

Stress and the Common Cold

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Stress is very common among people especially in today's world. People also seem to be getting colds much more often than they used to. Does stress cause people to get sick more often? In the present study 40 participants, all Lindenwood University students ages 18 to 29 years old took a stress test and a health questionnaire in an attempt to determine whether or not the more stressed a person is the more often they will get sick. The participants were asked to spare five minutes of their time to complete the two surveys. This study determined that there is a link between the levels of stress a person is under and how often they encounter symptoms of a cold. This study lets further experimentation take place to find a way to decrease stress in the people of today's society.

Stress is mental tension that occurs when the mind is overloaded with information or things to do. When people are very busy and they have a lot of things to do, they often get stressed. It seems that people who experience a lot of stress have a tendency to get colds or symptoms of colds more often. If people know more about what is causing their illness, they will have a lesser chance of getting sick. There have been many studies conducted in order to come to some kind of conclusion about stress and the physical health of a person.

In one study a relationship was found between stress and health. They had two groups, one group that had an exam and one group that did not have an exam. They

tested levels of sIgA in both groups prior to the exam and after the exam in the first group and what would be the same times in the control group. It showed that sIgA levels were lower in the group that had to take the exam. This shows that there were health problems (Deinzer & Schuller, 1998).

The the next study, researchers tested leisure-generated social support, and mental and physical health. Increased life stress was associated with enhanced depression and increased chances of health problems. Students from Tae Kwon Do classes were randomly selected and completed a self-report questionnaire about physical and mental health (Chun & Iso-Ahola, 1996).

In another study, results showed that there was a significant relationship between stress and illness. A health questionnaire was distributed to undergraduate students from an unspecified Midwestern liberal arts college. This questionnaire consisted of common campus illnesses and participants were asked to state how many times they had suffered from these symptoms in the past twelve months. The participants were also asked to complete a Life Experiences Survey with 57 questions about events experienced by participants during the past year. The correlational analysis supported the initial hypothesis that there is a positive relationship between stress and illness (Rawson, Bloomer & Kendall, 1994).

The last study examined the effects of social support on the mental and physical health of university students. They used a questionnaire with four levels about various different stressors to get their data. The results showed that there is a linear correlation to all four levels of the questionnaire. This proved that stress is correlated to mental and physical health (Jou & Fukada, 2002).

The researchers of the current study believe that participants with higher levels of stress will have lower levels of health than those participants with less stress. The researchers first debriefed each participant and asked them to sign two informed consent forms, then gave each participant a packet consisting of a stress test taken from www.arc.sbc.edu/stressquiz.html that was re-typed (see Appendix A), and a health questionnaire designed by the researchers that asked the participants to recall the number of times that they had experienced symptoms of the common cold in the past year (see Appendix B). After they finished these questionnaires, participants were given a feedback form and thanked for participating in the experiment. The researchers are trying to demonstrate that the more stress someone has the more likely he/she is to get sick.

Method

Participants

The forty participants were recruited for this experiment through the Human Subject Pool (HSP) as well as other students at Lindenwood University who volunteered to participate. The HSP is a program created at Lindenwood University to give undergraduate students an opportunity to earn extra credit points to put towards their classes. Students that are enrolled in Principles of Psychology, Sociology, and Anthropology are all members of the HSP. The participants that were not a part of the HSP were recruited in Dr. Tillinger's art history class and in the Butler Library. These participants were not compensated for their participation. Each participant was asked to verify that they were 18 years old or older.

Materials

The experimenters used a computer program, SPSS, to make a data sheet that they used to record the results of their experiment. A stress test was taken off of the web site, www.arc.sbc.edu/stressquiz.html, which was retyped. A health questionnaire was made up by the experimenters and typed on the computer. This questionnaire consisted of symptoms that are often felt by sick people. These would include: runny nose, sore throat, fever, vomiting, sinus pain and headaches. The participants were asked to state how many times they have had each symptom in the past twelve months. They were also asked to state how many times they have had more than one symptom at a time and rate on a scale of one to ten their overall health.

