

Investigating Achievement Goals for Egyptian Nursing Categories

Mai E. Khalifa, PhD

Lecturer of Educational Psychology

Faculty of Education

Helwan University

Egypt

Abstract

This research focuses on Egyptian nursing students' achievement goals toward their studies during their academic studies. It aimed to investigate the achievement goals of nursing students. Nursing students' adoption levels of achievement goals are described. Also, put forth the achievement goal orientations of nursing categories (secondary students, faculty students). Achievement Goals Orientations Scale was distributed to 175 nursing students (94 faculty, 46 males and 48 females- 81 secondary, females only). The findings showed that firstly, students generally adopted all achievement goal orientations at a medium level. And order of them for nursing students were performance-avoidance, performance-approach, mastery –avoidance then mastery-approach orientation. Secondly, faculty students have higher mastery-approach goal and lower performance-avoidance goal than secondary students. Also, Females in faculty have higher mastery-approach goal, performance-approach goal and lower performance-avoidance than females in secondary school. Finally, males have higher mastery-approach goal and lower performance-approach goal than females.

Keyword: achievement goals, Nursing Students.

Background

Understanding purposes of nursing student's performance, in variety categories, is undoubtedly from objectives of educational psychology research. Nursing students need achievement motivation in order to become self-directed, independent, and active learners. Nursing educators must to understand students' motivation and achievement goal orientations in order to effectively instill life-long learning skills in their students. Evidence of nursing student's achievement goals can provide guidelines on how learning settings need to modification so that learning can be adjusted (Ramnarain, 2013: p.141).

Achievement Goals Orientations

Achievement goal theory represents a critical field within the organizational motivation literature (Mierlo & Hooft, 2015: p.1). It has established much attention due to their effective role on students' performance. Achievement goals reflect the purpose or cognitive focus of competence-relevant behavior in achievement situations (Elliot & McGregor, 2001). That means learners' causes for doing a task Students' motivation, especially achievement goal orientation, is related to learning strategies, help-seeking behaviors, persistence, and acquisition and utilization of skills (Gavaza, Muthart, & Khan, 2014: p.1), and metacognitive thinking (Khalifa, 2011; AL-Baddareen, Ghaith, & Akour, 2015), furthermore academic achievement and ambition level (Ghanem, 2015). A student with positive academic motivation has the desire to learn, likes learning-related activities, and believes that studying is important (AL-Baddareen, Ghaith, & Akour, 2015: p.2068).

Goal theory initiates in social cognitive framework and tries to explain why individuals pursue achievement tasks as well as how they engage in those tasks (Schoenfelder, 2006). This refers to why and how students involve in academic activities (Vedder-Weiss & Fortus, 2010). This theory was initially divided in two achievement goals.

The first one, mastery goals, focused on development of competence and tasks and is related to learning outcomes, new things (Mierlo & Hooft, 2015: p.4). Students who adopt mastery goals tend to persist in the face of difficulty, seek challenging tasks, and have high intrinsic motivation (Ames, 1992).

They are also not worried about errors they make or how they seem to others, but view errors as learning opportunities and do not hesitate to ask others advice (Ramnarain, 2013: p.140), and evaluate themselves using “self-referenced standards“, such as “Have I learned?”, “Have I improved?”(AL-Baddareen, Ghaith, & Akour, 2015: p.2069).

And result in adaptive response patterns characterized by high effort, persistence when faced with difficulties, effective task strategies and performance (Mierlo1& Hooft, 2015: p.4). On the other hand, performance goals, dealt with relative competence in relation to others and is a more self-centered goal. Students who adopt performance goals are expected to minimally persist in the face of difficulty, avoid challenging tasks, and have low intrinsic motivation (Ames, 1992). Those students usually evaluate themselves using interpersonal norms, such as “did I do better than other students in the class?”, “Do others think that I am smart?”(Pintrich, 2000). Performance goals encourage students to focus on scoring better than others or avoiding the appearance of incompetence (AL-Baddareen, Ghaith, & Akour, 2015: p.2069). And result in maladaptive helpless response patterns, characterized by low effort, defensive strategies, withdrawal when faced with difficulties and poor performance (Mierlo1& Hooft, 2015: p.4).

