Investigating the relationship between metacognitive strategies and academic enthusiasm with academic resiliency in second elementary school and first period high school students

Revista Publicando, 5 No 16. (1). 2018, 515-537. ISSN 1390-9304

Soroush Najafzadeh

1. Payam-e Noor University. Tehran, Iran. sorh.nj1373@gmail.com

Abstract
The purpose of this study is to investigate the relationship between metacognitive strategies with academic enthusiasm with academic resiliency in second elementary school and first period high school students. To this end, a total of 3979 students in the plain of Rokh were selected, using Cochran formula and cluster sampling 350 students were selected. Students responded to the metacognitive, study enthusiasm and resiliency questionnaires. The results showed that metacognitive and resiliency strategies could significantly predict 53.1 percent of variations in resiliency variables. It was also observed that the dimensions of metacognitive strategies, self-consciousness, positive beliefs, uncertainty and negative beliefs had the ability to predict resiliency, and the dimension of controlling the thought could not significantly increase the predictive value, as well as all aspects of the academic resiliency has the ability to predict the resiliency variable.

Key words: Metacognitive strategies, Academic enthusiasm, Educational resiliency, Second elementary school, First period high school.
Investigating the relationship between metacognitive strategies and academic enthusiasm with academic resiliency in second elementary school and first period high school students

Revista Publicando, 5 No 16. (1), 2018, 515-537. ISSN 1390-9304

Introduction

Since students have a special role in achieving the goals of the educational system of the country as the main pillar of the educational system, paying attention to this class of society in terms of education, leads to further reproduction and development of social education system (Walker and Pearce, 2015). Human, in the early years of his life, has the most effective and efficient moments, and at that time his intellectual development is formed. Therefore, education is a determinant factor in the welfare of humans and the source of social and cultural change in different societies. No doubt, more attention should be paid. In elementary school, it is more important than university. Since rational development takes place in this period to be developed at the university (Abdul Muhammadi, Akbar Nejad and Muhammadi, 2017). During the period of life, in which students are at first level of high school, they face social, cognitive, and physical changes (Hamidi and Mohammad Hosseini, 2010) and they are challenged due to the fundamental biological, psychological and social changes associated with family, school and peers. (Li, Zhang Li, Zhen and Wang, 2017). Also, at this level, you should choose your favorite course to continue education. Reducing the gap between students exposing the academic failure and successful students is an important educational goal. One of the factors that creates this gap is the enthusiasm to study and resiliency (Kohoulat and Hayat, 2014). In the educational process of student life, the structure of academic engagement is one of the most important factors in successful confrontation with academic, professional, family and social challenges that every young person faces in achieving his goals and dreams. Enthusiasm and its related factors should be considered as part of the elements that affect the student's success (Samawatian et al., 2016). The structure of academic engagement refers to behaviors that are related to learning and academic achievement (Pintrich, 2004). Students’ enthusiasm occurs when students invest psychologically on learning. They are trying to learn what the school offers. Their goal is not to achieve excellent grades and pride, but they understand, combine, internalize and apply the knowledge in their personal lives (Shapiro, Dundar, Wakhungu, Yuan & Harrell, 2016). Educational enthusiasm is a multi-dimensional structure that includes behavioral, cognitive, and motivational components (Martin & Liem, 2010). According to Linen Brink and Pintrich (2004), the academic enthusiasm has three dimensions:
A. The enthusiasm of education-cognition: Includes a variety of cognitive and metacognitive strategies that students use to learn.

B. The enthusiasm of education-motivation: Includes three components of emotion, value, and affection. For example, this component reflects students' belief that how the skills they are learning can be useful and attractive.

C. The enthusiasm of education-behavior: these are visible behaviors of students in dealing with educational assignments that include components such as effort, sustainability, and help requests from others (Linnenbrinc & Pintrich, 2004). Studies show that there is a positive correlation between academic enthusiasm and academic performance (Clark, Maier & Vigerritrit, 2008; Arshambalat et al., 2009; Walker & Pierce, 2015). Research has also shown that students who are eager to learn cognitively, behaviorally and emotionally, are more likely to tolerate problems than students who have lower levels of enthusiasm (Wang, Willet and Eccles, 2011). Most researches on the academic enthusiasm have been correlative for example, research done by Maralany, Mahdipour, Loshani, Hejazi (2016), entitled "The relationship among psychological needs, academic enthusiasm and test anxiety" in the city of Ahvaz, the results showed that the variable of basic psychological requirements directly, positively and significantly effects on academic enthusiasm; it also affects the test anxiety directly and negatively. However, the indirect effect on test anxiety is not meaningful. The justification is that the relationship between academic enthusiasm and test anxiety is not significant. According to findings, basic psychological needs can be highlighted as the most important factor in increasing students' academic enthusiasm and reducing the test anxiety. Abedi (2015) in his meta-analysis research showed that academic self-efficacy, academic self-imagination, attitude toward learning, understanding the competence, self-esteem, academic stubbornness, self-regulation and goal orientation are the most important individual factors related to motivation and academic enthusiasm. Another factor influencing academic performance is resiliency (Taheri Nasab, 2012). Resiliency is taken from the Latin root “to jump back”. Resiliency is a factor that leads to flexibility and effective coping with the stressful factors of success and makes it suitable
Investigating the relationship between metacognitive strategies and academic enthusiasm with academic resiliency in second elementary school and first period high school students

