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Mindfulness Relationship with People's Performance on Academic Problems

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Abstract: In this research, the subjects are going to be people who were asked to take an online survey. They were given academic problems to test if thinking mindfully could help someone to perform better than average while dealing with academic problems. For other researches that are about mindfulness, many other important fields were tested such as law fields and designing fields. This research is going to test people on their performance on academic problems, something that was not previously done in other research. After the research, the results showed that people who were given "try" did a little better than those who were given "do". However, those results are only based on a small scale of people and need further research to make the result more believable.

1. Introduction

The concept of Mindfulness, first proposed by Dr. Ellen Langer, is an educational psychology idea that was defined as "the quality or state of being conscious or aware of something". According to this concept, people should be mindful all the time even when they are doing something that they are already familiar with since it will boost their efficiency and increase their ability. Today, the research is going to focus on how adapting mindfulness could help a person when it comes to different academic problems. An experiment will be performed on a group of people and they are going to be divided into two different groups. The first group will be asked to adapt mindfulness when solving the problem and the other group, the control group, will not be given information related to mindfulness. The overall essay will first introduce how the survey was designed and how the questions were picked to get the best results. Then it will go through the procedure of the overall research, introducing when and how the survey was given to different people and how they were asked to do it. In the end, the results from the survey will be analysed and a conclusion will be drawn as the products of this research. Future possibilities on this topic and small defects of this research will also be analysed to make sure that the results are most useful to the public.

1.1. Research Backgroud

During the past few years, many pieces of research had been done to validate this concept by applying it to different fields of study. It will be beneficial to first analyze and summarize the previous results from the earlier studies before starting a new experiment.

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1.1.1. Practicing mindfulness to improve lawyer's decision-making, ethics, and leadership[1]:

In the paper, the author researched how mindfulness possibly improves a lawyer's ability in three different areas. The researchers went through previous research that was done which shows that adapting mindfulness could reduce one's stress and expand them into the lawyer's field. In the end, they were able to summarize his finding that practicing mindfulness could improve a lawyer's decision making, improve a lawyer's ethics, and improve a lawyer's leadership. Other than that, the author also gave his personal experience and opinion after practicing mindfulness with other law students.

1.1.2. Mindfulness as an Approach to Inclusive Design[2]:

Inclusive Design is a kind of design that aims to reduce social barriers by focusing on the needs of a specific group of people. During the design process, many misinterpretations and unintended exclusion often happens but according to many pieces of research, Mindfulness strategies can help to reduce the impacts of those biases and better support the idea of Inclusive Design. The author of this article then decided to conduct research that aims to find if the statements are true or not. The author decided to use the Implicit Association Test(IAT), which is based on the associations between people's physical activity and implicit performance. The author recruited ten test participants to participate in the study and they are all from the Masters in Inclusive Design program at OCAD University. After the research, the author was able to draw a larger connection between Inclusive Design and Mindfulness and he believed that "Creating new categories" and "making novel distinctions" could be very useful for the students who are currently studying about Inclusive Design. In the conclusion, the author sums that he believes that his study could prove the possible benefits of practicing mindfulness for Inclusive Design since the two concepts are similar to each other and the idea of being less biased could help a lot when the designers were facing people from different backgrounds and experiences.

1.1.3. The relation between mindfulness and academic achievement in high school students3:

From the previous experiments and researches of how mindfulness could affect one's learning ability, the author of this paper decided to test this theory on high school students on different assessments and then compares the result to get the effects. The author tested a hundred eight high school sophomores of a Chicago high school and different scales and the student's GPA to measure the results. The students were asked to do the test through Google Forms by filling out five different questionnaires. At the end of the paper, the author concludes the results that he got from the questionnaires and claimed that practicing mindfulness could improve the student's ability to control their attention but failed to help their emotion regulation or cognitive flexibility.

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1.1.4. Practicing Mindfulness and Mindlessness to improve visual acuity[4]

In this research, the researchers studied how adapting mindfulness could improve a person's vision. The researchers performed three studies to confirm their hypothesis. In the first study, the researchers told the participants that "pilots have great vision" and separate the participants into two groups. They were able to find out that participants who were told that practice could improve their vision eventually perform better than the other group while playing a realistic flight simulator. In Study 2, the participants were told that "athletes have better vision than normal people" and they were also able to see a positive result while the participants were asked to do jumping jacks. In the last study, the researchers used the traditional eye chart and instead started by showing them the first few lines. The participants were given revered or shifted eye charts and performed better than the normal performances.

