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Perceived Teachers' Meaning Support in Learning and College Student Engagement: The Mediation Role of Basic Psychological Needs Satisfaction

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ABSTRACT

Previous research has shown that support from learning environment relates positively to student engagement. Self-determination theory, a theory of human motivation, asserts that an individual has three innate: (1) basic psychological needs; (2) autonomy, competence, and relatedness; and (3) that student engagement is an outcome of the satisfaction of these basic needs. Teachers, who play an important role as agents in the learning environment, heavily influence student engagement. In the learning process, to engage students, teachers should make learning meaningful. Therefore, this study's hypothesis is that basic psychological needs satisfaction mediates perceived teachers' meaning support in learning and college student engagement. Participants in this study were 736 freshmen from Jakarta State University. The Engagement Learning Index was used to measure college student engagement, Personal Meaning Profile B to measure perceived teachers' meaning support in learning, and the Basic Psychological Needs Satisfaction Scale to collect data of basic psychological needs satisfaction. The PROCESS macro by Hayes for SPSS was used to test the mediation variable. The results indicated that basic psychological needs satisfaction partially mediated the relationship between perceived teachers' meaning support in learning and college students' engagement. The results suggest that teachers should consider supporting students to have meaning in learning to make them intrinsically motivated and promote a quality student engagement.

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INTRODUCTION

Entering college or university generally brings changes to students' lives. New students face challenges and, possibly, stress since campus life greatly differs from high school (Abdullah et al., 2009). Furthermore, according to Directorate General of Higher Education, Ministry of National Education, Indonesia in 2003, campus life offers many interesting activities which many students may not have previously engaged in, and this new situation may confused and stressed them to the point they have difficulty attending to the learning process (Directorate General of Higher Education Ministry of National Education Republic of Indonesia, 2003). First-year college students might find the classroom learning process uninteresting, unmotivating, and/or boring, possibly leading to student disengagement (Christenson et al., 2012). Especially at this early stage, college students may experience changes in their learning needs due to their interests, goals, and need for actualization (Primana, 2015). However, to succeed in higher education, college students should earn good grades and have good self-regulation, focus, and engagement in the learning process. Student engagement is crucial since it influences not only students' success, but also their optimal development, psychological well-being, and, from a more practical perspective, can prevent dropping out of college (Carini et al., 2006; Ferguson et al., 2010; Kuh et al., 2008).

As a psychological investment, student engagement, which means being actively engaged in the learning process, indicates their motivation. Engagement also strongly predicts learning outcomes, achievement of test scores or grades, and graduation (Christenson et al., 2012; Skinner & Pitzer, 2012). Student engagement is often understood as motivation; in college, student motivation can be observed through engagement in learning process (Skinner & Pitzer, 2012). Student motivation energizes students to participate and persist in activities. Furthermore, students who have positive energy or enthusiasm and goals, and enjoy doing assignments engage in classroom activities (Skinner & Pitzer, 2012). On the other hand, students who are sluggish, do not show interest in learning, and do not have learning goals are seen as disengaged from classroom activities.

Student engagement originated through student involvement theory, first proposed by Astin (1984), who defined student involvement as a form of behavioral involvement of the amount of physical and psychological energy used by learners to participate in organizations, interact with the environment and peers, attend activities, and budget enough time for study. As more research into student engagement was conducted, the concept developed into a multi-dimensional construct, including behavioral, emotional, and cognitive engagement (Fredricks et al., 2004; Skinner & Belmont, 1993).

Behavioral engagement is students' observable behavior: attendance and enthusiastic engagement during the learning process and when completing assignments. Engaged students behave with persistent effort, concentration, attention, and questions to broaden their knowledge. Cognitive engagement is the student's learning strategy and effort in the thinking process when they make learning experiences valuable and meaningful by connecting their current learning with prior knowledge, to build new knowledge. Emotional engagement involves students' feelings during the learning process, for instance, bored, interested, happy, and anxious.

