



# Teachers' Strategies to Positively Connect Students to School

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## ABSTRACT

**Background:** School connectedness is a leading school-based protective factor against youth engagement in risky behaviors. Research on teachers' individual practices in fostering school connections with their students is currently lacking. **Purpose:** The purpose of the present study was to address gaps in the research by examining elementary and middle school teachers' use of specific strategies to positively connect students to school. **Methods:** An electronic survey was completed by 419 (60% response rate) elementary and middle school teachers. **Results:** On average, teachers reported using connection-building strategies at least once a week. The most frequently used strategies were acting like a positive role model for students and calling students by their first names. MANOVAs were conducted and found teachers who most frequently reported using connection-building strategies were elementary school teachers, those who had received training on school connectedness outside of/after college, and those working at a school with connection-building as a leading priority. **Discussion:** Training teachers on positively connecting students to school was associated with increased use of connection-building techniques in the classroom. **Translation to Health Education Practice:** Findings have implications for health education professionals interested in increasing school connectedness among students through teacher practices and school priorities.

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## BACKGROUND

School connectedness is a leading protective factor against youth engagement in risky behaviors such as alcohol and drug use, violence and negative sexual behaviors.<sup>1</sup> Similar to self-esteem, positive school connectedness—commonly defined as a feeling that one fits in and belongs—tends to protect youth from engagement in risky health behaviors.<sup>1-3</sup> Positive social and emotional connections can decrease risk-taking behaviors by providing youth with prosocial and empowering opportunities at home, in school, and in the community.<sup>1-3</sup> Within the school setting, youth who feel supported and cared for by their teachers, school staff

and peers report feeling more efficacious in making positive, informed decisions and displaying resiliency to life stressors.<sup>4</sup>

Students who feel they fit in at school and who perceive school staff as caring are more likely to choose healthy behaviors and less likely to engage in risky behaviors. Research suggests that students report lower levels of school connectedness in schools that temporarily expel students for relatively minor infractions.<sup>1</sup> Schools with high levels of positive school climate increase the likelihood that their students will positively connect to peers, teachers, and the school as a whole, which are important determinants of academic success.<sup>2</sup> A positive school cli-

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mate is associated with increased academic achievement and reduced problem behaviors at school.

School connectedness is comprised of warm and caring relationships to adults at school including teachers, administrators and other staff.<sup>5</sup> At the classroom level, teachers emphasizing the importance of social and emotional learning in addition to academic skills have students who report higher levels of school connectedness and school climate.<sup>6</sup> Certain teaching strategies, such as setting high expectations for students, using student engagement techniques, praising students, and linking learning with “real life” are all methods of increasing student connectedness to the school. In addition, teachers employing social and emotional teaching techniques can assist in increasing levels of school connectedness and positive school climate. Teachers can emphasize constructive discipline, effective classroom management, and peaceful resolution of problems, which may result in increased student connection to school.<sup>7</sup>

## PURPOSE

While the protective effects of school connectedness are well documented, a comprehensive review of the literature found no published study that examined elementary and middle school teachers’ use of school connectedness strategies. The present study was therefore conducted to fill such research gaps. The purpose of this study was to examine Ohio elementary and middle school teachers’ use of school connectedness strategies and to determine whether their use differed based on teacher/school factors. Specifically, the following research questions were investigated: (1) To what extent do teachers report using school connectedness strategies?; (2) What are the most commonly used strategies by teachers to connect students to school?; (3) Does use of school connectedness strategies differ based on teacher factors including teachers’ grade level, previous connectedness training, perceived role in building positive connections, perceived connectedness to students and other demographic variables?; and

(4) Does use of school connectedness strategies differ based on school factors including administration encouragement, presence of a school committee to build connectedness, school priority in getting students positively connected to school and emotional climate of the school?

## METHODS

### Participants

The participants of the present study were current Ohio elementary and middle school teachers. A sample of teachers’ names and email addresses was obtained via electronic teacher databases. An *a priori* power analysis indicated that a sample size of 382 teachers was needed to result in a representative sample of elementary and middle school teachers for the state. Assuming a response rate of 50%, a total of 764 teachers were required to be sampled. Teachers were asked to voluntarily participate in the study. No incentives were offered to participants. Confidentiality and anonymity were ensured.

