

# Predicting Delay in Academic Satisfaction Among Students Based on Implicit Intelligence Beliefs and Motivational Beliefs

Seyed Amir Hosein. Mousavi<sup>1\*</sup>, Mehdi. Arab Zadeh<sup>2</sup>, Hadi. Keramati<sup>2</sup>

<sup>1</sup> MA in Educational Psychology, Faculty of Education and Psychology, Kharazmi University, Tehran, Iran

<sup>2</sup> Assistant Professor, Department of Educational Psychology, Faculty of Education and Psychology, Kharazmi University, Tehran, Iran

\* Corresponding author email address: Amirhoseinmousavi899@gmail.com

### Article Info

#### Article type:

Original Research

#### How to cite this article:

Mousavi, S. A. H., Arab Zadeh, M., & Keramati, H. (2024). Predicting Delay in Academic Satisfaction Among Students Based on Implicit Intelligence Beliefs and Motivational Beliefs. *KMAN Counseling and Psychology Nexus*, 1(2), 4-11.

<http://doi.org/10.61838/kman.psynexus.2.1.2>



© 2024 the authors. Published by KMAN Publication Inc. (KMANPUB), Ontario, Canada. This is an open access article under the terms of the Creative Commons Attribution-NonCommercial 4.0 International (CC BY-NC 4.0) License.

### ABSTRACT

The purpose of the present study was to predict the delay in academic satisfaction among students based on implicit intelligence beliefs and motivational beliefs.

The research method was descriptive-correlational. The population of this study included all male middle school students in Khomeini Shahr, Esfahan, who were enrolled in the 2021-2022 academic year. Using a multi-stage cluster sampling method, 302 students were selected as the research sample. The research instruments included the Babaei Implicit Intelligence Beliefs Questionnaire (1998), the Pintrich et al. Motivational Strategies Questionnaire (1991), and the Academic Satisfaction Delay Questionnaire. Pearson correlation and stepwise multiple regression analysis were used for data analysis. The results indicated that regarding motivational beliefs, the best predictors of delay in academic satisfaction among students were, in order, intrinsic valuation, cognitive strategies, and exam anxiety; and regarding implicit intelligence beliefs, the best predictor was the incremental view of intelligence. Based on the findings, it can be said that students' implicit intelligence beliefs and motivational beliefs can predict their tendency towards delay in academic satisfaction.

**Keywords:** Academic Satisfaction, Motivational beliefs, Implicit intelligence beliefs,

## 1. Introduction

Nowadays, education is a crucial part of everyone's life, and its quality and quantity play an important role in individuals' futures. Raising happy, healthy, and ethical children and youth is among the most important goals of parents, teachers, and educators. The most significant

educational period for any individual takes place in school, and education determines people's future lives. Most school programs focus on learning skills such as reading, writing, mathematics, and creative thinking, but it is impossible to pursue such goals without considering a component like delay in academic satisfaction (Naghi Beiranvand et al., 2018). In fact, the most principal and apparent sign of

success in the educational system in achieving its goals is academic performance and achieving academic satisfaction for students in the first place, and satisfaction with life in the second place (Nejatifar et al., 2021).

Academic satisfaction, as a cognitive-affective variable, significantly impacts students' adaptation and academic performance, and the lack of academic satisfaction leads to future socio-economic inadequacy, a decline in academic performance, and consequently, the lack of social success of gifted students in society, leading to a decline in the country's constructiveness (Zalazar-Jaime et al., 2022). Delay in satisfaction is defined as individuals' intention to postpone immediate available rewards to obtain greater rewards temporarily (Dündar, 2018). By limiting the delay of satisfaction to the academic context, the delay in academic satisfaction relates to students' ability to set aside entertaining and non-educational activities to pursue academic efforts with long-term appealing effects (Datu et al., 2020). Many students strive to remain goal-oriented and committed to their tasks while facing distractions. These distracting factors may include engaging in more pleasurable activities such as going to parties with friends, shopping, and going to the cinema or theater. Since staying goal-oriented and committed often requires forgoing an attractive and achievable goal (e.g., going to a party) in pursuit of long-term academic goals (e.g., scoring high on an exam), this process can be performed (Abd-El-Fattah & Shourbagi, 2015).

