Journal of Applied Sciences

ISSN 1812-5654

science alert

ANSInet
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http://ansinet.com

Journal of Applied Sciences 9 (5): 968-972, 2009
ISSN 1812-5654

The Effect of Gender and Grade Level Differences on Achievement Goal Orientations of Iranian Undergraduate Students

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Abstract: The purpose of this study was to investigate the effect of gender and grade level differences on goal orientations of undergraduate students in an Iranian university. The sample consisted of 302 Iranian students at Shiraz University (64% were females; Mean age = 20.78 years, SD = 1.58), selected by random cluster sampling. They completed achievement goal questionnaire. Results showed the effect of gender and grade level differences on undergraduates' goal orientations. The results gave support to the some western findings that males have a greater performance-approach goal orientation than females. Also, last graders reported higher scores on mastery goal orientation than first graders. There was no significant interaction effect of gender and grade level.

Key words: Motivation, mastery goals, performance-approach goals, performance-avoidance goals

INTRODUCTION

According to goal orientation theories, there are two identifiable achievement goal orientations: mastery (learning or task) and performance (ego-involved) goal orientation (Moreno *et al*., 2008; Pintrich *et al*., 2003). A mastery goal orientation focuses on learning and mastering the task, developing new skills and enhancing understanding (Ames, 1992). However, a performance goal orientation represents a focus on demonstrating competence or ability and how ability will be judged relative to others (Ames, 1992; Ames and Archer, 1988).

Elliot and Church (1997) made a distinction between two different types of performance goals: Performance-approach goals, in which students emphasize on besting others, attaining competence relative to others and demonstrating superior ability and performance avoidance goals, whereby students are negatively motivated to avoid negative judgments of their competence.

Because students' goal orientations link to various motivational, affective, cognitive and behavioral outcomes (Pintrich and Schunk, 2002), investigating variables related to goal orientations is important. Therefore, some researchers are interested in identifying which personal or contextual factors influence on students' goal orientations. Two of these identifiable factors are gender and academic climate which regarded as personal and contextual factors, respectively.

Gender is one of personal factors that have been related to differences found in motivational functioning. Some studies have shown significant gender differences in motivation (Martin, 2003; Smith *et al*., 2002; Smith, 2004). Some of them have found that females have a greater intrinsic motivational orientation (Meece and Holt, 1993; Nolen, 1988) and males show a greater extrinsic motivation (Rusillo and Arias, 2004; Anderman and Anderman, 1999; Midgley and Urdan, 1996).

Findings regarding gender differences in achievement goal orientations have been somewhat inconsistent. Moreno *et al*. (2008) found males displayed a stronger ego-orientation and were more likely to report that they participated in an ego-oriented climate, than did females. Pajares and Cheng (2003) found gender differences in task goals favored girls at every level of schooling, whereas differences in performance-approach and performance-avoid goals favored boys. Similar results have been reported by Wilkins (2006), Pajares and Valiante (2001), Church *et al*. (2001), Wentzel (1998) and Thorkildsen and Nicholls (1998).

On the other hand, Chan *et al*. (2004) found females tended to be more performance goal oriented than male students. Meanwhile, several studies have reported no significant gender differences on task, performance-approach, or performance-avoidance goal orientations (Phan, 2008; Abrahamsen *et al*., 2007; Smith and Sinclair, 2005).

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Pintrich and Schunk (2002) said most researchers have not found any significant differences in the type of goal pursued as a function of gender (e.g., Ryan and Pintrich, 1997). They suggest under the assumption of male being more competitive than females, males might be more likely to adopt goals of besting others and trying to achieve the highest grades. So, they insist that more research is needed to explore gender differences in goal orientation.

Grade level is another factor may accounts for differences in goal orientations of students. Most studies to date have focused on the effects of school context (Dowson *et al*., 2006, 2005), the academic practices of schools (Anderman and Maehr, 1994), providing meaningful and interesting tasks for students (Renninger *et al*., 2002), the provision of opportunities for student choice and decision-making (Ryan *et al*., 1985) and reducing emphases on social comparison and competition (Covington, 1992) on students' goal orientation. Researchers, however, have paid little attention to the effect of grade level on the students' goal orientations.

Moreover, there appears to be evidence of interaction effect between gender and grade level on students' motivation (Cheung, 2007; Watt, 2004). Martin (2003) found although boys' and girls' motivation declined in parallel ways in years 9 and 10, girls' motivation recovered in years 11 and 12 whereas the motivation of boys did not recover.

