

# Predictors of school satisfaction among adolescents in Jordan: a cross-sectional study exploring the role of school-related variables and student demographics

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**Background:** Understanding factors associated with adolescents' satisfaction with school is necessary to enhance their physical and psychological well-being.

**Purpose:** To investigate relationships among school-related variables, demographics, and school satisfaction and identify factors that predict school satisfaction among adolescents.

**Methods:** A cross-sectional descriptive design was used to recruit 1,200 Jordanian students aged 11–16 years. A multistage cluster-sampling technique was used to select participants, and the Health Behavior in School-Aged Children self-administered questionnaire was used to collect data. Data were analyzed using linear regression analysis to identify predictors of adolescents' school satisfaction.

**Results:** Linear regression analysis showed that the adolescent's satisfaction at school was predicted by age, male sex, teacher support, peer support, fair rules at the school, and tiredness in the morning. These factors explained 41% of variance in school-satisfaction scores.

**Conclusion:** Social support at home and school were helpful for better satisfaction with school life among adolescents in Jordan.

**Keywords:** academic performance, adolescents, peer support, parent support, school satisfaction, school pressure, teacher support

## Introduction

Students' school satisfaction is defined as a personal cognitive judgment of the value of their school life.<sup>1</sup> As such, students' school satisfaction would appear to be one approach to improved mental and physical well-being among students.<sup>2–4</sup> For adolescents, school satisfaction reveals the strength of relationships with their peers, and school staff and other psychosocial experiences.<sup>5</sup>

Children spend most of their time in school; therefore, it is inevitable to address issues enhancing their enjoyment at school.<sup>6</sup> Suldo et al pointed out the need for considering school satisfaction as an approach to improved mental and physical well-being among students.<sup>3</sup> Studies have linked high levels of school satisfaction and overall satisfaction with life,<sup>2,4</sup> personal well-being,<sup>7,8</sup> and adolescent psychological health in terms of self-acceptance, positive relationships with others, and goals in life.<sup>5</sup> Tomy and Cummins found a significant association between adolescents' school satisfaction and their relationships with teachers and sense of safety at school.<sup>9</sup> Another study examined school satisfaction among adolescents and its relationship with subjective well-being. The study showed that school satisfaction was related to school connectedness, competence, and student autonomy.<sup>10</sup>

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Several studies have attempted to identify predictors of school satisfaction. Some of these predictors were reported to be more robust than others. For instance, teacher support is strongly presented in the literature as a predictor of school satisfaction.<sup>2,7,8,11</sup> Moreover, one study showed that teacher likability is one factor behind student satisfaction with school, reflecting that students who like their teachers are more satisfied with their school setting. Interestingly, both boys and girls in one study preferred male teachers to female ones,<sup>2</sup> while peer relationships were the highest school-satisfaction domain in other studies.<sup>8,12</sup> On the other hand, two studies found that satisfaction with peers and classmates was weakly related to school satisfaction.<sup>7,9</sup>

Other studies examined the effect of academic support that the schools strive to apply on their students' satisfaction. For example, Lund revealed that students who experienced higher school satisfaction had the best academic performance.<sup>4</sup> On the contrary, a comparative study conducted on student satisfaction in Spain and Romania suggested that students in both countries had the lowest scores on satisfaction compared with their academic achievement.<sup>7</sup>

Reviewed data on school satisfaction showed a group of studies on other variables that may mediate school satisfaction among students. For example, Beck, et al reported that higher levels of student school satisfaction were associated with the support that students received from their parents.<sup>13</sup> Parental support positively affects the satisfaction of adolescents with their schools.<sup>5</sup> In contrast to these results, Siddall suggested the opposite association between student school satisfaction and parent support.<sup>14</sup>