The delay in academic satisfaction may be affected by various factors, the most important of which are age, gender, parenting styles, socio-economic status, attribution styles, and also individual personality traits (Arabzadeh & Kodivar, 2012). Therefore, identifying factors leading to the prediction of delay in academic satisfaction is of great importance in research foundations because by recognizing these factors, students can be helped to develop this emotional skill, possibly one of these factors is implicit intelligence beliefs.

Implicit intelligence beliefs form a belief system that stimulates specific motivations, leads to different learning pathways, and shapes individuals' interpretation and understanding of their learning experiences (Liu, 2021). In relation to the connection between implicit intelligence beliefs and delay in academic satisfaction, it could be stated that individuals with innate intelligence beliefs, having inflexible judgments, disregard abilities, and limit access to goals, have limited efforts and avoid confronting difficult situations and challenges. Such characteristics lead to

stagnation, less effort, lack of attention to long-term planning, and lack of delay in achieving immediate desires in these individuals (Leondari & Gialamas, 2002).

In addition to intelligence beliefs, another factor that could predict academic satisfaction is motivational beliefs. Regarding the importance of intelligence beliefs and motivational beliefs for predicting delay in academic satisfaction, it can be mentioned that according to Wellman et al. (2001) and Sternberg (1985), intelligence beliefs direct an individual's behavior and predict his behavior for others. On the other hand, intelligence beliefs affect the quality of an individual's interpretation of failures and successes and, therefore, the individual's learning process (Sternberg, 1985; Wellman et al., 2001). According to Pintrich and De Groot's self-regulated learning theory, motivational beliefs include three components: expectancy (self-efficacy), intrinsic value (value), and test anxiety (affect) (Pintrich & De Groot, 1990). Self-efficacy refers to a student's belief in their ability to perform a task, intrinsic value refers to the student's beliefs and goals about the interest and importance of the task, and test anxiety refers to the individual's anxiety level during an exam for a specific subject (Parsakia, 2023; Parsakia et al., 2023).

Researchers believe that motivational determinants have a positive relationship with delay in academic satisfaction, which in turn has a positive relationship with academic progress and study hours (Abd-El-Fattah & Shourbagi, 2015). The importance of conducting the present research can be stated as follows: previous studies have examined implicit intelligence theories and delay in academic satisfaction; however, these studies have not been able to examine the variable of implicit intelligence theories in combination with the variable of motivational beliefs and to investigate the impact of these two variables simultaneously on delay in academic satisfaction. Integrating these variables into a regression analysis model could provide the opportunity to examine the independent and combined effect of each variable. Given what has been said, no study has yet addressed predicting academic satisfaction based on implicit intelligence beliefs and motivational beliefs; therefore, the present research aimed to find an answer to the question of whether intelligence beliefs and motivational beliefs could predict students' academic satisfaction.

## 2. Methods and Materials

### 2.1. Study Design and Participants

The method of this research was descriptive-correlational. In this study, the criterion variable (delay in academic satisfaction) was predicted by independent variables (intelligence beliefs and motivational beliefs). The population included all male middle school students in public and private schools in Khomeini Shahr during the 2021-2022 academic year. A multi-stage cluster random sampling method was used for sample selection; first, 8 schools were selected from all schools, one class from each school, and then all the students present in the class were evaluated. Finally, after excluding 20 incomplete forms, a sample size of 302 students formed the sample of the present study.

