integrated Guidance for Six ODE initiatives are more likely to succeed when student engagement and belonging are tended to. The Every Day Matters initiative is woven alongside and throughout the other five initiatives with a specific focus on the relational conditions that support belonging, connectedness and engagement. Addressing the root causes of chronic absenteeism at a systems level requires strong partnerships between students, families, schools, and communities. The Early Indicator and Intervention Systems initiative also encourages the relational conditions that support student success by developing a unified system that integrates and expands the capacity of existing student support efforts and the effective use of data by collaboration and partnership with all education partners.

Learning directly from students about their educational experiences can and should inform local education investments. The initiatives contained within the Integrated Guidance require schools to engage their students, families, staff, and communities to elevate strengths, needs and priorities. The SEED Survey enables ODE to leverage direct student responses to more closely examine factors related to their sense of belonging.

Key Takeaways
With quick links to the relevant section

- Sense of belonging is positively connected to both the experience of learning and the outcomes of learning.
- There are demographic inequities in student sense of belonging, including by gender. Students typically report less sense of belonging on most measures as they increase in grade level.
- Exclusionary discipline is strongly correlated with a reduced sense of belonging.
- Student sense of belonging is strongly related to measures of social identity within the school.

Key Recommendations
There are many practices by which schools can strengthen student belonging. Some practices include:

- Ensuring that teachers form positive connections with all of their students.
- Codifying inclusive practices which affirm students' identities, as well as policies that address bullying and hate speech.
- Ensuring that students' cultures and identities are affirmed and represented in curriculum and classroom materials in school and extracurricular opportunities.
- Examining current discipline practices, policies and data, and focusing on restorative practices in lieu of exclusionary discipline.

All practices are underpinned by a school's shared mindset to support students and families. Adults in schools must both individually and collectively take responsibility to practice growth mindsets by being curious, strengths-based, and culturally responsive.

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[1] Korpershoek, Hanke, Esther Tamara Canrinus, Marjon Fokkens-Bruinsma, and Hester de Boer. "The relationships between school belonging and students' motivational, social-emotional, behavioural, and academic outcomes in secondary education: A meta-analytic review." *Research Papers in Education* 35, no. 6 (2020): 641-680.

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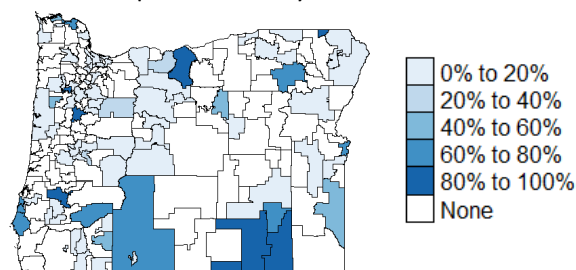**Student Educational Equity Development Survey (SEED)**

Since 2020-21, ODE has developed and administered the SEED Survey to collect information about the educational experiences of students in grades 3-11. This survey, which provides universal tools, designated supports, and accommodations, as well as multiple language versions, that students need for access, is available to all Oregon public schools and districts, but is optional for schools and districts to administer. Response rates to SEED have increased from 2020-21 to 2021-22, and ODE anticipates expanded use as the survey matures.[2] SEED Survey information may also help districts develop a fuller picture of their local contexts and make strategic modifications to curriculum, instruction, and para-academic supports that they offer students.

Who Responded to SEED in 2021-22?

Total Number of Participants by District

	1 to 9
	10 to 99
	100 to 999
	1,000 or more
	None
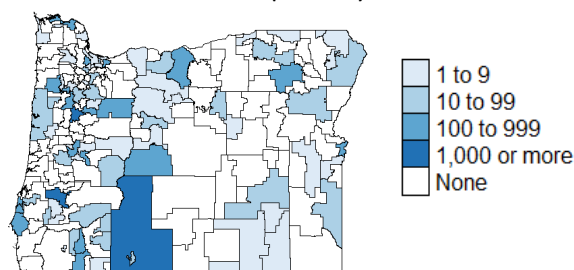
Response Rate[3] by District

	0% to 20%
	20% to 40%
	40% to 60%
	60% to 80%
	80% to 100%
	None

SEED enables ODE to gather data on student experiences, including access to learning resources, opportunity to learn, sense of self-efficacy, and sense of belonging.[4] For the purposes of this data brief, we examined student responses to the following sense of belonging items, which were administered to students in grades 3-11. Students were asked how much they agree with each of these statements:

- I have friends at school.
- My classmates care about me.
- I feel welcome at my school.
- There are adults at my school who care about me.
- I feel safe talking with adults at my school.
- I feel safe talking with students at my school.
- I like going to school.

> On average, 16,000 students responded to the sense of belonging questions, though the total number of responses varies by question. Students taking SEED may skip any or all questions they are not comfortable answering, for any reason.

Sense of Belonging

Sense of belonging is a core element in a student's experience with school and learning. Sense of belonging has been found to be positively associated with motivational outcomes, social-emotional outcomes and behavioral outcomes, and has smaller, yet still significant impacts on academic achievement.[5] Sense of belonging is positively connected to both the experience of learning and the outcomes of learning.

SEED Item	Total Respondents	Percent Agree or Strongly Agree[6]
I have friends at school.	17,337	93%
My classmates care about me.	14,900	75%
I feel welcome at my school.	15,982	83%
There are adults at my school who care about me.	16,426	91%

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[2] These data should not be considered representative of all Oregon students, but should be examined for their ability to shed light on common student experiences that may be happening across the state.

[3] Total participants as a percentage of district's eligible students (students in grades 3-11)

[4] A full list of items asked on each grade level's version of the survey is available online.

[5] Korpershoek, H., Canrinus, E.T., Fokkens-Bruinsma, M. & de Boer, H., "The relationships between school belonging and students' motivational, social-emotional, behavioral, and academic outcomes in secondary education: A meta-analytic review," Research Papers in Education, 35 no. 6, (2020): 641-680.

[6] Excluding students who skipped the question.

SEED Item	Total Respondents	Percent Agree or Strongly Agree[6]
I feel safe talking with adults at my school.	16,126	79%
I feel safe talking with students at my school.	16,555	80%
I like going to school.	16,372	65%

Research has found that students' sense of belonging can be influenced by racism, biased discipline practices, socioeconomic status, school climate, and school support. One study demonstrates that students' relationships with teachers, engagement in school activities and perceived ethnic-based discrimination factored into sense of belonging for students who are white, Latino/a/x, Black/African American, or Asian.[7] Another study found that ethnic pride may also promote sense of belonging, which in turn may support academic achievement.[8]

" "I feel supported as for who I am by all of my teachers and most of [my] classmates." – Oregon Student[9]

Students from lower socioeconomic backgrounds may experience lower sense of belonging,[10] given the stigmas surrounding poverty and the material and financial barriers to engaging/participating in school fully (such as sports and materials fees, school supplies, lack of transportation for extracurricular participation, etc.).

Sense of belonging can also impact longer term academic achievement, particularly for students who are historically underserved by the education system. One study found that feeing safe at school was a significant predictor of 4th and 7th grade numeracy as well as 4th grade literacy[11]; another found that middle school students' sense of belonging in mathematics was a significant predictor of their algebra learning.[12]

The Centers for Disease Control and Prevention (CDC) reports that school connectedness was a protective factor for high school students' mental health during the pandemic. Connection with a school adult decreased the prevalence of poor mental health, persistent feelings of sadness/hopelessness, and having seriously considered dying by suicide.[13]

Descriptive Statistics

Our dataset of SEED respondents is relatively proportional to the demographics of Oregon students, although some groups are over/underrepresented in part because of the demographics of the participating districts. The dataset overrepresents students federally identified as white or American Indian/Alaska Native, and underrepresents current and former English Learners, students

Grade Level Distribution of SEED Respondents

Grade	Percent
3	13%
4	14%
5	14%
6	13%
7	13%
8	14%
9	7%
10	6%
11	7%
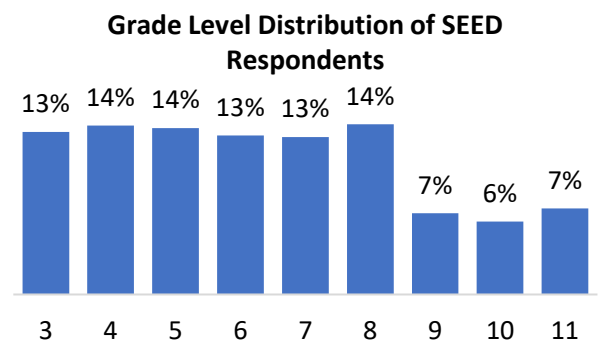
[7] Faircloth, Beverly S., and Jill V. Hamm, "Sense of belonging among high school students representing 4 ethnic groups," *Journal of Youth and Adolescence* 34, no. 4 (2005): 293-309.

