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## Comparing the effectiveness of Interventions of Academic Engagement and Dweck's Mindset on health-oriented academic lifestyle among high school students

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## **ABSTRACT**

Background and Aim: Adolescence represents a critical period of rapid physical, social, cognitive, and emotional change that has important implications for health and well-being later in life The aim of this study was to comparing the effectiveness of interventions of academic engagement and Dweck's mindset on health-oriented academic lifestyle among high school students. Methods: This research was a quasiexperimental study with a pretest-posttest-follow-up design and a control group. The statistical population of the study included all female high school students in Mahabad in the academic year 2021-2022. The statistical sample consisted of 45 students who were selected by stage cluster sampling and randomly replaced in two experimental groups and one control group. Research data were collected through Promoting and Preventing Educational Health Academic Lifestyle Behaviors Questionnaire (Salehzadeh, Shukri and Fathabadi, 2016). For the experimental groups, the study engagement interventions (Reeve and Tsenning, 2011) was performed in 12 sessions of 75 minutes and the Dweck's mindset program (Dweck, 2006) was performed in 8 sessions of 50 minutes, and the control group did not receive any intervention. Analysis of variance with repeated measures in SPSS version 26 was used to analyze the data. Results: Data analysis showed that both academic engagement interventions and Dweck's mindset in the post-test stage were effective in improving health-promoting behaviors (F=29.16, P=0.0001, □2=0.587) and reducing health inhibitory behaviors (F=23.26, P=0.0001, □2=0.532), but academic engagement idnterventions was more effective and effective in the followup stage was stable for one month. Conclusion: According to the findings, it can be argued that academic engagement interventions and Dweck's mindset are effective interventions to improve health-oriented lifestyle in students.



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#### Introduction

Education plays an essential role in development and prosperity of today's society. Academic success provides children with opportunities for higher education employment and may lead to personal empowerment and the ability to make healthy choices (Liu, Wang, Wan, Lyu, & Zhou, 2021). Academic health-oriented lifestyle behaviors are a set of the most conventional academic healthpromoting behaviors such as academic resilience, mastery vs. performance goal orientation, optimism, academic engagement and academic vitality, and the most frequent healthinhibiting behaviors such as helplessness, cheating, effort avoidance, nonadaptive perfectionism, procrastination, selfimpairment, avoidance of seeking help and passive aggression are (Salehzadeh, Shokri, and Fathabadi, 2017). Undoubtedly, the prescription of any appropriate prescription to create or strengthen a constructive and facilitating behavior or to modify an irreconcilable and destructive behavior requires a precise and realistic understanding of that behavior (Sofi et al., 2019). Recently, various intervention approaches have been investigated to improve the health-oriented behaviors of adolescents, including school-based positive education, mindfulness, meaning therapy, self-compassion, behavioral activation, and positive adolescent development education (Sadat, Vahedi, Fathi Azar, and Badri Gargari, 2020; Bazzano, Anderson, Hylton, & Gustat, 2018). One of the newest educational approaches that have attracted the attention of researchers is academic engagement education. Academic engagement refers to the quality of effort students spend on targeted educational activities to achieve desired academic outcomes (Kim, Hong, & Song, 2019). Academic engagement training is a program that is based on the four-factor approach of behavioral, emotional, cognitive, and agency by Reeve and Tseng (2011), by Hasani, Dortaj, Bagheri, and Saadati Shamir (2019) based on Carrick's (2017) Emotional Freedom Theory, Wells' (2016) 100% Yes law and the theory of learning as a generative activity has been formulated by Fiorella and Mayer (2015). In this intervention, various techniques such as goal setting, mental mapping, memory enhancement, planning, increasing concentration, love of study methods, shock therapy, and correcting false beliefs were used to achieve self-awareness and academic self-regulation, as well as the desired cognitive regulation of emotion. (Hosni et al., 2018).

In the field of improving students' academic and psychological performance, one of the challenging interventions that have been recently noticed in research is the intervention based on changing the mindset of Dewey. The mindset change and development program is a psychologically based educational method based on Dweik's belief that people's mental capacities are not fixed but can be developed over time (Dweck & Yeager, 2019).

