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Self-determined motivation, achievement goals and anxiety of economic and business students in Indonesia

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Anxiety is a natural thing and can happen to everyone; it is a reaction to the inability to overcome problems or lack of security. However, excessive anxiety can impede one's function in life. Anxiety experienced by students can also hinder them in performing better. Setting goals that are difficult to achieve can cause students to experience anxiety or fear of not being able to achieve them. This study aims to examine the relationship model between several dispositional factors that can affect students' anxiety. The author investigated the relation between self-determined motivation, achievement goals, and anxiety in 365 business students. Specifically, the author investigated the relation between self-determined motivation (intrinsic motivation, extrinsic motivation, and amotivation), mastery goal orientation, performance-goal orientation and students' anxiety. Results of Pearson's correlation showed that students' anxiety was positively associated with performance-goal orientation, extrinsic motivation, and amotivation, but students' anxiety was not associated either with intrinsic motivation or mastery-goal orientation. Intrinsic and extrinsic motivation correlated with each other, but correlation between mastery and performance-goal orientation was not significant. Implementing structural equation modeling (SEM) was used to test the relationship models. The first model used three dimensions of motivation as mediating variables of influence between achievement goals and students' anxiety. The second model used two dimension of achievement orientation as mediating variables of influence between motivation and students' anxiety. It was found that the proposed models have a good fit. Students' anxiety was influenced primarily by extrinsic motivation, amotivation, and performance-goal orientation. Further, discussions on the results of this study are discussed in detail in this article.

Key words: Intrinsic motivation, extrinsic motivation, amotivation, mastery goal orientation, performance goal orientation, students' anxiety.

INTRODUCTION

The interaction of different aspects of motivation with different personal characteristics implies that what motivates some students does not motivate other students. Different types of motivation will also affect

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different outcomes. Intrinsic motivation encourages individuals to focus on learning and mastering task skills, while extrinsic motivation emphasizes demonstrating that individuals have high abilities (Utman, 1997). Recent studies have found no significant negative relationship between intrinsic and extrinsic motivation (Bateman and Crant, 2003; Lepper et al., 2005; Lemos and Verissimo, 2014). This means that students can be motivated either by intrinsic or extrinsic factors.

Students' motivation is a goal-oriented behavior that includes thinking in accordance with internal and external conditions (Ames, 1992). Zimmerman and Martinez-Pons (1986) show different ways for students to manage their motivations, such as setting goals, developing positive beliefs about their ability to achieve and completing academic tasks, and composing rewards and punishments for successes and failures in academic tasks. Some researchers suggest that some students are motivated by orientation in mastery goals, while others are oriented toward performance goals (Ames, 1992; Dweck, 1986; Pintrinch et al., 1993).

According to Yerdelen et al. (2014), the relationship between achievement goal orientation and academic motivation is significant. Researchers generally emphasize the relationship between mastery and performance goal orientation, and intrinsic motivation. Rawsthorne and Elliot (1999) found that consistent results regarding mastery and performance goal orientation, and intrinsic motivation relationships were not achieved. Wang et al. (2004) found a significantly positive relationship between intrinsic motivation and mastery goal orietation, and there was no significant relationship between intrinsic motivation and performance goal orientation. Meanwhile, Dysvik and Kuvaas (2012) found that performance goal orientation was positively associated with extrinsic motivation. Cerasoli and Ford (2014) also found that mastery and performance goal orientation would have reciprocal effects on motivation.

The results of Middleton and Midgley (1997) and Skaalvik (1997) found a relationship between achievement goals and anxiety. Meanwhile, McGregor and Elliot (2002) found that performance goal orientation is a positive predictor of anxiety and a desire to escape the exam. This study investigates the relationship between achievement factors, motivational factors and students' anxiety in university students. This relationship is tested by testing the model based on social cognitive theory and achievement goal theory. Based on results of research study in Indonesia, there is no relationship between students' motivation and anxiety (Yanti et al., 2013).

Ferrer-Caja and Weiss (2000) stated that intrinsic motivation produces positive learning outcomes, while extrinsic motivation affects negative learning outcomes. There are two learning outcomes, namely adaptive outcomes or positive learning outcomes and maladaptive outcomes or negative learning outcomes. Good goals,

increased interest or self-efficacy, task values, effort, and persistence are adaptive outcomes. Meanwhile, maladaptives outcomes include negative affect (such as embarrassment), anxiety test, handicaping, cheating, reduced help seeking behavior, and decline in any adaptive outcomes (Hulleman et al., 2010; Pintrinch, 2000).

Students can be tied to academic tasks for intrinsic and extrinsic reasons (Harter, 1981; Harter and Jackson, 1992). The use of extrinsic motivation is problematic, while intrinsic motivation is an important factor in learning, both inside and outside school. According to self-determination theory, behavior can be influenced by intrinsic motivation, extrinsic motivation (instrumental motives), and amotivation (Deci and Ryan, 2000, 2008). In general, self-determined motivation is associated with a variety of positive outcomes (Grolnick and Ryan, 1987; Deci et al., 1991). Less self-determined forms of extrinsic motivation are associated with negative outcomes such as depression, negative affect, and physical symtoms.

