

Autonomy-Supportive Faculty and Students' Agentic Engagement: The Mediating Role of Activating Positive Achievement Emotions

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Abstract

Introduction: The aim of this study was to investigate the mediating role of students' activating positive achievement emotions, in the relationship between faculty's support of autonomy and students' agentic engagement.

Method: This research was a correlational study, in which a structural equation modeling was been used to analyze a conceptual model. The sample included 389 undergraduate students of Ferdowsi University of Mashhad, who were selected by randomized multistage cluster sampling method. Data was collected through the Autonomy-Supportive Environment Questionnaire, the Agentic Engagement Scale and the three subscales of Achievement Emotions Questionnaire.

Results: The results showed that supporting autonomy has a significant direct effect on activating positive achievement emotions and it affects agentic engagement indirectly, via achievement emotions.

Conclusion: Accordingly, students' activating positive achievement emotions play a mediating role between autonomy-supportive faculty and their agentic engagement.

Keywords: Agentic Engagement, Autonomy-Supportive Faculty, Achievement Emotions

Introduction

One of the fundamental constructs in educational psychology domain is "academic engagement" [1]. Engagement is defined as an energized, directed and durable action [2]. Energy, purpose and durability are among the basic concepts of motivational topics, since engagement is considered as the "outward manifestation" of motivation; motivation is the underlying source of energy, purpose and durability, while engagement is their visible quality of them [3]. Academic engagement, in particular, is considered as a learner's constructive, enthusiastic, willing and cognitively-focused participation in learning activities [4]. The importance of academic engagement is because it is known as a "proximal process". The only way to attain achievement (learning, good grades, effective coping, resilience, etc.) in learning environments is through academic engagement, and the various (environmental and individual) factors affecting achievement may only play their role in learner's achievement via academic engagement [5].

Theorists of academic engagement have proposed various dimensions for this construct, including behavioral (effort and perseverance) and cognitive (applying effective cognitive strategies) dimensions. In recent years, a new dimension has been introduced, known as "agentic engagement", which implies that, in addition to cognitive and behavioral engagement, a learner plays an active role in the process of learning [6]. Not only does one try to learn, but he/she also makes effort to create a more motivationally supportive environment for himself/herself. Agentic engagement is defined as a learner's constructive role in the process of learning. Expressing preferences, interests, needs, ideas, asking

questions, giving suggestions, asking for references, and asking for more explanation, are some examples of agentic actions [7].

Agentic engagement is like other dimensions of engagement in that it is a constructive and student-initiated path towards academic achievement, but it also has a significant qualitative difference with them. Actually, agentic engagement is a unique proactive and transactional form of engagement. Proactive means students perform some actions before the onset of a learning activity (e.g., they ask their teacher, "Can we do this?"), and transactional means they negotiate with their teacher to create a more motivationally supportive environment (e.g., they talk to their teacher about how challenging, personal, satisfying or goal-congruent a learning activity is). Among the various dimensions of engagement, the agentic dimension is the only one which neutralizes the direct effect of environmental factors on achievement and explains the unique variance of achievement. It means that agency completely mediates the relationship between environment and positive academic outcomes. Therefore, the current study has focused on this dimension of engagement [6].

Academic engagement and, in particular, agentic engagement results from the interaction between learning environment (teachers, school authorities, etc.) and learner-related individual factors. According to the Student-Teacher Dialectical Framework [8], which is based on the metatheory of self-determination [9], learners are innately active and may constructively engage in their environment. These innate actions originate from inherent (e.g., psychological basic needs) and acquired (e.g., interests, preferences and values) internal motivation resources. Learning environments either develop these motivation resources (autonomy-supportive environment) or fail them (controlling environment). Autonomy-supportive environment vitalizes learner's internal motivation resources by providing him/her with provisions. This motivation manifests in action and learners' agentic engagement will be seen in learning activities. The role of autonomy-supportive environment in academic engagement has been mentioned in the Self-System Model of Motivational Development [2] and General Positive Motivational Development Model [3], as well. Several studies have highlighted the effective role of autonomy-supportive environment in academic engagement and assets [10-14].