Revista Publicando, 5 No 16. (1). 2018, 515-537. ISSN 1390-9304

for coping with adverse conditions (Waller, 2001). Resiliency, of course, is not just stability against threatening injuries or conditions and a passive state in dealing with dangerous conditions, but rather active and constructive conditions in the surrounding environment. In fact the resiliency is an individual's ability to establish a biological-psychological balance in dangerous situations (Connor & Davidson, 2013). Martin and Marsh (2006) defined academic resiliency as the ability of students to cope effectively with failures, pressures, and academic stresses (Martin & Marsh, 2008). Waxman, Gray and Padrone (2013) consider resilience in the educational environment as a very high probability of success in school and other life situations in spite of the environmental tribulations and difficulties (Waksman, Gray and Padrone, 2013). Although many studies focus on general or psychological resilience, few studies have focused on academic resilience. Educational resilience is a process of having a successful capacity or a successful outcome against threats or challenges (Mansur et al., 2017). Ladies Karimi, Kartamani (2017), in a study entitled "The Effect of Teaching Strategies of Self-Regulatory Learning on Academic Enthusiasm and Academic Achievement among Shahed Students and High School Students", concluded that teaching the self-regulatory learning strategies increases the academic enthusiasm and resilience in Shahed girls, and it has important implications for self-regulatory education to improve academic achievement and reduce student academic problems. Martin (2013), in his research, has taken resonant predictive variables from his motivational wheel pattern and concluded that resilience is the basis of motivation and academic enthusiasm. Hashemi and Jucar’s research (2015) indicates that cognitive-emotional regulation adjustment and conflict in academic activities are one of the most important predictors of academic resilience. So that the control of emotions in learner's sophisticated situations becomes more resilient. On the other hand, the current age requires those who have the ability to guide their own learning (Post, 2010). Accordingly, education and training should be aimed at educating learners who have the skills to design, organize, and monitor their learning and change processes. (Kodivar, 2003) Meta cognition with the awareness of humans’ cognitive processes, and also finding some methods to strengthen
and improve these abilities has been always considered by experts of education. Metacognition means thinking about thought and this was first used by Flavell (1979) with the meaning of awareness from cognition, cognitive processes and everything related to it. In other words, monitoring, evaluation and planning in learning and its simplest form, knowledge about knowledge was used. Metacognitive processes can be considered in three levels of knowledge, regulation, and cognitive experience. Knowledge of cognition refers to the knowledge and beliefs of individuals about which factors and variables influence the outcomes of their cognitive activities. Regulation of cognition is a set of activities that help students control learning, and Experience of cognition relates to any type of cognitive awareness or effective experiences associated with intelligence. (Zohar & Peled, 2008).

