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## Interaction between academic motivation and student teachers' academic achievement

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### Abstract

This study sought to explore the interactions between academic motivation and academic achievement. Academic Motivation Scale (Vallerand et al. 1992) was administered to 256 English Language Teaching department students at a major state university in Ankara, Turkey. Academic achievement was measured through participants' GPA. The statistical analysis showed that participants were mostly extrinsically motivated (identified regulation), followed by intrinsic motivation (knowledge) and extrinsic motivation (external regulation). Participants reported very low amotivation. GPA correlated negatively with amotivation; positively with extrinsic identified regulation and intrinsic motivation dimensions of knowledge and accomplishment. Amotivation emerged as the only predictor of GPA.

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### 1. Introduction

Motivation can be seen as a form of cognitive and emotional arousal that makes us want to do something or attain a result. Such a desire often leads to making a decision to act and sustain our efforts for a period of time to achieve our aim (Williams & Burden, 1997). Two main types of motivation have been proposed. These are intrinsic motivation and extrinsic motivation as well as amotivation when the lack of the former two is evident or indifference exists (Deci & Ryan, 1985; Vallerand, Pelletier, Blais, Brière, Senècal, & Vallières, 1992). Intrinsic motivation

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refers to motivation that is derived from joy or satisfaction one gets from participating in an activity. Extrinsic motivation, on the other hand, is a state of cognitive or emotional arousal to earn a reward or to avoid negative outcomes. Finally, a motivation refers to a state when one is neither intrinsically nor extrinsically motivated; and when one experiences a loss or lack of interest and seriously questions why in the world s/he does a given activity (Deci & Ryan, 1985).

Motivational orientation, though can be broadly classified as intrinsic & extrinsic, can further be multidimensional within themselves (Vallerand et al., 1992; Carbonneau, Vallerand, & Lafrenière 2012). Vallerand et al. (1992), for example, identify three subcategories for both intrinsic motivation and extrinsic motivation. Reflecting on self-determination theory (Deci & Ryan, 1985), they posit that intrinsic motivation encompasses motivation to learn new things and gain knowledge (e.g. joy of learning new things); motivation toward accomplishment and for the pleasure of surpassing oneself (e.g. accomplishing difficult academic tasks); and motivation to experience stimulation and get aesthetic and/or sensory pleasure (e.g. pleasure about reading interesting subjects). Extrinsic motivation, on the other hand, consists of external regulation that represents motivation to obtain rewards or avoid problems (e.g. to find a better job); introjected regulation which involves engaging in an activity to maintain self-worth (e.g. to prove that one is capable of doing an activity); and identified regulation involves feeling the benefit and necessity in doing an activity (e.g. belief that doing an activity will be useful in future).

Motivational orientation determines the nature of human behaviour. It influences why people want to do something; how long they are willing to engage in an activity; and how hard they prepared to make effort (Dörnyei, 2001). Harter (1981), for example, posits that people who are motivated for intrinsic reasons will seek challenges in an activity while those who are motivated for extrinsic reasons will opt for easy options. Intrinsic motivation denotes a more positive approach than extrinsic motivation and amotivation and is more likely to contribute more to achievement than extrinsic motivation and amotivation (Deci & Ryan, 1985). However, Guiffreda, Lynch, Wall and Abel (2013) argue that such a view is untested and needs verification especially at the college level.

Multidimensional nature of motivational orientations and Guiffreda et al.'s (2013) argument that the effects of intrinsic motivation on student achievement at tertiary level needs to be tested were the main impetus for this study that sought to explore the relationships between academic motivation and GPA as a descriptor of academic achievement. To do this, following research questions were formulated.

1. What motivation types are favoured/manifested by the participants?
2. Can the achievement be predicted by any dimensions of motivation?

## **2. Method**

### *2.1. Setting and participants*

This study was conducted with a total of 256 students enrolled in the English language teaching (ELT) department of a major state university located in Ankara, Turkey. The department offers a four-year teacher education programme. Participants were enrolled in the programme after a competitive centrally administered university entrance examination (see for example OSYM, 2006). Therefore, it is reasonably safe to assume that they had a reasonably homogenous entry levels of academic achievement. At the time of data collection, participants were enrolled in different years of study. Of participants 79 were in their first year, 97 were in the second year while 80 were in their final year at the university. The third year students were not included in the analysis as their data entries were not complete during the data analysis. 131 participants were female and 57 were male. 68 students did not report their gender as this was an optional question.

