



STUDENT MOTIVATION: HOW INTRINSIC AND EXTRINSIC MOTIVATORS AFFECT

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ABSTRACT

This paper's overarching goal is to examine the relationship between students' intrinsic and extrinsic motivation and their academic achievement in the specified classroom context. The second point that is raised in the research is whether gender influences the strength or direction of this relationship. An international study of 1,491 computer science and informatics majors was carried out by researchers in India. The researchers deemed this study to be quasi-experimental. Several significant attributes are assessed, such as the efficacy of learning, levels of intrinsic and extrinsic motivation, and other relevant data. Results show that intrinsic motivation greatly improves learning efficacy, in contrast to extrinsic incentive, which has the reverse effect. The correlation between intrinsic motivation and academic performance is mediated by gender. This study's results add to our knowledge of student motivation by showing how various intrinsic and extrinsic motivators affect students' academic performance in different ways. In addition to being a pioneering study in this area, it employs a large and varied sample of international students to examine gender as a moderating factor, guaranteeing the validity of the empirical findings.

Keywords: Student Motivation, Intrinsic Motivation, Extrinsic Motivation, Learning Effectiveness, Academic Performance, Gender Differences, Motivation and Learning, Educational Psychology, Cross-Cultural Study

INTRODUCTION

How much intrinsic drive children have has a significant impact on how well they do in school and how efficiently they study. How motivated students are to succeed in school determines how they study, which in turn affects how invested they are in the course material, how resilient they are when faced with obstacles, and how much progress they make towards their academic goals. The first, known as "intrinsic motivation," comes from within and is motivated by an interest in or enjoyment of the task at hand; the second, known as "extrinsic motivation," is fuelled by factors outside of oneself, such as rewards, criticism, or marks. The majority of people are motivated by things that are intrinsic to them. According to studies, students' levels of engagement and learning efficiency are affected differently by the two types of motivation, even though they both significantly impact the educational experience.

Several studies[2][3] have shown that students with a strong sense of intrinsic motivation are more inclined to pursue interests that primarily serve to boost their own happiness and self-esteem. Higher levels of

understanding, originality, and performance in the classroom are the subsequent outcomes. When seen as too limiting or repressive, extrinsic incentives may impede intrinsic desire, as stated in [4][5]. Here is where, in the near run, extrinsic incentives could motivate people to comply or put forth more effort. However, there are situations in which students might internalise extrinsic motivators and use them to accomplish their own academic goals, which could lead to long-term success [6]. Students are capable of navigating this complex interaction.

The relative importance of intrinsic vs extrinsic motivation in cross-cultural educational contexts may be impacted by a variety of demographic and environmental variables. One of these factors that may affect people's motivation and the results of their education is gender. Think about what scholars in India, Burundi, and Morocco found out when they polled 1,491 students on their perspectives. Although it is well-established that extrinsic motivation reduces learning efficiency, the results showed that internal drive always improves learning effectiveness. Furthermore, gender variations were found to reduce the correlation between the two variables, as reported in [7].

If educators, curriculum designers, and lawmakers want to create learning environments that are meaningful and long-lasting, they need to have a solid understanding of the dynamics of intrinsic and extrinsic motivators, as well as how these elements are influenced by gender and cultural context. This study investigates the link between student motivation and the effectiveness of learning by concentrating on the impacts of both internal and external motivators on academic achievement, as well as the moderating role that gender plays in this relationship.

OBJECTIVES

1. To investigate how students' learning efficiency is affected by extrinsic and intrinsic motivators in various educational contexts.
2. To examine how gender influences the link between academic achievement and student motivation, both extrinsic and intrinsic.

HYPOTHESIS

H1: The efficacy of pupils' learning is positively correlated with higher levels of intrinsic motivation.

H2: The efficacy of pupils' learning is inversely correlated with higher levels of extrinsic motivation.

H3: There is a positive correlation between intrinsic drive and learning effectiveness, but this correlation is moderated by gender, thus male students gain more than female students.

H4: To a greater extent for female students and to a lesser extent for male students, gender mediates the negative connection between learning effectiveness and extrinsic motivation.