Provision of choice, provision of criticism and provision of goal/value/interest examination, are three important characteristics of autonomy-supportive environments [15]. Provision of choice means providing one with an environment in which he/she can choose among different choices. Provision of criticism means providing one with an opportunity to express his/her opposition or agreement, in an empathetic, and respectful environment. Provision of goal/value/interest examination means providing one with an opportunity to engage in activities, experiences and discussions which allow him/her to critically examine and reflect upon his/her goals, values and interests.

Furthermore, in the Motivational-Emotional Model [16], learner's emotional experiences are proximal antecedents of engagement in learning environments; that is, different influential factors affect engagement via academic emotions. The importance of emotions in academic engagement is so much that academic emotions are introduced as the engagement catalyst; a facilitator which accelerates one's engagement in learning tasks [17].

Academic emotions are experienced in learning environments and are inseparable and ubiquitous parts of them. These emotions include achievement emotions, which are directly related to achievement activities or outcomes and are based on one's judgement of activities and outcomes, based on competence-related standards. Achievement emotions are classified based on three dimensions of object focus, valence and activation. In the object focus dimension, achievement emotions are either outcome-related (e.g., hope and pride) or activity-related (e.g., enjoyment). In the valence dimension, achievement emotions are divided into pleasant (positive) emotions and unpleasant (negative) emotions. In the activation dimension, psychological activating states (e.g., pride and enjoyment) are differentiated from deactivating states (e.g., relief and contentment) [18].

In contrast to previous theories, which assumed, during performing a task, emotions wastes one's resources [19], in the Control-Value Model of achievement emotions [16], this effect belongs to task-unrelated emotions. In positive task-related emotions, such as hope and pleasure, the task *per se* is the object of emotion. Therefore, during positive emotional experiences, learners' resources become focused on the given task and lead to their engagement, particularly in an agentic way. Furthermore, according to previous theories, experience of positive emotions implied that everything was satisfactory and there was no need for further engagement [20]. However, as it was noticed in Control-Value Model of emotions [16], these previous theories have ignored the two dimensions of valence and activating emotions; only the positive activating emotions, such as hope and pride, promote agentic engagement. Therefore, the current study investigates three emotions of hope, enjoyment and pride. The role of emotions in engagement and academic assets [21-28] and the role of autonomy-supportive environment in academic emotions [29-33] have been confirmed in several studies.

According to the above explanations, the conceptual model of this research has been developed. When the faculty provides the students with choice, criticism and value examination opportunities, it will result in agentic engagement via activating positive emotional experiences such as hope, enjoyment and pride. Therefore, the current study aims to examine the conceptual model that is presented in Figure 1.

Method

This research was a correlational study, in which the Structural Equation Modeling (SEM) has been used for analyzing the relationships between the proposed model variables. In this model, exogenous, mediator and