### *2.2. Instrument*

*Academic motivation:* Motivation was measured through Academic Motivation Scale (Vallerand et. al., 1992), which is a college version of the authors' motivation instrument. Reflecting multidimensional nature of intrinsic and extrinsic motivations, the scale comprises of three extrinsic components, three intrinsic components, and

amotivation. Extrinsic motivation components were external regulation, identified regulation, and introjected regulation while intrinsic motivation components included knowledge (to know), accomplishment, and stimulation. The scale consists of 28 items with a 7-point Likert Scale. It had satisfying internal consistency, with an overall alpha higher than .85 and all subcomponents exhibiting alpha values higher than .75.

*GPA:* Students' composite mean scores from all the courses they took until the time of data collection were elicited through a self-report question in the data collection instrument.

### 2.3. Procedures for data collection and analysis

Data were collected online. An online version of the questionnaire was created on Google Documents, where all regular students enrolled in the teacher training programme were invited to visit. A satisfactory 50% return rate was observed. The data were collected in the spring term to allow time for the first year students to earn their first term GPA.

Emergent data were later analyzed employing both descriptive and inferential methods of statistical analysis. Participants' GPA, and motivational make-up were investigated through descriptive statistics. Given the fact that ELT departments are female dominant academic units, any possible gender differences in GPA and motivation dimension were examined through independent samples t-test procedure while relationships between GPA and different dimensions of motivation were examined through Pearson correlation coefficients. A regression analysis was employed to explore whether any causal relationships exist between participants' motivation and achievement as represented by their GPA.

## 3. Findings

### 3.1. Participants' GPA

Descriptive statistics revealed that students' had a reasonably high GPA ( $M = 3.18$ ,  $SD = .34$ ). Female students had a slightly higher GPA ( $M = 3.17$ ,  $SD = .33$ ) than male students ( $M = 3.10$ ,  $SD = .38$ ). However, the difference between the two groups of students was not significant ( $t_{(185)} = 1.264$ ,  $p > .05$ ).

### 3.2. Motivational make-up

Descriptive statistics revealed that participants reported extrinsic motivation ( $M = 5.35$ ,  $SD = 1.02$ ) more than intrinsic motivation ( $M = 5.06$ ,  $SD = 1.06$ ) and amotivation ( $M = 2.01$ ,  $SD = 1.38$ ). These findings are presented in Table 1 below.

Table 1. Mean values of motivation type

Type of motivation	N	Mean	SD
Extrinsic	247	5.35	1.02
Intrinsic	255	5.06	1.05
Amotivation	255	2.01	1.38

As for dimensions of different types of motivation, dominant motivation dimensions appeared to be extrinsic identified regulation ( $M = 5.80$ ,  $SD = 1.04$ ), followed by intrinsic motivation for knowledge ( $M = 5.66$ ,  $SD = 1.09$ ) and extrinsic external regulation ( $M = 5.57$ ,  $SD = 1.18$ ). Other dimensions of motivations were of less significance for the participants: accomplishment ( $M = 4.86$ ,  $SD = 1.04$ ); Stimulation ( $M = 4.67$ ,  $SD = 1.22$ ); and introjected regulation ( $M = 4.60$ ,  $SD = 1.53$ ). These can be seen in Table 2.

Table 2. Mean values of different dimensions of intrinsic and extrinsic motivation

Dimensions of Motivation	N	Mean	SD	F	mean	FSD	Mmean	SD
EXT: Identified regulation	255	5.80	1.04	5.86	.99	5.67	1.10	
INT: Knowledge	255	5.66	1.09	5.73	1.09	5.54	1.11	
EXT: External regulation	247	5.57	1.18	5.62	1.20	5.56	1.20	
INT: Accomplishment	255	4.86	1.25	4.87	1.26	4.82	1.29	
INT: Stimulation	255	4.67	1.22	4.67	1.25	4.67	1.21	
EXT: Introjected regulation	255	4.60	1.53	4.62	1.49	4.58	1.64	
Amotivation	255	2.01	1.38	1.81	1.17	2.71	1.68	

An examination of gender differences revealed that female participants and male participants differed significantly from each other only on amotivation ( $t_{(186)} = -4.217, p < .01$ ). Female participants reported a much lower level of amotivation ( $M = 1.81, SD = 1.17$ ) than male participants ( $M = 2.71, SD = 1.68$ ).

