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Assessment of Academic Adaptation based on Classroom Environment Perceptions and Family Functioning among High School Students in Sari, Iran

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Abstract

Background: Many psychological factors can arise during the student's school years that can have a positive or negative effect on their academic life as well as their learning process. Therefore, the present study aimed to explore the structural model for predicting academic adaptation based on perception of classroom environment and family functioning among female high school students.

Methods: The approach used in this analysis was the structural equation modelling (SEM). The statistical population of this study included all secondary high school female students in Sari, in the academic year of 2019-2020. Based on the table by Jesse and Morgan, multi-stage sampling was performed to select 450 individuals. They answered Baker and Siryk's Student Adaptation to College Questionnaire (SACQ), Classroom Perceptions Questionnaire (CPQ), and the Developmental Family Functioning Assessment Questionnaire (DFFAQ). Using SPSS software version 26.0. to analyze data.

Results: The highest percentage of the participants consisted of the 16-year-old students, (n=211, 46.4%), and the lowest number of participants were 17 years old n=78, 17.1%). According to the results, the perception of the classroom environment (β= 0.561, P=0.01) and the measure of family functioning (β= 0.747, P=0.01) were both positively influenced by academic adaptation.

Conclusion: The findings of this study indicated that classroom environment and family functioning for progress significantly predict the students' academic adjustment among Sari high school's second-year female students.

Key Words: Academic Adaptation, Environment, Family Function, Perception of Classroom.

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1- INTRODUCTION

One of the most important goals of the educational system and related systems is to speak about teaching and studying and to set specific goals to develop learners' learning indicators and to offer more and more appropriate schooling (1). Academic adjustment is one of the variables involved in this area, and it can be found and investigated in different successful areas. Academic adjustment, as one of the general dimensions of psychosocial adjustment, has been considered by researchers in the field of education. Academic adjustment is the process of agreeing and adapting to the role of being a student and the various aspects of the school environment. Research evidence shows that academic adjustment is affected by many variables, including the students' perceptions of the classroom environment, family structure, his/her cognitive abilities and motivation structure (2-4).

One of the most important and influential variables in students' academic adjustment is their perception of the classroom environment (5-10). Understanding the classroom environment is very important and effective in students' adjustment (6). Mutlu and Yıldırım (6) indicated that the Characteristics of the Learning Environment were shown to be strongly related to the students' Persistence in regression analyses, with the dimension of Environmental Materials being the best indicator. The students' expectations about their teachers' thoughts regarding their being capable of studying and understanding mathematics are found to be positively linked to their Mastery and Achievement of Target orientations, as well as mathematics Usefulness, according to Gilbert et al (7).

They also discovered a correlation between the students' expectations of the extent to which improvement methods are used in their mathematics class and their mathematical effectiveness. Sandilos et al. (8) proposed that the students' perceptions of teachers' demands (challenge and control) were linked to student achievement development. In classrooms with more African American students, the results revealed a stronger correlation between difficulty and academic development (9). Moreover, Students are no longer supposed to be passive participants who simply listen to the teacher or read information from the books (10).

Another effective factor in students' academic adjustment is family functioning (11). In addition to individually encouraging their academic transition through self-efficacy, the family community may help them adapt by facilitating free and wide dialogue alig with encouraging them to share their emotions and engage in conversations and exchanges. Family communication patterns have been found to play a major role in students' adjustment and academic success (12). Burke et al (13) showed that the indirect impact of over parenting on student adjustment was expressed in young adults' versus parents' perceived facilitation. When students believe their parents are assisting them in achieving their aspirations, they continue to have better results. Another study was conducted by Shek indicating that there is a strong correlation between family functioning and Chinese adolescents' psychosocial adjustment, especially their positive mental wellbeing (14, 15).

Because of the importance of academic adjustment in academic success and achievement and its effect on adolescents' social lives, researchers have sought to identify the factors that affect academic adjustment. A review of the research background in this field shows that many of these studies have examined this issue in a one-dimensional way or according to a specific approach (12-15). Academic

adjustment, like other psychological structures, is under the influence of various individual, social and family factors, due to the importance of these variables and the need to conduct multivariate research, which is more advantageous and more powerful. Which has not happened in previous studies. Therefore, a structural model for predicting academic adaptation based on perception of classroom environment and family functioning in girl students of high school.

