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The Influence of Psychological, Physical, and Behavior Aspects towards Student's Stress Learning in Junior High School

ABSTRACT: Stress is a pressure, which happens in students because of learning problems. Students in Junior High School have so much risk and problem in their learning, because of they have unstable emotion and, sometimes, they cannot handle it well. The responsibility of learning activities and obligations at school or home make young adolescents feel upset and stress. Many students in Junior High School did not understand how to manage their stress, because they did not have enough insight and experience. This condition should be negative impacts towards physical and psychological aspects, which can make some affects in their learning outcomes. This article, by using quasi experiment method and using non-equivalent pre-test control group, tries to explore the stress of learning and its relation to a mental or emotional disorder pertaining the knowledge and educational pressure, both psychologically, physically, mind, and behavior towards many demands which connected also with students learning activities. The results in the pre-test cycle, for example, showed the student's learning stress on Junior High School is considerable by emotions, physical, and behavioral aspects. The influence of student's stress on the low category is obtained on the emotional aspect as much as 43%; while in the medium category obtained in the physical aspects as much as 55%; and in the high category obtained on the behavioral aspects as much as 63%.

KEY WORD: Learning Stress; Junior High School Students; Emotion; Physics; Behavior.

INTISARI: "Pengaruh Aspek Psikologis, Fisik, dan Perilaku terhadap Stres Belajar Siswa di Sekolah Menengah Pertama". Stres adalah tekanan, yang terjadi pada siswa karena masalah belajar. Para siswa di SMP (Sekolah Menengah Pertama) beresiko mengalami kesulitan dalam belajar, yang ditandai dengan ketidakstabilan emosi sehingga menimbulkan desakan yang kerap kali sulit untuk dikendalikan. Padatnya aktivitas pembelajaran serta banyaknya kewajiban, baik di sekolah maupun di rumah, membuat siswa remaja rentan mengalami stres belajar. Banyak siswa remaja yang masih duduk di bangku SMP tidak memahami bagaimana cara mengelola stres yang mereka miliki, dikarenakan minimnya pengalaman dan wawasan yang mereka dapat. Hal ini dapat berdampak kepada fisik dan psikologis yang mempengaruhi hasil belajar mereka, sehingga tidak jarang banyak siswa yang mengalami kegagalan dalam belajar. Artikel ini, dengan menggunakan metode kuasi eksperimen dan menggunakan kelompok kontrol pra-tes yang tidak setara, mencoba untuk mengeksplorasi stres pembelajaran dan hubungannya dengan gangguan mental atau emosional yang berkaitan dengan pengetahuan dan tekanan pendidikan, baik secara psikologis, fisik, pikiran, dan perilaku terhadap banyak tuntutan yang terhubung juga dengan aktivitas belajar siswa. Hasil observasi pada siklus pra-tes, misalnya, menunjukkan bahwa stres belajar siswa banyak dipengaruhi oleh aspek emosi sebesar 43%; sedangkan pada kategori sedang didapat pada aspek fisik sebesar 55%; dan pada kategori tinggi didapat pada aspek perilaku sebesar 63%.

KATA KUNCI: Stres Belajar; Siswa Sekolah Menengah Pertama; Emosi; Fisik; Perilaku.

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INTRODUCTION

Learning is one of the activities, which taken by individuals continuously through the life. Learning can be interpreted as a mental activity or psychic, because of there is an interaction between individuals and the environment that make a changes in cognitive, psychomotor, and affective sides (Slavin, 2010). In the learning process, there are many problems that are often faced by the individual, one of them is learning stress. Learning stress is the pressures, which happen in students because of learning problems (Essel & Owusu, 2017).

These pressures relate to learning and school activities, such as deadlines for completing homework; while exams and things that related to learning activities, such as reading, writing, discussion, and others. In this context, S. Djamarah (2011) defines learning stress is an uncomfortable response or feeling; and it is influenced by external situations, which resulting impacts in short and long term effects (Djamarah, 2011). Short-term effects give some impacts of psychological responses, such as anxiety, sadness, fear, and despair; while the physical response of such as abdominal pain, tense shoulder muscles, and headache.

