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Determining if there is a Relationship between Locus of Control and Stress

Sara Roderick⁸

Locus of Control and stress are potentially vital concepts that could, in theory, reveal to be major players in everyday life. Previous research has examined locus of control in relation to stress, although both locus of control and stress were variables defined in a variety of different contexts depending on the research. Some studies focused on locus of control and stress in regards to specific environments, while others looked at the concepts in broader terms, such as this study does. Indeed, the present study sought to explore the relationship between these two concepts in a more general sense, in order to achieve a rudimentary understanding of how locus of control and stress could possible relate. Participants were given a survey comprised of two other surveys combined and slightly modified that measured locus of control orientation (internal or external) and perceived levels of general stress. Participant's scores within each variable were compared. The results of the study indicated that there was indeed a significant relationship between an external locus of control orientation and high stress levels, although the strength of that correlation remained weak.

This study was conducted in order to discover if there was any type of relationship between an individual's levels of perceived, general stress and that same individual's internality or externality of locus of control. By obtaining more information as to the relationship between one's locus of control orientation and stress levels, it is at least somewhat possible that individuals will become more aware of their locus of control orientation and can then, if a relationship is found, take more effective steps to manage stress. The reasoning behind this study is to increase awareness of locus of control in general, and how such a concept can relate to other factors such as stress levels. In the study recounted here, one survey was posted online and made available to participants. This survey measured levels of stress and the orientation of one's locus of control. It is believed that by examining the scores for externality and internality of locus of control as well as levels of stress, further insight as to whether or not the two concepts have any type of relationship can be gleaned.

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Although a concept such as stress is more familiar, one such as ‘Locus of Control’ may remain slightly more undefined. Locus of Control is a term for how one attributes events and circumstances to either his or her own actions, or to environmental factors. To have an external locus of control is to feel as if events are dictated by chance or luck – therefore originating independently, not as a result of the individual’s actions. On the other hand, to have an internal locus of control is to feel as if you as an individual can influence events, and that luck has nothing to do with how things turn out. In other words, those with an external locus of control feel more acted upon by the environment, while those with an internal locus of control feel as if they act on the environment (Rotter, 1990).

In this study, locus of control is being examined in relation to stress levels. Stress levels are defined in this instance as one’s perceived, general levels of stress – not situational or specific types of stress. Although stress itself is a varied concept that can be applicable to life in many different ways, this study hopes to measure Locus of Control orientation against participants’ general rating of how stressed they are.

The possibility of a relationship existing between stress levels and Locus of Control orientation is illustrated by a variety of previous research into areas very closely related to what this study touches on. Studies by Sprung and Jex (2012) and Gianakos’ (2002) both examine locus of control orientation in regards to individual response to stress specific to the workplace. These studies are helpful in that they demonstrate how locus of control and stress interplay in real-life, everyday situations, even if they are not looking at more generalized instances of stress. Through the use of an online survey made up of established measures of locus of control and work-related stress, Sprung and Jex (2012) found an interesting, positive correlation between an externally oriented locus of control and greater instances of counterproductive workplace

behavior as a response to work-place specific stress, which was not the case for those scoring with a more internal locus of control. Gianakos (2002) on the other hand examined sex, gender roles, social desirability, and locus of control as predictors for coping styles in the event of work place stress. Giankos (2002) indeed found that one's externality of control was correlated with the use of escape-related coping methods, such as alcohol use, in response to work-place stress – further indicating that locus of control orientation appears to influence how one may respond to stress.

There is further evidence of a possible relationship between the two concepts of stress and locus of control. A few other studies have shown that one's perception of control does appear to relate to various physiological symptoms. For example, in the studies examined here, Houston (1972) manufactures situations in which participants have varying levels of control, and Pruessner at al. (2005) measures the possible relationship between one's locus of control and physical indications of long-term stress, namely, hippocampal volume. Both these studies will be further outlined below to better demonstrate how each measured the physiological manifestations possibly related to Locus of Control.

Indeed, Houston (1972) attempted to design situations in which participants would feel either in control or in which they had no control. He then measured stress levels among the different groups using verbal self-report, as well as physiological monitoring. The results indicated that the group exposed to a situation in which participants had more control did not verbally report as much stress as the group in which participants were given no control. Interestingly enough however, the group given more control over the outcome of their situation had an increased physiological response suggesting high anxiety levels, more so than the group given no control. Even though the in-control group did not verbally report as much anxiety as

the group given no control, physiological monitoring proved that the in-control group actually felt more stress. One possible explanation for this finding is that the difficulty of the task being performed may have caused an increased physiological stress response, but not in the number of self-reports indicating stress (Houston, 1972).