2- MATERIALS AND METHOD

2-1. Study design and population

This study followed a cross-sectional design and a descriptive method. The population of this study included all female 2nd year high school students (450) in Sari city during the academic year of 2019-2020, whose number was 1576 at the time of the research according to the latest statistics. To determine the sample size in structural equation modeling, it is better to determine between 5 and 35 people for each parameter (16). Sample selection was performed using a multi-stage random-cluster method from two educational areas in Sari. First, from districts 1 and 2 of this city, district 2 was randomly selected and then from the 26 schools in district two, 5 schools and 3 classes from each school were randomly selected. In this study, to determine the sample size from the number of observed variables, the sample size was estimated at 432 people and increased to 450 people with more estimates. Due to a large number of questionnaires and the need for thorough explanations about each object, it was decided to distribute them in 3 phases (in three weeks); and the teachers were expected to dedicate half an hour of class time to this in order to better plan and order the execution of the study. Hence, the students' ambiguities were removed with the help of their teachers and explanations about the research's intent. It is noteworthy that prior to the performance, the informed consents of the participants were obtained and they were insured about the confidentiality of their information. Data analysis and model fit were conducted through Structural Equation Modeling (SEM).

2-2. Measuring tools: validity and reliability

In this research, three questionnaires were used besides the personal information form. They included Baker and Siryk's Student Adaptation to College Questionnaire (SACQ), Classroom Perceptions Questionnaire (CPQ), and The Developmental Family Functioning Assessment Scale (DFFAQ).

2-3. Baker and Siryk's Student Adaptation to College Questionnaire (SACQ): Baker and Criac (17) developed The Middle School Adaptation Questionnaire. The 67-item questionnaire has four subscales including academic adjustment (24 items), social adjustment (21 items), personal-emotional adjustment (95 items), and school attachment (95 items), 9 of which are common to other subscales. The participants rated items of the Persian version of the SACQ on a Likert-type 9-point scale ranging from 1 (does not apply to me at all) to 9 (applies very strongly to me). Higher scores on the overall scale and the subscales indicate better adjustment. In the present study, the educational adjustment subscale of the questionnaire was used. The academic scale subscales consist of four clusters of motivation, perseverance, performance, and educational environment. In the present study, the total validity of the test using Cronbach's alpha was 0.80 and the validity was obtained based on the construct validity criterion as 0.71(18).

2-4. Classroom Perceptions Questionnaire (CPQ): Students' Perceptions of Classroom Activities Questionnaire, developed by Gentry et al. (19), includes 31 items and 4 subtests

regarding the students' perception of interest, challenge, choice, and pleasure. This scale is scored through a 5 Likert scale from Strongly Agree (1) to Strongly Agree (5). Confirmatory factor analysis indices reported in the main source GIF = 0.95 (Good Fit Index) RSAM 0.04 (Good Fit Adjustment Index) indicate the appropriate validity of the questionnaire (20). In the present study, the total Cronbach's alpha reliability of the test was 0.93, and the validities of the subtests were 0.82, 0.66, 0.76, and 0.87, respectively.

2-5. The Developmental Family Functioning Assessment Scale (DFFAQ) was developed and validated by Ali et al. in 2014 (20). This scale contains 43 items in seven subscales, including care and regulation (six items), being attracted in human relations (six items), mutual relations (seven items), common social problem-solving (seven items), creating representatives and ideas (six items), logical thinking (five items), and discipline (six items). All items were assessed based on a four-point Likert scale (from 1 to 4), with higher scores indicating a weaker family function. scores 43 - 86, 86 - 129, and 129 - 176 represented good, intermediate, and weak developmental functions, respectively. The face and content validity of the scale were assessed by a panel of experts. To examine the reliability of the scale, its internal consistency was measured by the Cronbach's alpha coefficient, which was 0.8 for the whole scale, 0.64 for care and regulation, 0.89 for being attracted in human relations, 0.65 for mutual relations, 0.77 for common social problem-solving, 0.65 for creating representatives and ideas, 0.8 for logical thinking, and 0.66 for discipline. Moreover, the test-retest reliability after a two-week interval was 0.79.