METHOD

Participants and Design

In order to assess the efficacy of an online education program in India, this research set out to examine the connection between students' intrinsic and extrinsic motivation. We employed a quasi-experimental

technique, which includes pre- and post-test assessments, in order to measure the changes that occurred in the results of the learning process[8]. In all, there were 496 students from India who participated in the study. These students were enrolled in an introductory computer science and informatics course. Due to the fact that it was a component of a standardised digital literacy program, all of the participant groups were provided with the same specific content, and the course had well defined learning objectives. A semi-structured questionnaire was administered to the participants on two separate occasions: the first time was before the program began (T0), and the second time was after it had concluded (T1), with the purpose of gauging their level of motivation and the effectiveness of the learning[9].

Data Collection

The questionnaire was filled out by the participants in English, which is the language that was used for teaching in the course in India[10]. The instrument consisted of validated questions that measured self-reported learning efficacy, as well as intrinsic and extrinsic motivation. In order to analyse the increases in learning and the ways in which different forms of motivation affected these outcomes, responses from both periods (pre-intervention and post-intervention) were compared.

Sample Characteristics

With 54% men and 46% women in the sample, the gender distribution was almost balanced. A total of 992 replies (496×2) were obtained from the participants as they all finished both surveys[11]. Analyses of the data were conducted to evaluate the moderating influence of gender and to examine the hypothesised correlations between different forms of motivation and learning outcomes.

Table 1. Demographics and sample size [12].

Variables	Burundi (n = 498)	India (n = 497)	Morocco (n = 496)	Total (n = 1,491)
Gender	M = 0.30 SD = 0.46	M = 0.52 SD = 0.50	M = 0.46 SD = 0.50	M = 0.43 SD = 0.49
Age	M = 20.87 SD = 4.16	M = 17.81 SD = 4.03	M = 24.22 SD = 10.83	M = 20.96 SD = 7.46
Worker	M = 0.21 SD = 0.61	M = 0.49 SD = 0.84	M = 0.59 SD = 0.84	M = 0.25 SD = 0.78
Primary School	M = 0.21 SD = 0.35	M = 0.23 SD = 0.35	M = 0.18 SD = 0.38	M = 0.21 SD = 0.31
Secondary School	M = 0.69 SD = 0.32	M = 0.58 SD = 0.49	M = 0.34 SD = 0.47	M = 0.54 SD = 0.49
Bachelor	M = 0.11 SD = 0.31	M = 0.19 SD = 0.37	M = 0.48 SD = 0.50	M = 0.26 SD = 0.44

Measures

The purpose of the research was to find out how student motivation affects how effectively they learn by using tried-and-true methodologies to measure learning outcomes, intrinsic and extrinsic motivation, and more [13]. An adjusted version of the four-item measure created by Kuvaas et al. (2017) was used to assess

the degree of intrinsic motivation. The goal of this scale was to assess how much students enjoyed studying for its own sake, in terms of interest, enjoyment, and satisfaction. Sample questions contained statements like "I enjoy learning new computer skills even without external rewards" and others like them. Alternatively, a three-item measure was used to evaluate extrinsic motivation. This metric is based on one that Dysvik and Kuvaas (2013) developed. Using this measure, we aimed to find out how much external incentives, such social recognition or future career chances, affected participation in the online learning program [14]. In the preceding instance, "I signed up for this class so I could increase my marketability to potential employers." The validity and strong internal consistency of the two measures were shown by factor analysis; both scales had Cronbach's alpha values more than 0.8.

Two other measures were used to assess the efficacy of the educational procedure. For the first scale, which evaluated students' self-confidence in their informatics abilities, we used statements like "I am comfortable working with informatics as I am in working by hand" and "I am able to learn how to use new informatics tools" among its four items [15]. The second one used a nine-item scale to measure increases and decreases in computer use. Gain scores, which demonstrated improvements in both skill acquisition and application, were computed during the assessment of the learning program's efficacy by subtracting pre-test scores (T0) from post-test scores (T1). To measure the program's efficacy, gain scores were used [16].

Further, the research accounted for all of the socio-demographic factors known to influence academic achievement [17]. The following variables were coded: gender (with 0 representing male and 1 representing female), age (a continuous variable), educational background (an ordinal scale with 1 representing primary, 2 representing secondary, and 3 representing bachelor's degree), and employment status (with 0 representing not employed, 1 representing employed, and 2 representing job seeker). Participants' locations were not included as a control variable since the majority of the study's subjects were Indian students.

