



Investigating Memory Loss: How Depression Affects Students' Memory Endurance

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Abstract

Depression is a disorder that affects feelings and thoughts in the form of feelings of continuous sadness and a sense of loss of interest before doing an activity. One of the effects of depression on adolescents is related to their decreased memory ability and sometimes they do not remember the subject matter and even seem to daydream a lot. Depression that affects students' memory endurance is influenced by the amount of pressure they receive during school, at home and even unfinished tasks. This causes a weakening of the memory system, especially short-term memory. The aim of this study was to investigate how depression affects students' memory endurance. The researcher uses a descriptive as a research method with exposure generated by a questionnaire. By generating and analyzing the result, some methods are suggested to help the students improve their memory endurance in learning some materials and lessons at school.

Keywords: memory loss, depression, short term memory, long term memory

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INTRODUCTION

Memories are the mental ability to store and recall sensations, impressions and ideas (Dorland, 2020). The ability of students in the classroom is influenced by their mental strength and memory in remembering lessons and expressing in class in channeling ideas and creations in their minds. Meanwhile, memory also a place where students can remember what events they have experienced so far, as described if memory are the retention and storage of information (Barrett, 2020). Memory is knowledge acquired so that it can be recalled later. changes nerves that play a role in the retention or storage of knowledge known as memory traces (Sherwood, 2013). Students' thinking abilities are based on memory and in memory stored memories that can encourage students to know many things. Students who have good memory skills will be able to express well, while students who have impaired memory skills will tend to be slow in thinking and cause them to be under pressure.

Memory impairments are a condition where the brain has difficulty storing, controlling, and recalling memories. High levels of depression can affect memory performance, decrease memory, and interfere with concentration. Explicit memory and various forms of implicit memory involve (1) short-term memory, which lasts a few seconds to hours, and (2) long-term memory, which stores memories for years and sometimes for life. Working memory is a form of memory short term that keeps information available, usually for a very short time (Barrett, 2016). Short-term memory is needed for language, spatial navigation, problem solving, and many other daily activities (Ricker, 2015). Depression is avoided by students but one of the mental symptoms caused by pressure and other social factors has become a common thing in the school, attacking students quickly and torturing them until their thinking power slows down. As explained by the researchers above that long-term and short-term memory have their respective roles, they will be immediately disturbed when depression strikes.

Depression is a mental and emotional disorder or disorder caused by external and internal factors (KBBI, 2021). Depression is the body's generalized non-specific response to any factor that overcomes, or threatens to overcome, compensatory ability of the body to maintain homeostasis (Sherwood, 2016). The existence of memory disorders that attack students can cause them not to be in a good emotional state when facing pressure, they tend not to be able to present results well and are too anxious about their surroundings such as fear of the surrounding response and short-term memory that suddenly disappears due to depressed thoughts causing blank face. According to the American Psychiatric Association (2014) depression is described as feeling overwhelmed, worried, broken, stressed, exhausted, and lethargic. Therefore, stress can affect people of all ages, genders, races and situations and can lead to physical and psychological health problems such as memory problems.

According to the previous observasion conducted in SMA Negeri 1 Purbolinggo, East Lampung, researchers found there were some students could not remember the lesson well due to pressure they experienced at home which became a depression. This condition then led to students' memory ability. Based on this case, the researchers want to have a deeper investigation about the relationship between students' depression and their memory endurance. Further, the result of this research is also hoped to be able to give some inputs to the students to increase their memory loss in order to remember the materials and lessons at school.

LITERATURE REVIEW

Various previous studies related to the study about depression and students' memory. First previous study in Igor Marchetti's journal in 2018 entitled "Specificity and Overlap of Attention and Memory Biases in Depression" which stated that attention and memory biases are seen as important cognitive processes underlying depressive symptoms. It can be concluded that memory loss or memory bias can cause depressive symptoms, and conversely, memory impairment can be caused by depression itself. The result of the attention and memory bias that is a factor experienced by students experiencing depression is the thinking power that is blown from the environment and the pressure experienced by these students. Meanwhile, cognitive impairment in children is a condition that affects thinking skills in children. Students who have cognitive impairment will have difficulties in memory, learning, and perception.

