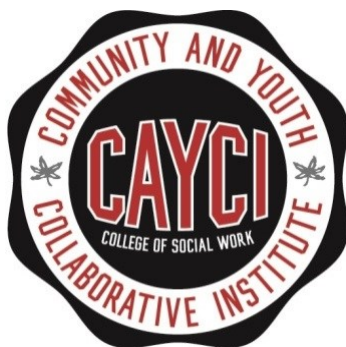Community and Youth Collaborative Institute
School Experience Surveys

Technical Report: School Connectedness
Middle/High School Student Version

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SCHOOL CONNECTEDNESS
Middle & High School Student Version

I. Definition of Construct
The School Connectedness scale measures students' general perceptions of their relationship to school.

II. Relevance for Practice
Past studies have shown that enhanced experiences of school connectedness relate to improved grades, higher academic performance, and graduation from high school (Battin-Pearson, et al., 2000; Klem & Connell, 2004; Nasir, Jones, & McLaughlin, 2011; Voelkl, 1995; Wentzel, 1995).

III. Scale Description and Instructions

A. Items
1. I enjoy coming to school.
2. I am proud to be a student at my school.
3. I feel like I belong at my school.

B. Response Options
Response options for each item include the following:
1 = Strongly Disagree
2 = Disagree
3 = Neither Disagree or Agree
4 = Agree
5 = Strongly Agree

C. Instructions for Respondents
These questions ask you about your experiences at school. For each of the following statements, please fill in ONE circle that best represents your answer.

D. Instructions for Scale Administers
For complete instructions on how to administer the survey, reference the "Student Survey Directions" that are printed within the survey itself. Once each student has a survey, explain that the purpose of the survey is to learn more about their experiences at school. They should mark one answer per statement, selecting the choice that best reflects how they feel.

As students finish, look thoroughly through the surveys to make sure that they didn't miss any items or questions. Please remember that students do NOT have to answer every question, but do encourage them to complete as much of the survey as possible. Remind students that their answers will help the school know how to best support them.

IV. Scoring Procedures

An average of the response scores from the 3 items should be calculated and used as an indicator of school connectedness, with higher scores reflecting greater levels of experienced connectedness.

V. Psychometric Properties of the Scale

A. Description of Sample

Participants used to test the psychometric properties of the scale included 5257 middle school (6-8th grade; 44.8%) and high school (9⁻12th grade; 55.2%) students from around the state of Ohio. The participants included both males (51.4%) and females (48.6%). The majority of students identified themselves as White/Non-Hispanic (86.3%), Mixed/Multi-Racial (8.6%), African American (3.4%), Latino/Latina (0.9%), or Asian (0.9%), and 48.3% indicated they received a free or reduced lunch. Data on these students were collected as part of a needs assessment within each school's improvement planning process. Some data were collected using the online instrument, whereas others were collected via paper/pencil survey.

B. Basic Descriptive Statistics and Relevant Group Differences

Sample	Mean	SD	Range	α
Full Sample ($N = 5257$)	3.46	.90	1-5	.79
Gender				
Males ($n = 2649$)	3.42	.93	1-5	.78
Females ($n = 2501$)	3.51	.87	1-5	.79
Race/Ethnicity				
White/Non-Hispanic ($n = 4453$)	3.49	.88	1-5	.78
Other ($n = 804$)	3.31	1.01	1-5	.80
School-Type				
Middle School ($n = 2316$)	3.53	.88	1-5	.75
High School ($n = 2849$)	3.41	.92	1-5	.81

Note. Group specific data omits students who did not indicate their status. All groups were significantly different ($p<.05$). Nevertheless, the effect sizes (η^2) indicated that group membership accounted for less than 1% of the variance in the scores.

C. Maximum Value Percentages and Classification of Scores

Percentages		Classification of Scores		
Maximum Value	½ SD	Excelling	Emerging	Needs Improvement
69.2%	9.0%	78+	77-61	<61

Note. The max value percentages reflect the scale mean divided by the number of response options in the scale. This value allows the subscale to be compared with other measured constructs measured in the CAYCI surveys, thereby providing relative information regarding the extent to which students' experiences are favorable across constructs. The classification of scores provides ranges of values based on the maximum value percentage plus or minus ½ SD percentage. Based on these cut points, schools may determine where they stand on students' feelings of connectedness in their school relative to normed data.