Table 2. The structure of the factors[18].

Construct	Item Statement	Loading
Intrinsic Motivation (KMO = 0.72; α = 0.91)	I decided to attend the course because learning something is very exciting	0.905
	I decided to attend the course because learning is enjoyable	0.652
	I decided to attend the course because learning is useful for my family and friends	0.889
	I decided to attend the course because I could share knowledge with family/friends	0.538
Extrinsic Motivation (KMO = 0.82; α = 0.90)	I decided to attend the course to do better in my job and have bonuses	0.767
	I decided to attend the course to find a better job and be better paid	0.738
	I decided to attend the course to get an extra paying on my job	0.693
Informatics Skills (KMO = 0.81; α = 0.89)	I am comfortable working with informatics as I am in working by hand	0.663
	I can learn how to use new informatics tools	0.804
	I feel comfortable to use computers	0.806
	I am not hesitating to use a computer for fear of making mistakes	0.798

Usage of Computer (KMO = 0.92; $\alpha = 0.93$)	I use a computer to make easy calculations	0.689
	I use a computer to write a document	0.792
	I use a computer to read e-journals	0.829
	I use a computer to access papers	0.810
	I use a computer to navigate on the internet	0.831
	I use a computer to read emails	0.844
	I use a computer to communicate with friends	0.787
	I use a computer to write a resume	0.774
	I use a computer to look for a job	0.663

Analysis

Intrinsic and extrinsic motivation, computer usage, informatics abilities, and structure were all examined using a confirmatory factor analysis (CFA). Motivation and learning efficacy were the foci of this investigation [19]. To make sure the model fit and was reliable, the researchers used a weighted least squares estimator that was adjusted for averages and variances. Reliable standard deviations. The next step was to analyse the effects of intrinsic and extrinsic motivation on learning efficacy using hierarchical linear regression. We were able to evaluate the moderating influence of gender by including interaction variables between the two sets of incentives. There was less common-method bias and stronger causal inferences when there was a time lag between evaluating motivation (at T0) and learning results (the difference between T1 and T0 scores). Preceding the regression analysis, we double-checked all important assumptions[20]. Outliers were discarded. The following hypotheses were tested: normality, linearity, non-autocorrelation, homoscedasticity, and multicollinearity. A VIF less than 10 demonstrated that there was no multicollinearity. Descriptive statistics for the key variables are shown in Table 3.

RESULT

Using control variables, we tested hypothesis 1 and 2, and then we looked at both internal and extrinsic motivation. We used a hierarchical linear regression model. The results shown in Table 4 support the null hypothesis (H1), which states that students' ability to acquire informatics skills ($\beta = 0.14$, $p < 0.01$) and effectively use computers ($\beta = 0.24$, $p < 0.01$) is significantly improved when intrinsic motivation is present [21]. In contrast, it was shown that extrinsic incentive had a somewhat negative effect on computer use ($\beta = -0.05$, $p > 0.05$), but a significantly negative effect on the development of informatics skills ($\beta = -0.06$, $p < 0.01$). This discovery runs counter to the presumptions that were established. The inclusion of interaction terms allowed for the testing of hypothesis 3 and 4. Both forms of rewards and gender were among these factors. The results showed that there is a substantial negative interaction between gender and intrinsic motivation for both computer use ($\beta = -0.21$, $p < 0.01$) and informatics abilities ($\beta = -0.11$, $p < 0.01$), which are learning outcomes. This indicates that men benefit more greatly from increased levels of intrinsic drive than women do [22]. There was some evidence that the gender and extrinsic motivation factors interacted negatively for both learning outcomes (computer usage: $\beta = -0.06$; informatics skills: $\beta = -0.06$; $p > 0.05$), but this interaction did not reach the level of statistical significance that would have supported hypothesis H4.

Table 3. A correlation matrix and descriptive statistics [23].