The purpose of this study was to investigate the effect of gender and grade level on goal orientations in a sample of university undergraduates in Iran. This provides the opportunity to determine whether gender differences and grade level were related to differences in students' goal orientations across a different culture (Iran). It was hypothesized that gender and grade level would affect goal orientations of Iranian undergraduate students.

MATERIALS AND METHODS

Sample: This study was carried out in 2007-2008 education year. Participants in the study were 302 Iranian students at Shiraz University (154 first graders and 148 last graders) selected by random cluster sampling. The sample consisted of students from the faculties of Humanities, Basic Science, Education and Psychology, Art and Engineering. The ages of the students ranged from 18 to 27 years (Mean = 20.78, SD = 1.58). Most students came from middle social class families. Sixty four percent of them were female and 36% were male. Twenty participants were excluded because of missing data on gender.

Scale: To measure goal orientation, achievement goal questionnaire (Elliot and Church, 1997) was used. This scale has 18 items divided into three subscales, each containing 6 items: mastery (e.g., I want to learn as much as possible from this class.), performance approach (e.g., It is important to me to do better than the other students.) and performance avoidance (e.g., I worry about the possibility of getting a bad grade in this class.) goal orientation subscales. Items scored on a 5-point Likert-type scale, with 1 = strongly disagree and 5 strongly agree for each item. The questionnaire was translated into Persian (Farsi) and identified translating validity to ensure that the content of the questionnaire remained the same in the two languages. Then, it was administered to participants in class groups.

The students' agreement to participation was sought. The students agreed and completed the questionnaire during classroom time. They were asked to give other information such as their age, sex and their family's income and education.

RESULTS AND DISCUSSION

Reliability and validity: A principal component factor analysis with a varimax rotation of the achievement goal questionnaire produced three factors, altogether accounted for 50% of the variance among all the items. Factor 1 accounted for 20.1% of the total variance and comprised the six performance approach goal items (eigenvalue = 3.70). Factor 2 accounted for 17.4% of the total variance and comprised the six mastery goal items (eigenvalue = 2.73). Factor 3 accounted for 12.10% of the total variance and comprised the four performance avoidance goal items (eigenvalue = 1.51). The content of all the factors and items were in consistent with Elliot and Church (1997). Except, two items with a relatively low loading were withdrawn from the final version. As a result, performance avoidance goal orientation factor had four items (Table 1).

The internal consistency (Cronbach's alpha) of mastery, performance approach and performance avoidance goal orientation subscales were, 0.70, 0.81 and 0.53, respectively. Test-retest reliabilities (for 30 students after 3 weeks) ranged from 0.79 to 0.83.

The results of internal consistency and factor analysis of the achievement goal questionnaire showed acceptable validity and reliability of the scale for measuring achievement goal orientation for Iranian students, although reliability coefficient of performance avoidance goal orientation was relatively low because of deleting two items. In sum, reliability coefficients were less than those reported in western countries.

Table 1: Achievement goal items and their factor loadings

Items	Factors		
	Perf-Ap. goal	Mastery goal	Perf-Av.goal
My goal in this class is to get a better grade than most of the students	0.80		
I am motivated by the thought of outperforming my peers in this class	0.77		
It is important to me to do better than the other students	0.70		
I want to do well in this class to show my ability to my family, friends, advisors, or others	0.65		
It is important to me to do well compared to others in this class	0.63		
I am striving to demonstrate my ability relative to others in this class	0.61		
I desire to completely master the material presented in this class		0.68	
I hope to have gained a broader and deeper knowledge of this subject in this class		0.67	
I want to learn as much as possible from this class		0.62	
It is important for me to understand the content of this course as thoroughly as possible		0.61	
In a class like this, i prefer course material that really challenges me so i can learn new things		0.58	
In a class like this, i prefer course material that arouses curiosity, even if it is difficult to learn		0.53	
I'm afraid if i ask my teacher or instructor a dumb question, they might not think i'm very smart			0.70
I worry about the possibility of getting a bad grade in this class			0.64
I just want to avoid doing poorly in this class			0.59
I wish this class was not graded			0.46
Eigenvalue	3.70	2.73	1.51
Variance (%)	20.10	17.41	12.10
Cronbach's alpha	0.81	0.70	0.53

Gender and grade level effects on goal orientation: To compare male and female students on goal orientation, a multi variate analysis of variance (MANOVA) was conducted, with the three kinds of goal orientation as dependent variables and gender and grade level as independent variables. Means and standard deviations of goal orientation for male and female students are shown in Table 2.