D. Relationship between School Connectedness scores and other Student Perception Constructs

Construct	*r =*
Academic Motivation [a]	.72*
Academic Press [a]	.64*
Self-Reported Grades [b]	-.28*
Support for Learning [c]	.62*

*Notes. [a] Average scores on the respective subscale from the Perceived School Experience Scale (Anderson-Butcher, Amorose, Iachini, & Ball, 2013). [b] Students responded to the question "On average what grades do you get in school?" with response options ranging from 1 (mostly A's) to 9 (mostly F's). [c] Average score on the 6-item Support for Learning scale (Anderson-Butcher, Amorose, Iachini, & Ball, 2013) * Relationship significant (p<.01).*

E. Differences in School Connectedness scores across School Performance Designations

School Designation	Mean	SD
Academic Emergency		
Academic Watch		
Continuous Improvement		
Effective (*n* = 2016)	3.47	.97
Excellent (*n* = 2264)	3.39	.96
Excellence with Distinction		

Note. Designations were significantly different (p<.05), however the effect size (η^2) indicated that group membership accounted for less than 1% of the variance in the scores.

F. Factorial Validity

A confirmatory factor analysis (CFA) was conducting using robust maximum likelihood estimation procedures in LISREL 8.71 (Scientific Software International, Inc., Chicago). The CFA model specified that the 3 items loaded on a single latent School Connectedness factor. The factor variance was freely estimated, as was the uniqueness for each item. No covariances between uniquenesses were modeled. The data were input using the asymptotic covariance matrix.

Given this model was just identified, the overall fit of the model to the data was perfect, S-B $\chi^2 = 0$, *df* = 0, *p* = 1.00. The table below presents the completely standardized factor loadings and uniquenesses for each item. Squared multiple correlations averaged .57.

Item	*Loading*	*Uniqueness*
I enjoy coming to school.	.62	.62
I am proud to be a student at my school.	.87	.25
I feel like I belong at my school.	.76	.42

VII. Past and Future Scale Development

An initial version of the School Connectedness scale included 1 additional item: "I have meaningful relationships with teachers at my school." Results from preliminary analyses indicated that this item did not fit well with the other scale items. Thus, the current recommendation is to use the 3-item version of the measure as described in this report. Future scale development work may consider revising items #1 ("I enjoy coming to school") given its relatively low factor loading. Adding additional items may enhance the overall quality of the measure. Further scale work is also needed to validate the Spanish version of this tool.

VII. Summary

Overall, the results of the psychometric testing indicate initial support for the reliability and validity of the School Connectedness scale with middle and high school students. The use of this measure could provide valuable information about students' experiences of school connectedness which has been shown to relate to improved grades, higher academic performance, and graduation from high school.

VIII. References

Anderson-Butcher, D., Amorose, A. J., Iachini, A., & Ball, A. (2013). Community and Youth Collaborative Institute School Experience Surveys. Columbus, OH: College of Social Work, The Ohio State University.

Anderson-Butcher, D., Amorose, A.J., Iachini, A., & Ball, A. (2012). The development of the Perceived School Experiences Scale. *Research on Social Work Practice, 2(2),* 186-194.

Battin-Pearson, S., Newcomb, M. D., Abbott, R. D., Hill, K. G., Catalano, R. F., & Hawkins, J. D. (2000). Predictors of early high school dropout: A test of five theories. *Journal of Educational Psychology*, 92, 568-582.

Klem, A. M., & Connell, J. P. (2004). Relationships matter: Linking teacher support to student engagement and achievement. *Journal of School Health*, 74, 262-273.

Nasir, N. S., Jones, A., & McLaughlin, M. W. (2011). School connectedness for students in low-income urban high schools. *Teachers College Record*, 113(8). Retrieved from http://www.tcrecord.org

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Wentzel, K. R. (1998). Social relationships and motivation in middle school. Journal of Educational Psychology, 90, 202-209

IX. Recommended Citation of Scale

When using the School Connectedness scale for program evaluation or research purposes, we recommend using the following citation:

Anderson-Butcher, D., Amorose, A. J., Iachini, A., & Ball, A. (2013). Community and Youth Collaborative Institute School Experience Surveys: School Connectedness Scale in Middle School and High School. Columbus, OH: College of Social Work, The Ohio State University.

If this scale is used along with additional Community and Youth Collaborative Institute School Experience Surveys, then the following citation would be appropriate to cover all scales:

Anderson-Butcher, D., Amorose, A. J., Iachini, A., & Ball, A. (2013). Community and Youth Collaborative Institute School Experience Surveys. Columbus, OH: College of Social Work, The Ohio State University.