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Prediction of learned helplessness based on academic resilience and test anxiety in students with academic failure

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Abstract

The purpose of this research was to predict learned helplessness based on academic resilience and test anxiety among students with academic failure. The present research method was descriptive-correlation. The statistical population of this research included all the students with academic failure in the second year high schools in Bandar Abbas (Iran). The sample was selected by a multi-stage cluster method. In order to collect data, Learned Helplessness Scale (Quinless & McDermott-Nelson, 1988), Samuels's Academic Resilience Scale and the FRIEDBEN Test Anxiety Scale (Friedman & Bendas-Jacob, 1997) were used. The data were analyzed using multiple regression analysis in the SPSS-26 software. The results indicated that academic resilience (β=-.47) and test anxiety (β=.21) predict learned helplessness significantly (P<.05). Also, R2 showed that 32% of the changes in the criterion variable are explained by the predictor variables. In a general conclusion, it can be said that in order to decrease the level of learned helplessness of students with academic failure, its recommended to increase resiliency and control the test anxiety in them.

Keywords
learned helplessness, academic resilience, test anxiety, students with academic failure

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Introduction

Dropout (academic failure) refers to people who drop out of school and do not graduate with their class. This definition is used to measure academic attrition and measures what happens to a group of students over a period of time by determining how many of those who started a given class did not successfully complete it (Najimi et al., 2013). This indicator shows the proportion of students who leave school before the end of the school year without completing the high school program, regardless of whether they return the following year or not (Needham et al., 2004). The U.S. Center for Education Statistics uses a definition based on comparing the number of students enrolled at the beginning of the school year and those who are excluded (Dowrick & Crespo, 2005). Since the governments do not agree on the definition of educational failure, the rate of educational failure is different (Asadi Fard, 2015). Of course, Iranian education does not necessarily equate academic dropout with dropping out, and defines academic dropout as the reduction of a student's academic performance from a satisfactory level to an undesirable level. Young people who drop out of school experience poverty, unemployment, parental anger, and delinquency, and are at risk of poverty three times more than those who have completed high school. The data show that the median personal income of high school completers is nearly double that of dropouts, and the income of those with a college degree is three times that of dropouts. According to the Center for Public Policy Priorities, which included a study by the American School Association, 98 percent of Texas prison inmates had not completed high school, and another study found a strong relationship between income and criminal behavior, meaning that the more money a youth earns, the more legitimate it is. If possible, the probability of committing a crime will be less (Sohrabi & Jondaghi, 2005). In Iran, students suffering from academic failure are involved with such cases and problems. Learned helplessness is one of the cases that seriously endangers the career and academic future of students with academic failure (Amirian et al., 2018). According to Seligman's theory of learned helplessness, learned helplessness in a general sense means understanding the uncontrollability of events (Tamadoni Asef Abad et al., 2019). Slavin (2008) states in his definition; An extreme form of failure avoidance is learned helplessness, in which a person believes that no matter what they do, they are doomed to fail. Learned helplessness can be related to internal justification and failure. The learned helplessness hypothesis states that learning interferes with the formation of the association between response and escape and the termination of shock. This learning later reduces the motivation to try to escape or change the situation (Smalheiser et al., 2011). According to this

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theory, learned helplessness occurs when a person perceives a situation to be stressful and challenging. Thus, the individual identifies potential actions to manipulate the situation to make it less challenging, less stressful, or more desirable. After the person has unsuccessful attempts to influence the environment towards the desired outcome, he learns independence from the outcome. This response independence is a consequence of the key assumption in learned helplessness theory (Maier & Seligman, 2016).

Finding predictors of learned helplessness in educational and educational environments can reduce this negative psychological structure to a minimum and thus provide the basis for academic progress and return to education. The present study tried to investigate a negative construct and a positive psychological construct to predict the variable of learned helplessness. Correspondingly, test anxiety as a negative variable and academic resilience as a negative psychological variable have been examined.

Test anxiety is a special case of general anxiety that includes cognitive, psychological and behavioral phenomenological responses that indicate the existence of fear of failure. Test anxiety is an unpleasant emotion with behavioral and psychological characteristics that a person evaluates by being in a situation (Javadi et al., 2017). Test anxiety is one of the types of situational anxiety that has a close relationship with the performance and academic progress of millions of students in educational centers (Spielberger et al., 2015). Test anxiety often leads to negative cognitive evaluation of adverse physiological reactions and academic failure, and consequently plays a destructive and inhibiting role in mental and educational health (Sarason & Sarason, 1990). The prevalence of test anxiety in students is reported to be 10-22%. Also, the level of test anxiety of girls has been evaluated higher than that of boys (Putwain & Daly, 2014). The estimated prevalence of test anxiety in Iran for high school students is 17.2% (Javadi et al., 2017).

