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How Achievement Goals Affect Students' Well-Being and the Relationship Model Between Achievement Goals, Academic Self-Efficacy, and Affect at School

Abstract

Purpose - This study aims to examine how students with different goals differ in their subjective well-being, including academic self-efficacy (ASE) and affect at school (AAS). It also examined five relationship models between these variables.

Methods - This study was conducted using a survey method with questionnaire on 516 students. After testing the validity and reliability of the measurements, correlation testing was conducted to determine the relationship between the two variables. Furthermore, testing of the five relationship models was conducted using structural equation modeling (SEM) with a two-step approach.

Findings - The findings showed that each goal was directly related to students' well-being with a diverse relationship nature. Mastery-approach goals (MApG) and Performance-avoidance goals (PAvG) were the types that most consistently have effect on students' well-being, while Performance-approach goals (PApG) produced various influences and relationships.

Limitations - The limitation of this study was using cross-sectional data and self-report in data collection. Furthermore, the respondents were limited to private university students and they were few.

Practical Implication - Higher institutions need to provide a curriculum that can increase students' curiosity, creativity, and involvement in the learning process. This will make them confident in their abilities and have a positive attitude in school and the society. The competency feeling needs to be fostered because it encourages them to increase knowledge and learning content, as well as increase their positive effects.

Originality/ Value - This paper addressed the need to understand how to generate and increase students motivation.

Keywords: mastery-approach goals, mastery-avoidance goals, performance-approach goals, performance-avoidance goals, academic self-efficacy, affect at school

Introduction

The relationship between achievement goals and students' well-being has been extensively studied (for reviews, see Kaplan Maehr, 1999; Korhonen et al., 2014; Phan, 2016; Salmela-Aro & Upadyaya, 2012; Tian et al., 2017; Tuominen et al., 2020; Tuominen-Soini et al., 2012; Widlund et al., 2020). However, standard, strong, and generally precise relationship models have not been found, considering that the two variables are multidimensional. Apart from being caused by cultural factors and research context, achievement goals (AG) is more dominated by western society. Therefore, the relationship model between achievement goals and students' well-being in eastern society still requires more extensive studies.

Well-being is an important element that school stakeholders need to understand. Students are said to be successful not only because they excel academically, but because they are satisfied in school (Bucker et al., 2018). Furthermore, schools like higher education are not only places where young people get academic knowledge and expertise, but places where people relate with one another, develop personalities, and experience all stages of social life.

Well-being is complex, and it is an important component in life. In the academic context, personal well-being at school is the degree at which students can play an effective role (Phan, 2016). Furthermore, it involves subjective and psychological evaluation of life (Phan, 2016). In general, the subjective evaluation includes positive and negative effect. In the educational field, subjective evaluations related to students' learning places include ASE and AAS. Also, people with higher educational levels are more likely to experience higher levels of well-being (Nikolaev, 2016). In cross-sectional studies, there was a relationship between well-being and academic achievement (Bucker et al., 2018; Credé et al., 2015; Steinmayr et al., 2016).

What are the main goals students want to achieve in school? Some students want to improve their abilities and master learning material (Mastery-approach goals or MApG), while others want to outperform their peers (Performance-approach goals or PApG). Furthermore, there are students who want to avoid appearing incompetent (Performance-avoidance goals or PAvG), while others do not want to lose their competence (Mastery-avoidance goals or MAvG), therefore they do not want to share knowledge or they put in minimal effort. AG as a motivational variable has been extensively studied, and its relationship with various outcomes relevant to learning and performance has been explored (Madanmark & Kikas, 2018; Tuominen et al., 2020; Wormington & Linnenbrink-Garcia, 2017). However, the influence between the dependent and independent variables is still rarely studied. In addition, AG is considered the research of students' ASE beliefs (Diseth et al., 2012), and it plays an important role in determining attitudes, relationships, and learning strategies, as well as student performance (Jagacinski et al., 2010).

Even though it is still being debated, the strength of AG support can change throughout the school year or one semester (Fryer & Elliot, 2007). Jagacinski et al. (2010) reported that mastery goals (MG) are more consistent, while performance goals (PG) changed. Furthermore, MApG tends to produce positive outcomes (Hulleman et al., 2010; Tian

et al., 2017; Tuominen et al., 2020; Madamurk & Kikas, 2018; Tuominen-Soini et al., 2012), while PAvG and MAvG produce negative outcomes (Luo et al., 2011; Peixoto et al., 2016; Schwinger et al., 2016; Wormington & Linnenbrink-Garcia, 2017). In addition, PApG produces mixed outcomes (Mouratidis et al., 2009; Pekrun et al., 2006; Vassiou et al., 2014). According to Schwinger et al. (2016), PApG was positively related to well-being when combined with MApG, but would not be related when combined with PAvG.

Lately, research on academic achievement is influenced by emotions or affect (e.g., Linnenbrink-Garcia & Pekrun, 2011; Pekrun et al., 2014). In fact, some research noted that AG is related to affect (e.g., Hall et al., 2016; Huang, 2011; Lufienegger et al., 2016; Pekrun et al., 2011; Tian et al., 2017). Students' affect includes emotional conditions that are related to academic outcomes such as motivation and achievement (Pekrun & Linnenbrink-Garcia, 2012). Although there is little research on the relationship between affect and motivation, there are many theories and empirical studies on the relationship between affect and various important indicators of academic success such as motivation (Pekrun & Linnenbrink-Garcia, 2012). Shim et al. (2013) found that positive affect is the main indicator of an individual's well-being.

According to Efklides (2011), some inconsistent research in AG were caused by individual factors, namely affect. This can interact in the motivational process (Mega et al., 2014), and positive affect tends to increase personal motivation to effectively carry out beneficial activities. Furthermore, positive affect tends to increase personal confidence, which makes students carry out assigned tasks. In addition, affect is related to motivation, but there are still few studies that examine this relationship (Robinson et al., 2007).

Besides affect, another variable in well-being is self-efficacy. The relationship between AG and self-efficacy has been supported by western societies (Fu et al., 2008). What is the condition in eastern societies? Although it has been investigated by some research, study on the relationship between self-efficacy, affect, and motivation is still needed (Salanova et al., 2011). Meanwhile, Salanova et al. (2011) found a reciprocal relationship between self-efficacy, affect, and motivation. When individuals feel efficacious, they feel better, therefore the affect is positive. Also, students with MG trying to obtain knowledge and increase competence for self-development will show positive affect, have high academic achievement and perceived self-efficacy (Fenollar et al., 2007; Hsieh et al., 2007; Kahraman & Sungur, 2013). In addition, several studies have investigated the effects of self-efficacy on MG (Fenollar et al., 2007; Lau et al., 2008).

