

Psychology – experiment on stress

[Psychology](#), [Psychotherapy](#)



Introduction In this experiment we are going to describe stress and prove how can a prolonged exposition to it have a negative impact on memory. The definition of stress used in this experiment is: difficulty one suffers that causes worry, emotional tension or loss of concentration. The reason why this topic has been chosen is because stress is a part of nowadays, hectic society and it has a very noticeable effect on people's performance, in either work or daily life. The outcome of this experiment could be used in several fields, such as education; to help reduce the amount of stress students deal with, so their grades could be improved.

The results could also be used to enhance and boost employer's efficiency, in the workplace field. The hypothesis is to test how short-term stressful situations can lead to memory dysfunction. The null hypothesis, on the other hand, is that stress has no impact on memory whatsoever. The aim of this experiment is to prove how stress produces memory issues. II. Design The most efficient and easiest way to carry out this experiment would be using repeated measures, using the same sample of participants in both sets of conditions, deceiving participants to avoid any internal validity issue.

Allowing a long time gap between conditions or changing the mentioned conditions would avoid participants from finding out the aim of the experiment, or biasing it. Single blind is the best method that can be used in this experiment, opposed to double-blind, which would be meaningless, because if participants are told the aim they might do better than they would do in a normal life situation, and the study would lose its reliability.

Since it's a short-term based experiment and the same sample of participants is used for both conditions, the experimental group would

perform a series of memory-challenging activities, and later on, the control group would perform the same tasks but under the influence of some source of stress, in this case, loud music. There are no ethical concerns involved because no participant would leave with any kind of stress or anger, and they wouldn't be exposed to loud music for a long time. They would also be debriefed at the end of the study.

The Independent Variable (IV) is the amount of stress received by any mean, and the Dependent Variable (DV) is memory performance. Other variables that shall be identified, since they are thought to have an impact on the results are the following: previous level of stress of participants, temperature of the room where the experiment is being held, room' walls color, participant's previous fatigue or mood, amongst others, which could be easily avoided by performing yoga classes and controlling the room where the experiment is being carried out.

III. Participants

Since the target population is people living in Spain from the age of 16 to people aged 66, both male and female, it includes a very large number of people in which the outcomes of this study are going to be focused on, and therefore, a huge target population to choose from in order to get participants for the study. Therefore, the best sampling technique that could be used would be quota sampling, as it allows the researcher to split the target population up into various sub-groups, which in this case would solely be age and gender, because no other variables can affect/bias the outcomes of this experiment.

Then, from this preset sub-groups, the researcher would deliberately pick out how many people is needed and what characteristics this people must have.

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There would be 5 sub-groups based on age and gender (each group ranging 10 years), each group adding up the total number of 25 people (5 per group). Participants would be asked for consent after using them as the sample. IV. Materials Materials needed for this experiment are basically those involving any lab-related experiment.

The primary materials would be a laboratory room or a classroom, equipped with tables, desks and chairs, as well as a board. Another room would be needed in order to perform the relax therapy sessions that would be useful for the experiment, so all types of equipment related to yoga is needed, such as mats, light weights, etc. The other type of material that is used is questionnaires on stress participants may have before performing any activity, a list of words for participants to memorize, and a set of speakers, which will be the actual source of stress.

V. Procedures * Gather participants in a room and have them do a stress questionnaire to see what is their current level of stress. * With the results of such questionnaires split participants up into two groups, one including the more stressed people, and the other group the remaining people, participants should remain deceived until the end of the experiment. * Have participants from both groups take yoga classes (or any similar activity with the same purpose) so their level of stress is reduced and partially equal to one another.

These sessions should not last for longer than 30 minutes. * This being done, have a brief group interview with them to see whether the relaxing activity was helpful and useful, if so, carry on to next step; if not, record the participants name in order to use this variables as a benefit when evaluating

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the results. * Make participants memorize a list of 10 words without any external stimuli such as noise or visual distraction, being given no longer than 10 minutes. Evaluate the capacity of the participants to memorize such words by giving them a test where they have to write down the maximum number of words they can remember. * Afterwards, make participants wait for 15 minutes in a room with a source of stress, in this case, noise coming from speakers, similar to the one produced by whistles. Then, give each participant the second condition, another list of 10 words with similar spelling and same grammar category, but still applying the source of stress.

However, participants are not going to be told that researchers are empowering this source of stress. They are given 10 minutes. * Have them write out a 'quiz' testing them on how many words they were able to memorize in this environment. * If any participant was showing any symptom of being stressed or not feeling good, make the participant take some yoga classes so they leave the experiment without any stress; debrief participants so that the experiment meets all ethical requirements. VI. Analysis

The obtained data is quantitative because it is taken from the memory tests performed throughout the experiment, and a good way in which it could be presented visually and effectively would be by using bar graphs, such as the following, filled in with the recorded data. This graph lets us see the relationship between participants in both conditions, and easily compare performances. If participants were interviewed after performing the tests, we would also have qualitative data that would make our results more reliable.

An area that could be researched on after performing this experiment could be how a prolonged exposition to stress could affect memory, as a way of

looking into possible starters of psychological illnesses such as Alzheimer, etc. The outcomes of this experiment could be applied in a variety of real life situations because stress is at an increasing rate in our modern societies, and studying how it might affect people's life is necessary. With such results, we could discuss how stress may slowly be deteriorating an individual's cognitive capacities, such as memory, or completely disprove our initial hypothesis.

The experiment was carried out with the most possible accuracy and passivity from the researcher in order to avoid any form of researcher bias. Participants were not told the aim of the study or the hypothesis; they were deceived to exclude participant's bias, such as demand characteristics or the 'screw-you effect'. However, a potential problem that could suppose using the same sample of participants for both conditions is that the aim of the experiment could be found out and therefore, participants could somehow bias the study.

Even though researchers tried to take all possible variables into account to reduce the possible effects on the results, some couldn't be controlled, like the mood of participants or their previous exposition to stress throughout their lives, an important factor that can bias the study. On top of that, there's a lack of ecological validity because the study was performed in a lab and not in the participant's natural environment where they are used to, so they might not act normally in a lab environment.