Resilience is the ability to successfully adapt to threatening conditions, and in other words, positive adaptation in response to adverse conditions (Atadokht et al., 2014). The key condition for resilience is the simultaneous presence of risk factors and protective factors (Perez-Nievas et al., 2013). It is important to know that the factors that put students at risk have an impact on their growth and support their resilience as much as the protective factors that may foster them (Angel, 2016). Students who have high academic resilience have shown more positive results in their psychological activities (Masten, 2011). Research shows that students who show resilience in a particular area may even be vulnerable in another area. Although resilience is a general concept

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that includes the interaction between individuals, personality traits, previous family experiences, and their social resources, it usually refers to a type of personality traits that are capable of creating positive adaptation (Ungar & Liebenberg, 2011).

The role of different variables in influencing and predicting the learned helplessness have been examined (Camacho et al., 2013; Qian & Alvermann, 1995; Sorrenti et al., 2018; Sorrenti et al., 2019), but none of them have investigated academic resilience and test anxiety at the same time. Therefore, the present research has tried to investigate the learned helplessness based on academic resilience and test anxiety among the students with academic failure with a descriptive and analytical perspective.

Materials and Methods

The current research was of a descriptive-correlation type. The statistical population of this research is made up of all the students with academic failure in the second period high schools of Bandar Abbas (Iran) in 2022. The members of the statistical sample were selected using multi-stage cluster sampling. Thus, at first, the researcher divided Bandar Abbas city into three geographical regions (east, center and west) and randomly selected high schools from among girls' and boys' high schools. Then, by referring to randomly selected high schools and the list of students' names, he selected the members of the statistical sample. According to the minimum sample size required for correlation studies (Kline, 1998), 200 people were included in the analysis. The researcher has used the following three standard scales to collect research data:

Learned Helplessness Scale: Learned Helplessness Scale (Quinless & Nelson, 1988) was used to measure the learned helplessness variable. In this scale, which was created based on the theory of Seligman (1971), people determine their position on 27 statements based on a range from one to ten. It has been found that this tool is highly effective for clarifying specific areas of learned helplessness in people that cannot be detected by interview. The minimum score of this scale is 27 and the maximum is 270. A higher score indicates greater learned helplessness. In the research of Tamadoni Asef Abad et al. (2019), the face and content validity of this questionnaire has been confirmed and the reliability has been obtained using Cronbach's alpha coefficient of 0.87. In the current study, reliability was estimated to be 0.81 using Cronbach's alpha coefficient.

Samuels's Academic Resilience Scale: This scale was used to measure academic resilience. This scale was confirmed to be appropriate in two studies. Then, with the development of the academic

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resilience scale, the study was published in 2009 (Jafari et al., 2020). The original version of this questionnaire includes 40 questions. In Iran, this questionnaire was standardized by Soltaninejad et al. (2014). In the Iranian norm, the number of questions in this questionnaire has been reduced to 29 questions. Answering the questions of this scale is based on the Likert scale from 1 to 5. In this questionnaire, the highest score a person can get is 145 and the lowest score is 29. A high score in this questionnaire indicates high academic resilience and a low score indicates low academic resilience. Samuels (2004) calculated the reliability of the 40-question version of this questionnaire. He used the Cronbach's alpha method to estimate this reliability and estimated the Cronbach's alpha coefficient to be around 0.89. Also, the construct validity of this questionnaire was evaluated favorably in his research. In Iran, Soltaninejad et al. (2014) investigated the psychometric characteristics of this questionnaire in a research. They obtained Cronbach's alpha coefficient for the factors of this questionnaire between 0.63 and 0.77 in the student sample and between 0.62 and 0.76 in the student sample. Also, in order to achieve a three-factor structure, principal components analysis was performed with the Varimax rotation method. 11 questions were removed due to factor loading less than 0.3 or due to significant and equal loading on more than one factor, and finally, the analysis was based on the remaining 29 questions. In the present study, reliability was obtained using Cronbach's alpha coefficient of 0.78.

FRIEDBEN Test Anxiety Scale: The scale of Friedman and Bendas-Jacob (1997) was used to measure the test anxiety variable. This questionnaire has 23 questions and its purpose is to measure different dimensions of testanxiety (social humiliation, cognitive error, tension). The response range was of Likert type and the score for each question was from 0 to 3. In this scale, the lowest score is 0 and the highest possible score is 69. The validity of the current scale was confirmed using the factor analysis method. Also, its reliability coefficient was calculated as 0.91 using Cronbach's alpha. In the present study, reliability was obtained using Cronbach's alpha coefficient of 0.88.

To investigate the hypothesis of this research, the regression analysis was used and the results were applied at a significance level of 5% to generalize to the statistical population. The resulting data were analyzed in spss26 software. At first, the researcher obtained the informed consent of all participants in written and verbal form.

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Results

200 high school students participated in this research, 43% of them were girls and 57% were boys. Also, their average age was 17.24 (years). In order to use regression analysis, it is necessary to check and confirm its most important presuppositions;

1. Durbin-Watson's test was used to check the autocorrelation in the residuals from a regression analysis and a value equal to 1.769 was obtained.

