
Original Article

Association of Academic Goal Orientations with Thinking Rumination among University Students

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Abstract

Introduction: Academic goal orientation is a prevailing theory in achievement motivation that analyzes why individuals engage in and insist on assignments. Knowledge of academic goal orientation and rumination and their relationship with each other among learners is of great importance. This study was aimed to evaluate the correlation of academic goal orientations with rumination among students of Kermanshah University of Medical Sciences.

Methods: This correlational descriptive-analytical study was carried out on all students (n=4200) of Kermanshah University of Medical Sciences in 2016. Using Morgan table, a total of 370 students were selected through proportion to population size random sampling. The data collection instruments included the Academic Goal Questionnaire and the rumination scale. The collected data were analyzed using Pearson correlation coefficient and independent t-test.

Results: The findings showed a significant correlation between mastery-avoidance goal orientation and rumination ($r=0.20$, $P<0.001$), performance-approach goal and rumination ($r=0.25$, $P<0.001$), and performance-avoidance goal orientation and rumination ($r=0.11$, $P<0.02$). However, no significant correlation was found between mastery-approach goal orientation and rumination ($r=0.08$, $P=0.08$). Also, the mean scores of academic goal orientation in male (40.13 ± 10.43) were significantly higher than those of female (32.43 ± 11.28) students ($P=0.006$), and mean scores of rumination in female (92.62 ± 46.17) were significantly higher than those of male (62.55 ± 36.07) students ($P=0.007$).

Conclusion: Considering the correlation between study variables, rumination is suggested to be taught to students to promote their academic goal orientation and academic performance.

Keywords: Decision making, Thinking, Orientation, Medical students

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Introduction

Training motivated, purposeful, progressive, and efficient learners is an important objective of any education system. In this regard, achievement goal orientation has been emphasized as a key construct. This theory is mainly the outcome of the efforts of those psychologists who are involved in the domains of

motivation, attitude and skills that assist learners efficiently in fulfilling their needs (1). Goal orientation includes parts of knowledge, attitude and skills that help people satisfy their needs effectively (2, 3). In fact, goal orientation indicates a consistent pattern of a person's beliefs that drive him/her oriented towards different

situations to get involved in and present a response eventually (4, 5). As for the classification of achievement goals, a quartet model has been proposed. Based on this model, four types of orientation are defined, i.e. mastery-approach goals, mastery-avoidance goals, performance-approach goals and performance-avoidance goals (6, 7). Since different achievement goals in educational environments lead to various positive and negative outcomes, recognizing the influential factors and their antecedents is highly significant (8).

Rumination is one of the factors observed in some emotional disorders like depression, obsessive-compulsive disorder, learner's anxiety, and post-traumatic stress disorder. The most important problems associated with rumination are isolation of people from reality and distancing from here and now, exerting a negative effect on their processing (9). Rumination is defined as resistant and recurring thoughts that revolve around a common subject. These thoughts enter consciousness involuntarily and distract the attention from the given subjects and current goals (10). The results of studies have shown that performance-avoidance goals are correlated with poor performance, low efficiency and poor well-being. The studies on performance-orientation have shown contradictory results. However, some studies have shown that performance-approach orientation is correlated with academic duration (11, 12). Abundant evidence has suggested a correlation between performance-approach goals and avoiding challenging tasks (13). Pintrich proposed that mastery goals can also be divided into mastery-avoidance and mastery-approach goals (14). Learners with mastery-approach orientation show more stability in dealing with challenges and are internally more motivated than those adopting performance-approach or performance-avoidance goals.

However, learners adopting mastery-avoidance orientation refrain from negative consequences like skill reduction or inadequacy (15). Many studies have shown a relationship between performance goals and rumination. People recognized more with performance-approach goals were found to have a higher level of rumination. Also, achievement goal orientations have been reported to be correlated with rumination (16). The nature, severity, and quality of rumination in positive and negative metacognitive samples have been reported to be correlated with depression and rumination, and these beliefs are more prevalent among women than men. Moreover, depression in women is more than men. This difference in depression level can be explained by metacognitive beliefs so that women believe more in the benefits of using rumination strategies and their uncontrollability than men, and this leads to increased use

of this inefficient coping strategy due to depression and its recurrence (17).

