

# ATTRIBUTION AND MOTIVATION: A STUDY AMONG NATIVE AND CHINESE INDONESIAN UNIVERSITY STUDENTS

Novita W. Sutantoputri & Helen M. G. Watt

*Monash University (AUSTRALIA)*

*Novita.Sutantoputri@education.monash.edu.au, Helen.Watt@education.monash.edu.au*

## Abstract

This study focuses on attribution and motivation among Indonesian university students. Previous studies have found that one's attribution can be influenced by one's cultural background, and also that there are differences in motivation among ethnicities, this research attempts to explore the possible connections among attribution, motivation, and cultural factors (ethnicity, religiosity, gender) among Indonesian university students. For this discussion, the results of one private and one public university out of five participating universities were used. In total of 486 students (176 male and 310 female) from the two universities participated. Using private and public universities were considered to be fit for this research, as the race issue also permeates the educational setting with mostly Native Indonesians study at public universities and mostly Chinese Indonesians study at private universities. Three dimensions of attribution: locus of control, stability, and controllability, were used to measure students' attribution. To be noted that the controllability dimension was differentiated between the personal control and external control. This research used achievement goals motivation: learning goals, performance-approach and avoidance goals, also work-avoidant motivation and learned helplessness for to measure students' motivation. Students' beliefs of their intelligence and their self-efficacy were also measured as these two additional variables were considered to be related to students' attribution. The preliminary results of this research show some interesting findings of the relations between students' attribution and motivation, some supported this research hypotheses and some seemed to give another way of seeing the relations between the variables. Students with controllable attributions were found to adopt learning goals; students with internal and unstable attributions were more likely to have performance approach goals; students with instable attributions were found to be linked with performance-avoidance goals; students with controllable attributions were more likely not to adopt work-avoidance goals; and students with internal and unstable attributions were more likely not to have learned helplessness. Organizational religiosity was found to affect external attributions. This research found that there were differences between male and female participants regarding stability and external control attributions. There was also found differences between male and female regarding their private religious activity and intrinsic religiosity.

Keywords: Attribution, motivation, achievement goals.

## 1 INTRODUCTION

In learning contexts, motivation is one of the factors that can make students want or not want to learn. One variable that has been found to affect students' motivation is attribution or the way one thinks about what caused one's outcomes. The way students attribute the reasons for their successes and failures affects their motivation and in turn their performance (Pintrich & Schunk, 2002; Seegers, Van Putten, & Vermeer, 2004). Attribution itself can be influenced by cultural factors as values transmitted by one's culture can motivate one to act based on the values (Schwartz, 2006). This research was set to find out the relations between attribution on motivation among Native and Chinese Indonesian university students.

With Indonesia, there are three important cultural factors: race, religion, and gender. The relationship between the Native and Chinese Indonesians has not been an easy one with some racial riots happened in the past, usually with Chinese Indonesians as the victim, with the latest big racial riot happened in 1998 with the looting, killing, mass raping of the Chinese Indonesians (Coomaraswamy, 1999; Jusuf, Timbul, Gultom, & Frishka, 2008). The issue of race even affects educational settings, where mostly Native Indonesians go to public universities, which are government funded, and Chinese Indonesians go to private universities. As for the religion factor, there have been many problems relating to religious beliefs, with conflict between Muslims and Christians in the spotlight. Even in 2008-2010, Christian groups say that there have been dozens of churches and theological academies destroyed or forced to shut by Islamic groups (Beech, 2010). As mostly patriarchal society, women in Indonesia remain unequal in terms of rights and opportunities because of a combination of traditional

and cultural practices (Coomaraswamy, 1999). The study is valuable in adding knowledge about attribution and motivation in different cultural background as there have been many studies about attribution and motivation in Western cultures.

## **1.1 Motivation**

Motivation as the drive behind every chosen action (Pintrich & Schunk, 2002) and also influences learning. It has been found to associate with college students' behaviour in help-seeking (Karabenick, 2004). Students differ in their motivation, in achieving their goals. Achievement goal motivation is the desire to develop, attain, or demonstrate competence at an activity (Dweck, 1986). This influences the quality, timing, and appropriateness of cognitive strategies employed in learning which affect one's accomplishments (Covington, 2000). Learning goals and performance goals are well-established in the literature (Dweck & Legget, 1988). Students with a learning goal motivation strive to develop their competence and task mastery, whereas students with a performance goal motivation are concerned with the demonstration of their competence. The performance goal can be classified into performance approach and performance avoidance (Elliot, 1999). Students with a performance approach goal strive to perform well to show their competence, whereas students with a performance avoidance goal try to protect themselves from the perception that they are not competent. Two other types of motivation known in the learning context are work-avoidant and learned helplessness. Students with work-avoidant motivation try to do the least work possible or deliberately avoid engaging in academic tasks (Dowson & McInerney, 2001; Meece, Blumenfeld & Hoyle, 1988). Students with learned helplessness expect their actions will be futile in affecting future outcomes (Alderman, 2004; Dweck & Goetz, 1978).