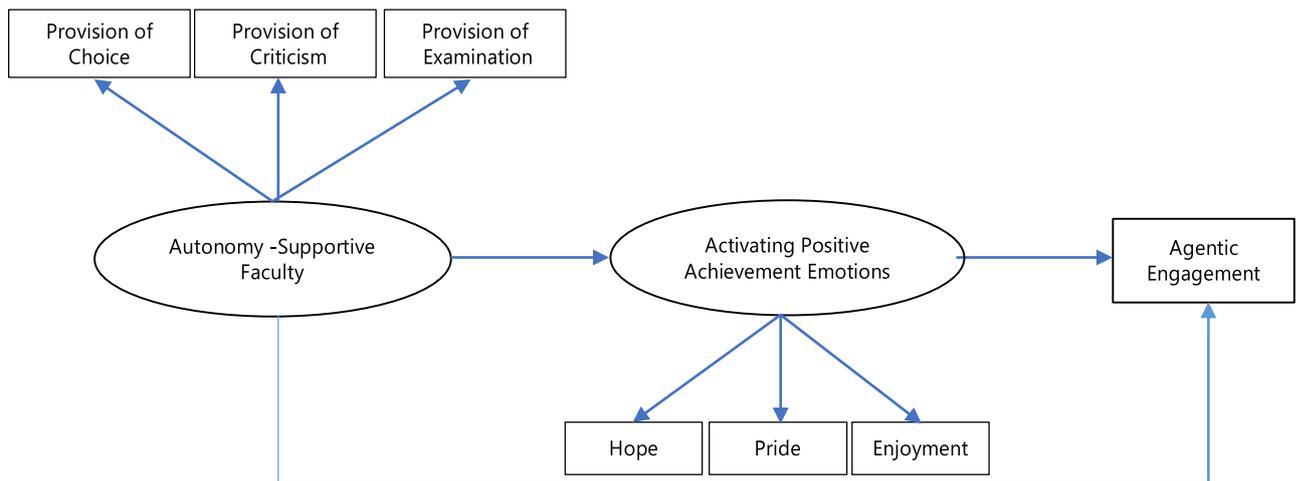


Figure 1. Conceptual Model of Current Study

endogenous variables are considered as the autonomy-supportive characteristics of faculties (based on indicators of provision of choice, criticism and goal/value/interest examination), activating positive achievement emotions (based on indicators of hope, pride and enjoyment) and agentic engagement. The statistical population of this study includes all undergraduate students of Ferdowsi University of Mashhad in the first semester of 2018-2019. By using the randomized multistage cluster sampling, 389 students were selected as the research sample group. From among each five randomly chosen faculties of Ferdowsi University of Mashhad (Literature and Human Sciences, Mathematical Sciences, Basic sciences, Agriculture, and Psychology and Educational Sciences), two classes were randomly selected, and all of their students were included in the study. Data collection instruments included:

The Agentic Engagement Scale of the Academic Engagement Questionnaire: Agentic engagement was assessed using the agentic engagement scale of Academic Engagement Questionnaire [7]. This 5-item scale is scored on a Likert scale, ranging from 1 (totally disagree) to 5 (totally agree). Convergent validity method was carried out for validity examination. The Academic Engagement Questionnaire score has a significant positive correlation with the Psychological Needs Satisfaction Scale score (0.45) and the Academic self-efficacy Questionnaire score (0.40) [7]. Confirmatory factor analysis and Cronbach's alpha coefficient were carried out respectively to determine the reliability and validity of the Academic Engagement Questionnaire in the current study. Confirmatory factor analysis showed that all items had a significant factor load higher than 0.45 ($p < 0.001$). The goodness of fit indices of factor analysis model confirmed the desired fitness of the model. The Cronbach's alpha coefficient was 0.81.

The Autonomy-Supportive Environment Questionnaire: Provision of choice and provision of criticism subscales of Autonomy-Supportive Environment Questionnaire [34] and a new scale, called goal/value/interests examination support scale [15], were used to assess faculty's support of autonomy. Each scale includes 7 items, scoring on a Likert scale, ranging from 1

(totally agree) to 5 (totally disagree). Confirmatory factor analysis confirms the desired reliability of this questionnaire. The validity of each scale was measured using Cronbach's alpha coefficient, and the results for provision of choice, provision of criticism and provision of goal/value/interest examination scales were 0.84, 0.81 and 0.89, respectively. In the current study, confirmatory factor analysis and Cronbach's alpha coefficient were carried out to evaluate the reliability and validity of the autonomy-supportive questionnaire, respectively. Confirmatory factor analysis showed that all items had a significant factor load higher than 0.40 ($p < 0.001$), and, like the original study and in line with researcher's expectations, were loaded on their related factors. Fitness indices of the factor analysis model confirmed the desired fitness of the model. The Cronbach's alpha coefficients for provision of choice, provision of criticism and provision of goal/value/interest examination and the total questionnaire were 0.85, 0.78, 0.88 and 0.86, respectively.