Metacognition is a multifaceted concept. This concept involves knowledge, processes, and strategies that assess, monitor, or control cognition (Wells, 2000). Meta-cognitive knowledge is the information that a person has about his knowledge and learning strategies, and metacognitive monitoring refers to a range of executive functions, such as attention, control, planning, and recognition of errors in performance (Wells, 2010). The metacognition term refers to our knowledge about our own cognitive processes and how they are best used to achieve learning goals (Biehler and Snowman, 1993). Lajoye and Lu (2012) state that the main mechanism of meta-cognition or self-regulation development depends on the ability to observe and see the viewpoints of others. Like social meta-cognition, as described by Chi and KO (2009), in which members of the group, control each other's knowledge and emotions, and through questioning and offering, they announce their ideas, emotions and activities of each other by agreeing or opposing. Wolfefell, from the viewpoint of information processing theory, considers metacognition as the processes of executive control such as attention, review and practice, organizing and manipulating information (Lotfabadi, 2004; quoted by Mohtashemi, 2010). The term meta-cognition refers to the individual's knowledge about their cognitive processes and how to use them optimally to achieve learning goals. In other words, meta-cognition is one's knowledge or awareness from his cognitive system (Seif, 2004; quoted by Mohtashemi,
Various studies have been done on the role of metacognition in various fields. Katino (2007) and Chamot (2005) concluded that there is a relationship between a variety of meta-cognitive and self-regulatory strategies and learning in the educational environment so that the use of meta-cognitive strategies increases problem solving and comprehension. Sternberg (2008) states that there is a relationship between cognitive strategies and academic achievement. Also Salvara (2005) states that there is a great deal of evidence to support the importance of motivation and self-reliance as an important variable in learning and experiencing student academic achievement. The research by Mr. Besharat and Ms. Abbaspour Dopalni (2010) concluded that there is a significant positive relationship between metacognitive and resiliency strategies. There was a significant positive correlation between creativity and resilience. There is a multifaceted relationship between metacognitive strategies and creativity with resilience. Also, these results showed that metacognition and creativity are good predictors of resiliency. In another study by Gregg and Barzegar (2016), he showed that there is a relationship between perfectionism and some of its dimensions, as well as meta-cognitive beliefs and some of its dimensions. Also, dimensions of perfectionism and meta-cognition can predict resilience, and ultimately perfectionism plays a mediating role between metacognitive beliefs and resilience. Alhabahba and Mahfoodh (2017), in their research on sixty-six junior students of fifth grade in Jordan, entitled "The Impact of Integrated Education on Metacognition," concluded that metacognition has only increased in the experimental group. Rowe; Mazzotti, Valerie L.; Ingram, Angela; Lee, Seunghee (2017); In a study entitled "The Effects of Targeted Education on the academic enthusiasm of students facing danger", conducted on 100 guidance students in London, they concluded that The functional relationship is active between the lessons of goal setting and the academic enthusiasm of students. Robelo, Octaviano García; Pérez, Ileana Casasola (2017); In a comparative study titled "Resilience and Intercultural Training in Mexican and German High Schools"; the results contain significant data showing that there is a strong correlation between perception of student and teachers in the development of academic readjustment. This
Investigating the relationship between metacognitive strategies and academic enthusiasm with academic resiliency in second elementary school and first period high school students

Revista Publicando, 5 No 16. (1). 2018, 515-537. ISSN 1390-9304

research focuses on effective factors of resilience, which leads in positive emotional relationships between students and teachers and it causes resilience and it reduces the risk of failure and release. Foshee (2013) examined the role of students' attributes and skills, such as academic competence and academic resilience, on academic performance in a comparative and mastery-based learning environment. The findings showed that there is a significant relationship between the influential characteristics and academic resilience of the students and they have a positive and significant effect on academic performance. Ladies Mozhgan Sepah Mansour, Zahra Barati, Sara Behzadi (2017); In a study entitled "Educational Adequacy Model Based on Academic Competency and Teacher-Student Relationship"; A community of 11-13 year old male and female students in District 6 Tehran, which studied at the sixth, seventh and eighth grades; it was concluded that the total academic competence on academic resilience and teacher-student relationship; with a society including 11-13 year old school girls and boys in district 12 in Tehran city, who were studying at the sixth, seventh and eighth level; they concluded that the whole academic competence on academic resilience level and the teacher-student relationship at level 0.01 and the effect of the total teacher-student relationship on academic resilience in Level 0/01 has been meaningful. Mohammad Hossein Sarbi, Nahid Khalilnezhad, Heydar Islami (2017), in their research entitled "The Study of the Relationship between Metacognitive Beliefs with the Orientation of Life and Academic Achievement of High School Students", which was conducted on 289 students in the first and second regions of Yazd who were selected by the multistage cluster random sampling method and concluded that there is a significant negative relationship between meta-cognitive beliefs and life orientation. Also, there was a significant negative correlation between the components of meta-cognitive beliefs and the academic achievement of students (P <0.05). The results of stepwise regression showed that the cognitive contradiction of metacognitive beliefs had the highest predictive power of life orientation. Also, there was no significant difference between metacognitive beliefs and life orientation in male and female students (P> 0.05). It can be deduced from the results that the less metacognitive beliefs about students'
Investigating the relationship between metacognitive strategies and academic enthusiasm with academic resiliency in second elementary school and first period high school students