### 2.2. Measures

#### 2.2.1. Intelligence Beliefs

The questionnaire was developed by Babaei (1998) and consists of 14 items. It has two components: innate intelligence and incremental intelligence. The questionnaire uses a 5-point Likert scale (strongly agree, agree, neutral, disagree, strongly disagree) with scores assigned from 1 to 5, respectively. Items 1, 4, 6, and 14, which emphasize the innate and instinctual nature of intelligence, are scored inversely. To obtain the overall score of the questionnaire, all the items are summed up, resulting in a score range from 14 to 70. A higher score indicates a stronger belief in the incremental nature of intelligence and vice versa. In Babaei's (1998) study, the content and face validity of this questionnaire were confirmed, and its reliability was obtained through Cronbach's alpha method as 0.72, indicating satisfactory reliability. Sarmadi et al. (2009) also confirmed its content and face validity, reporting a Cronbach's alpha reliability coefficient of 0.71 (Stoffa et al., 2011). The reliability of this questionnaire in the current study was obtained through Cronbach's alpha method as 0.78.

#### 2.2.2. Motivational Strategies for Learning

The questionnaire was created by Pintrich and colleagues (1991). It includes 81 items and two motivational scales that consist of 31 items to measure value, expectancy, and affective components, and a learning strategy scale that includes 50 items to measure cognitive, metacognitive, and

resource management strategies. Scoring is based on a 7-point Likert scale (1 = not true at all about me, 7 = very true about me). The internal consistency reliability of the questionnaire was reported by Pintrich and colleagues as 0.78 for motivation scales and 0.71 for learning strategies scales (Stoffa et al., 2011). The reliability of this questionnaire in the present research was obtained through Cronbach's alpha method as 0.70.

#### 2.2.3. Delay in Academic Satisfaction

The delay in academic satisfaction scale was developed by Bembenuty and Karabenick. It comprises 10 items that measure students' preference for choosing an immediately available attractive option over an educational alternative with delay. Test-retest reliability for this scale has been reported between 0.69 and 0.87, and Cronbach's alpha coefficient between 0.68 and 0.85 by various researchers, and its validity was confirmed through factor analysis and correlation with other motivational scales such as goal orientation. In Iran, this questionnaire was translated into Persian by Arabzadeh and Kadivar (2012), reporting a retest reliability coefficient of 0.75. Additionally, Arabzadeh and Kadivar (2012) used concurrent execution with the motivational strategies for learning scale to examine concurrent validity, indicating satisfactory concurrent validity. Furthermore, they used confirmatory factor analysis to determine the scale's factor validity, showing that the scale's structure has an acceptable fit with the data and confirms all model fit indices, proving its validity for use among Iranian student groups (Arabzadeh & Kodivar, 2012). The reliability of this questionnaire in the current study was obtained through Cronbach's alpha method as 0.83.

### 2.3. Data analysis

Pearson correlation and stepwise multiple regression analysis were used for data analysis.

## 3. Findings and Results

Before examining the research hypothesis, descriptive statistics of the research variables were reviewed (Table 1). Also, to explore the simple relationship between the research variables, their correlation was calculated and showed that the correlation between the variables is significant in most cases (Table 2). Thus, the initial prerequisites of examining the model are provided.

**Table 1**

*Descriptive Findings of Research Variables*

Variable	Mean	Standard Deviation	Minimum	Maximum
Self-Efficacy	41.82	6.02	18	53
Intrinsic Valuation	55.83	6.91	27	70
Exam Anxiety	26.60	4.82	12	37
Cognitive Strategies	76.74	8.26	42	92
Self-Regulation	18.69	3.14	8	25
Innate Nature of Intelligence	16.01	2.96	8	20
Incremental Nature of Intelligence	39.91	6.72	20	50
Delay in Academic Satisfaction	21.45	7.34	10	40

