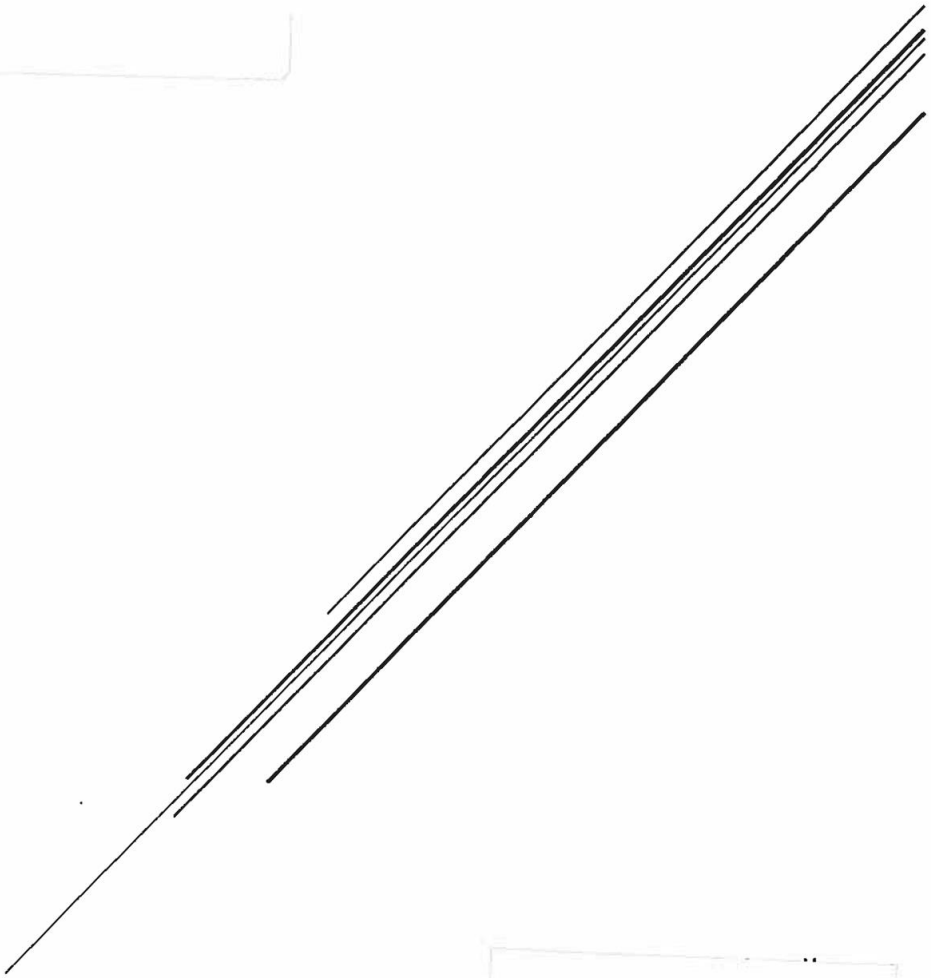
Candidate 2 evidence

HIGHER PSYCHOLOGY
ASSIGNMENT: HOW DOES PRELIM STRESS CORRELATE WITH WINTER ILLNESSES?



Introduction:

Stress is commonly known as a person having too much emotional, physical, mental or psychological pressure. Stress has an impact on how you think and feel and also how you act physically as your mind and body are interacting with each other all the time. It is fair to say that having a bit of stress in your life is good for you as it is what motivates you to do things but it is when you begin to feel stressed a lot of the time or not at all that it becomes a problem. When a person gets stressed your body begins to release hormones. The body notices any small signs of stress and as soon as this begins a signal is sent to a part of the brain called the hypothalamus which is what stimulates the body to start releasing the hormones adrenaline and cortisol. Cortisol is often referred to as the stress hormone as it temporarily increases energy as it triggers the glucose in your body to be released which will then help the person to run away if they need to. Whilst this is happening the other parts of your body such as the digestive system stop functioning. These are the hormones which help you if you are facing threats or being pressured which is commonly known as the "fight or flight" response. When we get stressed our body starts doing biological things that we cannot control such as sweating, feeling nauseous, dizziness and fainting. These are all short term biological effects of stress longer term effects could consist of depression, anxiety, high blood pressure and insomnia.

Theories of stress:

The theory of stress is the general adaptation theory or gas for short. This theory was discovered by a man named Hans Selye. Previously researchers had only discussed the fight or flight theory but Selye soon realised that the response that a person had to stress also had long term effects which would be able to be triggered by a different number of stimuli. An experiment was conducted where several rats were put under a number of different stressors such as being exposed to different extremes of temperature and being forced to do a lot of physical work. Selye was interested in what the response of the rats would be when put in these situations. He was able to notice that it didn't matter what extreme the rat was put under their symptoms of stress were still obvious even after it had happened which showed that the reaction was not due to any specific stimulus but because of a general reaction to being put under stress. This then brought Selye onto discovering the three stages of the general adaptation theory.