In higher education, Schreiner and Louis (2006) used a three-dimensional student engagement concept which are cognitive, behavioral, and affective. In other words, students' positive energy in a meaningful learning process allows them to focus their attention and participate in learning activities. In cognitive engagement, college students perceive their learning process as meaningful if new information relates to previously taught material and is applicable to their personal lives. Behavioral engagement involves active participation indicated by contributions to class discussions or other classroom activities. Affective engagement takes place when students focus their attention and express their curiosity during class (Schreiner & Louis, 2006).

The learning environment is one important factor that can affect students' engagement (Skinner & Pitzer, 2012), which is marked by a dialectical relationship between teachers and students. Interaction patterns from several studies have been shown to assist and encourage increased student engagement (Deci & Ryan, 2000). Student engagement's importance involves how it allows teachers and students to participate and interact actively in the classroom (Turner et al., 2014). However, student engagement quality can be enhanced by linking it to the concept of meaningfulness (Peterson et al., 2005). For one, students who understand reasons for learning activities tend to become more actively engaged in them. Knowing their personal goals, they attempt to create congruence between those goals and their present existence (Reker & Wong, 1988). Student engagement represents efforts to find meaning and value voluntarily so that enjoyment and interest in learning compensate for the energy spent on study (Csikszentmihalyi, 1997). Thus, student engagement refers not just too learning behavior, but also to internal psychological processes, because psychological engagement connects positively to academic achievement, and meaning becomes positively associated with engagement (Nakamura & Csikszentmihalyi, 2003).

Each individual develops a meaning of life, and a personal meaning pattern is the foundation of an individual's philosophy of life, including goals, core values, and a mindset for addressing problems (Wong, 2012). This applies to many aspects of a human being's life, including education. In the learning process, individuals seek

meaning to make learning valuable (Crick & Goldspink, 2014). Wong (2012) collected sources of meaning universally considered important by individuals. Based on results of several studies related to meaning of life, sources included achievement, relationship, religion, self-acceptance, self-transcendence, intimacy, and fair treatment. Since these seem to be universal, presumably, all individuals share them.

Religion generally teaches that human existence must be filled with some meaning and noble purpose (Wong, 2012). "Religion," frequently used interchangeably with "spirituality," can influence an individual's life beliefs, hopes, and goals, in this case, college students and their learning engagement (Turi, 2012). In learning, for example, students should have goals that give them useful, meaningful knowledge to apply in their daily lives (Wigfield & Cambria, 2010), thus focusing on the search for real meaning. Individuals must know what they really want in relationships and whether the relationships are meaningful and important to their lives. In fact, to have meaningful relationships, individuals should have remarkable and extraordinary relationships (Wang et al., 2015; Wong, 2012), which are supposed to connect their actions and their understanding; to do so requires cognitive activity.

In short, positive relationships with teachers facilitate college students' engagement (Zepke & Leach, 2010) and influence their decisions to complete or leave their studies (Wilcox et al., 2005). The dimension of achievement refers to the extent to which students feel supported by their environment, in this case, their teachers, to achieve their goals (Wigfield & Cambria, 2010). The dimension of self-transcendence refers to the role of the teacher in allowing students freedom (Wong, 2012). Another dimension of personal meaning is self-acceptance; this is important in the face of negative events because it could reduce unnecessary frustration, especially in failure due to individual limitations. Intimacy describes more emotional relationships between people, and in the learning context, students perceive the teacher's role in influencing the meaning of their learning. Lastly, fair treatment refers to the teacher's role in treating all students justly, equitably, and professionally (Wong, 2012).

Connecting meaningfulness in the learning process highly contributes to students' sensitivity toward achieving their academic goals (Macdonald et al., 2012). According to Seligman et al., (2009), meaningful purpose can improve the quality of student engagement: students are happy conducting learning activities. Individuals' with positive emotions and knowledge of meaning in their lives perform activities willingly and well. In addition, further positive emotions can result from meaningful learning experiences. In other words, the cycle is positive; not only is life's purpose meaningful, the process of achieving one's goals is also meaningful. Students who have not realized the meaning of learning might give up easily, whereas students who already assume the meaning of learning can regulate themselves to find

alternative methods of problem-solution and persist (Wong, 2012).

