Purpose

C-PEER staff conducted analysis to examine relationships among student behavioral incidents, disciplinary responses, Teaching and Learning Conditions Colorado (TLCC) survey results, teacher retention, and student achievement outcomes. The study sought to identify meaningful patterns in behavioral data and determine how those patterns may contribute to broader analyses of school conditions, retention, and academic performance.

Research questions

- Are there correlations among the 15 types of behavioral incidents districts report to the state that may indicate which co-occur more frequently, and whether these categories can be collapsed into a more limited number of similar-type groupings?
- Are there correlations among the 12 types of punishment options that may indicate which co-occur more frequently, and whether these categories can be collapsed into a more limited number of similar-type groupings?
- Is there a pattern of co-occurance implied between behavioral types and disciplinary actions (types of punishment)?
- Is there a relationship between TLCC constructs and general reflection items with behavioral incidence and disciplinary actions?
- Is there a relationship between behavioral-related data and teacher retention outcomes?
- How should behavioral data be included in the broader research about TLCC data and outcomes of interest?

Data

- TLCC teacher survey responses from 2022 and 2024.
- School-level behavioral incident and disciplinary action data from 2022–2024.
- Colorado Department of Education data describing school context, student demographics, staffing, and organizational characteristics.

Analysis Methods

We conducted several sequential analyses to explore the research questions, with each step informing subsequent ones. The analysis used factor analysis, correlation analyses, and regression modeling to:

- Identify patterns among behavioral incident types.
- Identify patterns among disciplinary responses.

- Examine relationships between incidents and disciplinary actions.
- Explore associations with school context, student demographics, TLCC measures, and teacher retention.
- Determine how behavioral indicators should be incorporated into broader analyses of teacher retention and student achievement.

Findings and Conclusions

Relationships among behavior incidence types

We conducted factor analyses (Principal Components, Varimax rotation, Eigenvalues >= 1) for AY22, AY23, and AY24 behavior incidence data, including splitting schools with elementary-grade levels and those without. Behavioral incidents consistently grouped into three categories: classroom disruptions, substance-use violations, and severe behaviors. These groupings were sufficiently stable across years and school levels to support their use in subsequent analyses. Each is described in greater detail below.

Classroom disruptions

- Detrimental behavior
- Bullying
- Disobedience/defiance or repeated interference
- Other code-of-conduct violations

We found that “Disobedience/defiance or repeated interference” cross-loaded with substance use violations but kept those types with classroom disruptions as the stronger factor. "Destruction of school property" was also related to classroom disruptions, but we placed it in the Severe Behaviors group because it factored more strongly with those items.

Substance-use violations

- Alcohol
- Marijuana
- Tobacco
- Drug violations

While we chose to group "Dangerous Weapons" incidents with our 3rd group, severe behaviors, it did cross-load with substance violations, indicating there is a relationship between these types of behaviors.

Severe behaviors

- Robbery

- Assault-related offenses
- Sexual violence
- Other felonies
- Dangerous weapons
- Destruction of school property

Disciplinary Response Patterns

Disciplinary actions showed relatively little overlap with one another but were associated with expected behavioral patterns. Notable relationships included:

- In-school suspensions were most strongly associated with code-of-conduct violations, disobedience, and tobacco violations.
- Out-of-school suspensions were most strongly associated with detrimental behavior, marijuana violations, tobacco violations, disobedience, dangerous weapons, and assault-related incidents.
- Expulsions were only modestly associated with marijuana, tobacco, and weapons violations.

Behavioral Incidents and Disciplinary Actions

We found no predictive relationships of noted between **classroom removals** and any of the behavior incidence types. We found relatively small predictors of **expulsions**: for Marijuana violations (R^2 = 0.21, or 21% variance explained), tobacco violations (R^2 = 0.15, or 15% variance explained), and dangerous weapons (R^2 = 0.15, or 15% variance explained). The only predictors of note for "**Other actions**" were Disobedience (R^2 = 39%) and “Other” violations of code of conduct (R^2 = 18%)

In school suspensions were most strongly predicted by “Other” violations of code of conduct (R^2 = 32%), Disobedience/defiant or repeated interference (R^2 = 31%), and tobacco violations (R^2 = 21%).