Sex has also been reported as a strong predictor of school satisfaction by many studies. Boys are less satisfied with school than girls.<sup>15</sup> Similarly, a study conducted in China by Hui and Sun showed that girls' self-esteem was a potential mediator of school satisfaction.<sup>16</sup> Along the the same lines, Randolph et al suggested that boys were less satisfied with school than girls in Finland.<sup>2</sup> Girls with higher grades were more satisfied than girls with lower grade in life and at school, while boys did not show the same levels of satisfaction in life or at school.<sup>1</sup> On the contrary, Fernandes et al revealed that boys had significantly higher school satisfaction than girls.<sup>5</sup>

Age has been reported as a strong predictor of school satisfaction in several studies. For example, younger students were more satisfied with school than older ones.<sup>1,2,5</sup> Contrary to this, Tian et al reported that junior high school students had higher levels of competence, positive affect, and satisfaction scores than senior students.<sup>10</sup> Recently, positive emotions

were associated with school satisfaction. This reflects to the extent which adolescents enjoy school life.<sup>11</sup> Only one study has investigated the relationship between positive emotions and school satisfaction among adolescents, revealing no association.<sup>4</sup> Therefore, student emotions need further exploration in relation to school satisfaction.

Based on previously reviewed literature regarding school satisfaction, multiple factors are associated with adolescent satisfaction with school life. Exploring the multicontextuality of these factors is necessary to fully understand the role of schools in promoting students' well-being, as school life signifies adjustment and achievement, entailing the emotional as well as the cognitive aspects of life.<sup>17</sup> Research has suggested that contextual and self-system variables influence adolescents' perceptions of their school lives.<sup>6,18</sup> However, less attention has been paid to the roles of school-related and social contextual factors predicting adolescent school satisfaction.

Few studies have investigated factors influencing adolescent satisfaction in a Jordanian context. Jordan has faced many challenges due to the large influx of Syrian refugees to the country in the last few years. The rationale of conducting this study was to explore the role of school-related variables and student demographics on the school satisfaction of adolescents, as these factors may influence and shape the well-being of future adult generations in Jordan. Also, the literature shows no consensus on the role of school-related variables and student demographics on adolescent school satisfaction. The aims of this study were to investigate relationships among school-related variables, demographics, and school satisfaction and to identify predictors of school satisfaction in students aged 11–16 years in Jordan.

## Methods

This section is based on the STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) statement. This comprises recommendations on what should be included in an accurate and complete report of observational studies, in order to improve the quality of reporting observational studies.<sup>19</sup>

## Study design

A cross-sectional descriptive design was used in this study.

## Sampling and setting

In Jordan, education is free for primary and secondary school students as part of the public sector. Primary education is

mandatory by law from the age of 6 years until the age of 16 years. Primary education is followed by 2 years' secondary education. Eventually, students have to sit a national exam at the end of secondary education called Tawjeh. Schools are mainly run by two main sectors following the same regulations: public and private.<sup>20,21</sup>

The study sample was recruited using a multistage cluster-sampling design. Directorates, schools, and classrooms were randomly selected to represent the Jordanian population. Simple random sampling was implemented at all stages using random-number tables to form the cluster of participants. In the first stage, school directorates representing the public and private sectors were selected. Then, schools were selected within each directorate at random from a list available online from the Ministry of Education.<sup>21</sup> Within each selected school, researchers randomly chose one classroom from a list of grades 6–10. Usually, the age of students enrolled in sixth grade is 11 years and tenth 16 years. The study sample included students aged 18 years, because these had failed to pass certain grades (classes). The Jordanian education system is compulsory: students who failed a certain grade must retake that class until they pass it.

Sample-size estimation was performed using G Power analysis, which showed that the required sample size was 1064 for linear regression analysis.<sup>22</sup> This figure was attained using  $\beta=0.80$ ,  $\alpha=0.05$  (two-tailed) and effect size of 0.02 (small effect). We distributed 1,200 questionnaires, of which 1,030 were returned and 933 valid for final analysis. Using a small effect size and multistage cluster random sampling may reduce the potential bias of results.