The findings of Soliemanifar et al. in 2012 showed a negative significant correlation between mastery goal orientation and academic rumination as well as a positive significant correlation between performance-avoidance goal orientation and academic rumination. Further, there was a significant difference between female and male students in terms of mastery and performance-approach orientations and academic rumination. The results indicated a significant correlation between academic goal orientations and academic rumination of students (5). The results of the study by Rostami et al. revealed that self-efficacy had an inverse effect on rumination, explaining about 0.08 of rumination variance (18). Mahmoudiyan et al. conducted a study in 2013 to determine the effect of rumination, physical deformity, and obsessive-compulsive disorder on predicting depression symptoms in students. They showed that rumination was a significant factor associated with depression and affected depression directly or through obsessive-compulsive disorder and physical deformity (19). In the study of Grant & Dweck performed in 2003, evidence regarding the correlation of performance goals with rumination was presented. It should be noted that the individuals recognized with performance-approach goals showed a higher level of rumination (20).

Pintrich reported a relationship between academic orientations and rumination and suggested that mastery goals could be divided into mastery-avoidance and mastery-approach goals. Learners adopting mastery-approach orientation showed more stability than those adopting performance-approach or performance-avoidance goals while dealing with challenges, and were more motivated internally, while learners with mastery-avoidance orientation refrained from negative consequences such as skill reduction or inadequacy (14). Nolen-Hoeksema et al. carried out a study on gender differences in rumination orientation and reported that women had more stress than men, due to low income and unhappiness with marriage. These gender differences in chronic stress experience can be partly involved in the incidence of gender differences in rumination. Also, women were more probable to suffer from traumatic events and develop rumination consequently (21).

In another study analyzing the relationship between rumination and anxiety, depression and obsession among the patients, Yook et al. concluded that patients with generalized anxiety disorder had higher levels of rumination than the controls. Also, a significant difference was found between the three groups of depressed patients, obsessive-compulsive patients, and

controls with regard to total score of rumination and its subscales (22). Therefore, the current study was conducted to determine the correlation between academic goal orientations (mastery-approach goals, mastery-avoidance goals, performance-approach goals, performance-avoidance goals) and rumination among students of Kermanshah University of Medical Sciences.

Methods

The study population of this correlational descriptive-analytical study included all students of Kermanshah University of Medical Sciences in the academic year 2016, which was found to be 4200 students according to the statistics received from the university. Using Morgan table, a total of 370 students were selected through proportion to population size random sampling. The Academic Goal Questionnaire (AGQ) and the rumination scale were used to collect data.

AGQ was used to measure goal orientation according to Elliot model, which includes 12 items, every three items measuring one orientation based on a 7-point Likert scale from completely true (score 7) to not at all true (score 1). Four scores were obtained for each person for each orientation. Using factor analysis and Varimax rotation, four factors were extracted from this scale. These factors consisted of mastery-approach goals, mastery-avoidance goals, performance-approach goals and performance-avoidance goals. The range of score of each person in each goal orientation varied from 3 to 21. Content validity was applied to determine the validity of AGQ. The correlation coefficients of 0.83-0.90 and 0.75-0.84 were obtained for performance-approach and performance-avoidance factors (23). The reliability of AGQ has been calculated in a piece of research to be 0.77 by Cronbach's alpha for mastery orientation, 0.68 for performance-approach orientation and 0.76 for performance-avoidance orientation, which is indicative of an acceptable reliability index for academic goal orientation (5).

Rumination scale is a 22-item scale whose components are scored based on a 4-point Likert scale from 1 (almost never) to 4 (almost always) (23). The scores range from 22 to 88 in this scale. The total score of rumination is calculated by adding up the scores of all components (21).

The predictive validity of rumination scale has been investigated in numerous studies, indicating that this scale can predict the clinical and non-clinical samples by controlling such variables as primary level of stressors. The validity of this scale was found to be 0.62 by calculating its correlation with Beck's depression inventory, which was significant at 0.001 (5). Based on

experimental evidence, rumination scale has a high internal reliability, with Cronbach's alpha range of 0.88-0.92 (23).