2-6.-Ethical considerations

The ethical considerations of the present study were as follows: The participation was voluntary; and they were insured that their personal records, including first and last names, would be kept private and not used for academic purposes. The current paper was adapted from the first author's Ph.D. dissertation in educational sciences, which was approved by the Psychology and Educational Sciences University, Islamic Azad University Sari Branch, with the approval number 98/1010702971016.

2-7. Inclusion and exclusion criteria

Being a female high school student in Sari, readiness to engage in testing, and completion of a questionnaire were among the requirements for inclusion. Unwillingness to participate in the study, as well as incomplete questionnaires, were considered as the exclusion criteria.

2-8. Data Analyses

In this research, both descriptive and inferential statistical methods have been used to analyze the obtained data with SPSS software version 20; and structural equations were analysed in Amos-24 software. Before analyzing the univariate outliers, the data were analyzed using a box diagram and the multivariate outsiders were analyzed using the Mahalanobis statistic and excluded from the data set. The distribution of scores in each variable was calculated using SPSS software and the results showed that none of the values of skewness and elongation is more than 1%. The normality of the data was checked using the Kolmogorov-Smirnov test. The results showed that the distributions of scores in the model variables were normal ($P < 0.05$).

3- RESULTS

Table 1 indicates that the16-year-old students comprised the highest frequency of the participants (n=211, 46.4 %), while the lowest frequency was for the 17-year-old students (n=78, 17.1 %). **Table 1** also displays that 71 of the students (15.6%) were studying mathematics, 100 (22 %)

experimental science, 231 (50.9 %) arts, and 51 (11.5 %) physical education**.**

Table 2 summarizes the descriptive statistics of the study variables, including the means and standard deviations.

According to the results of **Table 3**, the total scores of Classroom environment and Family function are both correlated with the total score of the academic adjustment in a positive and significant way (**p <0.01)**.

Structural equation analysis was used to assess the model under investigation after testing the assumptions and ensuring their validity. Model 1 is where the data are shown.

The model fit indices are shown in **Table 2**. The best fit of the model is shown by the root mean-variance appropriateness index (RMSEA) of 0.067 and the normal residual variance root (SRMR) of 0.074. The indices IFI, CFI, GFI, and NFI are all higher than the optimal criteria (0.9). The obtained coefficients represent the model's best fit.

Table 5 shows the significance of regression weights for the three models of assessing academic adaptation, classroom perception, and family success, showing that all indicators used for the relevant latent variables are representative.

Table-1: Frequency distribution of the sample by demographic variables

Variables	Variable Levels	Frequency	Percent
Age	14 years	37	8.1
	15 years	129	28.4
	16 years	211	46.4
	17years	78	17.1
Level of high school	Tenth grade	202	44.4
	Eleventh grade	192	42.4
	Twelfth grade	61	13.4
Courses	Mathematics	71	15.6
	Experimental	100	22.0
	Humanities	231	50.9
	Physical Education	51	11.5

Table-2: Descriptive characteristics of research variables (n = 450)

NO.	Variables	Mean	Std. Deviation
1	Academic	77.03	14.257
2	Social	56.35	14.082
3	Personal emotional	50.36	12.844
4	School attachment	43.43	12.112
5	Interest	26.66	4.953
6	Challenge	29.51	5.995
7	Choice	19.25	5.945
8	Pleasure	21.07	5.426
9	Care and regulation	11.73	3.743
10	Attracted	13.91	1.183
11	Mutual relations	10.24	2.760
12	Problem solving	12.13	1.934
13	Representatives	11.24	1.760
14	logical thinking	9.02	2.060
15	Discipline	7.55	2.013

Table-3: Correlation matrix of the studied variables.

