Original Article

IEEPJ Vol. 5, No. 3, 2023, 199-222

http://ieepj.hormozgan.ac.ir/

Iranian Evolutionary and Educational Psychology Journal

IEEPJ

Examining The Attributional Style as a Mediator of the Relationship Between Supportive Self-Environment and Academic Self-Regulation

Atefa Parse[1], Kazem Barzegar Bafrooei[2]*, Hossein Hassani[3]

1- MA Student, Faculty of Psychology and Educational Sciences, Yazd University, Yazd, Iran

2- Associate Professor, Faculty of Psychology and Educational Sciences, Yazd University, Yazd, Iran

3- Assistant professor, Faculty of Psychology and Educational Sciences, Yazd University, Yazd, Iran

* Corresponding author's Email: k.barzegar@yazd.ac.ir

Abstract: The aim of this study was to explore the role of attributional style as a mediator in the relationship between a supportive self-environment and academic self-regulation among female students at Yasuj Farhangian University. This research is grounded in an applied approach, utilizing a descriptive-correlational methodology alongside path analysis. The study's target population encompassed all female students at Yasuj Farhangian University in 2021, with a sample of 300 individuals selected through convenient sampling method. Data collection involved the administration of the Attributional Styles Questionnaire (ASQ), the Self-supportive Environment Scale (Assor et al., 2002), and the Self-Regulation Learning Strategy Scale (Zimmerman and Martinez-Pons, 1988). To investigate the proposed model, multiple regression and path analysis techniques were employed. The study's findings revealed several noteworthy results. Firstly, it was observed that a self-supportive environment had both a direct and significant effect on fostering an optimistic attributional style and simultaneously had a direct and significant influence on reducing pessimistic attributional style ($p<0.05$). Furthermore, the study unveiled that the self-supportive environment wielded a significant direct and indirect effect on academic self-regulation ($p<0.05$). Additionally, the results indicated that an optimistic attributional style had a direct and significant effect on academic self-regulation, and similarly, a pessimistic attributional style exhibited a direct and significant effect on academic self-regulation ($p<0.05$). In sum, this research underscores the significance of perceiving a self-supportive environment in shaping students' attributional styles, ultimately contributing to the enhancement of academic self-regulation.

Keywords: Attributional Styles, Self-Supportive Environment, Academic Self-Regulation, University students

Introduction

Nowadays, education and learning are considered to be some of the most basic activities in progressive societies. Every person should dedicate a portion of their day, roughly one-third, to acquiring knowledge because the survival and longevity of any society depends on the acquisition and application of information in daily life. Learning is one of the two most crucial aspects of human growth and survival. Also, one of the most basic requirements for learning and achieving success is Academic Self-Regulation. Academic self-regulation is a cognitive and motivational process that enables students to complete homework and daily activities by planning, organizing, and self-evaluating in a task-oriented manner. Through self-directed learning skills, these students can be aware of the usefulness of specific strategies for problem-solving and effective learning (Meltzer, 2004).

Article information: Received: 2022/08/28 | Accepted: 2023/05/29 | Published: 2023/09/01. https://doi.org/10.52547/ieepj.5.3.199

Academic self-regulation in learning is a category that addresses the role of individuals in the learning process, emphasizing the autonomy and responsibility of students to advance their learning. Learners can adjust their learning process and monitor and regulate different aspects: cognition, motivation, behavior, and the environment around them. Learners who have more skill in self-regulation can actively direct their learning experiences in various ways. They use appropriate monitoring strategies and when necessary, they change the learning strategies according to their needs, task characteristics, and environmental conditions. These learners can successfully stabilize and increase their motivation level while engaged in performing homework (Mooij, 2019). It's a very important issue for any education system to ensure that students are able to learn and progress effectively. The success and self-regulation of education in any society are indicative of the success of the educational system in setting goals and addressing individual needs. Academic self-discipline is described as the source of purposeful actions and the heart of scientific processes (Ziegler & Opdenakker, 2018). Some of its basic components are monitoring, controlling, and planning one's behavior (Peverill et al, 2017). Self-regulation enables individuals to adjust their behavior and actions, controlling and performing as necessary to achieve their set goal (Pintrich & DeGroot, 1990). According to Cliff et al. (2018), childhood is a critical period for the development of self-discipline, and individuals who develop self-discipline at a young age tend to perform better in adulthood. Furthermore, Skibbe et al. (2018) showed that a high level of self-regulation predicts a high level of academic, cognitive, and social results.

Ziegler and Opdenakker (2018) acknowledge that self-regulated students are able to evaluate their progress by selecting an appropriate learning strategy and adjusting their behavior accordingly, or changing their learning approach based on the chosen strategy. These students have skills that help them to learn effectively in university and life, and they have certain characteristics that distinguish them from other students who do not have these skills. These characteristics include 1) using cognitive strategies, 2) managing and organizing time effectively, 3) planning and controlling mental processes to achieve personal goals, 4) creating suitable learning environments, and 5) making sufficient effort to manage and adapt educational and classroom programs. By specifying a set of academic goals, self-regulated learners can control and evaluate their activities and use metacognitive strategies to achieve the specified goals (Bordbar & Yousefi, 2014).

Reeve et al. (2004), drawing on the sub-theories of self-determination theory (Deci & Ryan, 1985), provided an explanation of academic self-regulation and academic progress, proposing the dialectical framework model. According to them, the starting point for understanding the concepts of motivation and engagement in self-determination theory is to pay attention to the fact that learners have internal

[DOR: 20.1001.1.25884395.2023.5.3.16.7]
[DOI: 10.22034/5.3.199]

motivation resources (intrinsic and acquired) and can involve themselves in learning environments in a constructive way.

The learning environment, in turn, provides conditions to support those sources of internal motivation that learners bring to the classroom (self-supportive environment) or ignore (inhibiting environment). Therefore, the motivation, engagement, and academic self-regulation of learners and the learning environment affect each other (Reeve, 2017). Numerous studies have shown that students with academic self-regulation actively use learning strategies and have higher academic progress than students who do not have academic self-regulation (Bahadran, 2019). Khadevi and Mafakheri (2011) showed that individuals with higher levels of academic self-regulation tend to have better academic progress. What is important in examining and understanding self-regulation and academic progress is identifying the factors that are among the antecedents affecting it (Kapour, 2018).

Numerous studies have examined the factors that affect academic self-regulation in educational learners, identifying various antecedents that play a significant role. Academic self-regulation is considered a strong predictive factor for academic achievement (Lee et al, 2014). The background of the research indicates that self-regulation is strongly related to academic progress and that academic progress can be predicted through self-regulation (Mardali & Kushki, 2008). Self-regulation is the only self-consequence learning strategy that predicts academic performance. Self-regulation is a predictor of procrastination, while the learning strategies of reviewing points, self-evaluation, self-consequence, and reviewing the text of books are also predictors of procrastination (Mansourian, Behrouzi, & Shahni, 2009). Teacher support, parental support, and communication with classmates have a direct and significant effect on basic psychological needs, influencing students' self-control. Self-control, cohesion, lack of academic motivation, and academic excitement have a direct and significant effect on school well-being. Additionally, self-control, competence, cohesion, internal academic motivation, and external academic motivation have an indirect and significant effect on school well-being (Kausian, Kadivar, & Farzad, 2011).