Revista Publicando, 5 No 16. (1). 2018, 515-537. ISSN 1390-9304

worries, they will be more optimistic about the future and this can play an important role in their academic performance. Mr. Samimi Karani (2017), in his research entitled "Using metacognition in high school students with high and low self-efficacy in Minab County", concluded that three components of cognitive strategy, planning and control in accordance with expectations in students with high self-efficacy have been used more effectively. Self-regulation is not significantly higher in students with higher self-efficacy than in students with low self-efficacy. Ms. Arezoo Gorgin and Majid Barzegar (2016), in their research entitled "The Mediating Role of Perfectionism in the Relationship Between Meta-Cognitive and Resilient Beliefs in Higher Education Students in Jahrom", with a sample of 340 people using cluster sampling, concluded that there is a relationship between perfectionism and some of its dimensions, as well as meta-cognitive beliefs and some of their aspects. Also, some dimensions of perfectionism and meta-cognition are capable of predicting resilience, and ultimately perfectionism plays a mediating role between meta-cognitive beliefs and perseverance. Ahmad Abedi, Azin Dukht Memarian, Mozhgan Shooshtari, Fereshteh Golshani Monazah (2015); in a research entitled "Considering the Effect of Martin's Cognitive Behavioral Multidimensional Interventions on Academic Performance and Academic Engagement among Female High School Students in Isfahan"; concluded that multidimensional cognitive-behavioral-motivational interventions have an impact on academic performance. Many studies have focused on the innateness and potential, and on the other hand, accepting the training of the three variables of meta-cognition, metacognitive resilience, and academic enthusiasm. Therefore, it is in the mind of the reader that how these structures can be cultivated, strengthened and how much is the relationship between them? According to the mentioned issues, the present study is conducted to determine the relationship between the meta-cognitive strategies and the academic enthusiasm of students in the second elementary schools and first level of high school with their degree of resilience.
Investigating the relationship between metacognitive strategies and academic enthusiasm with academic resiliency in second elementary school and first period high school students

Revista Publicando, 5 No 16. (1). 2018, 515-537. ISSN 1390-9304

Research Methodology

Research design
This descriptive-analytic research is a correlation type.

Statistical Society
The statistical population of this study is all students of the second level of elementary school and first level of high school in the plain of Rokh up to 3979 students who are in the academic year of 2017-18. Using randomized cluster sampling, 350 students were identified from 4 primary schools of Rabat-e-Sang, Nasr, Heshmat Abad, Javadia and Ahmad Abad Khazaee and from 2 high schools of Rabat-e-Sang and Asad Abad. A total of 350 people were selected, out of a total, 250 were in the second level of elementary school and 100 were in the first level of high school. After identifying the schools, we went to the concerned villages and presented the research objectives to the students and authorities of the schools, then their satisfaction with the questionnaires was completed.

Data Collection Tools
1. Samuels Academic Resilience Questionnaire (MCQ-30):
This questionnaire was created by Samuels in 2004 and its appropriateness was confirmed in two studies, then with the development of study in 2009, it was published with the cooperation of Wow. The final version of this questionnaire is 29 questions that asks participants to rate the degree of their academic achievement on a 5-point Likert scale as: completely disagree (1) to completely agree (5). The reliability of the questionnaire in Iranian sample using Cronbach's alpha is between 0.62 and 0.76, indicating a high internal consistency (Soltani Nejad et al., 2013).

2. School-Engagement-Scale: The standard School-Engagement-Scale questionnaire was designed and developed by Frederic et al. (2004). This questionnaire has 15 grades and is based on a five-level Likert scale (never to always), with questions such as: (I pay attention to the class; when I'm in class, I am just pretending to be active). In the research (Abbasi et al., 2016), the validity of the questionnaire was confirmed by professors and experts in
Investigating the relationship between metacognitive strategies and academic enthusiasm with academic resiliency in second elementary school and first period high school students

Revista Publicando, 5 No 16. (1). 2018, 515-537. ISSN 1390-9304

this field. In the research (Abbasi et al., 2016), the reliability of the questionnaire was obtained through Cronbach's alpha method higher than 0.70.

