EFFECT OF SEASONAL CHANGES ON PSYCHOLOGICAL WELL-BEING OF WOMEN

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Abstract

The present study entitled "effect of seasonal changes on psychological wellbeing of women" was intended to analyze the effects of seasonal changes on psychological wellbeing of women population. The sample size for the study was N = 200 women. The seasonal pattern assessment questionnaire (modified from Rosenthal, Bradt & Wehr 1987) was administered on university students, which was used to measure the effect of seasonal changes. The data was collected form, the students of Comsats Institute of Informational Technology Abbottabad campus during the winter semester of 2017-2018 academic years. The participant age range from 20 to 30(M = 22.17, SD = 2.16). As per the marital status single individuals possessed highest frequency level with the percentage of 88%, followed by married individual with 10% frequency level, and then separate /divorced comprises of 2% of the sample. Married individuals showed high scores on global seasonality as compared to singles (p <.05). Results of the present study shows the positive correlation of summer on psychological wellbeing (r = .29, p < .01). With that it also discloses that winter is positively correlated with sleep duration. While, spring is positively correlated with psychological wellbeing(r = .21, p < .01). Current study also revealed that food

consumption is positively correlated with winter (r = .19, p < .01). Overall the study findings revealed that all participants feel better during the summertime and worst during wintertime.

***Keywords**. seasonal changes, psychological wellbeing, food consumption.*

Introduction

More and more evidence is pointing to the detrimental effects of climate change, including persistent variations in standard temperatures and precipitation, changes in the amount, execution, and regional circulation of precipitation, an increase in the probability of catastrophic events like flooding and drought, and rising sea levels. As a result, the change of seasons has a direct effect on the mental health of individuals 1.

The concept of wellbeing is multifaceted, individualized, and personal. It appears to be impacted by factors including environment, lifespan, and gender as well. Thus, the purpose of this study sought to explain how seasonal variations affect the well-being of women in their 20s and 30s. The ways in which the changing climate affects men and women differently could depend on a variety of factors. For instance, in the majority of homes, the power relationships between men and women will affect how each group reacts to climatic shocks 2. Climate change consequences are also influenced by the interdependencies, expectancies, rights, the methods of subsistence which are developed among females, among males, and among people within an area and manifest out in varied circumstances3.

Seasonal Changes

Typically, seasonality refers to fluctuations in any quantifiable phenomena with a seasonal component; however, in this case, we limit the concept to seasonal variations regarding human mood as well as behavior 4. Men and women are affected by climate change in distinct manners, both in terms of humanity and in regards to both their mental and physical well-being. Women and children may be more vulnerable to the negative effects of climatic change on health due to the intangible consequences from hunger, which increase their susceptibility to illnesses. This could be particularly noticeable in developing nations that are struggling economically. People are exposed to varying amounts of light due to seasonal variations. Psychologists have recently come to understand how seasonal variations affect emotions and behaviors. Patients with seasonal affective disorder (SAD), a unipolar mood disorder, react strongly to the overall amount of light in their surroundings 5.

Psychological Wellbeing

Two indicators of psychological well-being are the absence of negative thoughts and the occurrence or development of positive thoughts. Numerous

characteristics of psychological well-being include an active lifestyle, emotional equilibrium, a positive outlook, life satisfaction, prosocial behavior, and so on. It includes the happiness that stems from a person's values, aspirations, and needs as a result of reaching their full potential in given circumstances. Psychological well-being is another term for positive mental health6. Numerous research have demonstrated that psychological well-being is a multifaceted, multifaceted view that develops as a result of a confluence of factors such as life experiences, uniqueness, personality traits, and emotional regulation7.

Seasonal Changes and Psychological Wellbeing

The days get shorter in the fall. The overall population may experience seasonal symptoms during the shortest days, which can possess a detrimental effect on individual's psychological well-being. Natural sunlight is supposed to increase psychological well-being, or a general sense of well-being, but artificial light can also be beneficial. Approximately 80% of individuals in modern society are inside, whether at home, work, school, shopping, or on public transportation. This may result in circadian misalignments not solely as a result of seasonal changes in emotional and behavioral states, but additionally as a result of poor lighting conditions at home or at place of employment, and it may thus have a negative impact on the quality lives in generally, the standard of living in relation to health in particularly, and, especially, mental health and wellbeing 8. Increased outdoor activity, increased social interactions, and cohabitation are all favorably correlated with psychological wellness. Conversely, more seasonal variations and low interior light levels are linked to worse psychological well-being. The degree of seasonally fluctuations in moods and behavioural conduct is the strongest counteracting factor on psychological well-being.

This study looked at seasonal changes along with alterations in behavioral conduct that are connected to weather in three groups: inner-city Aboriginals, countryside Aboriginals (First Nations), and urban non-Aboriginals. It also investigated the effects of seasonally and climatic changes on 5 behavior facets: attitude, interaction with others, weight, consumption of food, and sleep duration. The participants in a study looking into the way seasonal variations impact human circadian rhythms slept later in the summertime and earlier wintertime, and got up in the summertime earlier. The study also discovered seasonal differences in sleep duration 9.