Academic issues constitute a huge part of the pressures of the teenage period, which causes students stress. Among these pressures are the difficulty and complexity of courses, excessive assignments, time limitations, and individual problems with peers and teachers, which increase academic stress and reveal the need to pay student-centered intervention programs (Manikandan & Neetho, 2018). However, the research conducted regarding the effectiveness of these interventions is limited, and most of the research has been conducted in the form of correlational studies. There is a deep research gap regarding the effectiveness of these interventions. Moreover, since few studies have been conducted regarding the comparison of the effectiveness of academic engagement training and the intervention based on changing the mindset of Dweck on the structures related to the personal, social and academic health of students, and taking into account the necessity of conducting such research in order to improve the performance of knowledge, this research was conducted to answer the question, is there a significant difference between the effectiveness of academic engagement training and the intervention based on Dweck's mindset change on academic health-oriented lifestyle in second high school students?

## Method

This research was a quasi-experimental study with a pre-test-post-test-follow-up design and a control group. The statistical population of this research included all female students of second secondary level in Mahabad city in the academic year 2020-2022. The statistical sample consisted of 45 students who were selected by the stage cluster sampling method and randomly replaced into two experimental groups and one control group. This way, 4 schools were randomly

selected from among 16 girls' schools of the second secondary level, and then 3 classes of different grades were selected from each school. Before starting the training courses, the objectives of the research were explained to the subjects, and the parents were reassured about the principle of secrecy and confidentiality of the information obtained from the research. It was also mentioned that participating in the interventions would not cause any financial or material losses for the subjects, and all the stages were done free of charge. Finally, it was pointed out that the subjects can withdraw from the study process at any time if they do not want to continue cooperation. It should be noted that this research has been registered with the ethics code IR.IAU.TABRIZ.REC.1401.045 in the National System of Ethics in Biomedical Research.

#### **Tools**

- **Ouestionnaire** of lifestyle behaviors promoting inhibiting academic and **health:** The questionnaire of lifestyle behaviors promoting and inhibiting academic health was used to measure the lifestyle of academic health. This questionnaire consists of 124 items and 13 components, of which 48 are related to behaviors that promote academic health and 76 are related to behaviors that inhibit academic health. Respondents should answer each item on a 5point Likert scale from strongly agree (5) to strongly disagree (1). Salehzadeh et al. (2017) examined the scale's construct validity through exploratory factor analysis and confirmatory factor analysis and confirmed its multi-factor structure. Moreover, the internal similarity coefficients of multiple dimensions of academic health facilitators include academic optimism 0.89, academic engagement 0.85, mastery goal orientation 0.93, academic vitality 0.93, academic resilience 0.93 and in each the underlying structures; the inhibiting dimension of academic health includes learned helplessness 0.92, avoidance of seeking help 0.94, passive aggression 0.94, academic procrastination 0.93, self-handicapping 0.90, effort avoidance 0.95, academic cheating 0.96. 0, and non-adaptive perfectionism is calculated as 0.95.
- 2. Academic engagement training: The educational engagement training package is based on Reeve and Tseng's approach (2011) by Hasani et al. The basis of the theory of Crick (2017), Wells (2016), and Fiorella and Mayer (2015) are prepared, which is used in 12 sessions of 75 minutes.

3. Intervention based on Dweck's mentality change: Dweck's educational program is a psychologically based program developed by Dweck (2006). This educational program tries to change the mentality and interpretation of events and is based on the fact that intelligence and personality can be changed and in a wide range of fields, success in school, work, sports, art, and almost any field of human endeavor that is dramatically improved. Our talents and abilities can influence it. Longitudinal studies show that students' mindset about their intelligence predicts their academic performance in real-world contexts (cited by Ojaghi, Abedi, and Malekpour, 2014; Fallahieh, Fatehizadeh, Abedi, and Dayarian, 2019). Dweck's mindset change program (2006) was presented as a group in 8 50minute sessions.