In mastery goals students are motivated to understand the material and develop their skills, but in performance goals students are concerned with comparing themselves with others (Elliot& McGregor, 2001). Then, Elliot and his colleagues proposed a trichotomous framework with the mastery, performance approach and performance avoidance goals (Elliot & Harackiewicz, 1996). These three goals were the center of the hierarchical model of achievement goal orientations.

The trichotomous model was then lengthened with division of the mastery goal into the mastery approach and mastery avoidance goals (Lochbaum & Gottardy, 2015: p.165) that proposed by Elliot and McGregor (2001). Therefore, the 2 x 2 achievement goal framework divides goals into a mastery-performance dichotomy in addition to an approach-avoidance dichotomy (Muis& Winne, 2012). Mastery-approach goals equal the original mastery-goal construct (Mierlo1& Hooft, 2015: p.5). Individuals who adopt this orientation have features as improving their skills, completing their learning materials, increasing their knowledge and being ambitious when facing difficulties (Elliot & Harackiewicz, 1996; Kayis & Ceyhan, 2015: p.446).

Mastery-avoidance goals reflect the tendency to avoid incompetence relative to absolute or intrapersonal standards (e.g., striving to avoid making any mistakes or missing important information) (Mierlo1& Hooft, 2015: p.5). Individuals having this goal have features as worry about being a lower performance than before, setting high accomplishment standards for themselves, fear of failure, concerns about forgetting what they have learned and learning incorrectly (Elliot & McGregor, 2001; Kayis & Ceyhan, 2015: p.446). Performance-approach goals are directed at demonstrating competence (Mierlo1& Hooft, 2015: p.5). Individuals with this goal have features as being more successful than others, competitive, and using superficial study strategies (Elliot & Harackiewicz, 1996; Kayis & Ceyhan, 2015: p.446).

Finally, performance-avoidance goals are directed at avoiding demonstration of incompetence (Mierlo1& Hooft, 2015: p.5). Individuals with this goal have features as avoiding being unsuccessful compared to others, inadequacy, avoidance of difficult tasks demonstrating them weak, and leaving tasks unfinished (Elliot & Harackiewicz, 1996; Elliot & McGregor, 2001; Kayis & Ceyhan, 2015: p.446).

In general mastery goal orientation is helpful for nursing students in developing as life-long learners, which is the aim of nursing education. Nursing students with mastery goals orientations are likely to be more successful and become lifelong learners after graduation. Mastery-oriented learners tend to choose harder tasks, at the risk of failing, to gain more comprehensive knowledge.

Although achievement goals were originally defined as moderately stable natures, research showed that they can vary based on contextual or temporary influences. Individuals may display different achievement goal patterns in different domains (e.g., academic tasks, sports, vacation work) (Mierlo1& Hooft, 2015: p.4). Students may have more than one orientation at the same time (Ormrod , 2004 : p.467; Cho , 2005 : p.17; Coutinho , 2007; Liu, Wang, Tan, Ee, & Koh, 2009 : p.90; Fadlelmula , 2010), and their orientations may change over time as they progress in the curriculum (Cavaco, Chettiar, & Bates, 2003). It was found that nursing students were motivated by the desire to help others and to do something useful. Despite the fact that nearly half of them did not choose nursing studies as their first choice (Rongstad, 2002). Motivation, especially achievement goals has been studied numerous times for practical students.

As, in a study of Nilsson & Stomberg (2008) that focus on Swedish nursing students' motivation toward their studies during their three year academic studies. Results revealed that students with low motivation reported explanations such as negative opinion about the organization of the programme, attitude towards the studies, life situation and degree of difficulty/demand on studies. Students with high motivation reported positive opinions to becoming a nurse, organization of the programme and attitude to the studies. Results shown also females were more motivated than males.