This study discussed model of the relationship between students' well-being which includes ASE, AAS, and AG with four dimensions. Meanwhile, Mason et al. (2013) found that MApG and PApG had a positive effect while PAvG had a negative effect on self-efficacy. Furthermore, Kahraman and Sungur (2013) found that self-efficacy had a positive effect on PApG. Hsieh, et al. (2007) found the effect of self-efficacy on MApG, and Johnson, et al. (2013) showed an interrelated relationship between AG, affective constructs, self-efficacy, and learning outcomes. Therefore, this study aimed to examine the relationship model between the four dimensions in AG, ASE, and AAS.

Theory and Hypothesis Development

Students' well-being is a condition, mood, and positive attitude, as well as satisfaction with themselves, their relationship with others and their experiences in school (Phan, 2016). The definition emphasizes the need for personal learning experiences, motivation, affective and emotional conditions in school. Furthermore, personal well-being at school includes enjoyment feelings, valuing, and appreciating learning. Also, the well-being attribute includes an interest in learning and relationships with teachers and peers (Van Damme et al., 2002). Motivation towards learning is an achievement related to students' well-being. In fact, it is generally associated and influenced by the workplace and other significant positive influences (Bucker et al., 2018). Therefore, in the field of education, well-being includes ASE and AAS.

How is AG related to students' subjective well-being? In AG, it is explicitly stated that there are certain goals related to emotions or affect. Kaplan and Maehr (1999) found that MG was positively related to well-being such as positive emotions, relationships with peers, and with school-related affect. Conversely, individuals who pursue PG are negatively related to emotions and AAS. Previous research concluded that AG is related to emotions and contributes to effective learning and well-being (e.g., Hulleman et al., 2010; Linnenbrink-Garcia et al., 2016; Lufienegger et al., 2016; Sideridis, 2005; Tuominen-Soini et al., 2008).

Research showed that affect is an integrated part of the motivational model (e.g., Hall et al., 2016; Meyer & Turner, 2006; Linnenbrink-Garcia & Barger, 2014). In fact, attribution and flow theory integrate emotions, motivation, and learning (Meyer & Turner, 2006). Over the past 10 years, studies have shown interest in affect (Pekrun & Linnenbrink-Garcia, 2014). Also, affect is consistently related to variables that are associated with academic achievement (Pekrun et al., 2014). A positive affect can increase achievement because excitement can motivate students to perform well. Meanwhile, negative affect can reduce academic achievement.

A relevant motivational factor in an academic setting is self-efficacy related to AG, and more specifically, AG is the result of ASE beliefs (Diseth, 2011). Self-efficacy beliefs through cognitive, affective, and motivational mechanisms influence how individuals feel, how much effort is made in activities, how long individuals work hard to cope with challenges and failures, as well as how resilience to suffering is experienced. Furthermore, it can play a role as a predictor or mediator of learning outcomes (Wilson & Narayan, 2014). It can be defined as an individual's beliefs about ability to learn and perform effectively (Bandura, 1999). According to social cognitive theory, self-efficacy is a belief in one's ability to organize and execute the actions needed to achieve good performance (Bandura, 1997).

AG is unstably adopted from time to time (Jagacinski et al., 2010). Therefore, individuals cannot be said to be performance or mastery oriented because they can change goals according to situation and time. During a semester, one year, or even during college, students can change their goals, and those in the early semester tend to adopt MG (Lee & Bong, 2016). Meanwhile, PG will be used in subsequent semester or after students fail. There are four AGs with two dimensions, which are definition and valence (Elliot et al., 1997). The definition of MG is motivated to develop competence, while that of PG is to demonstrate competence. In addition, two dimensions of valence are formed approach and avoidance (Elliot & Thrash, 2002), and they emerged due to inconsistent findings related to PG (Elliot et al., 2011; Murayama et al., 2011).

Approach goals are oriented to be better while avoidance are oriented not to be worse. Furthermore, approach motivation is related to higher academic achievement, while avoidance goals are related to lower achievement (Huang, 2012). The four AG dimensions are not mutually exclusive, therefore individuals can have high scores on all four dimensions (VanYperen & Jansen, 2002). In different situations, individuals can have one or several goals. Meanwhile, Van Yperen and Jansen (2002) found that those who only have one goal will actually experience fatigue. Also, these four goals separately relate to well-being, and avoidance goals are found to reduce subjective well-being (Adie et al., 2010; Kaftan & Freund, 2018; Luo et al., 2011; Peixoto et al., 2016; Tuominen-Soini et al., 2008; Wormington & Linnenbrink-Garcia, 2017). Kaplan and Maehr's (1999) showed that MApG is positively related to well-being, while PApG is negatively related. Other research found that all approach goals showed a positive effect (Adie et al., 2010).

PAvG has been found to be negatively related to self-efficacy and positive emotions (Adie et al., 2010; Daniels et al., 2009; Hulleman et al., 2010; Pekrun et al., 2006). Some studies on PG have shown inconsistent results, as PG are associated with lower levels of psychological well-being (Daniels et al., 2008). However, PG was found to be associated with positive affect (Hulleman et al., 2010; Linnenbrink, 2005; Pekrun, 2006). Other research found that it was associated with negative affect (Luo et al., 2011). The effect of PApG is ambiguous, and it is associated with negative affect after individuals fail, and negatively related to well-being (Dompnier et al., 2013). However, PApG is positively related and can predict academic grades (Dompnier et al., 2013). The relationship between PApG and various outcomes is indeed unclear. Some studies proved a negative effect (Senko et al., 2011), while others found a positive effect (Bulus, 2011).

MApG has consistently demonstrated positive motivation and well-being (Madamurk & Kikas, 2018; Tuominen-Soini et al., 2012; Tuominen et al., 2020; Wormington & Linnenbrink-Garcia, 2017). Also, there is a positive relationship between MG, self-efficacy and positive affect (Pekrun et al., 2006; Sideridis, 2005; Tapola & Niemivirta, 2008). Students with high self-efficacy tend to adopt MG, while those with low efficacy tend to adopt PG. When pursuing MG, students want to develop competence by obtaining new knowledge and expertise. Also, when pursuing PApG, they want to show higher competence than others. When pursuing PAvG, students hope to avoid looking incompetent (Bulus, 2011). In fact, students will adopt MAvG when they focus on minimal effort (Harackiewicz et al., 2008). PAvG is systematically related to negative outcomes (Pekrun et al., 2006) and negative affect (Luo et al., 2011). Also, MAvG has been found to be negatively related to affects and feelings of incompetent in schools (Tuomien-Soini et al., 2008). According to Ainley and Patrick (2006), affect mediates the relationship between MG and PG with behavior. In addition, goals and affect together in an integrated way increased student learning participation (Ainley, 2006).

