

Perception and predictors of school climate among Jordanian adolescents

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Background: School climate has great effects on adolescents' outcomes. It offers possible protective or harmful sets of factors that have significant contributions to adolescents' health, development, and academic outcomes.

Purpose: The purpose of this study was to investigate adolescents' perception of school climate and its predictors.

Design and methods: A cross-sectional design was used to recruit a convenient sample of 567 students with mean age of 14.6 years. Health Behavior in School-Aged Children questionnaire subscales of perceived school climate, peer support, and teacher support were used to collect data. Descriptive, parametric, bivariate, and regression analysis tests were used in the analyses of the study data.

Results: The study showed that less than half of the students felt that they belonged to their schools. One-third of responding students were involved in making rules. Perceived academic performance, adolescents' age, peer support, and teacher support were the predictors of school climate. Significant differences existed between adolescents' perception of school climate in relation to age, gender, and perceived academic performance.

Conclusion: Some aspects of school climate should be further addressed by the school nurse, policy makers, and school administrators in order to improve Jordanian adolescents' outcomes in term of their developmental needs and academic performance.

Keywords: school climate, adolescents' development, peer support, safety, teacher support

Introduction

Adolescence is a period of transition between childhood and adulthood that is characterized by rapid physical, social, cognitive, and emotional maturation.¹ School climate reflects life within school that is shaped by its physical environment, instructional practice, interpersonal relationships, values, goals, and customs.² Research from different disciplines including nursing have identified other aspects of school climate that are interrelated such as safety, belonging, and rules and discipline.^{3,4} The quality of school climate may be a protective or harmful factor that significantly impacts adolescents' health, development, and academic outcomes.⁵⁻⁷ When investigating students perception of school climate, the results may significant targets for school reform initiatives to improve school climate and to prevent adolescents' behavioral problems.⁴ School nurses provide comprehensive health promotion strategies related to adolescents' developmental needs because they understand adolescents' physical, psychosocial, and cognitive development. In collaboration with school staff, school nurses assess features of the

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school climate that may negatively affect adolescents' health and academic outcomes.⁸

The aims of this study were to explore adolescents' perception of school climate, to examine the relationships between adolescents' perceived school climate and students' demographic variables (ie, age, gender, father's and mother's education, father's and mother's occupation), perceived academic performance, peer support, and teacher support, to investigate predictors of school climate, and to examine differences in adolescents' perceptions of peers support and teacher support related to gender, age, and perceived academic performance.

Background

Safety is a vital prerequisite for the healthy development of adolescents.^{9,10} Fostering adolescents' sense of safety while protecting them as they attend school is a nationwide priority.¹¹ Recently, bullying at schools has been identified as a serious public health problem and has been recognized as a global concern.^{12,13} A survey in the United States of America revealed that 20.8% of the students reported being bullied at schools.¹⁴ Similarly, a national study in Jordan found that 51% of the male students versus 43% of the female students were bullied at schools.¹⁵ Another study from Oman showed that 38.4% of the students reported being bullied at school.¹⁶ Safety at school correlated with an increasing rate of school completion and eliminating mental and emotional health problems among adolescents.¹⁷

School belonging is another aspect of school climate that refers to the sense of attachment that students feel toward each other, school staff, and their school setting.¹⁸ Warm relationships with peers, teachers, and school staff affect belonging by hindering adolescents' feelings of isolation and loneliness.¹⁹ This positively promotes mental health in terms of enhancing students' socio-emotional skills, reducing violence and depression, and improving adolescents' academic performance.^{20,21}

The democratic and fair rules in schools may improve adolescents' sense of autonomy and lower the prevalence of misbehavior.²² In addition, disciplined schools were correlated with adolescents' increased sense of safety, better academic performance, more self-confidence, more respect for teachers, and decreased rates of antisocial and insulting actions.^{4,23}