The findings of Bahrami and Badri's research (2017) also indicate the effect of the perception of the learning environment in improving students' cognition, metacognition, progress motivation, and self-efficacy to achieve academic vitality. Self-efficacy and academic progress are directly related, and self-efficacy for self-regulated learning is significantly related to self-regulation subscales. Additionally, resource management has a significant relationship with academic outcomes (Los, 2014). Martic (2018) stated that self-regulation provides the necessary tools to achieve goals that can result from self-interest or social demands. There are significant differences between the four clusters in academic performance: step-by-step cognitive processing strategies, external self-regulation strategies, epistemic learning

[DOR: 20.1001.1.25884395.2023.5.3.16.7]
[DOI: 10.22034/5.3.199]

emotions, and active learning emotions (Rienties et al., 2019). Stefansson et al. (2018) found that the self-supportive environment and self-regulation are related and have a two-way relationship. Therefore, one of the important factors in academic progress is the self-supportive environment (Zalali & Ghorbani, 2014). A self-supportive environment means an environment in which the self-following motivations of learners (interests, needs, preferences, and personal goals) are supported (Assor et al., 2012). A self-supportive environment is a place where students can achieve a wide range of learning outcomes, such as developing an active lifestyle, acquiring motor skills, and cultivating positive values (Jang et al. 2015). Assor (2012) introduces the three characteristics of a provision of choice, a provision of criticism, and a provision of goal/value/interest examination as important characteristics of a self-supportive environment in learning. The provision of choice means providing an environment where a person can choose from among different options. The provision of choice means providing an environment where a person can choose from among different options. The provision of choice means providing an environment where a person can choose from among different options. Various research has highlighted the important role of a self-supportive environment for academic self-regulation (Federici & Skaalvik, 2020; Tze et al., 2014). The self-supportive environment has a direct effect on the processes of one's system and academic conflict and an indirect effect on academic conflict through the processes of one's system and academic emotions (Bordbar & Yousefi, 2014).

The self-supportive environment has a direct and significant effect on basic psychological needs and academic well-being, and basic psychological needs also have a direct and significant effect on academic well-being. Also, the self-supportive environment through the mediating variable of basic psychological needs has an indirect effect on student's academic well-being (Mirzaei et al., 2019). There is a significant relationship between self-supportive environments and students' involvement, enthusiasm, and academic performance (Wang & Eccles, 2013). Studying in a self-supporting environment with the provision of choice, provision of criticism, and a provision of goal/value/interest increases the level of academic engagement and academic self-regulation in students (Dincer et al., 2012). There is a reciprocal relationship between students' performance and engagement and the learning environment, and a self-supportive environment that takes into account students' interests, needs, preferences, and personal goals can lead to higher academic performance (Skinner et al., 2009). Optimal teaching approaches, such as independence-supportive behaviors, are crucial in enhancing learning outcomes.

In various research, the effective role of a self-supportive environment on engagement, enthusiasm, and academic performance has been emphasized (Wang & Eccles, 2013). Autonomy theory states that environments that are perceived as self-supportive lead to a high sense of competence and independence, and will ultimately promote high levels of internal motivation. In this regard, the self-supportive

[DOR: 20.1001.1.25884395.2023.5.3.16.7]
[DOI: 10.22034/5.3.199]

environment of students allows them to make independent decisions and make decisions freely and more easily in expressing their opinions and attitudes (Jang et al., 2016). Attributional style refers to how people explain or attribute the causes of good and bad events (Menec et al., 2018). It is also a process based on which people make decisions about the causal factors of an incident or event, including ability, effort, level of difficulty, and responsibility (Menec et al., 1994; Weiner, 2013). The attributional style encompasses a broad range of concepts, principles, and beliefs that are concerned with how people make inferences about the causes of their own and others' behaviors (Forsterline, 2010). Teaching attributional styles can help learners gain a better understanding of the factors that contribute to their successes and failures, and enable them to work on strengthening or weakening these factors within themselves (Kimiaei & Gharib, 2013). Therefore, one of the important educational goals is to provide learners with a foundation in logical and positive attributional styles, which can enhance their learning and personal development.

By identifying the attributional style of educational learners, it is possible to both predict their behavior and provide a framework for changing their behavior (Nikpay, et al., 2017). Attributional styles can be modified with the assistance of psycho-educational programs that combine psychological and educational approaches (Proudfoot et al., 2009). Moreover, learners' attributional styles, despite their importance in shaping daily experiences, self-regulation, and academic progress (Fredrickson, 2019), have been overlooked or given insufficient attention. Attributional style is a factor that can influence people's self-regulation in both educational and organizational contexts. Ahanchian et al. (2013) found a link between attributional styles and academic self-regulation among students. Teaching self-regulation strategies to students can help promote a logical and positive attributional style (internal, unstable, and controllable attributions) that enhances learning, fosters a sense of responsibility for educational outcomes, and encourages reflection on the consequences of one's actions. Because teaching self-regulation strategies reduces the pessimistic attributional style and increases the dimension of internal attributions for positive events (Aghili & Nasiri, 2013). One of the important educational goals is to teach students a logical and positive attributional style that enables them to understand the causes of their successes and failures and to work on improving or reducing these factors. From the point of view of attributional theorists, humans tend to interpret and justify the world around them so that they can have more control over it; because people's reactions to situations are influenced by their perceptions and cognitive evaluation of those situations (Perry et al., 2019).

According to Heider (2013), humans have two main types of attributions or ways of interpreting behavior, internal and external. In internal attributions, behavior is attributed to individual characteristics and internal, stable, and general causes, and in the style of external documents, it is attributed to

[DOR: 20.1001.1.25884395.2023.5.3.16.7]
[DOI: 10.22034/5.3.199]

environmental and social pressures and external, unstable, and specific causes. People who provide internal, consistent, and general explanations for bad events have a pessimistic explanatory style. Conversely, people who explain bad events based on external, variable, and specific causes have an optimistic attributional style. Furthermore, students who attribute academic progress to personal efforts (internal attribution) use metacognitive self-regulation strategies more and process learning topics more deeply (Schunk & Ertmer, 2000). Students who tend to attribute their academic progress to uncontrollable factors and engage in lower efficiency and more superficial learning tend to use cognitive self-regulation strategies more frequently (Vermunt & Vermunt, 2004).

In this regard, Kimiaei and Gharib (2013), in their research on the relationship between self-regulation strategies and students' attributional style, concluded that students with a favorable and internal attribution style use more metacognitive strategies. Furthermore, attributing negative events to unstable and specific factors is related to high academic performance while attributing positive events to stable and general factors is associated with high academic performance (Shahni et al., 2010). Of the three styles of internal attribution (stable, general, and internal), only the internal attribution style can predict the implementation and planning dimension of self-regulation, while none of the attribution styles can predict the research and evaluation dimension of self-regulation (Ahanchian et al., 2013). Among the different dimensions, there is a negative correlation between internal and external styles in unpleasant situations with academic progress, and there is a positive and significant correlation between general and specific attributional styles in unpleasant situations with academic progress. Among the different dimensions of defensive styles, developed defensive styles have a significant positive correlation with academic progress, and neurotic defensive styles have a significant negative correlation with academic performance (Zand Menshi & Azadi, 2015).