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1-Academic	1													
2-Social	.781**	1												
3-Personal_emotional	.543**	.576**	1											
4-School_attachment	.439**	.479**	.640**	1										
5-Interest	.622**	.509**	.661**	.470**	1									
6-Challenge	.137**	.237**	.256**	.232**	.180**	1								
7-Choice	.295**	.438**	.383**	.272**	.227**	.586**	1							
8-Pleasure	.164**	.241**	.217**	.199**	.183**	.608**	.616**	1						
9-Care_and_regulation	.234**	.314**	.286**	.249**	.208**	.455**	.564**	.523**	1					
10-Attracted	.320**	.390**	.286**	.316**	.316**	.213**	.272**	.216**	.227**	1				
11-Mutual_relations	.246**	.297**	.353**	.341**	.211**	.214**	.277**	.178**	.192**	.331**	1			
12-Problem_solving	.363**	.381**	.330**	.271**	.309**	.095*	.197**	.133**	.215**	.305**	.420**	1		
13-Representatives	.338**	.294**	.329**	.265**	.373**	.032	.112*	.047	.052	.256**	.294**	.308**	1	
14-logical_thinking	.295**	.390**	.473**	.397**	.377**	.413**	.516**	.389**	.416**	.333**	.326**	.294**	.215**	1
15-Discipline	.364**	.467**	.445**	.324**	.393**	.331**	.473**	.380**	.401**	.325**	.296**	.323**	.266**	.698**

**p <0.01, *p <0.05

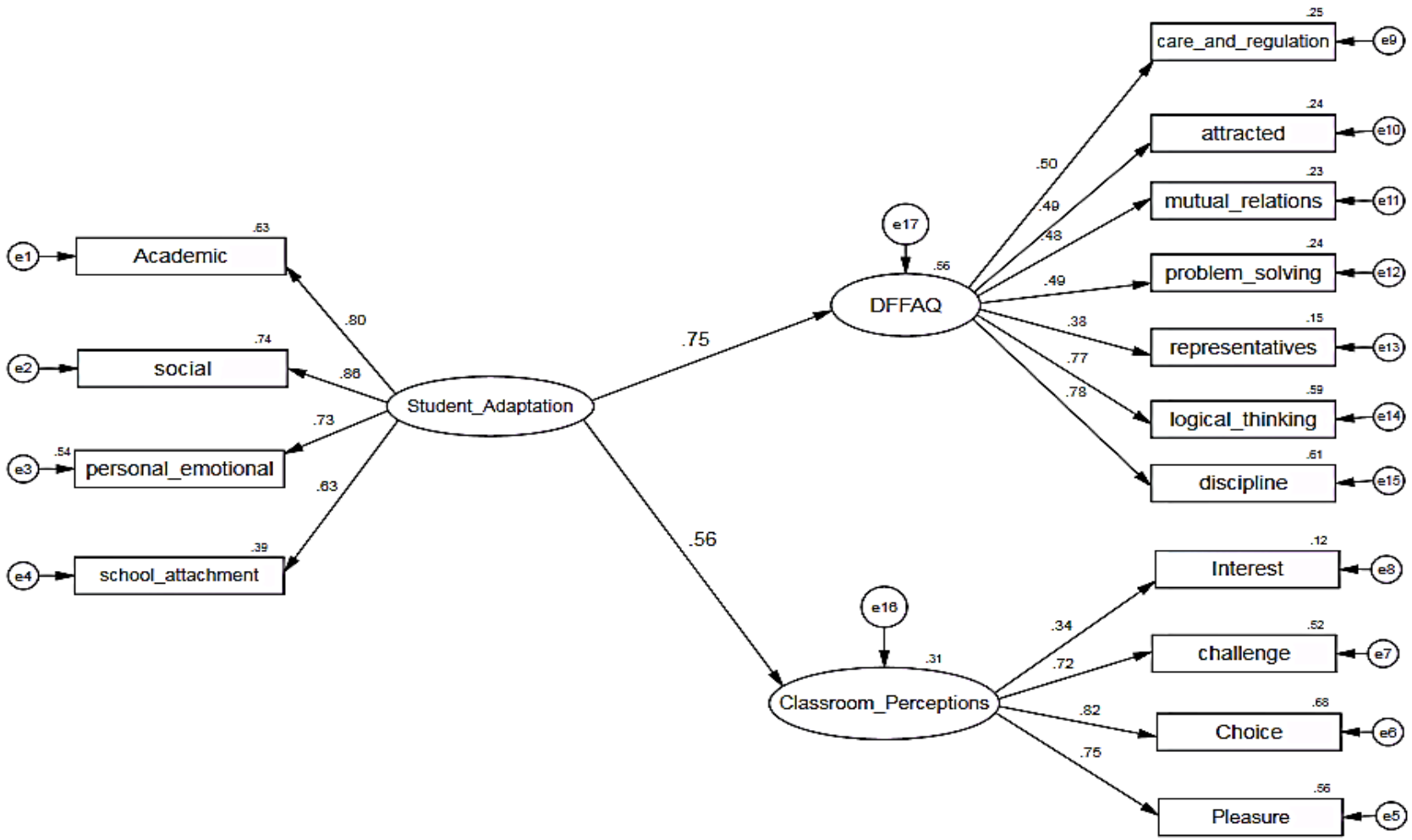

Fig. 1: Standard coefficients of the Structural Relationships in the model of academic adjustment

