

Research Article

Contribution of low-level Self-esteem and self-efficacy in adverse mental outcome among secondary school adolescents in Minia city



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Abstract

Background: Nowadays youth especially within secondary schools are exposed to different stressors in addition to academic stress causing psychological problems. Mental health and wellbeing have recently received public health attention especially among adolescents. Self-esteem and self-efficacy are main two components of the evaluative part of self-concept that contribute to mental well-being and psychosocial competence. This study aims to investigate whether self-esteem and self-efficacy serve as significant predictors of total difficulty score among Minia City secondary school students. **Methods:** A cross sectional design was conducted for the study with participation of 298 students in two randomly chosen secondary schools in Minia city during academic year 2021/ 2022. The measures used were standardized Strength and difficulties questionnaire for emotional problems (SDQ), Rosenberg self-esteem scale (RSES), General self-efficacy scale in addition to questions for student personal characteristics. **Statistical analysis:** conducted by SPSS version 22, descriptive statistics, Pearson correlation and linear regression models were used. **Results:** Students identified with low self-esteem constituted (27.5%) of total participants. Mean self-efficacy score was (28.75± 5.7). In univariate correlational analysis, Significant correlation was found between self-esteem, self-efficacy and total difficult score. In linear regression model, self-esteem, self-efficacy, gender, hours spent online, and perceived health issues strongly predicted emotional difficulties. Self-esteem was significant predictor for total difficulty in all models, with highest standardized coefficient B in model 3. **Conclusion and recommendations:** Higher prevalence of low self-esteem (among more than quarter of students) compared to previous studies was found in this study. A confirmed finding is that low self-esteem was the most significant contributor. School intervention programs should be put in consideration to enable these students to learn how to face life challenges, teach them skills to maximize confidence and capacity building regarding their resilience.

Keywords: self-esteem, self-efficacy, adolescents, mental health

Introduction

Generally, Mental well-being is necessary for adequate quality of life at various phases of human life ¹. Mental health includes our emotional, psychological, and social well-being. It influences how we think, feel, and act. It also helps determine how we handle stress, interact with others, and make healthy decisions. Every stage of

life, from childhood and adolescence to adulthood, requires attention to mental health ².

In the last years, the issue of youth mental health in secondary schools has drawn more attention globally³. Lower educational success, substance misuse, and violence are all highly correlated with poor mental health ⁴.

Up to 50% of all mental illnesses emerge before the age of 18 years⁵. Young people have also faced several difficulties that have had a significant impact on this stage of development. Over the past 50 years, there have been changes brought about by the media, education, and violence⁶. Last but not least, the COVID-19 crisis indirectly raised the likelihood of mental health issues in children and teenagers⁷.

Self-efficacy and self-esteem which are two essential parameters for core self-evaluations, had been reported to have great implicit on mental health^{8,9}.

Self-esteem, relates to attitudes about the self in certain circumstances, such as academics. Self-esteem is made up of an individual's positive or negative attitudes toward themselves¹⁰.

Adolescents with a high self-esteem frequently choose a positive attitude towards life without intending to resist and escape¹¹. They often have a positive view of themselves and the world, which helps them build resilience and deal with various pressures¹².

Self-efficacy is the confidence that one will be able to perform specific behaviors in particular situations that may contain novel, unpredictable, and stressful elements¹³.

Self-evaluation (self-esteem and self-efficacy) has a variety of effects on how people behave by influencing key psychological processes like cognition, motivation, choice, and emotion, which are thought to be mutually reinforcing interactions between environmental, behavioral, and individual factors¹⁴.

Although earlier research on self-esteem, self-efficacy, or mental health issues was conducted in Egypt, there are few studies that demonstrate a link between the three variables.

The purpose of this study is to investigate the association between (self-esteem and self-efficacy scales) with self-reported mental health problems among secondary school students at Minia City. The main research question is whether self-esteem and self-efficacy are significant predictors of emotional difficulties among adolescents.

Methods

Study design and population

This descriptive school-based study and correlational research were carried out among students from two secondary schools in Minia city that were chosen at random (Coptics secondary school for boys, Minia secondary school for girls). Data was collected during the academic year 2021–2022.

Using online EPI tools software, sample size was computed with a (95% confidence interval), predicted prevalence of (25%), margin of error of (5%), and population size (1134). The minimum calculated sample size was 230, however it was increased to 276 to account for the anticipated 20 percent non-response. The total number of students who participated in the study was (298).