3. Wells Metacognitive Questionnaire (MCQ-30): metacognitive skills assessment questionnaire was introduced by Wells in 1997, which is suitable for ages 9 to 18 years. The self-report questionnaire is based on the four-point Likert scale (1: Disagree, 2: slightly agree, 3: fairly agree, 4: totally agree). The questionnaire has 5 subscales that questions 1, 7, 10, 19, 23, 28 are positive beliefs about worries, questions 2, 4, 9, 11, 15, 21 are negative beliefs about controllability of thoughts and the dangers related to concerns, questions 8, 14, 17, 24, 26, 29 are cognitive uncertainty, questions 6, 13, 20, 22, 25, 27 are need to control thoughts and questions 3, 5, 12, 16, 18, 30 assess the metacognitive processes of cognitive self-awareness. Wells, Katziit-Hatton (2004) for the reliability of this scale, reported the range of Cronbach's Alpha coefficients for the whole scale and sub-scales ranged from 0/93 to 0/76, and the reliability of the retest was 0.75 and for the subscales, 0/59 to 0/87. In the Iranian sample, it has been reported 0.91 for uncontrollable subscales, positive beliefs, cognitive certainty, cognitive reliability and need for control of thoughts in the Iranian sample have been reported respectively 0.87, 0.86, 0.81, 0.80, and 0.71 (Shirinzadeh et al., 2008).

Findings

Table (1) Correlation Matrix of Meta-Cognitive Strategies, Academic Enthusiasm and Resilience of Students

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Positive beliefs</td>
<td>1</td>
<td>47/0</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Negative beliefs</td>
<td>58/0</td>
<td>68/0</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Unreliability</td>
<td>14/0</td>
<td>26/0</td>
<td>28/0</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Thought Control</td>
<td>47/0</td>
<td>63/0</td>
<td>65/0</td>
<td>31/0</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>343/0</td>
<td>343/0</td>
<td>350/0</td>
<td>134/0</td>
<td>331/0</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>286/0</td>
<td>269/0</td>
<td>300/0</td>
<td>098/0</td>
<td>303/0</td>
<td>631/0</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Received 16/05/2018
Approved 29/06/2018
According to Table (4-5), all aspects of metacognitive strategies have a positive and significant relationship with resiliency in addition to controlling thoughts. Also, all aspects of academic enthusiasm have a positive and significant relationship with resilience.

Table 2: Results of multiple regression analysis with step-by-step model for prediction of resilience based on metacognitive strategies and academic enthusiasm

<table>
<thead>
<tr>
<th>Forecast variables</th>
<th>R</th>
<th>R2</th>
<th>Change R2</th>
<th>Change F</th>
<th>df1</th>
<th>df2</th>
<th>Beta</th>
<th>meaningful</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning strategies</td>
<td>372/0</td>
<td>138/0</td>
<td>138/0</td>
<td>859/55</td>
<td>1</td>
<td>348</td>
<td>372/0</td>
<td>001/0</td>
</tr>
<tr>
<td>Meta-cognitive strategies</td>
<td>393/0</td>
<td>155/0</td>
<td>155/0</td>
<td>764/31</td>
<td>2</td>
<td>347</td>
<td>308/0</td>
<td>001/0</td>
</tr>
<tr>
<td>Academic enthusiasm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>143/0</td>
<td>001/0</td>
</tr>
</tbody>
</table>

According to the results of Table (4-6), in the first model metacognitive strategies were introduced into the equation. Correlation coefficient of this variable is with resilience 372/0 and this variable could predict 13.8% of students' resiliency changes (1P≤. / 001, R2=0/138). In the second model, after the meta-cognitive strategies, enthusiasm entered
Investigating the relationship between metacognitive strategies and academic enthusiasm with academic resiliency in second elementary school and first period high school students

Revista Publicando, 5 No 16. (1). 2018, 515-537. ISSN 1390-9304

the equation. The correlation coefficient of these two variables was 0.393, and these two variables could predict 39.3% of the student's resiliency changes (P≤.001, R² = 0.393).

Table (3): Correlation matrix of metacognitive dimensions with resilience

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Positive beliefs</td>
<td>1</td>
<td>47/0.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Negative beliefs</td>
<td>58/0.68</td>
<td>68/0.1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Unreliability</td>
<td>47/0.63</td>
<td>65/0.31</td>
<td>31/0.1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Thought Control</td>
<td>32/0.26</td>
<td>31/0.11</td>
<td>11/0.33</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Self-awareness</td>
<td>33/0.115</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Resilience</td>
<td>328/0.328</td>
<td>107/0.107</td>
<td>854/41</td>
<td>1</td>
<td>348</td>
<td>328/0.001</td>
</tr>
</tbody>
</table>

According to Table (4-7), all dimensions have a positive and significant relationship with resilience except thought control.