The relationship between attachment styles and self-efficacy is associated with success and high attributional styles. Attachment anxiety is associated with low academic self-efficacy and maladaptive characteristics that may contribute to underachievement. Avoiding attachment can be associated with negative attributions about oneself and a tendency to attribute success to external factors, as well as attributing failure to one's lack of superior qualities (Kogut, 2016). Van Petgen's research (2019) investigated how teenagers respond to parental regulations and the role of communication styles, and the right to self-determination, the findings indicated that teenagers reported lower levels of satisfaction with autonomy, higher levels of frustration with autonomy, less perceived legitimacy of parental regulations, and greater resistance to parental regulations. Additionally, adolescents reported higher autonomy, autonomy frustration, greater legitimacy, less resistance, and more negotiation. The research results of Sterling and Travis (2020) indicate gender differences in attributional styles. On the other

[DOR: 20.1001.1.25884395.2023.5.3.16.7]
[DOI: 10.22034/5.3.199]

hand, based on the findings of previous research, attributional styles, and self-regulation can also predict academic procrastination (Pourkmali, 2012).

By studying the theoretical background and previous research, on the one hand, we can reach these general results that the self-supportive environment and its components (the provision to choose, the provision to criticize, the provision to test goals/values/interests) have a significant direct effect on academic variables (academic self-efficacy, it motivates academic progress, academic involvement, etc.). Furthermore, it is capable of predicting various academic variables, including motivational self-regulation, academic vitality, school well-being, and academic self-efficacy. Optimistic attributional style also has a positive relationship with academic self-regulation, academic vitality, and academic performance, and a negative relationship with academic procrastination and academic burnout. Pessimistic attributional style also has a negative relationship with academic self-regulation, academic vitality, and academic performance, and a positive relationship with academic procrastination and academic burnout.

The study examines how attributional styles, expressed in response to positive or negative events in life, mediate the relationship between the self-supportive environment and academic self-regulation among female students at Farhangian University of Yasouj. The results suggest that a closer relationship between these three factors can lead to better academic compliance and self-regulation, which can have positive effects on the student's education and lifestyle. Therefore, it is expected that the self-supportive environment, in which students are given the provision of choice, criticize, and test their goals/values/interests, affects academic self-regulation; finally, it is expected that environmental factors (self-supporting environment) will be effective on students' academic self-regulation through the mediation of attributional styles. The current study intends to present a comprehensive model based on these variables and investigate the direct and indirect effects of the self-supportive environment on academic self-regulation with the mediating role of attributional styles. Therefore, according to the stated content, the main question of the research is whether attributional styles have a mediating role in the relationship between the self-supportive environment and academic self-discipline of the female students of Farhangian Yasouj University.

Material and Methods

The current research is of applied purpose type in terms of methodology, descriptive correlation, and path analysis. The statistical population of this research consisted of 1100 female students of Farhangian University of Yasuj City in the academic year of 2014-2016. According to Karjesi and Morgan's table (1987), 285 people were selected by the available sampling method (due to the restrictions of the

[DOR: 20.1001.1.25884395.2023.5.3.16.7]
[DOI: 10.22034/5.3.199]

coronavirus and the lack of full-time presence of all students in universities). Taking into account the dropout of the sample and some questionnaires and the lack of full responses, the number of samples was increased to 320 people. Finally, after discarding the defective questionnaires, 300 female students of the Farhangian University of Yasouj were included in the research and analysis. Gender and educational level were controlled. The criterion for entering the research was studying at the undergraduate level of Farhangian University of Yasuj in the academic year of 2014-2015 and consent to cooperation, and the criterion for exiting was unwillingness or withdrawal from participating in the research. In this research, the field method and reference to the library were used in different stages.

In this way, first, the records of the subject were examined in the library, and after confirming the questionnaires and their validity and reliability, in the field, obtaining a letter of introduction from Yazd University and issuing the necessary permits from the Farhangian University of Yasouj, the distribution of questionnaires among the statistical sample and data collection was carried out, observing the ethical considerations. After the preliminary acquaintance and establishing a brief communication with the students, points were presented about the scales, the purpose and necessity of accuracy in answering, the importance of their cooperation, and the reasons for their selection in the sample. The subjects were assured that their answers would remain confidential, so they were asked to complete the questionnaire honestly. If they encounter any ambiguity while completing the questionnaire, ask the researcher to give more explanation. Finally, SPSS-24 statistical software, descriptive statistics (mean, standard deviation), and inferential statistics (Pearson correlation, multivariate regression, and path analysis) were used to analyze the collected data. To analyze the collected data, SPSS-24 and AMOS statistical software were used at the level of descriptive statistics (prevalence, percentage, mean, standard deviation) and inferential statistics (Pearson correlation, multivariate regression, and path analysis). In this research, three questionnaires were used to collect data, which are:

Attribution Styles Questionnaire (ASQ) by Peterson, Seligman, and Abramson (1984): The Attributional Styles Questionnaire (ASQ) is a self-report instrument and was first developed to measure people's attributions for uncontrollable events by Peterson et al. (1984). Its initial form had 48 phrases, which during the normalization of Hibet Elahi (1973), in Iran, its number was reduced to 36 phrases, 18 of which are related to pleasant (positive) situations and 18 of which are related to negative (unpleasant) situations. In this questionnaire, each item is graded from 1 to 7. For each of the 6 positive positions, 1 is the lowest ranking and 7 is the highest or best option for the positive dimension. For 6 negative situations, the scoring is reversed. Therefore, for negative situations, a score of 1 is the highest or best option, and a score of 7 is considered the lowest and the worst option. To calculate the total score of positive experiences, first, the scores of all positive situations are added together and then divided by

[DOR: 20.1001.1.25884395.2023.5.3.16.7]
[DOI: 10.22034/5.3.199]

their number. The highest score of positive experiences is 21 and the lowest is 3. The total score for negative events is calculated by adding the scores of negative situations and dividing them by their number. The highest score for negative events is (3) and the lowest is (21). To calculate the total score of events, the total score of positive experiences is subtracted from the total score of negative experiences. The best score for all events is (+18) and the worst is (-18). Peterson and Seligman (1984) reported the reliability of this questionnaire using Cronbach's alpha method of 0.89. Hibet Elahi (1973) reported the validity of this questionnaire as satisfactory after implementing it on 20 students. Bridge (2001) reported a Cronbach's alpha coefficient of 0.8 for the attributional style questionnaire. Islamic Shahr Babki (1991), during the research with this scale, Cronbach's alpha coefficient was obtained for internal failure position 0.75, stable failure position 0.43, general failure position 0.73, and in internal success position 0.74, stable success position 0.56 and overall success position 0.76. In the present study, Cronbach's alpha test was used to check the reliability of the questionnaire, which was equal to 0.82 because it is higher than 0.7, so the reliability of the questionnaire was confirmed.

Questionnaire of the self-supporting environment followed by Asour et al. (2002): To measure the characteristics of the self-supporting environment, three important aspects (a provision of choice, a provision of criticism, and a provision of goal/value/interest) were measured. Each of the scales has seven items that are scored on a five-point Likert scale from 1 (completely disagree) to 5 (completely agree). Asur (2012) examined the validity and reliability of three scales. In Asur's (2012) research, the confirmatory factor analysis method was used to check the validity of the questionnaire and the results showed the satisfactory validity of the questionnaire. To check the validity, Cronbach's alpha coefficient was calculated for each scale. The values of these coefficients were equal to 0.64, 0.70, and 0.65 for the scales of provision of choice, the provision of criticism, and the provision of goal/value/interest, respectively. In Bordbar and Yousefi's research (2014), confirmatory factor analysis was used to check the validity of the self-supportive environment questionnaire, and Cronbach's alpha coefficient was used to check the validity of the questionnaire. The results of confirmatory factor analysis showed that all items have a significant factor load higher than 0.35 ($P<0.001$). The fit indices of factor analysis in their research were GFI=0.93, CFI=0.93, NFI=0.90, IFI=0.93, TLI=0.91, and RMSEA=0.05, which indicate the appropriate validity of this questionnaire. The value of Cronbach's alpha coefficient for the provision of choice was 0.85, the provision of criticism was 0.68, the provision of goal/value/interest was 0.77 and the entire questionnaire was 0.86. In the current study, the Cronbach's alpha coefficient of this questionnaire was 0.78, which indicates good reliability.