In research that looked at the relationship within mood & season. Researchers came to the conclusion that while certain correlations have been discovered, different research have shown different meteorological conditions to be more significant, while some investigations have discovered no impacts at all 10. Throughout the springtime, higher temperature and high barometer pressures, especially if time is spent outdoors, correspond with good mood. But in the summer, when temperatures rise over

comfortable levels, people tend to feel less happy11.

The higher prevalence of presumed depression throughout the winter months, according to study, calls for consideration. Adolescent girl's showed seasonally changes in self-identified health as well as symptoms of depression, with greater signs over wintertime12. In their research, 13 discovered that students' perceptions of their wellbeing peaked between mid-October and the end of December, while their perceptions of their health declined between mid-March and the end of May. In the fall and winter, researchers discovered that depression symptoms were prevalent in senior high school pupils in Sweden, particularly in females.

An "engagement with fundamental difficulties in living " is necessary component for psychological well-being14. Psychological well-being is measured by how well a person feels they are in control of their life and purpose, how well their potential has been realized, and the type of interpersonal connections they have developed. It is a gauge of an individual's belief about the purpose of life. Research has shown a connection between PWB and purpose in life. In their research on students in college, they found that students' PWB were determined by their sense of purpose in life. Additionally, dealing with difficult situations has a positive association with purpose of life (King et al., 2006), and work pleasure is associated with a purpose in life 15.

This study looks at whether temperature and the return of stock markets are connected. Temperature represents one of the climatic factors that has a considerable impact on people's moods, according to a psychological study. Behavioral changes are a direct result of mood swings. It is commonly known that whilst elevated temperatures may cause both indifference and violence, lower temperatures can also cause apathy. According to data, there is a correlation between better stock returns and lower temperatures as well as a relationship between lower and higher temperatures. In low temperatures, the link holds both statistically and economically and is resilient to several alternatives testing 16.

People's livelihoods are becoming more heavily impacted by climate change, & those with limited resources are disproportionately negatively impacted since they are less able to prepare for and adapt to the repercussions of a changing environment. Men and women in poverty may experience such impacts in various ways. Though there may be few exemptions, societal and traditional customs around sex disparities & women's inadequate and unequal availability to and command over resources appear to lead women to be more negatively impacted by climatic changes in relation to their possessions and welfare 17.

The results of the research suggests that seasonal fluctuations and shifts have an impact on the girls well-being. Generally, girls reported feeling physically alone as

well as in a lethargic mood during the winter, which was linked to discomfort. The times during which wintertime well-being was seen to be at its lowest were not stated in this report; nevertheless, 18found that health status was thought to be at its lowest from around the middle of March to the final week of May. According to19, adolescent girls self-reported wellbeing differed depending on the season and how it related to hormone contraception and medicine. The girls' accounts of the effects of winter are supported by the result that female pupils had a greater Seasonal affective disorder recurrence (SAD).

The study similarly observed this, suggesting that female patients were more susceptible to seasonal variations. The female participants in this research stated that it was too chilly to walk outside at temperatures between -20 and -30 °C. It is crucial to keep in mind that cold actually causes suffering and that cold periods are linked to higher death rates in global populations 20.

Moreover, a noteworthy correlation was found with too seasonality generally and anxiety, depression, and sleep issues, particularly insomnia. However, many participants show notable seasonal variations in their emotions and actions (seasonality) even when they may not meet the diagnostic criteria for depression. Compared to those with low seasonality, those with significant seasonality had greater health risk signs. In order to ascertain the impact of weather and seasonal changes on emotions, social engagement, size, dietary habits, and sleeping length, three groups of Aboriginal people in Ontario, Canada were researched. The three groups were rural Aboriginal (i.e., First Nation) group (n = 39), urban non-Aboriginal group (n = 49), and urban group (n = 43) (Benita, T. 2012).With the exception of the regional Aboriginal category, wherein insufficient sleep, an elevated level of societal engagement, as well as positive mood were unrelated to any weather variable, weather conditions were associated to every behavior item for every group. Despite living in a harsher environment than urban groups, the Aboriginal group residing in rural areas showed the fewest significant relationships between weather components and behavior items21.

Previous research has discovered a strong correlation between seasonality and higher latitudes, suggesting that reduced wintertime sun radiation exposure plays an important role in the development of Seasonal affective disorder. A research contrasting clinical cohorts (such as Seasonal affective disorder, bipolar disorder, and depressive disorders) to an oversight cohort 22 found that all participants (excluding summer seasonal affective disorder patients) were feeling better throughout the summertime and worse throughout the wintertime.

Objectives

To explore the effect of seasonal changes on psychological well-being among Pakistani women's.

To explore the demographic differences on the study variables.
Hypothesis
There is a significantly positive correlation of summer on psychological well-being of women.
There is a positive effect of winter on sleep duration.
Spring is positively correlated with psychological well-being.
Winter is positively correlated with food consumption.