Table-4: Structural equation model fit indices

Fit index	df/2χ	NFI	RMSEA	CFI	IFI	SRMR
Optimal fit	≥5	<0.9	<0.08	<0.9	<0.9	<0.08
The obtained coefficients	2.763	0.901	0.067	0. 917	0. 917	0.074

NFI: Normed Fit Index, RMSEA: Root Mean Square Error of Approximation, CFI: comparative fit index, IFI: Goodness of fit index; The (Non) Normed Fit Index

Table-5: Coefficients of measurement models in the structural equation model of the research

Variables		Standardized	T- test	P-value
Student Adaptation	Academic	.795		
Student Adaptation	Social	.860	19.052	.001
Student Adaptation	Personal-emotional	.735	16.074	.001
Student Adaptation	School attachment	.627	13.370	.001
Classroom Perceptions	Interest	.340		
Classroom Perceptions	Challenge	.724	6.540	.001
Classroom Perceptions	Choice	.823	6.663	.001
Classroom Perceptions	Pleasure	.749	6.582	.001
Family Functioning Assessment	Care and regulation	.497		
Family Functioning Assessment	Being attracted in human relations	.493	7.762	.001
Family Functioning Assessment	Mutual relations	.480	7.618	.001
Family Functioning Assessment	Common social problem-solving	.493	7.757	.001
Family Functioning Assessment	Creating representatives and ideas	.384	6.503	.001
Family Functioning Assessment	Logical thinking	.767	9.824	.001
Family Functioning Assessment	Discipline	.784	9.900	.001

Table-6: The Direct effects of Academic adjustment on perception of Classroom environment and Family Functioning

Variables	β	R2
Classroom Perceptions □ Student Adaptation	0.561**	0.315
Family Functioning Assessment □ Student Adaptation	0.747**	0.557

****p <0.01, *p <0.05**

β: Beta is a measure of a fund or asset's sensitivity to the correlated moves of a benchmark; R2: The most common interpretation of r-squared is how well the regression model fits the observed data.

According to the data in **Table 6**, Academic adaptation has a direct positive effect on Perception of the classroom environment (β = 0.561, P=0.01), and Family functioning assessment (β= 0.747, P=0.01).

4- DISCUSSION

The main purpose of this study was to predict academic adjustment based on the perception of classroom environment, family functioning, and cognitive abilities mediated by adaptive and non-adaptive motivational structures of secondary high school female students. The results of the analysis showed that perception of the classroom environment, family functioning, and cognitive abilities, mediated by adaptive and non-adaptive motivational structure, predicts academic adjustment in students. Our findings are consistent with those of Esmaeilpour and Farzaneh (21), Schenke et al. (7), and Rodríguez-Fernández et al. (11), Behere et al. (22), Berkowitz and Stern (23), and Breit and Preckel (24). In fact, the higher the level of perception of the classroom environment, family functioning, and cognitive abilities, the higher the level of students' academic adjustment, and the more the students are led to the learning environment and the desired results. Therefore, perception of the classroom environment, family functioning, and cognitive abilities are important and effective factors in students' academic adjustment.

The results showed that perception of the classroom environment positively and significantly predicts academic adjustment among students. The results are consistent with the results of the research studies conducted by Schenke et al. (7) and Rodríguez-Fernández et al. (11), confirming the results of each other. Explain the results in such a way that with more positive perceptions of the classroom environment, the students' academic adjustment will also increase; so the more we strengthen the factors that improve students' perception of the environment, the more increase we would observe in the student's academic adjustment.