The experimenters used a computer to type informed consent forms and feedback letters that were given out to the participants. A black pen was provided for participants to use when signing the two informed consent forms and to complete the stress test and health questionnaire. A black pen was also used by the experimenters to record the data

The experiments took place in two different locations, depending on the day. One room was Y105 lab D and the second place was located in Butler Library. Y105 lab D was located on the first floor of Young hall in the psychology lab. The room had cream walls with a desk and chairs. It also had florescent lights. The room in Butler Library was small with a table and chairs. It also had florescent lights with white walls.

Procedure

The first step in the experiment was having the participant's fill out two informed consent forms, one for the participant to keep and the other for the experimenters' records. Before the actual experiment started the experimenters debriefed the

participants. The experimenters told the participants that they would be given a stress test followed by a health questionnaire and that this information was going to be used to see if there is any correlation between stress levels and the amount of times or severity of sickness.

Each participant was given the stress test and health questionnaire in the same order. The participants were given ten minutes to complete both items. After the participants finished each item they were given a feedback letter which gave them more information about the experiment and it also gave them information on when and how they can find out what the results of the experiment were. The experimenters then graded the stress test by adding up the participants ratings on each question and writing it down on the bottom of the stress test. After the experimenters did this they recorded the scores from the stress test and the participants' answers from the health questionnaire in the SPSS program.

Results

The experimenters hypothesized that the participants who scored higher on their stress test would be more prone to sickness. The results of this experiment were computed by using the computer software SPSS for Windows. The results of the data collected showed that the null hypothesis was rejected because the researchers supported their hypothesis. The data revealed that the higher the stress level the more often people experience symptoms of the common cold. A one-tailed Pearson Correlation was performed on the participants' stress test score and their overall health rating. With the alpha level being .05 and the significance computed at .011 the researchers found

statistical significance. With $r = -.361$, it shows that the relationship is negatively correlated., because as stress increases, health decreases.

Discussion

The purpose of this study was to see if there is a relationship between stress levels and the number of times people have symptoms of the common cold. By giving the participants a stress test and a health questionnaire, the researchers were able to support their hypothesis that the more stress someone has, the less healthy they will be. The researcher's findings in the studies mentioned in the introduction are similar to the findings in this study.

With this information, people could start trying to manage their stress in order to keep illness at a minimum, as well as taking precautions to keep from getting stressed over illnesses. The researchers cannot confirm that one variable causes another, but can say that health and stress, at least, do influence one another. It would be impossible to say whether or not one causes another without further studies. More intensive research is needed to see if one variable causes another (i.e., stress causing illness).

The experiment could improve if the researchers would have been able to obtain participant's health history from a physician instead of a self-report. In addition, conducting a more intense stress test that would get more personal information about the stressors in the participants' life could be helpful. Also, more specific questions on the health questionnaire could improve the quality of answers received.

References

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Appendix A

Stress Test: How Stressed Are You?

Rate yourself as to how you typically react in each of the situations listed below. There are no right or wrong answers.

- 4 = Always
- 3 = Frequently
- 2 = Sometimes
- 1 = Never

1. Do you try to do as much as possible in the least amount of time?
2. Do you become impatient with delays or interruptions?
3. Do you always have to win at games to enjoy yourself?
4. Do you find yourself speeding up the car to beat the red light?
5. Are you unlikely to ask for or indicate you need help with a problem?
6. Do you constantly seek the respect and admiration of others?
7. Are you overly critical of the way others do their work?
8. Do you have the habit of looking at your watch or clock often?
9. Do you constantly strive to better your position and achievements?
10. Do you spread yourself "too thin" in terms of your time?
11. Do you have the habit of doing more than one thing at a time?
12. Do you frequently get angry or irritable?
13. Do you have little time for hobbies or time to yourself?
14. Do you have a tendency to talk quickly or hasten conversations?
15. Do you consider yourself hard-driving?
16. Do your friends or relatives consider you hard-driving?
17. Do you have a tendency to get involved in multiple projects?
18. Do you have a lot of deadlines in your work?
19. Do you feel vaguely guilty if you relax and do nothing during leisure?
20. Do you take on too many responsibilities?

TOTAL: _____

Appendix B

Health Survey

In the past 12 months, how often have you had:

1. a sore throat?
2. a runny nose?
3. sinus pressure/headache?
4. vomiting?
5. a fever?

In the past 12 months, how often have you had 2 or more of these symptoms occurring together?

On a scale of 1-10, how would you rate your overall health in the past 12 months (1 being least healthy and 10 being the most healthy)?