## Ethical considerations

Ethical approval was obtained from the Research and Ethics Committee at the School of Nursing, University of Jordan and the Jordanian Ministry of Education. Prior to data collection, written informed consent was obtained from parents (legal guardians) and participating students. The consent document contained helpful information about the aims, significance, and instruments of the study and the rights of students to withdraw at any stage. Additionally, the school counselor accompanied researchers during data collection to alleviate any potential psychological harm that may have resulted from answering any of the instrument questions.

## Procedure

All randomly selected schools agreed to and were willing to participate in the study. A self-administered approach

was used to collect data from participants. Questionnaires were filled during classroom periods from all selected classes on the same day. Inclusion criteria were any student whose parents had signed the consent form and who agreed to participate. Students who were absent on the day of data collection were excluded. When students had finished their reports, the filled questionnaires were returned to the research team in a sealed envelope.

## Study variables and measures

Study variables were sociodemographic, school related, and the outcome — school satisfaction. The current study utilized the Health Behavior in School-Aged Children (HBSC) self-administered questionnaire to collect data from student participants.<sup>23</sup> The HBSC conceptualizes adolescent health in a multidimensional manner and creates measures that represent students' emotional health and well-being. The questionnaire was adapted to the Jordanian culture and translated to Arabic by a committee of experts in community health nursing at the School of Nursing at the University of Jordan. The translated copy of the HBSC was reviewed, back-translation performed and content validated, and appropriateness to Jordanian culture checked. The questionnaire is reasonably valid and reliable measure of adolescents' health behavior.

### Demographic variables

Data on study participants comprising age, sex, grade, type of school, mother's and father's education and occupations, and body-mass index (BMI) were measured using the HBSC data sheet.

### School-related variables

Table S1 describes the study variables, measures, scoring, and overall score ranges.

### Academic performance

Students' academic performance was assessed by asking "What does your class teacher(s) think about your school performance compared to classmates?". Student response options were below average, average, good, and very good.

### School pressure

Pressure from school was measured using statements and a question: "My parents expect too much from me at the school" (strongly agree, agree, neutral, disagree, strongly disagree); "My teachers expect too much from me at the school" (strongly agree, agree, neutral, disagree, strongly disagree); and "How much pressure do you feel because of

the work you have to do at the school?" (not at all, a little, some, a lot). Internal consistency of the school-pressure subscale was 0.46.

#### Teacher support

Four items of the HBSC questionnaire measured teacher support. Student response options were strongly agree, agree, neutral, disagree, and strongly disagree. Items on the subscale were: "I am encouraged to express my own views in my 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". Internal consistency (Cronbach's  $\alpha$ ) of the teacher-support subscale in the current study was 0.79.

#### Peer support

Three items were used to measure student perception of peer support: "The students in my class enjoy being together"; "Most students in my class are kind and helpful"; and "Students accept me as I am". Response options were strongly agree, agree, neutral, disagree, and strongly disagree. Internal consistency (Cronbach's  $\alpha$ ) of the peer-support subscale in the current study was 0.73.

#### Parent support

Three items measured parent support: "If I have problems at school, my parents are ready to help"; "My parents are willing to come to school to talk to teachers"; and "My parents encourage me to do well at school". Answers were strongly agree, agree, neutral, disagree, and strongly disagree. Internal consistency (Cronbach's  $\alpha$ ) of the parent-support subscale was 0.78.

#### Fairness of rules at the school

A single item was used to measure perceptions of fairness of rules at the school: "The rules in this school are fair". Student participants were asked to respond to this item as strongly agree, agree, neutral, disagree, or strongly disagree.