The second Susanne Schweizer published in 2018 under the titled "Symptoms of Depression in a Large Healthy Population Group associated with Complaints of Subjective Memory and Memory Performance in Negative Context" stated that cognitive and affective changes in depression are due to other changes in memory performance. Again, it is known that cognitive impairment in children is a condition that affects thinking skills in children. Will have difficulties in memory, learning, and perception. Cognitive that makes it difficult for students to express themselves in class, if they experience memory impairment due to pressure. Memory performance affects students' mentality, making students lose the drive to learn and feel that they will experience memory impairment due to pressure. It revealed that memory becomes a place that is filled with knowledge and if it is lost or difficult to remember it will make the student have to struggle to remember it again and children who have been affected by depression will have difficulty remembering memory and it takes a long time.

In another study conducted by Mahmood Yenkimaleki which is talking about "The Effect of Memory Training on Interpretation" stated that memory plays a key role in all types because of the complex task that demands integration different skills. Through imagination, interpreters create mental images of whatever they hear and use it as a memory aid that plays

an important role in remembering an event. Emphasized in this study that memory plays in the human brain to remember a series of things that are in human nature as evidence that they go through events that can be told in the future as knowledge.

Then, Mori in his recent study in 2022 with stated that the risk factors for depression in adolescence were not includes only individual, risk factors, such as capacity for emotional regulation and coping mechanisms, memory impairment, but also contextual factors such as school and relationships with family and friends. In this study, it is explained that depression affects a person's brain performance which can also have an impact on the surrounding environment or society. It was also explained that social capital is an important factor that affects mental health which can be explained that social can be a cause of pressure on students so that thinking skills decrease and cause depression, this affects how students are in a class that will always feel depressed.

The last, (Charleswoth, 2021) stated that cognitive rehabilitation is a type of therapy that involves people with dementia (memory loss) work with the therapist on the specific skills they would like to develop. For example, they can focus on learning a new skill, such as using a cell phone, or reinventing a skill they used to use, such as reading, remembering lessons they have already learned. This approach focuses on what is important to the person and those closest to them. This can help people with dementia to focus on the skills, abilities and knowledge they still have. It can also help with memory and attention.

Explained by the previous studies are the basic of the facts that have been researched first with the solution provided by one of the previous studies. One of the novelties of this research is cognitive rehabilitation, which can help students to remember through the closest people and several therapies that are carried out by the closest people to help them remember what they forgot when affected by mental disorders such as depression. The danger of depression in children affects the mindset both in the long and short term.

RESEARCH METHOD

This research method used qualitative method with case study as its design. According to Sugiyono (2011), qualitative research methods are research methods based on post-positivism philosophy, used to examine the condition of natural objects. The data gained by using questionnaire distributed to the class that was used as the research sample. The number of samples were 39 students from SMA N 1 Purbolinggo, East Lampung, class XI IPS 3. The data were then analyzed by using descriptive analysis to describe the findings about level of students' depression experience.

FINDINGS AND DISCUSSION

The results of the discussion and findings are a questionnaire table distributed by researcherto respondents. Based on the data analyzed, the researcher explained in detail about the items listed in the questionnaire, 15 statement items related to the level of depression experienced by students affecting memory in the learning process. This research was supported by 39 students with different mental and experience levels.

Table 1. Level of depression experienced by students affecting loss memory

No	Items	n	Agree	Percentage	Disagree	Percentage
1	Do you feel you are taking too long to remember?	39	33	84,6 %	6	15,4 %
2	Do you often feel pressured during class activity?	39	35	89,7 %	4	10,3 %
3	When you feel pressured by the class situation then you will find it difficult to remember?	39	36	92,3 %	3	7,7%