Previous research showed that MG has more influence on performance, motivation, and affect (e.g., Harackiewicz et al., 2008; Madamurk & Kikas, 2018; Tian et al., 2017; Tuominen-Soini et al., 2012; Vrugt & Oort, 2008) than PG. From a theoretical perspective, there are two theories relevant to motivation and emotion, which are Pekruns' (2006) cognitive value theory of emotions and Linnenbrink & Pintrichs' (2002) bidirectional model of goal orientation and affect. The dynamics systems theory offers a way to examine the relationship between motivation, affect, and cognition that can be applied to learning and development issues. According to Ainley (2006), the three components are interconnected, therefore they can be combined.

Based on various theoretical studies and previous research on the relationship between the four dimensions of AG, AAS, and ASE, this study examined five relationship models. The first model is the direct influence of the four dimensions of AG on ASE and AAS. Also, the second model is the direct influence of ASE and AAS on the four dimensions of AG. Furthermore, the third model is the influence of ASE on AAS mediated by the four dimensions. The fourth model is ASE mediating the influence of the four AG dimensions on AAS. In addition, the fifth model is AAS mediating the influence of the four AG dimensions on ASE. The five tested models using SEM are based on Kaftan and Freund (2018) which found that approach goals are generally associated with high and positive well-being, while avoidance goals are associated with low and negative well-being.

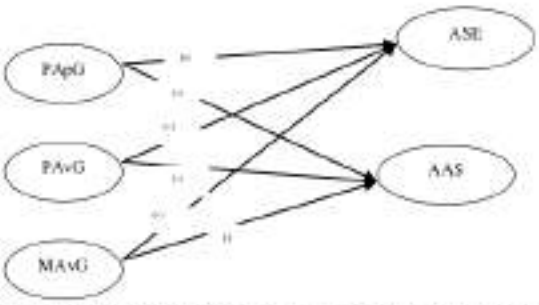

Figure 1. Model 1: The Direct Effect of the Four Dimensions of AG on ASE and AAS

Model 1 in Figure 1 described the direct influence of the four AG dimensions on students' well-being, which includes ASE and AAS. Model 1 aimed to investigate the positive effect of MApG and PApG on students' well-being (Adie 27 l., 2010; Prpa, 2018; Sewhinger et al., 2016; Tian et al., 2017), while PAvG and MAvG have a negative effect (Adie et al., 2010; Niemivirta et al., 2019; Peixoto et al., 2016; Wormington & Linnenbrink-Garcia, 2017). Meanwhile, goals oriented towards approach have more positive affect than those oriented towards avoidance (Kaftan & Freund, 2018). T 31 is the same with ASE, and it will increase in individuals who are able to pursue MApG and PApG. This is because beliefs and perceptions of self-efficacy are rooted in an individual's past achievements, difficulties, and past (Lackaye & Margalit, 2006).

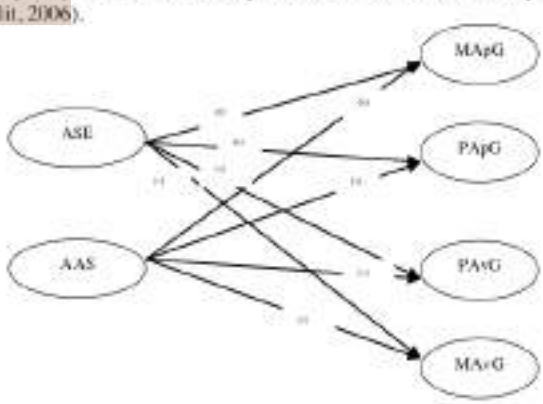

Figure 2. Model 2: The Direct Effect of ASE and AAS on the Four Dimensions of AG

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Model 2 in Figure 2 aimed to differently examine the effect of ASE and AAS on the four AG dimensions. AG is the result of ASE (Diseth, 2011; Grene et al., 2004; Salanova et al., 2011), and individuals who feel confident in their abilities (high ASE) will increasingly want to improve themselves and outperform others, therefore ASE has a positive effect on MApG and PApG. Also, individuals who believe in their abilities, p 4 ups because they have demonstrated past academic achievements, will increasingly pursue MApG and PApG (Bong et al., 2010; Friedel et al., 2010; Jiang et al., 2014). However, those who are less confident (low ASE) and have probably experienced previous failures will be afraid to appear incompetent (high PAvG) or will even be afraid of losing their abilities (high MAvG). In other words, ASE has a positive effect on MApG (Payne et al., 2007; Pekrun et al., 2014; Sakiz, 2011) and on PApG (Diseth et al., 2012). Furthermore, ASE has a negative effect on both PAvG and MAvG (Lee et al., 2003). Model 2 examined the influence of AAS on the four AG dimensions (Linnenbrink & Pintrich, 2002; Mega et al., 2014). Meanwhile, positive affect will encourage individuals to improve their abilities and show their achievements, while negative affect will cause them to be 5 raid of appearing incompetent and afraid of losing their abilities (Hall et al, 2016; Linnenbrink-Garcia & Pekrun, 2011; Mouratidis et al., 2009; Pekrun et al., 2009; Pekrun et al., 2014).

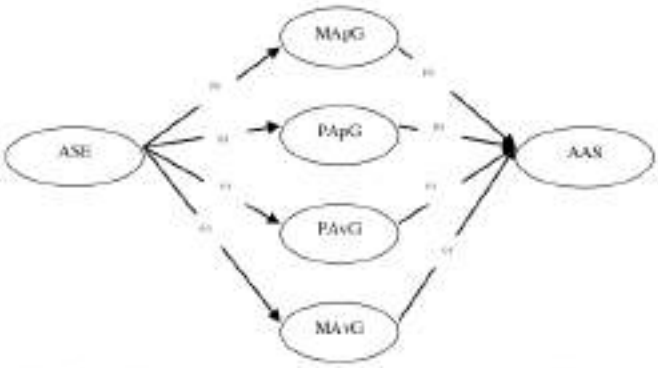

Figure 3. Model 3: Effects of ASE on AAS Mediated by Four Dimensions of AG

Model 3 in Figure 3 investigated whether the four dimensions mediate the relationship between ASE and AAS. This model is based on previous studies which found that AG is the result of ASE (e.g., Diseth, 2011; Greene et al., 2004). Furthermore, individuals with high ASE will adopt MApG and PApG by mastering their abilities and showing abilities than others, while those with low ASE will adopt PAvG by avoiding failure or MAvG by showing minimal effort (Hsieh et al., 2007; Law et al., 2012; Liem et al., 2008; Phan, 2016). General affect is believed to be the outcome goals that are pursued (Elliot & Thrash, 2002; Linnenbrink & Pintrich, 2002; Luftenegger et al., 2016; Mega et al., 2014; Pekrun et al., 2009). MApG has an effect on positive affect, while MAvG and PAvG on negative affect (Daniels et al., 2009; Hulleman et al., 2010; Murayama & Elliot, 2009; Kusho et al., al., 2005). Although previous research showed a variety of PApG effects, this study tested that PApG has a positive effect on affect (Pekrun et al., 2006; Urdan & Mestas, 2006).

