

Factors Associated with Self-Esteem in Junior High School Students

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School non-attendance is often accompanied by declines in self-esteem. The present study investigated factors associated with self-esteem in junior high school students. Self-esteem, "willingness to attend school", "school life competency" and "consistent lifestyle practice" were evaluated using anonymous questionnaire surveys in 892 students. Self-esteem was quantitated using the scale created by Rosenberg (1965). Association between self-esteem and other variables were analyzed using Spearman's correlation coefficient. Self-esteem was significantly associated with school life competency ($r = 0.501$) and consistent lifestyle practices ($r = 0.352$). Moreover, self-esteem was significantly correlated with willingness to attend school ($r = 0.449$). Willingness to attend school was also correlated with school life competency ($r = 0.476$) and consistent lifestyle practices ($r = 0.41$). These findings imply that improving the consistency of lifestyle practices

and enhancing school life competency may increase self-esteem in the students, which will be beneficial to increase students' willingness to attend school.

Keywords: self-esteem, junior high school students, school non-attendance

INTRODUCTION

School non-attendance is defined as absenteeism for over 30 days in a year in Japan. According to a survey by the Japanese Ministry of Education, Culture, Sports, Science and Technology in 2016, approximately 200,000 children nationwide were absent from school for a prolonged period, and their number is increasing [1]. Approximately 100,000 junior high school students do not attend school. This is approximately 1 in 35 students and 7 times that of elementary school children. However, despite the implementation of school social workers, tutoring, home visits, and measures for student social independence by private organizations, the number of children exhibiting school non-attendance remains high [1].

Previous studies demonstrated that children who refuse school have lower self-esteem than the control group [2-5]. The decline in self-esteem is particularly apparent during adolescence [6, 7]. The Japanese Ministry of Education, Culture, Sports, Science and Technology pointed out that insufficient self-affirmation (self-esteem) and low com-

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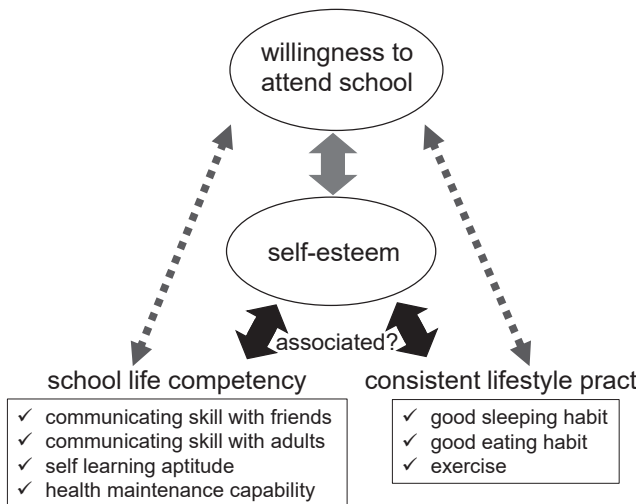


Fig. 1. Conceptual framework of the study

The specific aim of this study was to investigate whether self-esteem was associated with school life competency and lifestyle practices in junior high school students. We also investigated the relationship between self-esteem and willingness to attend school. The associations between willingness to attend school and school life competency as well as consistent lifestyle practices were also investigated.

munication skills are associated with school non-attendance in children [8]. These findings suggest that enhancing self-esteem would be effective in increasing students' enthusiasm to attend school and preventing them from avoiding school. However, enhancing self-esteem in children may be difficult. In this regard, identifying factors associated with self-esteem, especially those that can be intervened, would be beneficial to increase self-esteem in the students. Children with sufficient school life competency, such as good relationships with friends and greater interest in learning, are fervent in attending school [9]. Furthermore, children who have consistent lifestyle practices, such as eating breakfast and having a good night's sleep on a regular basis, are highly motivated to attend school [9]. These findings indicate that school life competency and consistent lifestyle practices are associated with students' willingness to attend school. Since lower self-esteem is associated with school non-attendance in children [2-5], we hypothesize that self-esteem is associated with consistent lifestyle practices and school life competency. To test this hypothesis, we investigated the correlation between self-esteem and consistent

lifestyle practices as well as school life competency in junior high school students (Fig. 1).

MATERIALS AND METHODS

Subjects

In June 2018, an anonymous questionnaire survey was conducted with first- to third-grade students, excluding school non-attendant students, in two public junior high schools. The schools consist of 4 to 5 classes per grade whose number of students is similar. A school that imposes an entrance examination and one that does not were chosen to avoid bias.