#### Outcome variable (school satisfaction)

This was measured using five items of the HBSC: "Our school is a nice place to be" (strongly agree, agree, neutral, disagree, strongly disagree); "How do you feel about school at present?" (I like it a lot, I like it a bit, I don't like it very much, I don't like it at all); "I feel I belong at this school" (strongly agree, agree, neutral, disagree, strongly disagree); "How often do you think that going to school is boring?" (always, often, sometimes, rarely, never); and "Do you think that going to

school is boring?" (very often, often, sometimes, rarely, never). Internal consistency (Cronbach's  $\alpha$ ) of the school-satisfaction subscale in this study was 0.40.

## Statistical methods

Data were analyzed using SPSS.<sup>24</sup> Sex, mother's and father's education and occupations were assessed, and school-related variables of academic achievement, fairness of rules, grade, plans, truancy, school type, feeling alone at school, and feeling tired in the morning before going to school are given as frequencies and percentages. Additionally, continuous variables — age, BMI, and school-related variables of teacher support, peer support, parent support, and school pressure — given as means  $\pm$  SD, medians, and ranges. Teacher support, peer support, parent support, school pressure, and school satisfaction were clustered into total scores, computed, and then normalized out of 100 to allow comparison between different scales. Correlated demographic and school-related variables were examined using Pearson's correlation test. Linear regression analysis was used to elucidate predictors of adolescents' school satisfaction. Findings were considered statistically significant if  $P \leq 0.05$ . Linear regression analysis was based on correlations, and fit the characteristics of straight-line (linear) relationships. Assumptions were satisfied to conduct linear regression analysis were: one dependent variable at a continuous level (school satisfaction) and multiple categorical independent variables, representative sample of population, and linear relationship between variables.

## Results

In total, 1,200 questionnaires distributed to adolescents, 1,030 completed, and 933 valid for analysis, with 97 (7%) incomplete and excluded from final analysis, due to significant missing information. School satisfaction was the principal dependent variable used in the analyses.

## Sample demographics

Table 1 describes characteristics of the participants ( $n=933$ ). The sample included a comparable number of participants from both sexes of mean age  $14 \pm 1.23$  (11–18) years and mean BMI of  $33.6 \pm 12.4$  (11–48) from both public ( $n=567$ ) and private schools ( $n=366$ ) in sixth to tenth grade. Participants' mothers and fathers were well educated (high school and above,  $n=870$  and  $868$  respectively). Participants' fathers with a full-time job numbered 326 (35%), while almost 65.9% ( $n=603$ ) of mothers were housewives.

**Table 1** Study participants

Characteristics and variables	
<b>Sex</b>	
Boys	442 (47.3%)
Girls	491 (52.7%)
<b>Age, years</b>	14±1.23 14 (11–18)
<b>Body-mass index</b>	33.6±12.4 31 (11–48)
<b>Mother's education</b>	
No high school	63 (6.8%)
High school	260 (27.9%)
Diploma	226 (24.2%)
Bachelor	293 (31.4%)
Master's/PhD	91 (9.7%)
<b>Father's education (n=932)</b>	
No high school	64 (6.9%)
High school	146 (15.7%)
Diploma	148 (15.9%)
Bachelor	355 (38%)
Master's/PhD	219 (23.5%)
<b>Father's occupation</b>	
Unemployed	16 (1.7%)
Retired	81 (8.7%)
Full-time employee	326 (35%)
Professional practice	226 (24.2%)
Military	49 (5.2%)
Domestic work	235 (25.2%)
<b>Mother's occupation (n=915)</b>	
Housewife	603 (65.9%)
Retired	58 (6.4%)
Full-time employee	206 (22.5%)
Professional practice	33 (3.6%)
Military	1 (0.1%)
Domestic work	14 (1.5%)