Intrinsically, motivated students tend to have less academic anxiety (Gottfried, 1982; 1985; 1990) and less extrinsic motivation (Gottfried et al., 2005). Amotivation or the absence of motivation can be defined as a condition in which individuals can not perceive the relationship between their behavior and the outcome of that behavior. Individuals will perceive their behavior as out of control. In academic domain, amotivation has been associated with boredom and poor concentration in the class (Vallerand et al., 1993) and perceptions of higher stress in school and learning (Bakker, 2004).

Research on self-determination theory with educational outcomes generally found that extrinsic motivation and amotivation are associated with high school dropout students, while intrinsic motivation is related to commitment, conceptualization, and learning madness (Vansteenkiste et al., 2006).

Intrinsic motivation also predicts lower anxiety (Black and Deci, 2000). Intrinsic and extrinsic motivations are positively associated with adaptive outcomes, whereas amotivation is positively associated with maladaptive outcomes (Vallerand et al., 2008). The results of Harlen and Crick (2003) found that individuals with intrinsic motivation had lower anxiety.

Furthermore, some students emphasize goal orientation of students. Motivated students with external examinations may have performance goals and not mastery goals. This is because students focus on good grade, not on mastering of skills. Various general theories that build the concept of motivation refer to the goal orientation. Previous research has indicated that students with mastery goals are more likely to exhibit learning strategies and have an interest in tasks at school, more likely to feel competent or able to follow the learning process, and have more positive attitudes toward school than students with performance goals (Dweck, 1992; Harlen and Crick, 2003). Evidence suggests that

mastery goals are associated with variables that lead to positive outcomes (Ames, 1992).

Achievement goal orientation is a set of goals that help motivate and define a student's learning achievement or behavior (Ames, 1992; Meece et al., 1988). Achievement goal theory explains how learning processes derive environmental influences, learning contexts, and learners' characteristics, and how these processes result in learning (Ames, 1992; Ames and Archer, 1988; Nichols, 1984; Dweck and Leggett, 1988).

In general, research has identified two differentiated goals with mastery and performance goals (Dweck, 1986; Dweck and Leggett, 1988; Elliot and Dweck, 1988) or mastery and performance goals (Ames and Archer, 1987; 1988; Harackiewicz and Elliot, 1993) or task-involvement and ego-involvement goals (Nicholls, 1984). Mastery and performance goal orientation have different effects on performance, motivation, and affect.

Mastery goals focus on acquisition and development, and performance goals focus on demonstrating competence and outperforming others (Senko et al., 2011). With mastery goals, individuals are oriented toward developing new skills, trying to understand their work, improving their level of competence, or seeking a sense of mastery based on self-referenced standards (Meece et al., 1988). Mastery goals relate to motivation to achieve certain accomplishments, efforts, satisfaction and pride, challenging work, and risk-taking (Ames, 1992). Meanwhile, the core of performance goal is to focus on the ability of self and sense of worth and the ability to prove that the individual is better than the other individual who has little effort but succeeds. Performance goal orientation deals with avoidance of challenging tasks (Dweck and Leggett, 1988; Elliot and Dweck, 1988).

Intrinsic motivation contains the enjoyment and interest in activities for its own sake, and is a form of deep motivation approach. Many achievement and intrinsic motivation experts claim that mastery goals support intrinsic motivation, while performance goals have a negative influence on intrinsic motivation (Elliot and Harackiewicz, 1996).

Mastery goals are promoted by promoting intrinsic motivation by developing perceptions of challenges, supporting task involvement, building enjoyment, and supporting self-determination (Elliot and Harackiewicz, 1996). Intrinsic motivation and mastery goal orientation describe achievement motivation and are stable traits or dispositional constructs (Cerasoli and Ford, 2014). Some researchers found a link between goal orientation and intrinsic motivation (Butler, 1989; Ryan and Deci, 1989).

Performance goals are described as undermining intrinsic motivation by cultivating threat perceptions, disrupting task involvement, and bringing in anxiety and evaluative stress (Elliot and Harackiewicz, 1996). Performance goals are also expressed to generate evaluative pressures and elicit anxiety, as well as generate the antithesis of intrinsic motivation (Harackiewicz et al.,1984).

Mastery goals facilitate intrinsic motivation, while performance goals conflict with their influence on intrinsic motivation. Previous researchers stated that performance goals will further reduce intrinsic motivation compared to performance goals (Dweck, 1986). The influence of performance goals on intrinsic motivation must be manifested only at low perceptions of competence (Butler, 1992). Experts of achievement goals and intrinsic motivation argue that mastery and performance goals produce different processes that have different consequences on intrinsic motivation (Rawsthorne and Elliot, 1999). Research on the effect of goal setting on intrinsic motivation found mixed results (Locke et al.,1981). According to them, mastery goal has a positive influence on intrinsic motivation, while performance goals can generate anxiety and interfere task involvement. McGregor and Elliot (2002) found that mastery goal orientation has a more positive effect on intrinsic motivation than do performance goal orientation.

In other words, performance goal orientation tends to undermine intrinsic motivation. Some theorists argue that mastery goal orientation can encourage intrinsic motivation because mastery goal orientation encourages individuals to seek challenge and persistence in order to improve competence (Butler, 1987).

On the other hand, performance goal orientation can diminish interest because performance goal orientation can exacerbate evaluation and make individuals anxious about their performance or can make individuals perceive their behavior as extrinsically controlled (Nicholls, 1984; Ryan et al., 1991).