For the sake of ethical considerations, the participants participated in the study voluntarily, and all required explanations about the study, data collection procedures, confidentiality of personal data, non-mandatory writing of the name and surname and other ethical points were provided to the samples. Completing and returning the questionnaires showed that the samples were willing to participate in the study. Further, rumination is considered an important element in depression and is distinguishable from other cognitive processes like negative automatic thoughts, attention and worries. Hence, not using anti-depression drugs while administering the research questionnaires or completion of medical treatment were considered as inclusion criteria in this study. Moreover, presence of mental problems and consumption of anti-depression drugs by students were regarded as exclusion criteria. Descriptive data were analyzed using frequency, percentage, mean and standard deviation. Correlation between variables was determined by Pearson correlation coefficient (r) and, significant differences between the means were evaluated using independent t-test.

Results

From the study population, 370 students including 227(61%) women and 143(39%) men were selected. Also, 17% of respondents belonged to the School of Health, 26% to the School of Paramedical Sciences, 36% to the School of Nursing and Midwifery, 2% to the School of Dentistry, 13% to the School of Medicine and 6% to the School of Pharmacy. The means and standard deviations of rumination and academic goal orientation were 36.57 ± 10.83 and 72.55 ± 15.49 , respectively. Rumination showed maximum correlation with performance-approach goal orientation ($r=0.25$) and minimum correlation with mastery-approach goal orientation ($r=0.08$) (Table 1).

There was no correlation between mastery-approach goal orientation and rumination, but there was a positive significant correlation between mastery-avoidance goal orientation and rumination. Further, there was a positive significant correlation between performance-avoidance goal orientation and rumination. In addition, there was a positive significant correlation between performance-approach goal orientation and rumination.

Furthermore, there was a significant difference between males and females in terms of academic goal orientation. Hence, given the mean academic goal orientation of

Table 1. Correlation of academic goal orientation domains with students' rumination

Goal orientation domains	Mean	Standard deviation	Pearson correlation coefficient	P-value
Mastery-approach	12.41	5.57	0.08	0.08
Mastery-avoidance	18.22	5.93	0.20	<0.001
Performance-approach	18.33	5.47	0.25	<0.001
Performance-avoidance	16.35	5.73	0.11	0.02
Academic goal orientation	72.55	15.49	0.14	0.004

males (40.13) and females (32.43), it can be concluded that alexithymia rate in male students was more than female students. There was also a significant difference between the male and female students with regard to

rumination. Thus, based on the mean rumination of female students (92.62) and mean alexithymia of male students (62.55), it can be concluded that alexithymia rate in female students is more than male students (Table 2).

Table 2. Comparison of academic goal orientation with rumination among male and female students

Variable	Gender	Number	Mean	Standard deviation	t value	P-value
Academic goal orientation	Female	227	32.43	11.28	2.73	0.006
	Male	143	40.13	10.43		
Rumination	Female	227	92.62	46.17	2.809	0.007
	Male	143	62.55	36.07		

Discussion

The present study evaluated the correlation of academic goal orientation with rumination among students of Kermanshah University of Medical Sciences in 2016. The findings showed a significant correlation between academic goal orientation (mastery-avoidance, performance-approach and performance-avoidance) and rumination among students. The findings of the current study were in line with those of Soliemanifar et al., indicating a negative significant correlation between mastery goal orientation and rumination as well as a positive significant correlation between performance-avoidance goal orientation and rumination (5). Also, the results of this study were in agreement with those of Rostami et al. (18), Grant & Dweck (20), Yook et al. (22), De Clercq et al. (24), and Mozafari et al. (25). The studies of Grant & Dweck have shown evidence for the correlation of performance goals with rumination so that people with higher levels of performance-approach goals had higher levels of rumination. Further, they reported a positive significant correlation between achievement goal orientations and rumination (20).

Moreover, the results indicated no significant correlation between mastery-approach goal orientation and rumination in students, which were in line with the findings of Soliemanifar et al. (5). However, these results were in contrast with those of Pintrich. Pintrich reported a correlation between academic orientations and rumination and suggested that mastery goals could be divided into

mastery-avoidance and mastery-approach orientations. Learners with mastery-approach orientations show more stability in dealing with challenges and are intrinsically more motivated than those with performance-approach or performance-avoidance orientations, while learners with mastery-avoidance orientation refrain from negative outcomes like skill reduction or inadequacy (14).

