Dean&Francis

ISSN 2959-6122

AL004572

# Task- specific visualization meditation can overcome procrastination

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**Abstract:**

This study uses experimental methodologies to examine whether task-related visual meditation can overcome procrastination. The experiment lasted four days and involved randomly dividing people into two groups, giving two groups different visual meditation content and the identical tasks, and comparing how long it took the participants in the two groups to finish the task to see if there was any improvement in retardation. The findings indicate that individuals engaged in task-based visual meditations exhibit reduced procrastination tendencies compared to those who engage in regular visual meditations. Additionally, long-term visual meditation is shown to be more successful in slowing down the process of procrastination. Intellectual disability can have numerous adverse consequences; hence, this study proposes a more streamlined and efficient approach to assist individuals in overcoming cognitive impairment.

**Keywords:** procrastination, visualization meditation, repeated measures design

## 1. Introduction

Procrastination is a widely recognized phenomenon that frequently shows up in individuals' lives, leading to several negative consequences in our personal, professional, and educational domains (Klingsieck, 2013). Students exposed to academic stress and tasks across multiple subjects are more likely to procrastinate. In this instance, students who exhibit excessive procrastination are less likely to achieve success in their academic pursuits. Delaying academic assignments, for example, can result in significant academic ineptitude and lower academic achievements (Saplavska & Jerkunkova, 2018). In the workplace, procrastination is generally considered an inadequate behavior that reduces productivity. Companies do not hire persons who procrastinate to maximize their financial rewards (Gupta et al., 2012). Procrastination is typically associated with additional psychological issues. Numerous studies have shown a correlation between procrastination and anxiety (Constantin et al., 2018). Procrastination often leads to feelings of stress and guilt, which may have a detrimental impact on one's emotional well-being. Specifically, many students who procrastinate frequently experience negative effects that prevent them from making progress. While students often experience delays, it's important to remember that procrastination also affects many adults. Research indicates that retarda-

tion impacts around 50% of students and 20% of adults, leading to several negative effects (Rozental & Carlbring, 2014).

In the present era, employees globally experience significant levels of stress, with 48 percent reporting mental distress at the end of their workday (Adams, 2023). Not only adults, but adolescents too experience significant levels of stress, particularly in their academic pursuits. In fact, 75 percent of high school students and 50 percent of middle school students experience stress at school. Additionally, after completing tests, 61 percent of teenagers report feeling pressured (Zauderer, 2023). Individuals are more susceptible to procrastination when they experience stress. Goroshit & Hen 's research reveals that students who have inferior academic performance not only experience higher levels of stress but are also more sensitive to procrastination (2021). In general, stress causes procrastination, which in turn causes stress, thereby creating a harmful loop. Moreover, the demands for employment and education in the future are expected to increase. The academic stress experienced by students has escalated, as the academic workload has grown from 2013 to 2022 (Feng & Wang, 2024). In the future, there is a progressive increase in people's stress levels (Bethune, 2022), and it can be projected that individuals are more susceptible to procrastination when experiencing stress, so it was crucial to discover a straightforward and efficient method to overcome the delay. This not only aids individuals in mitigating the side effects of procrastination in the future but also helps their comprehension of the accurate symptoms associated with procrastination, preventing negative feelings from resulting in anxiety or other psychological issues.

So, this research is going to examine a relatively different method—if visualization meditation is beneficial in overcoming procrastination. Visualization meditation is imagined as something specific—like an event, scene, person, or the goal you want to achieve (Raypole, 2020). There is plenty of audio and video content available on the internet that may assist individuals in practicing visualization meditation. Visualization meditation is a more accessible practice compared to other methods (Jess. B, 2020) and may be used throughout various activities, such as walking or bathing, at any given moment. So, visualization meditation is very accessible to almost everybody since it has a very low use threshold and does not need any big demands on the surrounding environment. Furthermore, individuals are not needed to incur substantial expenses in order to find a psychiatrist, nor do they need to invest a significant amount of time in training. Therefore, this paper aims to investigate the possible impact of visualization meditation on procrastination. The study done in China involved 34 high school students with procrastination and aimed to investigate if a 4-day visual meditation training program may alleviate their cognitive delays.