[8] Hernández, Maciel M., Richard W. Robins, Keith F. Widaman, and Rand D. Conger, "Ethnic pride, self-esteem, and school belonging: A reciprocal analysis over time," *Developmental psychology* 53, no. 12 (2017): 2384

[9] Selected from responses to "Is there anything else about your school you would like to share?" short answer question, 2021-22 SEED survey.

[10] Ronnel B. King, Ming Ming Chiu, & Hongei Du, "Greater Income Inequality, Lower School Belonging: Multilevel and Cross-Temporal Analyses of 65 Countries," Journal of Educational Psychology 114, no. 5 (1101-1120). .

[11] Gietz, Carmen, and Kent McIntosh, "Relations between student perceptions of their school environment and academic achievement," *Canadian Journal of School Psychology* 29, no. 3 (2014): 161-176.

[12] Barbieri, Christina Areizaga, and Dana Miller-Cotto, "The importance of adolescents' sense of belonging to mathematics for algebra learning," *Learning and Individual Differences* 87 (2021): 7.

[13] Jones, Sherry Everett, Ethier, Kathleen A., Hertz, Marci, DeGue, Sarah, Le, Vi Donna, Thornton, Jemekia, Lim, Connie, Dittus, Patricia, & Geda, Sidhura, "Mental Health, Suicidality, and Connectedness Among High School Students During the COVID-19 Pandemic," *Morbidity and Mortality Weekly Report* 71, no. 3 (April, 2022): 16-21.

with Individual Education Programs (IEPs)[14], students in high school, and students federally identified as Asian or Hispanic. Students in the dataset were also slightly more likely to have experienced an exclusionary discipline incident in the year of the survey.

Demographic	Percent of Dataset	Percent of State Student Population[15]
Gender		
Female	48.9%	48.0%
Male	50.9%	51.5%
Non-Binary	0.2%	0.5%
Race/Ethnicity		
Asian	1.1%	4.0%
Black/African American	0.7%	2.3%
Hispanic/Latino	20.0%	25.2%
American Indian/Alaska Native	2.0%	1.1%
Multiracial	6.6%	7.0%
Native Hawaiian/Pacific Islander	0.4%	0.8%
White	69.2%	59.4%
Migrant	2.9%	2.3%
Foster	0.7%	0.6%
Ever Foster	2.9%	2.4%
English Learner/Emerging Bilingual		
Current	4.6%	9.1%
Former	4.9%	9.3%
Students with IEPs	12.9%	15.4%
New to School[16]	33.9%	37.3%
New to District	13.1%	13.9%
Experienced Exclusionary Discipline[17]	7.8%	6.9%

In addition to the demographic factors above, we considered three predictors from the SEED survey itself, collectively known as the Social Identity items. These were:

- I have classmates who are like me and my family (70.7% agreed or strongly agreed)
- There are adults at my school who are like me and my family (65.3% agreed or strongly agreed)
- I sometimes or often see people like me and my family represented in instructional materials (62.5%)[18]

Models
In order to investigate the relationship between demographics and other predictors and a student's sense of belonging, we constructed a series of logistic regression models. Although the models were constructed individually, there are many commonalities between them.

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[14] Students served through Individual Education Programs, or IEPs, to identify and provide appropriate disability supports and accommodations. Some of these students may have been surveyed via the Alt-SEED, which was not included in our dataset.
[15] Students in grades 3-11, as of the first school day in May 2022.
[16] Students who were not enrolled in the same school in the prior year. Largely represents students moving from elementary to middle school, or from middle to high school, but also includes students transferring into the school from other placements.
[17] Students who had at least one in-school suspension, out of school suspension, or expulsion event during the 2021-22 school year.
[18] This is a composite of student responses to four SEED items, asking students to think about assignments, tests, materials, and things read in class, respectively, and rate "How often did they show people who are like you and your family?" on a scale of "Never, Rarely, Sometimes, Often." Students included if they responded sometimes or often to at least one of the four items.

Results below are presented as odds ratios (OR), which can be interpreted as a percentage change in the odds of an outcome occurring (in this case, agreeing or strongly agreeing with the SEED item). Odds ratios above 1.0 indicate an increased likelihood, while odds ratios below 1.0 indicate a decreased likelihood. For example, an odds ratio of 1.32 (in the chart below) for male students indicates that the odds of a student agreeing that they feel safe talking with adults at their school are 32% higher when the student is male than when they are female (the baseline group). An odds ratio of 0.20 (below) indicates that the odds of students agreeing that their classmates care about them are 80% lower when a student is non-binary than when they are female. All results in the following sections are drawn from these full adjusted logistic regression models (full models in the Technical Appendix), meaning that odds ratios presented are adjusted for the other factors in the model.
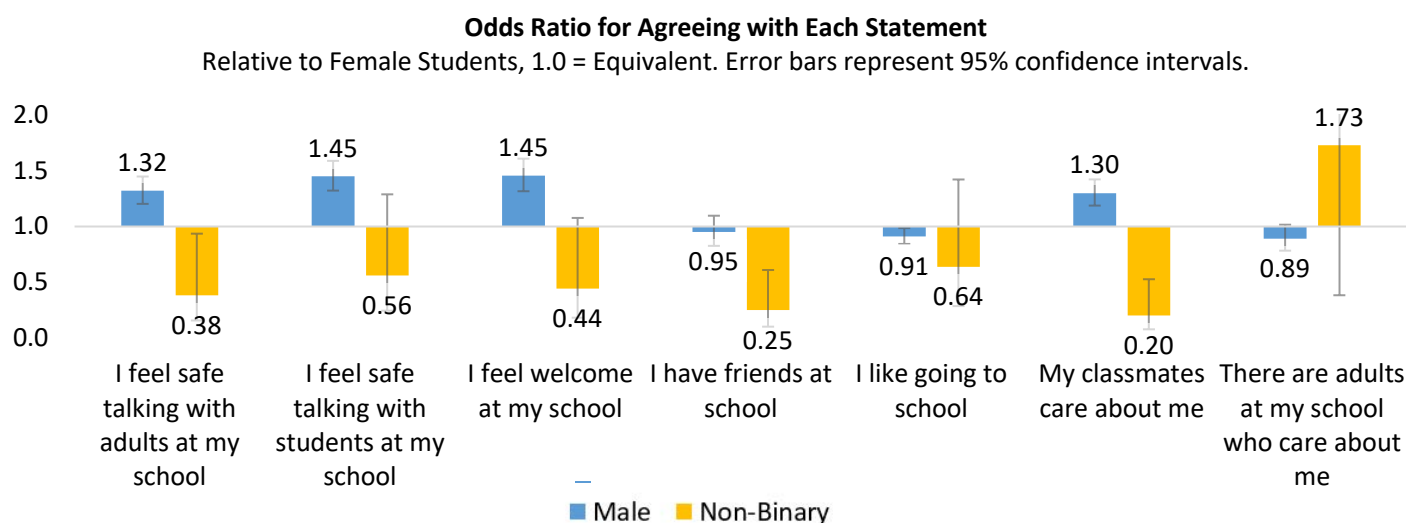
Race/Ethnicity

A student's racial/ethnic identification was generally not strongly correlated with any of the sense of belonging items, with students federally identified as Asian as the main exception. Asian students were significantly more likely to agree that they feel safe talking with adults and students at their school, they feel welcome at school, there are adults at school who care about them, and they like going to school.

Students federally identified as American Indian/Alaska Native were significantly less likely (see Technical Appendix) than students of other races to agree that "there are adults at my school who care about me." There were no significant differences between American Indian/Alaska Native students and other students for the other items.

Gender[19]

For most measures, male students were significantly more likely than female students to indicate positive sense of belonging. The exceptions were "I have friends at school," and "There are adults at my school who care about me," which male and female students were equally likely to agree with, and "I like going to school," which female students were slightly more likely than male students to agree with. Female students were also more likely to report being bullied on the Student Health Survey.

Odds Ratio for Agreeing with Each Statement
Relative to Female Students, 1.0 = Equivalent. Error bars represent 95% confidence intervals.

Upper bound for "There are adults at my school who care about me" for non-binary students is 7.78; graph truncated for readability. Estimate is not significantly different from male or female students, due to small sample size.