Seasonal Pattern Assessment Questionnaire (SPAQ). The participants were issued a survey. The survey's goal was to look at how the weather and seasons impact psychological health, mood, social interaction, weight, food consumption, and sleep length. The survey contained one measure from the Seasonal Pattern Assessment Questionnaire (SPAQ). The SPAQ, a self-administered test, is used to assess seasonality (Rosenthal et al. 1987). The SPAQ assesses seasonal variations in sleep, social activity, mood, appetite, weight, & levels of energy. The participants initially score the degree of change of each item on a scale of 0 to 4, with 0 representing no change, 1 representing mild change, 2 representing moderate change, 3 representing notable change, and 4 representing extreme change. Their global seasonality score (GSS) is determined by adding together all of the scores (conceivable aggregate score = 0 to 24). Secondly, participants specify the months during which these behavioral items are at their peak or lowest (for example, which times of year make you feel the worst? Thirdly, the SPAQ evaluates seasonal variations in weight [0–3 pounds, 4–7 pounds, 8–11 pounds, 12–15 pounds, or more than 15 pounds], food choice (yes or no), and length of sleep. Finally, using a scale of 0 to 5, the responder determines if seasonal variation is an issue (0 being none, 1 being mild, 2 being moderate, 3 being marked, 4 being severe, and 5 being debilitating). According to 23a respondent must have a GSS score of 11 or higher overall and a seasonal change score of 2 or higher to be diagnosed positive for SAD.

Procedure

During the winter semester of the 2017-2018 academic year, students at the COMSATS INSTITUTE OF INFORMATIONAL TECHNOLOGY were given the 18-item SPW, 16-item (SPAQ), and demographic form to gather data. Questionnaires were handed to volunteer students at department buildings, the library, and the shopping center in order to reach students from thirty different departments. Students were asked to participate once the goal of the study was explained. They were also given questionnaires that had information about the study, concerns about confidentiality, contact information for the researcher, a form with their demographic information, the Scales of Psychological Well-Being, and the Seasonal Pattern Assessment Questionnaire (SPAQ). The gadgets were implanted in about five

minutes.

Participant of the Study

This study sought to determine how university students' psychological well-being was affected by seasonal variations. Students at CIIT who were enrolled provided the data. In particular, 200 female graduate students took part in this study in the 2017–2018 academic year during the winter semester. The investigator dispatched study equipment to volunteers across many departments and employed a proper selection strategy to pick participants. The age range of the participants was 20 to 30 years old, with a mean age of 22.17 years (standard deviation = 2.16).

RESULTS

Table 1

Psychometric properties of the major study variable (N=200).

Variables	No. Of items	Cronbach's α	M	SD	Potential	Actual	Skew
GSS	6	.69	11.36	3.86	2 - 21	0 - 24	.21

Note. GSS=Globel Seasonality Scores, SD = Standard Deviation, Skew = Skewness

average participant scores on the study measures. The skewness value indicates how the scores of the variables are spread. A positive skewness value on the global seasonality scores (GSS) indicates a pointed, light-tailed distribution curve. Data having an absolute skewness smaller than 2(-1 to+1) can be deemed regularly distributed, enabling parametric testing to be evaluated. As a result, it was decided to do additional analysis after normality was reestablished.

Table 2

Descriptive characteristics of the sample (N=200)

Descriptive Characteristics	F	P	M	SD
Age			22.9	2.8
Weight			47.9	7.7
Education			14.4	1.3
Marital status	200	100		
Single	176	88		
Married	20	10		
Separate /divorced	4	2.0		

and 22 year age of individual are in the highest percentage in the sample.14 year of education comprises the highest in 12 to 21 year of education. As per the marital status level highest frequency is of single individual with the percentage of 88%, married individual comprises 10%, than are Separate /divorced comprises of 2% of the sample.

Correlation between Demographic Variables and Research Variables

Table 3 shows the relationship of demographic variables and the research variables, furthers probing will be done subsequently. Age is positively correlate with socialize most that are (r = .33, p < .01), respectively. Age is negatively correlate with socialize least (r = -.17, p < .05).Global Seasonality Scores (GSS) is positively correlated with weight fluctuation and summer (r = .38 and .29, p < .01). Global Seasonality Scores (GSS) is negatively correlate with sleep least (r = -.32, p < .01).Gain most weight is positively correlate with socialize least (r = .29, p < .01).Socialized most is positively correlate with sleep most (r = .36, p < .01).Sleep least with positively correlate with feel worst (r = .43, p < .01).Sleep least is negatively correlate with weight fluctuation (r= -.15, p < .05).eat most is positively correlated with sleep most (r = .26, p < .01). Lose most weight is positively correlated with eat least (r = .31, p < .01).Socialize least is positively correlate with feel worst (r = .29, p < .01).Socialize least is negatively correlated with feel worst (r = -.29 p < .01).Feel worst is positively correlated with sleep most (r = .17, p < .05).Eat least is positively correlate with weight fluctuation (r = .17, p < .05).Sleep most is positively correlated with GSS(global seasonality scores) (r = 20, P < .01).Weight fluctuation is positively correlated with GSS(global seasonality scores) (r = .36, p < .01).