Stress also causes behavioral responses that are shown by trembling, nervousness, and the desire to take an aggressive action to others. The arising of long-term effects of learning stress is deficiencies of immune system, depression, mental exhaustion, and starting to smoke or drink alcohol as way to reduction stress they have (Leonard, 2010).

Stress of learning occurs in many adolescents. According to J.C. Smith (1993), the adolescents between 12-17 years has typical characteristics of stress, such as difficulties in learning, stress in managing time of study, and worried when facing the exams (Smith, 1993). Adolescents, in responding stress, have different ways, some of them have the nature to deal with problems directly and can control himself, while others difficulties in facing various demands that must be faced (*cf* Smith, 1993; and Kuhlenschmidt & Layne, 1999).

Why adolescents are vulnerable to stress? The emergence of stress in adolescents is caused by the lack of life experiences they have, so they feel difficult to find solutions when they face some problems (Bolger & Eckenrode, 1991). From the little bit experience they have, adolescents did not have ability to cope their stress independently (Huff, 2009). This makes adolescents have a lot of desire to vent the problems that are going through.

However, sometimes what they want does not match with the reality. Usually, if their desires are not completely, they are vulnerable to stress which resulting negative behaviors, such as emotional fluctuations, anti-social behavior, conflicts with parents, teachers or with their peer, and feeling stress in learning (Oppenheimer, 2016).

On the Learning Stress and its Relation to Physical, Behavior, Mind, and Psychological Aspects. S.N. Olejnik & J.P. Holschuh (2007) describe learning stress is a response that arises, because of many demands and tasks that must be done by students (Olejnik & Holschuh, 2007). While Dwi N. Ratri (2012) expresses the stress of learning is the feeling of anxiety faced by someone when under pressure. These pressures caused by learning and school activities, such as deadlines for doing homework, following unwelcome subjects, and facing the exam (Ratri, 2012).

Learning stress is a psychological, physical, mind, and behavioral response experienced by a person, because of several sources caused by internal and external factors. In this context, S. Govaerts & J. Gregoire (2004) stated that learning stress is a individuals pressure condition with perception and assessment of the results about the stressors, which associated by learning in school. On the developmental period, adolescents are easily felt stress when study (Govaerts & Gregoire, 2004).

Based on some meaning above, it can be concluded that stress of learning is a mental or emotional disorder related to knowledge and educational pressure, both psychologically, physically, mind, and behavior towards many demands which

connected with students learning activities (Bagdonas, 2003; Maslach & Leiter, 2016; and Essel & Owusu, 2017).

Stress can affect in physical condition, such as hand and feet more sweaty not as usual, increased in heart rate, dry mouth, fatigue, insomnia, headache, nausea, and stomachache (Kolehmainen & Sinha, 2014). Stress can also affect in the appearance of individual behavior. Behavior can be appropriate if it is constructive and good, but behavior can be inappropriate if it is accompanied by anger, anxiety, low self-esteem, aggressive, and destructive (Dobmeier & Moran, 2008).

Stress can lead to various symptoms, such difficult to make decisions, often delaying work or tasks, unfocus, irresponsible, selfish, isolated, smoking, and even consumption illegal drugs (Dobmeier & Moran, 2008; and Agro, 2016). The emotional impact in learning stress, it looks like students have an irritable tendency, unfocus, anxious, frustrated, aggressive, irritable, nervous, and panicked. The further state of the impact of learning stress is the rise of apathy, boredom, lack of enthusiasm, and loss of confidence (Bagdonas, 2003; Sprenger, 2011; Maslach & Leiter, 2016; and Essel & Owusu, 2017).