Out of school suspensions were most strongly predicted by Detrimental behavior (R^2 = 46%), Marijuana violation (R^2 = 42%), tobacco violations (R^2 = 33%), Disobedience (R^2 = 29%), dangerous weapons (R^2 = 26%), and 3rd degree assault/disorderly conduct (R^2 = 25%).

TLCC Constructs, General Reflection Items and Behavioral Incidence and/or Disciplinary Actions

We first analyzed the proportional frequencies and total annual counts of frequencies of types of behavioral incidents (classroom disruptions, substance uses, and severe behaviors) from academic years 2022, 2023, and 2024, with results from the 2024 TLCC data (n ~ 27,250 teachers) including:

1. Construct scale scores (% positive responses);
2. General reflection items rating the school as "a good place to work" and "a good place for students to learn"; and
3. TLCC items comprising the constructs of Professional Climate, Student Behaviors, and Support for Own Wellbeing, as these were shown in our other analyses as being key predictors of teacher retention and general satisfaction.

We used a variety of correlational and regression analyses, and although we found many statistically significant relationships due to the extremely large n-sizes, all were extremely trivial. In almost all cases, **none of the three types of behavioral incidents explained greater than 1% of the variance** in construct scores, general reflection items, or within-construct items.

In first order (bivariate) correlation analysis, we found negative relationships (i.e., as behavior incidents increased, the TLCC scores decreased) as one would expect. The largest R^2 value, representing the percentage of variance explained by the behavioral incident frequencies, was **0.032, < 1%,** for classroom disruptions with the TLCC reflection item "I would recommend this school as a good place for students to learn" and the "student behavior" (management) construct scale score.

We also explored the possible relationships of behavioral incident frequencies with annual **school turnover rates**. Here the correlations were positive as expected (i.e., as incidents increased, turnover rates increased), but even more trivial than with TLCC items. The largest R^2 value was **0.014, < 1%,** for turnover with substance use incidents.

We interpret all these correlations as not worthy of consideration in any case. This indicates that teachers TLCC ratings or turnover rates are Not due to students' behaviors, even though the TLCC construct related student behavior (support and management structures) and student supports are significant predictors of both general reflection and intent to stay. This is not counter-intuitive; rather it suggests that how leadership supports student behavior and instructional activities are the critical factors, not whether students have behavioral issues *per se*. This is an important distinction regarding how much influence school leaders and staff potentially have related to TLCC outcomes and student behavioral incidences.

We took the analysis further to regress the TLCC items comprising Professional Climate, Student Behavior, and Support for Own Wellbeing with the three types of behavior incidences on 1) each of those construct scale scores, and 2) general reflection items rating the school as a good place to work and a good place for students to learn. Using a simple linear regression of items within constructs and behavioral type frequencies, we tested both the full group of variables and the behavioral variables as an independent group. A simple linear regression was used rather than a 2-level model (individual teachers within schools) because it was the individual

teachers' ratings of TLCC constructs and items that are of interest in the context of the behavioral incidences that teachers encountered within their school. Because of this, a school-level effect beyond the school-level aggregate of behavioral incident variables was not significant.

Professional Climate Construct. When the regression model included only the three behavioral type variables, the overall model R^2 was 0.018, < 2% of variance explained. The largest *B* value was –0.098, for the substance use variable. When all Professional Climate items were included along with the three behavioral type variables, all behavioral variables dropped out of the regression model, becoming non-significant.

Student Behavior Construct. Our regression model including only the three behavioral variables found an R^2 value of just 0.047, about 5% variance explained, and only classroom disruptions, *B* = -0.163 ($p < .001$) and substance use behaviors, *B* = -0.079 ($p < .001$) significant. As we found for the Professional Climate construct, when all Student Behavior items were included along with the three behavioral type variables, all behavioral variables dropped out of the regression model, becoming non-significant.

Support for Own Wellbeing Construct. The regression modeling of the three behavioral variables resulted in an R^2 value of 0.008, less than 1% explained. When the additional TLCC items comprising the Student Behavior construct were included, no behavioral variables remained significant.

General reflection: recommend school as a good place to work. For this regression model, we first included all the TLCC construct scale scores except for "General Reflection" along with the three behavioral incident variables. As with the Professional Climate Construct, when regressing only the three behavioral variables, the model R^2 was trivial at 0.021, about 2% variance explained. Only classroom disruptions (*B* = -0.132, $p < .001$) and substance use behaviors (*B* = -0.019, $p < .011$) were significant.