### Instrument Development

Based on a comprehensive review of the literature and Bandura’s self-efficacy model,<sup>8</sup> a web-based, electronic survey was developed to examine elementary and middle school teachers’ use of school connectedness strategies. The *Use of School Connectedness Strategies* subscale (28 items) requested teachers to rate how often they used specific school connectedness strategies via a five-point scale (1 = Never, 2 = Less than once a month, 3 = Once a month or more, 4 = Once a week or more, 5 = Everyday). Teachers’ perceived role in connecting students to school was assessed via one item that required participants to respond by using a five-point Likert-type scale (1 = Strongly disagree, 5 = Strongly agree) to the following statement, “I feel it is the role of the teacher to try to positively connect with each of his/her students.” Teacher factors that were measured included grades taught, whether teachers ever received training during college on how to connect with students (yes/no), whether teachers ever received training

(outside of college) on how to connect with students (yes/no), and whether they felt positively connected to their students (yes/no). School factors that were measured included whether teachers were at a school with administrator encouragement to connect with students (yes/no), a school-based committee to connect students to school (yes/no), and whether their school placed getting students connected as a leading priority (yes/no). Emotional climate of the school was assessed by one item that required participants to rate their school climate using a four-point scale (1 = Extremely warm and positive, 2 = Warm and positive, 3 = Cold and negative, 4 = Extremely cold and negative). The demographics section of the survey (8 items) requested participants to provide information on their sex, race/ethnicity, grade level taught, years as a teacher, years as a teacher at current school, subjects taught, school location (urban/suburban/rural), and highest degree obtained.

### Instrument Testing

To establish face validity, the survey was developed based on a comprehensive review of the professional literature, previous survey instruments and individual discussions with elementary/middle school teachers, school health researchers, and elementary/middle school students. To establish content validity, the survey was distributed to a panel of six experts: one middle school teacher, one elementary school teacher, two school health professionals, and two survey research experts. Each expert was emailed a copy of the survey and requested to complete the survey and offer comments and suggestions regarding the instrument and its potential effectiveness in addressing the research questions. Experts reviewed both the online version of the survey and the paper version. Suggested revisions were discussed with the research team and those deemed appropriate were incorporated into the final instrument.

Stability reliability was established using test-retest procedures. A convenience sample of teachers ( $N = 24$ ) from one local school completed the survey on two separate occasions one week apart. Pearson correlation



coefficients were subsequently computed and yielded .832 for continuous items or interval response. Kendall's tau-b correlation coefficients were calculated to determine test-retest reliability for categorical response items resulting in .898. Cronbach alphas were computed to assess internal consistency reliability for the parametric *Use of Connection-Building Strategies* subscale and resulted in  $\alpha = .840$ .

### Procedures

Consent was granted to conduct this research study prior to study implementation by the University Institutional Review Board. This study involved distributing surveys to a random sample of teachers in elementary and middle schools throughout the state of Ohio. Ohio school districts were randomly selected and online school district directories were subsequently obtained which included teachers' names, schools, school locations, and email addresses. Teachers in grades 1 – 8 were randomly selected to participate. In the spring of 2009, each selected school teacher was emailed a research information sheet that informed the teachers of the study purpose and voluntary nature of the study and requested their participation. An email message from the primary investigator was sent to all potential participants with the subject line "Teacher Survey on School Connectedness." A link to the electronic survey was provided in the email message. All surveys were administered through SurveyMonkey.

To enhance response rates, inducement strategies identified in the professional literature were implemented in this study and included the use of university logo and credentials, follow up emails and an electronically signed cover letter. A second email message was sent to all teachers two weeks after the initial email encouraging them to respond if they had not already done so and thanking them if they had responded. Another information sheet was included. The survey took approximately 8-10 minutes to complete. No specific identifiers were collected and all responses remained anonymous and confidential.

### Data Analysis

Data was analyzed using SPSS (Statistical Package for the Social Sciences Version 15.0 for Windows). Descriptive statistics were used to describe the demographic and background characteristics of the respondents. Potential interaction effects between demographic variables were tested using Chi Square analyses, correlations and analyses of variance (ANOVAs). No significant interactions were found. Therefore, no covariates were used in subsequent analyses. A series of multivariate analyses of variance (MANOVAs) were performed to determine whether teachers' use of school connectedness strategies differed based on teacher factors, school factors, and demographic variables. Grade level was dichotomized into two levels: Grades 1 through 3 (elementary) and Grades 4 through 8 (middle). When MANOVAs were found to be significant, then univariate F-tests were subsequently performed to identify the specific items in the subscale that were significant. An alpha level of 0.05 was used to avoid committing a Type I error.

### RESULTS

A total of 764 teachers were requested to complete the survey. Of this total, 19 teachers had previously opted out of web-based email messages and 47 messages were returned as undeliverable. A total of 419 teachers completed surveys, resulting in a response rate of 60% (419/698). All completed surveys were included in final data analysis.