**Note:** Data presented as n (%), mean ±SD, or median (range).

## School-related variables

Students had similar school-related influence in terms of school pressure (54.3±16.1, 21–100), teacher support (54.2±21.1, 20–100), peer support (43.9±19.9, 20–100), and parent support (36.2±26.6, 20–100). Most of the students (n=845, 90.6%) had plans to go to university education as they had good and very good academic achievement (n=758, 81.2%). Students were moderately satisfied with their school with mean satisfaction level of 56.7±54.1, 20–100; [Table 2](#). About 39.8% (n=371) of the students were occasionally tired in the morning, 18.5% (n=173) were tired one to three times per week, and 26.9% (n=251) were tired in the morning four

and more times per week. In addition, students were absent (n=716, 76.8%) one to several days per week. On the contrary, about 29.8% (n=278) of students were feeling alone at the school, and almost half agreed that the school rules were fair at schools (n=474, 50.8%; [Table 2](#)).

## Relationships among selected demographic variables, school-related factors, and students' school satisfaction

Among demographic and school-related variables, significant relationships were found between school satisfaction and age, BMI, peer support, teacher support, and parent support ([Table 3](#)). For school-related variables, a relatively higher significant correlation was observed among teacher- and peer-support variables ( $r=0.54$  and  $r=0.33$ , respectively) in relation to students' school satisfaction.

## Predictors of school satisfaction

Recorded variables were examined to predict school satisfaction using linear regression analysis. Recorded variables comprised students' demographic characteristics (age, sex, mother's and father's occupation and level of education, and BMI) and school-related variables (school pressure, teacher support, peer support, parent support, grade, plans, academic achievement, tiredness in morning, truancy, feeling alone at school, fair school rules, and school type).

Data analysis gave the coefficient estimation ( $B$ ) associated with each predictor, the SE of residual variance with each predictor, standardized coefficient ( $\beta$ ) of each predictor, and  $P$ -values. The preliminary analysis resulted in 12 models, and the final regression model allowed the exclusion of insignificant predictors. Excluded factors were school grade, female sex, plans, academic achievement, feeling alone at school, truancy, parent support, BMI, type of school, school pressure, mother's occupation, mother's education, father's occupation, and father's education ([Table 4](#)).

[Table 4](#) shows the outcome analysis of the final regression, wherein of six predictors (age, male sex, teacher support, peer support, fair rules at the school, and tired in the morning) were significantly related to students' school satisfaction ( $\alpha=0.05$ ,  $F=10.4$ ,  $R^2=0.41$ ;  $P<0.001$ ), showing that about 41% of the variation was explained by the final regression model, indicating acceptable predictive power.

Variable prediction performance was found in relation to student satisfaction. Perceived student agreement that rules were fair at the school was a positive prediction of their satisfaction at school ( $B=4.3$ ,  $P<0.001$ ). Results revealed



**Table 2** School-related variables (n=933)

<b>Variables</b>	
School pressure	54.3±16.1, 52.6 (21–100)
Teacher support	54.2±21.1, 50 (20–100)
Peer support	43.9±19.9, 40 (20–100)
Parent support	36.2±26.6, 20.6 (20–100)
Rules at school are fair	52.2±21.1, 50 (20–100)
School satisfaction	56.7±54.1, 20.7 (20–100)
<b>Grade</b>	
Sixth	137 (14.7%)
Seventh	175 (18.8%)
Eighth	238 (25.5%)
Ninth	297 (31.8%)
Tenth	86 (9.2%)
<b>Plans (n=932)</b>	
College/university	845 (90.6%)
Vocational education	14 (1.5%)
Apprenticeship	6 (0.7%)
Working	16 (1.7%)
Unemployed	5 (0.5%)
Do not know	46 (5%)
<b>Academic performance from teachers' point of view</b>	
Very good	482 (51.6%)
Good	276 (29.6%)
Average	118 (12.7%)
Below average	57 (6.1%)
<b>Tiredness in morning</b>	
Rarely or never	138 (14.8%)
Occasionally	371 (39.8%)
1–3 times/week	173 (18.5%)
4 or more times/week	251 (26.9%)
<b>Alone at school</b>	
Has not happened	655 (70.2%)
Once or twice	135 (14.5%)
Sometimes	98 (10.5%)
Once/week	14 (1.5%)
Several times/week	31 (3.3%)
<b>Truancy/week</b>	
0 days	217 (23.2%)
1 day	206 (22.1%)
2 days	172 (18.4%)
3 days	155 (16.6%)
4 days or more	183 (19.6%)
<b>Type of school</b>	
Public	567 (60.7%)
Private	366 (39.3%)