In the study conducted by Pruessner et al. (2005), the researchers measured the personality traits of self-esteem and internality of locus of control. They hypothesized that lower self-esteem and low internality of one's locus of control (or, having an externally oriented locus of control) would predict a more atrophied, or significantly smaller, hippocampus. Atrophy of the hippocampus signifies prolonged, high cortisol levels resulting from sustained stress. The cortisol is what causes the hippocampus to decrease in volume, as a result of its proven atrophying effects.

The results of Pruessner et al.'s (2005) study revealed that low self-esteem and low internality are associated with a lower hippocampal volume. Additionally, those with a more external locus of control orientation experienced a greater cortisol response than those with a more internal locus of control, even when faced with identical stressors. Pruessner et al.'s (2005) study is indeed significant because it provided physiological evidence that those with a more external locus of control in fact experienced increased quantities of cortisol – the stress hormone.

In the study recounted here, I hope to find support for my hypothesis that those with a more external locus of control will also have higher levels of perceived, general stress. As previously stated, participants of this study will take an online survey composed of two established surveys. The surveys utilized for the purposes of this study are Rotter's (1966) Rotter's Internal-External Control Scale measuring locus of control and the Perceived Stress

Scale—Revised, by Wickrama et al. (2013). Participants completed the survey online, and were granted extra credit in their classes for their participation.

Method

Participants

Participants were all fellow undergraduate students at Lindenwood University. All participants came from the Lindenwood Participant Pool (LPP), no subjects were under the age of 18, and all were current students at Lindenwood – the target population for this research. LPP members are student of entry level Psychology, Sociology, Anthropology, and Exercise Science classes that have opted to take part in student-run research in order to earn extra credit in their respective courses. LPP students access available studies by going online to a website run by Sona Systems which allows for a completely online way of managing participation in research projects.

Materials

The materials used in this study were, most prominently, the survey administered (see Appendix A). The survey used was a combination of modified versions of two previously created surveys Rotter's Internal-External Control Scale (Rotter, 1966), and the Perceived Stress Scale--Revised (Wickrama et al., 2003). The two surveys used were chosen by the P.I because they were deemed to be relevant to the study in that they were effective measures of the two concepts under investigation, locus of control and perceived, general stress. Only questions that were the most direct and applicable to college-age students in regards to Locus of Control and perceived general stress were selected for use in this study. The original surveys were modified slightly, so that the selected questions matched with the Likert Scale format of the answers more closely. Participants were asked to fill out the survey online, using SurveyGizmo.com, but to also

feel free not to answer any questions if they did not wish to, as described in the informed consent statement (see Appendix B). The survey was conducted online utilizing SurveyGizmo, which provides easy access to the survey and all related documentation. The SurveyGizmo survey was linked to Sona Systems, the research management software employed by the LPP to recruit and inform participants of ongoing research projects, as well as keep track of any bonus credits earned by participants.

Procedure

The participants were able to view this study on Sona Systems, on the web page that displays all currently active studies. Participants had the option to read a brief description of the study, and were free to choose to participate at any time. At the start of each session, when the participant first traveled to the survey page on SurveyGizmo via the link in Sona Systems, he or she was required to agree to the terms laid out in the informed consent statement, in addition to being informed of his or her rights as a participant. Once participants had read the consent statement and selected to participate in the survey, they were then redirected to the next page of the survey, containing the first of the survey's questions. Once the survey was completed, the participant was redirected to the final page of the survey which contained some more information on the project as well as contact information for the P.I., and how to seek help if needed (see Appendix C). Once all data was collected, the survey was scored and the correlations between stress levels and internality v. externality of locus of control was recorded. The higher the score for Locus of Control, the more external one's Locus of Control orientation was said to be. The higher the score for stress levels, the greater amount of stress one indicated as feeling.

Results

In order to determine if there was a relationship between participants' scores of perceived, general stress levels and Locus of Control orientation, I conducted a Pearson's r test using the data from 65 ($n = 65$) participants in order to determine if any relationship was indeed present between these concepts across all participants. I found that the average score relating to Locus of Control ($M = 5.6462$, $SD = 1.93996$) was slightly lower than the average score for levels of general, perceived stress ($M = 7.7077$, $SD = 1.85171$), however, after conducting the Pearson's r test, the correlation between locus of control and stress was found to be $r = .271$ with a P value of $p = .015$. Based on the results obtained, we rejected our null hypothesis and conclude that there is a significant correlation between an external locus of control orientation and higher levels of perceived, general stress – albeit a weak one.