#### Demographic Characteristics

Of the respondents, 86.9% were female and 13.1% were male. Teachers were fairly equally distributed across grade levels. Teachers in first grade comprised 11.7% of the sample, 9.5% were second grade teachers, 11.1% taught 3rd grade, 13.1% taught 4th grade, 11.7% taught 5th grade, 12.0% taught 6th grade, 11.1% taught 7th grade, and 19.8% taught 8th grade. The majority (59.7%) reported working at a rural school, while 24.3% reported working at an urban school and 16.1% reported working at a suburban school. Two-thirds (67.2%) had a Masters Degree while one-fourth (23.8%)

had a Bachelors Degree. On average, participants reported teaching for 15.84 years (SD = 10.916) and teaching at their current school for 9.57 years (SD = 7.997).

#### Frequency of Using Strategies to Positively Connect Students to School

Overall means indicated that teachers frequently used a wide array of strategies to get students connected to school. The top three most frequently used strategies reported by teachers included trying to act like a positive role model for students, calling students by their first names and enforcing rules of student respect (Table 1). The three least frequently used connection-building strategies were using icebreakers to get students to know each other, encouraging students to get positively involved in their community and involving parents in student activities.

#### Use of Strategies Based on Teacher Factors

Results indicated that elementary school teachers (grades 1-3) used school connectedness strategies significantly more frequently than did middle school teachers (grades 4-8),  $F(28, 289) = 4.317, P < 0.001$ . Subsequent univariate F-tests were performed to determine the specific subscale items that significantly differed based on grade level (Table 2).

Results revealed no significant difference on use of connection-building strategies based on whether teachers received training on school connectedness during college,  $F(28, 299) = 1.074, P = 0.369$ . However, results did indicate that use differed significantly based on whether teachers had received training on school connectedness outside of/after college,  $F(28, 299) = 1.847, P = 0.007$ . Teachers who had received training outside of/after college were significantly more likely than teachers who had not received training to encourage students to share their feelings with students (Table 3).

Results also revealed that teachers who felt positively connected to their students used connection-building strategies significantly more frequently than did teachers who did not feel positively connected to their students,  $F(28, 299) = 2.360, P <$



**Table 1. Frequency of Using Strategies to Positively Connect Students to School**

How often do you . . .	N	M	SD
Try to act as a positive role model for students	415	4.97	.188
Call students by their first names	417	4.97	.233
Enforce rules of student respect	416	4.96	.238
Try to show your students that you respect them	412	4.95	.230
Actively listen to your students when they are speaking to you	418	4.95	.240
Smile when teaching in class	417	4.94	.274
Offer praise to your students	415	4.94	.288
Show your students that you care about them	418	4.92	.287
Encourage and motivate your students to do their best in class	415	4.92	.303
Set high expectations for achievement	417	4.92	.310
Use humor when interacting with students	418	4.89	.340
Set rules for students to show respect for one another	418	4.86	.572
Encourage student discussion in class	416	4.85	.381
Make small talk with students before/after class	415	4.81	.474
Try to relate to your students and get to know them better	415	4.77	.497
Provide students with opportunities to show responsibility in the classroom	414	4.74	.552
Use strategies to try to get your students positively connected in your class	413	4.67	.660
Share personal stories or experiences during class to reach students	414	4.54	.604
Spend time engaging students in conversations about their daily lives	415	4.54	.638
Allow students to make low-level decisions in class	415	4.49	.755
Encourage students to share their feelings	412	4.46	.713
Tell your students that you care about them	414	4.43	.738
Use cooperative learning in class	414	4.31	.747
Divide students into small groups in class	410	4.25	.772
Encourage students to talk to their parents	414	4.11	.869
Involve parents in student activities (such as homework assignments)	413	3.89	1.033
Encourage students to get positively involved in their community	414	3.43	1.095
Use icebreakers to get students to know one another	414	3.05	1.228

N = 419  
 Means based on a 5-point scale (1 = Never; 2 = Less than once a month; 3 = Once a month or more; 4 = Once a week or more; 5 = Everyday).

0.001. Univariate F-tests showed specific subscale items that significantly differed on this variable (Table 4). Teachers' perceived role in connecting students to school was dichotomized into two categories: strongly agree/agree and strongly disagree/disagree. Results indicated no significant difference in use of strategies based on perceived role,  $F(28, 297) = 1.186, P = 0.242$ .