Questionnaire

1) Self-esteem

Self-esteem was defined as "a way of feeling how a person feels about him or herself, and an evaluative feeling about one's abilities and values" [10, 11]. Self-esteem was evaluated using a scale originally developed by Rosenberg [10, 11]. The present study utilized a Japanese translated version that was validated previously [11]. Ratings were based on a 5-point scale, from 1 for "not applicable" to 5 for "applicable". The higher score indicates higher self-esteem.

2) Willingness to attend school

Students' willingness to attend school was evaluated using a school aversion scale (school attendance disgust tendency) [12]. This scale consists of 6 elements and is designed for children who are currently attending school but feel unwillingness or discomfort in attending school. After reverting all the results, the score was evaluated by a 5-point scale from 1 for "not applicable" to 5 for "applicable". A higher score demonstrates a higher willingness to attend school.

3) School life competency

Of the 54 items on the School Life Skills Scale [13], 20 items related to "self-learning skills," "group life skills," "health maintenance skills," and "communication skills with peers" were selected. Factor structure using exploratory factor analysis (promax rotation) and reliability were examined. Ratings were made using a 5-point scale from 1

for "not applicable" to 5 for "applicable". A higher score indicates higher school life competency.

4) Consistent lifestyle practices

To evaluate students' consistent lifestyle practices, elements regarding "good sleeping habits", "good eating habits", and "exercise" were extracted from the students' lifestyle categories listed in the textbooks certified by the Japanese Ministry of Education, Culture, Sports, Science and Technology. Ratings were made using a 4-point scale method from 1 for "No" to 4 for "Yes". A higher score indicates more consistent lifestyle practices.

5) Other questions

We also inquired about conversations with family members, stress that students experience, and the relationship between stress and the media. Ratings were made using a 4-point scale from 1 for "No" to 4 for "Yes".

Statistics

Descriptive statistics were calculated for each grade and gender regarding self-esteem, school life competency, consistent lifestyle practices, and willingness to attend school. The Mann-Whitney U test was used to compare grades, gender, and schools. The correlation between self-esteem and school life competency, consistent lifestyle practices, and willingness to attend school was calculated using Spearman's correlation coefficient. IBM SPSS ver23.0 for Windows was used for the analyses. All tests were two-sided, and the significance level was 5%. A correlation coefficient between 0.4 and 0.7 is considered to indicate a strong correlation, whereas a correlation coefficient between 0.2 and 0.4 is considered to indicate a marginal correlation.

RESULTS

Characteristics of the subjects

A total of 952 questionnaires were sent to students, and 892 were retrieved. A total of 267 forms with missing data were excluded, and the remaining 625 questionnaires were analyzed (valid response rate 65.7%). There were 160 first graders (25.6%), 213 second graders (34.1%), 252 third graders (40.3%),

Table 1. characteristic of the students

		N (625)	%
school	A	304	48.6
	B	321	51.4
grade	1	160	25.6
	2	213	34.1
	3	252	40.3
gender	boys	324	51.8
	girls	298	47.7
	unidentified	3	0.5

324 boys (51.8%), and 298 girls (47.7%). The three responses without gender identification were included in the analyses (Table 1).

Internal consistency of school of life competency

Factor structure using exploratory factor analysis (promax rotation) and reliability were examined for the 20 items related to "self-learning skills," "group life skills," "health maintenance skills," and "communication skills with peers" among the School Life Skills Scale [13]. They were summarized into four categories: "self-learning aptitude (2 elements)", "health maintenance capability (2 elements)", "communication skills with friends (3 elements)", and "communication skills with adults (3 elements)". Their internal consistency was confirmed with a Cronbach's α coefficient of 0.845. These 4 categories consisted of 10 items that were defined as school life competency in the present study (Table 2).

Self-esteem and consistent lifestyle practices were significantly higher in boys than in girls

The average of self-esteem score was 32.35 ± 7.25 . Self-esteem was not significantly different among schools and grades; however, it was significantly higher in boys than in girls (33.2 ± 7.2 vs. 31.5 ± 7.2 in boys and girls, respectively, $P < 0.005$). The average score of willingness to attend school and that of school life competency were not significantly different among schools, grades or gender. The average consistent lifestyle practices was not significantly different among schools or grades. However, consistent lifestyle practices was significantly higher

Table 2. Internal consistency of school life competency

	I	II	III	IV
being familiar with how to express one's own feeling	.72	.05	.00	-.07
knowing how to make advice to friends when asked for assistance	.71	-.04	.08	-.07
being able to express one's mind to their friends as necessary	.66	.20	-.02	.01
being able to tell one's thoughts to the teachers	-.03	.92	-.02	-.02
being able to tell one's thoughts to the parents	.28	.46	-.05	.08
ask adults for help when feeling sick	.08	.40	.09	.14
being able to homework and review at home	-.01	.02	.88	.00
being able to study on the desk at home	.06	-.02	.80	.02
being able to take a rest when feeling tired	-.16	.17	.04	.72
being familiar with how to relax one's body and minds	.44	-.15	-.06	.50
	I	II	III	IV
I	—	.66	.34	.63
II		—	.25	.64
III			—	.26
IV				—