The results of the analyses, furthermore, revealed that family functioning positively and significantly predicts academic adjustment among students. The results are in line with the findings of Esmaeilpour and Farzaneh (21), Shek et al. (7), and Rezaei-Dehaghani et al (11). Therefore, it can be said that the more the family function and its effectiveness increases, the stronger the academic adjustment among the students and the better it grows; Therefore, family performance and its functions are very effective in students' academic adjustment. Hence, the factors that enable and bring about the functioning of the family must be strengthened. Behere et al. (22) in a report entitled "Family structure and family interactions in children's mental wellbeing" explored family relationships in children with three distinct styles of life. The findings revealed that family relationships are critical for children's psychological health and adjustment, and that children who live with both parents have stronger family relationships and are more happy and adaptable.

In addition, the findings of current study confirmed the positive and significant relationship between cognitive abilities and academic adjustment among the students. This is consistent with the results of Berkowitz and Stern (23), Breit and Preckel (24), similarly proposing that the higher the students 'cognitive abilities, the higher the students' academic adjustment. The results of the analyses revealed that the adaptive motivational structure positively and the non-adaptive motivational structure negatively and significantly predict academic adjustment among students.

The obtained results are in line with the finding of Ebrahimi and Abolmaali

Alhosseini (25). Family is the system that has the most influence on the individual and shapes his or her behaviors. The family is the result or reflection of the whole society. No society can claim to be healthy, unless it has healthy families (14). Family is the primary source of the transmission of basic skills, behaviors, habits, and cultural heritage to children. In fact, the future and destiny of children depend on the circumstances and practices of families. Poor and rich, educated and illiterate, religious and non-religious families and many other issues affect children's personality. The richer the emotional atmosphere and the healthier and more stable the behavioral interactions in the family environment, the better the self-confidence, self-acceptance, sense of worth, and belonging to the family and school, which are the manifestations of adaptation (11).

5- STUDY LIMITATIONS

The main limitations of the study include the inability of numerous students to complete the questionnaire, as well as the lack of control on the intervening variables like cultural, religious, political tendencies, along with the intellectual and social levels of the families.

6- CONCLUSION

The results of this study showed that the perception of the classroom environment has a direct positive and significant effect on the academic adjustment of the secondary high school female students in Sari. Thus, the improvement in students' perceptions of the classroom environment leads to an increase in their academic adjustment. Thereafter, as we strengthen the factors that improve students' perception of the environment, students' academic adjustment will also increase. Moreover, it was demonstrated that family functioning positively and significantly predicts academic adjustment among students. In this way, the better the family functions and the more it increases its effectiveness, the stronger the academic adjustment becomes among the students and the better it grows.

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8- REFERENCES

1. Zumbrunn S, McKim C, Buhs E, Hawley LR. Support, belonging, motivation, and engagement in the college classroom: A mixed method study. Instructional Science. 2014 Sep 1; 42(5):661-84.

2. Tomás JM, Gutiérrez M, Pastor AM, Sancho P. Perceived social support, school adaptation and adolescents' subjective well-being. Child Indicators Research. 2020 Jan 16:1-21.

3. Fateel MJ. The Impact of Psychological Adjustment on Private University Students' Academic Achievement: Case Study. International Journal of Higher Education. 2019; 8(6):184-91.

4. Anderson JR, Guan Y, Koc Y. The academic adjustment scale: Measuring the adjustment of permanent resident or sojourner students. International Journal of Intercultural Relations. 2016 Sep 1; 54:68-76.

5. Nelson PM, Ysseldyke JE, Christ TJ. Student perceptions of the classroom environment: Actionable feedback to guide core instruction. Assessment for effective intervention. 2015 Dec; 41(1):16-27.

6. Mutlu G, Yıldırım A. Learning Environment Perceptions and Student Background Variables as Determinants of Persistence in EFL Learning. SAGE Open. 2019 Dec; 9(4):2158244019898805.

7. Shek DT, Wu FK. The influence of positive youth development and family

functioning on adolescent academic adjustment in families with parental divorce or separation. International Journal on Disability and Human Development. 2016 Nov 1; 15(4):443-53.

8. Sandilos LE, Rimm-Kaufman SE, Cohen JJ. Warmth and demand: The relation between students' perceptions of the classroom environment and achievement growth. Child development. 2017 Jul; 88(4):1321-37.

9. Cho HJ, Levesque-Bristol C, Yough M. International students' self-determined motivation, beliefs about classroom assessment, learning strategies, and academic adjustment in higher education. Higher Education. 2020 Sep 22:1-21.