### **Self-efficacy and theories of intelligence**

Students' self-efficacy or their perception of their individual capabilities to achieve goals or perform behavior at designated levels (Bandura, 1986, 1997) has been found to be a positive predictor of performance outcomes in academic tasks (Schunk, Pintrich, & Meece, 2002). Self-efficacy influences the choices one makes and the course of action one pursues (Bandura, 1997). Higher self-efficacy can also lead to greater effort, persistence, and resilience (Lent, Brown, & Larkin, 1984; Pajares, 2002). Students' self-efficacy affect their choice, persistence, and performance (Wigfield & Eccles, 2000). They are more inclined to take on tasks where they perceive themselves to be competent, than when they perceive themselves to be incompetent. Students with high self-efficacy are more likely to hold learning or performance approach goal orientations whereas students with low self-efficacy are more likely to hold a performance avoidance goal orientation (Elliot, 1999).

Students can hold entity or incremental beliefs in regard to their intelligence (Dweck, 1986). Students with an entity theory believe their intelligence is something fixed, that cannot be changed and uncontrollable by them, thus their effort is less important and/or ineffective (MacLellan, 2005). Students with incremental beliefs believe that their intelligence is something that can change and is controllable by them, they perceive effort to be a means to learn more. Thus students' beliefs of their intelligence could affect their motivation.

### **Attribution**

People are motivated by a goal of understanding and mastering their environment and themselves to make their world to be more predictable and controllable (Pintrich & Schunk, 2002). They make attribution about the causes of their and others' outcomes. Students make attributions about the causes of their successes or failures. These attributions will govern their behaviour in predictable ways from one situation to the next (McInerney & McInerney, 1998). Students' explanation, justifications, or excuses about themselves and others can affect their motivation (Dweck & Elliot, 1998), and their emotion and cognitive behaviour (McInerney & McInerney, 1998). There are three dimensions of attribution: locus of control, stability, and controllability (Weiner, 1985). Locus of control refers to whether one perceives the causes of one's outcomes to be from oneself, whereas stability dimension refers to perception of the causes to be something stable or unstable. Controllability relates to if one perceives the causes of one's outcomes to be controllable or uncontrollable by oneself. Imagine a student who perceives the causes of his failure as something caused by himself as he does not set aside enough time to study (internal locus of control, unstable, controllable), and another one who perceives the causes of his failure because his teacher does not like him (external locus of control, stable, and uncontrollable). The previous student would be more likely to be motivated to put more effort to improve his grade than the other one. This research assumed that students' beliefs about their intelligence could affect their attribution and their attribution about the causes of their successes and failures could also affect their self-efficacy. When students' believe that their intelligence is

something that is fixed that might affect the way they perceive the causes of their outcomes, for example students who believe that they have a certain fixed of low intelligence might attribute the causes of their failures to it whereas students who believe that their intelligence can be developed might be more likely to attribute their failures to lack of effort. Their attributions then can lead to high or low self-efficacy.

## 2 METHODOLOGY

### Participants and procedure

The participants for this study were university students from 1 public university and 1 private university in Java Island, Indonesia. There were 486 students participating, with 176 of them male, and 310 female. 298 identified themselves to be Native Indonesian (204 female, 94 male), 180 participants identified Chinese Indonesian (79 male, 101 female). 3 male and 5 female participants did not identify themselves as either Native or Chinese Indonesian. As expected, there were found mostly Native Indonesians in the public university, where, out of 253 students, 242 were Natives and only 7 were Chinese Indonesians; and there were found mostly Chinese Indonesian in the private university, where, out of 233 participants, 173 were Chinese Indonesians and 56 were Native Indonesians. The administration of the research questionnaire was after students had their mid-term tests. Students in mass lecture sessions were asked to participate in this research voluntarily.