### 3.3. Relationship between achievement and motivation

To explore possible interactions between achievement and different dimensions of motivation, a Pearson correlation coefficient test was conducted. The results of the correlation test are presented in Table 3.

Table 3. Relationship between achievement (GPA) and motivation

	1	2	3	4	5	6	7	8
1. GPA	1							
2. Amotivation	-.184**	1						
3. EXT: External regulation	.094	-.095	1					
4. EXT: Introjected regulation	.063	-.010	.478**	1				
5. EXT: Identified regulation	.158*	-.331**	.626**	.504**	1			
6. INT: Knowledge	.134*	-.226**	.107	.400**	.470**	1		
7. INT: Accomplishment	.159*	-.114	.256**	.623**	.475**	.703**	1	
8. INT: Stimulation	-.022	-.044	.082	.431**	.305**	.701**	.632**	1

\* p<.05; \*\* p<.01

A close examination of the table above shows that GPA, as an indicator of achievement, correlated negatively with amotivation ( $r_{(238)} = -.184, p < .01$ ); positively with extrinsic identified regulation ( $r_{(238)} = .158, p < .05$ ); intrinsic motivation for knowledge ( $r_{(238)} = .134, p < .05$ ); and intrinsic motivation toward accomplishment ( $r_{(238)} = .159, p < .05$ ). However, it needs to be noted that these relationships had a small effect size magnitude (Cohen, 1992). Other correlation coefficients between achievement and motivation did not achieve any statistical significance.

### 3.4. Predictors of achievement

After significant correlations were identified between achievement and motivation types as well as among motivation types themselves, a multiple standard regression analysis was performed in order to find out whether any of the motivation types better predicts participants' GPA than the others. No assumptions were violated as the

sample size ( $n = 256$ ) was large enough; and multivariate outliers did not seem to be likely to interfere with the normality.

The results of the regression analysis indicated that, of those dimensions of motivation with some significant correlations with the GPA, only amotivation emerged as a predictor of GPA, explaining considerably larger unique variation in participants' GPA than other variables: knowledge; identified regulation, and accomplishment. Overall regression model was significant ( $F = 3.405$ ,  $p < .01$ ). However, the amount variation explained by amotivation was not large ( $R^2 = .55$ ), not exceeding %6. These figures can be found in Table 4.

Table 4. Regression analysis: predictors of achievement

Predictors	Standardized Coefficients			Correlations		
	Beta	t	Sig.	Zero order	Partial	Part
Amotivation	-.115	-2.275	.024	-.184	-.147	-.145
INT: Knowledge	-.016	-.173	.863	.134	-.011	-.011
EXT: Identified regulation	.053	.689	.491	.158	.045	.044
INT: Accomplishment	.128	1.374	.171	.159	.090	.087

Note: adjusted  $R^2$  for the model = .055

#### 4. Discussion and conclusion

This study noted that two dimensions of extrinsic motivation (identified regulation and external regulation) and intrinsic motivation for knowledge appear to be relatively more dominant than other types of motivation. It was especially pleasing to observe that students reported low amotivation. As for the relationship between motivation and achievement, four different types of motivation appeared to correlate with students' GPA. These were, in order of the size of correlation coefficient, amotivation (negatively), intrinsic motivation for accomplishment, extrinsic identified regulation, and intrinsic motivation for knowledge. However, only amotivation emerged as a predictor of student achievement. Zero order correlations gave support to the contention that intrinsic motivation is more conducive to learning (Guiffreda, et al., 2013). However, it is mature to assume any causal relationships as the correlation coefficients in this study had a small effect size, explaining a limited amount of unique variation in participants' GPA.