## 2. Literature Review

Procrastination refers to the deliberate act of delaying or deferring duties until the final moments or even after their specified due dates (Cherry, 2024). Procrastination may be classified into several categories. For example, students' prevalent academic procrastination may lead to them postponing or failing to finish their academic assignments, potentially resulting in missed deadlines. This can have a negative impact on the student's academic progress and well-being, and it hinders their capacity to acquire knowledge (González-Brignardello et al., 2023). Another prevalent form of procrastination is known as Revenge Bedtime. Procrastination, a sign of retardation, manifests when individuals choose to forgo sleep to have more leisure time due to a daily routine that lacks sufficient free time. Individuals intentionally postpone sleep in pursuit of pleasure as a means to avoid the monotonous nature of sleep (Dimitriu & Suni, 2023). The procrastination category systems comprised 20 primary categories, 81 subcategories, and 32 inductively derived subcategories (Grunschel et al., 2013). The reasons for procrastination may be broadly categorized into six: The Worrier signifies people hesitate from starting significant or challenging work because of their lack of confidence in their ability to do it. They are apprehensive about their potential failure. They experience worry while contemplating the possibility of failure; the perfectionists, individuals who want to do the work perfectly but simultaneously harbor anxiety about the activity's possible imperfections, choose to delay and avoid it; The overdoor occurs when individuals are faced with a multitude of tasks and struggle to choose which ones should be given priority. They see a lack of perfection in themselves if they are unable to complete all the chores, leading to a fear of being unable to do them all. Consequently, they choose to postpone the tasks; The crisis maker, who believes that facing pressure as a deadline approaches is beneficial for unlocking their capabilities and achieving high performance, intentionally chooses to postpone tasks until the last possible moment; The dreamer,

They hold the belief that they can effortlessly achieve their desires without exerting much effort. However, these individuals often perceive these assignments as lacking significance, leading them to choose to postpone them and engage in other activities instead. However, they often ignore the fact that these tasks were assigned by their superior or lecturer and must be completed (Moran, 2022). According to the material stated above, what is the primary

ISSN 2959-6122

cause of people experiencing delays? Fear and avoidance are considered the primary contributors to procrastination. According to Schouwenburg's research, the fear of failure results in procrastination, and the concern that failure and procrastination reinforce each other creates a harmful cycle (1992). In Afzal and Jami's research, it was shown that students have a strong aversion towards academic assignments and actively choose to avoid them, resulting in procrastination (2018). The research effort focused on finding ways to assist individuals in overcoming fear-induced psychological states in order to mitigate procrastination.

The search for an effective, reliable way of treating procrastination has taken on new significance, with multiple psychologists conducting experiments to address procrastination. Most of the available research results recommend overcoming procrastination by adjusting individual cognitive strategies, such as cognitive behavioral therapy (CBT). Van Eerde and Klingsieck's research (2018) demonstrated that cognitive behavioral therapy is the most effective approach for treating procrastination. Research conducted by Shou Wang et al. found that cognitive behavioral therapy had a notable positive effect on reducing academic procrastination among college students. Furthermore, CBT had a more pronounced influence on enhancing time management skills (2017). However, the literature has extensively addressed the limited number of randomized controlled trials and the lack of validated outcome measures in studies using cognitive-behavioral therapy for procrastination treatment (Rozental & Carlbring, 2014), and has not evaluated these in a clinical trial (Rozental, 2018). Therefore, research on CBT's effectiveness for procrastination, as well as specific forms of procrastination and for what types of individuals, is lacking in the literature currently in publication. Additionally, several studies may have been skewed by confounding variables or participant characteristics. Much research also shows several strategies to address delays, including improving emotional regulation skills (Eckert et al., 2016), planning tasks you need to executive (Wieber & Gollwitzer, 2010), and self-motivation (Gurumoorthy & Kumar, 2020).