Three subscales of the Achievement Emotions Questionnaire: This questionnaire has been developed to study achievement emotions [35]. Three subscales of hope, enjoyment and pride include 47 items, which are scored on a 5-point Likert scale, ranging from 1 (totally disagree) to 5 (totally agree). Cronbach's alpha has been reported 0.75 to 0.95 for the subscales, which showed their acceptable validity. In the current study, Confirmatory factor analysis showed that all items had a significant factor load higher than 0.40 ($p < 0.001$). Cronbach's alpha coefficients ranged from 0.80 to 0.89 for various emotions.

Results

Following the initial data screening (evaluating missing data and evaluating outliers) and analyzing the descriptive findings (Table 1), some of the main assumptions of the SEM (normality, linear relationship, and multicollinearity) were examined. Then, 8 indices were considered to determine the model fit. At first, the insignificant path (the direct relationship between autonomy-supportive and agentic engagement) was omitted from the model to obtain a better model fit. After on, some of the

AMOS-suggested modifications, including calculating the covariance between the observed variables errors, were applied. Adjusted goodness of fit confirmed the desired fit of the model (Table 2).

The results of the analysis of measurement models and structural model are illustrated in figure 2. Analysis of the two measurement models showed that regression coefficients of both models were significant, which indicated that all indices were determinants of the related latent variables. Among the three indices of autonomy-supportive faculty variable, provision of criticism had the most weight in defining this latent variable. In other

words, it was the most powerful index of it. The most powerful index of achievement emotions was hope.

Table 1. Mean and Standard Deviation of Research Variables

Variables	Mean	Standard Deviation
Provision of Choice	19.8	4.39
Provision of Criticism	22.4	3.51
Provision of Examination	20.20	3.46
Hope	50.09	9.20
Pride	48.58	8.25
Enjoyment	59.34	12.40
Agentic Engagement	15.86	4.22

Table 2. Model Fit Indices

Fitness Index	X ² /df	GFI	AGFI	CFI	NFI	IFI	TLI	RMSEA	PCLOSE
Amount	2.17	0.97	0.96	0.97	0.95	0.98	0.94	0.05	0.36

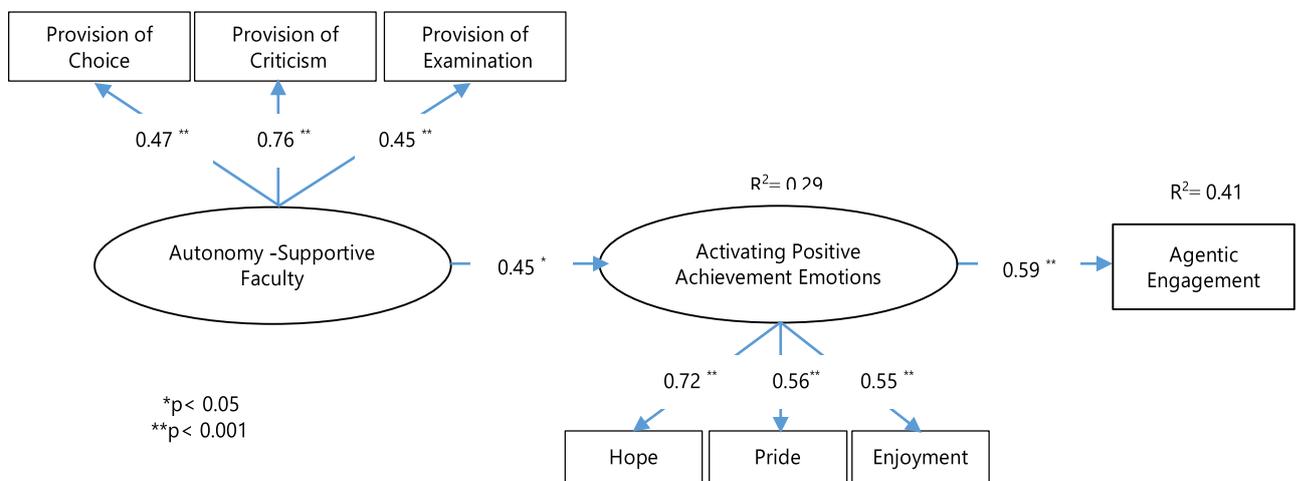


Figure 2. Standardized Regression Weights in Model

The results of the structural model analysis, namely the direct effect of latent variables and estimation of the indirect impact, using bootstrapping (95% CI), showed that the variable of faculty's support of autonomy had a significant direct effect on students' positive achievement emotions. The direct effect of faculty's support of autonomy on students' agentic engagement was insignificant and omitted from the model initially. Furthermore, faculty's support of autonomy had a significant indirect effect on students' agentic engagement, via their positive achievement emotions.