High-quality and positive student-teacher relationships may create mutual respect, support, acceptance of individual differences, and tolerance for diversity and eliminate

adolescents' health-risk behaviors and bullying.^{3,5} Peer relationships during adolescence are also developmentally critical. Peers provide adolescents with the means of independence, self-assertion, and social status.¹ A positive school climate may enhance healthy peer relationships that encourage adolescents' cooperation to stop engaging in violence.³ Adolescents who engage in deviant behaviors become particularly influential in the socialization and development of behavioral problems due to social modeling and peer pressure.²⁴ However, studies have more often concentrated on the issues of negative peer relationships at school and investigated the emotional, psychological, and health outcomes of delinquent behaviors that compromise adolescents' well-being.^{10,13}

To our knowledge, limited studies have investigated the predictors of school climate among adolescents in Jordan. Therefore, examining adolescents' perception of school climate may provide an expanded understanding of school context on adolescents' outcomes.

Research questions

This study tried to answer the following research questions:

1. What are adolescents' perceptions of school climate, teacher support, and peer support at school?
2. Is there a relationship between adolescents' perception of school climate and demographic variables (ie, age, gender, father's education, mother's education, father's occupation, and mother's occupation), perceived academic performance, peer support, and teacher support at school?
3. What are the predictors of adolescents' perceptions of school climate?
4. Is there a difference in the perceptions of peer support and teacher support among adolescents at school in relation to gender, age, and perceived academic performance?

Materials and methods

Design and study sample

This study used a cross-sectional design and the convenience sampling technique to recruit 567 adolescents from sixth- to tenth-grade. The sample size was calculated using the G*Power program. Utilizing a Z test indicating a descriptive study using $\alpha=0.05$, two-tail level of significance, effect size=0.2 (low medium), and power=0.8, at least 369 students were needed for this study. All accessible schools in Amman (the capital of Jordan) were

notified to obtain their ethical approval. Five governmental and three private schools participated in the study.

Procedure

Ethical approval was granted by the Scientific Research Committee at the School of Nursing, where the researchers work, and by the Ethical Committee of the Ministry of Education. The written informed consent that included explanation and purpose of the study was sent home with the students to sign them from their parents or legal guardians. For ethical considerations, the researchers approached all adolescents whom their parents signed the consent and fully explained about the study to gain their verbal assent. Adolescents were informed that their participation in the study was voluntary and that they could withdraw from the study at any time.

The study questionnaire was administered in the classrooms by trained research assistants and responses were collected in the same session. All adolescents that attended school on the day of data collection were included in the study, while those who were absent were excluded.

Questionnaire

The study used subscales from the Health Behavior in School-Aged Children (HBSC) questionnaire of school climate, peer support, and teacher support.²⁵ The items on each subscale are ordered in a five-level Likert scale ranging from strongly agrees to strongly disagree. A higher score in all subscales indicates a higher perception of school climate.

Demographic data

Data on demographic variables such as gender, age, mother's education, mother's occupation, father's education, and father's occupation were collected using the Demographic Data Sheet of the HBSC questionnaire.

Study variables

School climate

Adolescents' perceptions of school climate were measured by the five-item subscale of the HBSC questionnaire (with scores ranging from 5 to 25). Adolescents rated their responses to questions such as "in our school the students take part in making rules," "the rules in this school are fair," "our school is a nice place to be," "I belong to this school," and "I feel safe at this school."

Teacher support

Teacher support was measured by the four-item subscale of the HBSC questionnaire (with scores ranging from 4 to 20). Adolescents rated their responses to how true statements were for their teachers, such as "I am encouraged to express my own views in class," "our teachers treat us fairly," "when I need extra help I can get it," and "my teachers are interested in me as a person."

Peer support

The peer support subscale consists of the three-item subscale of the HBSC questionnaire (with scores ranging from 3 to 15). Adolescents rated responses about social support from classmates such as "the students in my class enjoy being together," "most of the student in my class are kind and helpful," and "the students accepted me as I am."