A sense of meaning emerges when personal needs are met, and the meaning relates to expectations and goals (Macdonald et al., 2012). Indeed, students who feel that the learning process is meaningful have higher quality of learning, can regulate their learning motivation, and have deeper learning experiences (Greenway, 2006; Schreiner & Louis, 2011; Tagg, 2003). Depth of understanding can help students enjoy the learning process when their perception of meaningfulness relates to their personal interests and values (Biggs & Tang, 2011).

In the classroom setting, finding the teacher's role in supporting students' meaning in the learning process is still rare (Bean, 2005; Greenway, 2006). Since research on the role of teachers' learning meaning support is limited, more empirical data is needed to express student engagement in terms of meaning (Greenway, 2006). Teachers' meaning support in learning can help students develop deeper understanding (Schreiner & Louis, 2006). Thus, teachers' support should be relatively more focused on students' meaningful interests and personal values, and also relevant to everyday experiences (Brophy, 2008).

The student engagement construct has a dialectical relationship with the self as an individual, the internal system, and the external learning environment (Crick, 2012). According to the Self Determination Theory (SDT), human beings universally have three innate basic psychological needs, regardless of gender, culture, or era (Deci & Vansteenkiste, 2004): needs for autonomy, competence, and relatedness. Autonomy refers to self-endorsing behavior and freedom to make choices about one's desires. Competence is the feeling of being capable of achieving success and facing daily challenges. This need can be fulfilled by experiences of effective outcomes and attaining planned goals. Relatedness is the need to build close relationships with others; it can function as emotional security if satisfied by significant others such as teachers (Deci & Ryan, 2000). Satisfaction and/or thwarting of these needs affects individuals' psychological development (Deci & Ryan, 2000). Fulfillment of the three psychological needs leads to positive psychological development, which affects motivation and engagement in learning (Deci & Ryan, 1985; Skinner & Pitzer, 2012) and is essential for psychological growth, integrity, and wellness (Deci & Ryan, 2000). On the contrary, if basic psychological needs are unfulfilled or undermined, psychological development is affected negatively, possibly by low interest in learning and by development of negative outcomes such as compensatory activity or need substitutes, non-self-determined regulatory styles, and rigid behavior (Gunnell et al., 2013).

In the SDT framework, basic psychological needs are an internal system that requires the fulfillment of environmental and interactional needs. In other words, basic psychological needs cannot be satisfied without the support of the environment. In

classroom learning activities, teachers can be one agent of support for students' basic psychological needs satisfaction. When students' needs are satisfied during the learning process, they experience optimal functioning, have meaningful experiences, and build their engagement in learning (Macdonald, et al., 2012; Vansteenkiste et al., 2010). Moreover, students who perceive their teachers providing meaning support in learning and fulfilling their basic psychological needs experience learning as enjoyable, interesting, and worthwhile and thus engage positively in learning activities. Teachers' meaning supports in learning, as it consists of hope and future goals and relates to needs for autonomy, competence, and relatedness, influences student engagement (Macdonald et al., 2012). Based on the explanation above and previous studies on college students' engagement, this study proposed the hypothesis that basic psychological needs satisfaction mediates perceived teachers' meaning support in learning and college students' engagement (Figure 1).