Also, in a study of Bengtsson & Ohlsson (2010) that aim to gather information regarding what students consider important for their motivation to attain knowledge, in order to shape courses that foster this motivation. A qualitative design comprising focus groups including 31 nursing and medical students for interviews, semi-structured questions, and content analysis was utilized. Result revealed that the students thought it was important to coordinate more superficial knowledge with learning in depth, and to apply the theoretical knowledge in practice. Self-motivation, committed teachers and discussions with other students were considered to be important for learning. The difference between the groups was that the nurses were focused on their assessments because of lack of time, while the medical students were more learning for life. Their greatest problem was to know what of all knowledge they needed to learn and should focus on.

Results of study of Gavaza, Muthart, & Khan (2014) revealed that most pharmacy students had mastery-approach, mastery-avoidance, performance-approach, and performance-avoidance goal orientations; few had work-avoidance goal orientations. Second-year students and male students had higher work-avoidance mean scores than did P1 students and female students.

In a study of Karabulut, Aktas, & Alemdar (2015) that carried out to explore the relationship of clinical learning environment to nursing students' academic motivation. The mean scores of clinical learning environment and academic motivation were 66.7 ± 8.7 and 68 ± 10.9 . It was found that nursing students' academic motivation increased as the quality of their clinical learning environment improved.

As the front line of healthcare suppliers, nursing students will have the most repeated relations with patients. The value of facilities that major healthcare organizations hope to provide to patients is conducted through their nurses' attitudes and motivations. To be able to work as a nurse with high motivation toward a career, surely theoretical knowledge without motivation only is not enough, since a number of different skills must be set in combination with each other. So, nursing students must spend more times for clinical practice that included in the nursing programs, supervised by experts in the field (mentors, supervisors, clinical teachers, doctors and nurses) to ensure the students' practical knowledge (Bengtsson & Ohlsson, 2010: p.151), which increase their motivations and attitudes toward their work .

Consequently, this study attempts to extend our understanding of nursing student's motivation by focusing on their achievement goals. So the aim was to investigate the achievement goals of nursing students. Within this context, firstly, describe nursing students 'adoption levels of achievement goals and their order. Next, put forth each achievement goal orientation (mastery-approach, mastery-avoidance, performance-approach and performance-avoidance) of nursing categories (secondary students, faculty students). Finally, recognize the differences between males and females of each achievement goal orientation.

Research Questions:

The study questions can be localized in the following:

- 1- What are nursing students' adoption levels of achievement goals and their order?
- 2- Is there a significant difference of achievement goal orientations for nursing categories and females in those categories?
- 3- Is there a gender significant difference of achievement goal orientations in faculty sample?

Method

1. Participants:

Research was conducted in nursing secondary school in Abohamad - Sharqia and Faculty of nursing - Helwan University. The participants in this study were 175 nursing students (46 males and 129 women) with an average age of 18.15 years (SD = 2.69 years). The males had an average age of 19.70 years (SD = 1.53 years) and the females an average age of 17.60 years (SD = 2.80 years). Of the participants, 94 were university students (46 males and 48 females) and 81 were nursing school students (females only).

Among the nursing university students, some graduated from secondary school and others graduated from high institute of nursing. Also, some nursing students have nurses in their family and they work as a nurse during their study. The study was conducted from October to December 2014 in the 1st semester of the 2014-2015 academic year.

2. Tools:

2.1. Demographic Questionnaire: A Demographic Questionnaire was used to collect demographic information from study participants. Volunteers were asked to provide information on age, gender, and years of experience in nursing, level of education, if there are any nurse in his/her family, and if the volunteer participate in any special work.

2.2. Achievement Goals Orientations Scale: The 2 x 2 achievement goal orientations scale was developed by the researcher. It has four subscales: mastery-approach, mastery-avoidance, performance-approach and performance-avoidance.