### Instrumentation

The Revised Causal Dimension Scale (McAuley, Duncan, & Russell, 1992) was used to measure attribution dimensions, with control dimension being differentiated into personal and external sub-dimensions. To measure students' learning, performance approach, performance avoidance, and work avoidance goals, a scale developed and used with university students (Harackiewicz, Durik, Barron, Linnenbrink-Garcia, & Tauer, 2008) was used with additional 5 items for performance approach goals and 4 items for performance avoidance goals from the *Patterns of Adaptive Learning Scales* ("PALS") (Midgley, Maehr, Hruda, Anderman, Anderman, Freeman, Gheen, Kaplan, Kumar, Middleton, Nelson, Roeser, & Urdan, 2000). For learned helplessness orientation, a scale adapted from Intellectual Achievement Responsibility, consisting of 10 items, was used. To measure self-efficacy, 5 items from PALS were also used as part of the questionnaire. Dweck's theories of intelligence scale, consisting of 4 items, was used to measure students' entity and incremental beliefs. *The Duke University Religion Index* (DUREL) was used to measure students' religiosity, measuring organizational activity (external public behaviour), private religious activity (such as praying and reading one's holy book), and intrinsic religiosity (one's religious beliefs and experience). A racial/ethnic identity scale was used to measure participants' ethnic identity, tapping the aspects of perceived similarity to a particular group, private regard about one's own identity, subjective appraisal of the degree to which a collective identity is important, and social embeddedness with one's group. (see Table 1 for scale reliabilities)

Table 1

*Scale Descriptive Statistics*

Scale	No. items	$\alpha$
<b>Attribution</b>		
Locus of control	3	.644
Stability	3	.741
Personal control	3	.585
External control	3	.754
<b>Motivation</b>		
Learning goal	7	.852
Performance approach	7	.841
Performance avoidance	6	.834
Work-avoidance	3	.867

Learned helplessness	10	.424
Self-efficacy	5	.762
Theories of Intelligence	4	.791
Religiosity	5	.765
Ethnic identity	12	.808

### 3 RESULTS

Out of all attribution dimensions, only external control ( $M = 10.21$ ,  $SD = 4.49$ ) had a significant effect on learning goals ( $M = 38.76$ ,  $SD = 7.57$ ). Students with low external control were found to be more likely to have learning goals. Locus of control ( $M = 18.44$ ,  $SD = 4.26$ ) and stability ( $M = 12.35$ ,  $SD = 4.56$ ) were found to have significant effects on performance approach goals ( $M = 29.76$ ,  $SD = 8.44$ ). Students with internal locus of control attributions and unstable attributions were found to adopt a performance goal orientation. Only the stability attribution was found to have a significant effect on performance avoidance goals ( $M = 27.84$ ,  $SD = 6.98$ ); personal control ( $M = 17.30$ ,  $SD = 3.82$ ) and external control ( $M = 10.21$ ,  $SD = 4.49$ ) attributions had significant effects on work avoidance goals ( $M = 7.33$ ,  $SD = 4.5$ ). Students who had a low stability attribution, perceiving the outcomes were caused by something unstable, were found to be more likely to adopt performance avoidance goals; whereas students who perceived themselves to have control over events were more likely not to have work-avoidance goals. Similar to the results for performance goals, locus of control and stability attributions were found to have significant effects on learned helplessness orientation ( $M = 16.93$ ,  $SD = 1.74$ ). As for self-efficacy ( $M = 25.90$ ,  $SD = 6.14$ ), only personal control and external control attributions were found to have significant effects. Students with internal locus of control attributions and low external control attributions were more likely to have high self-efficacy. (see Table 2 for regression analysis of attribution, motivation, and self-efficacy).

Table 2

*Summary of Regression Analysis*

Variable	B	SE(B)	$\beta$
Locus of control			
Learning	.161	.096	0.91
Performance approach	-.216	.108	-.109*
Performance avoidance	-.054	.089	-.033
Work avoidance	-.025	.058	-.023
Learned helplessness	-.020	.022	.139*
Self-efficacy	.073	.076	.051
Stability			
Learning	-.004	.078	-.003
Performance approach	.271	.087	.147*
Performance avoidance	.258	.072	.169*
Work avoidance	.031	.047	.031
Learned helplessness	-.077	.018	-.201*
Self-efficacy	-.062	.061	-.046
Personal control			
Learning	.174	.101	.088
Performance approach	.181	.113	.082
Performance avoidance	.000	.094	.000

Work avoidance	-.180	.061	-.151*
Learned helplessness	.007	.023	.015
Self-efficacy	.312	.079	.194*
External control			
Learning	-.206	.084	-.122*
Performance approach	.000	.094	-.000
Performance avoidance	.009	.078	.006
Work avoidance	.052	.051	.051
Learned helplessness	-.020	.019	-0.51
Self-efficacy	-.236	.066	-.172*

\* $p < 0.05$

No statistically significant effects were found between motivation and final test score ( $M = 71.08$ ,  $SD = 12.08$ ). For students' grade point of average or GPA ( $M = 3.17$ ,  $SD = 1.99$ ), only performance approach goals had significant effect on it (see Table 3 for motivation and academic performance regression results).