In addition, the findings of this research revealed that academic goal orientation in males and females was different and the mean score of men was significantly higher than that of women, which is in agreement with the results of Soliemanifar et al. (5), De Clercq et al. (24) and Safari & Meskini (26). On the other hand, a person's types of goals, using self-protection strategies, are correlated with intrinsic motivation and academic self-concept. Boys and girls are different in terms of goal orientation, and this difference may result from different behaviors of parents towards boys and girls (22) as well as other factors affecting the academic behavior of learners (26, 27).

Furthermore, this study showed a significant difference between gender and rumination, which is in contrast with the findings of Nolen-Hoeksema et al. Gender differences in rumination may be too many. For example, in a study on gender differences in orientation towards rumination. Nolen-Hoeksema et al. reported that women had more stress than men because of low income and unhappy marriage. These gender differences during chronic stress experience can partly affect the incidence of gender differences in rumination. Also, women were more probable to experience traumatic events than men and develop rumination consequently (21).

The current study, which was on human beings as other studies in the realm of human arts, had limitations and problems. Undoubtedly, many variables like culture, family conditions, environment, social welfare, economic status, etc. are associated with academic goal orientation. But difficulty of quantifying these variables and their comprehensive analysis limited the research to the analysis of rumination. The obtained results, owing to the use of self-report instruments instead of real study and observation of behavior in natural situation as well as other clinical indices, may have stimulated the participants to use social acceptance-based methods and to avoid notoriety related to personal inadequacy, obsession, depression, etc., making the respondents to abstain from revealing their realities, thereby affecting the results. Also, lack of full cooperation of some respondents by disclosing some personal characteristics, even in line with the research objectives, can be another limitation of this study.

To sum up, according to the theoretical and experimental background of this study and considering the importance of academic achievement among the academic community, other researchers are advised to replicate this study in other regions and universities to compare the results and increase the generalizability of findings. However, analyzing the effect of positive thinking and thought control training methods on reducing rumination aiming to decrease the possible incidence of depression and obsession symptoms is an issue that requires further research.

Conclusion

The findings showed a significant correlation between academic goal orientation and rumination. The knowledge of this relationship, as well as knowledge of rumination, provides important information for the teachers and counselors and helps to improve information about academic rumination and outcomes resulting from adopting each academic goal orientation for academic challenges and stressful situations and adaptability. Thus, considering the high level of this emotion among students, which is indicative of challenges in mental and physical health in this group, and given the significance of students as human investment, teaching coping skills of rumination and performing research in this regard are necessary to reduce the effects of this phenomenon.

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References

1. Elliot AJ, McGregor HA. A 2×2 achievement goal framework. *Journal of Personality and Social Psychology*. 2001; 80(3): 501-519.
2. Ames C. Classrooms: Goals, structures, and student motivation. *Journal of Educational Psychology*. 1992; 84(3): 261-271.
3. Khosravi M, Mehrabi HA, Azizimoghadam M. A comparative study of obsessive-rumination component on obsessive-compulsive and depressive patients. *Koomesh*. 2008; 10(1): 65-72. [Persian]
4. Wupperman P, Neumann CS. Depressive symptoms as a function of sex-role, rumination, and neuroticism. *Personality and Individual Differences*. 2006; 40(2): 189-201.
5. Soliemanifar O, Sha'bani F, Rezayi Z, Shoja'ei A. Relationship between academic goal orientations and academic rumination in university students Ahvaz Jundishapour University of Medical Sciences. *Educ Strategy Med Sci*. 2014; 7(3): 173-180. [Persian]
6. Sarraj-Khorrami A, Karami J, Momeni KM. Comparing thinking rumination and defense mechanisms in patients suffering from major depression and obsessive-compulsive disorders with normal individuals. *Journal of Clinical Psychology*. 2014; 6(2): 53-63. [Persian]
7. Joormann J. Differential effect of rumination and dysphonia on the inhibition of irrelevant emotional material: Evidence from a negative priming task. *Cognitive Therapy and Research*. 2006; 30(2): 149-160.
8. Papageorgiou C, Wells A. Positive beliefs about depressive rumination: Development and preliminary validation of a self-report scale. *Behavior Therapy*. 2002; 32(1): 13-26.
9. Wolters CA. Advancing achievement goal theory: Using goal structures and goal orientations to predict students' motivation, cognition, and achievement. *Journal of Educational Psychology*. 2004; 96(2): 236-250.
10. Watkins E, Scott J, Wingrove J, Rimes K, Bathurst N, Steiner H, et al. Rumination-focused cognitive behaviour