Sampling technique

By using a stratified random sample, students were chosen. The list of secondary schools in the Minia district was first. We chose two schools at random, one for boys and one for girls. Then, classes from each of the chosen schools were chosen at random. The number of students in each school's sample was proportional to that number.

Data was collected from students during their school –day at time of free classes. After explanation, self-administered questionnaires were administrated to students. Students were aided and supervised at time of questionnaire filling.

Table (1) Population of study sample

School	Number of students in school	Number of classes in sample	Number of students in sample
Minia secondary school for girls	648	4	162
Coptics secondary school for boys	486	3	136
Total (2 schools)	1134	7	298

Study tool

1-Dependent variable

-Mental health problems

which were evaluated using the 25-item Youth Self-Report Version of the *Standardized Strength and Difficulties Questionnaire (SDQ)*

It produces Total score for difficulties:

It is calculated by summing all of the subscales, excluding the prosocial subscale, and has a range of 0 to 40. The chance of getting a mental health issue rises by one point for every point the total difficulties score rises.

2-Independent variables

a) Self-esteem

Rosenberg self-esteem scale (RSES): is a self-report measurement that was developed to assess a person's sense of self-worth. It was initially created to learn more about adolescents' perceptions of their own value and self-worth. Previous research showed that the RSES had high convergent validity. For various genders and ages, good reliability and validity were reported across investigations.

(RSES) is a **10-item**, Likert scale, composed of: a) Five positive statements (1, 3, 4, 7, and 10) scored from (1 to 4) as: (4=strongly agree, 3= agree, 2=disagree, 1 = strongly disagree)

b) Five negative statements (2, 5, 6, 8, 9) in scored as: (1= strongly agree 2=agree, 3= disagree, 4= strongly disagree).

After adding the points corresponding to all the items in the scale, total score ranges from (10-40). The higher the score, the higher students' self-esteem. dividing Results into 3 levels: Low level self-esteem (10–25), medium level self-esteem (26–29) and high level self-esteem (30–40) ^{15,16}.

b) self-efficacy

General Self efficacy scale: The scale was created to assess a general sense of

perceived self-efficacy with the aim in mind to predict coping with daily hassles as well as adaptation after experiencing all kinds of stressful life events. It has 10 items. Responses were made on a 4-point scale. (1 = Not at all true, 2 = Hardly true, 3 = moderately true, 4 = exactly true).

Sum up the responses to all 10 items to yield the final composite score with a range from 10 to 40. The higher the score, the greater self-efficacy or confidence ¹⁷

3-Control variables

Personal students' characteristics Include:

Age, Gender, Grade point average of last term exam (GPA), perceived chronic health problems, internet using hours

Statistical analysis

Data entry and statistical analysis were done using SPSS version 22. Data was presented as descriptive statistics in form of mean and standard deviation for quantitative data, while frequencies and percentages for qualitative variables. Pearson correlation was used to show association between quantitative parameters. Multivariate linear regression was conducted to show association between variables with controlling of confounding factors. Statistical significance was considered at p-value <0.05.

Ethical consideration

Common ethical standards for scientific research were followed during the research. The Minia University faculty of medicine's ethical committee gave the research proposal their "approval number 368: 1/2020" stamp of approval. Students' verbal consents were obtained prior to data collection after being informed of the study's nature and goal. Approval from the headmistress was regarded as guardian "proxy" approval. Students were given the assurance that all study-related data would be kept private and confidential.

Results

The study was conducted among (298) secondary school students in Minia city

Table (2) Personal characteristics of students in study sample(n=298)

Personal characteristics	Subtype	Value Frequency Total N= 298
Age (years)	Mean \pm SD Range	15.9 \pm 0.69 (14-17)
Gender	Male	136 (45.6%)
	Female	162 (54.4%)
GPA	Low	25 (8.3%)
	Moderate	164 (55.1%)
	High	109 (36.6%)
Internet using hours/day	Mean \pm SD Range	5.88 \pm 4.8 (0-18)
Perceived chronic health problems	Yes	90 (30.2%)
	No	208 (69.8%)

GPA: grade point average, Quantitative data represented by mean \pm SD, qualitative data represented by No (%).

