

## **BASIC PSYCHOLOGICAL NEEDS AS PREDICTORS OF BURNOUT AND ENGAGEMENT**

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### *Abstract*

*This study aims to investigate the unique role of three basic psychological needs in students' well-being, especially engagement and burnout. This study used students from private universities in Yogyakarta, one of the student cities in Indonesia. Using non-random sampling techniques, the researchers collected 404 students as respondents to filled-out the questionnaire. After testing the validity using factor analysis and reliability using Cronbach Alpha, correlation techniques were used as a preliminary analysis to test the relationship between the variables studied. SEM is used to test the model of the relationship between variables. The results indicated that the need for autonomy had a direct effect on academic engagement and academic burnout. The need for competence and relatedness was covariance and influenced the need for autonomy. Academic engagement is also directly influenced by the need for competence. In-depth discussion was presented in the analysis of the results of this study.*

Keywords: autonomy; competence; relatedness; burnout; engagement

### **Introduction**

Needs are determinants of individual behavior. Self-Determination Theory (SDT) has provided a powerful framework to help demonstrate various processes that influence behavior in a broad context (Deci, Vallerand, Pelletier, & Ryan, 1991; Gunnell, Crocker, Wilson, Mack, & Zumbo, 2013). SDT

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postulates three innate psychological needs that can satisfy individuals, namely the need for autonomy, competence, and relatedness. SDT argues that the basic psychological needs can be identified in all cultures and can interact in different social contexts to produce behavior and human well-being. Nevertheless, there is an assumption that the need for competence and relatedness is cross-cultural, while the need for autonomy still causes controversy (Sheikholeslami & Arab-Moghoeddami, 2010). This is because autonomy represents western individualistic values, so that it is not a basic need for individuals derived from the value of eastern collectivism such as Indonesia. Therefore, research on autonomy still needs to be done on individuals with collectivistic values.

Lately, the basic psychological needs has been shown to play an important role in various fields such as in the workplace (Baard, Deci, & Ryan, 2004; Van den Broeck, Ferris, Chang, & Rosen, 2016), sport (Gagne, Ryan, Bargmann, 2003; Sari, 2015), education (Sulea, van Beek, Sarbescu, Virga, & Schaufeli, 2015; Vansteenkiste, Lens, & Deci, 2006), and related to mental health (Ryan & Deci, 2000). In SDT, satisfaction needs are important for well-being and ill-being. In the field of education, fulfilling students' basic psychological need is important for learners to be self-determined and self-regulating (Grolnick & Ryan, 1989). This can increase intrinsic motivation and the desire to be tied to academic tasks and activities, even those that are less attractive to them (Niemic & Ryan, 2009).

SDT has also been called a powerful theory to explain engagement and burnout and has been widely used to predict well-being and ill-being in several domains (*e.g.*, Fernet, Austin, Trepanier, & Dussault, 2013; Sulea et al., 2015). Engagement and burnout are two different forms of well-being. Engagement is reinforced by challenging resources and demands and has positive consequences for students, namely high achievement (Salanova, Schaufeli, Martinez, & Bresó, 2010). On the other hand, burnout is defined as a state of fatigue due to activity and uncertainty, lack of resources, and high academic demands (Schaufeli, Martinez, Marquez-Pinto, Salanova, & Bakker, 2002).

Basic Psychological Needs Theory (BPNT) describes three basic psychological needs, namely need for autonomy (*i.e.*, volition, voice, initiative), need for competence (*i.e.*, effectiveness, optimal challenge), and need for relatedness (*i.e.*, connectedness, belonging) (Lynch, Plant, & Ryan, 2005). This theory explains that satisfaction with these psychological needs promotes self-

motivation, performance, and well-being. In educational settings, BPNT is explored in a Self-Determined Theory (SDT) framework with a focus on satisfaction with students who get autonomy from their instructors (Klassen, Perry, & Frenzel, 2012).

The need for autonomy is concerned with the individual feeling that the goals and actions are self-chosen and self-endorsed. What is attached to the need for autonomy is fulfilled when they perceive that they can act according to what they choose and feel. The concept of autonomy in SDT differs from autonomy in organizational psychology (Morgeson & Humphrey, 2006), as well as autonomy related to freedom, independence, and deviation in work scheduling (Hackman & Oldham, 1976; Vansteekieste, Zhou, Lens, & Soenens, 2005).

The need for autonomy is important for motivation and wellness, and is related to stress and burnout (Lynch et al., 2005). The need for autonomy is a feeling of being a source of behavior. Individuals always hope to have a role in making decisions. Cresswell and Eklund (2005) find that the need for autonomy is the main predictor of self-determined motivation. The higher autonomy level is negatively related to burnout, especially emotional exhaustion (Van Daalen, Willemsen, Sanders, & van Veldhoven, 2009).

The need for competence is the degree in which individuals feel that their actions are effective and can achieve their goals by interacting with the environment (Deci & Ryan, 2000). Competence concerns the individual's need to feel mastery through effective interaction in the environment. This construct is different from the construct in expectancy value theory and self-efficacy theory. Competence in self-efficacy theory represents the cognitive abilities acquired to achieve specific goals in the future.

The need for competence is the desire of individuals to interact effectively with the environment to carry out activities so as to achieve optimal results that directs them to pursue challenges. In addition, the need for competence is an inborn need that is more general and affective (Van den Broeck, Vansteekieste, De Witte, & Lens, 2008). The need for competence also relates highly to the construct of self-efficacy. The difference is that self-efficacy is individual difference. Self-efficacy focuses on potential tasks, while feelings of competence are experienced after showing their actual abilities. The higher perceived competence will reduce the level of stress and burnout (Acker & Lawrence, 2009).