**Use of School Connection Strategies Based on School Factors**

Regarding specific school factors, no significant differences in use of school con-

nectedness strategies were found based on whether teachers were encouraged by their school administrators to positively connect with students,  $F(28, 298) = 1.118, P = .315$  and whether teachers worked in a school with a committee to positively connect students to school,  $F(29, 299) = 1.041, P = 0.412$ . However, teachers at schools that had positively connecting students as a priority used connection-building strategies significantly more frequently than did teachers at schools that did not have positively connecting students as a priority,  $F(28, 297) =$

$1.602, P = 0.031$ . Univariate F-tests identified specific subscale items that significantly differed (Table 5). No significant differences were found in use of strategies based on presence of a school committee to build positive connections,  $F(29, 299) = 1.041, P = 0.412$ , or perceived school climate,  $F(28, 295) = 1.160, P = 0.269$ .

**DISCUSSION**

The present study found that the overwhelming majority of teachers surveyed reported frequently using strategies (on a



**Table 2. Teachers' Use of School Connectedness Strategies Based on School Level**

Item	Elementary	Middle School	F	P
	M (SD)	M (SD)		
Use strategies to get your students connected in your class	4.72 (.651)	4.62 (.699)	1.479	0.225
Offer praise to your students	4.95 (.407)	4.94 (.238)	.094	0.759
Call students by their first names	5.00 (.000)	4.97 (.191)	2.157	0.143
Use icebreakers to get students to know one another	3.25 (1.254)	2.95 (1.182)	4.177	0.042
Smile when teaching in class	4.97 (.221)	4.93 (.280)	2.010	0.157
Use humor when interacting with students	4.83 (.447)	4.91 (.300)	3.434	0.065
Encourage student discussion in class	4.95 (.217)	4.78 (.435)	13.665	<0.001
Spend time engaging students in conversations about their daily lives	4.75 (.455)	4.49 (.654)	13.537	<0.001
Try to relate to your students and get to know them better	4.83 (.424)	4.75 (.522)	1.983	0.160
Try to show your students that you respect them	4.99 (.099)	4.92 (.287)	5.572	0.019
Actively listen to your students when they are speaking to you	4.97 (.221)	4.97 (.177)	.017	0.897
Show your students that you care about them	4.96 (.195)	4.90 (.312)	2.970	0.086
Tell your students that you care about them	4.64 (.610)	4.37 (.716)	10.929	0.001
Provide students with opportunities to show responsibility in the classroom	4.90 (.330)	4.68 (.615)	12.114	0.001
Try to act as a positive role model for students	4.98 (.139)	4.97 (.165)	.187	0.665
Allow students to make low-level decisions in class	4.49 (.793)	4.47 (.753)	.038	0.845
Set high expectations for achievement	4.97 (.170)	4.89 (.382)	4.267	0.040
Set rules for students to show respect to one another	4.94 (.418)	4.82 (.654)	2.960	0.086
Enforce rules of student respect	4.99 (.099)	4.95 (.293)	1.905	0.168
Use cooperative learning in class	4.45 (.684)	4.17 (.778)	9.984	0.002
Divide students into small groups in class	4.52 (.671)	4.10 (.753)	22.849	<0.001
Make small talk with students before/after class	4.85 (.408)	4.82 (.469)	.285	0.594
Share personal stories or experiences during class to try to reach students	4.69 (.507)	4.50 (.618)	7.036	0.008
Encourage students to share their feelings	4.74 (.506)	4.35 (.751)	21.881	<0.001
Encourage and motivate your students to do their best in class	5.00 (.000)	4.91 (.300)	8.764	0.003
Involve parents in student activities (such as homework assignments)	4.47 (.685)	3.58 (1.058)	60.454	<0.001
Encourage students to talk to their parents	4.41 (.813)	4.00 (.889)	15.682	<0.001
Encourage students to get positively involved in their community	3.57 (1.148)	3.39 (1.051)	1.812	0.179

N = 359 teachers; Missing values excluded from analyses. Means based on a 5-point scale (1 = Never; 2 = Less than once a month; 3 = Once a month or more; 4 = Once a week or more; 5 = Everyday).