1.1.5. Mindfulness in Moments of Crisis[5]

In this research, the researchers try to investigate how practicing mindfulness could help a person in an intense situation. The author summarized mindfulness as being "fully aware in the present moment" and was able to find out that practicing mindfulness could be very helpful for people in dangerous situations.

1.1.6. Mindfulness mind set's relationship with a person's health and exercise[6]

In the study, the researchers conducted an experiment and tried to find out if practicing mindfulness could help one to exercise better and maintain a better health condition. In the experiment, 84 hotel room attendants were separated into two groups and to clean hotel rooms as usual. One group of the room attendants were told that cleaning the room is good exercise and will benefit their health while the other group were not given such information. In the end, the researchers find out that although they were doing the same thing, the participants that were given extra information reported that their health is better.

1.1.7. Mindfulness and Meditation in Education[7]

In this journal, the author discussed how practicing mindfulness could benefit teachers as many of them are very stressful in their daily works and failed to find a way to relieve such stress. The author believes that practicing mindfulness, to become more aware of the current situation, will help teachers to manage their stress as they start to view them differently.

[4] Langer, Ellen, et al. "Believing Is Seeing." *Psychological Science*, vol. 21, no. 5, 2010, pp. 661–666., doi:10.1177/0956797610366543.

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1.1.8. Mindfulness as a solution for college student's mindless eating[8]

In this research, the authors focused on how practicing mindfulness could help students to eat more "mindfully" and help them to release a certain amount of stress. The researchers conducted a research that separated participants into two different groups with one of them practicing mindfulness and the other not. In the end, the authors concluded that practicing mindfulness could reduce the number of poor eating and could benefit students in many different ways.

1.1.9. Mindfulness as a way to improve a person's self-acknowledgment[9]

In this research, the author seeks to find out if practicing mindfulness could improve self-acknowledgement. The article shows that mindfulness could address two self-acknowledgment barriers including the information barrier and motivational barrier.

1.1.10. Mindfulness's effect for consumer, sociality, and environment[10]

In this research, the author investigated how mindfulness could affect consumer's actions in society and how over consumption can be limited by practicing mindfulness. The author concluded that mindfulness is transformative for consumers and policy maker's action and believes that it should be introduced to the public.

From the previous research that was conducted on how mindfulness could affect a person's different ability, it is not hard to find out that most of them have ended up with a positive result. In many of the researches, the authors were confident that adapting mindfulness is going to benefit the person when it comes to the specific field of research. From the experiments that were done, many of the researchers decided to design the experiment by separating the participants into two different groups with one of them adapting mindfulness and the other not. This research learned from this past experience and it has been proved as a successful experiment method when it comes to mindfulness experiments.

2. Research Procedure

2.1. Question Types

Usually, people ask others to do something starting with "try", which is a common habit around the globe. There are also times that people simply ask others to "Do" something. The survey is going to figure out which way of asking will more often produce a more positive result from others. There are many other possibilities that could be tested but obviously those two should be the most commonly used ways of asking. After that, it is important to determine what are the types of questions that are going to be included in the survey since different types of questions in fact represent a different set of skills of a person. The length of the survey should also be wisely controlled because it will obviously affect the quality of the test subject's responses. After reading many articles that include

[8] Bahl, Shalini, et al. "Mindfulness: A Long-Term Solution for Mindless Eating by College Students." *Journal of Public Policy & Marketing*, vol. 32, no. 2, 2013, pp. 173–184. *JSTOR*, www.jstor.org/stable/43305781. Accessed 28 Mar. 2021.

[9] Carlson, Erika N. "Overcoming the Barriers to Self-Knowledge: Mindfulness as a Path to Seeing Yourself as You Really Are." *Perspectives on Psychological Science*, vol. 8, no. 2, 2013, pp. 173–186. *JSTOR*, www.jstor.org/stable/44281869. Accessed 28 Mar. 2021.

[10] Bahl, Shalini, et al. "Mindfulness: Its Transformative Potential for Consumer, Societal, and Environmental Well-Being." *Journal of Public Policy & Marketing*, vol. 35, no. 2, 2016, pp. 198–210. *JSTOR*, www.jstor.org/stable/44164852. Accessed 28 Mar. 2021.