The need for relatedness refers to the feelings of individuals connected with and valued by others. Relatedness is related to feeling related to others and respected by others. The need for relatedness is satisfied when individuals can communicate, have a close and intimate relationship with others (Baumeister & Leary, 1995). Evidence has also suggested that feelings related to others are related to low stress and burnout. The need for relatedness to others refers to the desire of individuals to feel related to others and feel accepted by people who are relevant in the group or environment. Relatedness concern for human needs is to form and maintain positive interpersonal relationships. The need for relatedness is an important component in intrinsic motivation even though sometimes individuals who are intrinsically motivated tend to be able to work alone.

Research with basic psychological needs variables found that fulfilling all three needs causes less exhaustion and less organizational deviance. Meanwhile, satisfaction with the basic psychological needs causes greater enjoyment of their work, greater autonomous motivation and effort. Needs satisfaction is positively related to well-being (Kasser & Ryan, 1999) and negatively with distress (Van den Broeck et al., 2008). Need satisfaction can increase psychological well-being in various contexts, including education (Milyavskaya & Koestner, 2011). However, some of the results of previous studies found that the need for autonomy, competence, and relatedness is not related to emotional and physical exhaustion (Hodge, Lonsdale, & Ng, 2008; Lonsdale, Hodge, & Rose, 2009; Quested & Duda, 2009).

SDT may provide an explanation for why individuals stay engaged or burnout. SDT believes that the human behavior is voluntary or self-determined. The theory states that human behavior is influenced by three psychological needs, namely the need for autonomy (perceives that he is the source of behavior), the need for competence (feels effective when exhibiting his abilities), and the need for relatedness (feeling accepted by other members in the community). Several studies have confirmed that SDT is used cross-culturally, both in the community individually and in groups (Chirkov, Ryan, Kim, & Kaplan, 2003).

Burnout is defined as three dimensions characterized by emotional exhaustion, depersonalization, and reduced personal accomplishment (Salanova et al., 2010). Emotional exhaustion refers to emotional and physical feelings that result from interaction with other people involved in daily activities.

Depersonalization refers to the development of defiance and negative attitudes towards the people who work with them. Reduced personal accomplishments refer to the feeling of lack of productivity or lack of achievement in personal achievement which causes a lack of confidence in his personal accomplishments.

Meanwhile, engagement was originally defined by Kahn (1990) as the self-benefit of organizational members to portray jobs and express themselves physically, cognitive and emotional during the role at work. Maslach, Schaufeli, and Leiter (2001) then define engagement as a positive and satisfying state of mind related to work and shown by vigorous, dedication, and absorption. Vigorous describes the desire to invest his energy. Dedication refers to high involvement in activities carried out with feelings of enthusiasm, meaning, inspiration, and pride in the task. Absorption occurs when a person is really focused on his activities.

Burnout and engagement are considered as important indicators for psychological health in the workplace (Schaufeli & Taris, 2005). Burnout and engagement are seen as two opposite conditions. This is because both the characteristics of emotional exhaustion burnout is low emotional energy and cynicism is a desire to withdraw and the two characteristics of engagement are vigorous which is high emotional energy and dedication as strong feelings for involvement and enthusiasm at work (Schaufeli & Taris, 2005) contradict each other. Satisfaction with basic psychological needs is positively related to engagement and negatively related to burnout (Trepanier, Fernet, & Austin, 2013). This is due to satisfaction in all three psychological needs can motivate individuals in their duties (*i.e.*, engagement), and vice versa, if these needs are not met, then growth and well-being will diminish (*i.e.*, burnout).

Enhancing students' motivation in the classroom is an important concern for educators. Students who are not motivated to learn, do not have independence in learning, feel incompetent, lack enthusiasm for achievement, apathy, less interested in school activities will have consequences for the low academic achievement (Cheon & Reeve, 2015). Conversely, motivated students are students who are more interested, enthusiastic, involved in learning activities, more enduring difficult tasks, looking for challenges, and bound to campus activities are students who have high academic motivation (Ames, 1992; Pintrich & De Groot, 1990).

Students who are intrinsically motivated are more eager to learn, use learning strategies more effectively, survive challenges faced, and are able to achieve higher achievement than students who are not motivated or extrinsically motivated (Assor, Kaplan, & Roth, 2002; Dweck, Chiu, & Hong, 1995; Gottfried, Flening; & Gottfried, 2001). SDT states that students are more intrinsically motivated if their basic psychological needs are supported. From an educational perspective, SDT states that students' intrinsic motivation and achievement will be supported if their basic psychological needs are supported (Reeve, Bolt, & Cai, 1999; Ryan, Stiller, & Lynch, 1994).

### **Objectives**

Engagement and burnout are usually tested among employees, but recently, research on student starts with focusing on well-being forms (Salanova et al, 2010). This is because, like employees, students engage in structured and compulsory activities such as being part of a class and doing assignments that focus on specific goals such as passing an exam. Therefore, student activities can be seen as work too. Based on previous research on burnout students' engagement and students, this study aims to provide insight into the effects of basic psychological needs that represent a dimension of motivation that can strengthen or frustrate well- being.

In the context of students, there are still few studies conducted on the relationship of the need for autonomy, competence, and relatedness to burnout and engagement. Some researchers have reported positive relationships between students' perceptions of classroom autonomy, competence, and relatedness and students' motivation and academic achievement. Several previous studies have examined the relationship between basic psychological needs and burnout (Hodge et al., 2008). They found a negative relationship between each of the three basic needs and burnout factors. Conversely, individuals who are met with psychological needs will basically feel energized, motivated, and bound to their work or assignments (Sulea et al., 2015). When students experience low level of choice and psychological freedom, do not feel competent, and do not feel associated with others, they will experience dissatisfaction, low energy, feel tired, and tend to show attitude towards others (Vansteenkiste, Neyrinck, Niemiec, Soenens, De Witte, & Van den Broeck, 2007).

