

ปัจจัยทำนายภาวะซึมเศร้าของนักเรียนระดับมัธยมศึกษาตอนปลาย

Predictive Factors of Depression among Senior High School Students

นิพนธ์ต้นฉบับ

Original Article

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บทคัดย่อ

วัตถุประสงค์: เพื่อศึกษาระดับภาวะซึมเศร้าและปัจจัยทำนายภาวะซึมเศร้าของนักเรียนระดับมัธยมศึกษาตอนปลาย **วิธีการศึกษา:** กลุ่มตัวอย่างเป็นนักเรียนระดับมัธยมศึกษาตอนปลายในโรงเรียนในจังหวัดอุดรธานีจำนวน 102 คน จากการสุ่มตัวอย่างแบบหลายขั้นตอนและมีคุณสมบัติตามงานวิจัยกำหนด รวบรวมข้อมูลโดยใช้ 1) แบบรวบรวมข้อมูลส่วนบุคคล 2) แบบประเมินภาวะซึมเศร้า 3) แบบประเมินการเห็นคุณค่าในตนเอง 4) แบบประเมินการถูกรังแกของนักเรียน 5) แบบประเมินความแข็งแกร่งในชีวิต และ 6) แบบประเมินการสนับสนุนทางสังคมในช่วงวันหยุด พ.ศ. 2564 ทดสอบความสัมพันธ์ด้วยวิธีการหาค่าสหสัมพันธ์ของเพียร์สัน ผลการศึกษา: พบว่ากลุ่มตัวอย่างมีภาวะซึมเศร้าร้อยละ 64.71 ปัจจัยที่ทำนายภาวะซึมเศร้าได้ ได้แก่ การเห็นคุณค่าในตนเอง ($\beta = -0.468, P\text{-value} < 0.001$) รองลงมาคือ การถูกข่มเหงรังแก ($\beta = 0.397, P\text{-value} < 0.001$) โดยร่วมกันทำนายความแปรปรวนของภาวะซึมเศร้าได้ร้อยละ 39.3 ($R^2 = 0.393, P\text{-value} < 0.001$) **สรุป:** นักเรียนระดับมัธยมศึกษาตอนปลายมีอัตราภาวะซึมเศร้าค่อนข้างสูง การเห็นคุณค่าในตนเองเป็นปัจจัยทำนายที่มีอิทธิพลต่อภาวะซึมเศร้ายกที่สุด รองลงมาคือการถูกข่มเหงรังแก

คำสำคัญ: ภาวะซึมเศร้า, นักเรียนมัธยมศึกษาตอนปลาย, การเห็นคุณค่าในตนเอง, การถูกข่มเหงรังแก

Abstract

Objective: To determine depression and its predictive with selected factors among senior high school students. **Method:** A multi-stage random sampling was used to recruit 102 students in Udonthani province, Thailand who met the inclusion criteria. Data were collected using 1) demographic characteristics questionnaire, 2) the Center for Epidemiological Studies-Depression Scale (CES-D), 3) the Rosenberg Self-Esteem Scale, 4) bullying victimization questionnaire, 5) the Resilience Inventory, and 6) the Multidimensional Scale of Perceived Social Support questionnaire. Data were collected in December-2021. Associations were tested using stepwise multiple regression analysis. **Results:** 64.71% of participants had depression. Depression was significantly associated with self-esteem ($\beta = -0.468, P\text{-value} < 0.001$) followed by bullying ($\beta = 0.397, P\text{-value} < 0.001$). Both factors explained 39.3% of the variance of depression ($R^2 = 0.393, P\text{-value} < 0.001$). **Conclusion:** Depression rate in senior high school students was high. Depression was associated with self-esteem followed by bullying.

Keywords: depression, senior high school students, self-esteem, bullying

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Introduction

Depression is a major health problem among adolescents and has been continuously increasing lately.¹ Depression is the second cause of years lived with disability (YLDs) of adolescents.² Depression is a crucial factor associating with suicide, self-harm, and substance abuse among adolescents. Depression could also worsen physical and psychological health problems ultimately into a clinical depression in adults.¹ A study revealed that late teenagers were more likely to face depression than early teenagers.³ With the highest incident of depression in those aged 15 – 19, they were in their senior high school.³

In Thailand, depression in senior high school students has been relatively prevalent. A study revealed that 46.4%

students in the class of Mathayom 4 – 6 (i.e., grade 10 – 12) had depression.⁴ Another study found a 26.43% depression among Thai senior high school students.⁵ This suggests that depression in Thai senior high school students has been relatively common with a high prevalence rate. As a future of the country development, the need for more understanding depression among these senior high school students is granted.