2. Shapiro-Wilk test was used to show the normality of data distribution. The statistical value of this test was higher than 0.05, which indicates the normality of data distribution.

3. Pearson's correlation test was used to check the correlation between variables. The correlation between resilience and learned helplessness variables was equal to -0.53 and the correlation between test anxiety and learned helplessness variables was equal to 0.34, both values were within the significance range of 0.01. Based on this, the existence of a significant relationship between predictor and criterion variables was confirmed.

Considering the confirmation of the three underlying assumptions, the implementation of the regression analysis seemed unimpeded. The results of regression analysis for predicting learned helplessness are presented in Table 1.

Table 1. Results of regression analysis to predict learned helplessness.

Predictors	B	β	SE	t	P
Constant	92.58	6.70			0.001
Academic resilience	-0.38	-0.48	0.05	-7.64	0.001
Test anxiety	0.30	0.21	0.08	3.47	0.001

As can be seen in Table 1, the standard regression weight for the academic resilience variable with a negative sign is at an acceptable level of significance. This finding means that the academic resilience variable inversely predicts learned helplessness. In other words, as the level of academic resilience increases, it is expected that the level of learned helplessness will decrease. According to the other results listed in Table 1, the standard regression weight for the test anxiety variable with a positive sign is at an acceptable level of significance. This finding means that the test anxiety variable directly predicts learned helplessness. In other words, as the level of test anxiety increases, it is expected that the level of learned helplessness will increase.

The above results show that the two variables used in this research separately predict the criterion variable. But to show the simultaneous effects of two variables, the summary indices of the regression model should be calculated and reported. The summary indices of the regression model are reported in Table 2.

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Table 2. Regression model summary indicators

Indices	F	P	R	R^2	Indices
Model	46.30	0.001	0.56	0.32	Model

According to the value of R^2 in Table 2, it is clear that 32% of the changes in the criterion variable are explained by the predictors of the model. Based on the results obtained in the findings section, the hypothesis of this research is confirmed: Learned helplessness is significantly predicted based on academic resilience and test anxiety among students who experience academic failure.

Discussion

This research showed that resilient students and those with lower test anxiety are less at risk of learning helplessness. The present finding is in line with the findings of Amirian et al. (2018), Atadokht et al. (2014), and Sorrenti et al. (2018)

In the explanation of the first part of this research, it can be said resilience as a process is the ability to successfully adapt to threatening conditions and, in other words, positive adaptation in response to adverse conditions, which significantly reduces the psychological pressure and stress of students and motivation (Jahed Motlagh et al., 2015). On the other hand, learned helplessness occurs less in environments free of mental pressure and stress and in a dynamic educational environment. In fact, a student who is resilient continues the path by taking advantage of his favorable mental conditions and with sufficient motivation and is less likely to suffer from helplessness. Learned helplessness in education refers to learners who do not associate effort with achievement. They are learners who think that no matter what they do, they will not achieve success (Ghaedi et al., 2016). It is clear that a student who considers himself to have reached a dead end and considers academic progress impossible for him, has not been able to show resistance against unfortunate factors (in the academic environment) and has weak resilience. In fact, the underlying structures of academic resilience are the same negative predictors of learned helplessness. Based on recent explanations, the prediction of learned helplessness by academic resilience seems reasonable.

In the explanation of the second part, we can say based on the existing theories, test anxiety has two basic factors, worry and excitability, and it affects the students' ability to concentrate and memory. and reveal his real intelligence (Hagh-Shenas et al., 2009). The common denominator between test anxiety and learned helplessness is the belief that success is impossible, and the functions of test anxiety and learned helplessness on people's psyches have a lot in common. Javadi

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Mordraz and Kurdi (2014) have stated in this regard that the anxiety of the exam causes emotional and psychological disorders in the student and causes him to become mentally and even physically unbalanced and as a result he cannot cope well with the exam. . Based on this, a student who has exam anxiety tries to stay away from the stressful environment in order to relieve his anxiety. Also, a person suffering from learned helplessness is unable to solve problems and is far from problem solving situations. Therefore, it seems that test anxiety can directly predict learned helplessness. Based on the explanations made and in a general conclusion, it can be stated underachieving students who behave anxiously in exam situations and at the same time have a low level of resilience are more at risk of learning helplessness. Based on this, by implementing experimental methods, the level of academic resilience should be increased among the students with academic failure, and also by using strategies to reduce anxiety, they should avoid suffering from learned helplessness.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Ethics statement

The studies involving human participants were reviewed and approved by ethics committee of Islamic Azad University of Bandar Abbas.

Author contributions

MA contributed to the study conception and design, material preparation, data collection and analysis. The author contributed to the article and approved the submitted version.

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Conflict of interest

The author declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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