Discussion

In this study the hypothesis that there would be a significant relationship between locus of control orientation and stress levels was supported because there was a weak positive correlation between the two variables, $r = .271$ with $p = .015$. Although the hypothesis was supported, the correlation does remain weak, and it is important to consider possible reasons for these results in order to improve further research. A possible reason why the correlation found was of a weak strength may be because of the small sample size, $n = 65$. Additionally, the sample was recruited using the LPP, and was therefore made-up of college students exclusively, who were all taking the same basic classes. It may be more enlightening to use a greater, more representative sample in future research in order to compare the results to this study and to see how the correlation strength or significance would change.

There were a few other limitations encountered within this study in addition to sample size. I was exclusively interested in each participant's scores for locus of control orientation and levels of perceived, general stress and did not introduce any variables based on demographics, such as age and gender. In future research, it may be more conducive to a better understanding of the relationship between these two variables to include demographic data and analyze scores of locus of control and stress in relation to variables such as age. Also due to the fact of limited demographic information in the current study, it is unknown how representative the sample was. It would be important to conduct this study again using a sample made up of equal numbers of men and women, as well as equal numbers from different age ranges and ethnic backgrounds. It is very possible that scores of locus of control orientation and levels of stress would have different ranges within different populations, and it would be important to examine the relationship between the two variables within those possibly widely different ranges.

Future modifications that can be utilized in order to overcome these limitations could include having a larger sample size that consists of many people of differing genders, and ages. Additionally, by analyzing the obtained data across many different demographic variables, the data for which would be gathered by way of demographic questions included within the main survey, it is hoped that an even greater understanding of the relationship between locus of control and stress can be obtained.

It would indeed be interesting to further explore the concepts of locus of control and stress in future research, perhaps distinguishing between differing types of stress instead of looking at general levels, and distinguishing between locus of control based on certain situations, such as Sprung and Jex (2012) and Gianakos (2002) did when examining locus of control specific to work-place behavior. Additionally, the survey used to measure these concepts could

include more questions relating to stress, locus of control, and the demographics of respondents. Perhaps by more clearly defining the concepts of stress and locus of control orientation, and by measuring each in a slightly more specific manner while allowing demographics to play a part, the results may vary from those encountered here. Such results may provide further insight into each of these concepts and the possibility of a stronger relationship between them.

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Appendix A

Locus of Control and Stress - Senior Thesis by Sara Roderick

Page 2

You will be presented with various statements, all of a similar nature but addressing slightly different aspects of individual personality. Please select the option that corresponds with how much (or how little) you agree with a particular statement.

Please take this survey in a location in which you feel comfortable answering questions regarding your own personal thoughts and feelings.

1) Many of the unhappy things in people's lives are partly due to bad luck.

Strongly Disagree Disagree Disagree Somewhat Neutral Agree
Somewhat Agree Strongly Agree

2) Unfortunately, an individual's worth often passes unrecognized no matter how hard he or she tries.

Strongly Disagree Disagree Somewhat Disagree Neutral Agree
Somewhat Agree Strongly Agree

3) Most students don't realize the extent to which their grades are influenced by accidental happenings.

Strongly Disagree Disagree Disagree Somewhat Neutral Agree
Somewhat Agree Strongly Agree

4) One can only become successful if given the right chances.

Strongly Disagree Disagree Disagree Somewhat Neutral Agree
Somewhat Agree Strongly Agree

5) No matter how hard you try some people just don't like you.

Strongly Disagree Disagree Disagree Somewhat Neutral Agree
Somewhat Agree Strongly Agree

6) Many times exam questions tend to be so unrelated to course work that studying is really useless.

Strongly Disagree Disagree Disagree Somewhat Neutral Agree
Somewhat Agree Strongly Agree

7) This world is run by the few people in power, and there is not much the little guy can do about it.

Strongly Disagree Disagree Disagree Somewhat Neutral Agree
Somewhat Agree Strongly Agree

8) When I make plans, I am almost certain that I can make them work.

Strongly Disagree Disagree Disagree Somewhat Neutral Agree
Somewhat Agree Strongly Agree

9) In my case getting what I want has little or nothing to do with luck.

Strongly Disagree Disagree Disagree Somewhat Neutral Agree
Somewhat Agree Strongly Agree

10) By taking an active part in political and social affairs the people can control world events.