Table 3

Summary of intercorrelation of the demographic and study variables (N=200)

	Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	AGE	-	.29**	.19**	-0.04	.21**	.33**	0.04	.17*	.28**	-.17*	0.03	.18**	0.05	-0.13	-.16*
2	EDU		-	0.02	0.06	-0.12	-.141*	-.19**	-0.09	.19**	-.25**	-0.01	0.06	0.12	0.13	0.04
3	CW			-	-0.06	-0.13	0.01	-0.13	-.29**	0.08	0.02	-0.08	0.08	-.19**	.14*	0.13
4	FB				-	-0.08	-.14*	.15*	.14*	.15*	-0.09	-0.05	0.13	0.05	.17*	-0.13
5	GMW					-	0.09	.19**	.19**	-.17*	.29**	.21**	.15*	0.03	-0.12	-.16*
6	SOC-M						-	.22**	.27**	.27**	0.02	.19**	.26**	.36**	-0.02	0.09
7	SL							-	.25**	-0.01	.33**	.43**	.28**	0.12	-.15*	-.32**
8	EM								-	0.11	-0.01	.15*	.19**	.26**	-0.1	-.19**
9	LMW									-	-0.07	0.03	.31**	-0.01	.18*	0.08
10	SOC-L										-	.29**	.17*	0.09	0.06	-.14*
11	FW											-	0.12	.17*	0	-0.02
12	EL												-	0.02	.17*	0.01
13	SM													-	.16*	.20**
14	FW/Y														-	.38**
15	GSS															-

NOTE. EDU= Education,CW= Current Weight ,FB=Feel Best,GMW=Gain Most Weight,SOC-M=Socialize Most,SL=Sleep Least,EM=Eat Most,LMW=Loss Most Weight,SOC-L=Socialize Least,FW=Feel Worst,SM=Sleep Most,FW/Y=Weight Flactuation during the Year, GSS=Global Seasonality Scores.

leep

*p<.05.**p<.001.

length (winter) (r = .29, p < .01). Gain most weight is positivity correlated with socialize least (r = .29, p < .01).gain most weight is negatively correlate with seasonal sleep length (winter) (r = -.30, p < .01). Socialize most is positively correlated with sleep most (r = .36, p < .01).sleep least is positively correlated with feel worst (r = .43, p <.01). Sleep least is negatively correlated with global seasonality scores (GSS) (r = -.32, p < .01). Eat most is positively correlated with sleep most (r = .26, p < .01). Eat most is negatively correlated with global seasonality scores (GSS) (r = -.19, p < .01). Lose most weight is positively correlated with eat least (r = .31, p <.01). Socialize least is positively correlated with feel worst (r = .29, p < .1). Socialize least is negatively correlated with autumn (r = -.22, p < .1). Feel worst is positively correlated with seasonal sleep length (autumn) (r = .19 p < .01). Sleep most is positively correlated with seasonal sleep length (summers) (r = .23, p < .01).

Table 4

Summary of inter correlation of the study variables (N=200)

	Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	FB	-	-.08	-.14*	.15*	.14*	.15*	-.09	-.05	.13	.05	.17*	.29**	.04	-.16*	.21**	-.13
2	GMW		-	.09	.19**	.19**	-.17*	.29**	.21**	.15*	.03	-.12	-.30**	-.22**	.04	-.11	-.16*
3	SOC-M			-	.22**	.27**	.27**	.02	.19**	.26**	.36**	-.02	.05	-.02	.17*	.11	.09
4	SL				-	.25**	-.01	.33**	.43**	.28**	.12	-.15*	.12	-.11	-.12	.11	-.32**
5	EM					-	.11	-.01	.15*	.19**	.26**	-.10	.22**	.06	.03	.15*	-.19**
6	LMW						-	-.07	.03	.31**	-.01	.18*	.19**	.01	.05	.21**	.08
7	SOC-L							-	.29**	.17*	.09	.06	-.18*	-.18*	-.03	-.22**	-.14*
8	FW								-	.12	.17*	0.00	.05	0.00	.19**	.19**	-.02
9	EL									-	.02	.18*	.09	-.03	.08	.16*	.01
10	SM										-	.16*	.14	-.06	.23**	-.03	.20**
11	FW/Y											-	.03	.25**	.36**	-.00	.38**
12	WIN												-	.26**	-.10	.46**	-.01
13	SPR													-	.26**	.31**	.21**
14	SUM														-	.06	.29**
15	AUT															-	-.01
16	GSS																-

Note. FB=Feel Best,GMW=Gain Most Weight,SOC-M=Socialize Most,SL=Sleep Least,EM=Eat Most,LMW=Loss Most Weight,SOC-L=Socialize Least,FW=Feel Worst,SM=Sleep Most,FW/Y=Weight Flactuation during the Year,WIN=Winter,SPR=Spring,SUM=Summer,AUT=Autumn.GSS=Global Seasonality Scores

*P<.05.**P<.001.