Previous researchers have also stated that both mastery and performance goals have the potential to encourage intrinsic motivation (Harackiewicz et al.,1998). Although performance goal orientation is more convincing than mastery goal orientation to encourage extrinsic motivation, the impact of performance goal orientation on extrinsic motivation is inconsistent (Heyman and Dweck, 1992).

Previous researchers stated that the mastery goal orientation and performance goal orientation did not correlate (Ames and Archer, 1988; Miller et al.,1993). Nevertheless, some other researchers say that the two goal orientations are positively correlated (Archer, 1994; Harackiewicz et al., 1997; Meece et al., 1988; Roeser et al.,1996). In other words, mastery goal orientation and performance goal orientation are relatively independent, so some students pursue one of the goals, but some other students can pursue both.

Furthermore, this study uses students' anxiety which is maladaptive behavior as consequences of student motivation. Anxiety testing is a strong emotional reaction experienced by individuals before and during the exam (Akca, 2011). Anxiety is also viewed as a set of phenomenological, psychological, and behavioral responses associated with negative consequences or failure of exam or other evaluative situations (Nature, 2013).

The anxiety primarily occurs when the individual meets the evaluative situation. Anxiety includes fear of being assessed, lack of self-esteem, and having negative outcomes of testing. This study aims to enrich previous findings that intrinsic motivation is positively associated with mastery and performance goal orientation.

Previous studies suggestted inconsistencies in the relationship between mastery and performance goal orientation and motivation. This study also examined the relationship between mastery and performance goal orientation with intrinsic and extrinsic motivation, and amotivation. This study examines the relationship between mastery and performance goal orientation, intrinsic and extrinsic motivation, and students' anxiety as maladaptive outcomes. This study also tested the relationship model between the six variables using structural equation modeling. This research uses self-determinion theory and achievemet goals theory as antecedents from students' anxiety as maladaptive behavior. Based on the theoretical studies and research results, the proposed hypotheses are:

H1a = Mastery-goal orientation is positively related to performance-goal orientation
H1b = Mastery-goal orientation is positively related to intrinsic motivation
H1c = Mastery-goal orientation is positively associated with extrinsic motivation
H1d = Mastery-goal orientation is negatively associated with amotivation
H1e = Mastery-goal orientation is negatively associated with students' anxiety
H2a = Performance-goal orientation is positively related to intrinsic motivation
H2b = Performance-goal orientation is positively related to extrinsic motivation
H2c = Performance-goal orientation is negatively associated with amotivation
H2d = Performance-goal orientation is positively associated with students' anxiety
H3a = Intrinsic motivation is positively associated with extrinsic motivation
H3b = Intrinsic motivation is negatively associated with amotivation
H3c = Intrinsic motivation is negatively associated with students' anxiety
H4a = Extrinsic motivation is negatively associated with amotivation
H4b = Extrinsic motivation is positively associated with students' anxiety
H5 = Amotivation is positively associated with students' anxiety

MATERIALS AND METHODS

Research procedures and samples

This research was conducted in Yogyakarta, using undergraduate students who are studying economics and business. Yogyakarta is one of the student cities in Indonesia being known to be a creative and culture city. Many entrepreneurs in Yogyakarta are known to be students. As a big city, Yogyakarta still upholds its regional culture. Competition in education in Yogyakarta is also very tight, so students who study in Yogyakarta get considerable challenges.

In addition, there are many students in Yogyakarta who learn while working because their parents can not afford to pay tuition. Because many students come from various places in Indonesia who study in Yogyakarta, Yogyakarta is often referred to as miniature of Indonesia. The selection of the research setting was based on previous research. Previous research stated that students become anxious if there is a challenge, not secure, and want to get an ecxellence goals. In addition, students' anxiety can be generated either because of problems encountered during college or issues that are not related to lectures.

This study conducted exploratory research as a preliminary study for understanding the characteristics of students used as respondents in this study. Based on the results of exploratory study, anxiety was experienced by many students who have followed the lecture process at least in the second year (fourth semester). This is because students have been getting a lot of tasks and new material in accordance with the field of economics and business studies, and are required to be able to learn independently.

At the end of the second year, students will be assessed for their continued study at the university. When it meets the assessment standards, students are able to continue their studies. However, if they do not meet the assessment standards, students will be asked to resign from the university because they are considered incapable of completing their studies.

Sampling method in this research was non probability sampling. The characteristics of students selected as samples in this study should be representative of population characteristics. Students selected as samples were students who have been studying for 4 semesters. This is because students who have taken the course for 4 semesters get bigger tasks and challenges in the form of individual tasks and must take courses that are more focused on the field of ability and talent.

This study uses individuals as the unit of analysis by setting a minimum number of respondents that can answer many questions as much as five times (Hair et al., 2006). The questionnaire had 37 items. The number of the respondents should be at least 185 people who can answer many questions as much as five times as required by multivariate criteria. However, because this study used factor analysis to test its validity, the number of respondents is at least 300 people (Hair et al., 2006). Data were collected by using a non-probabilistic sampling technique. The criterion for participating in this study is that the students should be in the third year of their study. Within three months, the researchers could collect 365 respondents as research data.