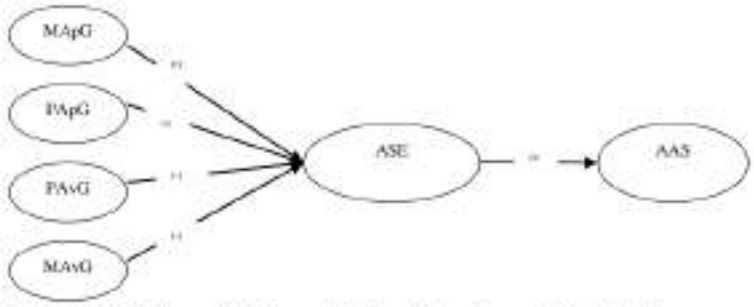

Figure 4. Model 4: ASE Mediates the Effects of the Four Dimensions of AG on AAS

Model 4 in Figure 4 aimed to investigate ASE as a mediating variable for the effect of the four AG dimensions on AAS (Fan et al, 2008; Kozlowski et al., 2001; Vandewalle et al., 2001). Individuals with higher ASE will experience a positive affect (Linnenbrink-Garcia et al., 2016). Furthermore, success in increasing knowledge and showing high academic achievement will increase ASE (Mouratidis et al., 2017). In addition, self-efficacious students feel more confident that they can meet school demands, therefore they experience a positive affect (Lent et al., 2005). Salanova et al. (2011) found that high ASE encouraged positive affect, and it was a predictor and mediator of learning outcomes (Wilson & Narayan, 2014). Meanwhile, those who pursue avoidance goals will experience insecurity in their abilities, thereby reducing ASE (Bong et al., 2010; Friedel et al., 2010; Liem et al., 2008).

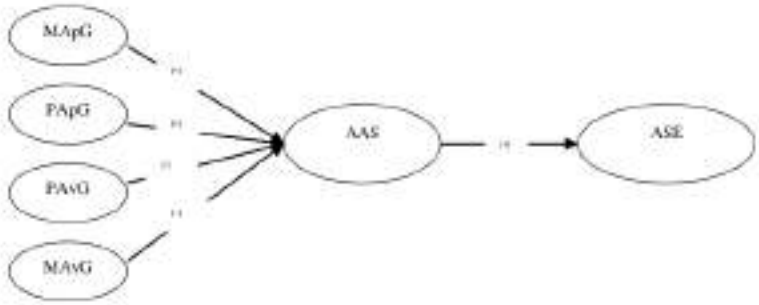

Figure 5. Model 5: AAS Mediates the Effects of the Four Dimensions of AG on ASE

Model 5 in Figure 5 examined AAS as a mediating variable for the relationship between the four AG dimensions in ASE (Daniels et al., 2009; Pekrun et al., 2009). The dimensions predict AAS differently (Daniels et al., 2009; Mega et al., 2014). Also, success in achieving goals, which includes increased knowledge and high academic achievement causes students to have pleasant experiences, therefore they have positive affect (Linnenbrink & Pintrich, 2002; Mouratidis et al., 2009; Pekrun et al., 2006). Meanwhile, failure to achieve goals causes unpleasant experiences and increases the negative affect (Sideridis, 2005). In addition, positive feelings can increase students' confidence in their abilities.

Methods

Procedure

This study was conducted with survey method using a self-rating questionnaire. The respondents were students who have spent four semesters at private university in Yogyakarta, Indonesia. Using a purposive sampling method, this study used 516 students out of 750 who were qualified as respondents (response rate 68.8%). Furthermore, data were collected from September to November 2019. A cross-sectional data was used because previous research on goals were cross-sectional (Tuominen et al., 2020; Wormington & Linnenbrink-Garcia, 2017). After testing the validity and reliability of the questionnaire, testing the correlation between research variables was carried out as an initial test. In addition, the five models testing was conducted using two-stage SEM to select the model that best suit the data (Byrne, 2010).

Measurement

This study used a questionnaire developed from previous research. Furthermore, the four-dimensional AG questionnaire was adopted from those developed by Elliot and McGregor (2001). The perceived ASE questionnaire was adopted from that which was developed by Kaplan and Maehr (1999), while the positive AAS questionnaire was also adopted from Kaplan and Maehr (1999). All the questionnaires used five points Likert scales starting from a value of 5 for answering strongly agree until a value of 1 for strongly disagree, except for the reverse question. Furthermore, there were 4 question items in the AAS that were reversed, therefore the value of 1 was for answering strongly agree and 5 for strongly disagree. Testing of measuring instrument was carried out using validity test with factor analysis and reliability test with internal consistency and corrected-item to total correlation (Sekaran & Bougie, 2010).

The validity test results showed that 5 items of MApG questions were valid, with loading factors between 0.791 to 0.861, 5 items of PApG questions were valid with loading factors between 0.577 to 0.848. Furthermore, 4 items of PAvG were valid with loading factors between 0.520 to 0.8, and 4 item of MAvG questions were valid with loading factors between 0.791 to 0.861. Also, 6 items of ASE questions were valid with loading factors between 0.534 and 0.816, and 4 items of AAS were valid with loading factors between 0.665 to 0.792. Meanwhile, reliability testing results showed that the internal consistency of the question items in the variables used were reliable. The Cronbach's Alpha value for each variable was 0.869 for MApG, 0.844 for PApG, 0.721 for PAvG, and 0.869 for MAvG. In addition, the Cronbach's Alpha score for ASE was 0.843 and 0.705 for AAS

Results

Descriptive Statistics

Before testing the relationship model, testing the correlation between the used variables needs to be conducted. The results of correlation testing between variables along with descriptive statistics were presented in Table 1.