**Table 3. Teachers' Use of School Connectedness Strategies Based on Training (Outside of College) Regarding School Connectedness**

Item	Previous Training	No Previous Training	F	P
	M (SD)	M (SD)		
Use strategies to get your students connected in your class	4.70 (.648)	4.59 (.733)	2.064	0.152
Offer praise to your students	4.92 (.383)	4.96 (.188)	1.637	0.202
Call students by their first names	4.97 (.205)	4.99 (.078)	2.028	0.155
Use icebreakers to get students to know one another	3.04 (1.205)	3.09 (1.242)	.130	0.718
Smile when teaching in class	4.94 (.287)	4.95 (.228)	.045	0.831
Use humor when interacting with students	4.87 (.386)	4.90 (.318)	.610	0.435
Encourage student discussion in class	4.84 (.419)	4.83 (.377)	.019	0.890
Spend time engaging students in conversations about their daily lives	4.55 (.639)	4.59 (.606)	.283	0.595
Try to relate to your students and get to know them better	4.72 (.560)	4.83 (.423)	4.009	0.046
Try to show your students that you respect them	4.96 (.218)	4.92 (.271)	2.466	0.117
Actively listen to your students when they are speaking to you	4.95 (.216)	4.98 (.155)	1.025	0.312
Show your students that you care about them	4.95 (.216)	4.89 (.333)	3.877	0.050
Tell your students that you care about them	4.50 (.669)	4.41 (.734)	1.211	0.272
Provide students with opportunities to show responsibility in the classroom	4.77 (.546)	4.72 (.549)	.824	0.365
Try to act as a positive role model for students	4.97 (.172)	4.98 (.155)	.114	0.736
Allow students to make low-level decisions in class	4.49 (.795)	4.47 (.721)	.085	0.771
Set high expectations for achievement	4.93 (.316)	4.90 (.336)	.716	0.398
Set rules for students to show respect to one another	4.85 (.642)	4.88 (.517)	.224	0.636
Enforce rules of student respect	4.95 (.318)	4.98 (.134)	1.839	0.176
Use cooperative learning in class	4.29 (.741)	4.25 (.770)	.192	0.661
Divide students into small groups in class	4.31 (.748)	4.17 (.764)	2.821	0.094
Make small talk with students before/after class	4.81 (.464)	4.84 (.456)	.360	0.549
Share personal stories or experiences during class to try to reach students	4.61 (.559)	4.50 (.622)	2.824	0.094
Encourage students to share their feelings	4.57 (.607)	4.39 (.772)	5.692	0.018
Encourage and motivate your students to do their best in class	4.96 (.231)	4.92 (.271)	1.731	0.189
Involve parents in student activities (such as homework assignments)	3.83 (1.060)	3.93 (1.010)	.822	0.365
Encourage students to talk to their parents	4.10 (.897)	4.16 (.860)	.395	0.530
Encourage students to get positively involved in their community	3.51 (1.077)	3.38 (1.082)	1.047	0.307

N = 370 teachers; Missing values excluded from analyses. Means based on a 5-point scale (1 = Never; 2 = Less than once a month; 3 = Once a month or more; 4 = Once a week or more; 5 = Everyday).



**Table 4. Teachers' Use of School Connectedness Strategies Based on Feeling Positively Connected to Students**

Item	Positively Connected	Not Positively Connected	F	P
	M (SD)	M (SD)		
Use strategies to get your students connected in your class	4.66 (.677)	4.20 (1.033)	4.324	0.038
Offer praise to your students	4.95 (.298)	4.80 (.422)	2.286	0.132
Call students by their first names	4.98 (.158)	5.00 (.000)	.143	0.706
Use icebreakers to get students to know one another	3.08 (1.212)	2.60 (1.506)	1.509	0.220
Smile when teaching in class	4.95 (.227)	4.60 (.699)	19.015	<0.001
Use humor when interacting with students	4.90 (.322)	4.50 (.850)	12.834	<0.001
Encourage student discussion in class	4.84 (.387)	4.70 (.675)	1.141	0.286
Spend time engaging students in conversations about their daily lives	4.59 (.592)	3.90 (1.101)	12.271	0.001
Try to relate to your students and get to know them better	4.79 (.471)	4.20 (.919)	14.241	<0.001
Try to show your students that you respect them	4.95 (.233)	4.70 (.483)	10.212	0.002
Actively listen to your students when they are speaking to you	4.97 (.184)	4.70 (.675)	15.716	<0.001
Show your students that you care about them	4.92 (.276)	4.80 (.422)	1.901	0.169
Tell your students that you care about them	4.47 (.686)	4.20 (1.135)	1.385	0.240
Provide students with opportunities to show responsibility in the classroom	4.75 (.535)	4.50 (.850)	2.106	0.148
Try to act as a positive role model for students	4.98 (.147)	4.80 (.422)	11.855	0.001
Allow students to make low-level decisions in class	4.49 (.748)	4.30 (1.059)	.592	0.442
Set high expectations for achievement	4.92 (.287)	4.70 (.949)	4.647	0.032
Set rules for students to show respect to one another	4.87 (.566)	4.60 (.966)	2.109	0.147
Enforce rules of student respect	4.97 (.176)	4.60 (.966)	24.402	<0.001
Use cooperative learning in class	4.28 (.724)	3.90 (1.449)	2.465	0.117
Divide students into small groups in class	4.25 (.729)	3.80 (1.398)	3.514	0.062
Make small talk with students before/after class	4.84 (.436)	4.30 (.823)	14.057	<0.001
Share personal stories or experiences during class to try to reach students	4.56 (.584)	4.30 (.823)	1.910	0.168
Encourage students to share their feelings	4.49 (.682)	4.10 (1.101)	3.093	0.080
Encourage and motivate your students to do their best in class	4.95 (.219)	4.60 (.699)	19.723	<0.001
Involve parents in student activities (such as homework assignments)	3.88 (1.030)	4.00 (1.247)	.136	0.713
Encourage students to talk to their parents	4.14 (.871)	3.90 (1.101)	.733	0.393
Encourage students to get positively involved in their community	3.46 (1.067)	3.10 (1.449)	1.055	0.305