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different ways of testing a certain set of skills of a person. These tests include LMS 14 which asks the test subjects about their opinions on certain activities and rate them on a scale, PANAS(Positive and Negative Affect Schedule) which asks the test subject to describe their emotions or feelings at the moment. However, the final focus of the survey is going to be the LSAT logical reasoning problems, which are questions that aim to test the subject's academic reasoning skills. LSAT questions were finally chosen because first of all, they are multiple-choice questions so it does not take that much time to finish. Other than that, the results of those answers are much easier to analyze because a data table could simply be made to represent the differences. After those preparations, there has to be a hypothesis of the final result, an expectation that people who were asked to simply "Do the test" will outperform the people who were asked to "Try to do the test" was placed.

2.2. Research Design

In order to figure out the answer for the question and test the hypothesis that was placed before the experiment, a survey could be useful since it collects results from different people by giving them certain problems to solve. Due to the special circumstance and situation right now and the difficulties of actually asking people in-person to finish different problems, an online survey will be suitable. The survey starts by asking the age of the test subject and whether they agree to take this survey or not. After those steps, the survey will present a page of consent which in fact describes something different that the research is actually focusing on. It actually informs the subjects that they are taking a survey researching how cognitive style affects performance and many information that made the subjects believe the credibility of this survey. However, none of the information that they received at the moment is actually correct about the survey since the main goal is to subtly affect their behaviors instead of showing all of the information at the start. At the end of the consent, the survey asks if the subjects want to continue to survey. If the test subject refused to take the survey after they learned about details about the survey, the survey will automatically lead them to a page that basically logs them out from the survey. After that, the survey will lead the subject into a page which it will randomly give them the instruction of "try to do the test" or "do the test". This is basically the key part of the research and in order to emphasize its importance, the subject has to retype the instructions again after reading it. High-level LSAT questions were chosen as the problems that the subjects have to solve. Because the survey was meant to Chinese people, the translation of those problems are very important since misunderstandings could lead to possible errors in the final results. For the translation, it first has to suit the original meaning of the LSAT questions. Secondly, it is important to frame the sentence in a way that is similar to the original English version of the test since changing the sentence structure might cause difficulties for the test subjects to understand. Last of all, the wording in the translated text should be at the same level as the original text. It is important to make sure that daily languages are not overused when trying to translate an academic text. At the end, four questions were translated and put into the survey with all of them being multiple choice questions considering the fact that they are usually the ones that took less time to answer and easier when analyzing the results. The questions themselves were quite straightforward and did not need any professional background knowledge to understand. After the subjects had taken all the problems, they will be led to a debrief page which explains the actual goal of the study, which is about how Mindfulness could possibly affect people's performance on academic problems. The debrief page will also provide the subjects a way to further contact with the researchers in the future. 13 people were asked to take part in the survey with 6 of them being given the instruction of "Do the test" and 7 of them given the instruction of "Try to do the test" with a graph made to present the results.

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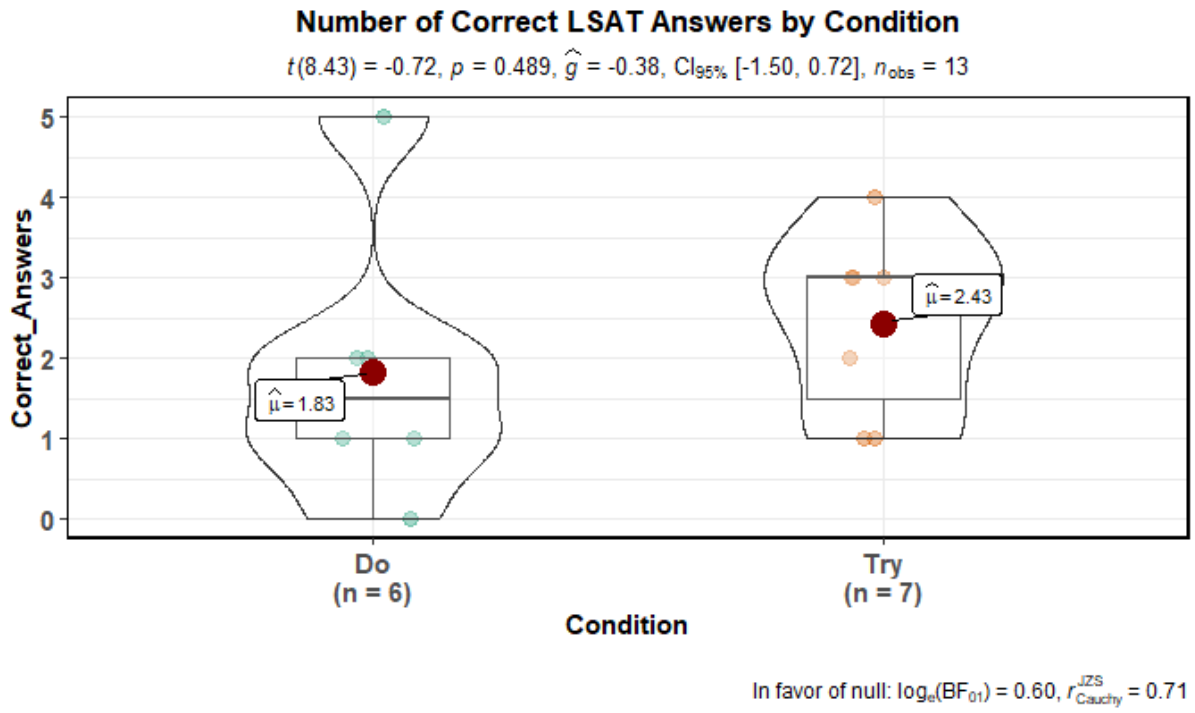