Senior high school students is an age of a passage from childhood to early adulthood. As a risky transition, changes in physical, cognitive, emotional, and social aspects of life have been immense. Specifically, their labile emotion is highly associated with hormonal changes. Their emotion could be

furious, fluctuating, labile, everchanging, and uncontrollable. They respond emotionally inappropriately. Adolescents seek self-identity, love, and acceptance from peers and society.⁶ Senior high school students are those entering higher education, i.e., college education, or career path to make a living. With the everchanging environment and societal value, adolescents are under pressure or competition. With unstable and weak emotion, thought, and psychological state, adolescents might not be able to face obstacles effectively. Such difficulties could cause psychological conflict and develop into emotional problem and ultimately the depression. Depressed adolescents feel lonely, isolated, emotionless, indifferent, thinking negatively of self, and changing in their behavior. Unfortunately, they could not express their feeling or thought clearly or decisively because they are not mature as adults.⁷

Depression has been studied in various groups of individuals, but studies in adolescents especially senior high school students have been relatively limited. Based on Beck's cognitive theory, depressed individuals have distorted reality, and negative thought toward themselves, circumstances, and future.⁸ They have low self-esteem and loneliness, and feel no love and incapable. These feeling and thought among adolescents are repetitively affecting their emotion and behavior. With a fast growth of cognitive function and the need for thinking independence during adolescence, they are sometimes wrongfully determined in their thought and behavior without careful pondering. If the thought is negative, harmful, detrimental, or unrealistic, depression could develop. Previous studies show that family bond, negative life experiences, self-esteem, Internet dependence, being bullied, resilience, and social support are associated with depression in senior high school students.⁹⁻¹² These previous studies were conducted on each of factors associating with depression but all of these factors had not been simultaneously tested in one study. In addition, all studies were conducted in the central and eastern Thailand, we aimed to conduct the study in the northeast of Thailand. In this present study, we aimed to determine level of depression in senior high school students in the northeast of Thailand and examine the predictive power of self-esteem, bullying, resilience, and social support on depression.

Self-esteem is a feeling or attitude individuals have toward themselves either in a positive or negative way. Self-esteem is developed based upon self-respect, self-confidence, self-

worth, and self-satisfaction which are influenced by interpersonal relationships within family, society and culture. Adolescents with low self-esteem could have unrealistic identity and could feel incapable, unloved or unwanted by others. These thoughts and feelings could lead adolescents to depression.¹³ A study in Thai senior high school students in central Thailand showed that self-esteem could predict the variance of depression significantly.⁹ Self-esteem could be a predictive factor for depression in senior high school students.

Bullying is an aggressive behavior by parties with dominating power to cause fear, suffering, and damage either physically and/or psychologically.¹⁴ Bullying is a continuous, repetitive behavior.¹⁴ A study revealed that verbal and social bullying is common among high school students.¹² In addition, being bullied was positively associated with depression and suicidal tendency among high school students¹⁵ We hypothesized that bullying was predictive of depression in senior high school students.

Resilience is an individual's capability or potential to live the life successfully when facing bad or stressful situations, to recuperate, and to overcome the situation as quickly as possible to better their life. With obstacles and difficulties in life, individuals with adequate resilience could manage such adversarial situations effectively.¹⁶ Individuals with low resilience are more likely to become depressed when facing such life adversaries. A study in a school in a province in the eastern Thailand revealed that resilience was negatively associated with and predictive of depression among senior high school students.¹¹ We hypothesized that resilience could predict depression.

Social support is the individual's understanding and perception on support provided by family members, friends, and significant others either with physical, psychological, or social aspects of the support. Social support allows for satisfaction for the individuals who receive such support.¹⁷ Individuals with strong social support could face life changing situations effectively. With low social support, individuals are more likely to become depressed, especially adolescents which are in the age with a much needed social support. A study among junior high school students showed that social support was negatively associated with and predictive of depression.¹⁰ We hypothesized that social support could predict depression in senior high school students.