Table 5

Group Differences between Global Seasonality Scores (N=200) by using ANOVA

Variables	Single		Married		Sep/Divorced		F	p	MDI-J
	M	SD	M	SD	M	SD			
GSS	10.93	3.75	15	3.24	12	.00	11.04	.00	4.70* (Married>single)

Note. GSS = global seasonality scores, M=mean, SD=standard daviation, P=level of segnificance, MDI-J=mean differences

Analysis of varience showed a statistically significant difference between married and singal individual, married showed high scores on global seasonality as compared to singles.(p<.05) .
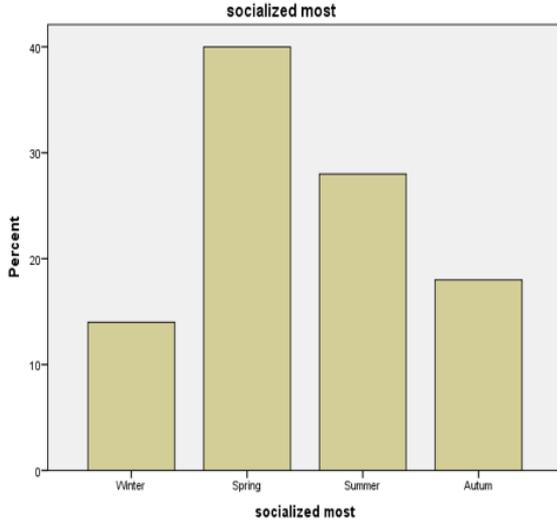
Figure 1

Feel best in different seasons (N=200).
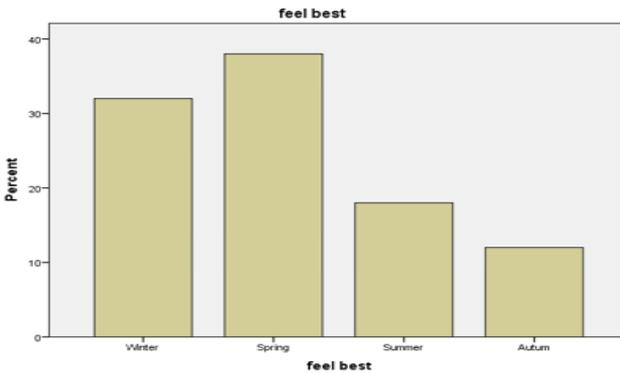
Figure 1 show the percentage in which season participants feel best. The highest percentage in which season participant feel best is spring (38%)and least percentage in which season participant feel best is autumn (12%).

Figure 2

Feel worst in different seasons (N=200).
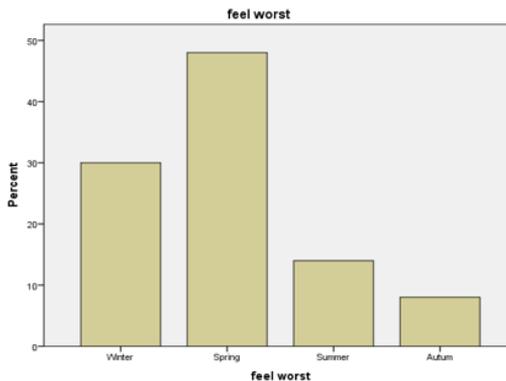
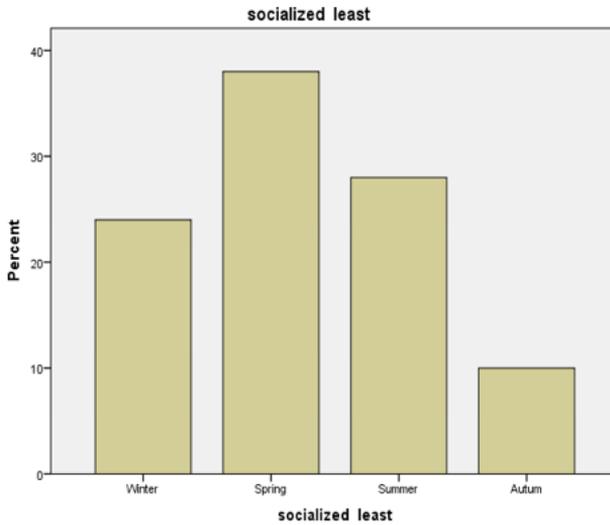*Figure 2 show the percentage in which season participants feel worst. The highest percentage in which season participant feel worst is spring (48%)and least percentage in which season participant feel worst is autumn (8%).*