When the TLCC items comprising the construct scale score were included, the predictive value of the behavioral variables reduced even further, with the strongest again being classroom disruptions but now only *B* = -0.048, $p < .001$.

General reflection: recommend school as a good place for students to learn. We applied the same regression modeling for this general reflection item. For the behavior-only model, R^2 was again trivial at 0.041, about 4% explained. Only classroom disruptions (*B* = -0.181, $p < .001$) and severe behaviors (*B* = -0.039, $p < .001$) were significant.

When the TLCC items comprising the construct scale score were included, the predictive value of the behavioral variables reduced even further, with the strongest again being classroom disruptions, but now only *B* = -0.085, $p < .001$.

Use of Student Behavior Incidents in Outcomes Analysis

Although we found a limited explanatory effect of classroom disruptions in our analysis of student achievement outcomes, the relationship of behavioral incident frequencies and TLCC construct, items, general reflection, and annual turnover rates are extremely trivial. Because of this, we incorporated student behavior incidents only as a moderating variable in our overall systems analysis conceptual framework, as shown below. Behavioral patterns differed somewhat between schools serving elementary grades and those serving only secondary grades. However, the differences were limited, and a common behavioral framework remained appropriate across school types.

Differences by school type

We found only two differences of significance in association with behavior incidence types at the elementary- and non-elementary sites. First, the type "Other violation code of conduct" factored with the severe behavior "Robbery" in elementary-presence sites, but with the substance item violations Drugs, Tobacco, and Marijuana in non-elementary sites. Second, the "Alcohol violation" factored with "Disobedience/defiant or repeated interference" and "Detrimental behavior" in elementary-presence sites, but with "1st, 2nd degree or vehicular assault" in non-elementary sites. Other items were similar in factoring, while differing in the number of types of incidents at each level. This led us to investigate whether it was appropriate to use the same groupings of items across all types of schools in upcoming comprehensive analysis of behavioral data with outcomes of interest.

Student Demographic Characteristics and Behavioral Incidents

Student demographic characteristics showed few meaningful relationships with behavioral incident rates, particularly in 2024. Most observed relationships explained less than 2% of the variation in incident rates. The strongest and most consistent contextual relationship involved school size and enrollment patterns, particularly for substance-related violations.

We found some **differences of interest between the 2021/22 AY data and the 2023/24 data.** Alcohol violations were associated in AY22 with percentage of gifted/talented students and with Section 504 students, but these associations were not present in the following years. The percentage of migrant students in schools was negatively associated (i.e., higher numbers of migrant students correlated with lower numbers of incidents) for all types of behavioral incidence in AY22. Because this association was not present in later years, we interpreted this to mean that those students were participating less with their schools in that year immediately post-pandemic.

We then analyzed the relationship between behavioral and punishment types with a range of student demographics and school context/characteristic variables.

Classroom Disruptions More relevant to Student Academic Outcomes than Teacher Retention

Behavioral incidences were incorporated into analyses of teacher retention and student academic outcomes. These findings suggest that behavioral climate may be more closely connected to student learning outcomes than to teacher retention outcomes.

Key results included:

- Classroom disruption measures showed only a negligible meaningful relationship with teacher retention.
- Classroom disruptions demonstrated greater potential value in predicting student academic outcomes.

These measures contributed to the broader construct of School Capacity to Support Wellbeing used in our MAIHDA analysis of CMAS outcomes by bringing the disruption measure into intersectional-identity stratum variables. See the report, *How Intersectional Student Identities and School Contexts Shape Academic Performance* (Anderson Seidel & Oxenford O'Brian, 2026) for details of that analysis.

Implications for Conceptual Framework

The findings from this analysis related to student behavioral incidents informed the development of a conceptual framework that positions:

- TLCC constructs as leading indicators.
- School and student context as moderating influences.
- Behavioral conditions as indicators of school climate.
- Teacher retention and student achievement as key outcomes.

This framework now guides TLCC user resources and future longitudinal analyses intended to identify leading indicators and potential pathways influencing retention and achievement outcomes.