Variables	Mean	SD	1	2	3	4	5	6	7	8	9
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1. Growth in computer usage	0.89	1.19	—								
2. Growth in informatics skills	1.29	1.02	0.53**	—							
3. Gender	0.42	0.49	-0.12**	-0.07**	—						
4. Age	20.96	7.46	-0.06*	-0.04	0.03	—					
5. Worker	0.25	0.78	-0.18**	-0.20**	0.12**	0.31**	—				
6. Attitude	-0.03	0.99	-0.07**	-0.03	0.01	-0.03	-0.01	—			
7. General competencies	-0.06	1.07	-0.07**	-0.04**	-0.07*	-0.06*	-0.02	0.60	—		
8. Extrinsic motivation	0.00	1.05	-0.13**	-0.19**	0.06*	-0.16**	0.15**	0.23*	0.19*	—	
9. Intrinsic motivation	-0.12	1.08	0.24**	0.23**	-0.12**	-0.20**	-0.18**	0.28*	0.29*		

Table 4. The efficacy of educational programs as determined using regression analysis [24].

Variables	Growth in Informatics Skills			Growth in Computer Usage		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
India	-1.01** (0.06)	-1.00** (0.06)	-1.00** (0.06)	-0.59** (0.08)	-0.56** (0.08)	-0.55** (0.08)
Morocco	-1.38** (0.06)	-1.30** (0.06)	-1.29** (0.06)	-1.05** (0.08)	-0.89** (0.08)	-0.87** (0.08)
Gender	0.02 (0.04)	0.05 (0.04)	0.03 (0.04)	-0.15** (0.06)	-0.10* (0.06)	-0.14* (0.06)
Age	0.02** (0.00)	0.02** (0.00)	0.02** (0.00)	0.00 (0.01)	0.00 (0.01)	0.00 (0.01)
Education – Secondary	-0.76** (0.14)	-0.78** (0.13)	-0.77** (0.13)	-1.10** (0.18)	-1.11** (0.18)	-1.09** (0.18)

Education – Bachelor	– 0.90** (0.14)	– 0.85** (0.14)	– 0.84** (0.14)	– 1.01** (0.19)	– 0.93** (0.19)	– 0.91** (0.19)
Worker	– 0.30* (0.12)	– 0.36** (0.12)	– 0.35** (0.12)	– 0.03 (0.16)	– 0.11 (0.16)	– 0.10 (0.16)
Attitude	– 0.12** (0.03)	– 0.13** (0.03)	– 0.13** (0.03)	– 0.14** (0.04)	– 0.16** (0.04)	– 0.15** (0.04)
General Competencies	0.06* (0.02)	0.03 (0.03)	0.02 (0.03)	0.01 (0.03)	– 0.04 (0.03)	– 0.06 (0.03)
Extrinsic Motivation		– 0.06* (0.02)	– 0.03 (0.03)		– 0.05 (0.03)	– 0.03 (0.04)
Intrinsic Motivation		0.14** (0.02)	0.18** (0.03)		0.24** (0.03)	0.32** (0.04)
Female × Extrinsic Motivation			– 0.06 (0.04)			– 0.06 (0.06)
Female × Intrinsic Motivation			– 0.11** (0.04)			– 0.21** (0.05)
Constant	2.48** (0.16)	2.44** (0.16)	2.44** (0.16)	2.51* (0.22)	2.40** (0.22)	2.39** (0.21)
Adjusted R²	0.27	0.33	0.39	0.17	0.20	0.24
R² Change	—	0.06	0.06	—	0.03	0.04

In general, the findings indicate that intrinsic drive improves the efficiency of learning, particularly for male students, but extrinsic motivation has a limited and unfavourable impact on the learning process among students[25].