Table 1 Descriptive Statistics and Correlations between Research Variables

	1	2	3	4	5	6
MApG	1	0.497**	0.093*	0.141**	0.431**	0.255**
PApG		1	0.309**	0.209**	0.353**	0.085
PAvG			1	0.199**	0.004	-0.215**
MAvG				1	0.030	-0.106*
ASE					1	0.272**
AAS						1
Mean	4.006	3.634	3.450	3.689	3.739	3.365
Standard Deviation	0.602	0.660	0.670	0.720	0.607	0.709
Cronbach's Alpha	0.869	0.844	0.721	0.853	0.843	0.705

** correlations significant at 0.01 (2-tailed)
* correlations significant at 0.05 (2-tailed)

Table 1 showed that the four AG dimensions were significantly positively correlated. This study showed that students can indeed have all four goals together, and the dimensions were proven not mutually exclusive (VanYperen & Jansen, 2002). Furthermore, MApG and PApG were significantly positively related to ASE, whereas PAvG and MAvG were not. Also, AAS was significantly positively related to MApG, but not related to PApG. Whereas the relationship of AAS with PAvG and MAvG was significantly negative, and this study only used positive affect as an AAS variable. Meanwhile, the average of each variable was classified as moderate to high. Therefore, it can be asserted that there was no problem with student motivation in learning, and they feel comfortable in school. The standard deviation of respondents' answers was also more than 0.5, which showed their independence in answering question items in the questionnaire.

Testing the Relationship Model

Testing the relationship model was conducted using SEM with two step approach. This was carried out because of previous study which showed a reciprocal relationship between self-efficacy, affect, and motivation in western societies (Salanova et al., 2011). The results of testing the relationship model are shown in the following five figures.

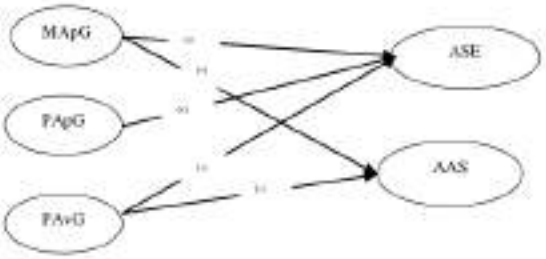

Figure 6. Model 1: The Direct Effect of the Four AG Dimensions on ASE and AAS

Figure 6 was the result of testing Model 1 in Figure 1. The results showed that MApG have significantly positive effects on ASE and AAS. This was consistent with several previous studies, that MApG was positively associated with students' well-being (e.g., Adie et al., 2010; Hull, 2016; Phan, 2016; Prpa, 2018; Sewhinger et al., 2016; Tian et al., 2017, Tuominen-Soini et al., 2008). Meanwhile, PAvG had a significant negative effect on ASE and AAS. This supported several previous studies, that PAvG was negatively related to students' well-being (e.g., Adie et al., 2010; Niemivirta et al., 2019; Peixoto et al., 2016; Wormington & Linnenbrink-Garcia, 2017). Also, MAvG was not in the picture because it had no effect on ASE or ASS. In addition, the effect of PApG on AAS was not significant. This did not support previous studies which showed that approach goals had a positive effect on well-being (e.g., Adie et al., 2010; Daniels et al., 2009; Pekrun et al., 2009; Prpa, 2018; Sewhinger et al., 2016; Tian et al., 2017). However, the effect of PApG on ASE was significantly positive. These results supported previous studies (e.g., Hulleman et al., 2010; Linnenbrink-Garcia et al., 2016; Tuominen-Soini et al., 2008).

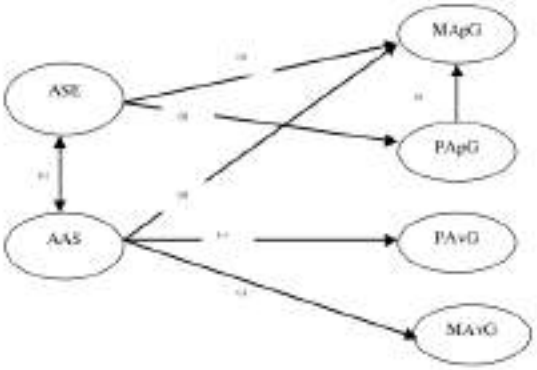

Figure 7. Model 2: Direct Effect of ASE and AAS on the Four Dimensions of AG after modification of the model

Figure 7 was the testing result of Model 2 in Figure 2. The results showed that ASE had a positive effect only on MApG and PApG. This was consistent with the results of previous studies (e.g., Bong et al., 2010; Friedel et al., 2010; Hsieh et al., 2007; Jiang et al., 2014; Kahraman & Sungur, 2013). High ASE encouraged students to show their abilities and try to outperform their peers, which would encourage them to improve their abilities and knowledge. Furthermore, the testing results of Model 2 showed that ASE did not affect PAvG and MAvG. This was not consistent with previous research, that individuals with low ASE would adopt PAvG (Liem et al., 2008). Meanwhile, consistent with the results of previous studies, AAS had a positive effect only on MApG (e.g., Pekrun et al., 2006; Daniels et al. 2009; Goetz et al., 2016; King et al., 2012), but it had a negative effect on PAvG and MAvG (e.g., Pekrun et al., 2009; Daniels et al., 2008). Also, AAS had no significant effect on PApG. This was consistent with the results of correlation testing which showed no relationship between PApG and AAS. Previous research found that AAS was not associated with PApG (e.g., Pajares & Cheong, 2004; Zusho et al., 2005). Model 2 also showed that PApG had an effect on MApG. The desire of students to show their competence and outperform their peers would encourage them to improve their abilities. In order to improve academic performance, previous studies found that PApG needs to interact with MApG (e.g., Barron & Harackiewicz, 2001; Dowson & McInerney, 2003; Schwinger et al., 2016). In addition, ASE and AAS influenced each other positively. These results supported previous studies which stated that subjective well-being was a subjective and psychological evaluation of life (Phan, 2016). In the field of education, the evaluation included ASE and AAS which influence each other.

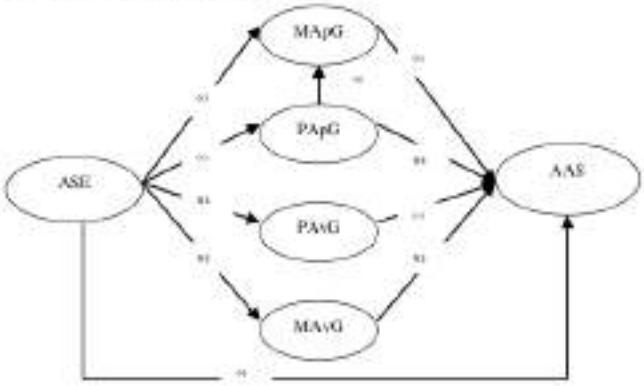

Figure 8. Model 3: Effects of ASE on AAS Mediated by Four AG Dimensions after modification