Figure 1: The Data Table for the Research

3. Conclusion

After the survey, the survey result was able to produce a data table that shows the average of LSAT questions that the test subjects got correct and also the numbers that each individual got correct. Different from the expectations that were placed before the actual survey, the data that was collected actually showed that people who are asked to "Try do the test" performed better than those who were asked to "Do the test" averagely. From the research that was done on the ten individuals, the results given back shows that Mindfulness actually did not help people when it comes to academic performance. This result was unexpected as it was not able to show how mindfulness positively benefits the person who is taking the test. However, looking more detailedly at the result, there might be certain reasons that could explain this unexpected result. First of all, the number of the people tested might be too small and was not enough to support the result that was presented. More testing could be done in the future to solve this problem and could possibly change the data table. Second of all, there are two special test cases in the "Do" condition with one of the test subjects managed to get all five of the answers correct and one of the test subjects had all of them wrong. These cases, however, were not seen under the "Try" condition. Having those two cases actually further unbalanced the numbers of data collected which could lead to a possible deviation in the final result. Other than that, the research did not put any limit on the learning status or experience of the person so people with different educational backgrounds could take the test. It is very possible that the group of people who were given the "try" condition have a higher educational background then the people who were given the "do" condition. This could largely affect the result of the research and in order to get a better and more believable result, similar research should limit this variable.

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3.1. Discussion

Although this research was not perfect and the results were not convincing enough to prove that practicing mindfulness could improve a person's academic performance, there are many further researches and studies that could be done to expand on this problem. Future ideas could be very different and since mindfulness is a relatively new topic in the psychology field, many important and new researches are going to be beneficial for this cognitive thinking style. For example, a similar research that limits the test taker's educational background and increases the number of people taking the test. This kind of research can be used to prove if the results from today's experiment are actually credible and might have a lot more understanding. Other than that, researches that focus on a specific type of academic problems could be done to dig deeper on one of the academic fields. For example, the researchers can give the test takers all mathematical problems and ask them to adapt mindfulness to solve them. They can then compare the results to see if practicing mindfulness is beneficial for people when it comes to math problems that usually require a calm mind and fast calculations. Similar researches could be done on writing, designing, or even art fields. Expanding from academic problems, there are many possibilities that mindfulness can bring to a person's life. Further research could be done to demonstrate if adapting mindfulness could help people when it comes to daily problems such as interpersonal relationships or communication. It is not hard to imagine that with this new thinking style, people can be more calm and think more rationally when it comes to important life decisions and taking care of their relationships with others. There are many possibilities in this field that are left unexplored as many influential researchers could be done to improve people's understanding of this emerging thinking style. For me, I am currently working on how adapting mindfulness or understanding mindfulness could help autism kids or kids with rare mental disabilities. It is important to realize that cognitive style could help everybody in the society. After more research is done and people have a deeper understanding of this topic, this concept of mindfulness thinking style could be introduced to the public as it helps people to think more calmly and rationally in different academic fields and life situations.

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