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New Tech Network School Culture Surveys - The Research and Literature Behind the Design

Survey Design

In this section, we provide you information that may be important for communicating the reliability and validity of the results to your stakeholders, should you choose to do so.

Grades 6-12

The grades 6-12 NTN Student Culture Survey was originally created in 1996 and has undergone numerous revisions based on input from school practitioners, validity and reliability testing results, and developments in the extant literature on school culture. The NTN Student Culture Survey is designed to be timely, relevant, and valid for NTN schools. Following revisions in January 2013, reliability was measured by calculating the overall Cronbach's Alpha score and correlation within each subscale of the instrument was calculated to measure validity. An overall high Cronbach's Alpha score (r = .930) indicated reliability of the instrument. Moderately high correlations between each sub-construct and the overall construct of school culture indicated validity: School Connectedness (r=.791), Learning Experiences (r=.847), Rules and Discipline Processes (r=.718), Peer Relationships (r=.833), Adult Relationships (r=.868). In August 2016, the correlation within each subscale of the instrument and the overall Cronbach's Alpha score were computed again using an updated dataset. The 2016 correlations and overall Cronbach's Alpha are consistent with the 2013 values: School Connectedness (r=.826), Learning Experiences (r=.881), Rules and Discipline Processes (.898), Peer Relationships (r=.917), Adult Relationships (r=.849), and College and Career Ready[1](.895), and the overall Cronbach's Alpha score (r = .958). Additionally, in August 2016, Confirmatory Factor Analysis (CFA) and Exploratory Factor Analysis (EFA) were used to further assess the validity of the survey. Results from the CFA and EFA suggested slight modifications were required to improve validity. The survey was revised in August 2017 and CFA was performed again in August 2019 and 2020 to confirm the revisions improved the validity. New for the 2019-20 school year are several revisions to the hypothesized structure, as well as new elements of school culture from which schools may choose to survey participants.

Element of School Culture	Survey Items on the Detailed Report
Student Connectedness to School	5a-b, 6a-d

School Processes and Practices	7a-c
Interactions with Students and Teachers	10a-b, 11a-c, 12a-f
The Learning Environment	8a-g, 9a-f
College and Career Readiness (Grades 9-12)	18a-h, 19a-d
Learning Through PBL	13a-l
Learning Technologies	17a-d
Learning Resources and Materials	14a-c, 15a-f
Virtual Learning Experiences	16a-g
Key to the scale (used to analyze means): • "Strongly disagree" = 1 • "Mostly disagree" = 2 • "Mostly agree" = 3 • "Strongly agree" = 4 • "I do not know" = 0	

Grades 3-6

The grades 3-6 NTN Student Culture Survey was constructed by modifying the grades 6-12 NTN Student Culture Survey, for readability and relevance for grades 3-6. Since its creation in 1996, the grades 6-12 NTN Student Culture Survey has undergone numerous revisions based on input from school practitioners, validity and reliability testing results, and developments in the extant literature on school culture. Both surveys were revised in August 2018 to improve validity.

In November 2017 internal reliability (Cronbach's alpha)--how well multiple items on a scale measure the same characteristic--was used to evaluate the constructed scale measuring students' perceptions of school culture. The threshold of Cronbach's alpha of .65 or higher was used to determine if the scale items met the reliability criteria for being analyzed as a scale, using grade 4 respondents' answers to calibrate the survey. An overall high Cronbach's Alpha score (r = .938) indicated reliability of the instrument. Moderately strong correlations between each sub-construct and the overall construct of school culture indicated validity: School

Connectedness (r=.751), Learning Experiences (r=.710), Peer Relationships (r=.0.726), Adult Relationships (r=.821), and moderate correlations for Rules and Discipline Processes (r=.632). Following the reliability analysis, exploratory factor analysis (EFA) with principle component extraction was performed to further investigate the nature of the scale and items. Results from the EFA suggested slight modifications were required to improve validity. This report was revised in August 2018 and CFA was performed in August 2019 and 2020 to confirm the revisions improved the validity. New for the 2020-21 school year are several revisions to the hypothesized structure, as well as new elements of school culture from which schools may choose to survey participants. Starting this school year schools may choose which element(s) they would like to survey stakeholders.

Element of School Culture	Survey Items on the Detailed Report
Student Connectedness to School	4a-c, 5a-c
School Processes and Practices	7a-c
Interactions with Students and Teachers	8a-d, 9a-e
The Learning Environment	6a-n
Learning Through PBL	10a-i
Learning Technologies	11a-c
Key to the scale (used to analyze means): • "Strongly disagree" = 1 • "Mostly disagree" = 2 • "Mostly agree" = 3 • "Strongly agree" = 4 • "I do not know" = 0	

Grades PreK-2

The grades PreK-2 NTN Student Culture Survey was constructed by modifying the grades 3-6 NTN Student Culture Survey, for viewability and relevance for grades PreK-2. In June 2018 extensive revisions were made to better align this instrument with the constructs present in the

Grades 3-6 and 6-12 surveys. Several new items were added and the script was revised to feature multiple genders and additional student diversity. This survey will be analyzed using exploratory factor analysis (EFA) with principle component extraction during annual design testing. New for the 2019-20 school year are several new elements of school culture from which schools may choose to survey participants. Also starting this school year schools may choose which element(s) they would like to survey stakeholders.

Element of School Culture	Survey Items on the Detailed Report
Student Connectedness to School	2, 3, 4
The Learning Environment	5, 6, 7
Interactions with Students and Teachers	8, 9, 10, 11, 12, 13
School Processes and Practices	14, 15, 16
Key to the scale (used to analyze means): • Disagree = 0 • Neutral, or in the middle = 1 • Agree = 2	

Educators

The NTN Educator Culture Survey was created in 2015 and incorporates elements from the NTN Student Culture Survey, core NTN frameworks, and recommendations from practitioners in the field. In 2018 the NTN Educator Culture Survey underwent revisions based on input from school practitioners, validity and reliability testing results, and developments in the extant literature on school culture. It was also revised to support a hypothesized structure with partial alignment to the NTN Student Culture Surveys.

This survey was revised in August 2019 and 2020 and reliability and validity testing is performed annually to evaluate alignment to the hypothesized structure. New for the 2019-20 school year are several revisions to the hypothesized structure, as well as new elements of school culture from which schools may choose to survey participants. Starting this school year

New Tech Network

schools may choose which element(s) they would like to survey stakeholders. A detailed technical report can be requested by emailing NTNResearch@newtechnetwork.org .

Element of School Culture	Survey Items on the Detailed Report
Leadership and Leading	5a-f
Commitment and Satisfaction	6a-c
Collaboration and Learning	7a-d
Interactions with Students and Teachers	8a-c
Beliefs and Mindsets	9a-d
Teaching Through PBL	10a-l
Virtual Teaching Experiences	11a-f
The Learning Environment	12a-i
College and Career Readiness for Students	13a-h
Key to the scale (used to analyze means): • "Strongly disagree" = 1 • "Mostly disagree" = 2 • "Mostly agree" = 3 • "Strongly agree" = 4 • "I do not know" = 0	

Revisions

Since their creation, the NTN School Culture Surveys have undergone numerous revisions based on input from school practitioners, validity and reliability testing results, and developments in the extant literature on school culture. All surveys were revised in August 2019 to improve validity and again in 2020 to both improve validity and offer significantly more flexibility for school choice in designing customized school culture surveys.

New Tech Network

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New Tech Network

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