The first stage is called the alarm reaction. This is the stage where the "sympathetic branch of ANS is activated". This is where the hormones cortisol and adrenaline are released as well. It was clear that the rat's bodies changed physically quite a lot such as their organs shrinking and their body temperature dropping. This alarm reaction is what prepares animals and people to go into the fight or flight response which is the reaction we go into when facing a stressful event. The body needs to react fast to either get away from what they are facing or be ready to fight it.

The second stage is resistance. After the first reaction to the stressor the body tries to get back into a state of homeostasis so that the body can begin to function normally again. The body is trying to get use to a new situation so it goes into a stage of resistance. It was found by Selye that this stage happened to the rats about 48 hours after being put under stress. The resistance stage causes the hormones changes in your body from stage one are still there including having high blood pressure and high blood sugar levels but the actual stress hormone begins to go back to its normal state helping the body to go from being alert to start repairing.

The third and final stage is exhaustion where the body has depleted resources trying to repairs itself during the resistance stage. If what has caused the stress has gone the body will continue recovering but it will not have any energy to handle the long term stress if it is still happening the body will gradually begin to get very tired and start to deteriorate.

Previous research:

Kiecolt-Glaser et al. (1984): study of stress in medical students

This study was conducted in order to find out the levels of "natural killer" white blood cells in medical students during a time period where they were not under any high stress so halfway through the academic year in comparison with a time period where they were extremely stressed so during exam time. White blood cells are what help to fight off viruses and infections so this would then have an impact on the student's health whether they had high or levels of them.75 medical students were gathered to take part in this natural experiment. White blood cells were collected twice a month before the exam period began and then also during exam time. The students were also given out a questionnaire to find out how stressed the students thought they were. It was found that when the students were doing exams they displayed much lower levels of killer cells in comparison to before exam season. The students who were most affected were the ones who expressed they were feeling isolated in their stress questionnaires. The piece of research provided us with biological evidence that put a link between exam stress making people ill. Having both an experiment and a questionnaire made the study a lot stronger because of the data that was founded in the questionnaire. The study was also very true to real life so it had high ecological validity. In comparison this having been a natural experiment it meant other factors such as a virus being spread around the campus or the student's lifestyle were not taken into account.

Another piece of previous research was conducted by Malathi and A.Damondaran: stress due to exams in medical students. 50 medical students between the ages of 18-19 volunteered to take part in the experiment. They were divided into two groups the control group and the yoga group. All of the students displayed signs of stress during exam time the only difference was that the

students who were in the yoga group displayed slightly lower levels of stress than those who were in the control group.

Aim:
As shown in previous research it is fair to say that winter illness can be a result of students being stressed by exam/prelim stress. The aim of this study is to find out whether the stress that students feel due to prelims has any correlation with whether or not you get ill during the winter period which is the same time as the lead up to prelims.
Hypothesis: The hypothesis of the experiment is that prelim stress will have a strong correlation with winter illness.

Null hypothesis: The null hypothesis of this experiment is that prelim stress has no correlation with winter illnesses.

Method:

To carry out this experiment a survey was used which is a non-experimental method. A non-experimental method can consist of things such as an interview, case study or observation but in this case a survey was used. A list of questions were devised that were relevant to supporting the hypothesis. Once all the questions were gathered they were put together on a questionnaire website. The questionnaire was then put up online for anyone over the age of 16 to answer. Once the questionnaire was closed the results were then able to be gathered as required.

Participants:

The type of sampling method used was opportunity sampling. Opportunity sampling is a sampling method used when the researcher is not looking for anyone in particular to do their experiment, they use whoever is most convenient/easy for them. However it was still ensured that whoever answered the questionnaire was above the age of 16.

Materials:

The only materials that were required for this experiment was a computer to put together the questionnaire and distribute it online.

Procedure:

As this experiment used a non-experimental method and opportunity sampling being used carrying it out was very simple. All that was required as to come up with a series of appropriate questions that was relevant to the chosen topic of research. Once this was done it was just a case of distributing the questionnaire online for people to be able to see and answer if they wished. The survey was active for two weeks before it was closed for any more answers.