N = 370 teachers; Missing values excluded from analyses. Means based on a 5-point scale (1 = Never; 2 = Less than once a month; 3 = Once a month or more; 4 = Once a week or more; 5 = Everyday).



**Table 5. Teachers' Use of School Connectedness Strategies Based on School Priority to Positively Connect Students to School**

Item	School Priority	Non-School Priority	F	P
	M (SD)	M (SD)		
Use strategies to get your students connected in your class	4.78 (.587)	4.53 (.759)	10.505	0.001
Offer praise to your students	4.94 (.367)	2.95 (.223)	.042	0.838
Call students by their first names	4.97 (.197)	4.99 (.076)	1.583	0.209
Use icebreakers to get students to know one another	3.19 (1.245)	2.96 (1.198)	2.886	0.090
Smile when teaching in class	4.95 (.239)	4.94 (.267)	.399	0.528
Use humor when interacting with students	4.92 (.293)	4.86 (.394)	2.407	0.122
Encourage student discussion in class	4.89 (.315)	4.79 (.452)	5.534	0.019
Spend time engaging students in conversations about their daily lives	4.72 (.465)	4.43 (.709)	17.950	<0.001
Try to relate to your students and get to know them better	4.87 (.375)	4.69 (.574)	10.385	0.001
Try to show your students that you respect them	4.96 (.195)	4.93 (.277)	1.263	0.262
Actively listen to your students when they are speaking to you	4.97 (.197)	4.96 (.225)	.369	0.544
Show your students that you care about them	4.96 (.195)	4.89 (.332)	5.315	0.022
Tell your students that you care about them	4.55 (.658)	4.38 (.734)	4.986	0.026
Provide students with opportunities to show responsibility in the classroom	4.79 (.495)	4.71 (.588)	1.732	0.189
Try to act as a positive role model for students	4.98 (.139)	4.97 (.168)	.291	0.590
Allow students to make low-level decisions in class	4.48 (.787)	4.48 (.736)	.002	0.963
Set high expectations for achievement	4.93 (.248)	4.91 (.378)	.572	0.450
Set rules for students to show respect to one another	4.87 (.625)	4.86 (.543)	.015	0.902
Enforce rules of student respect	4.99 (.114)	4.95 (.310)	2.157	0.143
Use cooperative learning in class	4.37 (.695)	4.17 (.795)	5.714	0.017
Divide students into small groups in class	4.37 (.695)	4.13 (.797)	8.214	0.004
Make small talk with students before/after class	4.86 (.345)	4.80 (.539)	1.626	0.202
Share personal stories or experiences during class to try to reach students	4.65 (.519)	4.47 (.643)	7.031	0.008
Encourage students to share their feelings	4.59 (.590)	4.39 (.766)	7.358	0.007
Encourage and motivate your students to do their best in class	4.97 (.178)	4.92 (.294)	3.108	0.079
Involve parents in student activities (such as homework assignments)	4.07 (.964)	3.71 (1.072)	9.748	0.002
Encourage students to talk to their parents	4.25 (.847)	4.05 (.881)	4.719	0.031
Encourage students to get positively involved in their community	3.63 (1.087)	3.29 (1.050)	8.483	0.004

N = 367 teachers; Missing values excluded from analyses.