The final form consists of (6) statements, each with four alternatives a, b, c, d. Each alternative represent one of achievement goals. The student must read each statement with interest and accuracy then arranges the choices- alternatives- according to their priorities for him by placing the numbers from (1) to (4) depending on the more important in the appropriate place to reflect (4) for the most important, followed by (3) and (2) and (1) . Each sub-scale is separately scored and the total score is not obtained from the scale. High grades obtained from each sub scale indicate an increase in the level of orientation. Scores are ranged from 6 to 24 for each Orientation.

A pilot study was conducted prior to the research reported herein (n=56) during the studies concerning validity and reliability of the scale, the following results were found. Expert review of an initial item pool of 85 items divided to 21 items for mastery-approach, 17 items for mastery-avoidance, 21 items for performance-approach and 26 items for performance-avoidance by a panel of five faculty members in educational psychology department yielded removing some items not clear to be included in the scale. The validity study of the scale demonstrated that the factor load of the items varied between .335 and .781 for mastery-approach, between 0.301 and 0.604 for mastery-avoidance, between 0.312 and 0.608 for performance-approach and between 0.430 and 0.622 for performance-avoidance (Khalifa, 2011).

Cronbach's α are 0.629, 0.372, 0.435, 0.661 for mastery-approach, mastery-avoidance, performance-approach and performance-avoidance respectively; Guttman Split Half Coefficients are 0.702, 0.394, 0.284, and 0.561 for mastery –approach, mastery- avoidance, performance- approach, and performance- avoidance respectively.

Questionnaires were distributed to students from nursing secondary School and faculty of nursing – Helwan University. Students completed questionnaires after lessons, lectures and were given instructions by their teachers, professors. In regards to ethical considerations, responses were completed voluntarily and secretly. It was noted on the questionnaires that collected data would be used only for research purposes.

Results:

- Results Concerning Achievement Goal Levels:

The study analyzed the achievement goal levels of nursing students (total sample secondary students and faculty students). In this framework, descriptive analysis concerning mastery-approach, mastery avoidance, performance-approach and performance-avoidance levels of the students are shown in Table 1.

Table (1) The Level of Nursing Students Achievement goals n= 175

Orientation	Min. Score	Max. Score	Mean	St. dev.	order
Mastery-Approach	6	24	13.497	4.219	4
Mastery-Avoidance	8	22	14.623	2.559	3
Performance-Approach	8	23	15.846	3.214	2
Performance-Avoidance	7	23	16.011	4.177	1

*possible range for each orientation is 6-24.

The mean average for the mastery-approach achievement goal was 13.50 and the standard deviation was 4.22. The lowest score that can be acquired from the scale concerning this goal is 6 and the highest is 24. Therefore, it can be said that nursing students generally adopted a moderate level for the mastery-approach goal. The mean score and standard deviation for the mastery-avoidance goal were 14.62 and 2.56 respectively. The lowest score that can be acquired from the scale concerning the mastery-avoidance goal is 8 and the highest is 22. In this context, it can be said that nursing students adopted a generally a moderate level for the mastery-avoidance goal and higher than mastery-approach.

The mean and standard deviation scores for the performance-approach goal were 15.85 and 3.21 respectively. The lowest score that can be acquired from the scale concerning the performance approach goal is 8 and the highest is 23. In this framework, it can be said that nursing students generally adopted a moderate level for the performance-approach goal and higher than mastery-avoidance. The mean and standard deviation scores for the performance-avoidance goal were 16.01 and 4.17 respectively. The lowest score that can be acquired from the scale concerning the performance avoidance goal is 7 and the highest is 23. In this framework, it can be said that nursing students generally adopted a moderate level for the performance-avoidance goal and higher than performance-approach. Consequently, order of achievement levels for nursing students are performance-avoidance, performance-approach, mastery-avoidance then mastery-approach orientation.

- Results Concerning Differences of Achievement Goal orientations for nursing categories and Females in those categories:

To test the difference of the achievement goal orientations between nursing categories (students in college and others in school), we took the achievement goal orientations as the dependent variables and categories as independent variables to conduct t-test to the two sample groups. The results are shown in table 2.