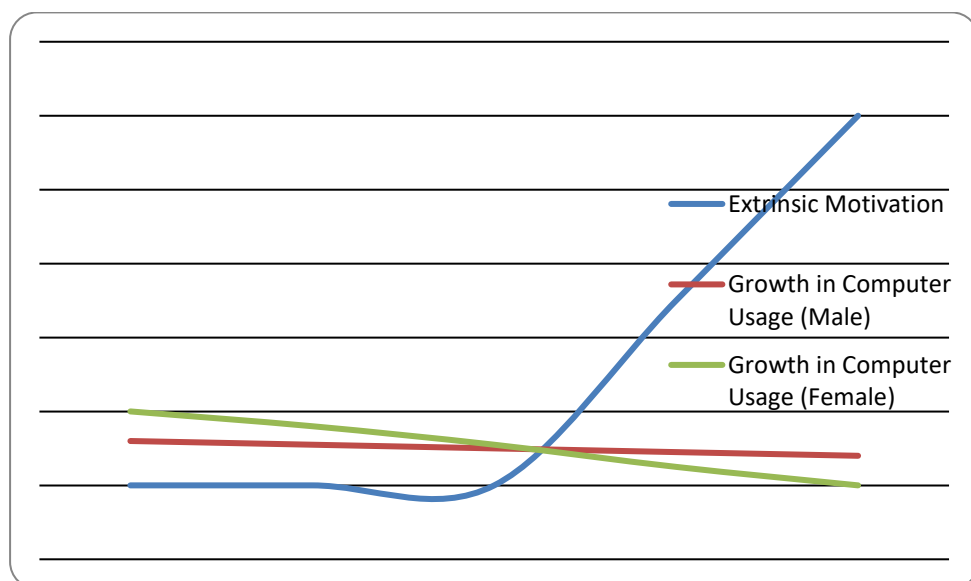
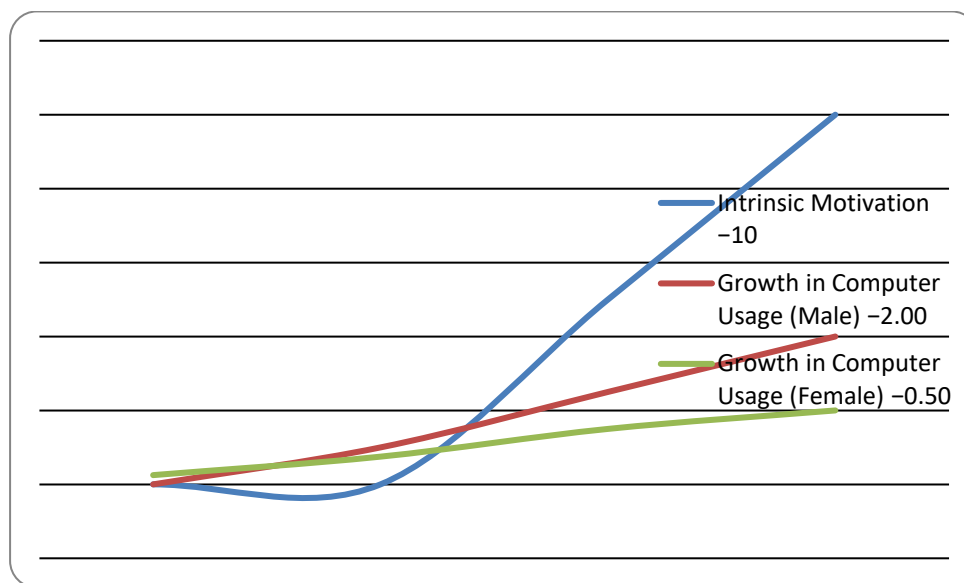


Figure 1. The effect of extrinsic motivation on learning effectiveness[26].**Figure 2. How intrinsic drive affects the efficacy of learning [27].**

DISCUSSION

We now know more about how intrinsic and extrinsic factors of student motivation affect the efficacy of learning in an Indian classroom thanks to this research. It may be helpful to break out the two types of motivation, intrinsic and extrinsic, in order to better understand how they affect academic success. Consistent with the concept of self-determination, the statistics show that learning is more successful when there is an inherent incentive to do so. Students' proficiency in computer and informatics tasks improved when they participated in instructional programs just for enjoyment. This lends credence to the idea that motivated students are more likely to persist in their efforts and see improvements in their grades. Extrinsic motivation, which comes from things outside of the person like financial incentives or future job opportunities, was shown to have a negative correlation with learning efficacy.

Because they were so focused on what they needed to achieve in the future, they weren't fully engaged in the learning process, which was driven by these outside forces. Coherent with other research, our results suggest that extrinsic motivators could reduce learning depth and retention. Also, by showing how gender mediates the connection between intrinsic motivation and learning efficacy, the research adds to what is already known about social role theory [28]. It would seem that men gain more from intrinsic motivation than women do, according to the results of the interaction study. Some have hypothesised that this is because aggressiveness and competitiveness are agentic traits that help men focus when they feel the need. In contrast, females were much more affected by the negative effects of extrinsic incentive [29]. It is possible that communal aspects (such relational and social expectations) that undermine individual academic goals are to blame for the steeper fall in their learning accomplishments. This more precipitous fall was brought about by outside forces.