**Table 2**

*Correlation Coefficients Between Research Variables*

Variable	1	2	3	4	5	6	7	8
Self-Efficacy	1							
Intrinsic Valuation	0.287*	1						
Exam Anxiety	0.088	0.401*	1					
Cognitive Strategies	0.196*	0.088	-0.024	1				
Self-Regulation	0.075	0.149*	0.067	0.181*	1			
Innate Nature of Intelligence	0.223*	0.214*	0.245*	0.164*	0.260*	1		
Incremental Nature of Intelligence	0.295*	0.283*	0.222*	0.192*	0.236*	0.800*	1	
Delay in Academic Satisfaction	0.189*	0.245*	0.199*	0.187*	0.081	0.353*	0.367*	1

\* p < 0.05 (Indicates statistical significance)

Before conducting regression analysis, the assumptions of interval scale variables of the research, normality of the dependent variable using skewness and kurtosis tests ( $\pm 2$ ),

and independence of error values using the Durbin-Watson test were checked and confirmed.

**Table 3**

*Multiple Correlation Coefficient of Motivational Belief Dimensions with Delay in Students' Academic Satisfaction*

Criterion Variable	Step	Predictor Variable	R (Multiple Correlation Coefficient)	R <sup>2</sup>	R <sup>2</sup> <sub>adj</sub>	F	p
Delay in Academic Satisfaction	Step One	Intrinsic Valuation	0.245	0.060	0.057	19.133	0.001
	Step Two	Cognitive Strategies	0.296	0.088	0.081	14.349	0.001
	Step Three	Exam Anxiety	0.320	0.102	0.093	11.303	0.001

Results in Table 3 indicate that among the variables studied in the regression, the best predictors of delay in academic satisfaction among students in the first step were intrinsic value, in the second step cognitive strategies, and in the third step exam anxiety. Based on the results of the stepwise regression analysis, the relationship between intrinsic value, cognitive strategies, and exam anxiety with the delay in students' academic satisfaction was significant.

Accordingly, in the first step, the coefficient of intrinsic value explains 6% of the variance in students' delay in academic satisfaction, in the second step, the coefficients of intrinsic value and cognitive strategies explain 8.8% of the variance, and in the third step, the coefficients of intrinsic value, cognitive strategies, and exam anxiety explain 10.2% of the variance in students' delay in academic satisfaction.

**Table 4**

*Beta Coefficients in Predicting Delay in Students' Academic Satisfaction with Dimensions of Motivational Beliefs*

Criterion Variable	Step	Predictor Variable	Unstandardized Coefficient (B)	S.E	Standardized Coefficients (Beta)	t	p
Delay in Academic Satisfaction	Step One	Constant	6.935	3.344	-	2.074	0.039
		Intrinsic Valuation	0.260	0.059	0.245	4.374	0.001
	Step Two	Constant	-3.572	4.805	-	-	0.458
		Intrinsic Valuation	0.244	0.059	0.230	4.151	0.001
		Cognitive Strategies	0.148	0.049	0.167	3.009	0.003
	Step Three	Constant	-6.280	4.930	-	-	0.204
		Intrinsic Valuation	0.187	0.064	0.177	2.930	0.004
		Cognitive Strategies	0.155	0.049	0.175	3.164	0.002
		Exam Anxiety	0.201	0.091	0.132	2.201	0.029

Results from Table 4 indicate that for every one-unit increase in intrinsic value, there is a 0.177-unit increase in students' delay in academic satisfaction. For every one-unit increase in cognitive strategies, there is a 0.175-unit increase

in students' delay in academic satisfaction, and for every one-unit increase in exam anxiety, there is a 0.132-unit increase in students' delay in academic satisfaction.

**Table 5**

*Multiple Correlation Coefficient of Implicit Intelligence Belief Components with Delay in Students' Academic Satisfaction*

Criterion Variable	Step	Predictor Variable	Unstandardized Coefficient (B)	S.E	Standardized Coefficients (Beta)	t	p
Delay in Academic Satisfaction of Students	Step One	Incremental Nature of Intelligence	0.367	0.134	0.131	46.561	0.001

Results from Table 5 show that among the variables studied in the regression, the best predictor of delay in academic satisfaction among students in the first step was the incremental view of intelligence. Based on the results of the stepwise regression analysis, the relationship between

the incremental view of intelligence and students' delay in academic satisfaction was significant. Accordingly, in the first step, the incremental view of intelligence explains 13.4% of the variance in students' delay in academic satisfaction.

