Community and Youth Collaborative Institute
School Experience Surveys – Technical Report

CAYCI Peer Relationships Scale
Middle/High School Student Version

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PEER RELATIONSHIPS
Middle/High School Student Version

I. Definition of Construct

The *Peer Relationships* scale assesses the extent to which middle/high school students feel they are supported by and have positive relationships with their peers.

II. Relevance for Practice

Previous research has explored the effects of peer relationships on the academic achievement and adjustment of students (Roseth, Johnson, & Johnson, 2008; Wentzel & Caldwell, 1997). Studies have shown that positive peer group characteristics and support from peers promoted the following outcomes in schools: prosocial behaviors, higher academic performance, positive feelings of group membership/friendship, and lower levels of emotional distress (Wentzel & Caldwell, 1997; Ryan & Ladd, 2012). Given these findings, peer relationships not only impact academics, but also the psychosocial development of youth. An examination of middle and high school student perceptions of their peer relationships can help schools determine strategies to support positive peer interactions and pro-social norms. Furthermore, understanding and recognizing the impact of negative peer relationships in the school may be important to consider when evaluating these results.

III. Scale Description and Instructions

A. Items
1. My friends support and care about me.
2. My friends think I am a positive person.
3. My friends are people who I can trust.
4. My friends do nice things for other people.

B. Response Options
Response options for each item include the following:
1 = Strongly Disagree (SD)
2 = Disagree (D)
3 = Neither Disagree or Agree (N)
4 = Agree (A)
5 = Strongly Agree (SA)

C. Instructions for Respondents
The following questions are related to your relationships with your peers. Please mark how strongly you feel about each sentence.

D. Instructions for Scale Administers
For complete instructions on how to administer the survey, reference the "Student Survey Directions" that are printed on 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 did not 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 4 items should be calculated and used as an indicator of peer relationships, with higher scores reflecting students' perceiving more positive and supportive relationships with their peers.

V. Psychometric Properties of the Scale

A. Description of Sample

Participants used to test the psychometric properties of the scale included 2361 middle school (6-8th grade; 31.2%) and high school (9th-12th grade; 67.1%) students from around the states of Ohio & Utah. The participants included 1189 males (51.3%) and 1129 (48.7%) females. The majority of students identified themselves as White/Non-Hispanic (89.3%), Mixed/Multi-Racial (5.0%), African American (2.1%), Latino/Latina (1.1%), or Asian (0.8%), and 46.6% 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.

A. Description of Sample

Participants used to test the psychometric properties of the scale included 3515 middle school (6-8th grade; 32.9%) and high school (9th-12th grade; 65.1%) students from around the states of Ohio and Utah. The participants included 1740 males (49.5%) and 1723 (49.0%) females. The students identified themselves as White/Non-Hispanic (67.4%), African American (2.4%), Latino/Latina (15.8%), Asian (4.2%), Native Hawaiian/Other Pacific Islander (1.8%), Mixed/Multi-Racial (3.0%), American Indian/Alaskan Native (1.4%), or other (2.7%), and 36.2% 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 =3515)	4.02	.81	1-5	.86
Gender				
Males (n =1740)	3.94	.83	1-5	.86
Females (n =1723)	4.10	.78	1-5	.84
Race/Ethnicity				
White/Non-Hispanic (n = 2368)	4.08	.78	1-5	.86
Other (n =1147)	3.89	.86	1-5	.85
Grade Level				
Middle School (n =1156)	4.11	.80	1-5	.84
High School (n =2288)	3.98	.79	1-5	.85

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

C. Relationship between Peer Relationship Scores and Other Student Perception Constructs

Construct [a]	r =
Academic Motivation	.44*
School Connectedness	.43*
Academic Press	.38*
Support for Learning	.42*

Construct [a]	r =
College and Career Readiness	.42*
Internalizing Behaviors	.27*
Externalizing Behaviors	.29*
Parent Involvement and Support	.38*
Family and Community Connections	.50*
Social Skills	.60*
Safety	.47*
Diversity	.40*

Notes. [a] *Average score on the respective subscale scores from the CAYCI surveys (Anderson-Butcher, Amorose, Iachini, & Ball, 2013). * relationship significant (p<.01).*

D. Factorial Validity

A confirmatory factor analysis (CFA) was conducting using robust maximum likelihood estimation procedures in LISREL 9.2 (Scientific Software International, Inc., Chicago). The CFA model specified that the 4 items loaded on a single latent Peer Relationship factor. The factor variance was freely estimated, as was the uniqueness for each item. No covariances between uniquenesses were modeled.

The overall fit of the model to the data was reasonably good based on commonly recommended cut off values for evaluating model fit (see Hu & Bentler, 1999), S-B $\chi2$ = 51.43, df = 2, p = .00; RMSEA = .012 (90% CI = .010-.014), SRMR = .02; CFI = .98, IFI = 98. The table below presents the completely standardized factor loadings and uniquenesses for each item. Squared multiple correlations ranged from .48-.72.

Item	Loading	Uniqueness
My friends support and care about me.	.85	.28
My friends think I am a positive person.	.69	.53
My friends are people who I can trust.	.81	.34
My friends do nice things for other people.	.75	.44

VI. Past and Future Scale Development

An initial version of the scale (Elementary School Student Version) included the following additional items: (1) "My friends don't get into trouble," and (2) "My friends do well in school." Results from preliminary analyses indicated that these items did not fit well with the other scale items. Thus the current recommendation is to use the 4-item version of the measure as described in this report. Future scale development work may consider modifying the items and/or response format to increase the variability in the scores and to increase the strength of the factor loadings. Further, we recommend exploring why the internal consistency (reliability) estimates were relatively low for Latino/Latina students (the alpha level was below the typical .70 cut-off). Using the scale with this group should be done with caution. On a related note, work also is needed to validate the Spanish version of this scale.

VII. Summary

Overall, the results of the psychometric testing indicate some initial support for the reliability and validity of the CAYCI Peer Relationships scale with elementary students. As social relationships in schools are a powerful predictor of academic achievement, the use of this measure may provide valuable information about peer interactions, norms, and dynamics within the school.

VIII. References

Roseth, C. J., Johnson, D. W., & Johnson, R. T. (2008). Promoting early adolescents' achievement and peer relationships: the effects of cooperative, competitive, and individualistic goal structures. *Psychological Bulletin*, *134*(2), 223.

Ryan, A. M., & Ladd, G.W. (2012). *Peer relationships and adjustment at school*. Charlotte, NC: Information Age Publishing, Inc.

Wentzel, K. R., & Caldwell, K. (1997). Friendships, peer acceptance, and group membership: Relations to academic achievement in middle school. *Child Development*, *68*(6), 1198-1209.

IX. Recommended Citation of Scale

When using the Peer Relationship 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: Peer Relationship Scale in Middle & 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.