This study aims to examine the relationship between study-related basic need satisfaction and academic engagement and burnout among the students in Indonesia, especially in Yogyakarta as a student city in Indonesia. In addition, this study also aims to examine the relationship between three basic psychological needs and three dimensions of academic engagement and three dimensions of academic burnout.

## **Method**

### *Participants*

To examine the relationship of the basic psychological needs as an independent variable with engagement and burnout as the dependent variable, I use students on an undergraduate program on business and economics in Yogyakarta. Yogyakarta is referred to as the miniature of Indonesia, because students and students throughout Indonesia are generally interested in studying in this city. As a student and culture city, students in Yogyakarta are always encouraged by their creativity by upholding local wisdom. This encourages students to always develop achievements and social relations with various parties.

In this study 500 questionnaires were distributed by emphasizing the confidentiality and anonymity. The number of 500 questionnaires was determined based on multivariate criteria (minimum five times the number of questions) or 255 participants and factor analysis criteria (minimum 300 participants) (Hair, Black, Babin, Anderson, & Tatham, 2006). Filling out questionnaires is carried out when the learning process in class is ongoing. A total of 420 questionnaires were returned (overall response rate = 84%). From this number, it turned out that 404 questionnaires were filled in completely and the rest were disposed because they were not filled in completely by participants. Total contained samples 45% (n=182) male and 55% (n=222) female participants.

### *Instruments*

The questionnaire is a measuring instrument used in this study. Questionnaires were taken from several articles from previous research that were translated into Indonesian. Questionnaires of the basic psychological needs were taken from Van den Broeck, Vansteenkiste, De Witte, Soenens,

and Lens (2010). The academic engagement and burnout questionnaire was taken from Schaufeli et al. (2002). Questionnaires that have been translated into Indonesian are translated back into the original language to ensure the accuracy of the translation process.

### *Procedures*

Data collection is done in class before the learning process begins with permission from the lecturer. Before filling out the questionnaire, students were asked to read and check the completeness of the questionnaire. The researcher explains the aims and objectives of the research and guarantees the confidentiality of individual answers. Participants are students who meet the requirements in accordance with the purpose of this study, which is to have studied for four semesters.

Furthermore, testing construct validity using factor analysis with orthogonal techniques and varimax rotation, and extracted according to the theory used. According to Hair et al. (2006), a loading factor above 0.5 indicated practically significant. Reliability testing in this study was used more than 0.6 in Cronbach's Alpha values. After testing the validity and reliability of the questionnaire, a preliminary analysis was conducted. Preliminary analysis is carried out by examining the relationships between variables studied with correlation analysis. The test was continued by multiple linear regression analysis to test the direct effect of the three basic psychological needs on academic engagement and burnout. Relationship testing uses structural equation modeling (SEM) with a two-step approach to test the relationship model between all variables, independent, dependent and mediating variables (Byrne, 2001).

## **Results**

### *Analysis of validity and reliability*

Testing validity and reliability produces several things that are important for further analysis. Record loading factor values between .570 and .703 to construct the need for autonomy, between .619 and .801 to construct the need for competence, between .751 and .802 to construct the need for relatedness, between .526 and .778 for the construct of academic engagement, and between .511 and .859 for the burnout construct. Furthermore, Cronbach's



alpha values as reliability tests are a score of .625 for the need for autonomy, .816 for the need for competence, .784 for the need for relatedness, .909 for academic engagement, and score .869 for burnout construct. Cronbach's were used for this study to be above 0.6. Based on the results of reliability testing, the researchers stated that the reliability of this study was far above the cut-off reliability line recommended by Zikmund, Babin, Carr, and Griffin, (2010). Results of testing the validity and reliability with many items that are valid and reliable questionnaires presented in the Table 1.

Table1. Valid and reliable questionnaires, loading factor, and Cronbach alpha

Questionnaires	The need for autonomy	The need for competence	The need for relatedness	Academic engagement	Academic burnout
The Need for Autonomy1	.610				
The Need for Autonomy2	.570				
The Need for Autonomy3	.651				
The Need for Autonomy4	.703				
The Need for Autonomy5	.585				
The Need for Competence1		.619			
The Need for Competence2		.772			
The Need for Competence3		.748			
The Need for Competence4		.658			
The Need for Competence5		.801			
The Need for Competence6		.756			
The Need for Relatedness1			.763		
The Need for Relatedness2			.763		
The Need for Relatedness3			.802		
The Need for Relatedness4			.751		
Academic Engagement1				.577	
Academic Engagement2				.764	
Academic Engagement3				.671	
Academic Engagement4				.603	
Academic Engagement5				.778	
Academic Engagement6				.620	
Academic Engagement7				.691	
Academic Engagement8				.762	
Academic Engagement9				.680	
Academic Engagement10				.690	
Academic Engagement11				.549	
Academic Engagement12				.526	
Academic Engagement13				.642	
Academic Engagement14				.719	
Academic Engagement15				.649	
Academic Engagement16				.552	

Table 1. Valid and reliable questionnaires, loading factor, and Cronbach alpha - *continued*

Questionnaires	The Need for Autonomy	The Need for Competence	The Need for Relatedness	Academic Engagement	Academic Burnout
Burnout1					.600
Burnout2					.798
Burnout3					.691
Burnout4					.824
Burnout5					.859
Burnout6					.653
Burnout7					.704
Burnout8					.511
Burnout9					.615
Cronbach Alpha ( $\alpha$ )	.625	.816	.784	.909	.869
N of items	5	6	4	16	9

*Preliminary analyzes*

The results of testing the correlation between the variables studied are presented in Table 2. The relationship between the three basic psychological needs and academic engagement was positively significant, and the relationship between the three basic psychological needs and burnout was significantly negative. Meanwhile, the mean and standard deviation of the five variables is moderate.