Table 4: Multiple regression analysis results with stepwise model for prediction of resilience based on metacognitive strategies dimensions

<table>
<thead>
<tr>
<th>Forecast variables</th>
<th>R</th>
<th>R²</th>
<th>Change R²</th>
<th>Change F</th>
<th>df1</th>
<th>df2</th>
<th>Beta</th>
<th>meaningful</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive beliefs</td>
<td>328/0</td>
<td>107/0</td>
<td>107/0</td>
<td>854/41</td>
<td>1</td>
<td>348</td>
<td>328/0</td>
<td>001/0</td>
</tr>
<tr>
<td>Negative beliefs</td>
<td>266/0</td>
<td>071/0</td>
<td>071/0</td>
<td>580/26</td>
<td>1</td>
<td>348</td>
<td>266/0</td>
<td>001/0</td>
</tr>
<tr>
<td>Unreliability</td>
<td>314/0</td>
<td>098/0</td>
<td>098/0</td>
<td>946/37</td>
<td>1</td>
<td>348</td>
<td>314/0</td>
<td>001/0</td>
</tr>
<tr>
<td>Self-awareness</td>
<td>339/0</td>
<td>115/0</td>
<td>115/0</td>
<td>256/45</td>
<td>1</td>
<td>348</td>
<td>339/0</td>
<td>001/0</td>
</tr>
</tbody>
</table>

According to the results of Table (4-8), in the first model, positive beliefs were introduced into the equation. Correlation coefficient of this variable with resilience was 0.328 and

Received 16/05/2018
Approved 29/06/2018
Investigating the relationship between metacognitive strategies and academic enthusiasm with academic resiliency in second elementary school and first period high school students

Revista Publicando, 5 No 16. (1). 2018, 515-537. ISSN 1390-9304

this variable predicted 10.7% of students' resiliency changes (R2 = 0/107 P≤./001). In the second model, after positive beliefs, negative beliefs entered the equation. Correlation coefficient of this variable with a resilience of 0/266, and this variable could predict 7/1% of the student's resiliency changes (P≤.001, R1 = 0/071). In the third model, after the negative belief, uncertainty entered the equation. Correlation coefficient of this variable with resilience was 0/314, and this variable predicted 9.8% of students' resiliency changes (P≤./001, R2= 0/098). In the fourth model, after uncertainty, self-awareness entered into the equation. Correlation coefficient of this variable with resilience was 0/339 and this variable predicted 11.5% of students' resiliency changes (P≤./001 •R2=115). The variable of thought control was not included in the regression equation because it could not significantly increase the prediction value.

Table (5): Correlation matrix of the academic enthusiasm dimensions with resilience

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavioral</td>
<td>1</td>
<td>63/0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>enthusiasm</td>
<td></td>
<td>73/0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional</td>
<td>6.10</td>
<td>22/0</td>
<td>25/0</td>
<td></td>
</tr>
<tr>
<td>attitude</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cognitive</td>
<td>26/0</td>
<td>22/0</td>
<td>25/0</td>
<td></td>
</tr>
<tr>
<td>enthusiasm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resiliency</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

P <0/05

According to Table (4-9), all aspects of academic enthusiasm have a positive and significant relationship with resilience. Table 6. Results of multiple regression analysis with step-by-step model for prediction of resilience based on academic enthusiasm

<table>
<thead>
<tr>
<th>Predictor variables</th>
<th>R</th>
<th>R2</th>
<th>Change R2</th>
<th>Change F</th>
<th>df1</th>
<th>df2</th>
<th>Beta</th>
<th>meaningful</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavioral enthusiasm</td>
<td>263/0</td>
<td>069/0</td>
<td>069/0</td>
<td>921/25</td>
<td>1</td>
<td>348</td>
<td>263/0</td>
<td>0.000</td>
</tr>
<tr>
<td>Emotional attitude</td>
<td>227/0</td>
<td>052/0</td>
<td>052/0</td>
<td>992/18</td>
<td>1</td>
<td>348</td>
<td>227/0</td>
<td>004/0</td>
</tr>
</tbody>
</table>

Received 16/05/2018
Approved 29/06/2018
According to the results of Table (4-10), in the first model, the behavioral enthusiasm entered the equation. The correlation coefficient of this variable with a resiliency of 0/263, and this variable predicted 6/9% of the student's resiliency changes (P≤/.000, R2 = 0.069). In the second model, after the behavioral enthusiasm, emotional enthusiasm entered the equation. Correlation coefficient of this variable with a resilience of 0.267 and this variable could predict 5/2% of students' resiliency changes (P≤/.004, R2 = 0.052). In the third model, after the emotional enthusiasm, cognitive enthusiasm entered the equation. The correlation coefficient of this variable with a resiliency of 0.254 and this variable could predict 6.5% of the student's resiliency changes (P≤/.001, R2 = 0.065).