RESEARCH METHOD

Design and Method of Research. This research using quasi experiment method; and for the design, researcher using non-equivalent pre-test control group, which divided into two groups; and the measurements were performed at once before treatment (Shadish *et al.*, 2002; and White & Sabarwal, 2014). In this research, a group was not randomly selected, but using existing classes as a group with the same predicted classes. Then, both of groups were given a pre-test to measure the indications of students learning stress.

Population and Sample. To collect the data, researcher choose one Junior High School in Bandung, West Java, Indonesia, with the population is all of students in 9th class; and for the respondents who is taken as a sample is 50 students.

Research Instrument. Research instrument used to measure the extent of learning stress experienced by students in cognitive, emotional, behavioral, and physical aspects. Instruments used in the form of preliminary tests (pre-test) by giving the instruction for students to fill out the written questionnaire. It aims to know the early indication of students stress in study (Behling & Law, 2000).

Research Procedure. There are three stages of this research, the first is preparation stage, the second is implementation stage, and the third is final stage. The first preparation for this research is: (1) determine the school to be used for research; (2) make a research permit; (3) contact the Headmaster of Junior High School, which will be the location of research; (4) consultation with the Junior High School teachers; (5) conducting field studies; (6) literature studies; (7) developing research instruments; (8) conducting trials of instruments that have been judgemented by supervisors; and (9) analyzing test results and improving the invalid instruments.

The second step of the research is implementation stage, as follows: (1) determining the research population and sample; (2) determining of the timing of the research; and (3) providing pre-test in the experimental group and control group to know the indication of learning stress experienced by the students before treatment.

The third is final stage included a questionnaire analysis of pre-test statements by calculating the average score.

Data Collection Techniques. Data collection techniques refers to the way what should be done to obtain the necessary data in research. Data collection techniques, in this research, using questionnaire instruments sheet which conducted previously by researcher with the aspects of mind, behavior, physical, and psychological matters. It aims to know the dominant of students stress level so far (Mack *et al.*, 2005).

Data Processing Technique. Data processing technique in this research is

tested by 50 students in experiment class and 25 students in control class. To determine the validity of the item, researcher using the formula of Pearson correlation product moment (Guilford, 1956; and Anastasi & Urbina, 2002), as follows:

$$r_{xy} = \frac{N\sum xy - (\sum x)(\sum y)}{\sqrt{(N\sum x^2 - (\sum x)^2)(N\sum y^2 - (\sum y)^2)}}$$

To know the coefficient validity is significant or insignificant by using t-test formula (Filho *et al.*, 2013), as follows:

$$t_{hitung} = \frac{r_{xy}\sqrt{(n-2)}}{\sqrt{(1-r_{xy}^2)}}$$

Finally, the calculation of instrument reliability in this research by using Alpha Cronbach's formula (Gliem & Gliem, 2003), as follows:

$$r_{11} = \left(\frac{n}{n-1}\right) \left(1 - \frac{\sum \sigma_i^2}{\sigma_t^2}\right)$$