Survey methods with self-assessed questionnaire were used in this study. The questionnaire was distributed to students as respondents of this study. The questionnaires were completed in the classroom when the students completed their lessons for four semesters. Students who were still actively doing undergraduate programs in economics and business for four semesters in Yogyakarta were the sample of this study. The survey was conducted from March to May 2017. The collection of primary data using questionnaires and conducted by researchers is the best survey method (Cooper and Schindler, 2008; Neuman, 2006; Sekaran and Bougie, 2013).

This study used self-assessment methods with anonymity. This was done so that students will fill out questionnaires based on the actual conditions perceived. Within 3 months, a total of 365 students could fill out the 400 questionnaires distributed to them (response rate 91.25%).

Questionnaire filling was done using paper and ballpoint, and was done during school hours on campus.

Measurement

The instruments were designed for the individuals as the unit of analysis. Each of the respondents in this study was asked to complete six measurements, namely intrinsic motivation, extrinsic motivation, amotivation, mastery goal orientation, performance goal orientation, and students' anxiety.

Questionnaires regarding mastery and performance goal orientation were taken and developed by previous researchers (Dull et al., 2015). Intrinsic and extrinsic motivation and amotivation constructs were measured using questionnaires from Herath (2015). The questionnaire was translated into Indonesian and adapted to students' understanding in Yogyakarta.

All items of the questionnaires measured using Likert scale with 5-point were as follows; 1 as strongly disagree and 5 as strongly agree. Test of content validity was done by expert assessment in the field of organizational behavior and education. This research used factor analysis for testing construct validity. Construct validity test was done using varimax rotation with loading factor of at least 0.4, as suggested by Hair et al. (2006). This research also used internal consistency test for testing reliability of the research instrument with Cronbach's alpha criteria. Reliability test was done using Cronbach's alpha, with alpha value of at least 0.6 as suggested by Hair et al. (2006). This research also used correlation analysis for examining the relationship between two constructs.

Correlation analysis was used as the initial test before testing the relationship model with structural equation modeling (SEM) using AMOS software. Model testing was performed with a two-step approach, as suggested by Byrne (2001).

RESULTS

Analysis of validity and reliability

Data collection was conducted from March to May 2017. After data were collected, the researcher checked the completeness of the questionnaire. Complete questionnaires were used to test the validity and reliability of the questionnaires, whereas unfilled questionnaires were discarded.

Factor analysis technique with orthogonal and varimax rotation was used to test the validity of the constructs; extraction factor was determined based on theories. Using the factor loadings criteria of more than 0.4 as suggested by Hair et al. (2006), the items of the questionnaires were stated to meet the requirements of construct validity. Factor loading value was recorded between 0.469 and 0.872. The items that had a factor loading less than 0.4 were not used in subsequent analyses.

Reliability testing was done after the items passed in the test of construct validity. Reliability test was done using internal consistency with Cronbach's alpha values of more than 0.6. Reliability between 0.6 and 0.7 indicates fair reliability, between 0.7 and 0.8 indicates good reliability, while reliability between 0.8 and 0.95 is considered to have very good reliability (Zikmund et al., 2010).

Cronbach's alpha values as the reliability tests measuring instrument in this study resulted in a score of 0.809 for intrinsic motivation, 0.849 for extrinsic

motivation, 0.850 for amotivation, 0.655 for performance goal orientation, and 0.766 for students' anxiety construct . Cronbach's alpha values of all variables used in this study were above 0.6. Reliability test results indicated that the instrument of this research was in the category of good reliability and very good reliability. Results of the validity and reliability test of many items of the questionnaire that are valid and reliable are presented in Table 1.

Descriptive statistics

After validity and reliability test was done, descriptive analysis was performed to analyze the mean and standard deviation of each construct. This was done to see whether or not there were six constructs in this research sample. Correlation between two significant constructs was significant, except for the correlation between extrinsic motivation and mastery-goal orientation and correlation between intrinsic motivation and students' anxiety. Standard deviation, reliability scale, and correlations among all study variables are presented in Table 2.

Based on Table 2, the mean of the three variables was between moderate and high (mean values between 2.112 and 4.200), and the standard deviation was also moderate (standard deviation values between 0.431 and 0.835). In addition, all correlations obtained were not quite strong. Correlation between mastery-goal orientation and performance-goal orientation was not significant ($r = -0.067$, $p > 0.05$) (H1a is not supported). Correlation between mastery-goal orientation and intrinsic motivation was significantly positive ($r = 0.311$, $p < 0.01$) (H1b is supported).

Correlation between mastery-goal orientation and extrinsic motivation was not significant ($r = 0.045$, $p > 0.05$) (H1c is not supported). Correlation between mastery goal-orientation and a motivation was significantly negative ($r = -0.158$, $p < 0.01$) and correlation between mastery goal orientation and students' anxiety was also significantly negative ($r = -0.110$, $p < 0.05$) (H1d and H1e are supported). Meanwhile the correlation between performance-goal orientation and intrinsic motivation was significantly positive ($r = 0.256$, $p < 0.01$) and correlation between performance-goal orientation and extrinsic motivation was also significantly positive ($r = 0.557$, $p < 0.01$) (H2a and H2b are supported).