Perceived academic performance

Adolescents' perceived academic performance was assessed using a single-item measure: "what does your class teacher(s) think about your school performance compared to those of your classmates." Adolescents' responses were on the items "very good," "good," "average," and "below average."

The questionnaire of the study was translated into Arabic and its content validity was evaluated by a committee of experts in community health nursing and child health nursing to check its appropriateness to Jordanian culture. The study questionnaire had previously been confirmed as valid and reliable.^{16,26} In the current study, the internal consistency (Cronbach's alpha) of school climate, teacher support, and peer support subscales were 0.76, 0.79, and 0.73, respectively. Finally, a pilot study was conducted on 50 adolescents to ensure that the study questionnaire was workable and acceptable. Adolescents from the pilot study were excluded from the final study sample.

Data analysis

Data analysis was conducted using the Statistical Package for Social Sciences (SPSS) version 17.0.²⁷ Descriptive statistics were used to describe participants' demographic characteristics and to calculate the mean scores of the school climate, peer support, and teacher support subscales. The Pearson correlation (r) was used to examine the relationship between adolescents' perceptions of school climate and demographic variables (ie, age, gender,

father's education, mother's education, father's occupation, and mother's occupation), perceived academic performance, peer support, and teacher support. Stepwise regression was used to detect predictors of school climate on demographic variables, perceived academic performance, peer support, and teacher support. Categorical variables (ie, mother's education, father's education, mother's occupation, father's occupation, and age) were transformed into dummy variables before entry to regression analysis. An independent *t*-test and ANOVA tests were used to examine differences in adolescents' perceptions of peer and teacher support in relation to age, gender, and perceived academic performance.²⁸ Preliminary data screening indicated that perceived school climate scores were approximately normally distributed. The dependent variable (perceived school climate) is quantitative variable. Histograms and boxplots indicated that scores are approximately normally distributed without outliers. The reason behind using parametric statistics was that the assumptions were met, a visual inspection of their histograms and boxplots showed that perceived school climate scores were normally distributed, with a skewness of -0.016 . The study results were considered statistically significant if the *P*-value was ≤ 0.05 .

Results

The number of adolescents who were approached to participate in the study was 708. However, 567 adolescents completed the study's questionnaire with a response rate of 80%. The characteristics of the study sample are presented in Table 1. The sample included 52.2% girls ($n=296$) versus 47.8% ($n=271$) boys. About 46% ($n=261$) of adolescents were clustered between 13 and 14 years old.

Regarding perceived academic performance, 54.1% ($n=307$) had very good and 6.9% ($n=39$) had below average scores.

Adolescents' perception of school climate, peer support, and teacher support

The mean score of school climate subscale is 58.1 ± 19.2 and that of the teacher support subscale is 54.0 ± 21.1 . However, the mean score for the peer support subscale is 44.8 ± 19.5 .

A detailed description of adolescents' perceptions of school climate in Table 2 showed that 60.5% ($n=343$) of adolescents feel safe, and less than half of them 46.2% ($n=262$) felt that they belonged to their schools. Regarding

Table 1 Description of the study participants (N=567)

Variables	Frequency	Percentage
Gender		
Male	271	47.8
Female	296	52.2
Age		
11–12 years	118	20.8
13–14 years	261	46.0
15 and more	188	33.1
Mother's education (n=460)		
Educated	434	76.6
Not educated	26	4.6
Father's education (n=464)		
Educated	431	75.9
Not Educated	33	5.8
Father's occupation (n=541)		
Unemployed	7	1.2
Retired	47	8.3
Employed	487	85.8
Mother's occupation (n=558)		
Unemployed	360	63.5
Retired	36	6.3
Employed	162	28.5
School type		
Private	234	41.3
Public	333	58.7
Academic achievement		
Very good	307	54.1
Good	159	28
Average	62	10.9
Below average	39	6.9

peer support, 74.8% ($n=424$) of adolescents enjoyed being together, and 73.7% ($n=418$) felt that they were accepted by each other. In addition, 57.4% ($n=326$) of adolescents were encouraged to express their own views in class, and 44.7% ($n=253$) of adolescents felt that they are treated fairly.