The results of MANOVA are shown in Table 3. The analysis showed that the interaction of gender and grade level was not significant. In regard to the effect of gender differences, a significant difference was found on the score of performance approach goal orientation [F (1, 278) = 7.11, p<0.008] (Table 3). Male undergraduates had statistically significant higher means than female undergraduates on the performance approach goal orientation. There was no significant difference between males and females on mastery or performance avoidance goal orientation scores.

MANOVA also revealed the effect of grade level on achievement goal orientation. It showed last grade students significantly differentiated from first grade students in mastery goal orientation [F (1, 278) = 4.39, p<0.03] (Table 3). It means the orientation of mastery increases as the year level goes up. The effect of grade level on the two other goal orientation scores was not significant.

Results found for the effect of gender differences on goal orientation indicated that significant differences exist between males and females. Specifically, the results indicate that just as in several other studies (Moreno *et al*., 2008; Pajares and Valiante, 2001; Wentzel, 1998; Thorkildsen and Nicholls, 1998) male students have a greater performance approach orientation, while differences are not found in the two other goal orientations. Males' tendency to seek positive competency judgments when compared to females supports the Pintrich and Schunk's idea (2002) that boys are more competitive than girls, so they might be more performance oriented than girls.

The results regarding to the main and interactive effects of grade level showed that the interaction of grade level and gender was not significant. This is inconsistent with the findings of some researchers (e.g., Cheung, 2007; Martin, 2003). However, last grade students had more

Table 2: Means and standard deviations for females and males on goal orientation scores

Goal orientation	Grade levels	Females (n = 181)	Males (n = 101)	Total (n = 282)
Mastery	First year	17.37±4.77	17.40±5.38	17.38±4.99
	Last year	19.02±4.90	18.35±5.38	18.79±5.06
Performance approach	First year	14.90±4.12	15.82±3.65	15.24±3.96
	Last year	14.18±4.10	15.91±3.86	14.77±4.09
Performance avoidance	First year	11.09±3.07	10.98±3.34	11.05±3.16
	Last year	10.99±2.79	10.89±2.81	10.95±2.79

The values are shown as Mean±SD

Table 3: The results of multivariate analysis of variance

Source	Dependent variable	SS	df	MS	F-value	p-value
Gender	Mastery	6.61	1	6.61	0.26	ns
	Perf.-app.	112.87	1	112.87	7.11	0.008
	Perf.-avo.	0.65	1	0.65	0.07	ns
Grade level	Mastery	109.38	1	109.38	4.39	0.03
	Perf.-app.	6.33	1	6.33	0.40	ns
	Perf.-avo.	0.58	1	0.58	0.06	ns
Gender×	Mastery	8.11	1	8.11	0.32	ns
Grade level	Perf.-app.	10.74	1	10.74	0.68	ns
	Perf.-avo.	0.001	1	0.001	0.00	ns
Error	Mastery	7049.16	278	25.36		
	Perf.-app.	4415.05	278	15.88		
	Perf.-avo.	2505.73	278	9.01		
Total	Mastery	99076	282			
	Perf.-app.	68180	282			
	Perf.-avo.	36651	282			

Perf.-app: Performance-approach, Perf.-avo: Performance-avoidance, SS: Sum of squares, df: Degrees of freedom, MS: Mean square, ns: Non significant

mastery goal orientations than first grade students who just enter the university. This finding indicated the effect of grade level on goal orientation just as some other studies (Cheung, 2007; Wilkins, 2006). A possible explanation is that undergraduate students experience a greater feeling of freedom in university and this may lead them to adopt more mastery goal orientation. At the universities, they have some choices in selecting learning tasks and there is no need to compete with each other. For this reason, it is possible that goal orientations of university students change as they move from first grade to the last grade.

This research represents an investigation on the effect of gender differences and grade level on the goal orientations of undergraduate students in a nonwestern culture (Iran). Research on similar samples is required to verify the present findings. It is also recommended that future research consider the interaction of gender and other personal or contextual variables, such as age, environment and the field of academic disciplines.

ACKNOWLEDGMENT

This research is sponsored in part by Shiraz University (grant No. in Shiraz University is 86-GR-EDU-29).

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