Figure 8 was the testing result of Model 3 in Figure 3. Figure 8 showed that the four AG dimensions mediated some of the relationships between ASE and AAS. Consistent with the results of previous studies, ASE only affected MApG and PApG (e.g., Bong et al., 2010; Friedel et al., 2010; Jiang et al., 2014). However, ASE did not affect PAvG and MAvG. This was inconsistent with previous studies where the effect of ASE on PAvG and MAvG was negative (e.g., Hsieh et al., 2007; Law et al., 2012; Liem et al., 2008; Phan, 2016). Meanwhile, AAS was positively influenced by MApG and negatively by PAvG. This supported previous studies which also found that MApG had a positive effect on affect while PAvG had a negative effect on affect (e.g., Daniels et al., 2009; Hulleman et al., 2010; Murayama & Elliot, 2009; Tanaka et al., 2006; Zusho et al., 2005). In other words, the four AG dimensions partially mediated the relationship between ASE and AAS. When analyzed partially, the results of the model testing showed that MApG partially mediated the relationship between ASE and AAS, but PAvG fully mediated the relationship between ASE and

AAS. Because it only mediated partially, ASE still had a direct effect on AAS which was consistent with previous studies (Salanova et al., 2011). These results supported Phan (2016) which stated that students' well-being included ASE and AAS. Like only Model 2, in Model 3, PApG also affected MApG.

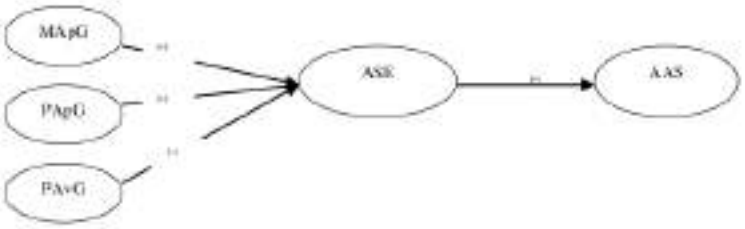

Figure 9. Model 4: ASE Mediates the Effects of the Four AG Dimensions on AAS

Figure 9 was the testing result of Model 4 in Figure 4. Figure 9 showed that ASE mediated the influence of MApG, PApG, and PAvG on AAS. This model supported previous studies (e.g., Fan et al., 2008; Kozlowski et al., 2001; Vandewalle et al., 2001). The effect of MApG and PApG on ASE was positive, but the effect of PAvG on ASE was negative. This was consistent with previous research that individuals who adopt MApG tended to have high ASE (e.g., Hulleman et al., 2010; Mason et al., 2013; Pekrun et al., 2006; Salanova et al., 2011; Vassiou et al., 2014) and individuals who adopted PAvG tended to have low ASE (e.g., Hsieh et al., 2007; Phan, 2016; Pekrun et al., 2006). Furthermore, the effect of PApG was inconsistent. However, Model 4 hypothesis results supported previous research which found that individuals who adopt PApG had a positive effect on ASE (e.g., Hall et al., 2016; Mason et al., 2013; Phan, 2016). Furthermore, the testing results of Model 4 showed that ASE had a positive effect on AAS (e.g., Lent et al., 2005; Linnenbrink-Garcia et al., 2016; Salanova et al., 2011). In addition, MAvG was not in the picture because it did not affect ASE.

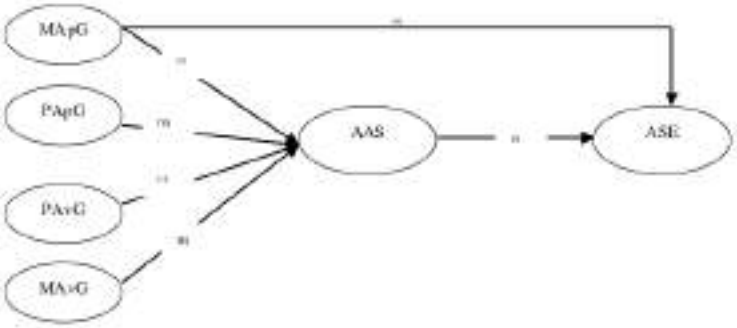

Figure 10. Model 5: AAS Mediating the Effects of the Four AG Dimensions on ASE

Figure 10 was the testing result of Model 5 in Figure 5. Figure 10 showed that AAS partially mediated the influence of the four AG dimensions on ASE. This was consistent with previous studies (e.g., Daniels et al., 2009; Pekrun et al., 2009). Meanwhile, only MApG and PAvG had an influence on AAS even though the influence was different. Furthermore, MApG had a positive effect, while PAvG had a negative effect on AAS. The testing results of the model showed that only MApG and PAvG had an effect on AAS. Consistent with previous studies, MApG had a positive effect on AAS (e.g., Daniels et al., 2009; Goetz et al., 2016; King et al., 2012; Luftenegger et al., 2016; Pekrun et al., 2006) while PAvG had a negative effect (e.g., Kumar & Jagacinski, 2006; Luftenegger et al., 2016; Pekrun et al., 2009; Tanaka et al., 2006; Zusho et al., 2005). Also, the testing results of Model 5 showed that AAS influenced ASE. Besides that, MApG also had a positive effect on ASE. This result supported previous studies that ASE was AG, especially MApG (Diseth, 2011; Diseth et al., 2012; Mason et al., 2013).

Subsequently, the five relationship models were compared to determine the model that is most fit with the available data. A comparison between the five models is presented in Table 2. Table 5 is the final model testing result using SEM after modification according to the instructions in the SEM results and the underlying theories, as well as results of previous studies.

Table 2. Model Conformance Index

	χ2	Df	P	X2 / df	RMSEA	GFI	AGFI	CFI	NFI	IFI
Model 1	6.178	1	0.013	6.178	0.100	0.996	0.917	0.986	0.984	0.987
Model 2	67.302	5	0.000	13.460	0.156	0.955	0.811	0.833	0.827	0.838
Model 3	68.845	5	0.000	13.769	0.157	0.954	0.802	0.829	0.823	0.834
Model 4	39.228	4	0.000	9.807	0.131	0.976	0.874	0.906	0.899	0.908
Model 5	13.052	3	0.005	4.351	0.080	0.992	0.942	0.973	0.966	0.974

Based on the testing results of the five models and the value of the goodness-of fit index (GFI), the five models were good because they have a GFI above 0.9. Based on criterion χ2, Model 1 was the most suited to existing theories and data because it has the smallest χ2 value. Furthermore, based on the criteria of adjusted goodness-of fit index (AGFI), Comparative Fit Index (CFI), and Normed Fit Index (NFI), then Model 1 and 5 were the best because they have AGFI, CFI, and NFI values above 0.9. Also, based on the Root Mean Square Error of Approximation (RMSEA) criteria, Model 5 was the best because it has an RMSEA value of 0.080 according to the minimum criteria required. Based on the five models comparison, then Model 1 was the most suitable. In addition, Model 1 was the best because it meets the criteria for CFI, NFI, and IFI which was closest to 1 compared to the other four.