Ethics:

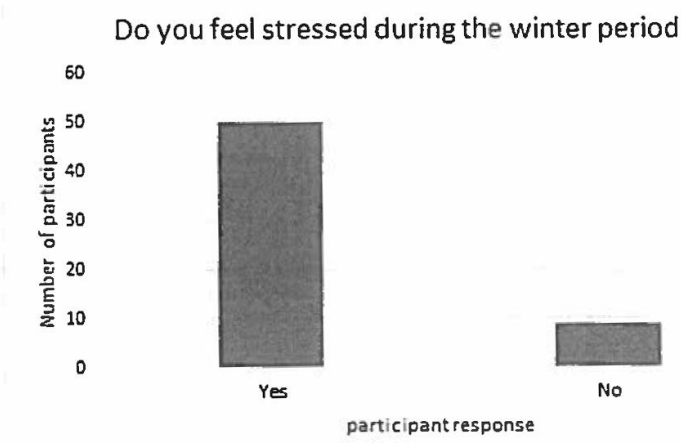
When carrying out an experiment it is important that the BPS ethical guidelines are followed. It was made sure that "section 3 ethical principles. In applying these values, Psychologists should consider: (i) Privacy and confidentiality; (ii) Respect" https://www.bps.org.uk/It was made sure these guidelines were applied as all participants that took part were made sure it was clear to them that that they could withdraw at any time they wanted as a brief was given at the start of the questionnaire. If any participant had wanted to be withdrawn from the questionnaire their decision would have to have been respected and not try and force them to not withdraw even if it caused inconvenience to the study. Confidentiality is important so all the answers that the participants provided would be anonymous so everything was kept confidential so no one would know what any of their answers were in case any of them were uncomfortable with other people knowing what they had said.

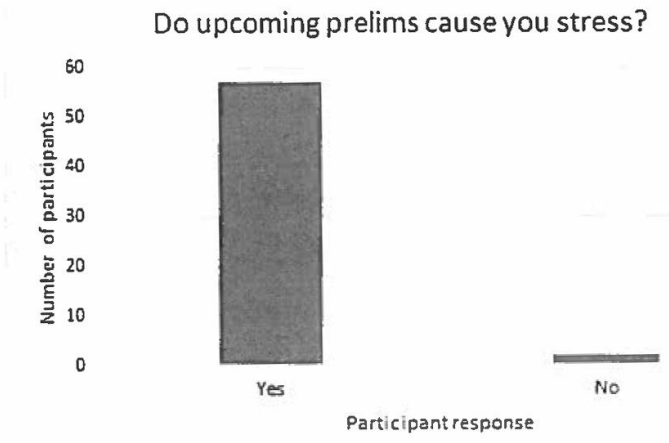
Results: The data from the questionnaire was gathered and the questions that helped answer the hypothesis were selected and the results from those questions were put into graphs so that the data could be anaylsed. The mode was also calculated for question four of the results.

Column1	Column2
Response	
Yes	57
No	2

Here is the table of results for question four. The mode for this was calculated to be 57.

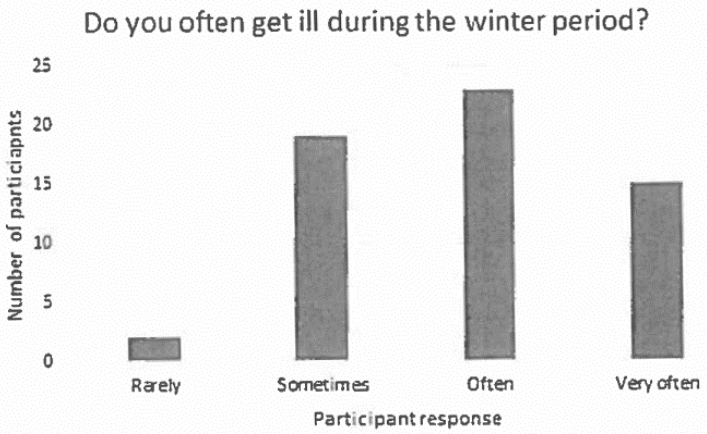
Here is the results from question two which was "Do you feel stressed during the winter period?" As shown 50 of the participants (84.7%) said that they did feel stressed during the winter period and 9 of the participants (15.3%) said no. As the winter period is the time where many students are studying for their upcoming prelims it is fair to assume that the stress they are feeling is a result of the prelims they will soon be doing.





These are the results from question four "Do your upcoming prelims cause you stress?" As shown 57 participants (96.6%) said that upcoming prelims caused them stress and 2 participants (3.4%) said that they did not get stressed by upcoming prelims. This helps to clarify

that when the participants stated that they got stressed over the winter period it is fair to say that the stress is due to their upcoming prelims as almost 97% of them get stressed because of this.



These results are from question five "Do you often get ill during the winter period?" It is shown that 23 participants (39%) said they often get ill during the winter period and 15 participants (25.4%) said they very often get ill during the winter period. All together that means 38 of the participants are claiming that they get ill a significant amount. This can be related to the fact that 57 of the participants feel stressed due to upcoming prelims so many of them may be getting ill due to this as we know from previous research the stress might be causing less white blood cells to be produced which in turn means that the participants are going to get ill more easily and often.