Students' achievement emotions also had a significant positive effect on agentic engagement. Table 3 presents all direct, indirect and total effects of the Structural Equation Modeling. Overall, according to the obtained results, students' activating positive achievement emotions may mediate the relationship between faculty's support of autonomy and students' agentic engagement, and this model explains 41% of students' agentic engagement variance by two variables of faculty's support of autonomy and students' activating positive achievement emotions.

Table 3. Direct, Indirect and Total Effects in Model

Path	Direct Effect	Indirect Effect	Total Effect	Explained Variance
To Achievement Emotions	From Autonomy Support 0.45*	-----	0.45*	29%
To Agentic Engagement	From Autonomy Support ----	0.31*	0.31*	41%
	From Achievement Emotions 0.59**	----	0.59**	

*P < 0.05 **P < 0.001

Discussion

The aim of this study was to investigate the mediating role of students' activating positive achievement emotions, in the relationship between faculty's support of autonomy and students' agentic engagement. The results showed that the variable of activating positive

achievement emotions completely mediated the relationship between faculty's support of autonomy and students' agentic engagement.

A faculty provides an autonomous motivations-supportive environment, by providing provision of choice in learning activities, such as how to perform a task and

how to choose headings, and also by considering students' comments and ideas and accepting their criticisms and providing an opportunity for reflecting upon important life issues, values and concerns. Such an environment responds to students' internal motivations (needs, goals, interests and preferences) and, consequently, develops their positive sense of self and self-confirmation [2]. It also leads to positive motivational/cognitive appraisals like appraisal of the learning task value and the controllability of the learning process [16]. This sense of self and positive appraisals may create positive emotional experiences in relation to learning tasks. In such an environment, students enjoy being in the classroom, learning new topics, performing tasks, and learning challenges. They look forward to their future achievements and they are sure that they will understand the topics in the future. They are also proud of their achievement in performing learning tasks.

Experiencing these activating positive emotions is not the only outcome of an autonomous motivations-supportive environment; it also manifests motivation in action and facilitates students' agentic actions (asking questions, expressing preferences, etc.). During learning tasks, these positive emotions generally expand momentary thought-action repertoire, and increase approach-oriented behaviors which lead to agentic engagement in learning tasks. Experiencing negative emotions during a task restricts thought-action repertoire and, by focusing a learner's mindsets on avoidant behaviors against negative emotions creating threats, makes agentic engagement in task extremely challenging. Furthermore, expanding the thought-action repertoire develops new personal resources (such as resilience), which not only facilitate momentary agentic engagement, but also play an effective positive role in learner's further engagements in learning activities [36, 37].

In the model of the current study, the direct effect of autonomy support was omitted. The faculty's support of autonomous motivations leads to students' active and constructive action in the learning process, via activating a positive achievement emotions path. This finding explains why sometimes, despite an autonomy-supportive environment, agentic engagement does not start, or in some cases even starts but does not continue.

Conclusion

In the final model of the current study, the variable of faculty's support of autonomy explains a substantial part of students' agentic engagement variance, via the variable of students' activating positive achievement emotions. Therefore, based on the findings of the current study, it is suggested that faculty and school authorities consider the characteristics of an autonomy-supportive academic environment (provision of choice, criticism and goal/value/interest examination) in policy-making, curriculum planning, lesson planning, evaluations and the process of teaching, and provide appropriate situations to promote students' agentic engagement in the learning process. Furthermore, one of the faculty's perpetual questions is that, "how should we motivate students?"

and, according to the findings of this research, it is suggested that the question of "how should we create positive emotional experiences for students, in relation to learning tasks?" should be added to the first question. Since autonomy-supportive environment affects students' agentic engagement, via activating positive achievement emotions, ignoring the part of learning task-related emotional experiences, such as hope, pride and enjoyment, may make many efforts made in learning environments to promote the motivational part (support of autonomous motivations), in hopes of obtaining agentic engagement and, consequently, students' academic achievements, fruitless.

