The Effects Weather Conditions Have on Mood

Group 26

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Abstract

This study aims to answer the general question "Does weather affect mood?" A large number of participants of varying ages and nationalities were given a questionnaire to fill out for the sole purpose of answering this question. Various preceding studies have shown that higher temperatures and sunnier days correspond to better mood and productivity whereas colder and rainier days are associated with lower productivity and an overall gloomier mood. These findings are consistent with the results obtained by the current study. It was observed that the majority of the participants preferred summer and spring. The participants reported that they felt more lively and social in these seasons and on sunnier days. Participants also reported to feel calm or melancholic on colder, cloudier and rainier days.

Introduction

Nowadays it is commonly believed that weather influences people's mood with the general conclusion that days with a lot of sunshine cause a better mood than those with rain. Despite this seeming to make a lot of sense, the exact extent and parameters of this influence have yet to be determined. This may be due to the fact that most documented knowledge about the effect of weather on mood regard the seasonal influence and seasonal affective disorder whilst the number of studies concerning the particular effect on daily mood is rather low (Keller et al., 2005). In general, most studies indicate that a good mood and higher productivity level are rather related to warm, sunny days than rainy, dark ones (Klimstra et al., 2011; Denissen et al., 2008). Considering the broad range of the topic "weather", past studies have focused on a lot of different weather parameters such as humidity, barometric pressure or wind power (Denissen et al., 2008). However, it seems that the most important and reoccurring parameters to consider when conducting research are the differences between seasons and amount of sunlight (Denissen et al., 2008; Kanikowska et al., 2019), the effect of temperature (Howard & Hoffman, 1984) as well as the individual take of how weather can affect someone's daily mood (Klimstra et al., 2011). Regarding the last aspect, one study by Klimstra et al. (2011) hereby even determined four reactivity types as Summer Lovers, Unaffected, Summer Haters and Rain Haters as well as identifying genetic relations for two of those types, indicating that weather reactivity may even be correlated to one's family tree. Similarly to Klimstra's et al. (2011) conclusion, with the current study we aim to focus on the individual effects that weather may have on people by evaluating to what extent someone's origin, general weather or season preferences and gender influence the result. It was hypothesised that perhaps one's origin and individual preferences could play a big part in how much power the weather conditions hold over one's mood, since someone from a country with a colder climate may not be as affected by rainy days as someone coming from a country with a very warm and sunny climate. For this purpose, we conducted a survey with participants from all over the world with the intention of comparing the results and examining the individual answers of certain groups further in regard to our hypothesis. In conclusion, the aim of the present study is to obtain a better understanding of the possible relation between weather influences and individual identities.

Methods

Participants in this study included 252 people ranging in age from 13 to more than 50 years old. More than half of the participants were women (61.8%) and the largest number of them were either teenagers or in their 20s (78.8%). The data was gathered from various international sources. A survey was constructed and used that contained simple rating scale questions and multiple questions regarding general information, sociability, and weather preference. The participants indicated their level of productivity on rainy and sunny days on a 5-point scale ranging from "not at all" to "very much". Throughout the survey, an effort was made to keep the survey interesting and not overburden respondents with several difficult questions right after one another. The questionnaire was advertised through general emails and social media posts and all the participants were self-selected and invited to take part in the survey online using Google Forms (www.google.com/forms). The research design of this study was non-experimental and correlational as it studied the relationship between weather conditions and an individual's feelings and mental status. We assessed our secondary hypothesis of a relationship between nationality and weather preference.