10. Touchton M. Flipping the classroom and student performance in advanced statistics: Evidence from a quasi-experiment. Journal of Political Science Education. 2015 Jan 2; 11(1):28-44.

11. Rezaei-Dehaghani A, Keshvari M, Paki S. The relationship between family functioning and academic achievement in female high school students of Isfahan, Iran, in 2013–2014. Iranian journal of nursing and midwifery research. 2018 May; 23(3):183.

12. Zakiei A, Vafapoor H, Alikhani M, Farnia V, Radmehr F. The relationship between family function and personality traits with general self-efficacy (parallel samples studies). BMC psychology. 2020 Dec; 8(1):1-1.

13. Burke TJ, Segrin C, Farris KL. Young adult and parent perceptions of facilitation: Associations with overparenting, family functioning, and student adjustment. Journal of Family Communication. 2018 Jul 3; 18(3):233-47.

14. Shek DT. The relation of family functioning to adolescent psychological well-being, school adjustment, and problem behavior. The Journal of Genetic Psychology. 1997 Dec 1; 158(4):467-79.

15. Linnenbrink-Garcia L, Patall EA, Pekrun R. Adaptive motivation and emotion in education: Research and principles for instructional design. Policy Insights from the Behavioral and Brain Sciences. 2016 Oct; 3(2):228-36.

16. Karakaya-Ozyer K, Aksu-Dunya B. A Review of Structural Equation Modeling Applications in Turkish Educational Science Literature, 2010-2015. International Journal of Research in Education and Science. 2018; 4(1):279-91.

17. Baker RW, Siryk B. Student adaptation to college questionnaire (SACQ). Los Angeles, CA: Western Psychological Services. 1986.

18. Sharifi A, Mehrabizade Honarmand M, Rahimi M, Beshlideh K, Amini Z. The role of emotional maturity, ego-resiliency and spiritual intelligence in prediction of adjustment to college with control of cognitive flexibility on boy students. Positive Psychology Research. 2018 Aug 28; 4(3):1-2.

19. Gentry M, Rizza MG, Gable RK. Gifted students' perceptions of their class activities: Differences among rural, urban, and suburban student attitudes. Gifted Child Quarterly. 2001 Apr; 45(2):115-29.

20. Ali S, Yazdi AA, Abdekhodaei MS, Ghanaei-Chamanabad A, Moharrari F. Development and Validation of a New Questionnaire to Assess Family Function Development based Mental Individual-Difference Relationship Approach (DIR). Research in Clinical Psychology and Counselings. 2014; 3(2):157-76.

21. Esmaeilpour K, Farzaneh A. Prediction of emotional and educational adjustment of students based on family functioning dimensions. Journal of Instruction and Evaluation. 2019 Feb 20; 11(44):103-18.

22. Behere AP, Basnet P, Campbell P. Effects of family structure on mental health of children: A preliminary study.

Indian journal of psychological medicine. 2017 Jul; 39(4):457-63.

23. Berkowitz M, Stern E. Which cognitive abilities make the difference? Predicting academic achievements in advanced STEM studies. Journal of intelligence. 2018 Dec; 6(4):48.

24. Breit M, Preckel F. Incremental validity of specific cognitive abilities beyond general intelligence for the explanation of students' school achievement. Gifted and Talented International. 2020 Aug 22:1-3.

25. Ebrahimi E, Abolmaali Alhosseini K. The Mediating Role of Motivational Structure in the Relationship between Cognitive Abilities and High-Risk Behaviors in Adolescents. Educational Psychology. 2018 Jan 21; 13(46):171-90.

26. Chi SA, Kim S, Kim NH. A study of school adjustment related variables of young children. South African Journal of Education. 2018; 38(2):1-9.

27. Yang QF, Chang SC, Hwang GJ, Zou D. Balancing cognitive complexity and gaming level: Effects of a cognitive complexity-based competition game on EFL students' English vocabulary learning performance, anxiety and behaviors. Computers & Education. 2020 Apr 1; 148:103808.

28. Nesayan A, Amani M, Gandomani RA. Cognitive Profile of Children and its Relationship with Academic Performance. Basic and clinical neuroscience. 2019 Mar; 10(2):165.