## Results

In this study, the average age was 16.33 for the academic engagement training group, 16.60 for the Dewey training group, 16.47 for the control group, and 16.47 for all subjects. Regarding educational level, 13 people were in the 10th grade, 24 were in the 11th grade, and 8 were in the 2nd grade. In the following, the assumptions of the homogeneity of the variances matrix were checked with the Levene test and homogeneity of the variance-covariance matrix with the M-box test. The academic axis (promoting behaviors and inhibiting behaviors of academic health) was in experimental and control groups (p>0.05). Examining the Mokhli statistic showed that this statistic was significant for the effect of the factor (pre-test, post-test, and follow-up) in promoting behaviors (p=0.011,  $\square$ 2=8.99), but for health inhibiting behaviors (P= 0.106,  $\square 2=4.49$ ) was not significant. The assumption of the equality of variances in the steps was respected. Therefore, Hoyne-Feldet amendment was used to report the findings in the variable of health-promoting behaviors. Also, the results of multivariate tests showed that Wilks's lambda test for the interactive effect of the group and the factor in the health-promoting style  $(\Box 2=0.587, P=0.0001, F=29.16)$  and the healthinhibiting style ( $\Box 2=0.532$ , P=0.0001, F=23.26) is significant. This result indicates that there is a significant difference in at least one of the stages of pre-test, post-test and follow-up of healthenhancing and health-inhibiting behaviors in the two experimental and control groups, and it indicates that 59% of the observed difference between groups in the average stages of healthpromoting behaviors and 53% of the difference

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observed between the groups in the average stages of academic health-inhibiting style is due to the effect of academic engagement training and intervention based on Deweck's mindset change. This finding shows that educational engagement training and intervention based on Dewey's mindset change is more effective on the health-oriented academic lifestyle in the subjects of the experimental group than the control group in the post-test and follow-up stages.

The results showed that the interaction effect of group and factor was significant for healthpromoting and health-inhibiting styles (p≤0.01). Therefore, it can be stated that the difference in the mean scores of the health-promoting and health-inhibiting styles in the pre-test, post-test, and follow-up stages is significant according to the variable levels of the group. Therefore, considering that the interaction effect between the group and the intragroup factor was significant, Bonferroni's pairwise comparison test was used to investigate the intergroup effects according to the levels of the intragroup factor in the research variables. According to the results in the health-promoting style variable, there is a statistically significant difference between the pre-test and the post-test, as well as between the pre-test and the follow-up, as well as between the post-test and the follow-up, in both the intervention of academic engagement and change of Dweck's mindset. p≤0.01). This finding shows that the training of academic engagement and intervention based on changing Dweck's mindset significantly increased the health-promoting style in the post-test and follow-up stages compared to the pre-test. Also, in the variable of health inhibitory style, there is a statistically significant difference between the pre-test and post-test stages, between the pre-test and followup, and between the post-test and follow-up  $(P \le 0.01)$ .

## **Conclusion**

This research was conducted to compare the effectiveness of academic engagement training and intervention based on Dewey's mindset change on academic health-oriented lifestyle in second high school students. The research findings showed that the education of academic engagement and the intervention based on changing the dual mindset significantly increased the health-promoting style and reduced academic health-inhibiting behaviors in the post-test and follow-up stages compared to the pre-test. The study of inter-group effects showed that in the health-promoting and health-preventing

behaviors, both the academic engagement training intervention and the intervention based on dual mindset change had significant effects in the post-test stage compared to the control group. However, in the follow-up phase, only academic engagement training was effective in increasing health-promoting behaviors and reducing healthinhibiting behaviors compared to the control group. However, this effect was significant in the follow-up phase for the intervention based on Dweck's mindset change in health-promoting and health-inhibiting behaviors. This finding shows that the only effectiveness of academic engagement training in increasing healthenhancing behaviors and reducing healthinhibiting behaviors was stable in a one-month follow-up. Also, the results showed that academic engagement training had a greater impact on increasing health-promoting behaviors and reducing health-inhibiting behaviors than Dweck's mindset change intervention in the posttest and follow-up stages. In general, the findings of this hypothesis indicate that both the educational engagement training intervention and the intervention based on Dewey's mindset change in the post-test stage have been effective in improving health-promoting behaviors and reducing health-inhibiting behaviors. However, academic engagement training has been more effective. However, only the effect of academic engagement training was stable in the one-month follow-up phase.