Table 3. Relationship between self-esteem and willingness to attend school, school life competency and consistent lifestyle practice

	self-esteem	willingness to attend school	school life competency
willingness to attend school	0.449*		
school life competency	0.501*	0.476*	
consistent lifestyle practice	0.352*	0.410*	0.407*

*P < 0.001, Correlation coefficient between each factor is shown.

Table 4. Correlation between self-esteem and school life competency

		all subjects (N = 625)	boys (N = 324)	girls (N = 298)
categories of school life competency	subcategories	0.501*	0.448*	0.576*
communicating skill with friends	being familiar with how to express one's own feeling	0.428*		
	knowing how to make advice to friends when asked for assistance	0.287*	0.447*	0.393*
	being able to express one's mind to their friends as necessary	0.388*		0.523*
communicating skill with adults	being able to tell one's thoughts to the teachers	0.390*		
	being able to tell one's thoughts to the parents	0.355*	0.427*	0.386*
	ask adults for help when feeling sick	0.302*		0.465*
self-learning aptitude	being able to homework and review at home	0.230*	0.245*	0.250*
	being able to study on the desk at home	0.218*		0.282*
health maintenance capability	being able to take a rest when feeling tired	0.315*	0.387*	0.344*
	being familiar with how to relax one's body and minds	0.340*		0.443*

*P < 0.001,

The correlation coefficient between self-esteem and categories or subcategories of school life competency is shown.

in boys than in girls (27.6 ± 4.0 vs. 25.78 ± 4.0 in boys and girls, respectively, $P < 0.001$).

Self-esteem and willingness to attend school, school life competency, and consistent lifestyle practices are mutually associated.

Self-esteem was significantly correlated with school life competency ($r = 0.501$, $P < 0.001$, Table 3). The correlation coefficient between self-esteem and school life competency was 0.448 for boys and 0.576 for girls ($P < 0.001$, Table 4). Among the subcategories of school life competency, self-esteem was significantly associated with communication skills with friends, communication skills with adults, self-learning aptitude and health maintenance capability ($r = 0.447$, 0.427, 0.245 and 0.387, respectively, $P < 0.001$, Table 4).

Self-esteem was also associated with consistent lifestyle practices (Table 3). The correlation coefficient between self-esteem and lifestyle practices was 0.352, and those in boys and girls were 0.34 and 0.335, respectively ($P < 0.001$, Table 5). Among the subcategories of lifestyle practices, self-esteem was marginally but significantly associated with good sleeping habits ($r = 0.254$, $P < 0.001$, Table 5). Self-esteem was also correlated with exercise ($r = 0.292$), with $r = 0.306$ for boys and 0.260 for girls ($P < 0.001$, Table 5).

In addition, self-esteem was significantly associated with the willingness to attend school ($r = 0.449$, $P < 0.001$, Table 3). Altogether, self-esteem and willingness to attend school, school life competency, and lifestyle practices were mutually associated ($P < 0.001$, Table 3).

Self-esteem was marginally correlated with feels little stress, relieve stress as necessary, and talks with families ($r = 0.257$, 0.256, and 0.219, respectively, $P < 0.001$, Table 6).

DISCUSSION

The present study demonstrated that self-esteem is significantly associated with both school life competency and consistent lifestyle practices in junior high school students. Although, whether school life competency and lifestyle practices influence self-esteem was indeterminate; these results suggest that

intervening in specific factors related to school life competency and consistent lifestyle practices may enhance self-esteem in junior high school students.

The average self-esteem score in the present study was higher than that in a previous report [14], likely because students with real school non-attendance, who generally express lower self-esteem, were not included in the present study. The average self-esteem score was significantly higher in boys than in girls, which is consistent with a previous report [7]. While self-esteem declines during adolescence [6, 7, 15], puberty generally develops later in boys than in girls [16, 17]; therefore, the decline in self-esteem may be delayed in boys.