**Table 6**

*Beta Coefficients in Predicting Delay in Students' Academic Satisfaction with Components of Implicit Intelligence Beliefs*

Criterion Variable	Step	Predictor Variable	Unstandardized Coefficient (B)	S.E	Standardized Coefficients (Beta)	t	p
Delay in Academic Satisfaction of Students	Step One	Constant	5.463	2.376	-	2.300	0.022
		Incremental Nature of Intelligence	0.401	0.059	0.367	6.824	0.001

Results from Table 6 indicate that for every one-unit increase in the incremental view of intelligence, there is a 0.367-unit increase in students' delay in academic satisfaction.

#### 4. Discussion and Conclusion

The present study aimed to predict delay in academic satisfaction based on implicit intelligence beliefs and

motivational beliefs. The findings revealed that among the variables studied in the regression, the best predictors of delay in academic satisfaction among students in the first step were intrinsic value, followed by cognitive strategies in the second step, and exam anxiety in the third step. According to the stepwise regression analysis results, the relationship between intrinsic value, cognitive strategies, and exam anxiety with students' delay in academic satisfaction was significant.

Explaining intrinsic value as the best predictor of delay in academic satisfaction in the first step, it can be said that this component refers to individuals' value system and the importance they place on their long-term goals. Students with a strong intrinsic value for their academic success are likely to prioritize their long-term goals over immediate gratification or distractions. They possess strong intrinsic motivation, personal discipline, and a sense of responsibility for their education. In other words, individuals with higher levels of intrinsic value tend to have stronger self-control and a greater ability to delay immediate academic satisfaction for long-term benefits. Those highly valued intrinsically tend to exhibit strong personal discipline, self-motivation, and goal-directed behavior. They are likely aware of the importance of delaying success in academia. Therefore, they are more likely to demonstrate the ability to delay immediate academic satisfaction in pursuit of their academic goals. Conversely, individuals with lower levels of intrinsic value may struggle with self-control and find it harder to resist immediate temptations. They may prioritize short-term pleasures over long-term academic success, which could lead to delays in academic satisfaction or difficulties in achieving desirable academic outcomes. Hence, the research findings suggest that individuals with higher levels of intrinsic value are more likely to possess self-control and the necessary ability to delay academic satisfaction to achieve academic success.

Explaining cognitive strategies as the best predictor of delay in academic satisfaction in the second step, it can be said that students who use effective cognitive strategies such as effective planning, organization, time management, and self-monitoring are capable of resisting immediate temptations and focusing on their academic activities. These strategies help them optimize their cognitive resources, overcome distractions, and maintain their academic momentum.

Explaining exam anxiety as the best predictor of delay in academic satisfaction in the third step, it can be said that students experiencing high levels of exam anxiety might

struggle to delay their academic satisfaction because they may feel pressured to perform well in exams. This anxiety can hinder their ability to effectively manage time, concentrate on their studies, and resist immediate rewards or distractions. Overall, the research findings suggest that a combination of personal values, effective cognitive strategies, and managing exam anxiety are significant factors in determining a student's ability to delay academic satisfaction and prioritize their academic goals over immediate rewards.

Another finding of the study showed that among the variables studied, the best predictor of delay in academic satisfaction among students in the first step was the incremental view of intelligence. Explaining this finding, it can be stated that individuals with better positions regarding intelligence beliefs are more likely to complete tasks on time and be more successful in delaying academic satisfaction by considering and accepting factors under their control during challenging tasks (e.g., effort, perseverance) (Abd-El-Fattah & Al-Nabhani, 2012). Dweck (1999) and Dweck & Leggett (1988) also showed that intelligence beliefs lead to perseverance in the face of difficulties, a tendency to make an effort, use of effective problem-solving strategies, and higher levels of delay in academic satisfaction. These healthy psychological characteristics lead to improved academic progress, adaptation, and ultimately better delay in academic satisfaction among students (Dweck, 1999; Dweck & Leggett, 1988).