Visualization meditation may be divided into two distinct components: visualization and meditation. What is meditation, or mindfulness? Meditation encompasses a range of techniques that help individuals regulate their attention and awareness, allowing them to have more control over their mental processes. This practice promotes overall mental well-being and growth, as well as specialized abilities like relaxation, clarity, and focus (Yuzheng Wang, 2021). Meditation provides individuals with several benefits and induces changes in the brain. Hölzel et al. (2011) study showed that the practice of mindfulness has the potential to enhance the amount of grey matter in the left hippocampus and enhancements achieved by practicing meditation, improving cognitive functions related to learning and memory, regulating emotions, processing self-related information, and adopting other perspectives. Visualization meditation is the deliberate and focused mental process of creating vivid and detailed images in one's mind, as if perceiving them visually. Shobe et al. (2005) demonstrated that participants can practice visual meditation without any aids or with the use of devices like virtual reality (VR), allowing them to imagine a highly relaxing situation.

What is the practice of meditation? Meditation is a technique that helps people think more critically about the outer world and more inwardly, either towards oneself or towards a single object, according to the Path of Bliss website. Visual meditation is a component of meditation practice, and it can provide significant assistance to individuals. According to Schreiner and Malcolm's research, engaging in attentive meditation training can effectively alleviate symptoms of anxiety and depression, as well as decrease levels of stress (2008). Meditation enhances neurogenesis and increases grey matter density in specific brain regions, hence enhancing emotional control, learning, and memory functions (Hölzel et al., 2011).

However, there is a scarcity of information on visualization meditation and procrastination on the Internet, with only a limited number of papers available on visual meditation. I only found a limited number of papers related to visualization meditation and its advantageous effects. In Shobe et al.'s research, performing visualization meditation has the potential to decrease exam-related anxiety and enhance test outcomes (2005). Visualization meditation has been discovered to alter an individual's emotions and perceptions (Collesso et al., 2021). Another study demonstrated that the use of visualization exercises can be effective in overcoming emotional obstacles, enhancing our emotional resilience, and ultimately improving our capacity to address the challenges associated with intergenerational obligations (Honey-Rosés, 2014). However, I was unable to locate any scholarly articles on the topic of visualization meditation specifically addressing the issue of overcoming procrastination.

The purpose of this research is to investigate the potential benefits of visual meditation for individuals with procrastination, specifically focusing on high school students. The study will employ a randomized experimental design to examine the effects of visual meditation on cognitive functioning. The primary objective of the study is to discover a more efficient and easily accessible method to assist individuals in reducing cognitive impairment. It is hoped that future research will further investigate the techniques and neurological effects of perspective medita-

tion.

# 3. Methodology

## 3.1 Participants

Participants were recruited using volunteer sampling by posting an advertisement in three international high schools located in Wuhan, Shanghai, and Liaoning. The advertisement specified certain conditions that participants must meet. 1: Identify themselves as having a delayed syndrome. 2: Do not have the habit of memorizing the words every day (task to measure the procrastination). The advertisement stated that the experiment would last between four and five days, and that participants would receive compensation upon completion of the trial. This method recruited a total of 34 female participants, aged 15 to 18, attending international high schools. Using a random grouping app, the 34 female participants were randomly divided into two groups: the experimental group and the control group.

## 3.2 Design

The experiment will include an independent variable: whether the participants engage in visual meditation specifically connected to the task or engage in a normal visual meditation. The experimental group engaged in mission-specific visual meditation, whereas the control group practiced regular meditation. The dependent variable that needs to be tested is when the participant performed the task.