Non-binary students were less likely than male or female students to indicate positive sense of belonging – however, given the small number of reported non-binary students who took the survey, the confidence intervals are wide and the results should be interpreted with caution. Although the result is not significant given the wide confidence interval, we note a strong positive

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[19] We acknowledge the limitation ODE has when disaggregating student data to understand gender identity, when ODE does not currently collect these data in an expansive or affirming way. The current student demographic data relies on only the three legal sex/gender marker options of M/F/X within student records that are usually updated by parents or caregivers, which may or may not be reflective of a student's gender identity. More information can be found in the LGBTQ2SIA+ Student Success Plan.

response from non-binary students to "There are adults at my school who care about me," which may be reflective of the comfort level these students feel in choosing to indicate their gender identity in official student information systems.

Nationally, nearly 1 in 3 LGBTQ2SIA+[20] students missed at least one entire day of school in one month because they felt unsafe or uncomfortable.[21] In Oregon, these students were three times as likely as other students to have stayed home from school because they were afraid for their safety.[22] A lack of response from school staff in intervening when derogatory or harmful comments are made about LGBTQ2SIA+ students can contribute to or exacerbate feeling unsafe in school or a lack of belonging. Promising practices to support LGBTQ2SIA+ students' sense of belonging can be found below.

Other Demographics[23]
In general, many of the demographics we evaluated did not have a strong relationship to student sense of belonging, which is a promising indicator of school inclusivity. In the table below, "no difference" indicates that (for example) students experiencing disabilities, students with experience of foster care, and students who are or were emerging bilinguals[24] are equally likely as students not in those groups to indicate that they feel safe talking with adults at their school.

SEED Item	Emerging Bilingual	Former English Learner	Students Experiencing Disabilities (IEP)	Students with Experience of Foster Care
I feel safe talking with adults at my school	No difference	No difference	No difference	No difference
I feel safe talking with students at my school	No difference	No difference	0.85 (0.75-0.97)	No difference
I feel welcome at my school	0.75 (0.58-0.97)	No difference	No difference	No difference
I have friends at school	0.66 (0.47-0.93)	No difference	0.61 (0.51-0.73)	No difference
I like going to school	No difference	1.40 (1.14-1.73)	No difference	No difference
My classmates care about me	0.76 (0.60-0.96)	No difference	0.85 (0.75-0.97)	0.73 (0.57-0.95)
There are adults at my school who care about me.	0.44 (0.33-0.58)	No difference	No difference	0.61 (0.43-0.85)

See the interpretative section, page 5, for help understanding odds ratios presented here. Odds ratios are relative to students not in the focal population.

Students in these programs were equally likely to feel safe talking with adults in their school, and as or more likely to indicate that they like going to school, while they frequently reported *less* agreement with statements about their classmates. Emerging bilinguals were significantly less likely to agree that they have friends at school, that they feel welcome in their school, or that their classmates care about them, relative to students not served in English Learner programs. Students experiencing disabilities reported similarly.

> " "[School staff] are very supportive and I like that about them but...some of the students...make me not want to come to school." – Oregon Student[25]

Enrolled Grade
A student's grade level was strongly correlated with decreasing sense of belonging for most indicators. In some cases, being new to the school or district significantly increased these impacts for certain grades, so estimates are presented together where being new to the school or district was a significant predictor of sense of belonging.

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[20] A term that encompasses multiple gender identities and sexual orientations including lesbian, gay, bisexual, pansexual, transgender, nonbinary, queer, questioning, two-spirit, intersex, and asexual. The plus sign ("+") recognizes and includes the myriad ways to describe marginalized gender identities and sexual orientations.

[21] Kosciw, Joseph G., Clark, Caitlin M., Menard, Leesh, rep., *The 2021 National School Climate Survey: The Experiences of LGBTQ+ Youth in Our Nation's Schools* (GLSEN, 2022), https://www.glsen.org/sites/default/files/2022-10/NSCS-2021-Full-Report.pdf.

[22] Julie Heffernan and Tina Gutierez-Schmich, rep., *State of Safe Schools Report* (Oregon Safe Schools & Communities Coalition, January 2021), https://oregonalliancetopreventsuicide.org/wp-content/uploads/2021/01/OSSCC-Report-2020_FinalDraft.pdf.
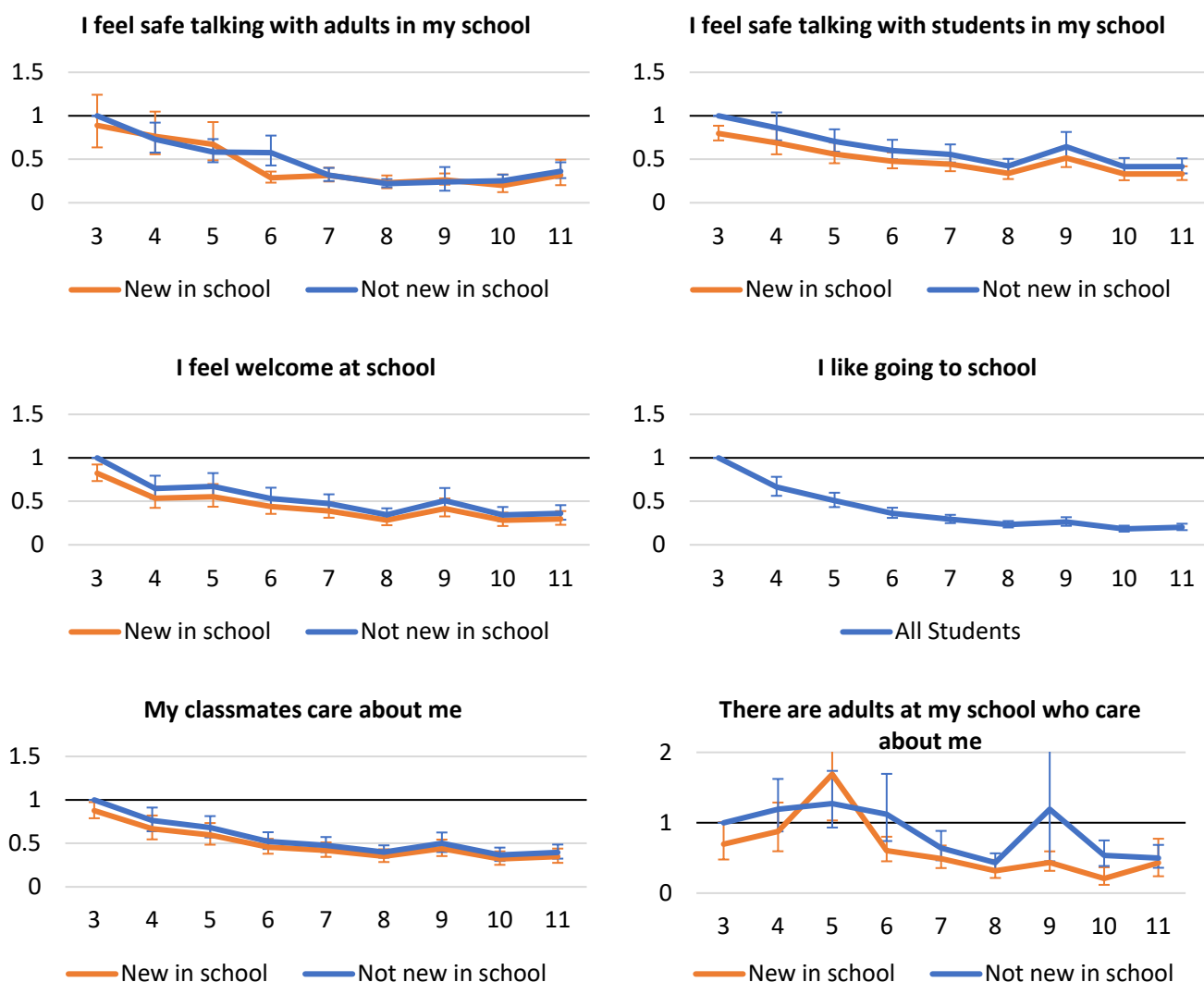
[23] Participation in the migrant education program was not significantly related to any of the seven sense of belonging indicators.

[24] Students studying English as an additional language, sometimes also referred to as "English Learners."

[25] SEED Survey, "Is there anything else about your school you would like to share?"

Odds Ratios by Grade Level, relative to 3rd Graders
Error Bars are 95% Confidence Intervals

I feel safe talking with adults in my school

New in school — Not new in school

I feel safe talking with students in my school

New in school — Not new in school

I feel welcome at school

New in school — Not new in school

I like going to school

All Students

My classmates care about me

New in school — Not new in school

There are adults at my school who care about me

New in school — Not new in school

Upper bound for "There are adults at my school who care about me" is 2.76 for 5th graders new to the school and 3.13 for 9th graders not new to the school; graph truncated for readability.