Table (2) illustrated that mean age of students in study group was (15.9 \pm 0.69), ranged from (14-17) years. About (45%) were males Vs. (54.4%) were females. More than half of students (55.1%) got

moderate score on last term exam. Percentage of perceiving chronic self-health problems among students was (30.2%). Mean of internet using hours per day was (5.88 \pm 4.8).

Table (3) Self-esteem and self-efficacy among students (n=298)

Personal characteristics	Subtype	Value Frequency Total N= 298
Self esteem	Mean \pm SD Range	28.42 \pm 5.3 (12-40)
	Low self esteem	82 (27.5%)
	Medium level self esteem	85 (28.5%)
	High self esteem	131(44%)
Self-efficacy scale	Mean \pm SD Range	28.75 \pm 5.7 (11-40)
Total difficulty score	Mean \pm SD Range	15.87 \pm 6.5 (1-33)

Quantitative data represented by mean \pm SD, qualitative data represented by No (%)

In table (3), it was found that (27.5%) of students had low self-esteem. Means of

self-esteem, self-efficacy and total difficulty scores were (28.42 \pm 5.3, 28.75 \pm 5.7, 15.87 \pm 6.5) respectively.

Table (4) Correlation between total difficulties score, Self-esteem and self-efficacy (n=298)

Correlation	r	P value
Total difficulties score & self esteem	0.63 -	0.001*
Total difficulties score & self-efficacy	0.48 -	0.001*
Self-esteem & self-efficacy	0.6	0.001*

Table (4) clarified that there was significant negative moderate correlation between total difficulties score and self-esteem. Statistically significant fair negative correlation was found between total

difficulties score and self-efficacy score. As regards to correlation between self-esteem and self-efficacy scale, it was significant moderate positive correlation.

Table (5) Linear regression models to predict effect of self-esteem, self-efficacy on total difficulty score

Personal characteristics	Model(1)		Model(2)		Model(3)	
	Standardized coefficient B	P value	Standardized coefficient B	P value	Standardized coefficient B	P value
Self esteem	0.53-	0.001*	0.46-	0.001*	0.44-	0.001*
Self-efficacy scale	0.16-	0.004*	0.12-	0.04*	0.07-	0.21
Age	-	-	-	-	0.03	0.57
Gender (being female)	-	-	-	-	0.19	0.001*
Internet using hours	-	-	4.41	0.001*	0.15	0.001*
GPA	-	-	0.05	0.28	0.06-	0.14
Perceived self-health problems	-	-	0.22	0.001*	0.17-	0.001*

NB: dependent variable is total difficulty score. Model 1: crude model (independent variables: self-esteem and self-efficacy scale). Model 2: adjusted for GPA, internet using hours, perceived health problems. Model 3: adjusted for (age, gender, GPA, internet using hours, perceived self-health problems) by adding these variables to model.

Table (5) demonstrated that crude regression model showed that both self-esteem and self-efficacy were significant predictors for total difficulty score (Coefficient B=0.53-, 0.16-) respectively. When model was adjusted for GPA, internet using hours and perceived health problems, Standardized coefficient B

decreased (for self-esteem=0.46-, self-efficacy=0.12-). In model 3, self-esteem was significant predictor for total difficulty score, value of coefficient B was (0.44 -), (P value =0.001). Self-esteem had highest standardized coefficient B in model 3 regression (B=0.44-, P=0.001).