4	Do you feel the class's response to you will affect your situation in class?	39	36	92,3 %	2	5,1%
5	Do you find it difficult to remember being under pressure from a teacher or friend?	39	37	92 %	2	5,4%
6	I easily forget material	39	31	79,5 %	6	15,4%
7	I forgot the title of the material the teacher taught	39	28	71,5 %	8	20,5%
8	My memory endurance is weak and I get tired easily	39	35	89,7 %	3	7,7%
9	I sometimes refer to people with formal greetings without mentioning their names because I forget	39	36	92,3 %	2	5,4%
10	I'm under pressure from assignments so can't remember everything	39	37	94,9 %	2	5,4%
11	My memory is easily weakened due to pressure from outside as well as school	39	33	84,6 %	5	12,8%
12	I get sleepy easily and when I wake up, I forget the material situation	39	33	84,6 %	4	10,3%
13	don't remember the material well and easily forget when the lesson is over	39	34	87,2 %	3	7,7%
14	When I'm depressed, anxious and panicked I won't be able to remember anything and tend to think slowly	39	28	64%	11	15,3%
15	When I'm depressed, anxious and panicked I won't be able to remember anything and tend to think slowly	39	32	67,9 %	7	17,8%

In Q1 questions that investigate their mentality, "Do you feel you are taking too long to remember?", it is intended that students can state the condition of their memories, based on the results obtained by Q1 reaching 84.6% which means revealing that students have difficulty in remembering or they feel their memory power is weakening, this of course happens because of several factors, one of which is depression. This is supported by the disclosure of depression can affect and have an impact on short-term and long-term memory abilities. This is proven by research conducted by Kizilbash, Vanderploeg, & Curtiss (2002) that depressive symptoms have a negative effect when retrieving new information so that it can affect individual memory. Memory ability is influenced by the mental state of students, if students are mentally weak and feel depressed, the memory will be disturbed and it hinders their learning process.

In Q2 it was asked about, "Do you often feel pressured during class activity?" Revealed 87.9% of students experience pressure in the classroom. The high pressure experienced by students in the classroom is influenced by several factors, including teachers, classmates, class situations and a sense of being threatened. During the lesson students are very afraid to express themselves because they think that the surroundings will suppress them, it is a bad thought and students who have been affected by symptoms of depression will easily lose their memories if they have experienced pressure from their environment.

Q3 asks, "When you feel pressured by the class situation then you will find it difficult to remember?" Difficulty remembering is not only caused by external but also internal responses. Students find it difficult to remember when they experienced stress in the classroom caused by friends, teachers or other threats. It is better for fellow students to have good communication in order to create a class that supports every activity. This question received a response of 92.3% of students having difficulty remembering when the class situation was not conducive or unstable. (Hadiyanto and Subiyanto, 2003) stated that the

classroom atmosphere is a condition, influence, and stimulation from outside which includes physical, social, and intellectual influences that affect students. According to the expert opinion, it can be concluded that the classroom situation can affect the teaching process of students both physically, physically, mentally and physically.

Q4 is asked, "Do you feel the class's response to you will affect your situation in class?" It was revealed that one of the reasons students felt depressed and depressed was the reaction. Reaction is a form of response to something, if the reaction is positive then the person receiving it will feel happy and if the reaction causes pressure, the student will feel cornered. In the classroom it is the teacher's responsibility to pay attention to their students by using learning strategies. Strategy is a tactic or method that means a number of steps that are engineered in such a way by the teacher to achieve certain goals. Students who feel depressed will tend to lose memory suddenly. Students who feel depressed due to class situations based on the researcher's questionnaire reached 94.9% and this is clear evidence that teachers must pay attention to the class response to their students.

Then in Q5 there is a question, "Do you find it difficult to remember being under pressure from a teacher or friend?" One of the reasons why the researcher asked this question was to prove whether the pressure really affects the students' memory in learning, and based on the results of the questionnaire, this question got 94.9% results where almost all students agreed that the pressure caused by the teacher and classmates can affect their memory processes and state in the classroom. (Tannous, 2011) mentioned that the factors that cause depression in children based on the perception of researchers include pressures experienced every day, family conflicts, teachers, environment and classmates. Factors that weaken the mentality of students at school that can affect their memory, two of which are teachers and classmates, when classmates give bad influence or treatment, the student will feel pressured, then the teacher, when the teacher teaches hard it will make them do not grow mentally healthy but do the work due to the impulse of fear. The memory of students who have collapsed due to the conditions faced at school cannot be healed only with the motivation of the teacher, but the teacher must act wisely. This session is a form of students' feelings about what they feel by using the answer choices provided by the researcher. Broadly speaking, this statement will reveal the causes and effects of decreased endurance after they experience depression.