See the interpretative section, page 5, for help understanding odds ratios presented here

These declines over time are consistent with other research findings[26,27,28] looking at student sense of belonging over time. Some of these studies found that effects over time differed by gender, with male students starting with lower sense of belonging, but experiencing less decline over time. In a secondary analysis[29], we found that gender interacted significantly with grade level only for the "I like going to school" item. For this item, the relationships did follow a similar path to that described in the literature, with male students much less likely to report liking school in early grades, but experiencing less attrition over time than female students, such that the estimates converge by 6th grade.

[26] Anderman, Lynley H., "Academic and social perceptions as predictors of change in middle school students' sense of school belonging," *The journal of experimental education* 72, no. 1 (2003): 5-22.

[27] Gillen-O'Neel, Cari., and Andrew Fuligni, "A longitudinal study of school belonging and academic motivation across high school," *Child development* 84, no. 2 (2013): 678-692.

[28] Hernández, et. al, "Ethnic pride, self-esteem," *Developmental psychology* 53, no. 12 (2017): 2384.

[29] Using a dataset of only male and female students to enable closer evaluation of interrelationships between gender and other covariates that are not possible for non-binary students due to small n-size.

The notable exception to this trend was students agreeing that they have friends at school. While students who were new to the district were across the board less likely to report having friends, there were not substantial grade level impacts in any grade below 11th.

I have friends at school
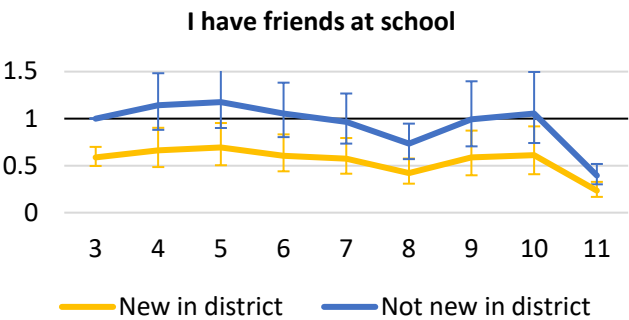
Year over Year Changes

Looking at the smaller set of students who participated in SEED in both this year, 2021-22, and the inaugural year, 2020-21 (~6,000 students), we see a similar trend toward less sense of belonging as students advance grades. In all categories, students were most likely to agree with the indicator in both years, but when they changed their opinions they were generally more likely to move from agreeing to disagreeing. This suggests that the effect above is longitudinal (sense of belonging declines over time) rather than cross-sectional.

Changes in Response from 2021 to 2022
As a percentage of all students surveyed in both years
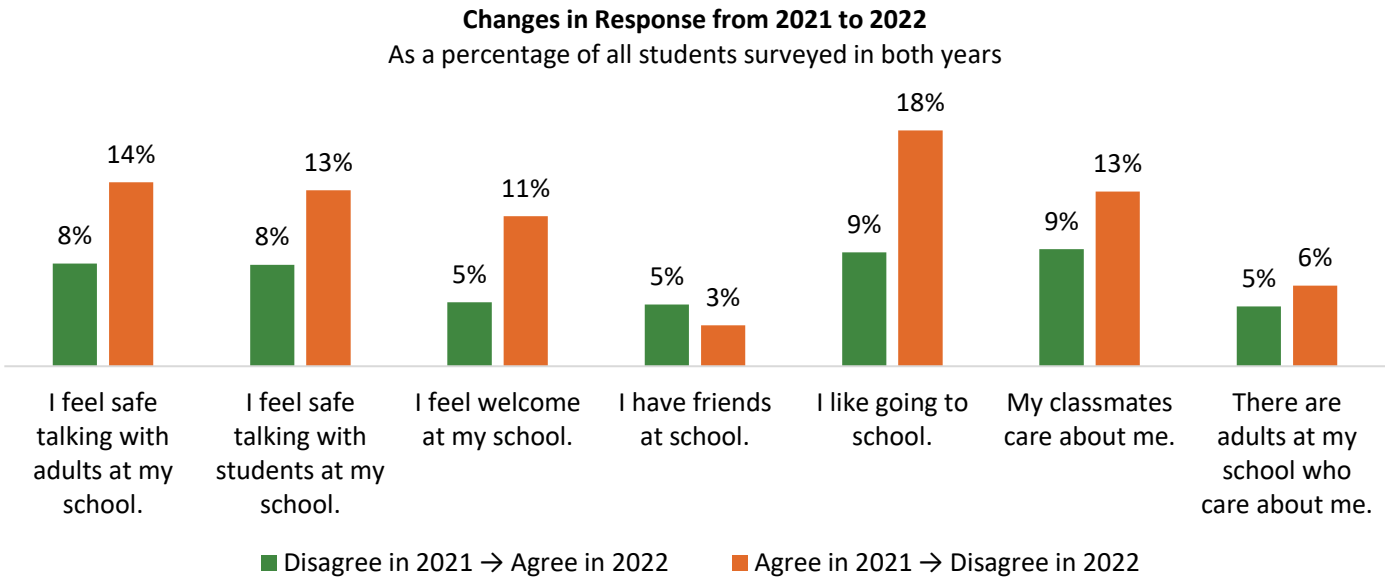
The exception to this trend was responses to "I have friends at school," which is consistent with the cross-sectional trends displayed above by grade level.

Discipline Incidents

Students who experienced exclusionary discipline incidents[30] during the school year were much less likely to agree with most sense of belonging indicators, though the magnitude varied by indicator. Students who did not experience exclusionary discipline were slightly more likely to report having friends at school, and substantially more likely (more than twice as likely) to report feeling welcome and feeling safe talking with adults. Student relationships with their peers may reflect both positive and negative peer influences, which likely explains the lower correlation between those indicators and discipline incidents.

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[30] In-school suspension, out-of-school suspension, or expulsion

Odds Ratio for Agreeing with Each Statement

Students who did not experience an Exclusionary Discipline Incident in 2021-22, relative to those who did. Error bars are 95% confidence intervals.
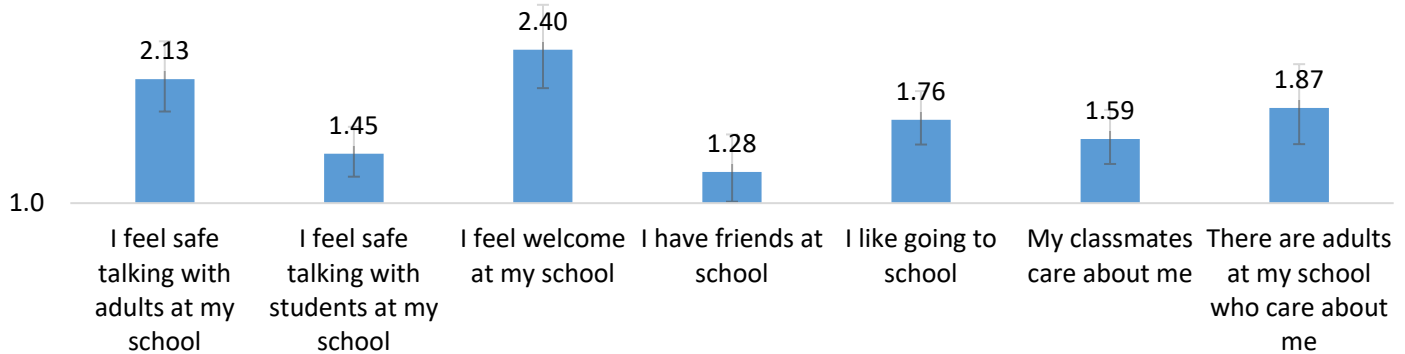
See the interpretative section, page 5, for help understanding odds ratios presented here

We are not able to determine the direction of the relationship: it may be that experiencing exclusionary discipline results in students feeling (for example) less comfortable talking with adults; conversely, it may be that feeling more disconnection and a lower sense of belonging in school is a predictor of behavior that may result in disciplinary incidents. Looking to the literature, one study found a relationship between lower discipline disparities between Black students and white students, and Black students higher sense of belonging.[31] Another study found students with higher sense of belonging rated themselves lower on measures of behavior problems that could result in disciplinary action.[32] In a recent study, researchers found that increased discipline for minor infractions negatively impacted both the student receiving the suspension and overall classroom achievement, noting that students "tend to have poor school climate perceptions after receiving a suspension, including reports of unfavorable relationships with school adults."[33]

> " "Sometimes, I feel like the teachers hate me. I have gotten in trouble a few times and I feel like they judge me for that. They never treat me bad but it's hard to tell how they feel about me." – Oregon Student[34]

ODE discipline data collections indicate that the most common reasons reported for exclusionary discipline are part of a subjective "disruptive behavior" category (more than twice as prevalent as the next-leading category, physical assaults). Disruptive behavior can mean disrespect, defiance, and insubordination, which are subjective concepts and based upon the perception and skills of the adult who is interacting with the situation. These incidents are closely tied to student interactions and relationships with the adults in their schools, as suggested by the results above. We encourage adults in schools to think more about how to establish, maintain, and restore ruptures in student relationships, rather than jumping immediately to consequences, when students are perceived as rude, disruptive, or otherwise uncooperative (see promising practices).