Furthermore, correlation between performance-goal orientation and a motivation was significantly negative ($r = -0.124$, $p < 0.05$) but correlation between performance-goal orientation and students' anxiety was significantly positive ($r = 0.173$, $p < 0.01$) (H2c and H2d are supported). Correlation between intrinsic motivation and extrinsic motivation was significantly positive ($r = 0.453$, $p < 0.01$), but correlation between intrinsic motivation and a motivation was significantly negative ($r = -0.310$, $p <$

Table 1. Valid and reliable questionnaires, factor loading, and cronbach alpha.

Questionnaires	Mastery-goal orientation	Performance-goal orientation	Intrinsic motivation	Extrinsic motivation	Amotivation	Students' anxiety
Mastery-goal orientation1	0.795	-	-	-	-	-
Mastery-goal orientation 2	0.838	-	-	-	-	-
Mastery-goal orientation 3	0.559	-	-	-	-	-
Mastery-goal orientation 4	0.636	-	-	-	-	-
Performance-goal orientation 1	-	0.699	-	-	-	-
Performance-goal orientation 2	-	0.718	-	-	-	-
Performance-goal orientation 3	-	0.750	-	-	-	-
Performance-goal orientation 4	-	0.638	-	-	-	-
Intrinsic motivation 1	-	-	0.648	-	-	-
Intrinsic motivation 2	-	-	0.653	-	-	-
Intrinsic motivation 3	-	-	0.582	-	-	-
Intrinsic motivation 4	-	-	0.603	-	-	-
Intrinsic motivation 5	-	-	0.561	-	-	-
Intrinsic motivation6	-	-	0.741	-	-	-
Intrinsic motivation 7	-	-	0.679	-	-	-
Intrinsic motivation 8	-	-	0.663	-	-	-
Intrinsic motivation 9	-	-	0.500	-	-	-
Intrinsic motivation10	-	-	0.469	-	-	-
Extrinsic motivation 1	-	-	-	0.667	-	-
Extrinsic motivation 2	-	-	-	0.722	-	-
Extrinsic motivation 3	-	-	-	0.737	-	-
Extrinsic motivation 4	-	-	-	0.726	-	-
Extrinsic motivation 5	-	-	-	0.660	-	-
Extrinsic motivation 6	-	-	-	0.688	-	-
Extrinsic motivation 7	-	-	-	0.617	-	-
Extrinsic motivation 8	-	-	-	0.577	-	-
Extrinsic motivation 9	-	-	-	0.549	-	-
Extrinsic motivation10	-	-	-	0.587	-	-
Amotivation1	-	-	-	-	0.865	-
Amotivation2	-	-	-	-	0.793	-
Amotivation3	-	-	-	-	0.872	-
Amotivation4	-	-	-	-	0.793	-
Students anxiety1	-	-	-	-	-	0.705
Students anxiety2	-	-	-	-	-	0.765
Students anxiety3	-	-	-	-	-	0.665

Table 1. Cont'd.

Students anxiety4	-	-	-	-	-	0.778
Students anxiety5	-	-	-	-	-	0.676
Cronbach Alpha (α)	0.673	0.655	0.809	0.849	0.850	0.766
No. of items	4	4	10	10	4	5

Tabel 2. Mean, standard deviation, and correlations between research variables.

Variable	Mean	SD	α	1	2	3	4	5	6
Mastery-goal orientation (1)	3.514	0.579	0.803	1.000	-	-	-	-	-
Performance-goal orientation (2)	4.200	0.529	0.828	-0.076	1.000	-	-	-	-
Intrinsic motivation (3)	3.981	0.431	0.886	0.311**	0.256**	1.000	-	-	-
Extrinsic motivation (4)	4.022	0.523	0.808	0.045	0.557**	0.453**	1.000	-	-
Amotivation (5)	2.112	0.835	0.850	-0.158**	-0.124*	-0.310**	-0.191**	1.000	-
Students anxiety (6)	3.079	0.721	0.766	-0.110*	0.173**	0.068	0.139**	0.304**	1.000

Notes: **Correlation is significant at the 0.01 level (2-tailed); *correlation is significant at the 0.05 level (2-tailed).

0.01) (H3a and H3b are supported).

Correlation between intrinsic motivation and students' anxiety was not significant (r = 0.068, p > 0.05) (H3c is not supported). Correlation between extrinsic motivation and amotivation was significantly negative (r = -0.191. p < 0.01) (H4a is supported). Correlation between extrinsic motivation and students' anxiety was significantly positive (r = 0.139, p < 0.01), and correlation between amotivation and students' anxiety was also significantly positive (r = 0.304, p < 0.01) (H4b and H5 are supported).

Lack of strong correlation between these variables is likely due to the characteristics of the variables in this study. Based on the results of the correlation test in Table 2, students' anxiety is not correlated significantly with intrinsic motivation. Intrinsic motivation is also not significantly correlated with extrinsic motivation, nor does mastery-goal orientation significantly correlate with performance goal orientation.

Result of testing model

In the first model, it was found that mastery-goal orientation and performance-goal orientation influenced each other significantly and positively in intrinsic and extrinsic motivation, but significantly negative in amotivation.

In other words, students who have a goal to develop competence or task mastery and individuals who focus on achieving competencies relative to others or wishing to demonstrate their ability to others will be motivated both intrinsically and extrinsically. Individuals who have goals in learning or have mastery and performance-goal orientation will be motivated in learning. In other

words, amotivation students will only happen if they have no purpose in learning. This study is consistent with the research of Elliot and Church (1997) who also found that mastery and performance goals are important predictors of intrinsic motivation. In addition, the results of this study also support the results of Rawsthorne and Elliot (1999) who found that performance-goal orientation can reduce intrinsic motivation except for cases in educational institutions.