**Discussion and conclusion**

In this research, these two variables can significantly predict 53.1% of the variation of the resilience variable, the standardized regression coefficients in this research are equal to 0.372 and 0.392, which indicate the predictive value of the Independent variables (meta-cognitive strategies and academic enthusiasm) is dependent on resiliency (R2 = 0.764, P<0.01). Because the significance level is less than 0.05, this means that the regression model is meaningful (Sing = 0/00). The results of this research were investigated by Mohammad Hossein Sorbi, Nahid Khalilnejad, Heydar Islami (2017); Mr. Samimi Karani (2017); Ms. Arezoo Gorgin and Majid Barzegar (2016); Dr. Mohammad Ali Basharat; and Ms. Tahereh Abbas Purdavalpani (2010); Alhba and Concepts (2017)). For example, Mohammad Hossein Sorbi, Nahid Khalilnejad, Heydar Islami (2017) reported that meta-cognitive beliefs had the most potential for predicting life orientation (Sorbi et al., 2017). In the possible explanation of the meta-cognitive strategy and the academic enthusiasm in the prediction of resilience, it can be said that, according to the metacognitive approach of individuals, they are suffering from the trauma of emotional anxiety since their metacognition leads to a certain model of answering to internal experiences and this causes the continue of negative excitement and strengthening the negative beliefs. This is called
the syndrome of cognition-attention that include anxiety, obsessing and incompatible confrontation methods. (Wells, 2009) Students who use meta-cognitive strategies for learning have more control over the environment and the way they learn, which makes them more educated and think about solutions for their problems. Also, according to the model of Rombergger and Larson, the social desire model is defined by behaviors such as attending classes, accepting regulations and active participation in class affairs, and academic enthusiasm includes student attitudes towards school and the ability to meet performance expectations. Quoted by Farazandeh et al., 2012); Students with high academic enthusiasm are trying to adhere to school regulations and participate in curriculum, which makes it possible for students to be resilient when dealing with a difficult problem and with the help of Knowledgeable people and try to solve it. The dimensions of metacognitive strategies have the ability to predict significant relief and significantly predict 39.3% of student resilience (R = 0.393, P <0.01), but the correlation is different, which has the highest correlation coefficient level for self-awareness 0.332 and the lowest value of the negative beliefs of with correlation coefficient of 266.0 (P≤. / 001, R = 0.26, R = 332/0). Accordingly, self-awareness is 11.5%, positive beliefs are 10.7%, uncertainty is 9.8%, negative beliefs 7.1% have the ability to predict resilience, the dimension of variable control of thought control did not enter regression equation because it could not significantly increase the predictive value (098/0115/0, 107/0, 071/0 = R2). The results of this research were consistent with the researches (Ezatollah Ghodampour, Parvaneh Radmehr, Leila Yousef Vand (2017); Abbas Abolghasemi (2011); Gizier and Aydin (2010) research. For example, Ezatollah Ghodampour, Parvaneh Radmehr, Layla Yousef-Vand, reported the results that training the hope had a significant effect on increasing the amount of academic enthusiasm (P <0.01) and educational resilience (P <0.01) (p. Et al., 2017). In explaining the possible dimensions of metacognitive strategies (self-awareness, positive beliefs) in predicting academic rejection it can be said that individuals are caught up in the trauma of emotional disturbances, whose metacognition is to a certain pattern of responding to experience and this leads to the persistence of
negative emotions and the strengthening of negative beliefs. This is a cognitive-symptomatic syndrome that includes concerns, rumination, and coping strategies that are incompatible (Wells, 2009). Also, according to Kabat and Zain (2005), by developing strategies and meta-cognitive beliefs, especially the self-awareness strategy, the individual develops his own replacement system, so he can evaluate and process the experiences through a new one. For example, consider a risky situation as an opportunity, not as a threat, and in difficulty, rather than anxiety, to succeed (Kabat & Zain, 2005). In other words, the role of executive and metacognitive leadership with its strategies in the minds of a person gives him the opportunity to be more self-interested, which makes him more resilient (Zeust, 2017). There is a difference between the dimensions of academic enthusiasm and resilience of the correlation coefficient, which the highest correlation is for behavioral enthusiasm (0/263) and the lowest value is for emotional enthusiasm (0/227) with correlations (P <0.263 / 0 = , P <0.20, R = 0.227. The value of R2 shows how much of the dependent variable, namely, the resilience, can be explained and predicted by independent variables, i.e., the dimensions of meta-cognitive strategies. In this research, behavioral dimension 6.9%, emotional dimension 5/2%, and cognitive dimension 6.5% can explain and predict the resiliency variable. The results of this research are with consistent with the researches of (Mr. Ezatollah Ghodampour and Ladies, Parvaneh Radmehr, Leila Wesf Wend (2017); Rove, Mazooti, Vari, Ingram, and Lee (2017)). In a possible explanation, the dimensions of academic enthusiasm (behavioral enthusiasm) are capable of predicting educational resilience based on Ghatpour et al. (2017) It can be said that students who attend in group behavioral training have better academic performance and high academic readiness, and this helps empower students to cope with academic challenges, because students with academic qualifications, usually feel more self-controlled over their own lives and they are more receptive to new ideas and changes and they also work hard to achieve their academic goals. (Ghatampour et al., 2017). Also, in other explanations it can be said that educational resiliency focuses more on the aspects of behavioral and functional adaptation in educational positions and emotional resilience
Investigating the relationship between metacognitive strategies and academic enthusiasm with academic resiliency in second elementary school and first period high school students