This present study aimed to determine level of depression among senior high school students and whether it could be

predicted by certain factors including self-esteem, being bullied, resilience, and social support. Accordingly, it was hypothesized that self-esteem, being bullied, resilience, and social support simultaneously predicted depression.

The study was framed conceptually on the cognitive theory of Beck⁸ and previous related literature. Depressed persons have faced critical life situation. With cognitive triad including schema, cognitive errors or faulty information processing, there arises the negative thinking toward self, the situation being faced, and future. Depressed persons have obsessively negative thinking, low self-esteem, low self-worth, no power, no capability, no affect, no hope, and no future. These negative thoughts result in feeling depressed, sad, and not worth living. The negative thoughts and resulting emotions and behaviors are repeated in cycle. With more stressful situation such as being bullied, individuals feel more worthless or incapable. With less resilience and no social support, individuals could not face the situation. As a result, the individuals would end up with clinical depression. In 2020

Methods

In this predictive correlational research, the study population was senior high school students (i.e., grade 10 – 12) in Udonthani province in the northeast of Thailand. The multi-stage random sampling was used to select one of five large schools in Udonthani province. In the selected school, two classes for each of grades 4, 5, and 6 were selected for participation. Of each of the two classes, one with science- and another with arts-intensive education program were selected. In each class, students were randomly selected until the required number of participants was achieved.

To be eligible, students had to be 15 to 18 years of age, able to communicate with speaking, listening, reading, and writing in Thai, with no physical or psychological problems, and consented to participate by parents. They were selected by random sampling without replacement.

The sample size was calculated using the software G*Power analysis version 3.1.9.2.⁸ Previous research suggests a wide range of squared multiple correlation (R^2) of 0.046 – 0.325 for factors predicting depression.^{9, 11} A medium effect size of 0.15 was chosen as guided by Cohen.¹⁹ With a type I error was set at 5% and a power of 80%, a sample size of 85 participants was needed. To compensate

for incomplete data, a 20% was added to reach a sample size of 102 participants.

Research instruments

The instrument was a self-administered online survey questionnaire. The questionnaire was on Google FormTM, a web application, which could be accessed online by electronic devices with no installation needed. The questionnaire consisted of 6 parts as follows.

The first part collected demographic characteristics including age, gender, senior high school level, education program (science or arts), cumulative grade point average (GPA), parents' marital status, number of siblings with the common parents, number of family members, relationship in the family, and number of close friends.

The second part was the Thai version of the Center for Epidemiologic Studies Depression Scale (CES-D)²⁰ which was translated from the original version of Radloff.²¹ The scale evaluates the changes in emotion, thought, motivation, body, behavior, and interpersonal relationships within the last week. The scale consisted of 20 items with 16 and 4 items with positive and negative statements, respectively. The response was a 4-point rating scale ranging from 0-never, to 1-rarely, 2-often, and 3-all the time. Scores of positive statements were reversed. With the total score of 0 – 60 points, a total score of 16 points or higher indicate having depression. This Thai version had high internal consistency reliability with Cronbach's alpha coefficient of 0.86 when first translated into Thai.²⁰

In the third part, self-esteem was assessed based on the concept of Rosenberg¹³ using the Revised Thai version Rosenberg's self-esteem scale (RSES).²² The 10-item questionnaire assessed students thoughts about their self both positive and negative aspects (5 items each). The response was a 4-point rating scale ranging from 1-highly disagreed, to 2-disagreed, 3-agreed, and 4-high agreed. Scores of negative statements were reversed. With the total score of 10 – 40 points, higher scores indicate a higher level of self-esteem. The internal consistency reliability of the scale was high with a Cronbach's alpha coefficient of 0.86.²²

The fourth part was measuring bullying originally developed by Olweus¹⁴ and translated to Thai language.²³ The scale had students evaluate themselves about events, signs, thoughts, and feeling related to being bullied in the past 2 – 3 months. The questionnaire contains 10 items with the response of 5-level rating scale ranging from "never" (0

points), "1 – 2 times" (0 points), "2 – 3 times" (1 point), "once weekly" (2 points), and "3 – 4 times weekly" (3 points). With the total of 0 – 30 points, higher scores indicate higher levels of being bullied, and vice versa. Of the 23 original items²³, 29 were omitted and 7 were modified, resulting the final 10 items used in this present study. With the modification, content validity was tested by three experts, specifically a psychiatrist, a pediatric nurse, and a mental health and psychiatric nurse. The content validity index (CVI) for all items was found to be 1.00 indicating a good content validity.