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References:

1. Skinner EA, Wellborn JG, Connell JP. What it takes to do well in school and whether I've got it: A process model of perceived control and children's engagement and achievement in school. *Journal of Educational Psychology*. 1990;82(1):22-32.
2. Connell JP, Wellborn JG. Competence, autonomy, and relatedness: A motivational analysis of self-system processes. *Self processes and development*. The Minnesota symposia on child psychology, Vol. 23. Hillsdale, NJ, US: Lawrence Erlbaum Associates, Inc; 1991. p. 43-77.
3. Skinner EA, Kindermann TA, Furrer CJ. A motivational perspective on engagement and disaffection: Conceptualization and assessment of children's behavioral and emotional participation in academic activities in the classroom. *Educational and Psychological Measurement*. 2009;69(3):493-525.
4. Reeve J. A self-determination theory perspective on student engagement. *Handbook of research on student engagement*. New York, NY, US: Springer Science + Business Media; 2012. p. 149-72.
5. Skinner EA, Pitzer JR. Developmental dynamics of student engagement, coping, and everyday resilience. *Handbook of research on student engagement*. New York, NY, US: Springer Science + Business Media; 2012. p. 21-44.
6. Reeve J, Tseng C-M. Agency as a fourth aspect of students' engagement during learning activities. *Contemporary Educational Psychology*. 2011;36:257-67.
7. Reeve J. How students create motivationally supportive learning environments for themselves: The concept of agentic engagement. *Journal of Educational Psychology*. 2013;105(3):579-95.
8. Reeve J, Deci E, Ryan R. Self-determination theory: A dialectical framework for understanding sociocultural influences on student motivation and learning. *Research on sociocultural influences on motivation*. *Information Age*; 2004. p.31-60.
9. Deci E, Ryan R. *Intrinsic Motivation and Self-Determination in Human Behavior*. New York: Plenum; 1985.
10. Patall EA, Pituch KA, Steingut RR, Vasquez AC, Yates N, Kennedy AAU. Agency and high school science students' motivation, engagement, and classroom support experiences. *Journal of Applied Developmental Psychology*. 2019;62:77-92.
11. Hospel V, Galand B. Are both classroom autonomy support and structure equally important for students' engagement? A multilevel analysis. *Learning and Instruction*. 2016;41:1-10.
12. Wang M-T, Eccles JS. School context, achievement motivation, and academic engagement: A longitudinal study of school engagement using a multidimensional perspective. *Learning and Instruction*. 2013;28:12-23.
13. Earl SR, Taylor IM, Meijen C, Passfield L. Autonomy and competence frustration in young adolescent classrooms: Different associations with active and passive disengagement. *Learning and Instruction*. 2017;49:32-40.
14. Chatzisarantis NLD, Ada EN, Ahmadi M, Caltabiano N, Wang D, Thogersen-Ntoumani C, et al. Differential effects of perceptions of equal, favourable and unfavourable autonomy