Table 3

*Summary of Regression Analysis for Motivation and Academic Performance*

Variable	B	SE(B)	$\beta$
Final			
Learning	.134	.089	.084
Performance approach	-.021	.078	-.014
Performance avoidance	.037	.093	.021
Work avoidance	-.107	.132	-.040
Learned helplessness	.130	.317	.019
Self-efficacy	.070	.101	.035
GPA			
Learning	.017	.015	.064
Performance approach	.040	.013	.170*
Performance avoidance	-.026	.015	-.091
Work avoidance	-.008	.022	-.018
Learned helplessness	-.064	.052	-.056
Self-efficacy	-.030	.017	-.091

\* $p < .05$

Students with incremental beliefs of intelligence ( $M = 19.72$ ,  $SD = 5.16$ ) were found to have internal locus of control and controllable attributions,  $t(4.53) = 1.96$ ,  $p < .05$  and  $t(6.83) = 1.96$ ,  $p < .05$ . Ethnic identity and religiosity were not found to have any effect on attribution dimensions. Comparison between male and female participants found that they differed in stability and external control attribution dimensions. Females ( $M = 12.68$ ,  $SD = 4.54$ ) were more likely to perceived their outcomes were caused by permanent sources than males ( $M = 11.79$ ,  $SD = 4.54$ ),  $F(4,29) = 3.84$ . They were more likely to perceived the causes of their outcomes not externally controlled ( $M = 9.84$ ,  $SD = 4.24$ ) than males ( $M = 10.87$ ,  $SD = 4.83$ ),  $F(5,90) = 3.84$ . There were no significant differences between males and females on learning goals, learned helplessness, and self-efficacy. They were differences on performance goals and work-avoidance goals, females had higher performance approach goals ( $M = 30.33$ ,  $SD = 8.37$ ) than males ( $M = 28.76$ ,  $SD = 8.49$ ),  $F(3,89) = 3.84$ . They were also more likely to

have performance avoidance goals ( $M = 28.37$ ,  $SD = 7.07$ ) than males ( $M = 26.93$ ,  $SD = 6.74$ ),  $F(4,82) = 3.84$ . Males were found to score higher on work avoidance goals ( $M = 8.03$ ,  $SD = 4.80$ ) than females ( $M = 6.94$ ,  $SD = 4.36$ ),  $F(6,55) = 3.84$ . Females had higher private religious activity ( $M = 4.68$ ,  $SD = 1.51$ ) than male students ( $M = 4.03$ ,  $SD = 1.84$ ),  $F(15,34) = 3.84$  they also had higher intrinsic religiosity ( $M = 13.82$ ,  $SD = 1.66$ ) than males ( $M = 13.32$ ,  $SD = 1.86$ ),  $F(9,69) = 3.84$ .

There were no significant differences between Native and Chinese Indonesian students on any their attribution dimensions. Among motivation variables, there was only one difference, on performance avoidance goals with Native students scoring higher ( $M = 28.36$ ,  $SD = 7.04$ ) than Chinese Indonesian students ( $M = 26.87$ ,  $SD = 6.7$ ),  $F(3,19) = 3.00$  There were not any differences between ethnic groups on self-efficacy, intelligence beliefs, or their ethnic identity. They were found to differ on all religiosity dimensions; Natives scored higher on organizational activity ( $M = 5.02$ ,  $SD = 1.25$ ) than Chinese Indonesians ( $M = 4.47$ ,  $SD = 1.20$ ),  $F(11,03) = 3.00$ ; higher on private religious activity ( $M = 4.72$ ,  $SD = 3.92$ ) than Chinese Indonesians ( $M = 3.92$ ,  $SD = 1.72$ ),  $F(13,57) = 3.00$ ; and also higher on intrinsic religiosity ( $M = 14.06$ ,  $SD = 1.35$ ) than Chinese Indonesians ( $M = 13.00$ ,  $SD = 1.96$ ),  $F(24,90) = 3.00$