In explaining this finding, it can be argued that students who have a growth mindset and are also academically engaged adapt better to challenging situations (Ladd & Dinella, 2009), are more likely to take advantage of learning opportunities, have higher quality work than those who produce less fixed or preoccupied mindsets (Fredericks, 2011), and show greater awareness of social issues, rules, and standards in their academic behavior. Therefore, it can be said that although both interventions have different theoretical foundations, the concepts they cover in their context are motivational in nature. By manipulating students' motivation levels, they can be effective in individual and academic performance, especially in academic healthoriented lifestyle. Growth mindsets conceptualized as underlying assumptions about the malleability of personal characteristics. Students with a fixed mindset view intellectual ability as something that people have a fixed and unchanging amount of, while students with a growth mindset view intellectual ability as something that can grow or develop over time (Aff Orsin et al., 2020).

Academic engagement has long been recognized as a critical factor in student learning and achievement (Lawson & Masyn, 2015). Students demonstrate engagement behaviorally by attending school and participating in school activities, emotionally by feeling proud and attached to school, and cognitively by engaging in study and learning (Fredericks et al., 2016).

## **Conflict of Interest**

According to the authors, this article has no financial sponsor or conflict of interest.

#### References

- af Ursin, P., Järvinen, T., & Pihlaja, P. (2021). The role of academic buoyancy and social support in mediating associations between academic stress and school engagement in Finnish primary school children. Scandinavian Journal of Educational Research, 65(4), 661-675.
- Alesi, M., Rappo, G., & Pepi, A. (2016). Investigating the improvement of decoding abilities and working memory in children with incremental or entity personal conceptions of intelligence: two case reports. Front Psychol, 6, 19-39. Doi: 10.3389/fpsyg.2015.01939
- Arami, Z., Sharifi, T., Ghazanfari, A., & Abedi, A. (2019). A Comparison of the Effectiveness of Fredrickson's Positive Thinking and Dweck's Mindset Programs on Psychological Capital of Gifted Ninth-Grade Girls with Test Anxiety in Isfahan. JOEC, 19(3): 37-48.
- Bakouei, F., Omidvar, S., Seyediandi, S. J., & Bakouei, S. (2019). Are healthy lifestyle behaviors positively associated with the academic achievement of the university students?. Journal of advances in medical education & professionalism, 7(4), 224–229.
- Bazzano, A. N., Anderson, C. E., Hylton, C., Gustat, J. (2018). Effect of mindfulness and yoga on quality of life for elementary school students and teachers: results of a randomized controlled school-based study. Psychol Res Behav Manag, 11, 81-89.
- Campbell, A. L., Direito, I., & Mokhithi, M. (2021). Developing growth mindsets in engineering students: a systematic literature review of interventions. European Journal of Engineering Education, 46(4), 503-527.
- Carvalho, E., & Skipper, Y. (2020). A twocomponent growth mindset intervention for young people with SEND. Journal of Research in Special Educational Needs, 20(3), 195–205.
- Claro S., Paunesku D., & Dweck C. S. (2016). Growth mindset tempers the effects of poverty on academic achievement. Proc Natl Acad Sci. U.S.A. 113, 8664–8668.