Figure 3

Gain most weight in different seasons (N=200)
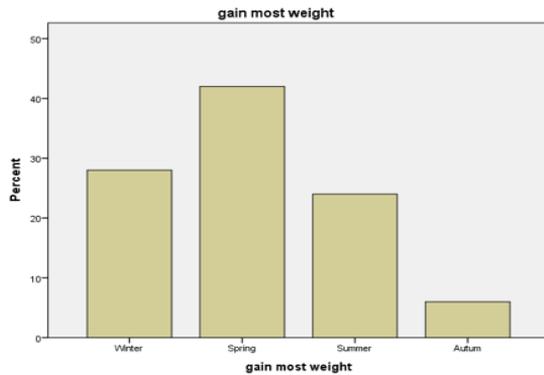
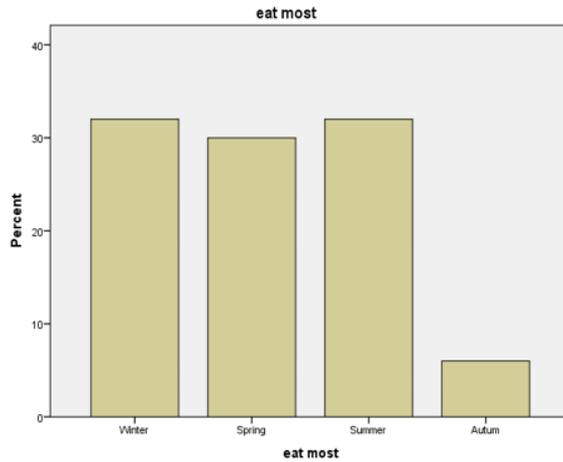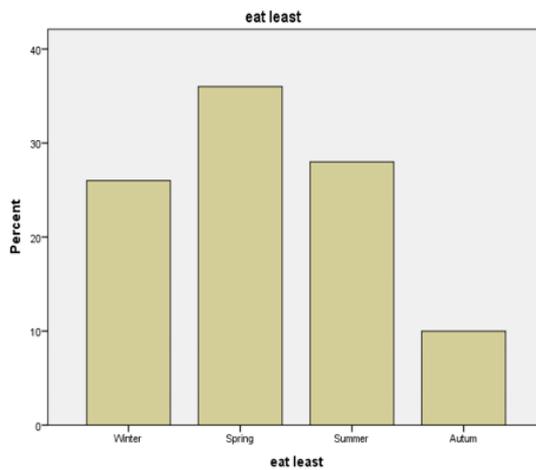*Figure 3 show the percentage in which season participants gain most weight. The highest percentage in which season participant gain most weight is spring (42%)and least percentage in which season participant gain most weight is autumn (6%).*

Figure 4

Lose most weight in different seasons (N=200)
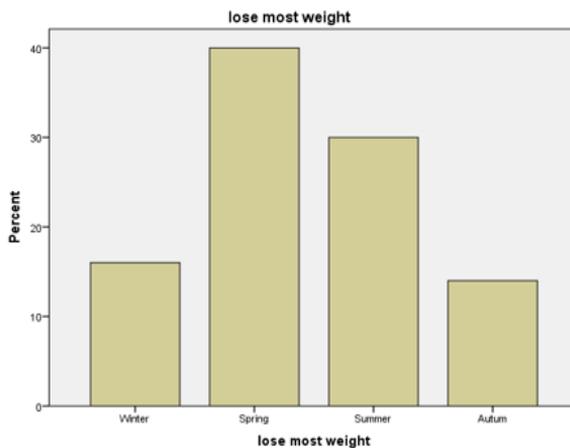
Figure 4 show the percentage in which season participants lose most weight. The highest percentage in which season participant lose most weight is spring (40%)and least percentage in which season participant lose most weight is autumn (14%).

Figure 5

Socialize Most in Different Seasons (N=200)

Figure 5 show the percentage in which season participants socialize most. The highest percentage in which season participant socialize most is spring (40%)and least percentage in which season participant socialize most is winter (14%).

Figure 6

Socialize Least in Different Seasons (N=200)

Figure 6 show the percentage in which season participants socialize least. The

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highest percentage in which season participant socialize least is spring (38%)and least percentage in which season participant socialize least is autumn (10%).

Figure 7

Eat Most in Different Seasons (N=200)

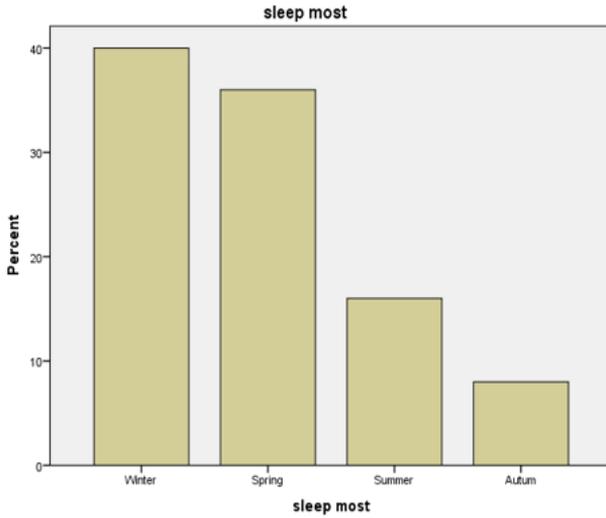*Figure 7 show the percentage in which season participants eat most. The highest percentage in which season participant eat most winter and summer with same percentage (32%)and least percentage in which season participant eat most is autumn (6%).*

Figure 8

Eat Least in Different Seasons (N=200)

Figure 8 show the percentage in which season participants eat least. The highest percentage in which season participant eat least is spring (36%)and least

percentage in which season participant eat least is autumn (10%).

Figure 9

Sleep Most in Different Seasons (N=200)

Figure 9 show the percentage in which season participants sleep most. The highest percentage in which season participant sleep most is winter (40%)and least percentage in which season participant sleep most is autumn (8%).