Revista Publicando, 5 No 16. (1). 2018, 515-537. ISSN 1390-9304

focuses more on the aspects of emotional adjustment when confronting the obstacles (Hashemi and Jokar, 2015). Considering that the dimensions of self-awareness and positive reinforcement in comparison with other dimensions of meta-cognitive strategies have a more effective role in predicting students' academic rehabilitation, teachers are advised to teach lessons that increase students' self-awareness. They will also encourage students after any success (even small) to provide them with training and development. Educational planners are also advised to plan book texts so that students learn more about self-awareness. In addition to raising students' self-awareness, the implementation of this plan will also enhance student academic achievement. It is also suggested that teachers and school administrators and school managers to organize workshops for parents, and train ways to increase self-awareness and correct positive reinforcement. In addition to improving self-awareness and familiarity with the proper way of positive upgrading of student, implementing this plan will also enhance their academic resilience and will be recommended to education professionals and education officials by holding workshops teach instructors some ways to increase student enthusiasm in the classroom. In the end, according to the results of the variables of academic enthusiasm, behavioral enthusiasm is comparable to other dimensions of the ability to predict academic achievement, teachers are encouraged to use methods that improve the students' academic enthusiasm's ability. Exercising this approach, in addition to enhancing students' academic enthusiasm, also improves their academic achievement.

References

Persian resources

Received 16/05/2018
Approved 29/06/2018
Investigating the relationship between metacognitive strategies and academic enthusiasm with academic resiliency in second elementary school and first period high school students

*Revista Publicando, 5 No 16. (1). 2018, 515-537. ISSN 1390-9304*


7. Samawatian, Hossein, Rezaei Jondani, Mahboubeh, Haghighi, Aaliyeh; Fatemeh, Nuri (2016). "Prediction of the dimensions of psychological empowerment using the components of psychological capital among the teachers of the elementary schools of Isfahan", Knowledge and research in Applied Psychology, No. 1, p. 87-78.


Received 16/05/2018
Approved 29/06/2018
Investigating the relationship between metacognitive strategies and academic enthusiasm with academic resiliency in second elementary school and first period high school students

Revista Publicando, 5 No 16. (1). 2018, 515-537. ISSN 1390-9304


Investigating the relationship between metacognitive strategies and academic enthusiasm with academic resiliency in second elementary school and first period high school students

Revista Publicando, 5 No 16. (1). 2018, 515-537. ISSN 1390-9304


English resources


Received 16/05/2018
Approved 29/06/2018
Investigating the relationship between metacognitive strategies and academic enthusiasm with academic resiliency in second elementary school and first period high school students

Revista Publicando, 5 No 16. (1). 2018, 515-537. ISSN 1390-9304


Investigating the relationship between metacognitive strategies and academic enthusiasm with academic resiliency in second elementary school and first period high school students

Revista Publicando, 5 No 16. (1). 2018, 515-537. ISSN 1390-9304


17) Robelo, Octaviano García; Pérez, Ileana Casasola (2017). Resilience and Intercultural Education on Secondary School: A Comparative Study in Mexico and Germany, Bulgarian Comparative Education Society, Paper prepared for the Annual International Conference of the Bulgarian Comparative Education Society (BCES) (15th) and the International Partner Conference of the International Research Centre (IRC) "Scientific Cooperation" (5th).


Received 16/05/2018
Approved 29/06/2018
Investigating the relationship between metacognitive strategies and academic enthusiasm with academic resiliency in second elementary school and first period high school students

Revista Publicando, 5 No 16. (1). 2018, 515-537. ISSN 1390-9304