Means based on a 5-point scale (1 = Never; 2 = Less than once a month; 3 = Once a month or more; 4 = Once a week or more; 5 = Everyday).





weekly or daily basis) to positively connect students to school. Teachers possess the unique opportunity to positively impact youth each day. This finding suggests that teachers feel they are regularly and actively employing a variety of teaching techniques aimed at increasing school connectedness. Commonly used strategies cited by teachers included trying to act as a positive role model for students, calling students by their first names, enforcing rules of student respect, trying to show students they are respected, and actively listening to their students when they are speaking. Such strategies are recognized as methods of increasing school connectedness.<sup>9</sup> Since students who are positively connected to school tend to experience greater academic success and reduced involvement in risky behaviors,<sup>1,10</sup> such strategies may act as protective factors against negative health engagement.

An additional component of positively connecting students to school is fostering strong relationships between teachers and students.<sup>11</sup> Methods of building strong relationships include various teaching techniques such as teachers' use of student names, regularly praising students and identifying student strengths. Teachers in this study cited frequent use of such strategies. Regularly employing these key facets of positive relationship building can increase student connections to school. In the school environment, classroom interactions can create an environment in which each student feels accepted and cared for by at least one adult in the school. Teachers can create a classroom setting that builds a welcoming and nurturing environment for all students, an important component of school connectedness.

Teachers reported frequent use of additional evidence-based strategies to increase school connectedness. Setting high expectations for all students and engaging students in classroom activities are additional teaching techniques which can positively connect students to school.<sup>6</sup> High expectations involve utilizing a consistent and challenging core curriculum, enforcing high standards, and using a variety of teaching assessments

such as testing, projects, and in-class activities. Teachers in this study stated that they frequently established high expectations in their classrooms. High expectations should be balanced with academic support for students. Similar to authoritative parenting, authoritative teaching should involve high expectations and responsiveness (support and care).<sup>12</sup>

Students tend to positively respond to positive teacher support which includes teachers recognizing students' social and emotional needs in the classroom.<sup>11,13</sup> Students tend to feel supported by teachers who are empathetic, regularly praise students, and provide attention to students on a regular basis.<sup>9</sup> Benefits of teacher support also extend well beyond the classroom. Youth who feel supported and cared about by teachers have lower rates of engagement in tobacco, alcohol and marijuana use, teen pregnancy, emotional distress and suicide.<sup>10</sup>

In the present study, teachers reported regularly teaching with enthusiasm. Teacher enthusiasm in the classroom is recognized as an important component in enhancing school connectedness. Students report that enthusiastic teachers create the most positive and welcoming classroom environments in which to learn.<sup>14</sup> Teachers who demonstrate consistent enthusiasm in the classroom act as an impetus for student academic achievement and motivate students to connect to others and the school as a whole.<sup>15,16</sup>

In education, enthusiasm for teaching is commonly defined as teachers' use of eye contact, facial expression, vocalization, gesturing, and movement across the classroom.<sup>17</sup> School connectedness efforts targeting teaching techniques should stress the importance of enthusiasm and involve frequent practice and role plays. Much research suggests that teachers can be trained to identify and practice positive teaching behaviors, thereby, enhancing their level of teaching and more effectively engaging their students in the classroom.<sup>18-23</sup> The present study found teacher training and use of strategies to be positively associated.

Findings also revealed that elementary school teachers used school connectedness

strategies more frequently than did middle school teachers. Such differences may largely be due to the differing structures of the elementary and middle school. Elementary school teachers are more likely to teach the same class of students throughout the entire day, with the exception of one or two special classes (i.e., art, music, physical education, etc.). Conversely, middle school teachers tend to specialize in and teach one main educational topic (i.e., math, language arts, social studies, etc.) to several different classes of students each day. These differences may contribute to the elementary school teacher having more time and more opportunity to develop deeper connections with a cohort of students. Supporting this idea, Mills<sup>24</sup> asserted that elementary school teachers may spend more time with their students since they often teach multiple subject areas whereas middle school teachers may focus on one content area and rotate a large number of students throughout their classroom several times each day. Increased time and opportunity may equate to increased frequency in connection-building strategies.

Because middle school presents various opportunities for students to engage in risky behaviors, it is essential for middle school teachers to adopt techniques that will prevent such behaviors. It is important for future research to identify specific reasons middle school teachers are less likely to use school connectedness strategies than elementary school teachers. It could partially be due to elementary schools placing a larger priority on the importance of connection-building than middle schools. As grade levels increase, there may also be increased emphasis and concern devoted toward state-mandated testing requirements. Because social and emotional learning are not well-represented on these tests, many middle schools may be bypassing the importance of teaching such issues and instead focusing more heavily on the primary staples of reading, writing and arithmetic. Elementary schools, on the other hand, may not be as heavily impacted by these tests and may also envision more of their role as setting up a positive social and emotional foundation for the development



of youth. Thus, increased use of connection-building strategies may be more frequently exercised. Of course, it could also be the case that teachers who are more inclined and comfortable with connection-building tend to self-select teaching at the elementary levels. Research should seek to address these questions and explore reasons for the differences in use of strategies based on grade level. Research should also identify methods of increasing use of strategies among middle school teachers.