Discussion

This study primarily aims to complete the puzzle in the literature of achievement goal orientation (AGO). Early theory stated that AG needs to interact with self-efficacy in order to influence various outcomes (Dweck & Leggett, 1988). However, self-efficacy mediated the effect of AG on various outcomes (Fan et al., 2008; Wilson & Narayan, 2014). Therefore, subsequent research examined the effect of AAS on AG (Linnenbrink & Pintrich, 2002; Mega et al., 2014). AG could also predict affect, and the effect of AG on self-efficacy could be mediated by affect (e.g., Daniels et al., 2009; Mega et al., 2014).

This study aims to examine the relationship model between the four dimensions of AG, ASE and AAS, which were interrelated and influential based on previous studies. The results of this study showed that the AAS of Indonesian students is moderate. Also, the students are oriented to mastering the material and improve competence, and they have a strong feeling towards the competencies they have achieved. This can be seen in the mean of the variables used in this study which are classified as moderate to high. This means that Indonesian students have positive feelings and are not disaffected (Ainley, 2006). They also believe in being able to effectively execute academic tasks at certain levels. In addition, the positive affect of the students is moderate, therefore, there is no problem regarding their well-being.

Correlation test results and the relationship model in this study also showed that each AG dimension did not have the same effect on the subjective well-being. This proved that there was no general decision regarding the effect of AG on subjective well-being. Also, the relationship between the four AG dimensions and subjective well-being was also diverse, positive, negative, or no relationship between each dimension of AG and ASE or AAS. Furthermore, each of the dimensions was independent. Therefore, the relationship of each goal and well-being needs to be separately discussed. The results of this study confirmed that there was a direct relationship between goal orientation and self-efficacy (Phan, 2016). In addition, goal orientation is widely associated with affect because learning motivation cannot be separated from affective processes, especially for adolescents who are entering adulthood (Ainley, 2006; Efklides & Petkaki, 2005).

This study found that MApG was consistently positively related to the other three AG dimensions which are positively related to ASE and AAS. Furthermore, the results of model testing using SEM showed that MApG consistently had a positive effect on ASE and AAS. In Model 2 and 3 it was also shown that MApG was positively influenced by ASE. In Model 2, MApG was positively influenced by ASE and AAS. In other words, this study confirmed the results of Kaplan and Maehr (1999) which found that MApG was positively related to subjective well-being. Consistent with previous studies, the results of this study found that students who pursue MApG were characterized by having a positive orientation (ASE) and positive affect (AAS) (e.g., Adie et al., 2010; Alp et al., 2018; Daniels et al., 2008; Diseth, 2011; Diseth et al., 2012; Hullemun et al., 2010; Linnenbrink, 2005; Linnenbrink-Garcia et al., 2016; Madamurk & Kikas, 2018; Pekrun et al., 2006; Sideridis, 2005; Tapola & Niemivirta, 2008; Tian et al., 2017; Tuominen et al., 2020; Tuominen-Soini et al., 2012).

Similar to MApG, MAvG was also positively related to the other three AG dimensions. However, the results of this study found that MAvG dimension was not related to ASE, but was negatively correlated with AAS. Furthermore, the model testing results showed that MAvG consistently had no effect on ASE or AAS. MAvG was also not affected by ASE in the five tested models. However, in Model 2, AAS had a negative effect on MAvG. This study is consistent with previous research which showed that MAvG was more related to negative outcomes such as negative affect and feelings of incompetence in school (e.g., Mason et al., 2013; Tapola & Niemivirta, 2008; Vassion et al., 2014). Related to MAvG, the results of this study showed that MAvG was really used in research on students because it was not related to students (Mason et al., 2013). This is because students usually do not focus on the fear of losing competence because in general, they rarely compare their current achievements with the past, but with peers' achievements (Mason et al., 2013).

For the PG dimension, the results of this study showed that the PApG dimension was positively related to the three dimensions of AG and ASE, but was not related to AAS. Also the results confirmed previous research which

found no relationship between PApG and affect (e.g., Linnenbrink, 2005; Pekrun et al., 2009). These studies found that there was no relationship between PApG and AAS. This is because students only want to show their superiority to their peers, therefore feeling comfortable, happy or even bored and angry while on campus is not a concern. What they think is that they are outperforming their peers. The results of model testing using SEM found that PApG influenced ASE in Model 1 and 4. ASE also affected PApG in Model 2 and 3. Meanwhile, there was no direct effect of PApG on AAS, and AAS had no direct effect on PApG. In Model 3 and 3 PApG had an effect on MApG, therefore in Model 3, PApG's influence on AAS was mediated by MApG. The results of this study confirmed previous research which found that the effect of PApG was less consistent (e.g., Dompnier et al., 2013; Tuominen et al., 2020; Tuominen-Soini et al., 2008). Schwinger et al. (2016) found that PApG was only positively related to well-being when interacting with MApG, but not when interacting with PAvG.

The results of testing the five relationship models supported previous research that the relationship between PApG and students' well-being varies. Likew the influence of PApG on students' well-being or vice versa also varies. This study supported previous research (e.g., Diseth et al., 2012; Linnenbrink-Garcia et al., 2016; Linnenbrink & Pintrich, 2002; Mason et al., 2013; Mouratidis et al., 2009; Pekrun et al., 2006; Tuominen-Soini et al., 2008). Furthermore, research on PApG in Indonesia showed a positive influence on students' well-being on the ASE dimension. However, the five tested models in this study found results consistency in the relationship between PApG and AAS, and the effect of AAS on PApG or vice versa. There was no significant correlation between the two variables. In fact, PApG had no effect on AAS and vice versa, AAS also had no effect on PApG. This is because PApG does not build competition and outperform their peers, but rather builds a sense of competition and happiness because they have performed well in school. The results of this study are inconsistent with previous research which found a relationship between PApG and AAS (e.g., Daniels et al., 2008; Hong et al., 2012; Lent et al., 2005; Linnenbrink, 2005; Linnenbrink-Garcia et al., 2016; Luftenegger et al., 2016; Pekrun et al., 2006; Pekrun et al., 2009).

Also, this study found that PAvG was positively related to the three AG dimensions and negatively related to AAS. However, PAvG was not related to ASE. The results of the model testing using SEM showed that consistently, PAvG has a negative effect on ASE and AAS. This is consistent with Wigfield & Cambria (2010) which found that PAvG is almost always a negative impact because it only wants to avoid looking incompetent. Furthermore, ASE had no effect on PAvG, whereas AAS had a significant negative effect. In other words, PAvG is associated with negative affect and other negative results (e.g., Daniels et al., 2009; Hulleman et al., 2010; Vassiou et al., 2014).