The fifth part evaluated resilience using the original Thai Resilience Inventory²⁴ based on the concept of resilience of Grotberg.¹⁶ The scale evaluated senior high school students in facing and handling adversarial situations that cause life stress or tension, preventing loss or damage, alleviating the severity of the situation, and overcoming the adversaries. The scale contains 28 items covering three domain specifically "I have ..." (9 items), "I am ..." (10 items), and "I can ..." (9 items). The response was a 5-point rating scale ranging from 1-highly disagree, to 2-disagree, 3-not disagree or agree, 4-agree, and 5-highly agree. With the total score of 28 – 140 points, higher scores indicate high levels of resilience, and vice versa. The scale had high internal consistency reliability (Cronbach's alpha coefficients of 0.86 – 0.91).²⁴

The sixth part evaluated social support using the revised Thai version of the Multidimensional Scale of Perceived Social Support (r- Thai MSPSS) of Wongpakaran and Wongpakaran²⁵ which was developed from the original work of Zimet et al.¹⁷ The 12-item scale evaluated social support the senior high school students received from significant others, friends, and family members. The response was a 7-point rating scale ranging from 1-the most disagreed, 2-highly disagreed, 3-disagreed, 4-not disagreed or agreed, 5-agreed, 6-highly agreed, and 7-the most agreed. With the total scores of 12 – 84 points, higher scores indicate higher social support, and vice versa. The scale had a high internal consistency reliability (Cronbach's alpha coefficient of 0.91)

Quality assurance on research instruments

The researcher tested internal consistency reliability in 30 students with characteristics comparable to the participants. It was found that the CESD scale, the RSES, bullying, resilience, and social support had acceptable to high internal consistency reliability (Cronbach's alpha coefficients of 0.90, 0.85, 0.83, 0.99, and 0.97, respectively).

Ethical participant protection

This study was approved by the Ethic Committee of Burapha University (approval number: IRB3-109/2564). Participation was voluntary.

Data collection procedure

The researcher (SM) asked for permission to conduct the research from the director of the selected school. With permission, the researcher contacted the teacher of each selected class for the survey. After class sessions, the researcher approached students to provide objectives and details of the study via school online communication system. Students were informed about the voluntary nature of the study. They could end the participation at any time they want without any consequence. Once informed consent form was obtained, participants were given study objective materials and QR code for the online survey access. Students were asked to give the study objective materials to their parents. Once consented by their parents, students could access and complete the online survey. Students could skip any questions they did not want to answer. Students were instructed to complete the survey during the assigned duration 1 – 31 December 2021. The survey took about 60 minutes to complete.

Data analysis

Demographic characteristics and scores of study factors were presented as mean with standard deviation (SD) and frequency with percentage. For bivariate analysis between depression score and each predictive factors, Pearson's product moment correlation analysis or Spearman's ranked order correlation analysis was used as appropriate. All variables were found normally distributed, therefore Pearson's product moment correlation analysis was used. Significant predictive factors were then further tested in a stepwise multiple regression analysis. All assumptions of multiple regression analysis were met. Statistical significance was set a type I error of 5% (or *P*-value < 0.05). Statistical analyses were performed using the software program SPSS version 25.

Results

Of the 102 participants, the majority was women (74.51%), 17 years old (37.26%), with GPA of 3.50 or higher (66.67%), living with parents (72.55%), with parents living

together (61.77%), single child (64.71%), with 1 – 5 family members (77.45%), with good family relationship (69.61%), and with 1 – 5 close friends (54.90%) (Table 1).

Table 1 Demographic characteristics of the participants (N = 102).