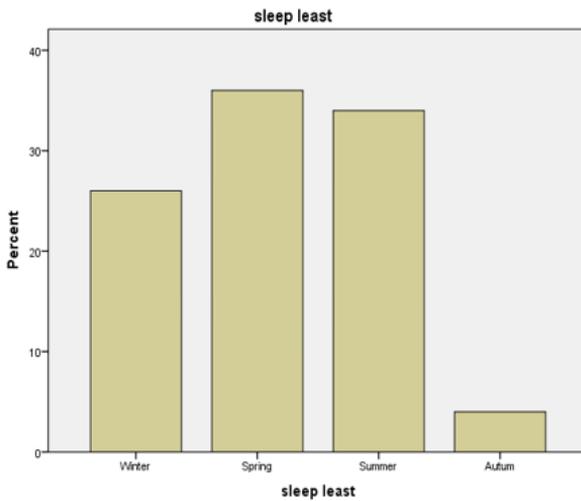**Figure 10**

Sleep Least in Different Seasons (N=200)

Figure 10 show the percentage in which season participants sleep least. The

highest percentage in which season participant sleep least is spring (36%)and least percentage in which season participant sleep least is autumn (4%).

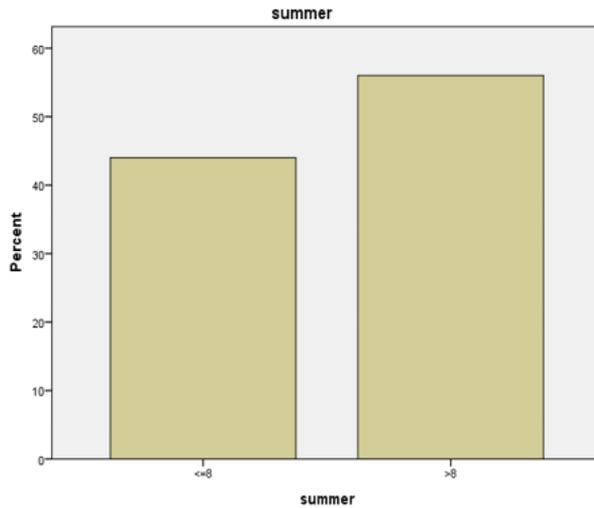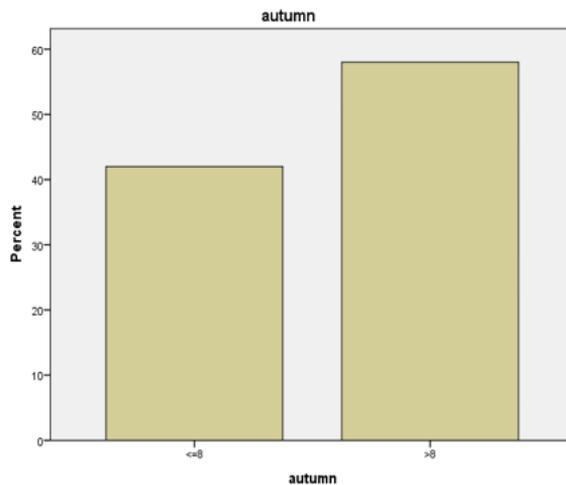**Figure 11**

Sleep Length in Summer (N=200)

Figure 11   show the sleep length of participant   in summer . In summers mostly participant indicated that they sleep more than 8 hours. The   percentage of sleep length is (>8) hours in summers is   (56%). The percentage of sleep length is (<=8) hours in summers is (44%).

Figure 12

Sleep Length in Autumn (N=200).

Figure 12 show the sleep length of participant in autumn. In autumn mostly participant indicated that they sleep more than 8 hours. The   percentage of sleep length is (>8) hours in autumn is   (58%).The percentage of sleep length is (<=8) hours in autumn is (42%)

Figure 13

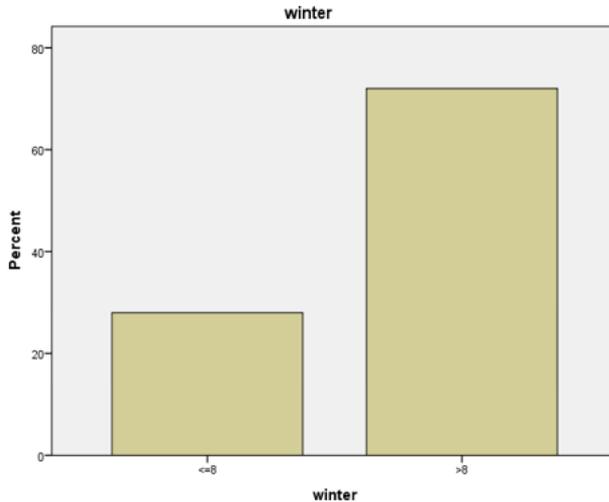Sleep Length in Winter (N=200).