New federal guiding principles on discipline include, as the first principle, "foster a sense of belonging through a positive, safe, welcoming, and inclusive school environment," and implore schools to "treat students with dignity and respect" in the course

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[31] Fisher, Benjamin W., Cherie Dawson-Edwards, Ethan M. Higgins, and Kristin Swartz, "Who belongs in school? Examining the link between Black and White racial disparities in sense of school belonging and suspension," *Journal of Community Psychology* 48, no. 5 (2020): 1481-1499.

[32] Newman, Barbara M., Brenda J. Lohman, and Philip R. Newman, "Peer group membership and a sense of belonging: their relationship to adolescent behavior problems," *Adolescence* 42, no. 166 (2007): 242-263.

[33] Wang, Ming-Te, Christina L. Scanlon, and Juan Del Toro, "Does Anyone Benefit from Exclusionary Discipline? An Exploration on the Direct and Vicarious Links between Suspensions for Minor Infraction and Adolescents' Academic Achievement," *American Psychologist* 78, no .1 (2023): 20–35.
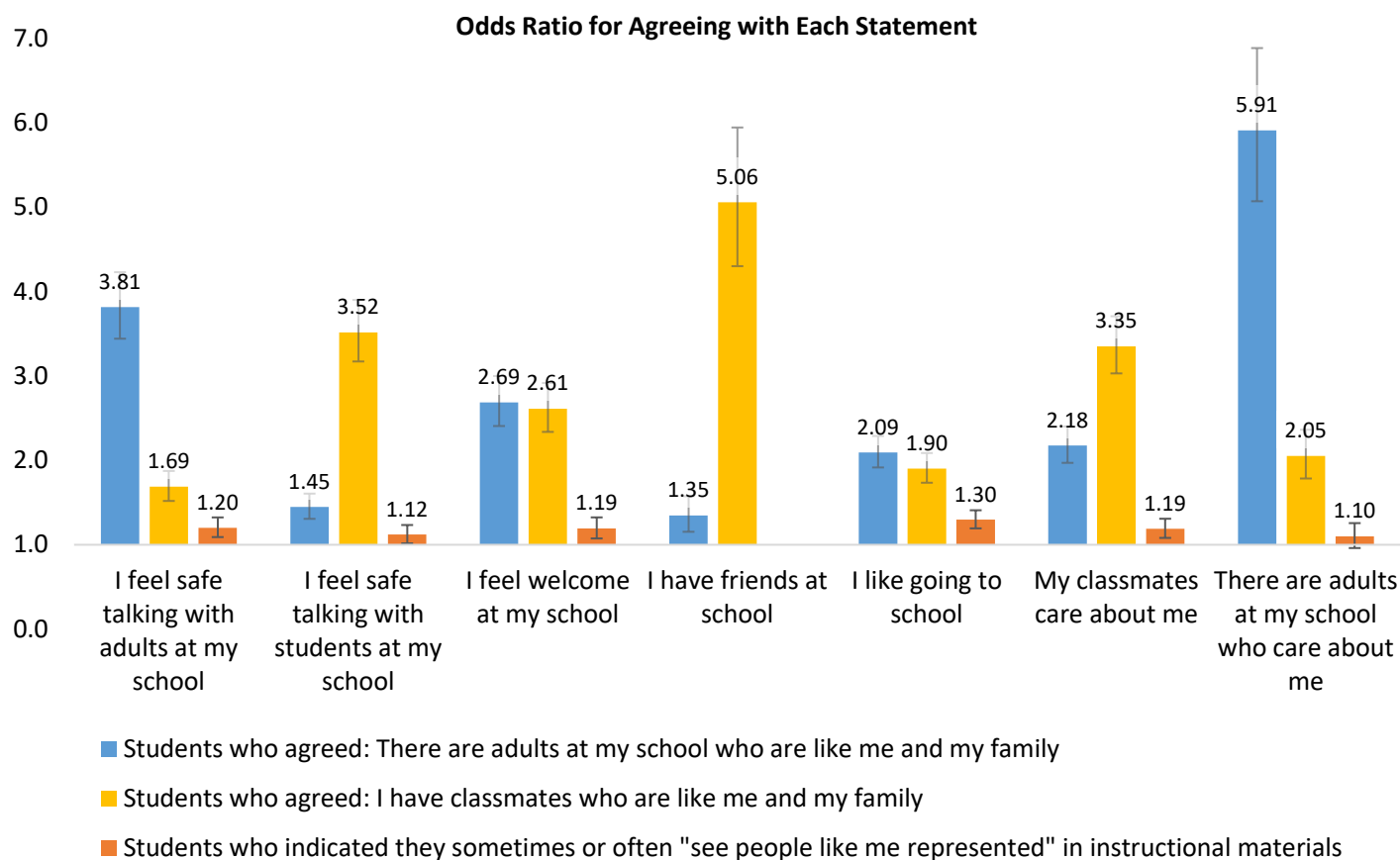
[34] SEED Survey, "Is there anything else about your school you would like to share?"

of creating fair, safe, and effective discipline practices. This resource references evidence-based policies, practices, and programs that can help create safe, inclusive, supportive, and fair learning environments for all students to learn, grow, and become successful.

No discussion of exclusionary discipline practices would be complete without noting that disproportionate rates of exclusionary discipline are well-documented at both state and national levels.[35] The impacts described above are likely disproportionately felt, particularly by students federally identified as Black/African American or American Indian/Alaska Native and by students experiencing disabilities.

Social Identity

Finally, we examine the relationships between the social identity items on SEED and the sense of belonging indicators. These have some of the strongest relationships in the dataset. Students who agreed that they have classmates or adults at school like them and their family were substantially more likely to feel safe talking with their classmates or adults at school, respectively. A similar relationship was observed between those indicators and students who agreed that classmates or adults care about them. Agreeing that they have classmates and adults at school like them and their family was also strongly associated with feeling welcome at school, and liking school.

Odds Ratio for Agreeing with Each Statement

Statement	Adults like me and my family	Classmates like me and my family	See people like me represented
I feel safe talking with adults at my school	3.81	1.69	1.20
I feel safe talking with students at my school	1.45	3.52	1.12
I feel welcome at my school	2.69	2.61	1.19
I have friends at school	1.35	5.06	
I like going to school	2.09	1.90	1.30
My classmates care about me	2.18	3.35	1.19
There are adults at my school who care about me	5.91	2.05	1.10

■ Students who agreed: There are adults at my school who are like me and my family
■ Students who agreed: I have classmates who are like me and my family
■ Students who indicated they sometimes or often "see people like me represented" in instructional materials

See the interpretative section, page 5, for help understanding odds ratios presented here

Because the construct of social identity was deliberately nonspecific, we do not know if students answering these questions were thinking of racial/ethnic similarities, similarities in family structure and composition, similarities in interests and activities, similarity in values and beliefs, or other ways in which families and classmates can be similar. We therefore cannot determine the directionality of these relationships. For example, it may be that children have an easier time making friends

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[35] Oregon Department of Education, 2021-22 Oregon Statewide Report Card, (2022): 25.

with classmates who are similar to them, but it may also be the case that children who make friends with classmates discover areas of similarity through the friendship.

We also see that students who more frequently see people like themselves or their families represented in instructional materials are more likely to agree with sense of belonging indicators related to feelings of safety and welcome at school, but are no more likely to report having friends at school, which suggests more directionality to that indicator and is a promising practice schools can pursue to increase sense of belonging.

Other research has found benefits to culturally and racially inclusive education across racial and ethnic groups, both in enhancing student self-perception and in improving measures of academic achievement.[36] One review[37] linked participation in ethnic studies[38] directly to engagement and increased sense of self-efficacy, both concepts closely linked to sense of belonging.