## 3.3 Procedure

The experiment will run for a total of four days, starting on the night of August 7, 2024, and ending on August 11, 2024. The participants are not informed about the real aim of the experiment prior to its beginning in order to prevent any bias or influence on their behavior (demand characteristic). The participants were told that the experiment was about words and memory. The design of the experiment involves assigning participants a task on the following day (August 8th): memorizing 20 new IELTS words, which they have the option to either complete immediately or postpone until the next day. Participants must do the recommended visual meditation before going to bed on the first night (August 7th). Participants must report the time they perform the task. The text presented to the participants is as follows:

*This experiment lasts for four to five days, and you have a task, you need to replace 10 IELTS words that you don't know at any time tomorrow (8th August), and you can choose to do it tomorrow or the next day. If you choose to perform, report to me the time you perform this task, and if you do not perform, please tell me at the end of the day.*

If the task is not performed on the next day of the experiment (August 8th), they will be meditating again on the evening of that day and choose to perform the mission on the third day (August 9th) or continue to delay; with such a push, the individual experiment ends until the task is performed; if it is not performed in the four days of the experiment, it will end on the last day (August 11th). Visual meditation guidance is different for experimental groups and control groups, and visual meditation guidelines for performing tasks (memorize the words) in the experimental group are as follows:

*Do a two-minute meditation before bedtime, use your cell phone for two minutes, and here's how to meditate according to this text. Close your eyes, take a deep breath, and imagine you have a dictionary. Then you open the dictionary and feel the touch of the book, and you begin trying to memorize the words in the memoirs, one by one.*

The general visual meditation guidelines for the control group are as follows:

*Do a two-minute meditation before bedtime, use your cell phone for two minutes, and here's how to meditate according to this text. Close your eyes, take a deep breath, and imagine yourself on vacation by the sea, lying on a chair, seeing the sea blue, the sun shining warmly on you, and hearing the waves.*

Both groups engage in a 2-minute meditation session to guarantee reliability. They choose to meditate before bed as a quieter environment at that time enhances the efficiency of the meditation.

# 4. Results

All 34 participants in two groups completed their different meditation.

## 4.1 First day of the experiment (August 8th)

The experimental group has a total of 3 participants completed the task, 1 participant completed the task before 12:00 pm, 2 participants completed it after 12:00 pm.

The control group has a total of 2 participants completed the task, 1 participant completed the task before 12:00 pm, 1 participant completed it after 12:00 pm.

The remaining 14 participants in experiment group and 15 participants in control group who did not complete the task performed the same visual meditation again before the bedtime of August 8$^{th}$.

ISSN 2959-6122

### 4.2 Second day of the experiment (August 9th)

The experimental group has a total of 4 participants completed the task, 1 participant completed the task before 12:00 pm, 3 participants completed it after 12:00 pm.
The control group has a total of 3 participants completed the task, 1 participant completed the task before 12:00 pm, 2 participants completed it after 12:00 pm.
The remaining 10 participants in experiment group and 12 participants in control group who did not complete the task performed the same visual meditation again before the bedtime of August 9th.

### 4.3 Third day of the experiment (August 10th)

The experimental group has a total of 6 participants completed the task, 4 participants completed the task before 12:00 pm, 2 participants completed it after 12:00 pm.
The control group has a total of 2 participants completed the task, 0 participant completed the task before 12:00 pm, 2 participants completed it after 12:00 pm.
The remaining 4 participants in experiment group and 10 participants in control group who did not complete the task performed the same visual meditation again before the bedtime of August 10th.

### 4.4 Fourth day of the experiment (August 11th)

The experimental group has a total of 2 participants completed the task, 1 participant completed the task before 12:00 pm, 1 participant completed it after 12:00 pm.
The control group has a total of 2 participants completed the task, 0 participant completed the task before 12:00 pm, 2 participants completed it after 12:00 pm.
Until the fourth day of the experiment, the experiment group had 2 participants who had not completed the task, and the control group had 8 participants who did not complete the task.

### 4.5 Data analysis

The findings of this experiment will be explained using pie charts (Figure 1 & Figure 2) to compare the total number of individuals who finished the task in two distinct groups at the at the end of the experiment.