Self-Regulated Learning Strategies Questionnaire (SRLS) by Zimmermann and Martinez-Pons (1988): The mentioned scale has 27 items, the first 24 items are related to fourteen self-regulated

[DOR: 20.1001.1.25884395.2023.5.3.16.7]
[DOI: 10.22034/5.3.199]

learning strategies, and the total score of the individual is the sum of these 24 items. These strategies include self-evaluation, organizing and transferring, goal-setting and planning, note-taking and self-control, searching for information, organizing the environment, self-consequence, mental review, and memorization, seeking help from peers, seeking help from the teacher, seeking help from adults, reviewing notes, notes, and pamphlets, reviewing homework and exams, and reviewing textbooks. The scoring of this questionnaire in a direct and Likert-type manner includes the options rarely, occasionally, often, and most of the time, which are assigned scores of 1, 2, 3, and 4, respectively. The validity of this scale was reported as satisfactory by Zimmermann and Martínez-Pons (1988) and Pintrich and DeGroot (1990). Pintrich and DeGroot (1990), in their research, reported the correlation between self-regulated learning strategies with self-efficacy and intrinsic values as r-0.44 and r-0.73, respectively, which indicates the high validity of this questionnaire. In Iran, Mansourian (1387) used the general self-efficacy questionnaire to check the validity of this questionnaire and reported the correlation coefficient between self-regulation learning strategies and the general self-efficacy questionnaire as r-0.266, which is significant at the P-0.001 level and shows the validity of this questionnaire. Furthermore, Mansourian reported the reliability coefficient of this questionnaire using Cronbach's alpha method as 0.78, which indicates the accuracy of the questionnaire (as cited in Samiarian, 2007). In the current study, Cronbach's alpha coefficient for this questionnaire was 0.83.

Ethical considerations: This study is approved by the ethical code number (IR.YAZD.REC.1401.099) from Yazd University Ethics Committee. In this research, the principles of information confidentiality, obtaining informed consent, and having the right to withdraw from the research were observed at every stage of time. Subjects' participation in this project was voluntary. Data on individuals were analyzed anonymously. Moreover, the members were assured that the information from the questionnaires will only be used based on the research purposes.

Results

The frequency and percentage of age groups, the status of academic fields, and the economic status of the sample group are shown in Table 1.

Table 1. Distribution of the Frequency of the Studied Sample by Age, Status of Academic Fields, Economic Status

Variable	Levels	Frequency	Percentage	Variable	Levels	Frequency	Percentage
Age	18 to 20 years	94	31	Degree status and	Bachelor of Counseling	87	29
	21 to 22 years	88	29		Secretary of Persian literature and language	59	20

[DOR: 20.1001.1.25884395.2023.5.3.16.7]
[DOI: 10.22034/5.3.199]

	23 to 24 years	118	40	academic fields	BA in geography	69	23
	Total	300	100		BA in history	48	16
The economic situation	Good	51	17		BA in Biology	37	12
	Average	130	43		Total	300	100
	Poor	119	40				
	Total	300	100				

The results of the questionnaires on attributional styles, self-supportive environment, and self-regulated learning strategies based on the mean and standard deviation are presented in the following tables.

Table 2. Descriptive Findings of Attributional Styles, Self-Supportive Environment, and Academic Self-Regulation

Variable	Mean	SD
Optimistic attributional style	39.79	4.13
Pessimistic attributional style	17.61	3.49
The total score of the self-supportive environment	33.84	4.48
The subscale of Provision of Choice	18.17	3.33
The subscale of Provision of Criticism	17.08	3.37
The subscale of the Provision of goal/value/interest examination	14.64	4.92
Academic self-regulation	67.41	6.36

The correlation coefficient and path analysis method were used to test the hypotheses. In using the statistical method (parametric or non-parametric), first, the data was tested and investigated for normality using the Kolmogorov-Smirnov one-sample statistical test. If the data is normally distributed, one of the most important assumptions of parametric tests is met. The significance levels obtained for each of the research variables were greater than 0.05, the data of all variables were normal, and parametric tests can be used to test each of the variables. The bootstrap test was used to analyze the effect of mediating variables. The results of the initial screening of the data (which included examination of outliers and missing data) showed that despite the researcher's emphasis on the importance of completing the research questionnaires in full, some of the questionnaires had a small number of unanswered items. Some of these items were completed using the replacement method with the average, while others were excluded from the analysis due to not meeting the expectations of the researcher and the objectives of the study, as well as being impractical. Mahalanobis distance index was used to identify multivariate outlier data. The Mahalanobis distance measures the distance of each item from the center of the distribution, taking into account the covariance structure of the data (Mirzaei et al., 2019). Based on this approach, cases with Mahalanobis distance indices smaller than 0.05 and identified as multivariate outliers were removed from the analysis. The normality of the distribution of variables was established and accepted at the sample level based on the skewness and kurtosis values, using an accepted criterion for normality assessment. Additionally, due to the large sample size (more than at least 200 people), the assumption of normality can be considered negligible. A scatterplot matrix was used to detect the linearity of the relationships between the variables. It was found that all the scatterplots

[DOR: 20.1001.1.25884395.2023.5.3.16.7]
[DOI: 10.22034/5.3.199]

were almost elliptical, indicating a linear relationship between the research variables. To investigate the hypothesis that which of the dimensions of the self-supportive environment through attributional styles has a direct and indirect effect on academic self-regulation; First, Pearson's correlation coefficient method and then path analysis were used.

Table 3. Correlation Coefficient Matrix Between Research Variables

Variable	1	2	3	4	5	6
1. Optimistic attributional style	1					
2. Pessimistic attributional style	-0.37**	1				
3. The total score of the self-supportive environment	0.34**	-0.29**	1			
4. The subscale of Provision of Choice	0.33**	-.024**	0.56**	1		
5. The subscale of Provision of Criticism	0.28**	0.28**	0.49**	0.55**	1	
6. The subscale of the Provision of goal/value/interest examination	0.42**	-.27**	0.60**	0.64**	0.58**	1
7. Academic self-regulation	0.30**	-.24**	0.22**	0.34**	0.51**	0.37**

The results in Table 3 indicate that there is a significant positive correlation (r=0.34, p<0.01) between the total score of the self-supportive environment and optimistic attribution. Furthermore, there are significant positive correlations between the sub-scales of provision of choice (r=0.33), provision of criticism (r=0.28), and provision of goal/value/interest examination (r=0.42) with optimistic attribution style (p<0.01). In addition, the results indicated a significant negative correlation (r=-0.29, p<0.01) between the total score of the self-supportive environment and pessimistic attributions. Moreover, there are significant negative correlations between the sub-scales of provision of choice (r=-0.24), provision of criticism (r=-0.28), and provision of goal/value/interest examination (r=-0.27) with pessimistic attribution style (p<0.01). Additionally, there is a significant positive correlation (r=0.30, p<0.01) between the score of optimistic attributions and academic self-regulation, and a significant negative correlation (r=-0.24, p<0.01) between pessimistic attribution style and academic self-regulation. Furthermore, there is a significant positive correlation (r=0.22, p<0.01) between the total score of the self-supportive environment and academic self-regulation, as well as significant positive correlations between the sub-scales of provision of choice (r=0.34), provision of criticism (r=0.51), and provision of goal/value/interest examination (r=0.37) with academic self-regulation (p<0.01). The proposed model consists of three types of variables: exogenous, mediator, and endogenous. The exogenous variables are the self-supportive environment. The mediator variables are optimistic attributions and pessimistic attributions, while the endogenous variable is academic self-regulation.