- Craig, G. (2017). The Gold Standard (Official) EFT Tapping Tutorial. Retrieved March 14, from https://www.emofree.com/eft-tutorial/eft-tapping-tutorial.html.
- Datu, J. A. D., & King, R. B. (2018). Subjective well-being is reciprocally associated with academic engagement: A two-wave longitudinal study. Journal of school psychology, 69, 100-110.
- Datu, J. A. D., & Park, N. (2019). Perceived School Kindness and Academic Engagement: The Mediational Roles of Achievement Goal Orientations. School Psychology International, 40(5), 456-473.
- Deci, E. L., & Ryan, R. M. (2012). Levels of analysis, regnant causes of behavior and wellbeing: The role of psychological needs. Psychological Inquiry, 22(1), 17-22.
- Delavar, A. (2020). Research Method in Psychology and Educational Sciences. Tehran: Viravesh.
- Demirci, İ. (2020). School Engagement and Well-Being in Adolescents: Mediating Roles of Hope and Social Competence. Child Indicators Research, 13(5), 1573-1595.
- Dweck, C. (2006). Mindset: The new psychology of success. New York: Random House
- Dweck, C.S., Yeager, D.S. (2019). Mindsets: A view from two eras. Perspectives on Psychological Science, 14(3), 481-496.
- Ebrahimi, N., & Khalatbari, J. (2020). The prediction of academic resilience based on academic engagement with mediating role of sense of belonging to school in students. Rooyesh, 9(7): 119-128.
- Eccles, J. S., & Roeser, R. W. (2012). Schools as developmental contexts during adolescence. Handbook of Psychology, Second Edition, 6.
- Fallahiyeh, S., Fatehizade, M., Abedi, A., & Dayarian, M. (2020). The Effect of Intervention Based on Dweck's Mind Set on Academic Expectations Stress among Gifted and Talented School Students. Journal of Cognitive Psychology, 8 (2):46-57.
- Fiorella, L., & Mayer, R. E. (2016). Eight ways to promote generative learning. Educational Psychology Review, 28(4), 717-741.
- Fredricks, J. A., Parr, A. K., Amemiya, J. L., Wang, M. T., & Brauer, S. (2019). What matters for urban adolescents' engagement and disengagement in school: a Mixed-Methods Study? Journal of Adolescent Research, 34(5), 491-527.
- Fredricks, J. A. (2011). Engagement in school and out-of-school contexts: A multidimensional view of engagement. Theory into Practice, 50(4), 327–335.

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- Guajardo Leal, B., Navarro-Corona, C. & Valenzuela González, J. (2019). Systematicmapping study of academic engagement in MOOC. International review of researchin open and distributed learning, 20 (2), 114-138.
- Hasani, F., Dortaj, F., Bagheri, F., & Saadeti Shamir, A. (2020). The Effectiveness of Teaching Academic Engagement on Academic Strees Students School. Journal of Modern Psychological Researches, 14(56), 151-167.
- Hesam, M., & Abedi, A. (2020). Enhancing academic engagement of underachieving gifted students: The effects of Martin's educational program. Journal of education and health promotion, 9, 137.
- Kim, H. J., Hong, A. J., & Song, H.-D. (2019). The roles of academic engagement and digital readiness in students' achievements in university e-learning environments. International Journal of Educational Technology in Higher Education, 16(1), 21.
- Kim, S. J., Lee, J., Song, J. H., & Lee, Y. (2021). The reciprocal relationship between academic resilience and emotional engagement of students and the effects of participating in the Educational Welfare Priority Support Project in Korea: Autoregressive cross-lagged modeling. International Journal of Educational Research, 109, 101802.
- Ladd, G. W., & Dinella, L. M. (2009). Continuity and change in early school engagement: Predictive of children's achievement trajectories from first to eighth grade? Journal of Educational Psychology, 101(1), 190–206.
- Lawson, M. A., & Masyn, K. E. (2015). Analyzing profiles, predictors, and consequences of student engagement dispositions. Journal of school psychology, 53(1), 63-86.
- Liu, H., Wang, M., Wan, H., Lyu, Y., & Zhu, H. (2021). An Empirical Study on Students' Academic Wellbeing and Sustainable Development in Live Webcast Classes. Sustainability, 13(2), 501.
- Manikandan, K., & Neethu, A. (2018). Student Engagement in relation to Academic stress and Self-Efficacy Guru Journal of Behavioral and Social Sciences Student Engagement in relation to Academic stress and Self-Efficacy. Guru Journal of Behavioral and Social Sciences, 6(1), 775-784.
- Martin, A. J., Nejad, H., Colmar, S., and Liem, G. A. D. (2013). Adaptability: how students' responses to uncertainty and novelty predict their academic and non-academic outcomes. J Educ Psychol, 105, 728–746.
- Ojaghi, S. S., Abedi, A., & Malek Pur, M. (2021). The effectiveness of Dweck's mind changing