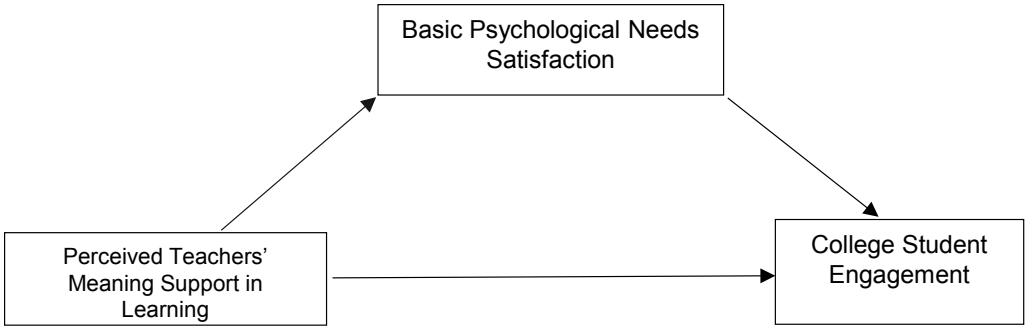


Figure 1. Hypothesized model

MATERIALS AND METHODS

Research Design

This study had been conducted based on the correlational design. According to Creswell (2012), correlational designs are used in order to study relationships between two or more variables. The relationships among perceived teacher's meaning support (predicting variable), basic psychological needs satisfaction (mediator), and college student engagement (outcome variable) were the research variables that were tested via mediation method and evaluated.

Participants

Sample-size determination was based on Krejcie and Morgan's formula (1970), which is a commonly used method. The formula approximately gives a maximum sample size of any defined population with unknown variance. With 95% confidence level and 5% margin of error 385 participants is sufficient to represent the population. Participants in this study were 736 Jakarta State University students enrolled in the Technical Education Department (N = 261), the Department of Education and the non-education Faculty

of Mathematics and Natural Sciences (N = 264), and from the Department of Education and non-education Faculty of Social Sciences (N = 211). Most were female (56.7%), and their average ages ranged from 19–20 years (56.8%).

Instruments

The Engagement Learning Index (ELI), developed by Schreiner and Louis (2011), was used to measure college student engagement. ELI consists of 10 items, with three dimensions: the meaning process (5 items), active participation (2 items), and focus attention (3 items). These scales use six-point Likert-type responses ranging from "Strongly Disagree" to "Strongly Agree" (1–6). Cronbach's alpha coefficient reliability of ELI is 0.72. The following items are examples from each dimension of engagement:

Meaning process: "I can apply what I learned in class to my life."

Active participation: "I actively participate in every classroom's discussion."

Focus attention: "During the course, I connected the material presented in my classroom with prior knowledge."

The Personal Meaning Profile B (PMP-B), developed by Wong (2012), was used to measure perceived teachers' meaning support in learning. PMP-B was chosen because it represents perception of personal meaning (Wong, 2012), and sources of meaning can come from personal growth and achievement (Westerhof et al., 2004). In this study, students' perception of meaningful learning was obtained from how they perceived teachers' meaning support in learning.

The PMP-B has a Cronbach's alpha of 0.92 for coefficient reliability and uses a six-point Likert-type scale ranging from "Strongly Disagree" to "Strongly Agree" (1–6). The PMP-B consists of seven dimensions with three items for each dimension: achievement, relationship, religion, self-transcendence, self-acceptance, intimacy, and fair treatment. The following items are examples from each dimension of the PMP-B:

1. Achievement: "The teacher encouraged me to take action to complete the learning task."
2. Relationship: "My teachers trust that I am able to learn well."
3. Religion: "The teacher supports my understanding that I can have a personal relationship with God."
4. Self-transcendence: "The teacher assures me that learning will help me realize my goals."
5. Self-acceptance: "The teacher taught me to accept my limitations."
6. Intimacy: "The teacher taught me with understanding."
7. Fair treatment: "The teacher treated my classmates and me fairly while we were studying."

The Basic Psychological Needs Scale (BPNS), developed by Deci and Ryan (2000), was used to measure fulfillment of basic psychological needs. The BPNS has a Cronbach's alpha of 0.80 for coefficient reliability. It consists of 21 items and includes three dimensions of

basic psychological needs: for autonomy (7 items), for competence (6 items), and for relatedness (8 items). The scale uses 6-point Likert-type responses ranging from "Strongly Disagree" to "Strongly Agree" (1–6). Examples for each of the three basic needs are:

Need for autonomy: "In learning, I feel free to share my ideas."