#### 4 CONCLUSION

The result for attribution and learning goals in this research support those of a previous study, where students with learning goals were found to attribute their failures to controllable factors (Dweck & Legget, 1988). Mastery oriented students were more likely to have internal locus of control and unstable attributions. Students with high performance approach goals were found to have internal locus of control and unstable attributions, whereas students with high performance avoidance goals were found to have unstable attributions, perceiving the causes of their outcomes as temporary. These results are somewhat baffling. In future research measurement properties of the instruments should be improved before examining the relationship among the factors. Both personal and external control, had significant effects on work-avoidance goals, with students who perceived they were in control were more likely to not have work-avoidance goals. This was not really surprising as the scores for work-avoidance goals were low, there were not many participants who had work-avoidance goals. Students who perceived agency in the causes of their outcomes, and that the causes were temporary were found to have high self-efficacy. This might be affected by their intelligence beliefs, as students with incremental beliefs were found to have internal locus of control and controllable attributions.

The results of the relationships between motivation variables and academic performance, i.e. final test score and GPA, were interesting. None of the motivation variables seemed to have any effect on final test scores. Performance approach goals had an effect on academic performance (GPA), supporting previous studies which showed positive effects of performance approach goals on academic performance (Elliot & Church, 1997; Harackiewicz, Baron, Carter, Lehto, & Elliot, 1997; Harackiewicz, Barron, Tauer, Carter, & Elliot, 2000), and performance avoidance to have no effect on academic performance (Elliot & Church, 1997). The reason why learning goals were not found to have any effect on academic performance in this research, might be caused by using university scores to measure learning achievement. Perhaps using measures of performance such as deep processing (Elliot, McGregor, & Gable, 1999) would yield a different result. As for work-avoidance and learned helplessness, it seems somewhat strange that there were no effects of them on academic performance. One plausible explanation might lay with the participants involved, in particular their level of intelligence. This seems possible for work-avoidance goals. Students who have work-avoidance goals were not willing to work hard, they might have the "good enough" attitude, meaning if they can just pass the course with minimum effort they will do it. As for learned helplessness, the same reason why learning goals were not found to have any effect on academic performance may be applied here. One thing to be taken into consideration, there might be cultural factors having an effect, as collectivist cultures tend to devalue individual distinction (Volet, 1999), thus, not wanting to stand out from the crowd might result in average academic performance.

As for gender differences, cultural factors might be one of the reasons why females perceived the causes of their outcomes as something permanent. Interestingly enough, they did not think it was externally controlled, but they did not think it was under their own control either. Further research is needed to clarify this ambiguity. This research shows that there were no differences among attribution dimensions based on ethnicities. It seems that gender is the more important factor for attribution in this context. Although religiosity was not found to have any effect on attributions, the results show that female students had higher private religiosity and intrinsic religiosity than males. This supports the previous results of differences in female and male attributions. The results of this research have added

an interesting view of the effect of cultural factors on attribution and motivation. Nonetheless, there is a need for in-depth study to further explore and clarify the results of this research.

