

Nevada School Climate/Social Emotional Learning Survey

Summary of Psychometric Equating



Introduction

Since 2015, the Nevada Department of Education (NDE) has partnered with the American Institutes for Research (AIR) to conduct the Nevada School Climate/Social Emotional Learning (NV-SCSEL) survey. Fifteen of Nevada's 17 public school districts plus State-Sponsored Charter Schools participate in the NV-SCSEL survey annually. Clark County School District (Clark CSD) and Washoe County School District (Washoe CSD)—the two largest school districts in Nevada—do not participate in the statewide survey. These districts began measuring school climate prior to the introduction of the statewide survey and opted to continue with their own district surveys when the option for a statewide survey was introduced.

In 2019, AIR and NDE performed psychometric analyses to link the NV-SCSEL survey to the surveys conducted by the two school districts in Nevada that do not participate in the statewide survey. Here we describe the surveys, topics, need for these analyses, and methods. For more detailed information, see the Technical Documentation at <http://datatool.nevadaschoolclimate.org/>.

NV-SCSEL Survey

The main goal of the NV-SCSEL is to better understand students' experiences of school climate and their social and emotional competencies. To this end, the survey measures:

- Two aspects of **Engagement**: Cultural and Linguistic Competence and Relationships
- Two aspects of **Safety**: Emotional Safety and Physical Safety
- Five aspects of **Social and Emotional Competence**: self-awareness, social awareness, self-management, relationship skills, and responsible decision-making

The Engagement and Safety constructs from the NV-SCSEL survey are a subset of the U.S. Department of Education's School Climate Surveys (EDSCLS). The scale scores resulting from these topics are aligned to the EDSCLS benchmark performance-level categories, ranging from 100 (low) to 500 (high), with cut points designating the favorability of conditions.

NV-SCSEL Survey Uses And Need For Equating

The NV-SCSEL survey serves several purposes for schools, districts, families, and other stakeholders. Primarily, data from the survey are intended to help school staff and school leaders better understand the conditions for learning and their students' experience of the school to inform continuous improvement efforts.

In addition, NDE initially awarded 2 bonus points under the student engagement component of the state's accountability framework to schools that survey at least 75% of their students. The NDE also uses data from the survey to better understand student needs and to inform funding decisions from a newly created School Safety account.

Because two school districts do not participate in the NV-SCSEL survey, NDE was faced with a challenge regarding how to use survey data fairly and equitably from three different surveys (the NV-SCSEL survey, the Clark CSD school climate survey, and the Washoe CSD school climate survey) to better define which schools had the highest needs. To address this challenge, AIR conducted a psychometric equating study to calculate scores from the Clark CSD and Washoe CSD surveys that are directly comparable with the NV-SCSEL survey so that data from all LEAs could be used together to inform these critical funding decisions.

Methods

Scores from different surveys can be equated via three main approaches: (1) common items, (2) common respondents, or (3) randomly equivalent groups. The common-respondents approach was most appropriate and rigorous for these surveys, thus was chosen as the equating method to create comparable school climate scores across Nevada.

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To accomplish this psychometric study, district administrators in Clark CSD and Washoe CSD agreed to administer a spring survey to a sample of their students. The spring survey included items from the NV-SCSEL survey and from their district survey (presented in random order). Approximately 13,000 (7%) of Clark CSD students and 1,600 (4%) of Washoe CSD students participated in this survey. Having a sample of students take both the district and statewide surveys enabled psychometric staff from AIR to understand the relationship between surveys and develop equations to map the district scores to the NV-SCSEL so that they can be directly compared.

Table 1. Number of Items, By Construct and Survey

Survey Constructs and Items. Each survey consisted of items mapped to four topics: Cultural and Linguistic Competence, Relationships, Emotional Safety, and Physical Safety.¹ Table 1 shows the number of items per topic on each survey.

Construct	NV-SCSEL	Clark CSD	Washoe CSD
Cultural and Linguistic Competence	5	4	3
Relationships	8	7	9
Emotional Safety	6	5	7
Physical Safety	7	8	14

Equating Steps. The equating process involved four main steps as described briefly below, each conducted eight times – one time for each construct for each district. For more detailed information, see the NV-SCSEL Psychometric Equating Technical Documentation.

- Step 1:** Independently replicate NV-SCSEL scores to ensure that the analytic software could reproduce NV-SCSEL scores exactly.
- Step 2:** Analyze both the Clark CSD and Washoe CSD surveys for psychometric validity and reliability.
- Step 3:** Perform scale alignment analyses for each district, construct by construct, mapping district scores to state scores.
- Step 4:** Apply the alignment equations produced in Step 3 to the districtwide survey data from the districts' own full administrations to generate comparable scale scores.

Results

Equation parameters were generated to transform Clark CSD survey data and Washoe CSD survey data to NV-SCSEL comparable scores. For detailed results of the study, including diagnostic results from the analyses and the equation parameters, see the NV-SCSEL Psychometric Equating Technical Documentation.

Summary

The Nevada Department of Education and the American Institutes for Research conducted a psychometric equating analysis to link the Clark CSD climate survey to the NV-SCSEL survey, and to link the Washoe CSD climate survey to the NV-SCSEL survey. Using the information gleaned from surveying common persons, equations were developed to align the scores from the Clark CSD and Washoe CSD surveys to the NV-SCSEL survey and these equations were used to produce scores for Clark CSD and Washoe CSD schools that are directly comparable to the scores produced for schools that took the statewide NV-SCSEL survey. The NDE used equated data to better understand student needs and to inform funding decisions from a newly created School Safety account. Having comparable scores for all schools – regardless of the survey they used – has a variety of benefits beyond assisting with equitable funding decisions: all schools are now provided with uniform school climate survey reports, and all schools can use the NV-SCSEL interactive data tool and peer matching algorithms to inform their continuous improvement efforts.

¹The social and emotional competencies scale did not require psychometric equating because the same set of items is presented on each of the three surveys. Therefore, directly comparable scores were available.