Strongly Disagree Disagree Disagree Somewhat Neutral Agree
Somewhat Agree Strongly Agree

11) Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.

Strongly Disagree Disagree Disagree Somewhat Neutral Agree
Somewhat Agree Strongly Agree

12) There is a direct connection between how hard I study and the grades I get.

Strongly Disagree Disagree Disagree Somewhat Neutral Agree
Somewhat Agree Strongly Agree

Page 3

You will be presented with various questions, all of a similar nature but addressing slightly different aspects of feelings of perceived, general stress. Please select the response that most closely corresponds with your own feelings.

13) How often do you feel that you are unable to control the important things in your life?

Never Infrequently Somewhat Infrequently Average Somewhat
Frequently Frequently Always

14) How often do you feel nervous and/or stressed?

Never Infrequently Somewhat Infrequently Average Somewhat
Frequently Frequently Always

15) How often do you feel unable to cope with all the things you have to do?

Never Infrequently Somewhat Infrequently Average Somewhat
Frequently Frequently Always

16) How often do you find yourself thinking about things you still need to accomplish?

Never Infrequently Somewhat Infrequently Average Somewhat
Frequently Frequently Always

17) How often do you feel as if difficulties are piling up so high that you cannot overcome them?

Never Infrequently Somewhat Infrequently Average Somewhat
Frequently Frequently Always

18) How often do you feel confident about your ability to handle your personal problems?

Never Infrequently Somewhat Infrequently Average Somewhat
Frequently Frequently Always

19) How often do you feel that you are effectively coping with important changes occurring in your life?

Never Infrequently Somewhat Infrequently Average Somewhat
Frequently Frequently Always

20) How often do you feel as if things are going your way?

Never Infrequently Somewhat Infrequently Average Somewhat
Frequently Frequently Always

Appendix B

Page One

This survey about the possible relationship between locus of control and stress was created by Sara Roderick as part of a class research project in the department of Psychology at Lindenwood University. This survey contains questions pertaining to Locus of Control and perceived, general stress.

Locus of Control is a term for how one perceives the events of daily life in relation to what determines them. To have an Internal Locus of Control is to feel in control of events and outcomes, while having an External Locus of Control is to feel as if outcomes are subject to fate and chance.

This survey will take approximately 5 minutes to complete. Although your participation may not result in direct benefits to you, information from this study may help provide additional insight into the relationship between ones Locus of Control and perceived, general stress levels. Please read the information below before deciding whether or not to participate.

- **Your responses will be anonymous. No information that identifies you personally will be collected, not even your IP address. The primary investigator will not be able to identify your answers as belonging to you; data will be examined at the group level only.**
- **Your participation is completely voluntary. You may discontinue taking the survey at any time. If you choose not to participate or stop participating before the end of the survey, you will not be penalized in any way; LPP participants will still receive extra credit.**
- **The results of this survey will be used for scholarly purposes only. If you have any questions about the survey itself, please contact the primary investigator, Sara Roderick at 636-577-4192.**
- **Taking this survey could result in some distressing feelings, like guilt, confusion, frustration, stress, anxiety or sadness for some participants, but these feelings are not expected to exceed what one experiences in everyday life. If you find taking the survey causes you significant discomfort and you would like assistance, please stop participating and contact the Lindenwood Student Counseling and Resource Center at 636-949-4889. If you are not a Lindenwood student, contact the P.I., Sara Roderick, for information on how to contact persons in a position to refer you to counseling services.**

**ELECTRONIC CONSENT: Please select your choice below.
Clicking on the "agree" button below indicates that:**

- **You have read the above information.**

- **You voluntarily agree to participate.**
- **You are at least 18 years of age.**

If you do not wish to participate in the research study, or are not at least 18 years old, please decline participation by clicking on the "I choose not to participate" button.

*

- I choose to participate in this survey.
- I choose not to participate.

Appendix C

Thank You!

Thank you for your time today. Whether you decided to complete the survey or opt-out, please read below for important information.

If you found that the survey caused you emotional distress and you would like assistance, please contact the Lindenwood Student Counseling and Resource Center at 636-949-4889. If you are not a Lindenwood student, contact the P.I., Sara Roderick, for information on how to contact persons in a position to refer you to counseling services.

**For tips on managing stress please see the PDF document located at:
<http://yalestress.org/pdf/stresstips.pdf>**

It is recommended that you download this document for future reference.

If you would like to see the results of my survey after December 8, 2014, please feel free to contact me using the contact information below. Again, thank you very much for your time and effort!

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