Table 2. Mean, Standard Deviation, and correlations between research variables

	Mean	SD	$\alpha$	1	2	3	4	5
The need for autonomy (1)	3.52	.54	.625	-				
The need for competence (2)	3.35	.56	.816	.40**	-			
The need for relatedness (3)	3.44	.76	.784	.56**	.10*	-		
Academic engagement (4)	3.30	.55	.909	.43**	.36**	.32**	-	
Burnout (5)	2.37	.59	.869	-.49**	-.37**	-.43**	-.45**	-

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

Because burnout and engagement are multidimensional variables, I also examined the relationship between dimensions in academic engagement and burnout with the three basic psychological needs. This is explained in Table 3. All dimensions in academic engagement and burnout are significantly associated with the three basic psychological needs, except the absorption dimension in academic engagement and the need for relatedness. This is due to the individual's focus on learning activities not so much related to the need to relate to others.

Table 3. Mean, Standard Deviation, and correlations between dimensions of the research variables

	Mean	SD	1	2	3	4	5	6	7	8
The need for autonomy (1)	3.52	.54	-							
The need for competence (2)	3.35	.56	.40**	-						
The need for relatedness (3)	3.44	.76	.56**	.10*	-					
Vigorous (4)	3.23	.58	.41**	.43**	.27**	-				
Dedication (5)	3.60	.69	.46**	.21**	.49**	.64**	-			
Absorption (6)	3.10	.67	.21**	.33**	.03	.59**	.40**	-		
Emotional exhaustion (7)	2.88	.73	-.31**	-.38**	-.09*	-.35**	-.23**	-.21**	-	
Depersonalization (8)	2.33	.70	-.42**	-.28**	-.42**	-.26**	-.48**	-.12**	.50**	-
Reduced personal accomplishment (9)	2.37	.52	-.45**	-.53**	-.47**	-.47**	-.56**	-.32**	.12*	.36**

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

*Analysis of the proposed model*

One of the objectives of this study was to examine the three-dimensional relationship model of basic psychological needs as predictors of burnout and engagement. These three dimensions of basic psychological needs are positively related, but the need for autonomy variable is a variable that is influenced by the need for competence and the need for relatedness. Furthermore, the results of multiple linear regression tests indicate that when these basic psychological needs have a significantly positive effect on academic engagement, although the third influence of these basic psychological needs is very small. This is presented in Table 4.

Table 4. Results of multiple linear regression analysis, academic engagement as dependent variables

Model	Predictors	Parameter estimates					
		B	SE	$\beta$	t	p	R <sup>2</sup>
(1)	Constant	1.211	.183		6.624	.000	.251
	RE	.124	.038	.172	3.234	.001	
	CO	.250	.047	.257	5.339	.000	
	AU	.234	.059	.231	3.978		

Note: Predictors: AU-autonomy, CO-competence, RE-relatedness ; Dependent Variable: EG-academic engagement

In Table 4 it is indicated that the effect of the three basic psychological needs together on academic engagement is only 24.5%, while 75.5% is another variable not examined in this study, but it also influences academic engagement. Of the three basic psychological needs variables, the need for competence is a basic psychological need variable which has the greatest influence on academic engagement. In other words, the greater the fulfillment of the need for competence, the higher the academic engagement. This is due to

the fulfillment of the need for competence has an important role in the way individuals deal with problems and affect the way individuals act (Zakowski, Hall, Klein, & Baum, 2001). The same thing happened in academic burnout, but it was significantly negatively affected by the three basic psychological needs. This is explained in Table 5.

Table 5. Results of multiple linear regression analysis, academic burnout as dependent variables

Model	Predictors	Parameter estimates					$R^2$
		<i>B</i>	<i>SE</i>	$\beta$	<i>t</i>	<i>p</i>	
(1)	Constant	4.911	.188		26.109		.327
	RE	-.213	.040	-.272	-5.389		
	CO	-.259	.048	-.245	-5.381		
	AU	-.264	.061	-.239	-4.354		

Note: Predictors: AU-autonomy, CO-competence, RE-relatedness ; Dependent Variable: BO-burnout

In Table 5 it is indicated that the effect of the three basic psychological needs variables on academic burnout was only 32.1%, while 67.9% academic burnout was influenced by other variables not tested in this study. Of the three basic psychological needs variables, the need for relatedness is the basic psychological needs variable which has the most influence on academic burnout. It can be said that students who are not fulfilled the need for relatedness will experience greater academic burnout. This condition is in accordance with Indonesia, the majority of which still use collectivistic culture. Students in Indonesia feel comfortable when they can relate to their peers, are accepted by their peers, and are respected by their peers. Satisfaction with the need for relatedness can prevent students' burnout. After testing the direct effect of independent variables on the dependent variable, testing the model of the relationship between the tested variables also needs to be done. Testing the model using SEM was done because based on previous research the need for autonomy was met if students have competence and are accepted by their peers (Radel, Pelletier, & Sarrazin, 2013). After testing several models and modifying the model based on the modification index value using SEM, the model that best fits the data for the GFI, AGFI, and CFI criteria is presented in Table 6.

The results of testing the model in Table 6 indicate that the need for autonomy is influenced positively and significantly by the need for competence and relatedness. Academic engagement is directly influenced by the need for autonomy and competence. Meanwhile, the need for competence

and relatedness is covariance. Academic burnout is influenced positively and significantly by the need for autonomy. The need for relatedness does not directly affect academic engagement and academic burnout, but is mediated by the need for autonomy (*see* Figure 1). Table 6 also shows that the model is fit with the data and does not need to be modified. This is indicated by the value of the goodness of fit index (GFI) of 0.984 and the value of the adjusted goodness of fit index (AGFI) of 0.941. The difference between the two of them is only 0.043 and the SEM output which shows no modification index indicates that the model is fit with the data.