Relationship between adolescents' perceived school climate and study variables

The results of the Pearson correlation in Table 3 showed a significant negative correlation between adolescents aged 11–12 years old $r=-0.13$, $P<0.001$, and a positive correlation for adolescents older than 15 years old $r=0.118$,

Table 2 Detailed description of participants' perceptions of school climate, peer support, and teacher support

Variables	Strongly agree	Agree	Neither nor agree	Disagree	Strongly disagree
Perceived school climate					
In our school, students take part in making rules	57 (10.1%)	112 (19.8%)	119 (21.0%)	98 (17.3%)	181 (31.9%)
The rules at this school are fair	100 (17.6%)	148 (26.1%)	95 (16.8%)	113 (19.9%)	111 (19.6%)
Our school is a nice place to be	105 (18.5%)	128 (22.6%)	97 (17.1%)	94 (16.6%)	143 (25.2%)
I belong at this school	127 (22.4%)	135 (23.8%)	109 (19.2%)	66 (11.6%)	130 (22.9%)
	Always	Often	Sometimes	Rarely	Never
I feel safe at this school	206 (36.3%)	137 (24.2%)	105 (18.5%)	41 (7.2%)	78 (13.8%)
Peer support	Strongly agree	Agree	Neither nor agree	Disagree	Strongly disagree
The students in my class enjoy being together	213 (37.6%)	211 (37.2%)	61 (10.8%)	30 (5.3%)	52 (9.2%)
Most of the students in my class are kind and helpful	139 (24.5%)	198 (34.9%)	101 (17.8%)	65 (11.5%)	64 (11.3%)
Other students accept me as I am	207 (36.5%)	211 (37.2%)	71 (12.5%)	34 (6.0%)	44 (7.8%)
Teacher support	Strongly agree	Agree	Neither nor agree	Disagree	Strongly disagree
I am encouraged to express my own views in class	125 (22.0%)	201 (35.4%)	84 (14.8%)	67 (11.8%)	90 (15.9%)
Our teachers treat us fairly	112 (19.8%)	141 (24.9%)	128 (22.6%)	90 (15.9%)	96 (16.9%)
When I need extra help, I can get it	135 (23.8%)	199 (35.1%)	97 (17.1%)	72 (12.7%)	64 (11.3%)
My teachers are interested in me as a person	112 (19.8%)	158 (27.9%)	108 (19.0%)	102 (18.0%)	87 (15.3%)

Abbreviation: %, percentage.

Table 3 The relationships between adolescents' demographic factors, academic performance, peer support, teacher support, and school sector and perceived school climate (n=567)

Variables	Correlation index	P-value
Father's occupation	-0.013	0.76
Mother's occupation	-0.05	0.199
Father's education	0.021	0.607
Mother's education	0.003	0.932
Academic performance	0.24**	0.001*
Male gender	0.03	0.39
Female gender	0.03	0.39
Age (years)		
11-12	-0.13**	0.001*
13-14	-0.004	0.915
Over 15	0.118**	0.004*
Academic performance		
Very good	-0.19**	<0.001*
Good	0.61	0.14
Average	0.049	0.23
Below average	0.22**	<0.001*
School type	0.01	0.665
Peer support	0.368**	<0.001*
Teacher support	0.619**	<0.001*

Note: * $P \leq 0.05$, two tailed test ** $P < 0.001$, two tailed test.

$P < 0.004$ with school climate. Adolescents who had very good perceived academic performance had a negative significant correlation $r = -0.19$, $P < 0.001$ with school climate, while those who had below-average perceived academic performance had a significant positive correlation $r = 0.22$ $P < 0.001$ with school climate. Significant correlations were seen in relation to peer support and teacher support and school climate ($r = 0.368$, $P < 0.001$, $r = 0.619$, $P < 0.001$), respectively.