Table (2) Differences of achievement goals between nursing categories

	Faculty students n= 94		Secondary school students n= 81		T	P value
	mean	St. dev.	mean	St. dev.		
Mastery-Approach	14.926	4.304	11.840	3.466	5.252	0.000
Mastery-Avoidance	14.515	2.501	14.753	2.634	0.624	0.533
Performance-Approach	15.904	3.574	15.778	2.757	0.259	0.796
Performance-Avoidance	14.553	3.851	17.704	3.913	5.356	0.000

It could be known from table 2 that mastery-approach goal of two nursing categories has significant difference $p < 0.05$. Faculty students ($M=14.93$, $S.D=4.30$) have higher mastery-approach goal than that of secondary school students ($M=11.84$, $S.D=3.47$). Also, there was significant difference of performance-avoidance goal between two nursing categories $p < 0.05$. Faculty students ($M=14.55$, $S.D=3.85$) have lower performance-avoidance goal than that of secondary school students ($M=17.70$, $S.D=3.91$). But there were no significant mean scale differences on mastery-avoidance and performance-approach goal. As discussed above for table 2, here to test the difference of the achievement goal orientations between females in faculty of nursing and secondary school, we took the achievement goal orientations as the dependent variables and females in two categories as independent variables to conduct t-test to the two sample groups. The results are shown in table 3.

Table (3) Differences of achievement goal between females in faculty and secondary school

	faculty n= 48		secondary n= 81		T	P value
	mean	St. dev.	Mean	St. dev.		
Mastery-Approach	14.0833	4.04145	11.8395	3.46575	3.339	0.001
Mastery-Avoidance	14.0625	2.59628	14.7531	2.63406	1.447	0.150
Performance-Approach	16.9167	3.67182	15.7778	2.75681	2.000	0.048
Performance-Avoidance	14.9583	3.84242	17.7037	3.91294	3.896	0.000

It could be known from table 3 that mastery-approach goal of females in two nursing categories has significant difference (p value is 0.001). Females in faculty ($M=14.08$, $S.D=4.04$) have higher mastery-approach goal than that of females in secondary school ($M=11.84$, $S.D=3.47$). And performance-approach goal of females in two nursing categories has significant difference (p value is 0.048). Females in faculty ($M=16.92$, $S.D=3.67$) have higher performance-approach goal than that of females in secondary school ($M=15.78$, $S.D=2.76$).

Also, there was significant difference of performance-avoidance goal between two females nursing categories (p value is 0.00). Females of faculty students (M= 14.96, S.D=3.85) have lower performance-avoidance goal than that of secondary school students (M=17.70, S.D=3.91). But there were no significant mean scale differences on mastery-avoidance goal.

- Results Concerning Gender Differences of Achievement Goal orientations in Faculty Sample:

To test the difference of the achievement goal orientations between males and females in faculty nursing students, we took the achievement goal orientations as the dependent variables and gender as independent variables to conduct t-test to the two sample groups. The results are shown in table 4.

Table (4) Differences between males and females in faculty sample

	males n= 46		female n= 48		T	P value
	mean	St. dev.	Mean	St. dev.		
Mastery-Approach	15.8043	4.43531	14.0204	4.023	2.055	0.043
Mastery-Avoidance	14.9783	2.333	14.020	2.586	1.898	0.061
Performance-Approach	14.848	3.177	16.878	3.644	2.899	0.005
Performance-Avoidance	14.131	3.856	15.122	3.972	1.235	0.220

It could be known from table 4 that mastery-approach goal of two nursing groups has significant difference $p=0.043$. Males (M=15.80, S.D= 4.44) have higher mastery-approach goal than that of females (M=14.02, S.D=4.02). Also, performance-approach goal of two nursing groups has significant difference $p=0.005$. Males (M=14.85, S.D= 3.18) have lower performance-approach goal than that of females (M=16.88, S.D=3.64). But there were no significant mean scale differences on mastery-avoidance and performance-avoidance goal.