Table 6. Testing results of mediating model using SEM

	B	CR
The Need for Relatedness → The Need for Autonomy	0.837**	14.847
The Need for Competence → The Need for Autonomy	0.388**	7.796
The Need for Autonomy → Academic Engagement	0.540**	8.905
The Need for Autonomy → Academic Burnout	-0.712**	- 12.803
The Need for Competence → Academic Engagement	0.177**	3.024
The Need for Relatedness ↔ The Need for Competence	0.124**	2.009

GFI = 0.984  
 AGFI = 0.941  
 CFI = 0.979  
 Chi-square = 16.058 df = 4  
 RMR = 0.005  
 RMSEA = 0.086

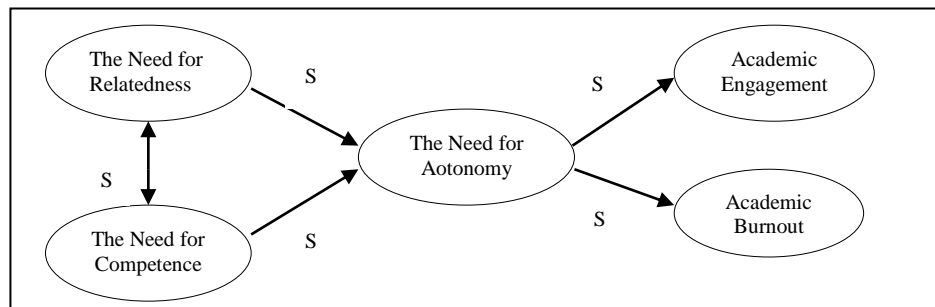


Figure 1. Relationship model among research variables

### *Discussion*

The present study examines whether basic psychological needs are associated with two types of study-related well-being, namely academic engagement and burnout. The need for autonomy is negatively related to academic burnout because the lack of pleasure and psychological freedom when an individual performs an activity will cause an individual to run out of external resources (emotional exhaustion). In addition, the absence of psychological freedom in making choices and decisions also makes individuals feel unsure of achieving high performance (reduced personal accomplishments) and the tendency to be negative about work and others (depersonalization). In the context of studies, the need for autonomy represents the desire of students to organize themselves and their behavior and experience the freedom and psychological choices when learning. Therefore, the need for autonomy is also positively related and influences academic engagement. Lack of autonomy motivation makes individuals experience a variety of negative outcomes such as low performance, lack of desire to try, and the emergence of negative feelings such as burnout (Gagne & Deci, 2005; Reeve, 2009; Ryan, Patrick, Deci, & Williams, 2008). Lack of autonomy is one of the main causes of stress (Spector, Chen, & O'Connell, 2000).

The need for competence is negatively related to burnout especially in the dimension of reduced personal accomplishment. This is because personal accomplishments represent a decrease in feelings of effectiveness and achievement of goals in work. The need for competence refers to the desire of students to interact effectively with the environment by experiencing and engaging in challenges. Therefore, the need for competence is significantly positively related to academic engagement. Furthermore, the need for relatedness is negatively related to burnout, especially in the depersonalization dimension because these dimensions are interpersonal burnout components that imply less responsive to others. The need for relatedness represents the desire of students to feel in touch with their partners and experience amicable relationships.

The results of this study also indicate a positive relationship between the three basic psychological needs with vigorous and dedication. This supports the results of the Vansteenkiste et al. (2007). However, absorption dimensions are not significantly related to the need for relatedness. Absorption dimensions indicate concentration and focus on learning activities. In other words, learning

independence is the main thing in absorption dimension. Therefore, because of the demands for independence, concentration and focus on learning, the need for autonomy and competence are more related than the need for relatedness. This supports the results of the research of Vlachopoulos and Michailidou (2006).

The results of the three psychological needs, the need for autonomy was significant in explaining academic engagement and academic burnout. This supports the results of the research by Klassen et al. (2012) which states that satisfaction with basic needs increases level of engagement and decreases the level of negative emotions such as burnout. The need for relatedness and the need for competence were significant in affecting the need for autonomy. Because the need for competence and relatedness is a covariance, the need for relatedness influences the need for competence in students, or vice versa, the need for competence influences the need for relatedness. The results of this study support the results of previous studies that chose to combine the need for competence and the need for relatedness (Sheldon & Filak, 2008). The influence of the need for competence and related aspects of the need for autonomy also confirms the statement of Jenkins-Gwarniery, Vaughan, and Wright (2015), namely the construct of the need for autonomy is a center to self-determination theory. Fulfillment of the need for autonomy is important for individuals to feel self-determined. The need for autonomy considers the experience of owning and feeling as the initiator of his actions. Fulfillment of competency needs and needs related to others will improve fulfillment of needs for autonomy. Several studies have shown that opportunities feel self-autonomy is important for well-being (Ryan & Deci, 2006; Chirkov & Ryan, 2001).

These suggested findings that when students experience greater satisfaction on their needs for autonomy, they experience greater academic engagement. Conversely, if students experience lesser satisfaction on their needs for autonomy, they experienced greater academic burnout. Previous researchers have found that autonomy given to students will create student-centered atmospheres, encourage student initiatives, and understand students' desires and needs, and try to understand the student's emotional condition. Students who get autonomous support tend to have higher intrinsic motivation, perceived competence, academic engagement, and higher self-esteem in the classroom (Cheon & Reeve, 2015; Guay & Vallerand, 1996). This is what drives the improvement of students' performance.

The need for autonomy is the largest significant contribution to students' academic engagement and burnout. The results of this study differ from those of Babenko, Mosewich, Amber, Abraham, and Lai (2018) who use physician students, where the need for relatedness has the most influence on academic engagement and burnout. This shows that the characteristics of the subjects studied also determine the types of basic psychological needs that affect these individuals. The results of this study support Vansteekieste and Ryan's research (2013) which states that fulfilling the three psychological needs contributes to well-being of people. Conversely, failure to fulfill these psychological needs causes individuals to become ill-being. This is also supported by the results of Deci and Ryan (2011) who stated that fulfillment of basic psychological needs contributes to behavioral engagement because all three needs provide energy and direction, so that individuals will survive the same behavior.