Characteristics	N	%
Sex		
Male	26	25.49
Female	76	74.51
Age (years) , (mean = 16.87, SD = .875, Min= 15, Max =18)		
15	5	4.90
16	31	30.39
17	38	37.26
18	28	27.45
Cumulative GPA (mean = 3.46, SD = .657, Min= 1.50, Max =4.00)		
< 2.00	2	1.96
2.00 – 2.49	11	10.78
2.50 – 2.99	10	9.81
3.00 – 3.49	11	10.78
3.50 or higher	68	66.67
Parents' marital status		
Married	63	61.77
Divorced	32	31.37
Deceased	7	6.86
Number of siblings , (mean = 1.51, SD = .962, Min= 1, Max =8)		
1 (only child)	66	64.71
2	27	26.47
3	7	6.86
5	1	0.98
8	1	0.98
Number of family member , (mean = 4.87, SD = 1.82, Min= 2, Max =15)		
1 – 5	79	77.45
6 – 10	22	21.57
> 10	1	0.98
Family relationship		
Supportive	71	69.61
Occasional conflict	28	27.45
Always conflict	3	2.94
Number of close friends , (mean = 8.02, SD = 14.67, Min= 0, Max =100)		
0	5	4.90
1 – 5	56	54.90
6 – 10	31	30.39
11 – 15	3	2.94
16 – 20	1	0.98
> 20	6	5.89
Living arrangement		
Living with parents	74	72.55
Living with grandparents	20	19.61
Living with uncles/aunts	8	7.84

Based on CES-D scale, a relatively large portion of the participants had depression, i.e., scores of 16 points or higher (64.71%). Overall, the mean score of CES-D was 19.31 ± 8.18 points (Table 2).

It was found that depression was significantly negatively correlated with self-esteem ($r = -0.485$, P -value < 0.01), and positively correlated with bullying ($r = 0.417$, P -value < 0.01). Depression was also significantly negatively correlated with resilience ($r = -0.250$, P -value < 0.05) and social support ($r = -0.234$, P -value < 0.05) (Table 3).

Table 2 Mean scores and levels of study factors (N = 102).

Study factors	Possible scores	Range	Mean	SD
Depression	0 – 60	4 – 46	19.31	8.18
No depression (<16)			N (%) = 36 (35.29%)	
With depression (≥ 16)			N (%) = 66 (64.71%)	
Self-esteem	10 – 40	17 – 37	27.55	4.400
Bullying	0 – 30	0 – 18	3.55	4.389
Resilience	24 – 140	24 – 140	101.64	22.442
Social support	12 – 84	12 – 84	57.28	15.127

Table 3 Correlations[†] between study factors (N = 102).

Factors	1	2	3	4	5
1. Depression	1				
2. Self-esteem	-0.485**	1			
3. Bullying	0.417**	-0.043	1		
4. Resilience	-0.250*	0.380**	-0.097	1	
5. Social support	-0.234*	0.349**	-0.152	0.781**	1

[†] Pearson's product moment correlation.

** P -value < 0.01, * P -value < 0.05.

Linear regression analysis showed that self-esteem was significantly, negatively and bullying was significantly, positively associated with depression among senior high school students ($\beta = -.468$ and 0.397 , respectively, P -value < 0.001 for both). These two factors explained 39.3% of the variance of depression ($R^2 = 0.393$, P -value < 0.001) (Table 4).

Table 4 Predictive factors for depression (N = 102).

Predictive factors	R ²	b	SE _(b)	β	t	P-value
Constant		40.668	4.120		9.871	< 0.001
Self-esteem	0.236	-0.870	0.146	-0.468	-5.973	< 0.001
Bullying	0.393	0.740	0.146	0.397	5.062	< 0.001

$R^2 = 0.393$, Adj. $R^2 = 0.381$, $F_{(2,99)} = 32.021$, P -value < 0.001.

Discussions and Conclusion

The study on depression and its predictive factors in senior high school students found that a large proportion of students had depression (64.71%) with the mean score of 19.31 points and depression was significantly associated with self-esteem and bullying. Certain findings were worth of discussions as follows.