Figure 13   show the sleep length of participant in winter. In winter mostly participant indicated that they sleep more than 8 hours. The   percentage of sleep length is (>8) hours in winter is (72%). The percentage of sleep length is (<=8) hours in winter is (28%).
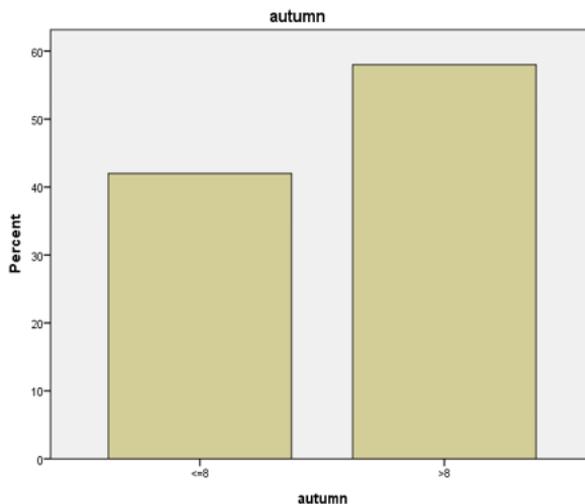
Figure 14

Sleep Length in Spring (N=200).

Figure 14 show the sleep length of participant in spring .In winter mostly participant indicated that they sleep more than 8 hours. The percentage of sleep length is (<=8) hours in spring is (58%). The percentage of sleep length is (>8) hours in spring is (42%).

DISSCUSSION

The study set out to investigate how seasonal variations affect people's eating habits, temperament, sleep patterns, and psychological health. The seasonal pattern evaluation questionnaire which was adapted from Rosenthal, Bradt, and Wehr 1987 was employed for this purpose. Approaching the sample was the initial step towards collecting the data. Data was gathered from Abbottabad.

A questionnaire was issued in accordance with the information acquired from several sources in order to comprehend seasonal changes and psychological well-being. The participants were informed of the study's precise goals and objectives. For this objective, 200 people were decided to be the sample size for the research. The details of the analyses are given below:

The reliability of the scale was analyzed by using Cronbach's Alpha. Data analyzed reveal Global Seasonality Scores (GSS) have satisfactory reliability value of $a = .69$ (see Table 1).

Sleep most is positively correlated with summers ($r=.23$, $p< .01$). Weight fluctuation is positively correlated with summer ($r=.39$, $p<.01$). Socialized most is positively correlated with summers ($r=.17$ $p<.05$). Peak of social engagement in summers can be contributed to the fact that it's holiday season. In recent studies better Interpersonal events, greater outdoor endeavors, and staying together are all associated with better psychological health. Larger variations in the seasons, on the other hand, and inadequate brightness indoor associate with poorer psychological well-being. Which proves the hypothesis that "significantly positively correlation of summer on psychological well-being of women's.

Humans ate more during wintertime and less during summertime, supporting the findings shown in Figures 7 and 8. A physiological reaction to cold temperature may lead individuals to take in extra calories throughout wintertime. People consume more calories when they are subjected to cold climate because it raises the rate of metabolism and requires more energy to maintain body warmth24. It backs up the assumption that that there's a link between food consumption and winter.

This study's findings suggest that seasonal variations in the weather have an impact on people's behavior. Comparable findings from earlier research25 asserts that while diverse sights had varying effects on people's sentiments, nature scenes had a rise in positive affect, which includes love, kindness, fun, and exhilaration. The current study found that springtime has a beneficial influence on people's psychological health and that springtime sceneries are found in nature. Hence there

was support for this theory.

The current study found that sleep duration rose in winter the results presented in figure 9 and 10. In a similar vein, it has been shown that people sleep for longer periods of time in the winter 26. This supports the claim that there is a beneficial correlation between psychological wellness and winter. Previous research suggested that the seasonal variation may be due to the fact that the extended winter days might cause despair and "winter moods." It is probably going to negate any incentive to exercise. Circadian rhythms are disturbed in the months with fewer days, especially in the winter. The reason for this is because darkness triggers the circadian clock's programmable production of melatonin, which induces sleep. The reaction starts early in the evening since the light sets sooner in the winter, which disrupts sleep patterns, a typical issue for individuals suffering from depression. The impacts of this shift are more likely to affect those who suffer from seasonal affective disorder, since they are more likely to have hypersomnia, or excessive sleep, and increased hunger.

Conclusion

The current study set out to determine how seasonal variations affected the psychological health of the female population.The seasonal pattern evaluation questionnaire which was adapted from Rosenthal, Bradt, and Wehr 1987 was employed for this purpose. Approaching the sample was the initial step towards collecting the data. Information was gathered from Abbottabad. Following data gathering, the information was carefully computed and examined.

The findings of this study demonstrate that winter has a detrimental effect on women's psychological health. Additionally, age was shown to have a negative link with winter and autumn and a positive correlation with summer in the current study. The global seasonality scores (GSS) and marital status of women differ significantly, according to the data.

Limitations

The sample size of the present study was small i-e (N = 200). In future, the large sample should be selected.

The data was gathered from specific regions in Abbottabad, and it is recommended that data be gathered at the national or preliminary level for more research on an identical subject.

For current study only self-reporting technique is used but for further study more data collecting instruments should be utilize. Such as surveys, online interviews, etc.

License.

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