Discussion:

Research findings about the level of achievement goal orientations of nursing students indicated that nursing students generally adopted all achievement goal orientations at a medium level. And order of them for nursing students were performance-avoidance, performance-approach, mastery –avoidance then mastery-approach orientation. These findings are consistent with Kayis & Ceyhan (2015) findings that showed university students generally adopted mastery-avoidance achievement goal orientations at a medium level. It can be explained that nursing students may have adaptive features in terms of their achievement goal orientations. Specially, adaptation of approach goal orientations might indicate that they consider high levels of skills and talents. Also mastery goals and performance goals are an appropriate conceptual framework in the Arab culture. It was found that the two kinds of goals correlate with a larger magnitude than was found in the western studies (Abu-Hilal & Darwish, 2005). Furthermore, Dunn (2014) indicated that although this sample of nursing students held high mastery goal orientations, they also held moderate levels of performance-approach and performance-avoidance goal orientations. These goal orientations indicate that this sample is at high risk for error hiding, which places the benefits that are typically gleaned from a strong mastery orientation at risk. This result can be also explained that there are positive correlations among the six achievement goals (Ghanem, 2015).

Research findings concerning differences of achievement goal orientations between nursing categories and Females in those categories indicated that Faculty students have higher mastery-approach goal and lower performance-avoidance goal than secondary students. Also, Females in faculty have higher mastery-approach goal, performance-approach goal and lower performance-avoidance than females in secondary school. These findings are inconsistent with Gavaza, Muthart, & Khan (2014) findings that showed P2- second year- students rated significantly higher on performance-avoidance and work avoidance orientations than did P1- first year- students. It can be explained according to the andragogical model of adult learning (Knowles, Holton, & Swanson, 1998), adults take on their learning process differently than younger students. Adult students have a self-concept of being responsible for their own decisions, and learn things they need to know in order to cope effectively with their real-life situations.

They want to know why they have to learn it before they learn it, and want to be involved in the planning and evaluation of their education (Bengtsson & Ohlsson, 2010 : p.150). It may be also for the nature of goal orientations that student's goal orientation changes over time as they progress in the curriculum Gavaza, Muthart, & Khan (2014). For that reason, faculty students are more interested with learning, improving their abilities, completing their learning materials effectively and they don't care with other's beliefs about their accomplishments.

Research findings concerning gender differences of achievement goal orientations indicated that males have higher mastery-approach goal and lower performance-approach goal than females. These findings are inconsistent with Gavaza, Muthart, & Khan (2014) findings that showed there was no difference in students' goal orientation by gender, although male students rated themselves higher on work-avoidance than did female students. Also, findings of Kayis & Ceyhan (2015) revealed that mastery-approach and mastery-avoidance achievement goal was significantly predicted by gender (female), performance-approach achievement goal was significantly predicted by gender (male). It can be explained as caring for others was found to be a main motivator for female nursing students choosing nursing education, but power and empowerment of self and others are the dominating factors for their choice. Male nursing students' choice of nursing education depends on the fact that they consider that the nursing profession offers job security, opportunity and flexibility as well as the desire to care for others (Nilsson & Stomberg, 2008: p. 2).