Senior high school students in Udonthani province had an overtly high rate of depression (64.71%) based on CES-D which is an epidemiology screening tool. This unusual finding of high depression rate was obvious compared with previous studies. A previous study in adolescents aged 15 – 19 years old in schools in Muang district of Udonthani province in the academic year of 2019 found a 26.43% depression rate.⁵ A

study in senior high schools in Banchang district of Rayong province also a low depression rate of 46.4%.⁴ The high depression rate in the present study could be because of different tools to assess depression, and differences in socioeconomic status. During the data collection, the Covid-19 pandemic had brought strict measures such as social distancing which could stress out adolescents immensely since they are in the age of socializing for peer acceptance and opposite sex attraction. Being mostly confined to home with online class could limit their social interaction and freedom which could ultimately lead to stress and certain symptoms of depression. In addition, continuous interactions with family members but with poor quality time, especially with parents, could cause tension and certain symptoms of depression as well. These long term Covid-19 social distancing could cause pressure, stress, and anxiety as seen in more psychiatric and mental health problems including depression which had been arisen in general population.²⁶ A study showed that depression prevalence increased by 25.2%, expecting that 1 in 4 adolescents face symptoms of depression worldwide.²⁷

For its predictive factors, only self-esteem and bullying were significantly predicting depression and explaining 39.3% of the variance of depression. Students with higher self-esteem had less depression score ($\beta = -0.468$, P -value < 0.001). Self-esteem is a factor in development of adolescents aged 15 – 18 years. Self-esteem is a self-evaluation of one's worth, importance, and respect based on one's own self and action. Such evaluation is influenced by self-attitude and external experience.¹³ Senior high school students with low self-esteem could have developed depression through cognitive process both internal and the other arising from interactions with situations and environment. Based on cognitive theory, continuous negative viewing on oneself, ongoing experience, and future could cause low self-esteem, unimportance, and incapability in decision making or problem solving. When facing difficulties, the person would interpret the situations in a negative way which could cause desperation, hopelessness, and powerlessness. The person would blame themselves once mistaking. These thoughts affect perception, emotion, and behaviors that are expressed. This cycle is continuously repeated⁸ and further causes less self-esteem, less confidence, less pride, and ultimately higher probability of depression. Our finding is consistent with a previous study

revealing that self-esteem was predictive for depression in senior high school students.⁹

Bullying was predictive for depression. The more perceived bullying, the more depression ($\beta = 0.397$, P -value < 0.001). Senior high school students are adolescents with fast physical, cognitive, emotional, and social changes. They are in a very sensitive stage of life. Socializing with peers is critical for adolescents.⁶ Bullying harms the relationship and social development of adolescents. Social skill development is damaged. Their thought and beliefs are distorted. Adolescents who are continuously bullied are more likely to believe that being bullied is beyond their control, so that they cannot prevent being bullied or diverse the situation.^{12,14,15} Based on cognitive theory of Beck⁸, if being bullied is the situation viewed as uncontrollable, unstoppable, or unchangeable by adolescents, they would falsely and distortedly internalize the situation. Such continuous thinking would generate more and more negative thoughts automatically. Ultimately relationships with others are ruined or acceptance from peers are denied. They could feel not receiving attention from peers. These negative thoughts lead to mental health problems, and ultimately depression. Being bullied in 15 to 18 years of age is associated with depression in their adulthood.²⁸ Our finding is also consistent with the study of Mungala and Nabuzoka showing that being bullied could predict depression in high school students aged 13 to 17 years.²⁹

Resilience and social support were not associated with depression in our study. Participants in our study were in their 15 – 18 years of age, with no heavy responsibility, with good GPA of 3.5 or higher, and with a high resilience score. Even with social distancing during the Covid-19 pandemic, these adolescents might not have much stress or pressure as expected. These adolescents lived with their family members that were supportive to them. Such support and help when needed are the barriers for managing stress and anxiety brought by difficult situations. Their mental health could be maintained and depression could be avoided.

Based on our findings, teachers, parents and bodies responsible for senior high school students academic achievement should be concerned about depression these students. Depression should be evaluated regularly either every six months or once annually as recommended by the Royal College of Pediatric Medicine of Thailand. Educators could also use the findings for planning care and developing

programs to prevent and alleviate the depression through promoting self-esteem and preventing bullying. For future research, studies with various interventions to promote self-esteem and prevent bullying should be conducted.

This study had certain limitations. The study was conducted only in senior high school students with science- and arts-intensive education programs. Students in other education programs and other groups of adolescents should be studied. Studies with no Covid-19 pandemic should also be conducted. Factors affecting depression which could be relevant to specific demographic groups of adolescents should be studied.

In conclusion, Thai senior high school students had a high depression rate. Self-esteem and bullying were predictive of the depression. The intervention to promote self-esteem and prevent bullying could be useful in preventing depression.

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