The sixth question, "I easily forget material," received a response approval from students of 79.5% who stated that they easily forget the material. Then 15.4% did not experience memory difficulties and did not experience depression. (Beck, 2014) mentioned that depression is a psychological disorder characterized by deviations in feelings, cognitive, and individual behavior. Individuals who experience depression can feel sadness, loneliness, decreased self-concept, and show withdrawal behavior from their environment. Students who are under depression will easily forget many things suddenly and they become confused or slow in processing memories.

The seventh statement, "I forgot the title of the material the teacher taught," Students find it difficult to remember what the teacher explained in front of the class due to several factors. Symptoms that indicate learning difficulties can be observed in various forms. It can appear in the form of deviant behavior or decreased learning outcomes. Deviant behavior also appears in various forms, such as: likes to shout in class, likes to annoy friends, has difficulty paying attention, is often pensive, hyperactive, often plays truant to make other students feel disturbed and finally students who experience a decreased mental condition can think slowly. as a result of these things. From everyday experience, students have the impression as if what they experience and learn is not entirely stored in our minds. According to any cognitive theory that we experience and learn if our reason system processes it in an adequate way, everything will be stored in our permanent reason subsystem. The best way to reduce

forgetting is to improve students' memory. There are many kinds of tips that students can try to improve their memory; one of them is by using mnemonic device. According to (Barlow and Reber, 1988) mnemonic device (memory trick) means special tips that are used as mental "hook tools" to enter information items into the system. students' minds and the serial position effect students are encouraged to compile a list of words (names, terms and so on) that begin and end with words that must be remembered. The words that the student must remember should be written using bold letters and colors so that they appear very different from the other words that do not need to be memorized. Thus, the words written at the beginning and end of the list give a distinct impression and are expected to be closely embedded in the permanent subsystem of students' reasoning. This statement received support for 71.8% who experienced the same thing, then 20.5% did not experience the same thing.

The eighth statement, "My memory endurance is weak and I get tired easily," of students who experienced weakness of memory endurance and tired easily reached 89.7% while 7.7% did not experience interference. The magnitude of the number obtained by the researcher can be explained that memory impairment for students or decreased student memory can make students tired easily. They don't want to remember heavy things and tend to feel empty in every lesson. Students who experience decreased endurance in memory will find it difficult to operate their study plans due to the fatigue they experience. (Beck, 2009) defined fatigue based on the level of state, namely the body, the memory system in the nervous and mental human beings. It can be concluded from the expert's statement that the nerves in the head contain all human memory and if disturbed due to physical and mental fatigue, the memory will be weakened.

The ninth statement, "I sometimes refer to people with formal greetings without mentioning their names because I forget." This statement received support from students of 92.3% who stated that they experienced the same thing and 5.1% did not. When students feel they don't remember people's names for a while because they haven't seen each other often, they can be sure that they only have problems with their short-term memory, students can only remember faces but not the person's name. Short-term memory has a very small capacity, but plays a very large role in the memory process, which is the place where we process stimuli that come from our environment. The small information storage capability corresponds to the limited processing capacity. Short-term memory functions as transitory storage that can store very limited information and transform and use that information in generating a response to a stimulus (Dalzeil, 2018). To heal the process of forgetting due to impaired short-term memory processes due to depression, you can practice remembering or writing words that might help them remember.