Discussion: The results that were gathered show that there is a correlation between prelim stress and winter illnesses so the hypothesis was shown to be correct. 57 out of 59 of the participants which is almost all of them stated that they feel stressed due to prelims which we can correlate with 38 out of 59 participants claimed that they either got ill often or very often in the winter period so it is fair to say that a reason that they are getting ill is because they are feeling stressed due to their upcoming prelims in January which is in the winter time. This experiment also relates to Kiecolt-Glaser et al's study of stress on medical students. Their study also proved that there is a correlation between students getting ill at the same time as exams which helps back the experiment and make it more accurate. The experiment overall was very

good as it helped prove the hypothesis to be correct and can now be used as evidence in future experiments on this topic.

This experiment had strengths and weaknesses to it. A strength of this experiment is that it has high ecological validity meaning that it was very true to real life as everyone has prelims to go through and the questions asked were relevant to how students are expected to feel during this time and they were able to answer the questions in their own time and places where they would've felt comfortable. A weakness of the experiment is that because this was a natural experiment no other factors were taken into consideration. For example there may have been an illness going around at winter time that caused many people to fall ill from meaning that there's a chance their illness had nothing to do with being stressed. Another weakness of this experiment is that the participants may have not understood the questionnaire therefore making their answers unreliable.

There are changes that could be made for future experiments. The questionnaire could've contained more questions about other factors that may have caused them to be getting ill at winter time so that it could've been clearer that stress was the exact cause of why the participants were getting ill and not down to other factors.

References:

https://pdfs.semanticscholar.org/6dd6/308e5266e6f236f929e4e1e119404d8a5f87.pdf

http://www.bbc.co.uk/science/0/21685448

https://www.bps.org.uk/

https://explorable.com/general-adaptation-syndrome

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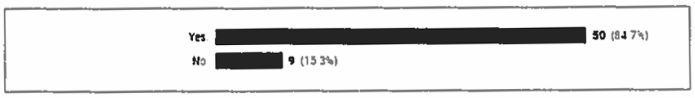
Appendices:

2 Do you often feel stressed during the period of winter?

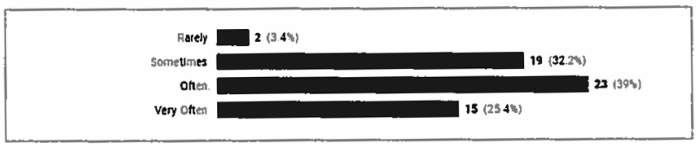


3 What are the main sources of stress for you during the winter period?

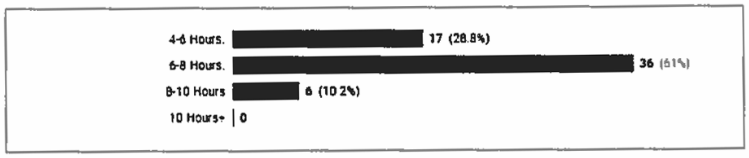
Showing first 5 of 54 responses Show all	
Revising for prelim	427499-427490-42375158
School/college Holidays Transport	427499-427490-42375177
Cold weather, college work, darkness	427499-427490-42375174
Cold weather	427499-427490-42375197
prelims	427499-427490-42375257

4 Do your upcoming prelims cause you any stress?

5 Do you often get ill during the winter period?



6 How many hours of sleep do you believe you get on average?



7 Would you say that you are able to identify when you are under the pressure of stress?

8 Do you believe that you are able to deal with stress?

Consent Form

Introduction

You are being asked to be in a research study of stress from prelims relating to winter illnesses. You were selected as a possible participant because you have sat prelims in winter before.

We ask that you read this form and ask any questions that you may have before agreeing to be in the study.

Purpose of Study

The purpose of the study is to find out if stress from prelims has a correlation with getting ill at winter time.

Description of the Study Procedures

If you agree to be in this study, you will be asked to fill out a questionnaire.

Risks/Discomforts of Being in this Study

There are no reasonable foreseeable (or expected) risks.

Confidentiality

This study is anonymous. We will not be collecting or retaining any information about your identity.

Debriefing Form: **How Prelim Stress Correlates with Winter Illnesses**

Thank you for agreeing to participate in this study! The general purpose of this research is to find out if stress from prelims has a correlation with getting ill at winter time.

We invited people who have, in the past few years sat prelims in winter time. This study, you were asked to complete a questionnaire about stress, illnesses and prelims. The results from this study will answer whether stress from prelims can cause people to become ill in the winter time.

Thank you for your participation in this study.