**Note:** Data presented as n (%), mean ±SD, or median (range).

**Table 3** Demographic and school-related factors correlated with school satisfaction (n=933)

	Correlation index	P-value
Age	0.17**	<0.001
Body-mass index	-0.10**	0.001
Peer support	0.33**	<0.001
Teacher support	0.54**	<0.001
Parent support	0.21**	<0.001

Note: \*\* $P < 0.01$  level (two-tailed) using Pearson correlation.

**Table 4** Linear regression analysis of predictors of adolescents' school satisfaction (n=933)

	B*	SE	$\beta$	P
Tired in the morning	-1.6	0.54	-0.08	0.003
Rules are fair at my school	4.3	0.44	0.28	<0.001
Peer support	0.12	0.03	0.11	<0.001
Teacher support	0.24	0.03	0.25	<0.001
Age, years	1.1	0.42	0.06	0.008
Male sex	2.7	1.05	0.06	0.01

Notes: \*Coefficient estimation. Predictors of adolescents' school-satisfaction final model = 0.05,  $F = 10.4$ ,  $P < 0.001$ ,  $R^2 = 0.41$ . Excluded variables: school grade, female sex, plans, academic achievement, alone at school, truancy, parent support, body-mass index, parents' support, type of school, school pressure, mother's occupation, mother's education, father's occupation, and father's education.

that males was a positive predictor of school life compared to female students ( $B = 2.7$ ,  $P = 0.01$ ), while older students were relatively more satisfied with school life compared to their younger counterparts ( $B = 1.1$ ,  $P = 0.008$ ). Students who were not feeling tired in the morning were relatively more satisfied with school life compared to those who went to school tired, evidenced by negative prediction performance ( $B = -1.6$ ,  $P = 0.003$ ). Results also showed that students who received support from teachers and their peers were more satisfied with school life compared to their counterparts who did not receive similar support ( $B = 0.24$  [ $P < 0.001$ ] and  $P < 0.001$  [ $B = 0.12$ ], respectively). Fair rules at the school ( $B = 4.3$ ,  $P < 0.001$ ) and being male ( $B = 2.7$ ,  $P = 0.01$ ) had relatively higher prediction performance than tiredness in the morning ( $B = -1.6$ ,  $P = 0.003$ ), age ( $B = 1.1$ ,  $P = 0.008$ ), teacher support ( $B = 0.24$ ,  $P < 0.001$ ), and peer support ( $B = 0.12$ ,  $P < 0.001$ ).

## Discussion

The current study attempted to investigate relationships among school-related variables, demographics, and school satisfaction and identify predictors of school satisfaction in students aged 11–16 years in Jordan. The results were in line with previous studies in that they demonstrated the importance

of peer, teacher, and parent support for perceived school satisfaction among adolescents.<sup>2,7,8,11,12,25</sup> Our findings add to previous studies by extending findings to a sample that had not been researched before. This sample presumably had different school experience and had a greater protective community.

Social support from home and school positively correlated with school satisfaction. Our findings demonstrated teacher and peer support predicted school satisfaction, yet students' perceived support from peers seemed to be of less importance than support received from their teachers. This is consistent with Samdal et al, who highlighted associations between different factors contributing to school climate and satisfaction with school.<sup>25</sup> These findings demonstrated the contribution of contextual experiences at home and family in an attempt to understand students' satisfaction with their school experiences.