## REFERENCES

- [1] Alderman, M. K. (2004). *Motivation for achievement: Possibilities for teaching and learning* (2nd ed.). New Jersey: Lawrence Erlbaum Associates.
- [2] Bandura, A. (1986). *Social foundations of thought and action*. New Jersey: Prentice-Hall.
- [3] Bandura, A. (1997). Self-efficacy: toward a unifying theory of behavioral change. *Psychological Review*, 84, 191-215.
- [4] Beech, H. (2010). Salvation armies. *Time*, 175, 32-36.
- [5] Coomaraswamy, R. (1999). *Integration of the human rights of women and the gender perspective: violence against women*: United Nation.
- [6] Covington, M. V. (2000). Goal theory: motivation, and school achievement: an integrative review. *Annual Reviews Psychology*, 51, 171-200.
- [7] Dowson, M. M., D. M. (2001). Psychological parameters of students' social and work avoidance goals: a qualitative investigation. *Journal of Educational Psychology*, 93(1), 35-42.
- [8] Dweck, C. S. (1986). Motivational processes affecting learning. *American Psychologist*, 41, 1040-1048.
- [9] Dweck, C. S., & Goetz, T.E. . (1978). Attribution and learned helplessness. In J. H. Harvey, W. Ickes, and R. F. Kidd (Ed.), *New directions in attribution research* (Vol. 2, pp. 157). New Jersey: Erlbaum.
- [10] Dweck, C. S., & Leggett, E. L. (1988). A social-cognitive approach to motivation and personality. *Psychological Review*, 95(2), 256-273.
- [11] Elliot, A. J. (1999). Approach and avoidance in motivation and achievement goals. *Educational Psychologist*, 34, 149-169.
- [12] Elliot, A. J., & Church, M. (1997). A hierarchical model of approach and avoidance achievement motivation. *Journal of Personality and Social Psychology*, 72, 218-232.
- [13] Harackiewicz, J. M., Barron, K. E., Carter, S. M., Lehto, A. T., & Elliot, A. J. (1997). Determinants and consequences of achievement goals in the college classroom: Maintaining interest and making the grade. *Journal of Personality and Social Psychology*, 73, 1284-1295.
- [14] Harackiewicz, J. M., Barron, K. E., Tauer, J. M., Carter, S. M., & Elliot, A. J. (2000). Short-term and long-term consequences of achievement goals in college: Predicting continued interest and performance over time. *Journal of Educational Psychology*, 92, 316-330.
- [15] Harackiewicz, J. M., Durik, A. M., Barron, K. E., Linnenbrink-Garcia, L., & Tauer, J. M. (2008). The role of achievement goals in the development of interest: reciprocal relations between achievement goals, interest, and performance. *Journal of Educational Psychology*, 100(1), 105-122.
- [16] Jusuf, E. I., Timbul, H., Gultom, O. & Frishka, S. (2008). *Kerusuhan Mei 1998: fakta, data dan analisa*. Jakarta: Solidaritas Nusa Bangsa & Asosiasi Penasihat Hukum dan Asasi Manusia Indonesia.
- [17] Lent, R. W., Brown. S. D., & Larkin, K. C. (1984). Relation of self-efficacy expectations to academic achievement and persistence. *Journal of Counseling Psychology*, 31, 356-362.
- [18] Pajares, F. (2002). Gender and perceived self-efficact in self-regulated learning:.. *Theory into practice*, 41(2), 116-125.
- [19] Pintrich, P. R., & Schunk, D. H. (2002). *Motivation in education: Theory, research, and applications* (2nd ed). New Jersey Merrill Prentice Hall.
- [20] Maier, S. F., & Seligman, M. E. P. (1976). Learned helplessness: theory and evidence. *Journal of Experimental Psychology: General*, 105(1), 3-46.

- [21] McAuley, E., Duncan, T. E., & Russell, D. W. (1992). Measuring causal attributions: the revised causal dimension scale (CSDSII). *Personality and Social Psychology Bulletin*, 18, 566-573.
- [22] MacLellan, E. (2005). Academic achievement: The role of praise in motivating students. *Active Learning in Higher Education*, 6, 194-206.
- [23] Midgley, C., Maehr, M. L., Hruda, L. Z., Anderman, E., Anderman, L., Freeman, K. E., Gheen, M., Kaplan, A., Kumar, R., Middleton, M. J., Nelson, J., Roeser, R., & Urdan, T. (2000). *Manual for the patterns of adaptive learning scales*. University of Michigan, Ann Arbor.
- [24] Meece, J. L., Blumenfeld, P.C., & Hoyle, R. (1988). Students' goal orientations and cognitive engagement in classroom activities. *Journal of Educational Psychology*, 80, 514-523.
- [25] Schunk, D. H., Pintrich, P. R., & Meece, J. L. (2008). *Motivation in education: Theory, research and applications* (3rd ed.). Upper Saddle River, NJ: Merrill-Prentice Hall.
- [26] Seegers, G., Van Putten, C. M., & Vermeer, H. J. (2004). Effects of causal attributions following mathematics tasks on student cognitions about a subsequent task. *The Journal of Experimental Education*, 72.4, 22.
- [27] Schwartz, S. H. (Ed.). (2006). *Value orientations: Measurement, antecedents, and consequences accross nations*. London, England: Sage.
- [28] Volet, S. (1999). Motivation within and across cultural-educational contexts: A multi-dimensional perspective. In T. Urdan (Ed.), *Advances in motivation and achievement: Vol 11. The role of context* (pp. 185-231). Stamford, CT: JAI Press.
- [29] Weiner, B. (1985). An attributional theory of achievement motivation and emotion. *Psychological Review*, 92(4), 548-573.
- [30] Wigfield, A., & Eccles, J.S. (2000). Expenctancy-value theory of achievement motivation. *Contemporary Educational Psychology*, 25, 68-81.