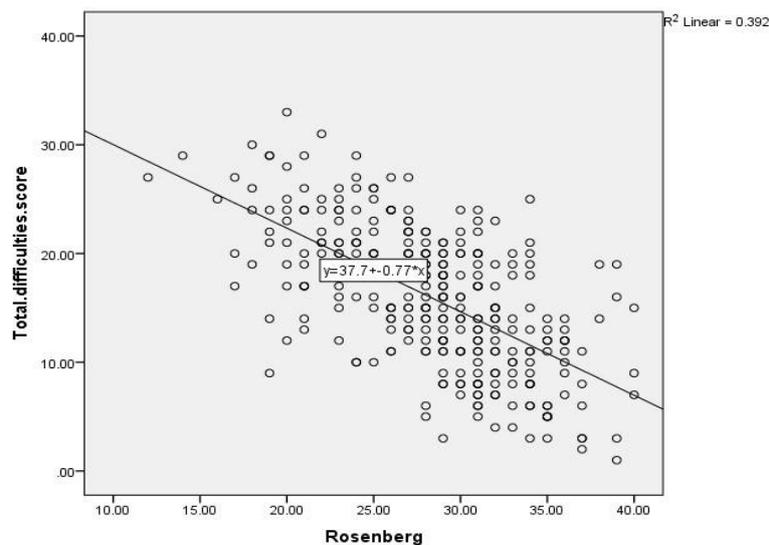


Figure (1) Correlation between total difficulties score and self esteem

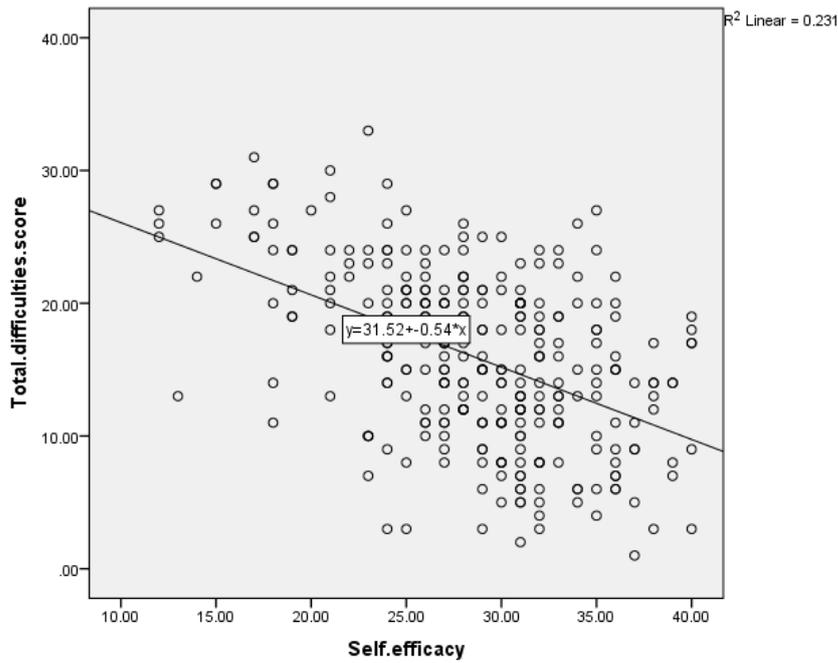


Figure (2) Correlation between total difficulties score and self-efficacy scale

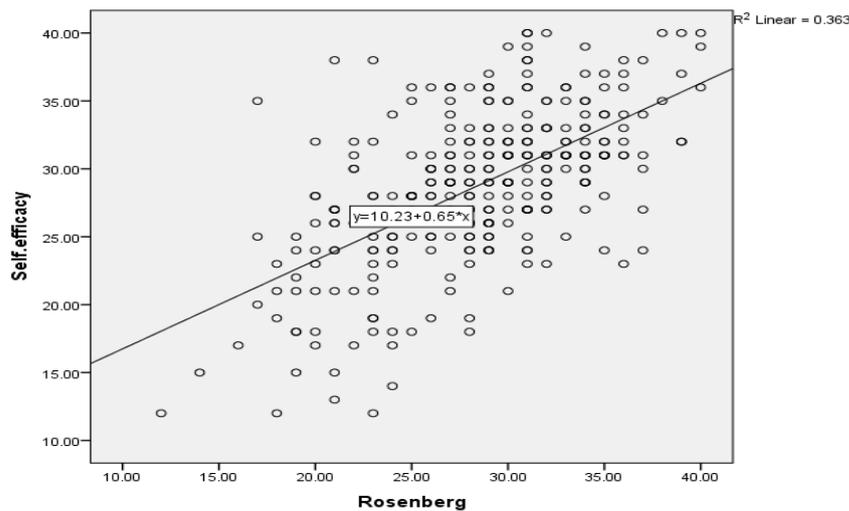


Figure (3) Correlation between self-esteem and self-efficacy scale

Discussion

The present study examined self-esteem, self-efficacy with their relations to total difficulty score among secondary school students in Minia city. The study included 298 students; their age ranged from (14-17) years with mean (15.9±0.69) years. Results showed that self-esteem, self-efficacy, gender, hours spent online, and perceived health issues strongly predicted emotional

difficulties. In each regression model, self-esteem had a considerable predictive value.

Self-esteem and mental problems

Concerning low self-esteem, the study revealed a percentage of (27.5%) among students. This was higher than the prevalence rate of (19.4%) found in Vietnam as reported by¹⁸. These outcomes are consistent with other research^{19,20}.