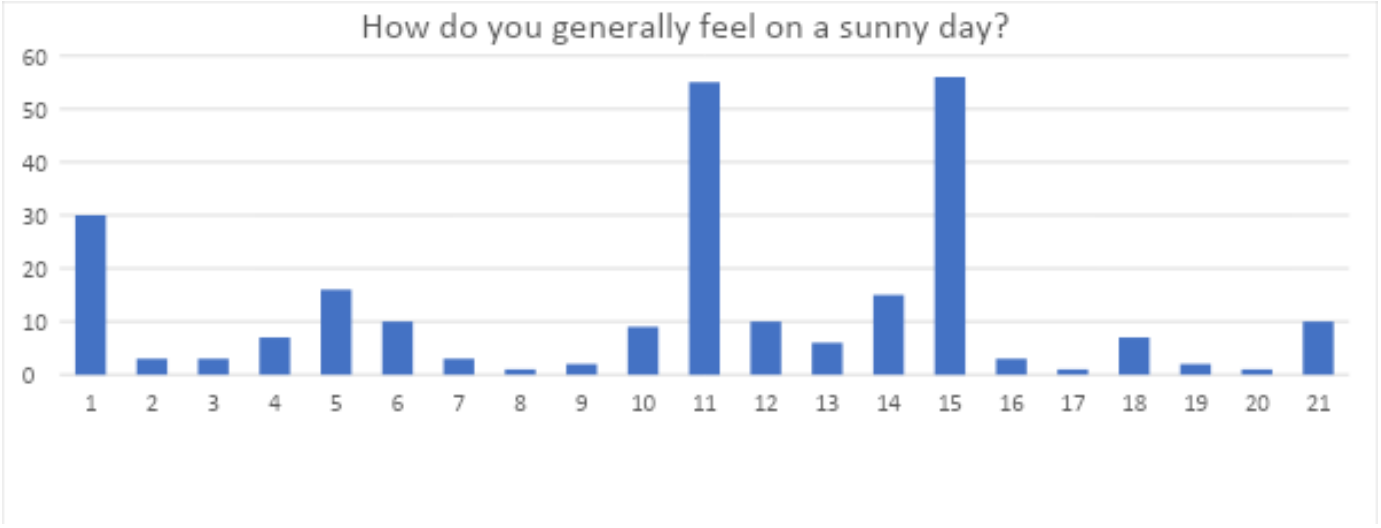
Results

After collecting all of the data, the results were separated into specific groups - age, gender and nationality.

When it comes to age, 42,2% of the people who have completed the survey were in their 20s, compared to 36,7% who were in their teenage years. Furthermore, 10% of the participants were either 50 or older, followed by 7,2% being in their 30s and the final 4% were in their 40s.

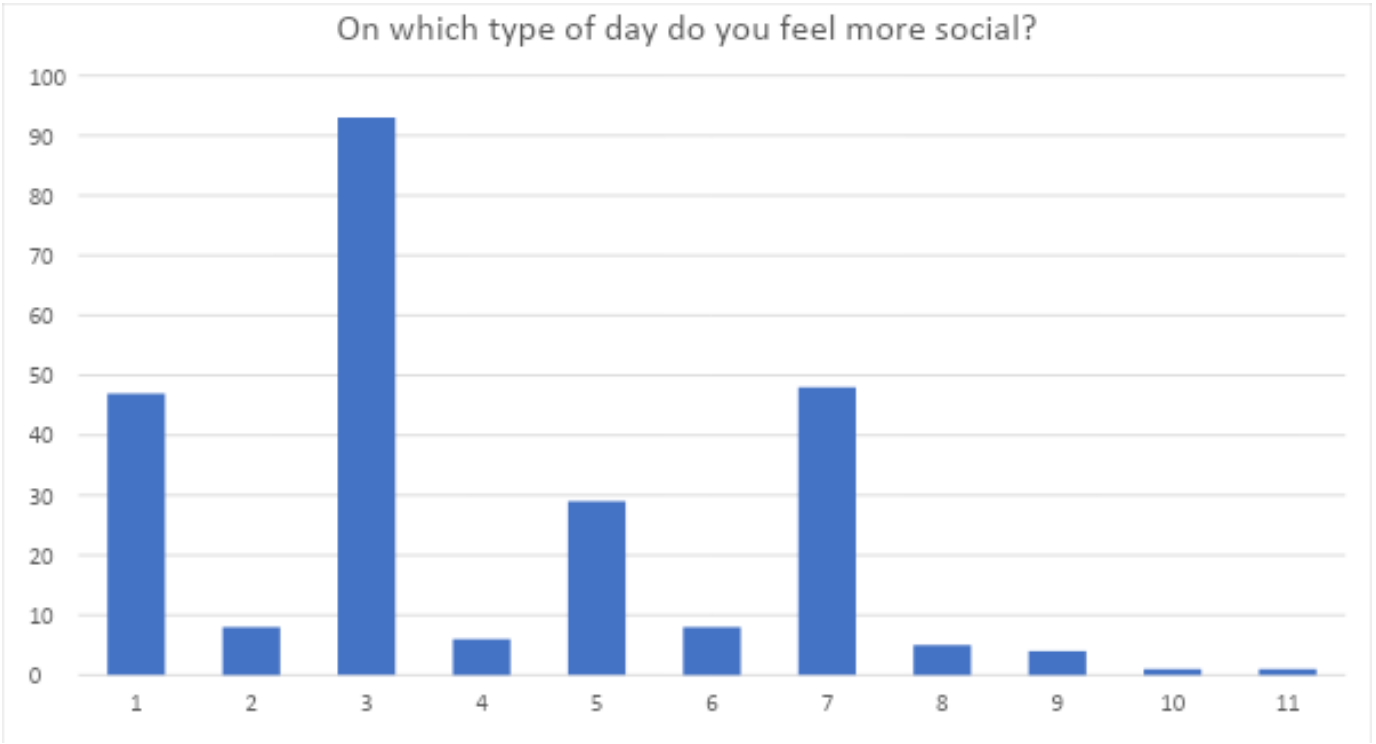
It was found out that 30% of the people in their 20s preferred Summer, being the most preferred season. Contrary to that, teenagers and 50+-aged participants preferred Spring. Autumn was chosen by most of the participants who were in their 30s and 40s.