Predictors of adolescents' perceived school climate

The stepwise regression analysis produced four models as a result of entering all independent variables that had significant relationships with the school climate. The model included beta coefficient estimation associated with each predictor, the standard error (SE) of residual variance among each predictor ($\beta =$ standardized coefficient of each predictor), and P , the probability value of each predictor (Table 4). Perceived academic performance, age, teacher support, and peer support had significant prediction performance on adolescents' perceived school climate ($B = 5.581$, $P < 0.006$, $B = 2.807$, $P < 0.001$, $B = 0.467$, $P < 0.001$, $B = 0.087$, $P < 0.006$), respectively. These predictors accounted for approximately 40% of the variance of adolescents' perceptions of school climate.

Differences in teacher support and peer support at school in relation to age, gender, and perceived academic performance

The results of the independent sample t -test and ANOVA test showed a statistically significant difference in the perception of peers and teachers support among adolescents of different age groups. Adolescents of 15 years old and above had more positive perceptions of teacher support 56.2 ± 22.3 compared to adolescents aged 13-14 years 55.2 ± 20.1 , and those who aged 11-12 years 49.2 ± 20.5 , respectively. A statistically significant difference was found between boys and girls on peer support ($P = 0.002$). Also, a statistically significant difference was found between adolescents' perceptions of peer support and teacher support in relation to perceived academic performance ($P < 0.001$; $P = 0.03$). A post-hoc comparison using the Scheffe test revealed that adolescents who had below-average scores had higher peer support 56.7 ± 25.9 and

Table 4 Stepwise regression analysis of predictors of adolescents' perceived school climate (N=567)

Model 4	Unstandardized coefficients		Standardized coefficients	t	Sig.	95.0% Confidence interval for B	
	B	Std. error				Beta	Lower bound
Constant	21.884	1.845		11.861	0.001	18.264	25.505
Teacher support	0.467	0.025	0.527	18.789	0.001	0.426	0.526
Adolescent's age	2.807	0.640	0.107	4.388	0.001	1.552	4.062
Peer support	0.087	0.026	0.090	3.310	0.006	0.035	0.139
Academic performance	5.581	2.024	0.069	2.757	0.006	1.609	9.553

Note: *Predictors of adolescents' perceived school climate final model produced at $\alpha = 0.05$, $F = 162.9$, $P < 0.001$, and adjusted $R^2 = 0.38$.

teacher support 77.04 ± 21.2 compared to those who had average and above-average scores (Table 4).

Discussion

The current study examined adolescents' perceptions of school climate, peer support, and teacher support at school, and examined the relationship between school climate and demographic variables of adolescents, teacher support, peer support, and perceived academic performance. The results revealed that less than half of adolescents felt that they belonged to their schools. At the national level in Jordan, limited studies have investigated adolescents' sense of belonging to the school. However, our findings were inconsistent with studies in other countries. For example, students belonged to school due to their strong relationships with peers and school staff.¹⁹ Other studies revealed that a strong feeling of belonging to school was a predictor for students' happiness, sense of safety, and decreased engagement in violence.^{3,20}

Significantly, the current study confirmed that more than one-third of the adolescents felt unsafe at school. This result corresponded with previous studies conducted in Jordan that have had highlighted different types of bullying at schools. Such studies had linked a negative perception of school climate with lower emotional well-being and greater tobacco consumption by adolescents.²⁹ Other studies showed that unsafe schools climate is a strong predictor of high rates of dropout and truancy, low academic achievement, and drug and alcohol use among adolescents.^{5,9,24}

In the current study, 57% of the adolescents stated that they felt that they are able to take part in making rules at school. Although these cross-sectional data do not permit conclusions about the overall perception of school climate among adolescents, this indicates that schools should consider a more democratic approach. Inconsistent findings were reported in previous studies.^{3,19} Developmentally, adolescents are more likely to build self-esteem and self-confidence and to develop skills when they are allowed to express their opinions and feelings.¹

The majority of adolescents in the present study reported a high degree of acceptance and enjoyment with regard to each other at school. This may reflect the extent to which peers have an intense influence on adolescents' self-evaluation, behaviors, needs for intimacy, and self-disclosure.¹ Similar finding was reported in China and Jordan.^{24,30} These cross-cultural similarities may

suggest that positive peer relationships gratify the fundamental and universal needs of adolescents.