The results of this study revealed a significant and positive relationship between the predictive variables of need for autonomy, competence, and relatedness and the dependent variable of academic engagement both overall and per dimension (*e.g.*, Fernet et al., 2013; Silman, 2014; Sulea et al., 2015; Yu, Chae, & Chung, 2018). The results of this study also explicated a significant and negative relationship between the three basic psychological needs and academic burnout both overall and per dimension (*e.g.*, Aldrup, Klussmann, & Ludtke, 2017; Fernet et al., 2013; Milyavskaya & Koestner, 2011; Sadoughi & Markoubi, 2018; Sulea et al., 2015).

The present study has several strengths and implications. First, the three basic psychological needs can be distinguished from one another, and all three are correlated with academic engagement and academic burnout with different nature of relationships, positive for academic engagement and negative for academic burnout. Second, students who experience satisfaction in their basic psychological needs will invest more time and energy in their academic and non-academic activities on campus thereby reducing burnout.

From a practical perspective, there are some things that are relevant to note. Perceived autonomy is influenced by perceived relatedness and competence. This shows that in academics, students are not confident to work and study alone. Discussion partners and feelings of competence can increase their autonomy so students are more excited and do not experience burnout. In other words, individuals will feel the fulfillment of the need for autonomy only



when they feel competent and have friends to carry out the activities in which they are involved. The interplay between relatedness and competence has many meanings. Perceived relatedness makes students have confidence which makes their perceived competence increase as well. In line with self-enhancement and self-affirmation, individuals will avoid attempts at autonomous behavior if the failure is high.

### **Conclusion**

The results of this study provide additional support that basic psychological needs are also needed for university students. Students who fulfill their three psychological needs experience academic engagement and reduced burnout. Fulfillment of basic psychological needs has been found to be positively related to academic engagement and inversely related to academic burnout, both overall and every dimension of academic engagement and academic burnout.

The results of this study indicate that self-determination theory states that the three basic psychological needs (the need for autonomy, competence, and relatedness) can increase attachment and reduce burnout, not least in the field of education. Basic psychological needs are important for motivation and psychological growth in various fields. The need for autonomy which is the core of self-determination theory requires the support of both external factors and the fulfillment of the need for competence and relatedness so as not to weaken intrinsic motivation.

Some limitations in this study must also be acknowledged. First, the current study relies on students' self-reports to assess needs for autonomy, competence, and relatedness and to assess academic engagement and burnout could lead to the common method of variance. The common method variance could have influenced the results of increasing or decreasing the strength of correlations. The effect of the method can be avoided in future research by using objective rather than subjective assessments. Second, the present study included a heterogeneous convenience sample as well as different organization-specific samples. The results of this study cannot be generalized to all students in student colleges in Indonesia, because our participants are private university only. Future research must use students who study more diverse subjects. Third, the current research relies on cross-sectional correlations which are not

appropriate to test the causal relationship between the variables studied. Future studies can use longitudinal designs to examine these relationships.

### References

- Acker, G. M., & Lawrence, D. (2009). Measuring competence, burnout, and role stress of workers providing mental health services in a managed care era. *Journal of Social Work, 9*(3), 269-283.
- Aldrup, K., Klusmann, U., & Lüdtke, O. (2017) Does basic need satisfaction mediate the link between stress exposure and well-being? A diary study among beginning teachers. *Learning and Instruction, 50*, 21-30.
- Ames, C. (1992). Classrooms: Goals, structure, and students' motivation. *Journal of Educational Psychology, 84*, 261-271.
- Assor, A., Kaplan, H., & Roth, G. (2002). Choice is good, but relevance is excellent: Autonomy-enhancing and suppressing teacher behaviors predicting student engagement in schoolwork. *British Journal of Educational Psychology, 72*, 261-278.
- Baard, P. P., Deci, E. L., & Ryan, R. M. (2004). Intrinsic need satisfaction: A motivational basis of performance and well-being in two work settings. *Journal of Applied Social Psychology, 34*, 2045-2068.
- Babenko, O., Mosewich, A., Abraham, J., & Lai, H. (2018). Contributions of psychological needs, self-compassion, leisure time exercise, and achievement goals to academic engagement and exhaustion in Canadian medical students. *Journal of Education Evaluation Health Professional, 15*(2), 1-7.
- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin, 117*, 497-529.
- Byrne, B. M. (2001). *Structural Equation Modeling with AMOS: Basic Concepts, Applications, and Programming*. New Jersey: Lawrence Erlbaum Associates, Inc.
- Cheon, S. H., & Reeve, J. (2015). A classroom-based intervention to help teachers decrease student's amotivation. *Contemporary Educational 40*(1), 99-111.