Meanwhile, the first model also shows that intrinsic motivation does not significantly affect students' anxiety. Students' anxiety is affected significantly positive by extrinsic motivation and amotivation. This is consistent with previous studies suggesting that unmotivated students will result in maladaptive behavior such as students' anxiety (Simons et al., 2000). Conversely, preoccupation with tasks or intrinsically motivated

Table 3. Testing results of motivation as mediating variables model using SEM.

Variable	Standardized regression weights	Critical ratio
Mastery-goal orientation → Intrinsic motivation	0.493**	6.109
Mastery-goal orientation → Extrinsic motivation	0.215**	2.290
Mastery-goal orientation → Amotivation	- 0.314**	- 3.992
Performance-goal orientation → Intrinsic motivation	0.489**	7.127
Performance-goal orientation → Extrinsic motivation	0.991**	8.235
Performance-goal orientation → Amotivation	- 0.239**	- 3.534
Intrinsic Motivation → Students' anxiety	0.108	1.370
Extrinsic Motivation → Students' anxiety	0.270**	3.469
Amotivation → Students' anxiety	0.544**	7.574
GFI = 0.980 df = 5		
AGFI = 0.915		
Chi-square = 21.923		
CFI = 0.949	-	-
RMR = 0.011		
RMSEA = 0.096		

Sources: Primary data, processed.

motivation will lead to more adaptive behavior (Simons et al., 2000).

Individuals who are extrinsically motivated by the desire to get an award or recognition will always experience anxiety. In addition, students who are not motivated will also experience anxiety over a variety of challenging tasks. This first model supports the results of Dweck and Leggett (1988) who found that goal orientation influences motivation or behavioral settings. The results of this Model 1 test are presented in Table 3.

Based on Table 3, it appears that the model is fit with the existing data. This is indicated by the value of goodness-of-fit index (GFI) and comparative fit index (CFI) greater than 0.90 or close to 1 (GFI = 0.980 and CFI = 0.949). The chi-square value required for goodness-of-fit is a low value $\chi2$ = 21.923). The difference between the value of adjusted goodness-of-fit index (AGFI =0.915) and the value of GFI that is not too high indicates that the model does not need to be modified anymore because it is fit with the data (GFI-AGFI = 0.065).

The value of root mean square error (RMR = 0.011) shows less than 0.05 indicating a small residual value, and can be interpreted as having good of goodness-of-fit; although the value of root mean square error of approximation (RMSEA = 0.096) is above 0.08 or means the goodness of fit is not good.

Of the three dimensions of self-determination theory, extrinsic motivation and amotivation fully mediate the influence of mastery-goal orientation and performance-goal orientation with students' anxiety. Intrinsic motivation only partially mediates the influence of mastery-goal orientation and performance-goal orientation in students' anxiety. Based on the results of model testing using

SEM, then the relationship model in this study is shown in Figure 1.

Furthermore, based on the results of the second model test, intrinsic motivation has a significantly positive influence on mastery-goal orientation and does not affect performance-goal orientation significantly. However, extrinsic motivation has a significantly positive effect on performance-goal orientation and has a significantly negative effect on mastery-goal orientation.

In this second model, researchers did not examine the effect of amotivation on mastery and performance-goal orientation. This is because the effect of amotivation on mastery-goal orientation is not supported by theories. Testing the relationship model using SEM does not fit the data. Furthermore, the results of the second model test found that students' anxiety was significantly affected positively by performance-goal orientation and amotivation, but not influenced by mastery-goal orientation.

The testing of the second model also showed that motivation or behavioral arrangement affects the goal orientation model. Individuals who are intrinsically motivated will tend to increase their competence in high-mastery-goal orientation and experience low anxiety. Individuals who are unmotivated will tend to experience high anxiety. This is consistent with the results of Lee et al. (2003) research.

Research in this field of education differs in extrinsic motivation. Research using students as respondents found that extrinsic motivation significantly affects positively both in mastery-goal orientation and performance-goal orientation. However, the influence of extrinsic motivation on performance-goal orientation was positive, while in the mastery goal orientation it was
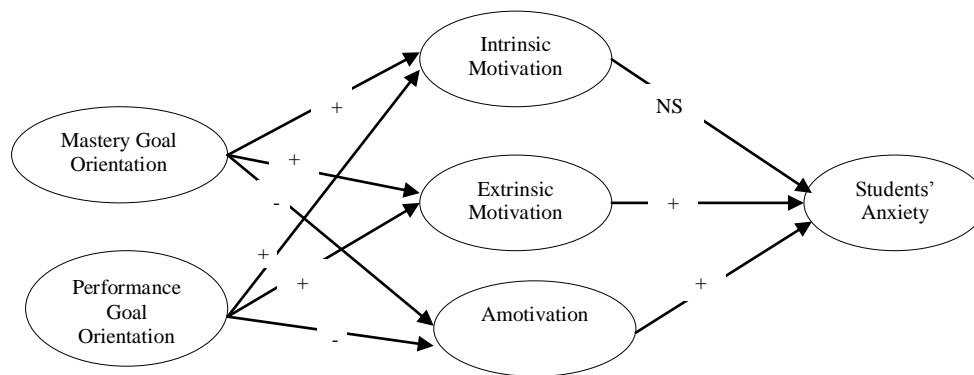
Figure 1. Motivation as mediating variables.