The findings that students manifest identified regulation and external regulation as reasons for studying at the university, both of which are linked to hopes of students that they will eventually benefit from their studies (e.g. finding a good job), resonate with the literature on teacher entry motivations. New teachers are often reported to report extrinsic motivation signifying possible job opportunities as well as intrinsic motivation derived from interest and joy of teaching and working with adolescents and children (e.g. Kılınç&Mahiroğlu, 2009). Low amotivation in this study is also in keeping with the findings that student teachers of English language teaching rarely report that they have chosen teaching as a fallback career (e.g. Topkaya & Uztosun, 2012).

The fact that amotivation emerged as the only predictor can be linked to student burnout, which can be significant factor associated with poor academic achievement (Schaufeli, Martinez, Pinto, Salanovca&Bekker, 2002). It is quite possible that students with high amotivation may suffer from academic burnout and refrain from engaging in academic work, which eventually may result in failure and lower GPA. This study further identified a clear gender difference on amotivation in favour of female participants. Male participants appeared to be more inclined to develop a sense of amotivation. Although such a gender difference was not observed on participants GPA, it emerged as a significant concern, leaving male students more vulnerable to amotivation and academic burnout. This can be explained, to some extent, that the teaching profession may be perceived to be of less value by male students (Erten, 2009) with a slightly higher extrinsic expectation from teaching (Erten, 2014) and possibly resulting in less

satisfaction from the field of study. Further studies are required to explore the reasons behind gender differences in amotivation among university students.

Given the above findings and discussion, it is not unsafe to conclude that intrinsic motivation and job related extrinsic motivation can be linked to achievement, and amotivation can be a negative factor on student achievement. Future studies into amotivation can be informative to understand as to what causes amotivation and what remedial work can be of best assistance.

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### References

- Carboneau, N., Vallerand, R. J., & Lafrenière, M. A. K. (2012). Toward a tripartite model of intrinsic motivation. *Journal of personality*, 80(5), 1147-1178.
- Cohen, J. (1992). A power primer. *Psychological Bulletin*, 112, 155-159.
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.
- Dörnyei, Z. (2001). *Teaching and researching motivation*. London: Longman.
- Erten, I. H. (2009). Gender differences in academic achievement among Turkish prospective teachers of English as a foreign language. *European Journal of Teacher Education*, 32(1), 75-91.
- Erten, İ. H. (2014). Understanding the reasons behind choosing to teach English as a foreign language. *Novitas-ROYAL (Research on Youth and Language)*, 8(1), 30-44.
- Guiffida, D. A., Lynch, M. F., Wall, A. F., & Abel, D. S. (2013). Do reasons for attending college affect academic outcomes?: A test of a motivational model from a self-determination theory perspective. *Journal of College Student Development*, 54(2), 121-139.
- Harter, S. 1981. A new self-report scale of scale of intrinsic versus extrinsic orientations in the classroom: motivational and informational components. *Developmental Psychology*, 17(3), 300-312.
- Kılınç, A., & Mahiroğlu, A. (2009). The attractors of teaching biology: A perspective from a Turkish context. *Australian Journal of Teacher Education*, 34(5), 15-39.
- Özgüngör, S. (2008). Öğrencilerin öğretim türü, program türü ve fakülteyi tercih nedenlerine göre fakülte yaşamından aldıkları doyum düzeyleri. *Pamukkale Üniversitesi Eğitim Fakültesi Dergisi*, 24, 80-91.
- Schaufeli, W. B., Martinez, I. M., Pinto, A. M., Salanova, M., & Bakker, A. B. (2002). Burnout and engagement in university students a cross-national study. *Journal of cross-cultural psychology*, 33(5), 464-481.
- Topkaya, E.Z., & Uztoşun, M. S. (2012). Choosing teaching as a career: motivations of pre- service English teachers in Turkey. *Journal of Language Teaching and Research*, 3(1),126-134.
- Vallerand, R. J., Pelletier, L. G., Blais, M. R., Brière, N. M., Senécal, C., & Vallières, E. F. (1992). The Academic motivation scale: A measure of intrinsic, extrinsic, amotivation in education. *Educational and Psychological Measurement*, 52, 1003-1017.
- Williams, M., & Robert, R. L. (1997). *Psychology for language teachers: A social constructivist approach*. Cambridge: Cambridge University Press, 23-25.