According to the results, gender has a significant role in determining the kind of incentive that is considered. Social role theory explains how gender affects the effects of intrinsic and extrinsic motivation, while self-

determination theory explains how these factors have direct consequences; together, they provide a two-part theoretical framework that is supported by the data. The evidence provide credence to both of these hypotheses [30]. In order to raise the amount of digital literacy among students in India, this research sheds light on the need of educational interventions that inspire students to be intrinsically motivated. It goes on to say that lawmakers and teachers should think about gender-responsive strategies that might help children of all genders overcome obstacles and reach their full academic potential.

CONCLUSION

In the context of Indian culture, this research set out to examine how students' levels of intrinsic and extrinsic motivation relate to their ability to acquire digital skills. Students' capacity to absorb and apply information is much enhanced when intrinsic motivation is present, but the inverse is true when extrinsic motivation is at work, as shown in the results. These findings provide light on the significance of intrinsic motivators, such as curiosity and pleasure, in the advancement of deep learning and are in line with the concepts of self-determination theory. The research also found that gender moderates the link between intrinsic motivation and its capacity to promote learning. Researchers discovered that whereas male students benefited from the impact of intrinsic desire, female students suffered from its negative effects when contrasted with extrinsic drive. These results are impacted by social role theory since it suggests that gender-specific social and psychological variables impact the conversion of motivation into efficiency. It should be a major goal of schools, especially those that prioritise digital learning and technology, to provide pupils chances to create their own intrinsic motivation. Learning interventions have a higher chance of success when they are tailored to address motivational responses that are particular to gender. The importance of gender-sensitive and motivationally driven teaching strategies in improving learning outcomes for different student groups is highlighted in this research.

REFERENCES

- [1] Deci, E. L., & Ryan, R. M. (1985). *Intrinsic Motivation and Self-Determination in Human Behavior*. Springer.
- [2] Deci, E. L., Koestner, R., & Ryan, R. M. (1999). A meta-analytic review of experiments examining the effects of extrinsic rewards on intrinsic motivation. *Psychological Bulletin*, 125(6), 627–668.
- [3] Kusurkar, R. A., Croiset, G., Galindo-Garré, F., & Ten Cate, O. (2013). Motivational profiles of medical students: Association with study effort, academic performance and exhaustion. *BMC Medical Education*, 13(1), 87.
- [4] Pintrich, P. R., & Schunk, D. H. (2002). *Motivation in Education: Theory, Research, and Applications*. Prentice Hall.
- [5] Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68–78.
- [6] Vansteenkiste, M., Lens, W., & Deci, E. L. (2006). Intrinsic versus extrinsic goal contents in self-determination theory: Another look at the quality of academic motivation. *Educational Psychologist*, 41(1), 19–31.