In the results of testing Model 3, it was shown that PApG affected MApG. This confirmed the debate in previous studies that PApG and MApG can be combined to achieve goals (e.g., Dowson & McInerney, 2003; Tuominen-Soini et al., 2008). This study found a significant positive relationship between ASE and AAS. In Model 3 and 4, ASE also affects AAS. Meanwhile, Model 5 proved that AAS influences ASE, whereas in Model 2, the two variables affect each other. This showed that the two variables influence each other and are called well-being (Phan, 2016; Salanova et al., 2011; Tian et al., 2017; Tuominen et al., 2020).

This study confirmed previous research that AG related to emotions or affect (e.g., Huang, 2011; Hall et al., 2016). Each AG dimension predicts affect uniquely (Hall et al., 2016; Harackiewicz et al., 2008; Pekrun et al., 2009). Overall, this study confirmed previous research which found that MAG and PG have different effects on motivation and affect (e.g., Kaftan & Freud, 2018; Klug & Maier, 2015; Mouratidis et al., 2009; Tuominen et al., 2020; Wellund et al., 2020). Meanwhile, students with MApG focus on improvement and competence, therefore they need to control and perceive their learning activities. Students with PApG tend to present themselves to be better than their peers, hence their emotions depend on the situation. Therefore, those who pursue PApG have weak affect. The influence of PApG on affect and vice versa is not significant, and the effect of affects on PApG is also not significant.

This study also confirmed previous research that the influence of PAvG and MAvG is still being debated (King, 2016; Schwinger et al., 2016). The results showed that PAvG consistently have a negative effect on all models, but MAvG does not. Also, students who pursue PAvG have low personal control, hence they have emotions or negative affect (Hall et al., 2016). Therefore, this study confirmed the findings of Hall et al. (2016) that PAvG has a negative effect on positive affect and vice versa, the influence of positive affect is also negative on PAvG. In other words, approach-avoidance goals can be influenced by perceived competence or ASE. In addition, high self-efficacy will adopt PApG, while low self-efficacy will adopt PAvG (Linnenbrink-Garcia et al., 2012).

MApG and PApG have also been confirmed to be positively related to ASE (Vassiou et al., 2014). This is consistent, between the study of western and eastern societies. However, PApG is sometimes not related to self-efficacy (Sakiz, 2011). Furthermore, PAvG and MAvG do not correlate with ASE. This study did not confirm the results of research in western societies which found that PAvG and MAvG are negatively related to ASE (Fan et al., 2008). Although it was conducted in eastern communities, namely Indonesia, the results do not support the research of King (2016) and Hulleman et al. (2010) which found that PAvG was not maladaptive to collective culture. As, Indonesian students pursuing PAvG have low ASE and AAS.

AG has been widely adopted in studies in western countries (King & McInerney, 2016; Zusho & Clayton, 2011) which is associated with student school engagement (Motti-Stefanidi et al., 2015). In collectivist countries, AG is often associated with parental support (Lam et al., 2016). The results of testing the relationship model in this study showed that PAvG has a negative effect on students' well-being, especially ASE. This is inconsistent with previous studies which found that PAvG was not maladaptive in Asia which adheres to a collectivist culture (Elliot et al., 2001; Hulleman et al., 2010; King, 2016). Indonesian society, especially students who adhere to a collectivist culture, still see PAvG (avoids being seen as incompetent in the view of others) as a maladaptive goal, thereby reducing ASE and AAS.

Achievement motivation studies have been widely adopted in higher education in western countries (King & McInerney, 2016; Zusho & Clayton, 2011). In general, achievement motivation in western countries is associated with students' engagement in school (Motti-Stefanidi et al., 2015). Meanwhile, according to Lam et al. (2016), countries with collectivistic cultures are more associated with social support such as peers, teachers, and parents. In western countries, the relationship between students' goals and well-being appears robust. However, in eastern countries this research is still much needed. These cultural differences are particularly influential in understanding what students are pursuing at school, how they feel confident in their ability to participate in learning activities, and how they control their emotions or feelings when participating in the learning process at school.

Conclusion

Although for western cultural context, the relationship between goals and well-being looks robust, and cross-cultural differences affect the relationship between both. Meanwhile, affect is an understanding of character in education related to student motivation. Therefore, students with positive affect show that they have positive feelings, hence the motivation is also positive. Students can have several learning goals related to positive AAS and ASE. However, each goal has a different relationship and influence on affect and self-efficacy. Furthermore, the most consistent goal of influence was MApG, where students want to improve their competence and master their assignments in school. This goal affects the positive ASE and AAS.

The most ambiguous goal of influence is PApG, in which some research found a positive relationship and influence, while others stated the negative influence on AAS and ASE. Other research did not find a relationship with these two variables. PAvG is a goal that negatively affects students' subjective well-being. Meanwhile, MAvG has less visible influence and relationship with students' subjective well-being. Some research reported that MAvG is less relevant to the students' conditions.

This study complements the majority of achievement goal theory confirmed in western societies. In fact, some are consistent with conditions in western societies, but others are different. MApG and PApG sometimes cannot be separated because students besides wanting to improve their competency also want to have a high grade or higher than their peers. In addition, this study examined various relationship models between the dimensions of AG, affect, and self-efficacy which are stated to be mutually influential in western societies.

This study is inseparable from a number of limitations. Firstly, it used self-rating on all variables studied, hence it cannot be separated from the common method bias that can increase beta values. Therefore, future studies need to use self-rating and other ratings to eliminate this bias. Secondly, it used a cross-sectional design, in which the testing of mediation models is still weak. Future studies need to use time-series or longitudinal designs to conduct model mediation testing. Thirdly, the data was taken only from private universities in Indonesia, especially in Yogyakarta as a student city and the numbers are still too small. Therefore, future research needs to use students from state universities and more respondents.

The results are important for curriculum development which can encourage students, especially those who take part in higher education learning. Also, learning goals will encourage students to control emotions in order to achieve higher performance. To further develop these results, it is necessary to add variables of educational outcomes and school objectives of students' learning goals. Given that this study was in a society with a collectivistic culture, affective or emotional factors are sensitive to the environment. Therefore, social factors such as social goals need to be added.

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Appendix

AGO	:	Achievement Goal Orientation
AG	:	Achievement Goals
MG	:	Mastery Goals
MApG	:	Mastery Approach Goals
MAvG	:	Mastery Avoidances Goals
PG	:	Performance Goals
PApG	:	Performance Approach Goals
PAvG	:	Performance Avoidance Goals

ASE : Academic Self-Efficacy
AAS : Affect At School

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