
Is Your Mood Affected By Weather?

Introduction

Weather is an uncontrollable atmospheric action and often inconsistent. Can the same be said about our moods? Some people's moods are like the weather, hot, cold and very inconsistent. Studies have been done to see if one is dependent of the other. Weather has for some time been believed to impact a person's mood but it is very difficult to capture in a study. This could be due to how people describe their mood on self-reporting surveys or weather may not be a direct impact on mood. Yet, self-reports are still the most commonly used research method in measuring mood and weather. For my study, I would like to identify if weather affects mood. Data will be collected from participants by way of self-reporting surveys. Data will then be loaded into SPSS for assessment.

Problem Statement

Often, some of us have heard conversations where people feel weather affects their recreational activities and eventually affecting their moods. We do not need to be a weather forecaster or a scientist to recognize a correlation between weather and mood. With prevailing research and analyzing, several have assumed that the correlation is just the very fact that weather conditions provides us the revelation on views regarding life and also ways to grasp them. Some researchers have developed studies to incorporate variables in determining if weather conditions affect mood. This is a topic of interest for me due to it being psychological, difficult, and something that not many would select. Although several studies have been done on this topic, certain regions should be studied more empirically. As with any shift in weather conditions, our mood is impacted good or bad. If the weather temperature decreases to a cold temperature, does mood increase? To help facilitate this study, several sources from previous studies will be used.

Literature Review

Peng, Tang, Fu, Fan, Hor, and Chan (2016), examined if there was a link between weather and peoples' happiness on a short-term level. The findings recommend that climate, economic income, and private health behaviors are all related to levels of happiness. Researchers conducted their study using a geospatial approach (applying analytic methods and statistical data) to two major datasets. The study was uniquely conducted on the worldwide representative survey data that aligned with weather data, geographical information on the city and economic history. In developing the study, the researchers advised it was critical and difficult in the data merging.

In collecting the results, the researchers were able to collect enough data even though the study produced limitations from data compatibility. By ordering and rephrasing closed-ended questions on the survey will bridge the gaps in the study. For example, if the closed-ended survey questions were arranged differently, perhaps the results could have yielded better compatibility.

Construct validity posed an issue from the research design using the survey questions. Although there were disadvantages from the design method and mistranslation on the survey questions, the study still had criterion validity by linking temperature and personal happiness.

Wagner, Keusch, Yan & Clarke (2019), examined if people are physically active indoors or outdoors in extreme temperature conditions. Their independent variable in the study was based upon questions regarding different weather conditions “which of the following conditions is most likely to change the way you go about day to day activities” (Wagner., Keusch, Yan & Clarke, 2019). The researchers used a survey design with common questions. Collecting data from 502 respondents, older adults (>65 years of age) would choose exercising indoors (in a gym) if temperature conditions are not favorable outdoors as opposed to the younger adults.

As opposed to the previous article from Wagner., Keusch, Yan and Clarke (2019) on recreational activities indoors or outdoors being a personal preference, Hansen, Pisaniello, and Xiang (2013), focused on characteristics of work environments where workers are exposed to extreme heat temperatures beyond working health code requirements. They also aimed to summarize findings from published studies, and ultimately strategize ways for the work environment heat exposure reduction, diversification, and additional research analysis.

Blue collar employees working in extremely hot conditions are also in danger of heat strokes, particularly for those working for low wages in countries in tropic regions. The study was conducted from 1997 to 2012. The researchers analyzed data from 55 articles to determine what are the effects on health from working in extremely hot conditions.

The results yielded minimal limitations. The authors feel they may have understudied work-related injuries which may be challenging to data. If this is true, then this will affect the reliability of the results. There was also not enough data to analyze the relationship between temperatures and heat-work related injuries.

In this article by Guzman, Tonelli, Roberts, Stiller, Jackson, Soriano, Yousufi, Rohan, Komarow and Postolache (2007), aimed to find a relationship between weather, severe allergies and mood. The researchers felt that pollen can turn into inflammation in the respiratory system airways and inflammation triggers depression in vulnerable people. The researchers hypothesized that mood sensitivity to pollen, the foremost seasonal pollen, are related to a larger seasonality of mood. A Mann Whitney study was used to compare GSS between participants having or not having mood worsening throughout high pollen counts. Results showed that the potential of mood worsening with high pollen counts, age, ethnicity, and gender of mild conditions were analyzed with supply regressions.

The average age was 29 years for individual's reportage sensitivity to pollen and 30 for people who failed to report sensitivity to pollen. The common length of residence within the study space was 20 years for those not reportage sensitivity and 20 years for those coverage sensitivities to pollen, with simple fraction of the respondents living within the space for over ten years.

Timmermans, van der Pas, Schaap, Sánchez-Martínez, Zambon, Peter, Pedersen, Dennison, Denking, Castell, Siviero, Herbolsheimer, Edwards, Otero and Deeg (2014), study aimed to look at whether or not there are variations in perceived joint pain between older individuals with OA who rumored to be weather-sensitive versus those that failed to in six European countries with totally different climates and to spot characteristics of older persons with OA that are most

prognostic of perceived weather sensitivity.

Baseline information from the Project on degenerative arthritis were used. ACR classification criteria were used to confirm OA. Participants with OA were asked concerning their perception of weather as influencing their pain. Employing a two-week follow-up pain calendar, average self-reported joint pain was assessed range: zero -10. Simple regression analyses, logistical regression analyses and an independent t-test were used. Analyses were adjusted for many confounders.

The majority of participants with OA perceived the weather as affecting their pain. Weather-sensitive participants reported additional pain than non-weather-sensitive participants.