Furthermore, it can be said that individuals with strong implicit intelligence beliefs tend to have a growth mindset. They believe that intelligence is not fixed and can be developed through effort and learning. As a result, they are likely to prioritize long-term academic goals over immediate gratification. On the other hand, individuals with weaker implicit intelligence beliefs may have a fixed mindset and believe that intelligence is innate and unchangeable. This mindset can lead to a focus on short-term rewards and immediate satisfaction, rather than investing in long-term academic activities. Therefore, students with strong implicit intelligence beliefs may be more inclined to delay academic satisfaction and prioritize academic success because they believe better outcomes are achievable through effort and perseverance. Conversely, students with weaker implicit intelligence beliefs may be more prone to instant gratification, feeling that their academic performance is predetermined and not worth delaying satisfaction for.

In summary, the results of this research suggest that there is a relationship between implicit intelligence beliefs,

motivational beliefs, and delay in academic satisfaction among students. Thus, it can be stated that students with greater implicit intelligence and motivational beliefs are more inclined towards delaying academic satisfaction, and these beliefs influence their tendency towards delaying academic satisfaction. Considering the limitations encountered in the current research, it was noted that data collected via self-report measures might be affected by the cognitive and emotional biases of respondents, which could influence the accuracy of the collected data. Therefore, it is recommended to use tools and methods that better reflect the actual behaviors of these individuals. Another limitation was that the sample group was selected only from male students, so it is suggested that this research be conducted for other age groups such as children. Finally, given that motivational and intelligence beliefs are related to delay in academic satisfaction, it is recommended that educational system authorities help students delay academic satisfaction by teaching strategies to strengthen a growth mindset and motivational beliefs.

### Authors' Contributions

Authors contributed equally to this article.

### Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

### Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

### Acknowledgments

We would like to express our gratitude to all individuals helped us to do the project.

### Declaration of Interest

The authors report no conflict of interest.

### Funding

According to the authors, this article has no financial support.

### Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

### References

- Abd-El-Fattah, S., & Al-Nabhani, H. Z. (2012). From self-theories of intelligence to academic delay of gratification: The mediating role of achievement goals. *Australian Journal of Educational and Developmental Psychology*, 12, 93-107. [https://www.researchgate.net/publication/287451740\\_From\\_self-theories\\_of\\_intelligence\\_to\\_academic\\_delay\\_of\\_gratification\\_The\\_mediating\\_role\\_of\\_achievement\\_goals](https://www.researchgate.net/publication/287451740_From_self-theories_of_intelligence_to_academic_delay_of_gratification_The_mediating_role_of_achievement_goals)
- Abd-El-Fattah, S., & Shourbagi, S. (2015). Academic Delay of Gratification and its Relationship to Motivational Determinants, Academic Achievement, and Study Hours among Omani High School Students: A Path Analysis. *Journal of Educational and Psychological Studies [JEPS]*, 9, 691. <https://doi.org/10.24200/jeps.vol9iss4pp691-700>
- Arabzadeh, M., & Kodivar, P. (2012). Examination of Reliability, Validity, and Factor Analysis of Academic Delay of Gratification Scale. *Quarterly of Educational Measurement*, 3(9), 1-18. [https://jem.atu.ac.ir/article\\_5644.html](https://jem.atu.ac.ir/article_5644.html)
- Datu, J. A. D., Labarda, C. E., & Salanga, M. G. C. (2020). Flourishing is Associated with Achievement Goal Orientations and Academic Delay of Gratification in a Collectivist Context. *Journal of Happiness Studies*, 21(4), 1171-1182. <https://doi.org/10.1007/s10902-019-00122-w>
- Dündar, S. (2018). Exploring the Relationship Between Constructivist Learning Environments, Attitudes, Academic Delay of Gratification, and Teaching Efficacy Beliefs in a Social Studies Teaching Course. *Journal of International Social Studies*, 8, 3-28. <https://www.semanticscholar.org/paper/Exploring-the-Relationship-Between-Constructivist-a-D%C3%BCndar/814a6a4c3da3902021de383d10be215c5da81932>
- Dweck, C. S. (1999). *Self-theories: Their role in motivation, personality, and development*. Psychology Press. <https://psycnet.apa.org/record/1999-02577-000>
- Dweck, C. S., & Leggett, E. L. (1988). A social-cognitive approach to motivation and personality. *Psychological review*, 95(2), 256-273. <https://doi.org/10.1037/0033-295X.95.2.256>
- Leondari, A., & Gialamas, V. (2002). Implicit theories, goal orientations, and perceived competence: Impact on students' achievement behavior. *Psychology in the Schools*, 39(3), 279-291. <https://doi.org/10.1002/pits.10035>
- Liu, W. C. (2021). Implicit Theories of Intelligence and Achievement Goals: A Look at Students' Intrinsic Motivation and Achievement in Mathematics [Original Research]. *Frontiers in psychology*, 12. <https://www.frontiersin.org/journals/psychology/articles/10.3389/fpsyg.2021.593715>
- Naghi Beiranvand, F., Ghadampour, E., & Sadeghi, M. (2018). The effect of self-regulated learning strategies on students' academic delay of gratification and optimism. *Educational Psychology*, 14(49), 119-137. <https://doi.org/10.22054/jep.2019.11609.1415>
- Nejatifar, S., Aghaziarati, A., & Abedi, A. (2021). Developing a Model of Academic Satisfaction in Gifted Students based on the Factors Affecting It: A Grounded Theory Study.

- Psychology of Exceptional Individuals*, 11(43), 141-174.  
<https://doi.org/10.22054/jpe.2022.59758.2298>
- Parsakia, K. (2023). The Effect of Chatbots and AI on The Self-Efficacy, Self-Esteem, Problem-Solving and Critical Thinking of Students. *Health Nexus*, 1(1), 71-76.  
<https://doi.org/10.61838/hn.1.1.14>
- Parsakia, K., Rostami, M., & Saadati, S. M. (2023). Validity and reliability of digital self-efficacy scale in Iranian sample. *Journal of Adolescent and Youth Psychological Studies*, 4(4), 152-158.
- Pintrich, P. R., & De Groot, E. V. (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal of Educational Psychology*, 82(1), 33-40. <https://doi.org/10.1037/0022-0663.82.1.33>
- Sternberg, R. J. (1985). *Implicit theories of intelligence, creativity, and wisdom* [doi:10.1037/0022-3514.49.3.607]. American Psychological Association.
- Stoffa, R., Kush, J. C., & Heo, M. (2011). Using the Motivated Strategies for Learning Questionnaire and the Strategy Inventory for Language Learning in Assessing Motivation and Learning Strategies of Generation 1.5 Korean Immigrant Students. *Education Research International*, 2011, 491276.  
<https://doi.org/10.1155/2011/491276>
- Wellman, H. M., Cross, D., & Watson, J. (2001). Meta-Analysis of Theory-of-Mind Development: The Truth about False Belief. *Child development*, 72(3), 655-684.  
<https://doi.org/10.1111/1467-8624.00304>
- Zalazar-Jaime, M. F., Moretti, L. S., & Medrano, L. A. (2022). Contribution of Academic Satisfaction Judgments to Subjective Well-Being [Original Research]. *Frontiers in psychology*, 13.  
<https://www.frontiersin.org/journals/psychology/articles/10.3389/fpsyg.2022.772346>