References

- Abu-Hilal, M. M., & Darwish, K. N. (2005). Factorial structure of goal orientations and their relations with academic achievement of school and university students: A study of motivation from social psychology and personality perspectives. *Social and Psychological Science*, 32, 1, 100-114.
- AL-Baddareen, G., Ghaith, S., & Akour, M. (2015). Self-efficacy, achievement goals, and metacognition as predictors of academic motivation. *Procedia - Social and Behavioral Sciences*, 191, 2068 – 2073.
- Ames, C. (1992). Classrooms: goals, structures, and student motivation. *Journal of Educational Psychology Review*, 84, 3, 261-271.
- Bengtsson, M., & Ohlsson, B. (2010). The nursing and medical students' motivation to attain knowledge. *Nurse Education Today* 30, 150–156.
- Cavaco A., Chettiar V., & Bates I. (2003). Achievement motivation and self-efficacy perception amongst Portuguese pharmacy students. *Pharmacy Education*, 3, 2, 109-116.
- Cho, Y. H. (2005). Perceived competence and autonomy as moderators of the effect of achievement goal orientations. Dissertation of Doctor of Philosophy, the University of Texas.
- Coutinho, S., A. (2007). A model of metacognition, achievement goal orientation, learning style, and self-efficacy. DAI-B 67/07.
- Dunn, K. E. (2014). Insight into error hiding: exploration of nursing students' achievement goal orientations. [The Journal of Nursing Education](#), 53, 2, 93-96.
- Elliot, A. J., & Harackiewicz, M. (1996). Approach and avoidance achievement goals and intrinsic motivation: A mediational analysis. *Journal of Personality and Social Psychology*, 70, 461–475.
- Elliot, A. J., & McGregor, H. A. (2001). A 2 × 2 achievement goal framework. *Journal of Personality and Social Psychology*, 80, 3, 501 – 519.
- Fadlemlula, F. K. (2010). Educational motivation and students' achievement goal orientations. *Procedia Social and Behavioral Sciences*, 2, 859–863.
- Gavaza, P., Muthart, T., & Khan, G. M. (2014). Measuring achievement goal orientations of pharmacy students. *American Journal of Pharmaceutical Education*, 78, 3, 1-7.
- Ghanem, H. (2015). The effectiveness of a suggested program in developing the six achievement goals and its impact on the ambition level among students of education faculty, Qassim University. *Egyptian Journal of Psychological Studies*, 25, 86, 125-180.
- Karabulut, N., Aktas, Y. Y., & Alemdar, D. K. (2015). The relationship of clinical learning environment to nursing students' academic motivation. *Kontakt*, 17, 1, 6-12.
- Kayis, A. R., & Ceyhan, A. A. (2015). Investigating the achievement goals of university students in terms of psycho-social variables. *Educational Sciences: Theory & Practice*, 15, 2, 445-462.
- Khalifa, M. E. (2011). Effectiveness of a training program to develop metacognition skills and its effect in achievement goals orientations of a sample of students of faculty of education. Ph.D. degree Thesis, Faculty of Education, Helwan University.
- Knowles, M., Holton, E., & Swanson, R., (1998). *The adult learner: the definitive classic in adult education and human resource development*. Gulf Professional Publishing, Burlington.

- Lochbaum, M., & Gottardy, J. (2015). A meta-analytic review of the approach-avoidance achievement goals and performance relationships in the sport psychology literature. *Journal of Sport and Health Science*, 4, 164-173.
- Liu, W. C., Wang, C. K. J., Tan, O. S., Ee, J., & Koh, C. (2009). Understanding students' motivation in project work: A 2 × 2 achievement goal approach. *British Journal of Educational Psychology*, 79, 87–106.
- Mierlo1, V., & Hooft, V.(2015). A group-level conceptualization of the 2 × 2 achievement goal framework: Antecedents and motivational outcomes. *Group & Organization Management*, 1-33.
- Muis, K. R., & Winne, P. H. (2012). Assessing the psychometric properties of the achievement goals questionnaire a cross task contexts. *Canadian Journal of Education*, 35, 2, 232-248.
- Nilsson, K. E., & Stomberg, M. W. (2008). Nursing student's motivation toward their studies – a survey study. *BMC Nursing*, 7, 6, 1-8.
- Ormrod, J. E. (2004). *Human learning*, 4th ed., Pearson, Upper Saddle River.
- Pintrich, P. R. (2000). Multiple goals, multiple pathways: The role of goal orientation in learning and achievement. *Journal of Educational Psychology*, 92(3), 544-555.
- Ramnarain, U. (2013). The achievement goal orientation of disadvantaged physical sciences students from South Africa. *Journal of Baltic Science Education*, 12, 2, 139-151.
- Rongstad, M. K. (2002). Recruitment to and motivation for nursing education and the nursing profession. *Journal of Nursing Education*, 41, 7, 321-325.
- Vedder-Weiss, D., & Fortus, D. (2010). Adolescents' declining motivation to learn science: Inevitable or not?. *Journal of Research in Science Teaching*, 48, 2, 199-216.