Table 4. The Value and Significance of the Path Coefficients of the Initial Model of the Proposed Path

Path	B	Beta	S.E	T value	p
Self- supports environment → academic self-regulation	0.23	0.15	0.02	2.72	0.007
Self-supportive environment→ Optimistic attributions	0.22	0.18	0.13	2.60	0.008
Self-supporting environment → pessimistic attributions	-0.18	-0.16	-0.08	2.48	0.009

[DOR: 20.1001.1.25884395.2023.5.3.16.7]
[DOI: 10.22034/5.3.199]

Optimistic attributions → Academic self-regulation	0.26	0.32	0.18	3.15	0.001
Pessimistic attributions → Academic self-regulation	-0.25	-0.28	-0.16	3.04	0.001

Based on Table 4, the path coefficients showed that there is a significant positive direct relationship between the self-supportive environment and optimistic attributions and a significant negative direct relationship between pessimistic attributions and academic self-regulation.

Table 5. Results of Direct and Indirect Effects and Total

Path	Direct effects	p	Indirect effects	Total effects
Self- supports environment → academic self-regulation	0.15	0.05	0.21**	0.36**
Self-supportive environment→ Optimistic attributions	0.18	0.05	-	0.18*
Self-supporting environment → pessimistic attributions	-0.16	0.05	-	-0.16*
Optimistic attributions → Academic self-regulation	0.32	0.01	0.25**	0.32**
Pessimistic attributions → Academic self-regulation	0.28	0.01	0.22**	0.28**

As can be seen in Table 5 and Figure 1, the self-monitoring environment has a direct and significant effect on both optimistic attributions (β=0.18) (p<0.05) and pessimistic attributions (β=0.16) and also has a direct and significant effect on academic self-regulation (p<0.05).

Also, the self-supportive environment has a significant direct (β=0.15) and indirect (β=0.21) effect on academic self-regulation at the (0.05) level; Furthermore, optimistic attributions have a direct and significant effect on academic self-regulation (β=0.32) and pessimistic attributions (β=-0.28) have a direct and significant effect on the level (p<0.01).

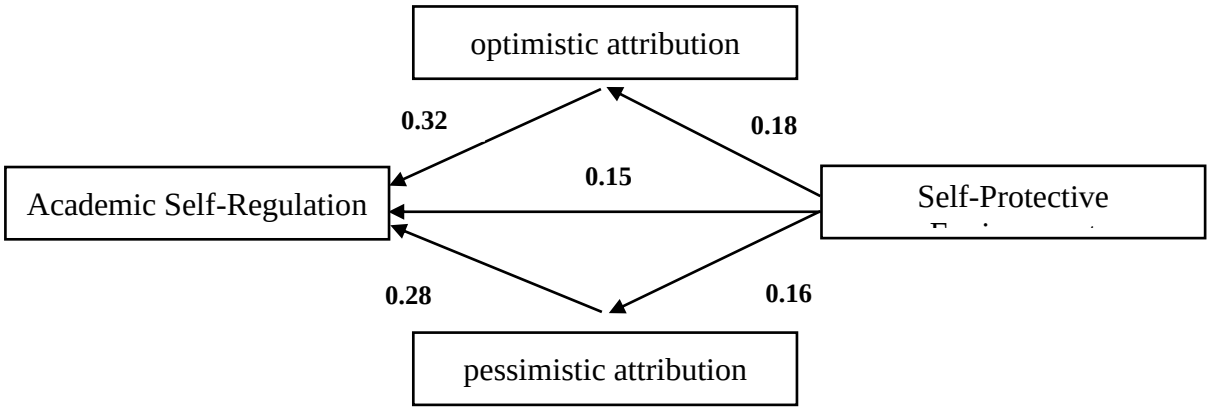

Figure1. Goodness of fit index model of standardized coefficients

According to Table 6, the Goodness of Fit Index (GFI) and Adjusted Goodness of Fit Index (AGFI) are both equal to 0.98 and close to one. The value of the Root Mean Square Residual (RMR) is equal to 0.03, which is very small. These indices indicate a good fit for the model. The Goodness of Fit Index (CFI) was obtained as 0.98. The size of the indices obtained from the structural model fit test indicates

[DOR: 20.1001.1.25884395.2023.5.3.16.7]
[DOI: 10.22034/5.3.199]

that the model fits well. A parsimonious comparative fit index (PCFI) was used to inform about model saturation; A research model that closely resembles the saturated model is generally less acceptable, as it may be overly complex and lack brevity. Such a situation may be inappropriate in terms of model selection and interpretation. The agreed value in this index is 0.5. The root mean square error of approximation (RMSEA) is equal to 0.01 and is less than 0.066, and this index also indicates a good fit of the model; If the lower limit index is less than 0.50 (with a tolerance of 0.07), this suggests that the research model is closer to the true statistical population. In other words, the model is more accurate and better represents the underlying data.

Table 6. Goodness of Fit Index (GFI)

RMR	RMSEA	PCFI	AGFI	GFI	CFI	CMIN/df	P	Df	CMIN
0.03	0.066	0.14	0.93	0.98	0.98	1.90	0.001	58	110/52

If the chi-square is not statistically significant and the ratio of the chi-square to the degrees of freedom is less than 2, it indicates the appropriate fit of the model, but this indicator is usually significant in large samples and therefore it is not considered a suitable indicator for the fit of the model.

Discussion

The present study aimed to investigate the mediating role of attributional styles in the relationship between the self-supportive environment and academic self-regulation of female students of the Farhangian University of Yasouj. According to the findings, the results of the research showed that the self-supporting environment has been able to have a significant indirect effect through attributional styles (optimistic-pessimistic). So, it can be concluded that the first hypothesis of the research is confirmed. Due to the newness of the research topic, the mediating role of attributional styles in the relationship between academic variables was not found to be consistent with the results of the current research.

Therefore, the results of the present research were in line with the findings of several previous studies, including, Zand Menshi and Azadi (2015), Pourkmali (2012), Shahni et al. (2010), Bahrami and Badri (2017), Mirzaei Fandekht et al. (2019), Bordbar and Yousefi (2014), Skinner et al. (2009), and Kausian et al. (2011). Consistent with the results of the present research, Zand Mensh and Azadi (2015) found that among the various dimensions of attributional styles, the internal-external style in unpleasant situations had a negative correlation with academic progress, while there was a positive and significant correlation between general and specific attributional styles in unpleasant situations and academic progress.