Need for competence: "People who know me recognize that I can do well."

Need for relatedness: "My teacher cares about me."

Experts in educational psychology conducted scale adaptation, that is, translation into Indonesian and back-translation to English. From the original authors of the PMP-B and ELI scales, researchers gained permission to adjust the scales to the Indonesian context. All items were provided in Indonesian Language.

Procedures

With permission from the university board, the researcher gathered potential participants in a classroom after classes had ended. Prior to data collection, participants signed an informed consent to join the study. The researcher then provided instructions on how to complete the questionnaire.

Data Analysis

Descriptive statistics and Pearson correlation coefficients were used in data analysis. Hypothesis was analyzed by statistical significance of the mediation effects examined through the software developed by Hayes (2008). The statistical significance of the mediating variable was examined over 10000 bootstrap samples. Significance level in the current research was set as 0.05 and IBM SPSS 22.0 software package was used to analyze the research data.

RESULTS

Table 1 displays descriptive statistics for participant responses and correlation among research variables. The mean score of 4.19 for college student engagement means that most participants agreed that they felt engaged in learning activities. Since they value learning as meaningful, they focused their attention and actively engaged in the learning process.

Table 1

Descriptive statistics and correlation among the variables

No.	Variables	Mean	SD	1	2
1	College student engagement	4.19	0.69		
2	Perceived teachers' meaning support in learning	4.18	0.74	0.53**	
3	Basic psychological needs satisfaction	4.37	0.55	0.45**	0.44**

Data analysis also shows that most college students (M = 4.18) who participated in this study agreed that their teachers supported meaning in the learning process for six dimensions: relationship, religion, self-transcendence, self-acceptance, intimacy, and fair treatment. In other words, participants viewed learning activities as meaningful and as matching their purpose and life goals.

In this study, most participants felt satisfied in their basic psychological needs, including autonomy, competence, and relatedness (M = 4.37). Of the three basic psychological needs, relatedness had the highest mean score (M = 4.72), indicating that students felt their teachers abundantly facilitated their needs for relatedness.

From Table 1, we can see that all research variables correlate positively and significantly. Perceived teachers' meaning support in learning and college student engagement shows the strongest correlation (r = 0.53, p = 0.00). The correlation between basic psychological needs satisfaction and college student engagement had lower correlation as was the correlation between perceived teachers' meaning support in learning and basic psychological needs satisfaction (r = 45; r = 0.44; p <0.00).

The SPSS PROCESS macro design by Preacher and Hayes (2008) was conducted as mediation analysis, and the result shows that basic psychological needs satisfaction partially mediated the relationship between perceived teachers' meaning support in learning and college student engagement (Figure 2).

Based on Figure 2 below, in line with the proposed hypotheses, perceived teachers' meaning support in learning was significantly associated with both college students' engagement (β_c = 0.53, SE = 0.011, p < 0.05) and basic psychological satisfaction (βa = 0.30, SE = 0.022, p < 0.05). Furthermore, when basic psychological needs satisfaction was included in the model, the direct relationship between perceived teachers' meaning support in learning and college student engagement was lessened ($\beta_{c'}$ = 0.15, SE = 0.012, p < 0.05). It means that basic psychological needs satisfaction has a role in mediating perceived teachers' meaning support in learning and college student engagement. Therefore, the proposed research hypothesis was accepted.

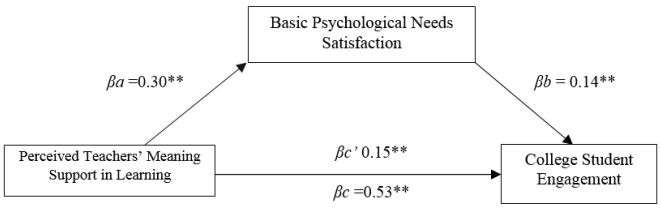


Figure 2. Regression coefficients of basic psychological needs satisfaction as a mediator between perceived teachers' meaning support in learning and college student engagement

This mediational statistical result suggests that the positive relationship of perceived teachers' meaning support in learning and college student engagement is partly caused by basic psychological needs satisfaction. Thus, teachers may promote students' engagement by facilitating their basic psychological needs satisfaction.