High School Success and Student Investment Account Funds to Improve Sense of Belonging
The majority of schools with students who have responded to this survey have Student Investment Account (SIA) and/or High School Success (HSS) funds dedicated to activities designed to support student's emotional needs and deepening connections to their school communities. These activities can be broadly categorized into six areas; creating or supporting professional learning community (PLC) teams (3 schools), hiring counselors (7), hiring social-emotional specialists or social workers (3), providing trauma-informed professional development to staff (1), engagement with community organizations designed to support students (2), establishing a wellness center (1), and training student mentors (1). Only two schools were not spending in areas specifically designed to support students in this manner, although monies from other funding streams could be doing so. Collectively, these districts spent $6.7 million of SIA and HSS funds on these activities during the 2021-23 biennium, representing 14% of their total allocations.

Many of these activities have been funded for several years (some since the first HSS spending was reported, in 2018-19) and are becoming embedded in school systems. Data teams have been formed at multiple schools to regularly analyze student academic and behavioral data. These teacher teams work with incoming 9th graders to ensure students are on track academically and are engaged in their school community; in some instances, advisors continue this work with their student groups throughout high school. Data reviews are supplemented through the utilization of surveys, empathy interviews, and in-person engagement activities. The information gathered also guides the social/emotional learning work taking place and some districts are in the process of embedding social/emotional learning into all content levels. One district plan describes the development of a 'safe school adult' program where empathy interview data assists staff in ensuring each student has a caring adult who connects with them on a systematic basis.

Tribal Attendance Promising Practices
Another program that centers student belonging is the Tribal Attendance Promising Practices (TAPP) program which has been implemented since 2016 and provides grants for ten TAPP school district sites. All TAPP sites hire a Family Advocate with deep local connections to the tribal community to create a school-wide initiative to reduce chronic absenteeism and to eliminate the disparity in attendance data between American Indian/Alaska Native and non-Native student groups. TAPP Family Advocates hold a deep commitment to creating and modeling culturally responsive relational conditions that fully support student and family belonging within the school.

Counseling services have been expanded throughout multiple districts and schools. Schools report HSS/SIA funds have had a significant impact on their ability to serve students' and families' mental health and basic needs. Having certified counselors or

[36] National Education Association and the Law Firm Antiracism Alliance, rep., The Legal and Pedagogical Case for Culturally Responsive and Racially Inclusive Public Education for All Students (National Education Association, September 29, 2022).
[37] Sleeter, Christine E. & Miguel Zavala, National Education Association, "What The Research Says About Ethnic Studies," *Transformative Ethnic Studies In Schools: Curriculum, Pedagogy, And Research,* (New York: Teachers College Press, 2020).
[38] ODE resources on Ethnic Studies are available online.

social workers in each school provides students with access to supports and services and partnerships have been established with community mental health providers in instances when outside referrals to additional services are necessary. Smaller districts have partnered with their ESDs to share personnel if their funds do not support establishing a full-time position, such as a family support liaison who has established a Service Integration Team consisting of district personnel, business owners, community organization leaders, and local hospital staff to support students and their families with basic needs.

In one instance, a District Health Coordinator has been funded which enabled the district to add partnerships, staffing, and systems to support focal student populations[39], primarily students who experience foster care and houselessness. Another district established Coordinator of Student Success positions to impact student attendance, wellness, and academic progress. Coordinators check in with students, problem solve along with them, and work to find resources for students who are struggling academically or socio-emotionally. They meet with all teachers to help provide wrap-style services to students who have additional accommodation needs and run small groups for selected students to offer insights, coping strategies, connections, and the opportunity to grow in a positive and supportive environment.

Investments in improving culture and climate have included professional development to create "communities of care." Staff report this has been a positive and culture building experience that has resulted in closer relationships with staff and students.

> " "[My school] is home to me. I feel comfortable and safe and feeling like that makes it easier to learn stuff …[to] know teachers or classmates are there for you…it just makes things feel really easy and awesome. I love this school and most of the people in the school…I learn so much here." – Oregon Student[40]

Although some schools report an increase in problematic behaviors during the 2022-23 school year[41], behavior support systems funded through HSS/SIA have helped school personnel to meet students where they are and provide the support they need. Adult staff have become more trauma aware. They recognize that many students have trauma-impacted lives and this alters their behavioral patterns. Knowing this information, and focusing on resiliency techniques, allows teachers to communicate with students in ways that maintain relationships and avoid unnecessary conflict. Counselors manage school MTSS systems and keep up to date with those students flying under the radar in many instances.

One elementary school reports that infractions/referrals are down to a total of 7 for the current school year, when compared to 11 at this time last year and over 50 the year prior to COVID which demonstrates the amount of support that is provided for students and how staff are in intervention mode vs. reactionary mode. They state the team of support, including a family support advocate, school nurse, and counselor, created with SIA dollars has been significant and has made a huge impact on their earliest learners.

Bullying and the Student Health Survey
Some studies have researched the connection between student bullying and school climate[42] as well as if sense of belonging acts as a buffer to the effects of bullying victimization.[43] While conclusions around the effect of bullying varied, student experience and perception on their school environment were shown to significantly relate to academic achievement.[44]

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[39] Oregon Department of Education, *Aligning for Student Success: Integrated Guidance for Six ODE Initiatives* (2022).

[40] SEED Survey, "Is there anything else about your school you would like to share?"

[41] Reports via HSS and SIA progress reporting.

[42] Renick, Jennifer, and Stephanie M Reich, "Best friends, bad food, and bullying: How students' school perceptions relate to sense of school belonging," *Journal of community psychology* 49, no. 2 (2021): 447-467.

[43] Davis, Jordan P., Gabriel J. Merrin, Katherine M. Ingram, Dorothy L. Espelage, Alberto Valido, and America J. El Sheikh, "Examining pathways between bully victimization, depression, & school belonging among early adolescents," *Journal of Child and Family Studies* 28 (2019): 2365-2378.

[44] Gietz, Carmen, and Kent McIntosh, "Relations between student perceptions of their school environment and academic achievement," Canadian Journal of School Psychology 29, no. 3 (2014): 161-176.

The Oregon Health Authority's Student Health Survey of 2020 asked students several questions to identify if and what they had been bullied over, as well as if they had bullied other students anytime in the last 30 days of taking the survey.[45]

At the state level, both the 8th and 11th grade students who self-identified as female were more likely to respond that they had been bullied than those that self-identified as male. Students who expressed a gender identity other than male or female were also more likely to report they experienced bullying than their male and female counterparts. Similarly, students who self-identified as lesbian, gay, bisexual or a sexuality other than straight or heterosexual also reported higher rates of bullying.

This could indicate that students in some focal groups have a school experience which differs greatly from others in the same school, especially when looking at school climate and safety. The Student Health Survey also included measures of school safety, and connectedness and belonging[46], all of which may be used to paint a more nuanced picture of students' experience in their school.

Promising Practices

One of the strongest factors that impact students' feelings of belonging in school is teacher support. Students shared that supportive teachers build relationships with all of their students, know how to relate to them, are respectful, caring and fair, and take the time to listen to their voices and ideas, including implementing student ideas in the classroom, as appropriate.[47]

Mental health and access to mental health supports and resources also impact students' sense of belonging.[48] Districts support students' mental health by ensuring that there are systems in place to quickly identify students needing extra support, providing clear messaging around the importance of mental health and the resources available to students and families, and ensuring that every student has a trusting relationship with at least one school staff. The Student Investment Account funds strategies aimed to support student mental and behavioral health.

- o The ODE Mental Health Guidance and Resources site contains resources for Students and Families; Educators and School Staff; and Administrators, School Counselors, and Other Mental Health Professionals.

- o The Centering Health and Well-Being in Education document is a resource and planning tool to center health in education strategies.

Schools create more welcoming, supportive school climates when there is a culture of acceptance, which includes policies and interventions that affirm and support students' identities, as well as policies that address bullying and hate speech. In schools that implemented policies to specifically support non-binary, transgender and gender expansive students, these students were significantly less likely to be prevented from using their name or pronouns and using facilities aligned with their gender and were overall more likely to feel a part of their school community.[49]

Additionally, LGBTQ2SIA+ students in schools with Gay-Straight Alliances (GSA) and inclusive curriculum were less likely to feel unsafe regarding their sexual orientation, gender expression or gender. LGBTQ2SIA+ students in schools with a GSA "felt greater belonging to their school community, performed better academically in school and were more likely to plan on pursuing postsecondary education." LGBTQ2SIA+ students in schools with inclusive curriculum were more likely to report that their classmates were accepting of gender-expansive people.[50] When schools codify inclusive practices, and school staff feel

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[45] "Crosstabs," Oregon SHS Data Portal, accessed January 23,2023. https://www.bach-harrison.com/SHSDataPortal/Default.aspx

[46] Oregon Health Authority, *2020 Oregon Student Health Survey: State of Oregon Report*, (2020): 41.