[DOR: 20.1001.1.25884395.2023.5.3.16.7]
[DOI: 10.22034/5.3.199]

In explaining the results, it should be said that the self-supportive environment includes having a sense of choice in starting, maintaining, and adjusting activities. When teachers assign assignments and provide students with two possible solutions to solve them, it can help students feel more independent, self-directed, and autonomous in their problem-solving efforts. Environments that are more self-supportive can help students feel a sense of freedom and lack of control, which can lead to better psychological and academic outcomes. For example, according to Downie et al. (2006), it seems that when people are self-directed about their reasons for their goals, their academic self-regulation and personal goals are more easily achieved. The theory of self-determination and self-supportiveness has been extensively tested in the field of parenting. Furthermore, in explaining the mediating role of attributional styles in the relationship between the self-supportive environment and academic self-regulation in students, it should be noted that the use of attributional styles, both optimistic and pessimistic, can predict students' future successes and failures regarding the self-supportive environment. The platforms and contexts that support or hinder students' needs and enable them to make choices and express their opinions directly can have a significant impact on their academic progress and mental well-being. This effect can be varied by the thinking style and attributional style of the person. Experiencing positive attributional styles in self-directed academic environments generally enriches the thought-action repertoire; During the learning activity, the learner's attention span, holistic attention processes, more adaptive cognitive strategies, and tendency behaviors increase and all of them lead to more involvement in the activity (Fredrickson, 2019).

Another aim of the research was to examine the relationship between the self-supportive environment and the optimistic writing style of the students. The results of the current research in this field showed that the self-supportive environment has a significant direct effect on optimistic attributions. Therefore, the self-supportive environment has a significant role in predicting the optimistic writing style of students positively, and this hypothesis is confirmed. Due to the newness of the research in the field of self-supporting environments and based on the searches conducted so far, no research was found that investigated the relationship between self-supporting environments and attributional styles. According to the obtained results and in explaining the positive relationship between the self-supportive environment and the optimistic attribution style of students, it can be said that based on the theory of self-determination, the social context affects the level of fulfillment of basic psychological needs. Environments, relationships, social situations, and cultures that satisfy the need for self-adherence are called "self-supportive", but if they ignore or frustrate people's need for self-adherence, they are called "controllers".

[DOR: 20.1001.1.25884395.2023.5.3.16.7]

[DOI: 10.22034/5.3.199]

According to the theory of self-determination, environments, and social contexts that allow individuals to act freely can lead to the fulfillment of basic psychological needs and an optimistic outlook (Rio, 2014). Conversely, external control can prevent the fulfillment of these needs and create a pessimistic attributional style in individuals (Gagné, 2003). Based on the theory of ecological systems and the theory of self-determination, social factors such as supportive environments can have a strong effect on the beliefs, behavior, and academic performance of students (Way et al., 2007); and it is expected to have a direct effect on basic psychological needs. Self-supportive environment means an environment in which learners' self-following motivations (interests, needs, preferences, and personal goals) are supported.

Another aim of the research was to investigate the relationship between the self-supportive environment and the students' pessimistic attribution style. The results of the current research in this field showed that the self-supporting environment has a significant direct effect on pessimistic documents. Therefore, the self-supportive environment has a significant role in predicting the pessimistic attributional style of students negatively, and this hypothesis is confirmed. These results were in line with the results of the research of Zand Menshi and Azadi (2015), Pourkamali (2015), and Shahni et al. (2010). Consistent with the obtained results, it can be inferred that students in non-supportive environments may have fewer opportunities to meet their basic needs, which can increase the likelihood of maladaptive behavior and the development of a pessimistic attributional style. Furthermore, the risk of engaging in antisocial behaviors may also be higher among these students.

The research of Zand Menshi and Azadi (2015) also emphasizes that among the different dimensions of dimensional styles, internal-external style in unpleasant situations has a negative correlation with academic progress, and neurotic defensive styles have a significant negative correlation with academic performance. The results of Pourkamali's research (2012) also showed that attributional styles and self-regulation can predict academic procrastination. Shahni et al. (2010) also reported similar findings in their research, showing that attributing negative events to stable, general, and internal factors can predict depression while attributing negative events to unstable and specific factors is related to high academic performance.

Another goal of the research was to investigate the relationship between the optimistic writing style and students' academic self-regulation. Optimistic attributional style has a significant direct effect on academic self-regulation. Therefore, the optimistic attributional style has a significant role in predicting students' academic self-regulation in a positive way, and this hypothesis is accepted. These results are consistent with the results of the research of Zand Menshi and Azadi (2015), Pourkamali (2015), and Shahni et al. (2010). Based on the results of the current research, Pourkamali's research (2013) showed that attributional and self-regulation styles can predict academic procrastination. Shahni et al. (2010)

[DOR: 20.1001.1.25884395.2023.5.3.16.7]
[DOI: 10.22034/5.3.199]

concluded that the attribution of negative events to unstable and partial factors was related to low academic performance, and the attribution of positive events to stable and general factors was associated with high academic performance. Also, these findings are inconsistent with the research results of Ahanchian et al. (2013). People with high academic self-regulation attributed their success to internal, stable, and controllable factors such as effort, and on the other hand, people with low academic self-regulation attributed their lack of success to external, unstable, and uncontrollable factors such as task difficulty. On the other hand, in explaining the obtained results, it should be said that people with a pessimistic attributional style and an external source of control do not see any cause-and-effect relationship between their behavior and events and consider luck, accident, or other people responsible for the results of their behavior, as a result, they do not accept responsibility for their actions and behavior and have low academic self-regulation. Therefore, a student who considers her poor grade in a course to be the result of the teacher's bias has a pessimistic attributional style and external control and therefore does not seek to solve the problem of her low academic self-regulation.

Another goal of the research was to investigate the relationship between the self-supportive environment and students' academic self-regulation. The results of the current research in this field showed that the self-supportive environment has a significant direct effect on academic self-regulation. Therefore, the self-supportive environment has a significant role in positively predicting students' academic self-regulation, and this hypothesis is confirmed. These results were in line with the results of Bahrami and Badri (2017), Mirzaei et al. (2019), Bordbar and Yousefi (2015), Skinner and Kiderman (2020), Kausian et al. (2011). In the same direction and in line with the results of the present study, Bordbar and Yousefi (2015) concluded that the self-supportive environment has a direct effect on the processes of self-management and academic conflict. Kausian et al. (2011) clarified that there is a significant direct relationship between environmental support and school well-being, motivational self-regulation, and academic excitement. In their research, Bahrami and Badri (2017) showed that the perception of the learning environment has a significant direct effect on cognition, metacognition, self-efficacy, academic vitality, and motivation to progress. Mirzaei et al. (2019), showed in their research that the self-supportive environment has a direct and significant effect on academic well-being. Moreover, Skinner et al. (2009) pointed out that there is a bidirectional relationship between students' performance and engagement and the self-supportive environment. A self-supportive environment that caters to students' interests, needs, preferences, and personal goals can lead to higher academic performance. Research in various fields has shown that a supportive environment has a direct and indirect effect on academic variables and can predict positive cognitive, emotional, and behavioral outcomes by affecting the quality of motivation (autonomous motivation) (Souesme & Ferrand, 2019). In general, the results of the

[DOR: 20.1001.1.25884395.2023.5.3.16.7]
[DOI: 10.22034/5.3.199]

research showed that the perception of the self-supportive environment is effective in improving the optimistic attributional style in students, to achieve academic self-discipline.

This research was conducted on the female students of the Farhangian University of Yasuj, and the generalization of its results to the students of other cities and provinces should be done with caution. This research was a correlational type of research, and for this reason, it is not possible to draw any conclusions from it. Considering this limitation, it is suggested to implement this plan in the form of an experimental plan in future research. Considering the results of predicting academic self-regulation based on predictor variables by gender, using structured or semi-structured interviews to collect data, especially about attributional styles, and conducting research on boys and the target group of other cities is recommended.