- Chirkov, V., & Ryan, R. M. (2001). Parent and teacher autonomy-support in Russian and US adolescents. *Journal of Cross-Cultural Psychology, 32*, 618-635.
- Chirkov, V., Ryan, R. M., Kim, Y., & Kaplan, U. (2003). Differentiating autonomy from individualism and independence: A self-determination theory perspective on internalization of cultural orientation and well-being. *Journal of Personality and Social Psychology, 84*(1), 97-110.
- Cresswell, S. L., & Eklund, R. C. (2005). Motivation and burnout among top amateur rugby players. *Medicine and Science in Sport and Exercise, 37*, 469-477.
- Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuit: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*(4), 227-268.
- Deci, E. L., & Ryan, R. M. (2011). Levels of analysis, regnant causes of behavior and well-being: The role of psychological needs. *Psychological Inquiry, 22*(1), 17-22.
- Deci, E. L., Vallerand R. J., Pelletier, L. G., & Ryan, R. M. (1991). Motivation and education: The self-determination perspective. *Educational Psychologist, 26*(3&4), 325-346.
- Dweck, C. S., Chiu, C. Y., & Hong, Y. Y. (1995). Implicit theories and their role in judgments and reactions: A world from two perspectives. *Psychological Inquiry, 6*, 267-285.
- Fernet, C., Austin, S., Tre'panier, S. G., & Dussault, M. (2013). How do job characteristics contribute to burnout? Exploring the distinct mediating roles of perceived autonomy, competence, and relatedness. *European Journal of Work and Organizational Psychology, 22*(2), 123-137.
- Gagne', M., & Deci, E. L. (2005). Self-determination theory and work motivation. *Journal of Organizational Behavior, 26*, 331-362.
- Gagne', M., Ryan, R. M., & Bargmann, K. (2003). Autonomy support and need satisfaction in the motivation and well-being of gymnasts. *Journal of Applied Sport Psychology, 15*(4), 372-390.
- Gottfried, A. E., Flening, J. S., & Gottfried, A. W. (2001). Continuity of academic intrinsic motivation from childhood through late adolescence: A longitudinal study. *Journal of Educational Psychology, 93*(1), 3-13.

- Grolnick, W. S., & Ryan, R. M. (1989). Parent styles associated with children's self-regulation and competence in school. *Journal of Educational Psychology, 81*(2), 143-154.
- Guay, F., & Vallerand, R. J. (1996). Social context, students motivation, and academic achievement: Toward a process model. *Social Psychology of Education, 1*(3), 211-233.
- Gunnell, K. E., Crocker, P. R. E., Wilson, P. M., Mack, D. E., & Zumbo, B. D. (2013). Psychological need satisfaction and thwarting: A test of Basic Psychological Needs Theory in physical activity context. *Psychology of Sport and Exercise, 14*, 599-607.
- Hackman, R. J., & Oldham, G. R. (1976). Motivation through the design of work: Test of a theory. *Organizational Behavior and Human Performance, 16*, 250-279.
- Hair, J. E., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate Data Analysis*. 6<sup>th</sup> ed. New Jersey: Prentice-Hall International Inc.
- Hodge, K., Lonsdale, C., & Ng, J. Y. Y. (2008). Burnout in elite rugby: Relationship with basic psychological needs fulfillment. *Journal of Sport Sciences, 26*(8), 835-844.
- Jenkins-Gwarnieri, M. A., Vaughan, A. L., & Wright, S. L. (2015). Development of a self-determination measure for college students: Validity evidence for the basic needs satisfaction at college scale. *Measurement and Evaluation in Counseling and Development, 1-9*.
- Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *The Academy of Management Journal, 33*(4), 692-724.
- Kasser, V. G., & Ryan, R. M. (1999). The relation of psychological needs for autonomy and relatedness to health, vitality, well-being and mortality in a nursing home. *Journal of Applied Social Psychology, 29*, 935-954.
- Klassen, R. M., Perry, N. E., & Frenzel, A. C. (2012). Teachers' relatedness with students: An underemphasized component of teachers' basic psychological needs. *Journal of Educational Psychology, 104*(1), 150-165.
- Lonsdale, C., Hodge, K., & Rose, E. (2009). Athlete burnout in elite sport: A self-determination perspective. *Journal of Sport Science, 27*, 785-795.
- Lynch, M. F., Plant, R. W., & Ryan, R. M. (2005). Psychological needs and threat to safety: implications for staff and patient in a psychiatric hospital

- for youth. *Professional Psychology: Research and Practice*, 36(4), 415-425.
- Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology*, 52, 397-422.
- Milyavskaya, M., & Koestner, R. (2011). Psychological needs, motivation, and wellbeing: A test of self-determination theory across multiple domains. *Personality and Individual Differences*, 50, 387-391.
- Morgeson, F. P., & Humphrey, S. E. (2006). The Work Design Questionnaire (WDQ): Developing and validating a comprehensive measure for assessing job design and the nature of work. *Journal of Applied Psychology*, 91(6), 1321-1339.
- Niemiec, C. P., & Ryan, R. M. (2009). Autonomy, competence, and relatedness in the classroom: Applying self-determination theory to educational practice. *Theory and Research in Education*, 7(2), 133-144.
- Pintrich, P. R., & De Groot, E. V. (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal of Educational Psychology*, 82(1), 33-40.
- Quested, E., & Duda, J. L. 2009. Perceptions of the motivational climate, need satisfaction, and indices of well-being and ill-being among hip hop dancers. *Journal of Dance Medicine and Science*, 13(1), 10-19.
- Radel, R., Pelletier, L., & Sarrazin, P. (2013). Restoration processes after need thwarting: When autonomy depends on competence. *Motivation and Emotion*, 37(2), 234-244.
- Reeve, J. (2009). Why teachers adopt a controlling motivating style toward students and how they can become more autonomy supportive. *Educational Psychologist*, 44, 159-178.
- Reeve, J., Bolt, E., & Cai, Y. (1999). Autonomy supportive teachers: How they teach and motivate students. *Journal of Educational Psychology*, 91(3), 537-548.
- Reiss, H. T., Sheldon, K. M., Gable, S. L., Roscoe, J., & Ryan, R. M. (2000). Daily well-being: The role of autonomy, competence, and relatedness. *Personality and Social Psychology Bulletin*, 26, 419-435.
- Ryan, R. M., & Deci, E. L. (2006). Self-Regulation and the Problem of Human Autonomy: Does Psychology Need Choice, Self-Determination, and Will? *Journal of Personality*, 74(6), 1557-1585