Participants in the two younger age-groups showed a higher preference for going outside on a clear and sunny day rather than on a cloudy and rainy day. The other age-groups showed the same preference, but not with that much of a difference between the possible options. On a rainy day, four of the age-groups selected “Calm” as their general feeling (31,5%), excluding people in their 40s, who selected “Melancholic” (40%). Concerning the data for sunny days, regardless of the age-group, participants indicated that they feel predominantly “Lively”. Additionally, all age-groups indicated that they feel more social on a clear and sunny day (58%). Majority of the people in their teenagerhood (55,4%), 20s (43,4%), 50s (52%) and 40s (50%) chose “A little” as their answer for the influence their origin has on their weather preference, while people in their 30s (50%) chose “A lot”.



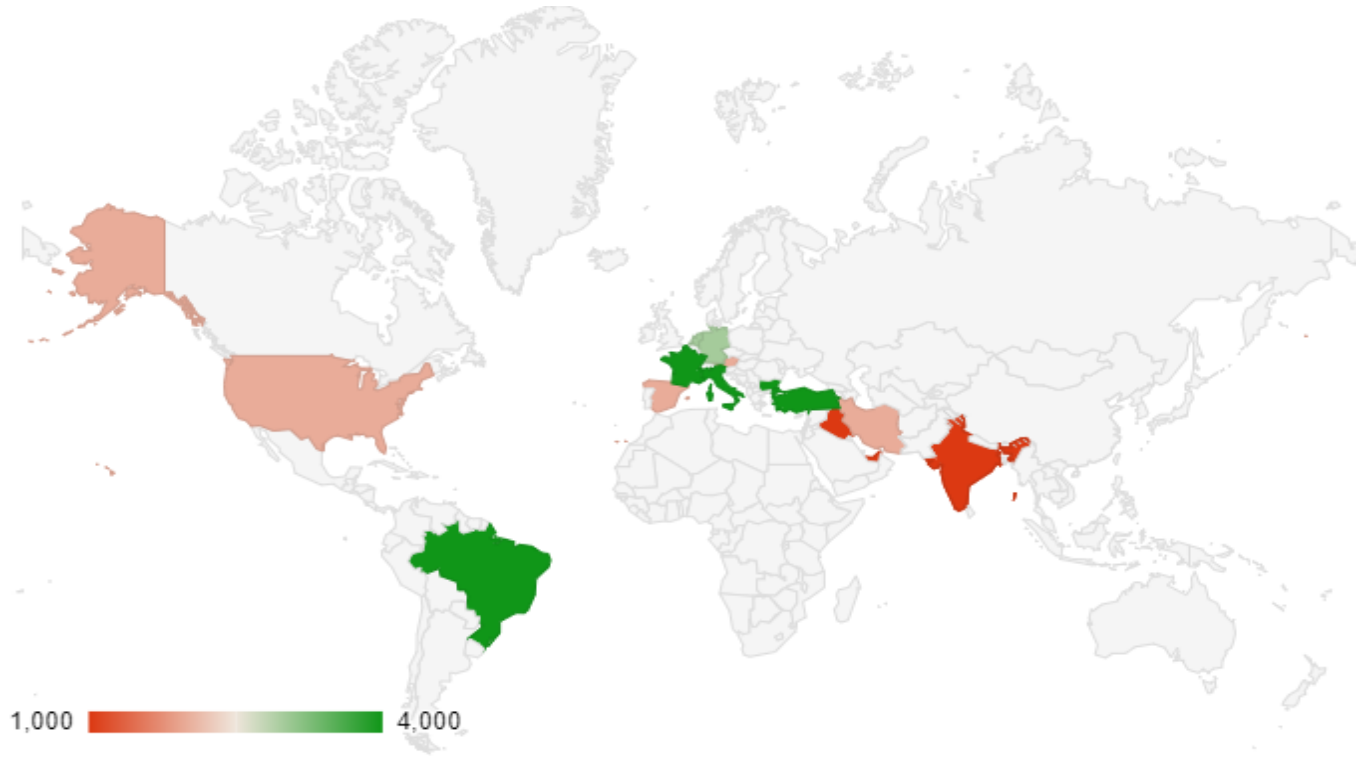
Gender-wise, there were 61,8% female participants, 38,2% males. 36,1% of females chose Spring as their favourite season, compared to males (32,2%) who indicated Summer.