- motivational program on goal orientation and successful intelligence of intelligent students. Shenakht Journal of Psychology and Psychiatry, 8(1): 48-60.
- Orosz, G., Péter-Szarka, S., Bőthe, B., Tóth-Király, I., Berger, R. (2017). How Not to Do a Mindset Intervention: Learning from a Mindset Intervention among Students with Good Grades. Front Psychol, 8, 311.
- Reeve, J. (2013). How students create motivationally supportive learning environments for themselves: The concept of agentic engagement. Journal of Educational Psychology, 105, 579–595.
- Reeve, J., and Tseng, C -M. (2011). Agency as a Fourth Aspect of Students' Engagement during Learning Activities. Contemporary Educational Psychology, 36(4), 257-267.
- Sadat, S., Vahedi, S., Fathiazar, E., & Badri Gargari, R. (2020). The Effectiveness of School-Based Model of Positive Education Training on the Academic Engagement of Students in Elementary Schools. Journal of Applied Psychological Research, 11(3), 19-35.
- Salehzadeh, P., & Fathabadi, J. (2018). Development and Validation of the Promoting and Preventing Educational Health Academic Lifestyle Behaviors Questionnaire: Perspectives on contemporary theories of achievement motivation. Quarterly of Educational Measurement, 8(30), 61-105.
- Schroder, H. S., Moran, T. P., Donnellan, M. B., Moser, J. S. (2014). Mindset induction effects on cognitive control: a neurobehavioral investigation. Biol Psychol, 103, 27–37.
- Shim, S. S., Rubenstein, L. D., & Drapeau, C. W. (2016). When perfectionism is coupled with low achievement: The effects on academic engagement and help seeking in middle school. Learning and Individual Differences, 45, 237-244.
- Skaalvik, E. M., & Skaalvik, S. (2011). Teacher job satisfaction and motivation to leave the teaching profession: Relations with school context, feeling of belonging, and emotional exhaustion. Teaching and Teacher Education, 27(6), 1029–1038.
- Soufi, S., shokri, O., Fathabadi, J., & Ghanbari, S. (2019). Causal Structure of Antecedents and Consequences of Health-Oriented Academic Lifestyle in Gifted Girl Students. Psychology of Exceptional Individuals, 9(35), 35-71.
- Stea, T. H., & Torstveit, M. K. (2014). Association of lifestyle habits and academic achievement in Norwegian adolescents: A cross-sectional study. BMC Public Health, 14, 829.
- Tamanal, J. M., & Kim, C. H. (2020). Promoting Healthy Lifestyle in High School Students:

- Determination of the Lifestyle Status through the Healthy Lifestyle Screen (HLS) Assessment. Journal of lifestyle medicine, 10(1), 30–43.
- Tomé, G., Camacho, I., Matos, M. G. D., & Simões, C. (2015). Influence of family and friends on well-being and risk behaviors—Explanatory model. Psicologia, Saúde e Doenças, 16(1), 23-34.
- Upadyaya, K., & Salmela-Aro, K. (2013). Development of school engagement in association with academic success and wellbeing in varying social contexts. European Psychologist.
- Wells, S. (2016). 100% yes!!the energy of success. Release your resistance align your values go for your goals using simple energy techniques (SET). Waterford publishing.
- Zahed Babolan, A., Karimianpour, G., & Dashti, A. (2017). Role of Life Quality in School and Academic Self-Concept on Academic Engagement in Salas babajani fifth and Sixth Grade Students. New Educational Approaches, 12(1), 75-91.
- Zeng, G., Hou, H., & Peng, K. (2016). Effect of Growth Mindset on School Engagement and Psychological Well-Being of Chinese Primary and Middle School Students: The Mediating Role of Resilience. Frontiers in Psychology, 7(1873).