The tenth statement, "I'm under pressure from assignments so can't remember everything," Students are under so much work pressure that they are stressed and depressed at the same time, this pressure is experienced by almost 94.9% of students in the class. They feel that the task will never end and they are confused about where to start. If students already feel pressured due to their assignments, they not only lose memory skills but other negative thoughts appear. Depression is a very serious mental illness in the world. The negative impacts that arise due to depression such as difficulty concentrating, limited social interaction, memory impairment, impaired adjustment and even the emergence of the risk of suicide, make this problem need serious handling (Nevid, 2018). The lack of policies implemented by schools can endanger students' lives if students are under pressure. The expert explained that depression can interfere with memory endurance and it is true that mental damage affects memory performance in brain sensors.

The cause of the paralyzed memory of students in class is not only influenced by internal school and pressure in the classroom, but also external factors, in the eleventh statement, namely, "My memory is easily weakened due to pressure from outside as well as school," getting support of 84.6% of students experienced the same thing and 12.8% of students did not. Mental health is an important thing that must be considered as physical health. It is known that the condition of mental and physical health stability affects each other (Cahyanti, 2016). The family is the smallest group in society, and is a historical chain of life in the course of human life. Or in other words, the family is the smallest social unit in society, but has a great influence. The weakening of students' resilience due to the pressure factors they experience is caused by family factors, their less harmonious families can suppress students and make these students depressed and affect their memory performance.

Depression also affects the state of the student's immune system, those who suffer from depression will tire easily, this is stated by the twelfth statement, namely, "I get sleepy easily and when I wake up, I forget the material situation". (Beck, 2014) revealed that the physical symptoms of depression include loss of appetite, memory retention and sleep disturbances. The decreased student body due to symptoms of depression and mental stress resulted in them only sleeping, in this statement supported by 84.6% of students experiencing the same thing, they easily fall asleep in class, feel tired and when they wake up, they forget what happened before. 10, 3% did not experience it. One of the challenges students' faces is when they do not remember the material, they have just learned due to falling asleep, but cannot be blamed for being mentally weak due to the pressure they experience.

The thirteenth statement, "I don't remember the material well and easily forget when the lesson is over," received support from 87.2% who had difficulty remembering or forgetting the lesson when it was over. Memory is actually inseparable from the nervous system in the human brain. The human brain has one trillion brain cells with 100 billion active cells or neurons and another 900 billion cells as "glues", nourishing and enveloping active cells. Each of these active neurons or cells is capable of developing between 2,000 and 20,000 branches (dendrites) which are very similar to the branches of a tree. Each dendrite stores information, and receives input from other cells (Dryden and Vos, 2013). Thus, the brain has tremendous power in receiving and processing information so that it can produce creative ideas. Meanwhile (Brachel, 2019) states that depression can undermine the workings of memory only with pressure. It would be unfortunate if students just forgot the lessons they got after the lesson was over, in addition to the pressure, they also hoped that the teacher could play a good role in overcoming the memory problems they were experiencing.

The fourteenth statement, "When I'm depressed, anxious and panicked I won't be able to remember anything and tend to think slowly," Obtained support for 83.5% of those who experience depression and panic when they have difficulty remembering much thing and think slowly. (Adwas, 2019), mentioned that anxiety is a response to certain threatening situations and is a normal thing that occurs accompanied by development, change, new experiences, as well as in finding one's identity and life. Students can remember well because they have supportive surroundings and a stable mental state, while students who have symptoms of depression to panic, they will easily lose memory and feel depressed in certain situations. (Beck, 2009) stated that depression is a psychological disorder characterized by deviations in feelings, cognitive, and individual behavior. Individuals who experience depression can feel sadness, memory disturbances, loneliness, decreased self-concept, and show withdrawal behavior from their environment. Panic attack or panic attack is a health problem that occurs in society. Panic attacks occur by chance and are not expected. During a panic attack, you will have constant fear and worry that will stay within you. Thalita (2021) revealed that the many causes of students experiencing depression which results in memory

disorders, it is necessary that some of the closest people to students help the development of students' memories.