In contrast to peer support, reports of teacher support were less positive among adolescents in the current study. For example, 41.1% of the students reported that their teachers were unable to give them extra help when they need it. This low level of teacher support may negatively hinder students' quality of learning. However, it is worth considering that overcrowding, especially in public schools, may deprive adolescents of chances to receive sufficient support from teachers.³¹

Bivariate analysis and stepwise regression showed that adolescents' perceptions of school climate correlated with perceived academic performance, age, teacher support, and peer support. Interestingly, below-average perceived academic performance was the most robust predictor of school climate perceptions. This may be because adolescents with high perceived academic performance are more concerned with the academic aspects of their school lives than other aspects. Inversely, other studies have found that students with better academic performance have a better perception of school climate.³²

Other predictors of perceived school climate were teacher and peer support at school. Positive relationships with teachers and peers can nurture a learning climate that meets adolescents' developmental needs.¹ Consistent findings concluded that higher level of teacher support was a strong predictor for better academic performance, emotional health, safety, and low rates of absences from schools among adolescents.^{6,9}

A significant difference also was found in the current study between adolescents in teacher support at school in relation to their age; adolescents aged 15 years or older had more positive perceptions than younger adolescents. Adolescents may have an increased awareness of the quality of their teachers' involvement and guidance as they grow up. Younger students perceived school climate more positively than older students in a previous study.⁷

Male adolescents were more likely to report positive ratings on their perceptions of peer support than females. This may indicate that female adolescents behave in a competitive and sensitive manner toward each other, so they are more hesitant to seek support and help from peers than male students. In contrary, female adolescents reported better on peer and teacher support than male students.⁷ Male and female adolescents were similar in their reports on peer support by another study.³³ Further

investigations should be conducted on the dynamics of peer support based on gender at school.

Adolescents that had below-average perceived academic performance reported significantly more favorable peer and teacher support than others. This may suggest that teachers pay more attention to those students in an attempt to improve their academic performance. Inconsistent findings were reported in previous studies.^{27,32}

Practical implications

Recently, American Academy of Pediatrics emphasizes that children emotional wellbeing, social and academic performance, relationship with peers, school performance, interpersonal relationships, violence, and bullying as main issues that should be addressed by trained health care providers³⁴ School nurses care for adolescents' health and safeguard their safety in schools by health education that target adolescents, teachers, and parents about violence causes, signs, early detection, preventive measures, and effective interventions. Also, school nurses should offer school staff and teachers with developmental characteristics of adolescents and equip them with effective strategies that foster positive teacher relationship and students' belonging to school. At nursing education level, more emphasis on the importance of growth and development and concerns of adolescence period should be integrated in nursing curricula. Maintaining and improving health and wellbeing of adolescents is a shared responsibility of health, education, and social sectors that should urgently move effective strategies to solve school problems that negatively compromise school climate. Further qualitative studies that investigate students' perception of school climate are recommended.

Study limitations

The use of correlational cross-sectional design may suppose a causal relationship between the variables of the study. In addition to, the selection of the sample of the study from Amman may hinder the generalizability of the study's findings; therefore, more studies that include adolescents from other urban and rural regions are needed. The use of a self-administered questionnaire may contribute to social desirability response bias; however, the participants' responses were kept anonymous in an attempt to minimize this issue. Finally, perceived academic performance was measured by self-reported using a qualitative scale. The use of school grades on subjects (ie, Science, Math, Language, etc.) may

provide a more reliable choice to approach academic performance.