Intervention programs based on this model can play an important role in raising the level of academic self-regulation of students in the academic community of Iran by affecting the antecedents of academic self-regulation: the programs to create an environment that provides provision of choice, a provision of criticism, and a provision of goal/value/interest examination; educational programs that satisfy students' needs for competence, self-determination, and relatedness, as well as programs that create a positive emotional climate and foster an optimistic attributional style, can help students develop an enthusiastic for learning, enjoy exploring new ideas, and establish empathetic relationships with others.

Conflict of interest: The authors have no conflicts of interest relevant to the content of this article.

Financial sources: This research has received no financial support from any organization.

Acknowledgment: The authors would like to express their gratitude to all the participants and esteemed education officials who helped them in the research process.

[DOR: 20.1001.1.25884395.2023.5.3.16.7]

[DOI: 10.22034/5.3.199]

References

Aghili, S. M., Nasiri, E. S. (2013). The relationship between learning strategies and document styles with responsibility, *scientific-research quarterly social cognition, 9* (3), 489-455.

Ahanchian, M. R., Arfa, F., Bahmanabadi, S. (2013). The relationship between documentation style and self-regulation of nursing and midwifery students of Mashhad University of Medical Sciences in the academic year of 2010-2019. *Iranian Journal of Education in Medical Sciences, 14* (4), 350-362.

Assor, A. (2012). Allowing choice and nurturing an inner compass: educational practices supporting students' need for autonomy. In S. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 421-439). New York: Springer.

Assor, A., Kaplan, H., & Roth, G. (2012). Choice is good, but relevance is excellent: Autonomy-enhancing and supporting teacher behaviors predicting students' engagement in schoolwork. *British Journal of Educational Psychology, 27*, 261-278.

Bahadran, H. (2019). Mediating role of virtual networks in the relationship between academic self-regulation and academic progress in students. *Master's thesis in educational psychology*. Yasouj University.

Bahrami, F., Badri, M. (2017). The relationship between the perception of the learning environment and academic vitality with the mediating role of cognition, metacognition, progress motivation and self-efficacy in students, *Journal of Psychological Sciences, 5* (9), 189-212.

Bordbar, M., Yousefi, F. (2014). The mediating role of self-system processes and academic excitement in the relationship between supportive self-following environment and academic engagement, *Evolutionary Psychology: Iranian Psychologists, 13* (94), 13-28.

Bridge, A. (2001). Psychometric properties of the Attributional Style Questionnaire. *Journal of Personality Assessment, 76*(1), 115-127.

Cliff, D. P., Howard, S. J., Radesky, J. S., McNeill, J., & Vella, S. A. (2018). Early Childhood Media Exposure and Self-Regulation: Bi-Directional Longitudinal Associations. Academic Pediatrics.

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and determination in human behavior*. Plenum

Deci, E. L., & Ryan, R. M. (2006). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.

Dincer, A., Yesilyurt, S. & Takkac, M. (2020). The effects of autonomy-supportive climates on EFL learners' engagement, achievement and competence in English speaking classrooms. *Social and Behavioral Sciences, 46*, 3890-3894.

Downie, M., Koestner, R., Horberg, E., & Haga, S. (2006). Exploring the relation of independent and interdependent self-construal to why and how people pursue personal goals. The Journal of social psychology, *146* (5), 517-531.

[DOR: 20.1001.1.25884395.2023.5.3.16.7]

[DOI: 10.22034/5.3.199]

Federici, R. A., & Skaalvik, E. M. (2020). Students' Perceptions of Emotional and Instrumental Teacher Support: Relations with Motivational and Emotional Responses. *International Education Studies, 7*(1), 21-36.

Forsterline, G. F. (2010*). Attribution retraining. A review Psychological Ballein*, 495- 685.

Fredrickson, B. L. (2019). Positive emotions broaden and build. In E. Ashby plan, & P. G. Devine (Eds.), *Advances on experimental social psychology* (pp. 1-53). Burlington: Academic Press.

Gagne, M. (2003). Autonomy support and need satisfaction in the motivation and well-being of gymnasts. *Journal of applied sport psychology, 15*(4), 372-390.

Heider, F. (2013). *The Psychology of interpersonal relations*: psychology press.

Hibet Elahi, A. (1973). *A study of attributional styles questionnaire* (Unpublished master's thesis), Tehran University, Tehran, Iran.

Islamic Shahr Babaki, H. (1991). A study on the attributional styles in Iranian students. [Persian]. *Research in Psychology, 4*(14), 32-43.

Jang, H., Kim, E. J., & Reeve, J. (2016). Why students become more engaged or more disengaged during the semester: A self-determination theory dual process model. *Learning and Instruction, 43*, 27-38.

Jang, H., Reeve, J., & Deci, E. L. (2015). Engaging students in learning activities: It is not autonomy support or structure but autonomy support and structure. *Journal of educational Psychology, 102*(3), 588.

Kapour, E. (2018). The economic side of social relations: Household poverty, adolescents' own resources, and peer relations. *European Sociological Review, 23* (4), 471-485.

Kausian, J., Kadivar, P., Farzad, V. (2011). The relationship between environmental and academic variables with school well-being: the role of psychological needs, motivational self-regulation and academic emotions. *Psychological Health Research Quarterly, 6* (1), 25-10.

Khadevi, E., Mafakheri, l. (2011). The relationship between achievement motivation, locus of control, self-concept, and academic achievement of first-year high school students in the five districts of Tabriz. *Education and Evaluation (Educational Sciences), 4*(13), 45-66.

Kimiaei, S. A., Gharib, S. (2013). The relationship between learning strategies and document styles in students. *Journal of Behavioral Sciences, 3*(8), 101-94.

Kogut, E. (2016). Adult attachment styles, self-efficacy, and causal attributional style for achievement-related failures, *Journal Learning and Individual Differences, 50*, 64-72

Lee, W., Lee, M. J., & Bong, M. (2014). Testing interest and self-efficacy as predictors of academic self-regulation and achievement. *Contemporary educational psychology, 39*(2), 86-99.

[DOR: 20.1001.1.25884395.2023.5.3.16.7]

[DOI: 10.22034/5.3.199]

Los, Ryan E. B. (2014). *The effects of self-regulation and self-efficacy on academic outcome, Division of Counseling and Psychology in Education*, Human Development and Educational Psychology, In the Graduate School.

Mansourian, A., Behrouzi, N., Shahni Yilaq, M. (2009). Examining the relationship between self-regulated learning strategies and motivational strategies for learning with procrastination and academic performance in first-year high school students of Bushehr city, *Master's thesis*, Faculty of Psychology and Educational Sciences, Ahvaz University.

Mardali, L., Kushki, S. (2008). The relationship between self-regulation and academic achievement. *Thoughts and behavior, 2* (2), 68-69.

Matric, M. (2018). Self-Regulatory systems: Self-Regulation and learning, *(JPMNT) Journal of Process Management – New Technologies, International, 6*(4), 79-84.

Meltzer, L. (2004). Executive function in the classroom: Meta-cognitive strategies for fostering academic success and resilience, *paper presented at the learning differences conference*, Cambridge, MA.

Menec V. H., Perry, R.P., Struthers, C.W., Schon wetter, D.J., Hechter, F.J., Eichholz, B. L. (2018). Assisting at-risk college students with attributional retraining and effective teaching. *Journal of Applied Social Psychology, (24)*, 675-701.