Table 4. Testing results of goal orientation as mediating variables model using SEM.

Variable	Standardized regression weights	Critical ratio
Intrinsic motivation → Mastery-goal orientation	0.489**	5.460
Intrinsic motivation → Performance-goal orientation	- 0.022	- 0.226
Extrinsic motivation → Mastery-goal orientation	- 0.171**	-1.962
Extrinsic motivation → Performance-goal orientation	0.981**	9.916
Mastery-goal orientation → Students' anxiety	- 0.080	- 1.039
Performance-goal orientation → Students' anxiety	0.332**	4.634
Amotivation → Students' anxiety	0.479**	6.028
GFI = 0.984 df = 5		
AGFI = 0.933		
Chi-square = 18.026		
CFI = 0.961	-	-
RMR = 0.007		
RMSEA = 0.085		

Sources: Primary data, processed.

negative. This is different from the results of research in the industrial sector that found that extrinsic motivation only affects performance-goal orientation. The test results of this second model are presented in Table 4.

Based on Table 4, it appears that the model also fits with the existing data. This is indicated by the value of goodness-of-fit index (GFI = 0.984) and comparative fit index (CFI = 0.961) greater than 0.90 or close to 1. The chi-square value required for goodness-of-fit is a low value ($\chi2$ = 18.026). The difference between the value of adjusted goodness-of-fit index (AGFI = 0.933) and the value of GFI that is not too high; indicates that the model does not need to be modified anymore because it fits with the data (GFI – AGFI = 0.028).

The value of root mean square error (RMR = 0.007) shows less than 0.05 indicate a small residual value and can be interpreted as having good of goodness-of-fit; although the value of root mean square error of approximation (RMSEA = 0.085) is above 0.08 or means the goodness of fit is not good. Of the three dimensions

of self-determination theory, performance-goal orientation fully mediates the influence of extrinsic motivation with students' anxiety. Based on the results of model testing using SEM, then the relationship model in this study is shown in Figure 2.

DISCUSSION

The purpose of this study can explain the relationship between intrinsic motivation, extrinsic motivation, a motivation, mastery-goal orientation, performance-goal orientation, and students' anxiety.

The results of this study showed a significantly positive relationship between intrinsic motivation and both mastery-goal orientation and performance-goal orientation. This is consistent with previous findings that showed intrinsic motivation was positively associated with mastery and performance goal orientation (Harackiewicz et al., 1998). Extrinsic motivation is not significantly
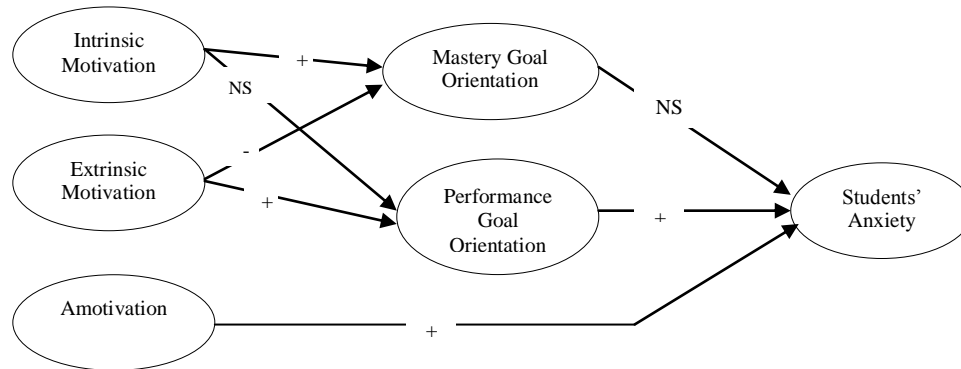
Figure 2. Goal orientation as mediating variables.

correlated with mastery-goal orientation, but is positively related to performance-goal orientation. The results of this study support the previous study (Wang et al., 2004; Dysvik and Kuvaas, 2012).

The results of this study also showed a significantly positive relationship between intrinsic and extrinsic motivation. Positive relationship between intrinsic motivation and extrinsic motivation is only happening in the academic field. This is consistent with the research results of Bateman and Crant (2003), Lepper et al. (2005) and Lemos and Verissimo (2014). Their studies suggesting that there is no significantly negative relationship between intrinsic and extrinsic motivation. This is because students in general not only seek knowledge, but also the pursuit of grade point.

The results also show that mastery-goal orientation does not correlate significantly with performance-goal orientation. This is consistent with previous studies which suggest that mastery and performance goals are not only correlated but also have moderate correlation (Midgley et al., 2001).

The absence of a relationship between mastery-goal orientation and performance-goal orientation indicates that the two constructs are different and independent. In addition, students can have more than one goal in their learning on campus. This supports the results of Rawsthorne and Elliot (1999) research. Rawsthorne and Elliot (1999) found that performance-goal orientation was not correlated with mastery-goal orientation. However, the results of this study differ from those of Cerasoli and Ford (2014) which suggests that mastery-goal orientation is associated significantly and positively with performance-goal orientation.