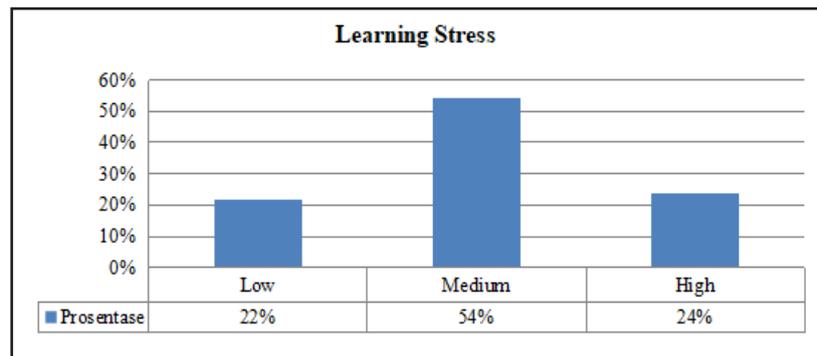
RESULTS AND DISCUSSION

On the Instruments Analysis

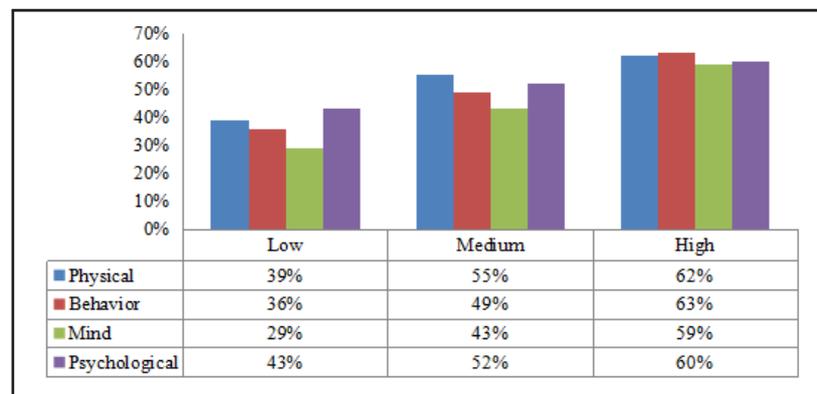
Results. Based on 32 items after validity calculation's tested, 31 items are valid. Because all of the items have a *rx_y* value greater than 1.68, it can be concluded that the 31 items are eligible to serve as research instruments. Meanwhile, one other item is declared invalid because it has a *rx_y* value smaller than 1.68.

Data Analysis Results. Sample in this research consisted of 50 students of Junior High School in class 9th in Bandung, West Java, Indonesia. The graphic 1 illustrates the overall statistical results of pre-test learning stress impacts.

From the graphic 1 result, it shows that student's stress learning overall in the



Graphic 1:
Statistical Results of Pre-Test Learning Stress Impacts



Graphic 2:
The Tabulation and Data Analysis of the Pre-Test Score

medium category with a percentage of 58%. To see how much the influence of student's stress on the physical, mind, behavior, and psychological aspects, researcher makes tabulation and data analysis of the pre-test score, which shown in the graphic 2.

Based on the graphic 2 is known in the low category influenced by psychological aspects; in the medium category is dominated by physical aspects; and in the high category is influenced by behavioral aspects, while for the aspects of the mind (cognitive) in each category tend to be lower than other aspects. From the explanation above shows there are differences in every aspect that affect in student learning stress. Thus, it can be said that the stress of student learning is dominated by psychological, physical, and behavioral aspects (*cf* Bagdonas, 2003; Maslach & Leiter, 2016; and Essel & Owusu, 2017).

Normality Test. Normality test in

Table 1:
Normality of Kolmogrov-Smirnov Test

One Sample Kolmogrov-Smirnov Test			Unstandardized Residual
N			25
Normal Parameters a-b	Mean		84.96
	Std. Deviation		10.137
	Absolute		1
	Positive		1
	Negative		-1.58
Kolmogrov-Smirnov Z			0.943
Asymp. Sig. (2-tailed)			0.851
a. Test distribution is normal			
b. Calculated from data			

Table 2:
The Homogeneity Test by Using the Levine Statistic's Test

Test of Homogeneity of Variances			
Learning Stress			
Levene Statistic	df1	df2	Sig.
2.405	8	11	0.089

this research using Kolmogrov-Smirnov method with the level of significance used as a rule to accept or reject the normality test with the distribution of data $\alpha = 0.05$. If $\text{sign} > 0.05$, it means the data is normally distributed (in Razali & Wah, 2011). Data processing in this research is using SPSS (Statistical Package for the Social Sciences) 19.00 for windows. See table 1.

Homogeneity Test. Homogeneity test was conducted to find out whether the analyzed group had the same variant or not. Homogeneity test is called Test of Homogeneity of Variance (Conover, Johnson & Johnson, 1981). The homogeneity test using is Levine Statistic's test and obtained by the following results, as shown in table 2.