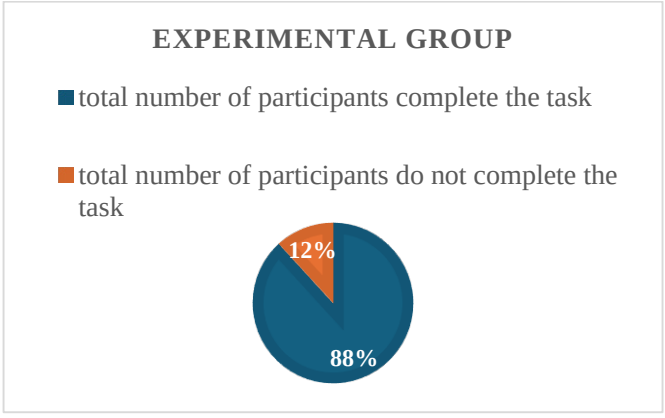


**Figure 1: distribution of the completion in the experimental group**

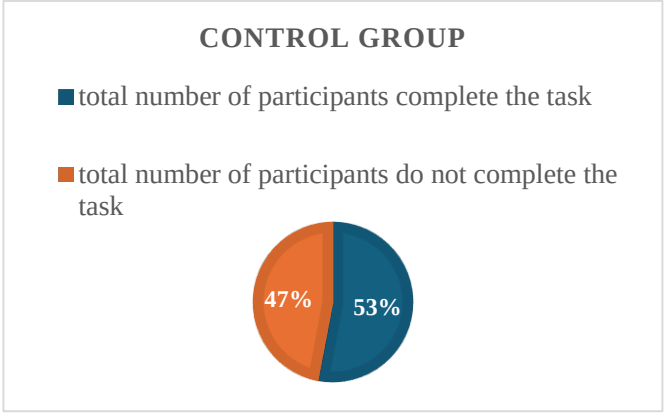


**Figure 2: distribution of the completion in the control group**

From the two pie charts above, the number of people who completed a task within the four days in the experimental group was significantly higher than the control group. Specifically, 88% of participants in the experimental group completed the task, while only 53% of participants in the control group completed it. This dataset suggests that task-related visual meditation improves participants' task completion more than regular visual meditations.

Nevertheless, the data provided does not show any change in the degree of delay during visual meditation. Therefore, we will use a combined column chart to assess the task completion on each day of the experiment. This will allow us to compare and examine the delay between the two groups. As shown in the figure below (Figure 3), the x axis is the number of days of the experiment, and the y axis is the number of people who completed the task.

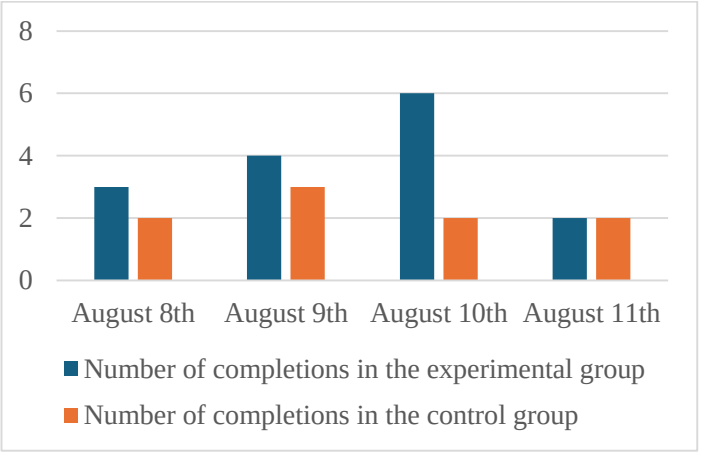


**Figure 3: The distribution of time required by participants from the two groups to complete the tasks during the duration of the four-day experiment**

The chart shows that participants in the experimental group completed the task earlier than those in the control group. Most of the participants in the experimental group chose to complete the task in the first three days of the experiment; a total of 13 participants in the experimental group but only 7 participants in the control group completed the mission in the first three days, and the number of people who completed the task in the experimental group was gradually increasing, and the daily completion rate of individuals in the experimental group exceeded that of the control group. In particular, on the third day, six participants completed the task in the experimental group, compared to only two participants in the control group. But on the last day of the experiment, only two participants in both groups completed the task.