- [7] Zaccone, M. C., & Pedrini, M. (2019). The effects of intrinsic and extrinsic motivation on students' learning effectiveness: Exploring the moderating role of gender. *International Journal of Educational Management*, 33(6), 1381–1394.
- [8] Bareket-Bojmel, L., Hochman, G. and Ariely, D. (2014), "It's (not) all about the Jacksons: testing different types of short-term bonuses in the field", *Journal of Management*, Vol. 43 No. 2, pp. 534-554.
- [9] Blumenfeld, P.C., Soloway, E., Marx, R.W., Krajcik, J.S., Guzdial, M. and Palincsar, A. (1991), "Motivating project-based learning: sustaining the doing, supporting the learning", *Educational Psychologist*, Vol. 26 Nos 3-4, pp. 369-398.
- [10] Bowles, H.R., Babcock, L. and Lai, L. (2007), "Social incentives for gender differences in the propensity to initiate negotiation: sometimes it does hurt to ask", *Organizational Behavior and Human Decision Processes*, Vol. 103 No. 1, pp. 84-103.
- [11] Cerasoli, C.P. and Ford, M.T. (2014), "Intrinsic motivation, performance, and the mediating role of mastery goal orientation: a test of self-determination theory", *The Journal of Psychology*, Vol. 148 No. 3, pp. 267-286.
- [12] Cerasoli, C.P., Nicklin, J.M. and Ford, M.T.D. (2014), "Intrinsic motivation and extrinsic incentives jointly predict performance: a 40-year meta-analysis", *Psychological Bulletin*, Vol. 140 No. 4, pp. 980-1008.
- [13] Cross, S.E. and Madson, L. (1997), "Models of the self: self-construals and gender", *Psychological Bulletin*, Vol. 122 No. 1, pp. 5-37.
- [14] Deci, E. and Ryan, R.M. (1985), *Intrinsic Motivation and Self-determination in Human Behavior*, Springer Science & Business Media.
- [15] Dweck, C.S. (2013), *Self-Theories: Their Role in Motivation, Personality, and Development*, Psychology Press, New York, NY.
- [16] Dysvik, A. and Kuvaas, B. (2013), "Intrinsic and extrinsic motivation as predictors of work effort: the moderating role of achievement goals", *British Journal of Social Psychology*, Vol. 52 No. 3, pp. 412-430.
- [17] Eagly, A.H. and Karau, S.J. (1991), "Gender and the emergence of leaders: a meta-analysis", *Journal of Personality and Social Psychology*, Vol. 60 No. 5, pp. 685-710.
- [18] Eagly, A.H. and Steffen, V.J. (1984), "Gender stereotypes stem from the distribution of women and men into social roles", *Journal of Personality and Social Psychology*, Vol. 46 No. 4, pp. 735-754.
- [19] Eagly, A.H., Wood, W. and Diekmann, A. (2000), "Social role theory of sex differences and similarities: a current appraisal", in Eckes, T. and Trautner, H.M. (Eds), *The Developmental Social Psychology of Gender*, Erlbaum, Mahwah, NJ, pp. 123-174.

- [20] El Massah, S.S. and Fadly, D. (2017), "Predictors of academic performance for finance students: women at higher education in the UAE", *International Journal of Educational Management*, Vol. 31 No. 7, pp. 854-864.
- [21] Eom, S.B., Wen, H.J. and Ashill, N. (2006), "The determinants of students' perceived learning outcomes and satisfaction in university online education: an empirical investigation", *Decision Sciences Journal of Innovative Education*, Vol. 4 No. 2, pp. 215-235.
- [22] Garger, J., Thomas, M. and Jacques, P.H. (2010), "Early antecedents to students' expected performance", *International Journal of Educational Management*, Vol. 24 No. 2, pp. 129-138.
- [23] Good, C., Aronson, J. and Inzlicht, M. (2003), "Improving adolescents' standardized test performance: an intervention to reduce the effects of stereotype threat", *Journal of Applied Developmental Psychology*, Vol. 24 No. 6, pp. 645-662.
- [24] Gray, P.H. and Meister, D.B. (2004), "Knowledge sourcing effectiveness", *Management Science*, Vol. 50 No. 6, pp. 821-834.
- [25] Greene, J. (2011), "Using consumer incentives to increase well-child visits among low-income children", *Medical Care Research and Review*, Vol. 68 No. 5, pp. 579-593.
- [26] Greene, R.J. (2011), *Rewarding Performance: Guiding Principles, Custom Strategies*, Routledge, New York, NY.
- [27] Guay, F. and Vallerand, R.J. (1997), "Social context, students' motivation, and academic achievement: toward a process model", *Social Psychology of Education*, Vol. 1 No. 3, pp. 211-233.
- [28] Heyder, A. and Kessels, U. (2013), "Is school feminine? Implicit gender stereotyping of school as a predictor of academic achievement", *Sex Roles*, Vol. 69 Nos 11-12, pp. 605-617.
- [29] Judge, T.A. and Livingston, B.A. (2008), "Is the gap more than gender? A longitudinal analysis of gender, gender role orientation, and earnings", *Journal of Applied Psychology*, Vol. 93 No. 5, pp. 994-1012.
- [30] Kang, H.S., Kim, E.J. and Park, S. (2018), "Multicultural teaching efficacy and cultural intelligence of teachers: the effects of learning goal orientation and training readiness", *International Journal of Educational Management*, Vol. 33 No. 2, pp. 265-275.