The fifteenth statement, "I feel very lacking in remembering when I have a mental disorder," was supported by up to 75.2% of students with mental disorders. They feel less in terms of learning when experiencing mental disorders, some of them have difficulty thinking, slow to think and lack confidence to convey their wishes. People with depression are more likely to have difficulty distinguishing similar memories. Many experts argue that depression can cause a number of problems, such as lack of sleep, to peaking stress levels (Kompas, 2018). Depression has a big impact on students who experience not only a decrease in body condition but also the endurance of thinking and remembering. The study entitled "Depression in Adolescents" written by Soetjningsih in 2011 explain that depression has three main symptoms, namely feelings of depression (can be conveyed verbally or gestures, emotional color and facial expressions), difficulty thinking (visible from long periods of time). used to respond, speak a little or direct the patient's expression related to concentration difficulties) and the third is psychomotor slowness (shown by physically being easily tired, weak, unenthusiastic, and indecisive).

The results of the questionnaire data above illustrate how students associate their mental problems with decreased memory. These data are supported by 39 respondents and filled with different options that students choose. According to (Bruno, 1988) memory cognitive aspects are needed in human growth and development, one of the most important is memory. This is important because human life cannot be separated from the learning process, but this cannot take place without its memory. Memory is the ability to store, retain, and recall information from past experiences then in the human brain. Jean Piaget's theory of cognitive development or Piaget's theory shows that intelligence changes as children grow. Cognitive development of a child is not only about acquiring knowledge, children must also develop or build mental. Therefore, to improve the memory of students who are disturbed due to depression, important role holders such as parents and teachers must provide guidance and assistance to recall what they have learned.

The study of psycholinguistics examines that long and short-term memory can be taken seriously if it provides psychological intervention, parents and also a positive environment. Students can be said to be depressed if their physical activity decreases, thinks very slowly and is followed by mood swings. A person who is depressed has negative thoughts about himself, the future and his world, thoughts are no longer in accordance with reality, cannot judge reality and cannot be understood by others. The brain can be divided into left brain and right brain. The function of the left brain is related to logic, numbers, writing, intelligence, calculation, analysis, and to short-term memory (short term memory). While our right brain is used for creativity, imagination, music, colors, shapes, emotions and for long term memory. Memories will last longer if you remember using the right brain. To be able to remember well, it is necessary to train the brain to function optimally. Unfortunately, more people use the left brain in the process of remembering. Most people's left brain is more developed without being matched by the development of the right brain. Because the left brain is a short-term memory, the information stored in the left brain will be easier to forget. Therefore, if you want to store in the right brain, information must be converted into stories or pictures. Because the right brain does not recognize text or numbers. Exercise is needed in order to develop the right brain. There are several techniques that can be done.

The methods of remembering described above are only a few examples of remembering techniques that can be used, because there are other methods. This method of remembering will encourage students to be creative in creating short stories, imagining and

imagining them. Students' imaginations will be honed when students add colors to the shadows of the story, add motion, smells or other things so that your imagination is more interesting. If you can, make it a funny story or a story that doesn't make sense. This will help to memorize the information. Students can also try to teach it to children. Thus, memorizing can be a fun activity for them. This will also be a good exercise for the right brain that can stimulate creativity and optimize the child's brain. If students have tried to remember with these methods, storing information in your right brain, the information will not be quickly forgotten and help optimize the brain and help students' memory. And also providing socialization about mental health to students is also needed so that students can find out more about the effects, symptoms and solutions if they are exposed to the same thing.

CONCLUSION

Based on the statements and analysis data reviewed by the researcher and 39 students participating in the researcher's questionnaire, it can be seen from the results of the table in the discovery and discussion section that it is clear how depression has a negative impact on students' memory in the learning process and others, this is certainly a bad spotlight on the world. If education does not stabilize and pay attention to the mental health of students in these institutions, depression is not a mental illness that can be underestimated because of its impact not only on damaged memory but also students' attitudes that can take other negative actions. On average, students have problems with their short-term memory, namely they can't remember what material they got a few hours ago then they also have long-term memory disorders or forget things they should remember for the rest of their lives, this is traumatic for them. For students who experience it, the role of psychology is needed to help students rise and provide therapy to recall things they forgot. Besides, to improve the memory of students who are disturbed due to depression, important role holders such as parents and teachers must provide guidance and assistance to recall what they have learned.

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