Another predictor for school satisfaction in our sample was related male sex. A number of studies have reported boys to be less satisfied with school than girls.<sup>2,7,15</sup> Contrary to previous studies, our findings revealed higher satisfaction among boys than girls. One possible explanation for this disagreement might be that schools in Jordan may not stand up to girls' expectations compared to boys'. Similarly, Fernandes et al found that boys had significantly higher school satisfaction than girls;<sup>5</sup> however, another study found that sex did not affect school satisfaction.<sup>1</sup> More studies to investigate this variable further are needed.

Our study also suggested that younger students were less satisfied with school than older ones. This finding was consistent with Randolph et al, who reported that older Finnish students were more satisfied with school than younger ones.<sup>2</sup> This can be explained by students growing older and developing psychologically and socially, which may help them to adapt to the school environment and thus increase their school satisfaction. Opposite results were reported by Tian et al, where older high school students had lower levels of satisfaction and negative affect and were less competent than younger high school students.<sup>10</sup>

Significantly, our findings did not reveal any support for the contribution of academic achievement, truancy, or school pressure to satisfaction with school. Although a number of studies have shown that academic achievement and truancy were linked with school satisfaction, our findings showed no significant relation between these variables.<sup>6,26</sup> Finally, our findings indicated that adolescents' feelings of fairness at school and tiredness in the morning were significant predictors of their school satisfaction. Students who perceived school

rules as fair were more satisfied than students who disagreed. As such, students' sense of fairness apparently was more relevant to school satisfaction than achieving high academic grades. Also, students who felt tired in the morning were less satisfied with their school. This finding is an alarming indicator of student satisfaction that needs further exploration. However, it is important to understand the multicontextuality of the factors affecting adolescents' school satisfaction. This can be achieved by better understanding of how adolescents rate their school and which factors are related to student's perception of school satisfaction.

## Limitations

The generalizability of our findings may be limited, given the fact that only schools of adolescents living in Amman, the capital of Jordan, participated in this study. Our findings might be quite different for other students in southern and northern cities in Jordan. Therefore, future studies to establish whether the present findings may be generalizable to other schools in Jordan are needed. Replications with longitudinal studies would enhance the validity of findings. It remains important to acknowledge that despite previous limitations, the schools participating in this study were selected from both urban and country areas in Amman, and represented public and private sectors. It is our belief that the current study contributes to the literature on school satisfaction. Moreover, the authors highlight the low Cronbach's  $\alpha$ -values detected among school-pressure (0.46) and school-satisfaction scales (0.40), since this could have biased our results.

## Conclusion

In conclusion, we found that social support in terms of parent support and at school in the form of teacher and peer support were helpful for better school satisfaction of adolescents and remained a strong predictor for school satisfaction among adolescents in Jordan. Sex and age also had positive effects on school satisfaction among boys and older students. This study suggests that support and sense of fair rules at school are probably the greatest single basis of adolescents' satisfaction.

## Implications for practice

With a focus on enhancing the social context of adolescents in terms of parent and teacher support, an interventional strategy could be initiated by teachers and school nurses.

This approach may be helpful to maintain adolescents' mental integrity by reducing pressures in daily life.<sup>27</sup>

## Disclosure

The authors report no conflicts of interest in this work.