[47] Allen, Kelly, Margaret L. Kern, Dianne Vella-Brodrick, John Hattie, and Lea Waters, "What schools need to know about fostering school belonging: A meta-analysis," *Educational Psychology Review* 30, no. 1 (2018): 1-34.

[48] Korpershoek, "The relationships between school belonging," 641-680.

[49] Kosciw, *The 2021 National School Climate Survey.*

[50] Ibid.

more equipped to adequately support LGBTQ2SIA+ students, these students are more likely to have the supports needed to meaningfully engage in schools and with their education.

- o *Supporting Gender Expansive Students: Guidance for Schools* offers guidance and tools for districts as they foster educational environments that are safe, free from discrimination, and aligned with state and federal laws.

- o ODE offers the Every Student Belongs (ESB) Guidance which outlines the ESB rule and approaches to address harm.

Racism and biased use of discipline impacts student mental health, creates difficulty in concentration and decision-making, and creates reduced feelings of closeness with people at school.[51] The School Discipline, Bullying, Restraint and Seclusion page offers resources on reducing harmful and exclusionary practices in schools.

- The Basic FBA (Functional Behavior Analysis) to BIP (Behavioral Intervention Plan) offers modules for educators and behavior specialists to build capacity in schools to support students and develop supportive school cultures. BIPs are about how adults can change behaviors to make the school environment more tailored to meet the needs of students.

In the spring of 2023, OEII launched the Engaging Equity: Equitable Mindsets, Practices, and Systems. Racial Equity Foundations, the first cluster of four modules within this professional learning series, was designed to help districts respond effectively to emerging needs of their school communities — while taking steps to mitigate some of the systemic disparities experienced by many students and families. Gaining skill in culturally responsive and sustaining pedagogy and practice within instruction is all about meeting every student where they are — in their strengths and needs. The series equips educators to create positive connections and strengthen community and learning conditions to improve student outcomes. Every student can benefit from these universal and targeted approaches.

> "Districts and schools have a responsibility to ensure that every student is accepted, supported, and safe in school every day" (ODE, *Supporting Gender Expansive Students*, p. 6).

Thanks to the SEED team, our colleagues in the Offices of Enhancing Student Opportunities and Equity, Diversity, and Inclusion, and the thousands of Oregon students who completed the SEED survey

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[51] Mpofu, Jonetta J., Cooper, Adina C., Ashley, Carmen, Ged, Sindhura, Harding, Lee, Johns, Michelle M., Spinks-Franklin, Adiaha, Njai, Rashid, Moyse, Davia, Underwood, Michael J. *Perceived Racism and Demographic, Mental Health, and Behavioral Characteristics Among High School Students During the COVID-19 Pandemic — Adolescent Behaviors and Experiences Survey, United States, January–June 2021, MMWR Suppl 2022;71(Suppl-3):22–27.*

Technical Appendix

Sense of Belonging Correlation Matrix
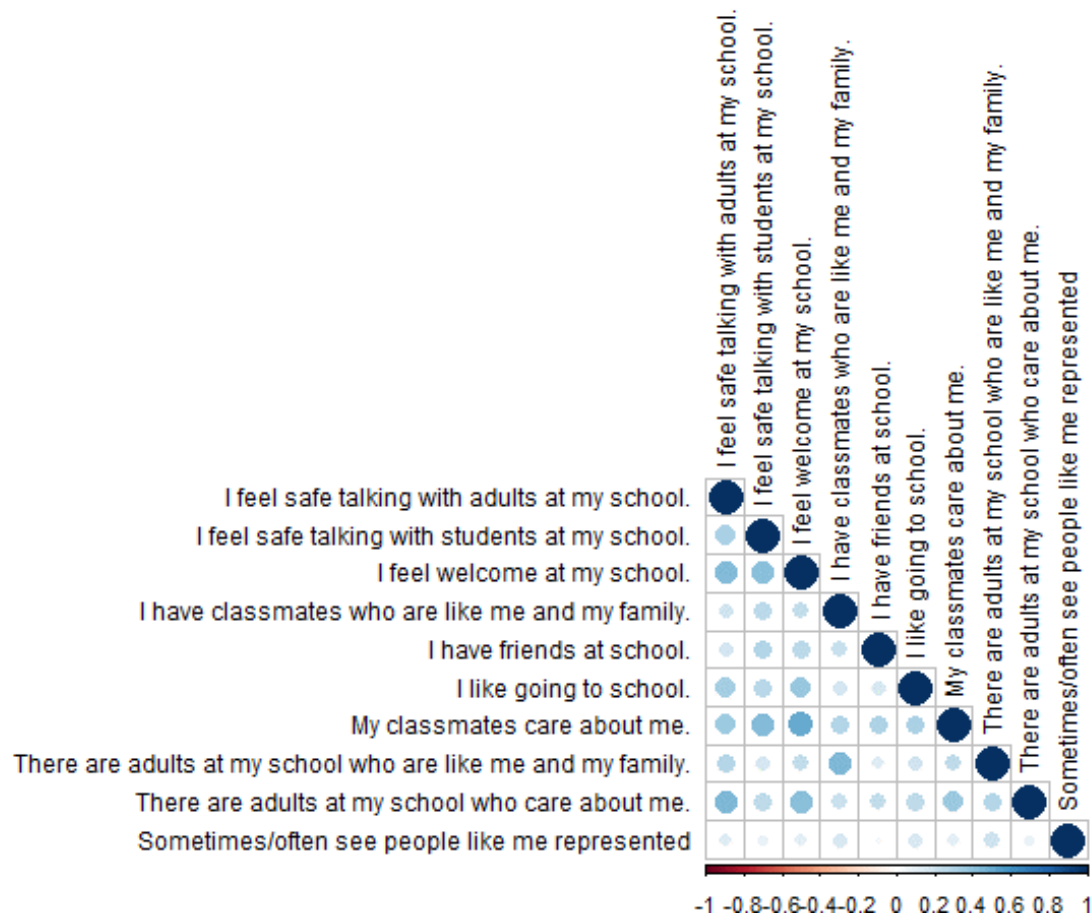
Univariate (unadjusted) Results

Results presented below are from univariate logistic regression models, with each sense of belonging indicator regressed on just one variable (or set of variables, for categorical items). Values are presented as coefficient (standard error) – exponentiated results are presented in the last table.