On a sunny day, it was registered that both genders feel more “Lively” (56,6%) compared to the other options. Whereas on a rainy day, male participants feel “Calm”, but female-participants are more “Melancholic” , although there is no significant difference with the option of “Calm” (28,4%). Both genders strongly prefer to go outside on a clear and sunny day (66,9%). When being social, they indicated that they would meet up with friends on a sunny day (58,2%). Nevertheless, females (30,3%) and males (32,2%) chose the option “Both” with a high percentage. Majority of each of the genders (47,8%) chose “A little” as their answer for the influence their origin has on their weather preference.



The third parameter is nationality - countries in South-Central Asia (India), Western Asia (Iran, Iraq, UAE), North America (USA), South-Western America (Brazil), South-Western Europe (Italy, France, Spain), North-Western Europe (Germany, The Netherlands, Austria) and Eastern Europe (Bulgaria, Turkey).

When it comes to favourite seasons, in South-Western and Eastern Europe there is a high preference for Summer and Spring (67,7%), while in North-Western, Spring is chosen as favourite (39,1%), followed by Autumn and Winter. In North America, Autumn is chosen by 57,1%, while Winter only by 0,5%. Contrary to that, in South-Western America, Summer takes the first place by 50%. In South-Central Asia, Winter and Spring are the most popular choices (67,7%), while in Western Asia - Winter and Autumn (75%).



*Winter = 1000, Autumn = 2000, Spring = 3000, Summer = 4000

Regarding sociability, most of the participants indicated that they feel most social "On a clear and sunny day" (54,2%), second most popular choice being "Both" (27,1%). The three leading regions that chose that option are North-Western (69,6%), Eastern (67,6%) and South-Western Europe (62,7%). The option "Both'' takes first place only in Western Asia, where it is chosen by 34,5%, followed by an equal percentage for "On a cloudy and rainy day" and “Neither”, both with 25%, thus the most popular option in the other regions takes last place here.

Discussion

After a thorough analysis of the data, a subtle connection was observed between age- and gender-weather preference. Nationality-wise, there was also a visible preference for seasons associated with warmer weathers and people felt more social on sunnier days in almost all of the specified regions. Most of the participants showed a preference for rather sunnier and clearer weather, with their sociability and productivity being higher on such days. Similar results were also found in Keller et al. (2005), where the number of hours spent in a sunny environment and in rising temperatures (connected to Summer and Spring) improved cognitive functions and led to better mood. Additionally, Howarth and Hoffman (1982)’s multidimensional study found that higher temperatures correlated with lower anxiety levels - this relates to the current study’s finding that people feel “Lively” and more social on sunnier days. Complementary to these findings, another study discovered an obvious correlation between reduced tiredness and sunnier periods of the year (Denissen et al., 2008). Deviating from the general trend, the current study found that the majority of people feel more “Calm” rather than tired or “Unmotivated” on rainy days.
Unfortunately the study failed to take into account the difference between each season in different countries (example:- Summer in Italy and Summer in UAE) which might have caused errors in the calculation of the results.

Conclusion:

As a whole, this study aimed to present the effects of weather conditions on the general mood of people, who participated from all over the world. The survey, which was constructed after consulting various resources, allowed

for the observation of the connection between age-, gender- and nationality-weather preferences. After thorough analysis, the results show a greater preference for warmer and sunnier weather conditions, regardless of the location. Most people indicated that they felt more sociable and active in a sunnier environment, yet rainier weather wasn't necessarily connected to negative emotions - weather relaxation and calmness. Conclusively, weather conditions and mood are interconnected and have a mutual influence on each other.

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