Some of the disparities may be explained by cultural and social differences among the studied populations.

In the current study, there were significant negative correlations between self-esteem and total difficulties score. This was in consistent with previous various studies; who found that self-esteem can potentially affect mental health among adolescents and can be used effectively to cope with stress ^{21,22,23,24}.

On the same hand, in a recent study performed among Chinese adolescents, self-esteem was found to be negatively correlated with emotional and behavioral problems ¹¹.

Lee et al., 2021¹² have demonstrated that improving self-esteem is crucial to preventing adolescents from experiencing mental health issues and promoting healthy adolescent development. These findings suggest that adolescents with higher levels of self-esteem and better control over their behaviors and emotions have significantly higher levels of perceived life quality.

In the meantime, it is illustrated by the evidence that low-level self-esteem is linked to an increase in anxiety symptoms, depressive symptoms and problem behaviors in previous researches ^{25,26}.

Hence, High self-esteem could be seen as a protecting factor for health and social behavior ²⁷.

Significant association between self-esteem and mental difficulties was previously explained in many researches. Mann et al.2004²⁸ illustrated that self-esteem can lead to better health and social behavior and that poor self-esteem is associated with a broad range of mental disorders and social problems. Ross and Broh,2000 ²⁹reported self-worth found to be a positive factor for adolescents to perform well in school. Self-esteem stabilizes and motivates individuals to form and maintains relationships.

In contrast, there is a research associating high self-esteem with egoism, narcissism or violence ³⁰; also self-esteem has been also considered as a risk marker ³¹.

In this study, there was significant moderate positive correlation between self-esteem and self-efficacy scale ($r=0.06$, $P=0.001$). This was also documented in a study performed by Orth et al., 2009 ³² who reported that high self-esteem is more likely to have higher well-being and satisfaction while low self-esteem prospectively predicts depression in adolescence and young adulthood.

Self-efficacy and mental health

As regards findings on mean self-efficacy in our study was found to be (28.75 ± 5.7) . That was in concordance with a result conducted by Adeyemo and Adeye, 2008³³ who reported mean self-efficacy scale (28.8 ± 5.8) among Luthans et al., 2007³⁴ defined self-efficacy, optimism, hope, and resiliency as core characteristics of PsyCap. It protects individuals with adversity and pressure. Self-efficacy, optimistic attitude, and locus of control affect the well-being in a meaningful way in the individuals ²¹.

In current study results, significant association was found between self-efficacy and total difficulties score. Self-efficacy significant contribution to the prediction of psychological well-being is consistent with the assertion of Wang and Liu, 2000 ³⁵ that general self-efficacy was related to mental well-being.

Linear regression models

Regarding linear regression models, self-esteem showed significance in all models. Although self-efficacy was significant predictor in crude model, once controlling for age, gender, GPA, internet using hours and perceived health problem, self-efficacy seems to lose its predictivity value.

Similarly, In Gujar and Ali, 2019 ²¹study, the results of linear regression analysis found that self-esteem predicts mental health status that is self-perceived emotional and behavioral problems ($R^2 = 0.044$, $F(2,368) = 8.365$, $P < 0.001$) and accounts for 4.4% of the variance in mental health score. Self-esteem has been researched most extensively in relation to mental health.

Surprisingly, Fanaj et al., 2015 in his study found that high self-esteem predicted emotional problems, they attributed it that students with high self-esteem, assert their autonomy resulting in emotional maladjustment.

Conclusion

Compared to previous studies, Higher prevalence of low self-esteem was found in this study among more than quarter of students. A confirmed finding is that low self-esteem was highest most significant predictor with total abnormal difficulty score. There was positive association between self-esteem and self-efficacy scales.

Recommendations

The results of recent and further upcoming researches should be used as basis for developing intervention programs for students. school-based counselling services should be constructed. Efforts should be made to enable these students to learn how to face life challenges, teach them skills to build confidence and increase their resilience. Teach your child how to make it through the tough times. Help them to cope with change, manage stress, and learn from setbacks.

Limitations

Because of self-reported knowledge regarding EBPs and associated factors, subjective biases cannot be completely eliminated. Another drawback is that the cross-sectional study design does not allow for the identification of relationships between factors; further longitudinal research is still required in this area. Finally screening instruments, cannot be viewed as diagnostic tools, but only as screening tests to identify members of groups at risk for these conditions

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