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## Supplementary material

**Table S1** Description of study variables

	Measurement	Answer options	Score range	Cronbach's $\alpha$
Academic performance	What do your teachers think about your school performance compared to classmates?	1=below average, 2=average, 3=good, 4=very good	Results described in frequencies and percentages	—
School pressure	1. My parents expect too much from me at school 2. My teachers expect too much from me at school 3. How much pressure do you feel because of the work you have to do at school?	1=strongly agree, 2=agree, 3=neutral, 4=disagree, 5=strongly disagree 1=strongly agree, 2=agree, 3=neutral, 4=disagree, 5=strongly disagree 1=not at all, 2=a little, 3=some, 4=a lot	(3–14) *(21–100)	0.46
Teacher support	1. I am encouraged to express my own views in my class 2. Our teachers treat us fairly 3. When I need extra help, I can get it 4. My teachers are interested in me as a person	1=strongly agree, 2=agree, 3=neutral, 4=disagree, 5=strongly disagree 1=strongly agree, 2=agree, 3=neutral, 4=disagree, 5=strongly disagree 1=strongly agree, 2=agree, 3=neutral, 4=disagree, 5=strongly disagree 1=strongly agree, 2=agree, 3=neutral, 4=disagree, 5=strongly disagree	(4–20) *(20–100)	0.79
Peer support	1. The students in my class enjoy being together 2. Most students in my class are kind and helpful 3. The students accept me as I am	1=always, 2=often, 3=sometimes, 4=rarely, 5=never 1=always, 2=often, 3=sometimes, 4=rarely, 5=never 1=always, 2=often, 3=sometimes, 4=rarely, 5=never	3–15 *(20–100)	0.73
Parent support	1. If I have problems at school, my parents are ready to help 2. My parents are willing to come to school to talk to teachers 3. My parents encourage me to do well at the school	1=always, 2=often, 3=sometimes, 4=rarely, 5=never 1=always, 2=often, 3=sometimes, 4=rarely, 5=never 1=always, 2=often, 3=sometimes, 4=rarely, 5=never	3–15 *(20–100)	0.78
Fairness of rules	The rules at this school are fair	1=strongly agree, 2=agree, 3=neutral, 4=disagree, 5=strongly disagree	1–5 *(20–100)	

(Continued)

Table S1 (Continued).

	Measurement	Answer options	Score range	Cronbach's $\alpha$
School satisfaction	<ol style="list-style-type: none"> <li>1. Our school is a nice place to be</li> <li>2. How do you feel about school at present?</li> <li>3. I feel I belong at this school</li> <li>4. How often do you think that going to school is boring?</li> <li>5. Do you think that going to school is boring?</li> </ol>	<ol style="list-style-type: none"> <li>5=strongly agree, 4= agree, 3=neutral, 2=disagree, 1=strongly disagree</li> <li>4=I like it a lot, 3= I like it a bit, 2=I don't like it very much, 1=I don't like it at all</li> <li>5=strongly agree, 4=agree, 3=neutral, 2=disagree, 1=strongly disagree</li> <li>1=always, 2=often, 3=sometimes, 4=rarely, 5=never</li> <li>1=very often, 2=often, 3=sometimes, 4=rarely, 5=never</li> </ol>	5–24 *(20–100)	0.40
Plans	What do you think you will be doing when you finish high school?	<ol style="list-style-type: none"> <li>1. College/university</li> <li>2. Vocational education</li> <li>3. Apprenticeship</li> <li>4. Working</li> <li>5. Unemployed</li> <li>6. Don't know</li> </ol>	Data described in frequencies and percentages	
Truancy	How many days have you skipped classes) or school this term?	<ol style="list-style-type: none"> <li>1. 0 days</li> <li>2. 1 day</li> <li>3. 2 days</li> <li>4. 3 days</li> <li>5. 4 or more days</li> </ol>	Data described in frequencies and percentages	
Feeling alone at school	How often has it happened this term that other students did not want to spend time with you at school and you ended up being alone?	<ol style="list-style-type: none"> <li>1. It hasn't happened this term</li> <li>2. Once or twice</li> <li>3. Sometimes</li> <li>4. About once a week</li> <li>5. Several times a week</li> </ol>	Data described in frequencies and percentages	
Tiredness in the morning	How often do you feel tired when you go to school in the morning?	<ol style="list-style-type: none"> <li>1. Rarely or never</li> <li>2. Occasionally (once in a while)</li> <li>3. 1–3 times a week</li> <li>4. 4 or more times a week</li> </ol>	Data described in frequencies and percentages	

Note: \*After normalization.

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