The study resulted in a limitation that should be taken in consideration. If subjects noted that their joint pain wasn't suffering from one in all this weather, they were thought of as non-weather-sensitive persons. The method employed to conduct the study failed to take into consideration whether or not participants' joint pain might be suffering from different weather, like changes in air pressure. Moreover, it's necessary to acknowledge some caveats with relevance the utilization of 3 local climate varieties.

Advantages and Disadvantages

Advantages and disadvantages will also be in reference to the research question. They are supported by previous studies regarding productivity in certain weather conditions. This will be supported by findings from various studies from researchers focusing on how temperature and weather can influence mood that affect productivity.

Peng, Tang, Fu, Fan, Hor, and Chan (2016), incorporated the geospatial approach to the statistical regression to expand and elevate people's mood was a major advantage to the study. The disadvantage to the design method was that it caused too many loopholes with collecting data. The context of the survey questions did not translate well to some cultures; thus, causing social desirability.

Wagner, Keusch, Yan & Clarke (2019), An advantage to using the study design of the questionnaire was the rigor in which the survey questions were constructed that derived from literature reviews. The results did not produce many limitations. For example, if the sample size had been increased, it could have yielded precision results in the categories of age, education, income and race; thus, bridging the gap in the study.

A disadvantage to the design method was that it did not account for the neighborhoods in which people live in. For example, is there a walking trail or park in the neighborhood? If not, could this pose an issue why some are not physically active outdoors? In advantage to the design method was that the rigor in the survey question deriving from literature reviews decreased any bias responses from participants. In relation to Peng, Tang, Fu, Fan, Hor, and Chan (2016), concluding people are less happy if unable to do physical activity outdoors, Wagner, Keusch, Yan & Clarke (2019), concluded exercising is much labeled as a personal preference whether indoors or outdoors.

A disadvantage to Guzman, Tonelli, Roberts, Stiller, Jackson, Soriano, Yousufi, Rohan,

Komarow and Postolache (2007), study was they only studied black communities. By using a small sample size, results might not be generalizable to the whole population. The researchers also did not directly measure depression scores or pollen counts. They also did not collect information on allergies. Results from the study are an expression of circular reasoning. Thus, additional refined epidemiologic, empirical and experimental work is important to verify our hypothesis. On a clinical level, there's a necessity for more studies concentrating on longitudinally evaluate depression, allergic reaction symptoms, inflammation markers, and pollen counts. The researchers concluded their study be a preliminary.

The method applied in Timmermans, van der Pas, Schaap, Sánchez-Martínez, Zambon, Peter, Pedersen, Dennison, Denkinger, Castell, Siviero, Herbolzheimer, Edwards, Otero and Deeg (2014) study worked to their advantage. The researchers' greatest data was that the initial large-scale study that examined self-perceived weather sensitivity and joint pain in older individuals with OA in Europe, corrected for a large vary of contradictory factors. Previous studies were performed within the USA and Australasia were primarily centered on self-perceived weather-sensitivity and pain in less specific teams. This study used a population-based approach and centered on one illness cluster and it magnified insight into the characteristics profile of weather-sensitive individuals with OA during a general population of older persons across Europe. This could assist distinguishing weather-sensitive older individuals with OA.

A major disadvantage to these studies would be that weather and mood can be difficult to capture. It can be difficult due to a person's medical condition or the temperament of a person to conclude that weather influences mood. Researches put their best method of study to the test to identify the link between both weather and mood, yet none of the designs accounted for age and gender of the participants. It is hypothesized that weather affects mood. Creating strategic questions focused on weather conditions, this study may yield better results on concluding weather affecting mood. Although the sample size is small, the data should still give results to if the temperature decreases to a colder degree, does mood increase?

Materials

An online survey program, Qualtrics will hold all materials needed for participants to complete the online survey. This program is used for research purposes is exclusive to Southern New Hampshire University. Participants will need internet access, computer and 20 minutes of time to complete a 15 self-reporting survey regarding personality and weather conditions. The questionnaire will employ a Likert Scale as an ordered category scale.

Procedure

To test the hypothesis, graduates will answer a questionnaire on how does weather influence their mood. Prior to the questionnaire, each respondent will be given an informed consent form. This is because participants will be providing information on the demographics consisting of age, gender, city and state.

The self-reporting questionnaire will be related to three sections. The initial section is the demographic information. This will be a generic Likert Scale asking for age range , gender, temperament, allergy/sinus or joint pain sufferer and geographical information. This is general

information regarding the participant's temperament prior to weather conditions. The next section will list different the seasons where they will scale 1 for like, 2 for dislike, 3 for neutral. The last section will list types of weather conditions (rain, sunny, hot and cold) and they will select their mood (happy, sad, neutral) associated with the weather condition.

Ethical Concerns

An informed consent explaining the purpose of the research, duration of study and procedures will be provided to all participants. Participants will also be informed of their rights to decline to participate and can withdraw from the analysis once it's started. They will also be informed of anticipated consequences of withdrawing. The informed consent form is vital to research because participants will be providing demographic information such as age, male/female, city and state. The form will also advise of confidentiality and security measures. Providing this form will cut down all any ethical issues that may arise from the study if not provided.

Results

Reviewing the literature reviews, my anticipated results will identify if conditions of weather can affect your mood. I anticipate sunny days will be highly preferable. I also anticipate some female participants may not report the majority of their mood from conditions of weather; whereas male participants' mood will have a neutral response from conditions of weather. Anticipated results will give a clear distinction if weather affects mood.

The anticipated results will be exhibited as actual views and not as explanations of cause. Results will be cautiously taken in consideration to guarantee that there are no ethical issues with deceiving anyone with the outcomes.

Because of the small sample size with the sample being enrollees from Southern New Hampshire University, limitations are expected. Normal distribution may not be normal due to the limited population; thus, will be harder for a larger population to be generalized.

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