The data suggests that the experimental group experienced less procrastination than the control group, as the participants in the experimental group completed the task earlier. Therefore, it may be inferred that engaging in task-related visual meditation enhances individuals' ability to overcome procrastination. The data revealed that the experimental group had the highest number of participants completing tasks on the third day, suggesting that participants may need to continue for several days to maximize their effects on delay. Additionally, some participants in the experimental groups completed the task on the first day, while others did not complete the experiment, suggesting that the effectiveness of visual meditations in overcoming delays may vary among individuals.

## 5. Discussion

This study employed experimental research to investigate the efficacy of visual meditation in reducing delay. The findings indicate that engaging in task-related visual meditations reduces the likelihood of experiencing delays. Research indicates that engaging in continuous visual meditation is a more effective method for overcoming retardation. Therefore, for individuals struggling with severe procrastination, engaging in prolonged and consistent visual meditation focused on tasks can be highly useful. For instance, if there is a task to be completed tomorrow, people can engage with several visual meditations pertaining to the task prior to its execution.

However, this experiment has numerous drawbacks. The experiment only involves female participants from international high school, making it difficult to generalise the findings to men or adults. Additionally, the participants are all students, which may lead to a bias towards academic delay syndrome. Consequently, the experiment's results only demonstrate the effectiveness of visual meditation in addressing academic procrastination and cannot be generalised to other forms of procrastination. The experiment shows limited generalisability and may be influenced by

ISSN 2959-6122

diverse cultural factors.

The results may also be affected by confounding variables. This can happen since during the experiment, some participants may be in the state of summer vacation and engage in activities such as travelling or other pursuits. These activities may cause delays, which can impact the experiment's results and reduce its validity.

Nevertheless, this experiment effectively managed various variables that could potentially impact the outcomes. For instance, the participants were not informed about the real purpose of the experiment before its start. This precaution aimed to prevent any alterations in behaviour due to demand characteristics, which could yield inaccurate results. Additionally, each participant followed a consistent and predetermined duration of meditation, thereby eliminating the potential influence of varying meditation times on the results. These measures guarantee the reliability and validity of the experiment. Furthermore, the experiment adhered to ethical guidelines by obtaining informed consent from participants prior to the experiment while hiding the real purpose of the study. However, participants were provided with a brief overview of the experiment afterwards.

The findings of this study demonstrated that task-specific visual meditation can enhance procrastination, while the impact of regular visual meditation in the control group was not examined due to the lack of a non-meditating control group. And this experiment does not investigate the reasons behind how visual meditation can reduce procrastination. The outcome of the experiment can just indicate correlation rather than a causal relationship. Furthermore, another investigation provided results indicating that engaging in persistent task-related visual meditation may be more efficacious in enhancing cognitive impairment. But the results of this experiment have not been further investigated.

There is a scarcity of online literature regarding the study of visual meditation. However, visual meditation is a simple and cost-effective technique that can be highly beneficial for individuals. I believe that engaging in visual meditation not only aids in alleviating anxiety and enhancing performance but also holds potential for mitigating certain mental disorders. Therefore, future investigations ought to focus on exploring the therapeutic benefits of visualization meditation for mental illnesses, thereby providing individuals with simpler and more efficacious treatment options for their psychological conditions.

## 6. Conclusion

The objective of this study is to facilitate the effective utilization of visual meditation to enhance cognitive impairments in individuals with procrastination. Additionally, it emphasizes the need for extended engagement in visual meditations. Furthermore, the findings of this appearance suggest that in future studies, more advanced instruments, such as FMRI, can be employed to investigate the specific regions of the brain that are affected by visual meditation. This, in turn, can lead to advancements in the treatment of procrastination. In future research, longitudinal studies might be employed to engage participants in extended periods of visual meditation and subsequently compare the outcomes with a control group. This would allow for an investigation into the potential additional advantages of long-term visual meditation for individuals. It expresses the aspiration for future research to delve into the profound effects that visual meditation may have on individuals.

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