- therapy for residual depression: A case series. *Behavior Research and Therapy*. 2007; 45(9): 2144-2154.
11. Elliot AJ, Harackiewicz JM. Approach and avoidance achievement goals and intrinsic motivation: A mediational analysis. *J Pers Soc Psychol*. 1996; 70(3): 461-475.
12. Elliot AJ, Sheldon KM, Church MA. Avoidance personal goals and subjective well-being. *Pers Soc Psychol Bull*. 1997; 23(9): 915-927.
13. Kertz SJ, Bigda-Peyton JS, Rosmarin DH, Björngvinsson T. The importance of worry across diagnostic presentations: Prevalence, severity and associated symptoms in a partial hospital setting. *Journal of Anxiety Disorders*. 2012; 26(1): 126-133.
14. Pintrich PR. Multiple goals, multiple pathways: The role of goal orientation in learning and achievement. *J Educ Psychol*. 2000; 92(3): 544-555.
15. Behzadpoor S, Sohrabi F, Borjali A, Motahari ZS. Comparative study of attentional control and rumination in patients with obsessive-compulsive disorder and normal people. *Psychological Researches*. 2012; 5(17): 1-12. [Persian]
16. Elliot AJ, McGregor HA, Gable S. Achievement goals study strategies, and exam performance: A mediational analysis. *J Educ Psychol*. 1999; 91(3): 549-563.
17. Zhu L. A research on relations among the academic self-concept, achievement goal orientation and learning persistence of college students. *Chinese Journal of Clinical Psychology*. 2006; 14(2): 192-193.
18. Rostami A, Shariatnia K, Khajehvand Khoshli A. The relationship between self-efficacy and mind fullness with rumination among students of Islamic Azad University, Shahrood Branch. *Medical Sciences Journal of Islamic Azad University-Tehran Medical Branch*. 2015; 24(4): 254-259. [Persian]
19. Mahmoudiyan M, Epchi Hagh S, Rasoul Zadeh Tabatabaee K. The relationship between intellectual rumination, physical deformation and obsession compulsion with depressive symptoms in students. *Thought & Behavior in Clinical Psychology*. 2013; 8(29): 17-26. [Persian]
20. Grant H, Dweck CS. Clarifying achievement goals and their impact. *J Pers Soc Psychol*. 2003; 85(3): 541-553.
21. Nolen-Hoeksema S, Wisco BE, Lyubomirsky S. Rethinking rumination. *Perspect Psychol Sci*. 2008; 3(5): 400-424.
22. Yook K, Kim KH, Suh SY, Lee KS. Intolerance of uncertainty, worry, and rumination in major depressive disorder and generalized anxiety disorder. *J Anxiety Disord*. 2010; 24(6): 623-628.
23. Asadi S, Abedini M, Poursharifi H, Nikokar M. The relationship between intolerance of uncertainty and rumination with worry on student population. *Journal of Clinical Psychology*. 2013; 4(4): 83-91. [Persian]
24. De Clercq M, Galand B, Frenay M. Chicken or the egg: Longitudinal analysis of the causal dilemma between goal orientation, self-regulation and cognitive processing strategies in higher education. *Studies in Educational Evaluation*. 2013; 39(1): 4-13.
25. Mozafari M, Safari Y, Abasifard Z, Safari M, Sharafi K. Assessing dimension of metacognitive skills and its relationship with academic achievement in high school students. *Acta Medica Mediterranea*. 2016; 32: 899.
26. Safari Y, Meskini H. The effect of metacognitive instruction on problem solving skills in Iranian students of health sciences. *Global Journal of Health Science*. 2016; 8(1): 150-156.
27. Safari Y, Tahmasby F, Karamafrooz MJ. Assessment of entrepreneurial skills and its association with social intelligence in students of Kermanshah University of Medical Sciences. *Educ Res Med Sci*. 2013; 2(2): 59-63.