The present study found that use of school connectedness strategies differed based on previous training on school connectedness. Teachers who received training outside of college encouraged students to share their feelings more frequently than teachers who did not receive training. Thus, continuing education opportunities in this area are warranted.

Teachers employed at schools that prioritized positive connection-building used school connectedness strategies more frequently than teachers who worked at schools that did not prioritize positive connection-building. Schools establishing student connectedness as a priority may be setting standards for all staff members in the school. In turn, teachers at these schools may use these strategies more frequently since the strategies are considered a significant and important aspect of their school environment.

The present study also revealed that teachers who felt positively connected to their students used school connectedness strategies more frequently than teachers who did not feel positively connected to their students. It is possible that use of school connectedness strategies not only positively affects students but also positively affects teachers. Perhaps, a circular effect is in operation. Use of connection-building strategies may not only enable students to feel connected to the teacher but also encourage teachers to feel connected to the students. Additional benefits that connectedness specifically offers to teachers may also exist. Research is needed to investigate potential relationships.

Surprisingly, this study indicated that using cooperative learning, dividing students into small groups in class, encouraging students to talk to their parents, involving parents in student activities, encouraging students to get positively involved in their community, and using icebreakers to get students to know one another were the least frequently used strategies. Such strategies allow students the opportunity to relate to each other on a deeper level and develop a greater bond with others. Activities such as cooperative learning, small groups and icebreakers tend to increase peer connectedness, build respect among students, improve students' attitudes toward school, improve social skills and increase student self-esteem.<sup>25-26</sup> Cooperative learning has been associated with decreases in youth substance use and risky sexual behaviors.<sup>27-32</sup> As these strategies offer powerful methods of connecting students to school and decreasing risky behaviors, teachers should be encouraged to use these techniques.

#### *Limitations*

The limitations of this study should be noted. First, as the sample comprised 1<sup>st</sup> through 8<sup>th</sup> grade teachers in the state of Ohio with valid e-mail addresses, results may not be generalizable to teachers in other grades or geographical locations. Second, the self-reported nature of the survey may have caused some teachers to respond in a socially desirable manner. Third, the response options of never, less than once a month, once a month or more, once a week or more, and everyday were not mutually exclusive and should be noted as a potential source of error. Fourth, this study defined elementary teachers as those teaching grades 1-3 and middle school teachers as those teaching grades 4-8, typical breakdowns for Ohio. However, some schools and different states may differentially categorize elementary and middle school grades. Thus caution should be exercised in extrapolating the findings of this study. Fifth, all teachers did not respond to all items which resulted in some missing values and may have impacted study findings.

#### **TRANSLATION TO HEALTH EDUCATION PRACTICE**

Based on findings from the present study, perceived use of school connectedness strategies and positive school connectedness among students do not articulate well. The overwhelming majority of teachers reported using strategies to connect students positively to school on a weekly or everyday basis. Such extensive use of teaching strategies should result in a majority of students who feel positively connected to school. However, approximately 40% to 60% of all students feel disconnected from school by ninth grade.<sup>33</sup> As students were not participants in the current study, the potential relationship between students' perceived school connectedness and teacher use of connection-building strategies was not examined. This study is the first to examine the use of teaching strategies to positively connect students. Further research is necessary to explore the use of such strategies and how they relate to students' perceptions and behaviors. In addition, school and youth health professionals should actively educate teachers on the importance of using school connectedness techniques and train teachers in strategies to positively connect students to school. Serving as advocates to teachers, principals, and other school administrators for establishing school connectedness as a priority is also an important method of encouraging connection-building in schools.

Upon focusing on the improvement of high academic standards, many schools frequently and inadvertently overlook the importance of cultivating positive and warm relationships and supporting student psychological needs.<sup>34,35</sup> Research on caring school communities reveals characteristics that are essential for positive school environments. Specifically, teachers and students expressing concern for others, camaraderie and support for each member of the group comprise a caring and warm environment. Teachers are in a unique position to increase caring through recognition of each student in the classroom as well as role modeling key behaviors of concern, support and understanding for students. Future studies should



examine the association between teachers' use of connectedness strategies and students' perceived school connectedness as well as students' involvement in risky behaviors.

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