Conclusion

Adolescents feel unsafe, lack a sense of belonging and participation in decision-making at schools. Peer support and teacher support at school influenced adolescents' perceptions of school climate. However, adolescents' perceived academic performance also had a major influence on their perception of school climate.

Disclosure

The authors report no conflicts of interest in this work.

References

- Hockenberry MJ, Wilson DA, Rodgers CH. *Wong's Essentials of Pediatric Nursing. Edition 10*. St. Louis: Elsevier Mosby; 2017.
- Cohen JO, McCabe EL, Michelli NI, Pickeral TE. School climate: research, policy, practice, and teacher education. *Teach Coll Rec*. 2009;111(1):180–213.
- Chapman RL, Buckley L, Reveruzzi B, Sheehan M. Injury prevention among friends: the benefits of school connectedness. *J Adolesc*. 2014;37(6):937–944. doi:10.1016/j.adolescence.2014.06.009
- Wang MT, Degol J L. School climate: a review of the construct, measurement, and impact on student outcomes. *Edu Psychol Rev*. 2015;28(2):315–352. doi:10.1007/s10648-015-9319-1
- Albdour M, Lewin L, Kavanaugh K, Hong JS, Wilson F. Arab American adolescents' perceived stress and bullying experiences: a qualitative study. *Western J Nurs Res*. 2017;39(12):1567–1588. doi:10.1177/0193945916678214
- Quin D, Heerde JA, Toumbourou JW. Teacher support within an ecological model of adolescent development: predictors of school engagement. *J Sch Psychol*. 2018;69:1–15. doi:10.1016/j.jsp.2018.04.003
- White N, La Salle T, Ashby JS, Meyers J. A brief measure of adolescent perceptions of school climate. *Sch Psychol Q*. 2014;29(3):349–359. doi:10.1037/spq0000075
- National Association of School Nurses. Framework for 21st century school nursing practice: National Association of School Nurses. *NASN Sch Nurs*. 2016;31(1):45–53. doi:10.1177/1942602X15618644
- Williams S, Schneider M, Wornell C, Langhinrichsen-Rohling J. Student's perceptions of school safety: it is not just about being bullied. *J Sch Nurs*. 2018;34(4):319–330. doi:10.1177/1059840518761792
- Zhang Q, Luo Y, Zhang X, Wang Y. The relationship among school safety, school satisfaction, and students' cigarette smoking: based on a multilevel mediation model. *Child Youth Services Rev*. 2018;88:96–102. doi:10.1016/j.chilyouth.2018.03.007
- Centers for Disease Control and Prevention. School violence prevention; 2017. Available from: <https://www.cdc.gov/violenceprevention/youthviolence/schoolviolence/prevention.html>. Accessed January 7, 2019.
- Al-Ali NM, Shattawi KK. Bullying in school. In *Health and Academic Achievement*. IntechOpen; 2018:47–58. doi:10.5772/intechopen.75729
- Khamis V. Bullying among school-age children in the greater Beirut area: risk and protective factors. *Child Abuse Negl*. 2015;39:137–146. doi:10.1016/j.chiabu.2014.08.00
- U.S. Department of Education, National Center for Educational Statistics. Student reports of bullying and cyberbullying: results from the 2015 school crime supplement to the National Victimization Survey. *Statistics*. 2016. Available from: <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2016056>. Accessed March 30, 2019.