Our data indicate that self-esteem and school life competency are positively correlated (Tables 3 and 4, Fig. 1). Children with high school life competency are likely have been recognized by friends and school teachers for their achievements, all of which increase self-esteem. On the other hand, children with high self-esteem may be able to enrich their school life through learning, exercise and other activities with marked enthusiasm. The present study classified school life competency into four categories: communication skills with friends, communication skills with adults, self-learning aptitude, and health maintenance capability, all of which were associated with self-esteem (Table 4). Among the subcategories of school life competency, being able to tell one's thoughts to teachers or parents and asking adults for help when feeling sick were positively correlated with self-esteem (Table 4). In addition, factors related to health maintenance, such as being able to take a rest when feeling tired and being familiar with how to relax one's body and mind, were also correlated with self-esteem (Table 4). It would be feasible to educate and instruct students to share their thoughts with their teachers or parents and to ask adults for help when they feel sick. Moreover, taking a break or rest, and relaxing one's body and mind can be practiced immediately. Therefore, educating and instructing students to tell their thoughts to their teachers or parents, to ask adults for help when they feel sick, and to rest and relax would help improve their self-esteem.

Our results also demonstrated that self-esteem is positively correlated with consistent lifestyle prac-

Table 5. Correlation between self-esteem and consistent lifestyle practice

		all subjects (N = 625)	boys (N = 324)	girls (N = 298)
categories of consistent lifestyle practice	subcategories	0.352*	0.340**	0.335**
good sleeping habit	good at falling a sleep	0.221*		
	have sufficient sleep over 7 hours	0.163	0.254*	0.296*
	good at waking up in the morning	0.094		0.19
good eating habit	eat regularly on the same schedule	0.184		
	take breakfast every day	0.103	0.164	0.136
	avoid eating snacks	-0.013		0.193
	eating vegetables ever day	0.157		
exercise	love to exercise	0.284		
	exercise or involve in sports other than physical education or club activities	0.231*	0.292*	0.306*

*P < 0.001, Correlation coefficient between self-esteem and categories or subcategories of consistent lifestyle practice is shown.

Table 6. Correlation between self-esteem and other factors

Factors	all subjects (N = 625)	boys (N = 324)	girls (N = 298)
feels little stress	0.257*	0.264*	0.237*
relieve stress as necessary	0.256*	0.209*	0.319*
uses media, such as PC or smartphone, no more than 2 hours a day	0.068	0.052	0.098
watches TV or DVD no more than 2 hours a day	0.031	-0.024	0.079
does not matter without smartphone	0.049	0.030	0.061
talks with family	0.219*	0.247*	0.260*
eats frequently with somebody else	0.11	0.082	0.164
exercises with family	0.184	0.192	0.157

*P < 0.001, Correlation coefficient between self-esteem and each factor is shown.

tices (Tables 3 and 5, Fig. 1). Among the categories of lifestyle practices, sleeping habits and exercise were correlated with self-esteem (Table 5). A previous report demonstrated that sleep education in primary school prevents future school refusal behavior, which agrees with the association between good sleeping habits and higher self-esteem [18]. Moreover, students who enjoy physical exercise are believed to have been recognized for their own excellence and achievements by others through various sports activities. In addition, it is known that physical exercise relieves stress [19-21]. Our results also

demonstrated that feels little stress and relieve stress were correlated with high self-esteem (Table 6). Students who relieve stress through physical exercise likely have high self-esteem that helps them take good care of themselves. These findings suggest that instructing students to exercise, to learn how to relieve stress and to have good sleeping habits will aid in maintaining and improving their self-esteem.

The limitation of this study is that it is correlational and derived from data obtained in only two public schools, which failed to address whether school life competency and/or consistent lifestyle

practices indeed influence self-esteem. Validating the assumption that improving school life competency and/or consistent lifestyle practices can increase self-esteem warrants additional prospective cohort studies and longitudinal surveys.

CONCLUSIONS

Self-esteem was significantly and positively correlated with school life competency, consistent lifestyle practices and willingness to attend school in junior high school students (Table 3 and Fig. 1). Our results identified specific factors related to self-esteem that can be practiced immediately. If consistent lifestyle practices and school life competency have a positive influence on self-esteem, intervening in lifestyle practices and school life competency will increase self-esteem in junior high school students. Since self-esteem was significantly correlated with willingness to attend school, enhancing self-esteem may help improve their enthusiasm to attend school.

Ethical approval

All participants were informed about the studies in a written form. This study was in accordance with the ethical standards of the 1964 Declaration of Helsinki and its later amendments and was approved by the Ethical Committee of Shimane University School of Nursing (approval number 288).

Author contribution

RT designed the projects, collected the data, analyzed the data and wrote the manuscript. SA designed the projects, collected the data, analyzed the data and wrote the manuscript, and SF directed and designed the projects, analyzed and interpreted the data and wrote the manuscript. All authors read and approved the final manuscript.

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Conflict of interest disclosure

The authors declare no conflicts of interest related to this study.

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