- support on educational and well-being outcomes. *Contemporary Educational Psychology*. 2019;58:33-43.
15. Assor A. Allowing choice and nurturing an inner compass: Educational practices supporting students' need for autonomy. *Handbook of research on student engagement*: Springer; 2012. p. 421-39.
 16. Pekrun R, Linnenbrink-Garcia L. Academic emotions and student engagement. *Handbook of research on student engagement*. New York, NY, US: Springer Science + Business Media; 2012. p. 259-82.
 17. King RB, McInerney DM, Ganotice Jr FA, Villarosa JB. Positive affect catalyzes academic engagement: Cross-sectional, longitudinal, and experimental evidence. *Learning and Individual Differences*. 2015;39:64-72.
 18. Pekrun R. The control-value theory of achievement emotions: Assumptions, corollaries, and implications for educational research and practice. *Educational Psychology Review*. 2006;18(4):315-41.
 19. Ellis H, Ashbrook P. W.(1988). Resource allocation model of the effects of depressed mood states on memory. *Affect, cognition, and social behavior: New evidence and integrative attempts*, 1988. p. 25-43.
 20. Schwarz N, Clore GL. Feelings and phenomenal experiences. *Social psychology: Handbook of basic principles*. New York, NY, US: Guilford Press; 1996. p. 433-65.
 21. Muis K, Pekrun R, Sinatra G, Azevedo R, Trevors G, Vogl E, et al. The curious case of climate change: Testing a theoretical model of epistemic beliefs, epistemic emotions, and complex learning. *Learning and Instruction*. 2015.;39:168-83.
 22. Tulis M, Fulmer SM. Students' motivational and emotional experiences and their relationship to persistence during academic challenge in mathematics and reading. *Learning and Individual Differences*. 2013;27:35-46.
 23. Zhen R, Liu R-D, Ding Y, Wang J, Liu Y, Xu L. The mediating roles of academic self-efficacy and academic emotions in the relation between basic psychological needs satisfaction and learning engagement among Chinese adolescent students. *Learning and Individual Differences*. 2017;54:210-6.
 24. Altuwairqi K, Jarraya SK, Allinjawi A, Hammami M. A new emotion-based affective model to detect student's engagement. *Journal of King Saud University - Computer and Information Sciences*. 2018.
 25. Garn AC, Simonton K, Dasingert T, Simonton A. Predicting changes in student engagement in university physical education: Application of control-value theory of achievement emotions. *Psychology of Sport and Exercise*. 2017;29:93-102.
 26. Kwon K, Kupzyk K, Benton A. Negative emotionality, emotion regulation, and achievement: Cross-lagged relations and mediation of academic engagement. *Learning and Individual Differences*. 2018;67:33-40.
 27. AminAbadi Z. Examining the mediating role of cognitive emotion regulation in the relationship between perceived parenting style dimensions and academic achievement. *International Journal of Behavioral Sciences*. 2011;5(2):109-17.
 28. Moltafet G. The relationship between student perception of teacher's behavioral style and psychological well-being. *International Journal of Behavioral Sciences*. 2012;6(3):263-70.
 29. Tze V, Klassen R, Daniels L. Patterns of Boredom and Its Relationship With Perceived Autonomy Support and Engagement. *Contemporary Educational Psychology*. 2014;39:175-187.
 30. Federici RA, Skaalvik EM. Students' Perceptions of Emotional and Instrumental Teacher Support: Relations with Motivational and Emotional Responses. *International Education Studies*. 2014;7:21-36.
 31. Van Ryzin MJ. Protective factors at school: Reciprocal effects among adolescents' perceptions of the school environment, engagement in learning, and hope. *Journal of Youth and Adolescence*. 2011;40(12):1568-80.
 32. Yu C, Li X, Wang S, Zhang W. Teacher autonomy support reduces adolescent anxiety and depression: An 18-month longitudinal study. *Journal of Adolescence*. 2016;49:115-23.
 33. Ketonen EE, Dietrich J, Moeller J, Salmela-Aro K, Lonka K. The role of daily autonomous and controlled educational goals in students' academic emotion states: An experience sampling method approach. *Learning and Instruction*. 2018;53:10-20.
 34. Assor A, Kaplan H, Roth G. Choice is good, but relevance is excellent: Autonomy- enhancing and suppressing teacher behaviours predicting students' engagement in schoolwork. *British journal of educational psychology*. 2002;72(2):261-78.
 35. Pekrun R, Goetz T, Titz W, Perry RP. Academic emotions in students' self-regulated learning and achievement: A program of qualitative and quantitative research. *Educational psychologist*. 2002;37(2):91-105.
 36. Fredrickson BL. The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American psychologist*. 2001;56(3):218.
 37. Fredrickson BL. Positive emotions broaden and build. *Advances in experimental social psychology*. 47: Elsevier; 2013. p. 1-53.