15. Al Ali NM, Gharaibeh M, Masadeh MJ. Students' perceptions of characteristics of victims and perpetrators of bullying in public schools in Jordan. *Nur Res.* 2017;66(1):40–48. doi:10.1097/NNR.0000000000000190
16. Peyton RP, Ranasinghe S, Jacobsen KH. Injuries, violence, and bullying among middle school students in Oman. *Oman Med J.* 2017;32(2):98. doi:10.5001/omj.2017.19
17. Côté-Lussier C, Fitzpatrick C. Feelings of safety at school, socio-emotional functioning, and classroom engagement. *J Adol Health.* 2016;58(5):543–550. doi:10.1016/j.jadohealth.2016.01.003
18. Pia-Maria NI, Risto HO. Enhancing students' sense of belonging through school celebrations: a study in Finnish lower-secondary schools. *Int J Res Stud Educ.* 2016;5(2):43–58. doi:10.5861/ijrse.2015.1197
19. Kiefer SM, Alley KM, Ellerbrock CR. Teacher and peer support for young adolescents' motivation, engagement, and school belonging. *Rmle Online.* 2015;38(8):1–18. doi:10.1080/19404476.2015.11641184
20. Niemi PM, Hotulainen R. Enhancing students' sense of belonging through school celebrations. *Int J Res Stud Educ.* 2016;5(2):43–58.
21. Ruvalcaba NA, Gallegos J, Borges A, Gonzalez N. Extracurricular activities and group belonging as a protective factor in adolescence. *Psicología Educativa.* 2017;23(1):45–51. doi:10.1016/j.pse.2016.09.001
22. Konold T, Cornell D, Huang F, et al. Multilevel multi-informant structure of the authoritative school climate survey. *Sch Psychol Quarterly.* 2014;29(3):238. doi:10.1037/spq0000062
23. Cheema JR, Kitsantas A. Influences of disciplinary classroom climate on high school student self-efficacy and mathematics achievement: a look at gender and racial-ethnic differences. *Int J Sci Mathematics Educ.* 2014;12(5):1261–1279. doi:10.1007/s10763-013-9454-4
24. Li D, Zhou Y, Li X, Zhou Z. Perceived school climate and adolescent Internet addiction: the mediating role of deviant peer affiliation and the moderating role of effortful control. *Comput Hum Behav.* 2016;60:54–61. doi:10.1016/j.chb.2016.02.015
25. Currie C, Hurrelmann K, Settertobulte W, Smith R, Todd J, eds. *Health and Health Behaviour among Young People (health Policy for Children and Adolescents, No.1)*. Copenhagen: WHO Regional Office for Europe; 2000. Available from: <http://www.hbsc.org/publications/international/April2016>.
26. Arabiat DH, Shaheen AM, Nassar OS, Saleh MO, Mansour AY. Social and health determinants of adolescent's wellbeing in Jordan: implications for policy and practice. *J Paediatr Nurs.* 2018;(39):55–60. doi:10.1016/j.pedn.2017.03.015
27. Blunch N. *Introduction to Structural Equation Modeling Using IBM SPSS Statistics and AMOS*. London: Sage; 2012.
28. Polit DF, Beck CT. *Nursing Research: Generating and Assessing Evidence for Nursing Practice* (8th ed). New York: Lippincott Williams and Wilkins; 2008.
29. Shaheen AM, Hammad S, Haourani EM, Nassar OS. Factors affecting Jordanian school adolescents' experience of being bullied. *J Pediatric Nurs.* 2017;38:66–71. doi:10.1016/j.pedn.2017.09.003
30. Hindi SD. School climate in Jordan basic schools as perceived by Islamic Education teachers as well as tenth-grade students and its relationship with some variables. *Jordan J Educ Sci.* 2011;7:105–123.
31. United States Agency for International Development, Education & Youth. 2016. Available from: <https://www.usaid.gov/jordan/education>. Accessed February 24, 2016.
32. Jones A, Shindler J. Exploring the school climate–student achievement connection: making sense of why the first precedes the second. *ERIC.* 2016;27:35–51. Available from: <https://files.eric.ed.gov/fulltext/EJ1094419.pdf>.
33. Ashley KE, Ennis LE, Owusu-Ansah AN. An exploration of middle school students' perceptions of personal adolescent wellness and their connectedness to school. *Int J Soc Sci Educ.* 2012;2(1):74–89.
34. American academy of pediatrics bright future for health supervision of infants, children, and adolescents. 2015. Available from: https://brightfutures.aap.org/Bright%20Futures%20Documents/BF4_Introduction.pdf. Accessed February 6, 2019.

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