The results of this study indicate that intrinsic motivation correlates significantly with mastery and performance-goal orientation. This is in contrast with previous research findings that show that performance-goal orientation disturbs intrinsic motivation (Elliot and Harackiewicz, 1996; Harackiewicz et al., 2000).

Intrinsic motivation encourages students to want to understand the material presented in the classroom, and

wants to show their achievement to others. This study uses students' anxiety as a dependent variable. The results of the correlation test showed that students' anxiety correlated significantly and positively with performance-goal orientation, extrinsic motivation, and amotivation, and correlated significantly and negatively with mastery-goal orientation. It did not correlate significantly with intrinsic motivation.

Students' anxiety is caused by their desire to get a good performance, want to show his ability to others, or because the students are not motivated. Students who want to learn because they want to improve their ability have low anxiety, while students who feel comfortable in learning and enjoy the challenges in the learning process will not be anxious.

The result of this study found that amotivation is significantly negative both with mastery-goal orientation and performance-goal orientation and with intrinsic and extrinsic motivation. Amotivation only correlates significantly positive with students' anxiety. Amotivated individuals often experience anxiety over what they experience. In addition, individuals who have no goals in learning will not be motivated in learning.

Furthermore, the results of this study also found that students' anxiety are positively associated with extrinsic motivation and performance goal orientation. This shows that the desire to demonstrate their ability and have grade points will improve students' anxiety, even if the desire is difficult to achieve.

This study also aims to test two relationship models, namely mediating model. In the first model, the three dimensions of motivation are as mediating variables, while in the second model, the two dimensions of goal orientation are as mediating models. In the first model, extrinsic motivation and a motivation fully mediate the influence of mastery and performance goal orientation on students' anxiety.

Meanwhile, intrinsic motivation is partially mediates the influence of mastery and performance goal orientation on students' anxiety. The first model supports the research results of Harackiewicz et al. (1998) which stated that

achievement goals should indeed affect intrinsic motivation because both are important indicators of individuals' success.

In addition, individual behavior is influenced most adaptively by intrinsic motivation (De Freese and Smith, 2013). Students' anxiety is influenced by extrinsic motivation and a motivation. Students who are only motivated extrinsically by grade point or simply want to show their abilities, and a motivated students will have high anxiety. Conversely, students who are intrinsically motivated by interest and challenge will have low anxiety.

In the second model, students' anxiety was positively affected by performance goal orientation and a motivation and was not affected by mastery goal orientation. This second model supports Dykman (1998) research which states that performance oriented individuals will exhibit high anxiety. The second model shows that achievement goals orientation partially mediates the influence of two dimensions of motivation on students' anxiety. A motivation is the strongest variable that influences students' anxiety. This indicates that the student will always be anxious if they have no goals in his learning.

The results of this study indicate that motivation helps to reduce students' anxiety. This can be done by encouraging and rewarding students in learning and taking exams. However, students with high expectation and thinking to achieve perfection will lead students' anxiety. Students' anxiety will increase if they want to satisfy a motivating person, have high expectations, and always think about the results or consequences of the exam that are not in line with their expectations. Therefore, students who are extrinsically motivated are more likely to experience greater anxiety.

The results confirm the findings of previous researchers who found that less self-determined forms of motivation were associated with less adaptive behavior (Knee and Zuckerman, 1998; Knee, Patrick et al., 2002; Amiot et al., 2004; Amiot et al., 2008).

Both models tested in this study indicate fitting with the existing data. This is indicated by the high goodness-of-fit index (GFI) value (GFI > 0.90). In addition, the difference between the GFI, adjusted goodness-of-fit index (AGFI) and comparative fit index (CFI) is small values; this indicates that the model does not need to be modified anymore.

Based on these two models, there is the existence of mutual relationship between intrinsic motivation and mastery-goal orientation and between extrinsic motivation and performance goal orientation. Both models also show that students' anxiety is influenced by extrinsic motivation, performance goal orientation, and amotivation.

Conclusion

Although it is a normal reaction to a particular situation, students' anxiety is an unexpected condition in the learning process. Based on the results of this study, students' anxiety will occur when students are not motivated, or motivated extrinsically because of the results to be achieved, and if they do not enjoy the learning process.

In addition, students' anxiety is also caused by the goals of students who want to show their ability to others. The educational environment also differs from the business environment where intrinsic motivation and extrinsic motivation of students can run together. Students' anxiety also occurs when students learn only to show their ability to others, not because they want to increase their knowledge.

This study made an important contribution. First, the results of this study explain how motivation greatly affects students' anxiety. Therefore, generating motivation by generating a sense of comfort from the learning process is very important. Secondly, for educators, the results of this study explain how extrinsic motivation, performance goal orientation, and a motivation affect students' anxiety.

Therefore, educators should create an atmosphere that can encourage the emergence of intrinsic motivation and students following the learning process because of mastery goal orientation, their desire to develop their skills, knowledge, and not merely to show off their ability to others.

This research is inseparable from several weaknesses. First, this research uses self-report which causes common method variance. This results in a beta bounce caused by this variance. Secondly, this study uses cross-section data which are actually not appropriate to test the model mediation. Mediation model will be more appropriate when using time series data or longitudinal data.

Further research is expected to continue this research, by examining the effect of external factors such as places, colleague, lecturers, and so forth on student anxiety. In addition, further research is also expected to test the effect of students' anxiety on achievement or performance.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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