	I feel safe talking with adults at my school	I feel safe talking with students at my school	I feel welcome at school	I have friends at school	I like going to school	My classmates care about me	There are adults at my school who care about me
Gender (vs Female)							
Male	0.09* (0.04)	0.20* (0.04)	0.14* (0.04)	-0.23* (0.06)	-0.20* (0.03)	0.05 (0.04)	-0.37* (0.06)
Non-binary	-1.12* (0.37)	-1.03* (0.34)	-0.83* (0.39)	-1.93* (0.37)	-0.86* (0.36)	-1.82* (0.41)	-0.18 (0.61)
Migrant Education	0.08 (0.12)	0.43* (0.14)	0.24 (0.14)	0.26 (0.20)	0.18 (0.10)	0.14 (0.12)	-0.14 (0.16)
Foster	0.04 (0.23)	0.45 (0.28)	-0.18 (0.24)	-0.28 (0.32)	0.27 (0.20)	-0.05 (0.22)	-0.37 (0.28)
Ever Foster	0.29* (0.11)	-0.05 (0.12)	-0.31* (0.12)	-0.21 (0.16)	0.03 (0.10)	-0.35* (0.11)	-0.52* (0.14)
Grade (vs 3)							
4	-0.20* (0.09)	-0.09 (0.08)	-0.25* (0.09)	0.24* (0.11)	-0.27* (0.07)	-0.17* (0.08)	0.31* (0.11)
5	-0.34* (0.09)	-0.27* (0.08)	-0.20* (0.09)	0.33* (0.12)	-0.59* (0.07)	-0.21* (0.08)	0.57* (0.12)
6	-0.75* (0.08)	-0.40* (0.08)	-0.49* (0.09)	0.27* (0.12)	-0.84* (0.07)	-0.42* (0.08)	0.13 (0.11)
7	-0.83* (0.08)	-0.42* (0.08)	-0.49* (0.09)	0.32* (0.12)	-1.03* (0.07)	-0.44* (0.08)	0.00 (0.10)
8	-1.11* (0.08)	-0.61* (0.08)	-0.75* (0.08)	0.00 (0.11)	-1.21* (0.07)	-0.62* (0.07)	-0.35* (0.10)
9	-0.88* (0.09)	-0.34* (0.10)	-0.44* (0.10)	0.39* (0.15)	-1.11* (0.08)	-0.44* (0.09)	-0.11 (0.12)
10	-0.98* (0.09)	-0.60* (0.09)	-0.66* (0.10)	0.41* (0.16)	-1.35* (0.08)	-0.58* (0.09)	-0.16 (0.12)
11	-0.58* (0.10)	-0.53* (0.09)	-0.52* (0.10)	-0.47* (0.12)	-1.28* (0.08)	-0.53* (0.09)	-0.03 (0.12)
New In School	0.21* (0.04)	-0.19* (0.04)	-0.20* (0.04)	-0.23* (0.06)	-0.07* (0.03)	-0.16* (0.04)	-0.28* (0.06)
New In District	-0.08 (0.06)	-0.24* (0.06)	-0.18* (0.06)	-0.67* (0.07)	-0.01 (0.05)	-0.25* (0.05)	-0.28* (0.07)
Race/Eth (vs White)							
Asian	0.53* (0.22)	0.45* (0.21)	0.86* (0.27)	-0.25 (0.25)	0.70* (0.18)	0.68* (0.22)	0.42 (0.31)
Black	-0.17 (0.23)	-0.08 (0.23)	0.03 (0.27)	-0.47 (0.30)	0.24 (0.21)	0.13 (0.24)	-0.33 (0.30)
Hispanic	-0.08 (0.05)	0.17* (0.05)	0.06 (0.05)	0.16* (0.08)	0.13* (0.04)	-0.03 (0.05)	-0.19* (0.07)
Amer. Indian/AK Native	-0.15 (0.13)	-0.20 (0.13)	-0.02 (0.15)	0.01 (0.21)	-0.13 (0.12)	-0.29* (0.13)	-0.56* (0.16)
Multiracial	-0.04 (0.08)	0.08 (0.08)	0.02 (0.09)	0.05 (0.12)	0.12 (0.07)	0.05 (0.08)	-0.03* (0.11)
Native HI/Pacific Islander	0.31 (0.35)	0.31 (0.35)	0.71 (0.43)	-0.57 (0.38)	0.40 (0.29)	-0.11 (0.29)	-0.27 (0.40)
Students w/ Disabilities	-0.10 (0.06)	-0.23* (0.06)	-0.27* (0.06)	-0.68* (0.07)	-0.04 (0.05)	-0.30* (0.05)	-0.44* (0.07)
Navigating Poverty[52]	-0.18* (0.05)	-0.13* (0.05)	-0.25* (0.05)	0.28* (0.06)	-0.06 (0.04)	-0.20* (0.04)	-0.18* (0.06)

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[52] Retained in some models due to improvement in precision of other items; excluded from text of brief due to uninterpretability and lack of practical application – expansions to school nutrition programs have caused this indicator to be a highly imprecise measure of poverty.

	I feel safe talking with adults at my school	I feel safe talking with students at my school	I feel welcome at school	I have friends at school	I like going to school	My classmates care about me	There are adults at my school who care about me
Ever English Learner	-0.01 (0.07)	0.26* (0.07)	0.12 (0.08)	0.06 (0.10)	0.27* (0.06)	-0.01 (0.07)	-0.33* (0.09)
Current Emerging Bilingual	-0.01 (0.09)	0.13 (0.10)	-0.01 (0.10)	-0.37* (0.12)	0.23* (0.08)	-0.19* (0.09)	-0.65* (0.11)
Social Identity[53]	0.62* (0.04)	0.45* (0.04)	0.58* (0.04)	0.29* (0.06)	0.63* (0.03)	0.54* (0.04)	0.56* (0.06)
Adults like me[54]	1.39* (0.04)	0.86* (0.04)	1.33* (0.05)	0.90* (0.06)	0.88* (0.04)	1.19* (0.04)	1.89* (0.06)
Classmates like me[55]	0.93* (0.04)	1.35* (0.04)	1.27* (0.05)	1.73* (0.07)	0.82* (0.04)	1.44* (0.04)	1.31* (0.06)
Discipline Inc.	-0.92* (0.06)	-0.49* (0.07)	1.70* (0.07)	-0.44* (0.10)	-0.75* (0.06)	-0.66* (0.06)	-0.95* (0.08)

* p <0.05

Final Model (adjusted) Results

Results presented below are from multivariate logistic regression models, with each sense of belonging indicator regressed on all variables listed with non-blank coefficients. Results are exponentiated (presented as odds ratios (OR), not coefficients).

	I feel safe talking with adults at my school	I feel safe talking with students at my school	I feel welcome at school	I have friends at school	I like going to school	My classmates care about me	There are adults at my school who care about me
Gender (vs Female)							
Male	1.31976***	1.44905***	1.45480***	0.95214	0.91203*	1.29789***	0.89237
Non-binary	0.38447*	0.56257	0.44378	0.25008**	0.63853	0.21083**	1.72854
Migrant Education				1.43954			
Foster							
Ever Foster						0.73188*	0.60815**
Grade (vs 3)							
4	0.72946**	0.86342	0.64951***	1.14270	0.66381***	0.77179**	1.19256
5	0.58387***	0.70401***	0.67217***	1.17561	0.50962***	0.70755*	1.27216
6	0.57561***	0.60089***	0.53373***	1.05380	0.36349***	0.57684***	1.11979
7	0.31697***	0.55750***	0.47278***	0.96463	0.29340***	0.54717***	0.64216**
8	0.22039***	0.42276***	0.34496***	0.73412*	0.23356***	0.40514***	0.43289***
9	0.23847***	0.64500***	0.50672***	0.99252	0.26330***	0.44048**	1.19051
10	0.25388***	0.41516***	0.34363***	1.05265	0.18273***	0.38077***	0.53713***
11	0.36334***	0.41531***	0.36283***	0.39485***	0.20240***	0.43070***	0.49668***

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[53] "I sometimes or often see people like me and my family represented in instructional materials" – composite of several SEED items.

[54] "There are adults at my school who are like me and my family"

[55] "I have classmates who are like me and my family"

	I feel safe talking with adults at my school	I feel safe talking with students at my school	I feel welcome at school	I have friends at school	I like going to school	My classmates care about me	There are adults at my school who care about me
New In School	0.88921		0.82305***			1.15280	0.69392
New In District				0.58924***		0.84287*	
Grade (vs 3) * New in School							
4	1.17899					0.93544	1.05723
5	1.29674					0.85603	1.91371*
6	0.56252**					0.73113	0.77476
7	1.11386					0.66021*	1.10107
8	1.16724					1.03643	1.06292
9	1.24808					0.94178	0.52462
10	0.88217					0.89485	0.55770
11	0.97869					0.64978	1.24807
Race/Ethnicity (vs White)							
Asian	1.99558**	1.74223*	2.86950***	1.25875	2.14786***	2.57433***	2.06228*
Black	0.82404	1.00798	1.48949	0.89058	1.28097	1.56070	1.03535
Hispanic	0.95352	1.08181	1.11880	1.00512	1.11049	1.01254	1.01154
Amer. Indian/AK Native	0.88484	0.79896	1.11237	1.00729	0.88694	0.87008	0.54605**
Multiracial	1.02690	1.08543	1.10710	1.07855	1.15685	1.12825	1.02111
Native HI/Pacific Islander	1.11287	1.23545	3.27952	0.66206	1.04460	1.01714	0.86956
Students w/ Disabilities		0.85106*	0.87866	0.60615***		0.85127*	
Navigating Poverty[56]	0.87035*		0.84160**	1.49266***			
Ever English Learner		1.16333		1.33214	1.40178**		
Current Emerging Bilingual			0.74774*	0.48703**	0.72913*	0.75785*	0.43727***
Social Identity[57]	1.20187***	1.11997*	1.19306***		1.29706***	1.19433***	1.09889
Adults like me[58]	3.81496***	1.44885***	2.68644***	1.34795***	2.09396***	2.17512***	5.90743***
Classmates like me[59]	1.68740***	3.51699***	2.61088***	5.05539***	1.90269***	3.33383***	2.05379***
Discipline Incidents	0.46889***	0.68907***	0.41671***	0.77882*	0.56760***	0.63302***	0.53534***

* p <0.05 ** p<0.01 *** p<0.001

[56] Retained in some models due to improvement in precision of other items; excluded from text of brief due to uninterpretability and lack of practical application – expansions to school nutrition programs have caused this indicator to be a highly imprecise measure of poverty.
[57] "I sometimes or often see people like me and my family represented in instructional materials" – composite of several SEED items.
[58] "There are adults at my school who are like me and my family"
[59] "I have classmates who are like me and my family"