- Ryan, R. M., & Deci, E. L. (2000). The darker and brighter sides of human existence: basic psychological needs as a unifying concept. *Psychological Inquiry, 11*, 319-338.
- Ryan, R. M., Patrick, H., Deci, E. L., & Williams, G. C. (2008). Facilitating health behaviour change and its maintenance: Interventions based on self-determination theory. *The European Health Psychologist, 10*, 2-5.
- Ryan, R. M., Stiller, J. D., & Lynch, J. H. (1994). Representations of relationships to teachers, parents, and friends as predictors of academic motivation and self-esteem. *Journal of Early Adolescence, 14*(2), 226-249.
- Sadoughi, M., & Markoubi, A. (2018). The Relationship Between Basic Psychological Needs and Academic Burnout in Medical Students. *Strides in Development in Medical Education*, e60239. doi: 10.5812/sdme.60239.
- Salanova, M., Schaufeli, W. B., Martinez, L., & Bresó, E. (2010). How obstacles and facilitators predict academic performance: The mediating role of study burnout and engagement. *Anxiety, Stress, and Coping, 23*, 53-70.
- Sari, I. (2015). Satisfaction of basic psychological needs and goal orientation in young athletes: A test of basic psychological needs theory. *Kinesiology, 47*(2), 159-168.
- Schaufeli, W. B., & Taris, T. W. (2005). The conceptualization and measurement of burnout: Common ground and worlds apart. *Work and Stress, 19*, 256-262.
- Schaufeli, W. B., Martinez, I. M., Marques-Pinto, A. M., Salanova, M., & Bakker, A. B. (2002). Burnout and engagement in university students: A cross-national study. *Journal of Cross-Cultural Psychology, 33*, 464-481.
- Sheikholeslami, R., & Arab-Moghaddam, N. (2010). Relations of autonomy and adjustment in Iranian college students: a cross-culture study of self-determination theory. *Procedia-Social and Behavioral Sciences, 5*, 1831-1835.
- Sheldon, K. M., & Filak, V. (2008). Manipulating autonomy, competence, and relatedness support in a game-learning context: New evidence that all three need matter. *British Journal of Social Psychology, 47*, 267-283.
- Silman, F. (2014). Work-related basic need satisfaction as a predictor of work engagement among academic staff in Turkey. *South African Journal of Education, 34*(3), 874-878.

- Spector, P. E., Chen, P. Y., & O'Connell, B. J. (2000). A longitudinal study of relations between job stressors and job strains while controlling for prior negative affectivity and strains. *Journal of Applied Psychology, 85*, 211-218.
- Sulea, C., van Beek, I., Sarbescu, P., Virga, D., & Schaufeli, W. B. (2015). Engagement, boredom, and burnout among students: Basic need satisfaction matters more than personality traits. *Learning and Individual Differences, 42*, 132-138.
- Trepanier, S. G., Fernet, C., & Austin, S. (2013). Workplace bullying and psychological health at work: The mediating role of satisfaction of needs for autonomy, competence, and relatedness. *Work & Stress, 27*(2), 123-140.
- Van Daalen, G., Willemsen, T. M., Sanders, K., & van Veldhoven, M. J. P. M. (2009). Emotional exhaustion and mental health problems among employees doing "people work": the impact of job demands, job resources and family-to-work conflict. *International Archives Occupational Environmental Health, 82*, 291-303.
- Van den Broeck, A., Ferris, D. L., Chang, C. H., & Rosen, C. C. (2016). A Review of Self-Determination Theory's Basic Psychological Needs at Work. *Journal of Management, 42*(5), 1195-1229.
- Van den Broeck, A., Vansteenkiste, M., De Witte, H., & Lens, W. (2008). Explaining the relationships between job characteristics, burnout, and engagement: The role of basic psychological need satisfaction. *Work & Stress, 22*(3), 277-294.
- Van den Broeck, A., Vansteenkiste, M., De Witte, H., Soenens, B., & Lens, W. (2010). Capturing autonomy, competence, relatedness at work: Construction and initial validation of the work-related basic need satisfaction scale. *Journal of Occupational and Organizational Psychology, 22*, 981-1002.
- Vansteenkiste, M., & Ryan, R. M. (2013). On psychological growth and vulnerability: Basic psychological need satisfaction and need frustration as a unifying principle. *Journal of Psychotherapy Integration, 23*(3), 263-280.
- Vansteenkiste, M., Lens, W., & Deci, E. L. (2006). Intrinsic versus extrinsic goal content in self-determination theory: Another look at the quality of academy motivation. *Educational Psychologist, 41*(1), 19-31.

- Vansteenkiste, M., Neyrinck, B., Niemiec, C. P., Soenens, B., De Witte, H., & Van den Broeck, A. (2007). On the relations among work value orientations, psychological need satisfaction and job outcomes: A self-determination theory approach. *Journal of Occupational and Organizational Psychology*, 80, 251-277.
- Vansteenkiste, M., Zhou, M., Lens, W., & Soenens, B. (2005). Experiences of autonomy and control among Chinese learners: Vitalizing or immobilizing? *Journal of Educational Psychology*, 97(3), 468-483.
- Vlachopoulos, S. P., & Michailidou, S. (2006). Development and initial validation of a measure of autonomy, competence, and relatedness in Exercise: The basic psychological needs in exercise scale. *Measurement in Physical Education and Exercise Science*, 10(3), 179-201.
- Yu, J. H., Chae, S. J., & Chung, Y. S. (2018). Do basic psychological needs affect student engagement in medical school. *Korean Journal of Medical Education*, 30(3), 237-241.
- Zakowski, S. G., Hall, M. H., Klein, L. C., & Baum, A. (2001). Appraised control, coping, and stress in a community sample: A test of the goodness of fit hypothesis. *Annals of Behavioral Medicine*, 23, 158-165.
- Zikmund, W. G., Babin, B. J., Carr, J. C., & Griffin, M. (2010). *Business Research Methods*, 8th edition. United States: South-Western Cengage Learning.

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