DISCUSSION

The research hypothesis that basic psychological needs satisfaction mediates teachers' meaning support in learning and college student engagement, was supported. Decreases of the B value exposed the basic psychological need satisfaction transmit the influence of perceived teachers' meaning support in learning to college students' engagement (MacKinnon et al., 2007). From this study, satisfaction of basic psychological needs partly influenced the relationships between perceived teachers meaning support in learning and students' engagement. It is understandable that in psychological phenomenon there are no such single cause factors (MacKinnon et al., 2007).

This study's finding supported a previous similar study by Schreiner and Louis (2006). In other words, freshmen of Jakarta State University who participated in this study felt engaged in the learning process through satisfaction of basic psychological needs sustained by teachers' meaning support in learning.

Another research finding on the association between basic psychological needs satisfaction and student engagement also supported previous studies that found that basic psychological needs satisfaction promotes learning engagement (Connell & Wellborn, 1991; Deci & Ryan, 2000; Gagnon, 2008; Skinner & Pitzer, 2012). From the SDT framework, in terms of the learning process, the satisfaction of basic psychological needs facilitated by teachers stimulates autonomous learning so that students feel free to choose how they perform their classroom activities (Deci & Ryan, 2000). Feelings of being respected and having opportunities to express their ideas freely and intrinsically motivates students. Teachers' meaning support in the learning variable, consisting of seven dimensions which are achievement, religion, relationship, self-transcendence, self-acceptance, intimacy, and fair treatment may share components with the three basic psychological needs of autonomy, competence, and relatedness. From the SDT perspective, when students learn in an environment that supports their needs and have an autonomy-supportive teacher, they have a greater chance to engage in learning activities, develop inner motivational resources (Reeve & Halusic, 2009), and be more creative and be better adjusted (Núñez & León, 2015). These teacher - student interaction outcomes represent a social relationship that provides students with chances to find meaning (Lambert et al., 2013). It also shows the existence of social support, in this case, perceived teachers' meaning support in learning, which contributes to students' meaning of life (Krause & Coates, 2008). Thus,

that perceived teachers' meaning support in learning has a strong relationship with basic psychological needs satisfaction is understandable.

Strengthening meaning in learning through perception of teachers' meaning support can lead to students' intrinsic motivation. Since meaning is owned universally, but also by every individual, teachers need only to direct or emphasize meaning through learning materials. For example, the method of integrating learning materials with students' source of meaning is especially effective with first-year college students as they still highly depend on their teachers. Dependence of new college students on teachers has also been shown to have a significant relationship with student engagement. This can be explained by Primana (2015), who stated that new students still regarded their teacher as the authority and source of information. Possibly, teachers' role in shaping the meaning of learning with first-level and next-level college students differs.

Further research should consider several things. First, since this study sample involved only first-year college students experiencing the transition from high school to higher education, future research might include higher-level students to investigate similarities and differences. Another suggestion is to analyze overlapping components of teachers' meaning support and basic psychological needs to discover other potential mediating psychological variables—possibly, learning strategies, self-disclosure, and learning anxiety—to provide more information about the relationship between meaning support in learning and student engagement.

CONCLUSIONS

Data analysis shows that the fulfillment of basic psychological needs significantly but partially mediates perceived teacher's meaning support in learning and college student engagement. This finding may contribute to further studies in student engagement, particularly in Indonesia, where the high number of college dropouts needs to be reduced. Research trends in student engagement should focus more on understanding learning approach strategy, so the expected linking of student engagement with perceived teachers' meaning support in learning can provide other alternatives for enhancing the quality of student engagement.

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