Based on the table 2, it is concluded that learning stress scale on pre-test data from the experimental group and the control group have homogeneous variants, due to Asymp values. Sig. (2-tailed) > 0.05 , which means there is no difference between the experimental group and the control group.

The Influence of Psychological Aspects towards Learning Stress. An unpleasant form of emotion is anxiety.

Anxiety is one of the responses that arise, when individuals are exposed to stressful situations (Gunarsa, 2009). Anxiety is characterized by feelings of worry, discomfort, heart pounding, tension, and fear. These reactions are commonly experienced by students, when they cannot answer the teacher's questions or unable to solve the problems. Anxiety can severe and affect the student's mental, which eventually makes the student pull out from the environments (*cf* Gunarsa, 2009; and Essel & Owusu, 2017).

The Influence of Physical Aspects towards Learning Stress. According to J.C. Smith (1993), stress is a non-specific response of the various demands of the body (Smith, 1993). Physical reactions towards stress are found if the person will response stress through several levels, including:

Firstly, *Responses to the Danger*. This response serves to mobilize the body's resources against stress. At this stage, individu usually take an action or struggle to cope the stress, or even run away from sources of stress (Triandis, Dunnette & Hough, 1998).

Secondly, *Resistance Stage*. The second stage occurs when the stress remains too strong, but it does not make an impact for the person. At this stage, physics does not show many symptoms of stress, but it becomes the physics more weakens and the reactions tend to be vulnerable or susceptible to disease. Health problems associated with stress are called disease adjustments. This type of disease is asthma, skin disorders (acne), and other diseases associated with decreased immune function (McMichael *et al.* eds., 2003).

Thirdly, *Exhaustion Stage*. Continuous stress can consume so much energy. Individuals who are having pro-longed stress can affect the availability of energy so quickly and feel tired to do anything. If not immediately coping, it will arise any disease and physical loss (Maslach & Leiter, 2016).

From the explanations above, the third stage of the physic in responding to stress is called GAS (General Adaptation Syndrome). These steps can be objectively. Every person whose have indication of stress does not have to go through three stages above. It depends on person's mental endurance and his/her ability to confront and defeat the stress (Phelan, 1999; and Crevecoeur, 2016a and 2016b).

The Influence of Behavioral Aspects towards Learning Stress.

Stress can bring sadness (depression). Sadness is a life experience that is unavoidable and experienced by every personal of any age. Person who is overwhelmed by sadness or depression are generally unhappy, desperate, and tend to be passively reluctant to do anything (Hewit & Flett, 1993).

Another sense of stress is anger. Anger may arise from attitude and aggressive action as a response thorough body, so it makes some impacts to individuals who experienced it. Behavior can be good, if the behavior is constructive. This happens if many peoples suffer the same pain or fate, so they can helping and caring each other (Sarafino, 2008).

However, behavior can also be bad when accompanied by anger, anxiety, low

self-esteem, aggressive, and damage; so, it is necessary to develop learning methods to help students managing their stress in learning (Flannes, 2007).

CONCLUSION

The stress of students feeling is dominated by physical, behavior, and psychological aspects. In the low category, students learning stress is more influenced by psychological aspect. This shows that stress give an impact of anxiety that can affects to the learning results. In the medium category, student learning stress is more influenced by physical aspect.

Students or children who feel discomfort in their body that is not caused due to illness is a result of stress responses. This is because stress can affect of the students mentally. In the high category, student learning stress is more influenced by behavior aspect. This suggests that stress can be a threat, where students will behave more aggressively.

The mind aspect is also dominant in the high category. This is due to the emergence of tensions when answering questions, doing exams, or schoolwork too heavy. In addition, stress can disrupt the mind performance of students in doing all the activities, it make students becomes difficult in concentrating.¹

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