Menes, V. H., Perry, R. P., Struthers, C. W., Schon wetter, D. J., Hechter, F. J. and Eichholz, B. L. (1994). *Assisting At-Risk college students with attributional Retrai*

Mirzaei, F. O., Dertaj, F., Saadipour, I., Ebrahimi Qawam S., Delawar, A. (2019). The relationship between supportive self-adherence environment and academic well-being: the mediating role of basic psychological needs, *Journal of Psychological Sciences, 19*(87), 299-311.

Mooij, T. (2019). Education and ICT_ based self-regulation in learning: Theory, design and implementation. *Educational and Information Technologies, 14*(1), 3- 27.

Mueller, S. L., & Thomas, A. S. (2001). Culture and entrepreneurial potential: A nine country study of locus of control and innovativeness. *Journal of business venturing, 16*(1), 51-75.

Nickpey, I., Farahbakhsh, S., Youssefvand, L. (2015). The effect of teaching self-regulated learning strategies (cognitive and metacognitive) on attributional styles and its dimensions (source of causality, stability of causality, generality of causality) in students. *Bi-Quarterly Journal of Cognitive Strategies in Learning, 4*(7), 93-108.

Nikpay, E., Farahbakhshs, S., & Yousefvand, L. (2017). The effect of training self-regulated learning strategies on critical thinking of students. *Journal of School Psychology*, *6* (3), 116-135.

[DOR: 20.1001.1.25884395.2023.5.3.16.7]

[DOI: 10.22034/5.3.199]

Perry, R.P., Hladkyj, S., Pekrun, R. and Pelletier, S. T. (2019). "Perceived control and action control in the achievement of college students: A longitudinal field study". *Journal of Educational psychology, 93*(4), 776-890.

Peverill, S., Garon, N., Brown, A., & Moore, C. (2017). Depleting and motivating self-regulation in preschoolers. Cognitive Development, 44, 116-126.

Pintrich, R. R., & DeGroot, E. V. (1990). Motivational and Self-Regulated Learning Components of Classroom Academic Performance. *Journal of Educational Psychology, 82*, 33-40.

Pourkmali, A. (2012). The relationship between documentation styles and self-regulation with students' academic procrastination, *Master's Thesis*, Islamic Azad University, Central Tehran Branch, Faculty of Social Sciences.

Proudfoot, J. G., Corr, P. J., Guest, D. E. (2009). Cognitive–behavioral training to change attributional style improves employee well-being, job satisfaction, productivity, and turnover. *Peers Indi differences, 46*, 147-153.

Reeve, J. (2014). Understanding motivation and emotion. *John Wiley & Sons, 291*, 35-56.

Reeve, J. (2017). A self-determination theory perspective on student engagement. In S. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 421-439). New York: Springer.

Reeve, J., Deci, E. L., & Ryan, R. M. (2004). Self-determination theory: A dialectical framework for understanding the sociocultural influences on student motivation. In D. McInerney, & S. Van Etten (Eds.), *Research on sociocultural influences on motivation and learning: Big theories revisited* (pp. 31-59). Greenwich, CT: Information Age.

Rienties, B., Tempelaar, D., Nguyen, Q., & Littlejohn, A. (2019). Unpacking the intertemporal impact of self-regulation in a blended mathematics environment. *Computers in Human Behavior, 100*, 345-357.

Schunk, D. H., Ertmer, P. A. (2000). Self- regulation and academic learning: selfe fficacy enhancing interventions. In: *Handbook of self-regulation*. Boekaerts M, - pintrich P.R, Zeidner, M, editors. New York, Academic Press, 631-650.

Shahni, M., Jalilzadeh, N., Maktabi, G. H. (2010). The relationship between documenting styles and depression and academic performance in fifth-grade elementary school girls in Ahvaz city. *Educational Psychology Studies, 7*(12), 47-70.

Skibbe, L. E., Montroy, J. J., Bowles, R. P., & Morrison, F. J. (2018). Self-regulation and the development of literacy and language achievement from preschool through second grade. *Early Childhood Research Quarterly, 85*, 112-135.

[DOR: 20.1001.1.25884395.2023.5.3.16.7]

[DOI: 10.22034/5.3.199]

Skinner, E. A., & Kiderman, H. (2020). The role of the self-supportive environment in predicting students' academic self-regulation. *Educational Psychology*, *40*(7), 805-819. doi: 10.1080/01443410.2020.1752059

Skinner, E. A., Kindermann, T. A., Connell, J. P., Wellborn, J. G. (2009). Engagement and disaffection as organizational constructs in the dynamics of motivational development. In Wenzel, K. R., Wigfield, A. (Eds.), *Handbook of motivation at school (educational psychology handbook series)* (pp. 223–245). New York, NY: Routledge/Taylor & Francis Group.

Souesme, G., & Ferrand, C. (2019). What is an autonomy-supportive environment in geriatric care units? Focus group interviews with healthcare professionals. *International Journal of older people nursing, 14*(1), e12221.

Stefansson, K. K., Gestsdottir, S., Birgisdottir, F., & Lerner, R. M. (2018). School engagement and intentional self-regulation: A reciprocal relation in adolescence. *Journal of Adolescence, 64*, 23-33.

Sterling, R. C., Travis, J. W. (2020). Gender Differences in Self-Attributions: Relationship of Gender to Attributional Consistency, Style, and Expectations for Performance in a College Course. *Sex role, 22*, 58-67.

Tze, V. M., Klassen, R. M., & Daniels, L. M. (2014). Patterns of boredom and its relationship with perceived autonomy support and engagement. *Contemporary Educational Psychology*, *39*(3), 175-187.

Van Petegem, S., Zimmer-Gembeck, M., Baudat, S., Soenens, B., Vansteenkiste, M., & Zimmermann, G. (2019). Adolescents' responses to parental regulation: The role of communication style and self-determination. *Journal of Applied Developmental Psychology, 65*, 101073.

Vermunt, J. D. and Vermunt, Y. (2004). Patterns in student learning: Relationship between learning strategies, conceptions of learning and learning orientations. *Educational psychology Review*, *16*(4), 359-384.

Wang, M. T., & Eccles, J. S. (2013). School context, achievement motivation, and academic engagement: A longitudinal study of school engagement using a multi-dimensional perspective. *Learning and Instruction, 28*, 12-23.

Way, N., Reddy, R., & Rhodes, J. (2007). Students' perceptions of school climate during the middle school years: Associations with trajectories of psychological and behavioral adjustment. *American journal of community psychology, 40*(3-4), 194-213.

Weiner, B. (2013). *An attribution theory of motivation and emotion*: Springer-Verlag New York.

Zalali, B., Ghorbani, F. (2014). Comparison of academic motivation and enthusiasm for school in students with and without dyslexia. *Learning Disabilities, 3*(4), 44-58.

Zand Menshi, Y., Azadi, S. H. (2015). Investigating the relationship between documentary styles and defense mechanisms with the academic performance of male high school students in Yasouj city, *the fourth scientific research conference on educational sciences and psychology, social and cultural harms of Iran*, Tehran.

Ziegler, N., & Opdenakker, M. C. (2018). The development of academic procrastination in first-year secondary education students: The link with metacognitive self-regulation, self-efficacy, and effort regulation. *Learning and Individual Differences, 64*, 71-82.

Zimmerman, B. J., & Martinez-Pons, M. (1988). Construct validation of a strategy model of student self-regulated learning. *Journal of Educational Psychology, 80*(3), 284-290. https://doi.org/10.1037/0022-0663.80.3.284