A STUDY OF HSPPINESS AMONG UTAR UNDERGRADUATES

KHOR FANG JUI

A RESEARCH PROJECT

SUBMITTED IN

PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR

THE BACHELOR OF SOCIAL SCIENCE (HONS) PSYCHOLOGY

FACULTY OF ARTS AND SOCIAL SCIENCE

UNIVERSITI TUNKU ABDUL RAHMAN

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KHOR FANG JUI

Approval Form

This research paper attached hereto, entitled “Happiness among UTAR Undergraduates” prepared and submitted by” Khor Fang Jui” in partial fulfillment of the requirements for the Bachelor of Social Science (Hons) Psychology is hereby accepted.

_____ Date: _____

Supervisor

Dr. Siah Poh Chua

ABSTRACT

The purpose of this study was to investigate the differences in gender and happiness level among UTAR undergraduates. Another aim was to find out the relationship between physical health and happiness. Finally, relationship between Extraversion and Neuroticism with happiness was examined in the study. A cross-sectional survey was administered among UTAR undergraduates in Kampar Campus. Convenience sampling was carried out. 100 Questionnaires were sent out to 50 male and 50 female UTAR undergraduates. The response rate was 100%. Pearson correlation and independent samples t-test were used. The results of the study were that there are no significant gender differences in level of happiness. It was also discovered that there are significant positive relationship between happiness level and physical health. The results also revealed that there are significant positive relationship between Extraversion and happiness level and negative relationship between Neuroticism and happiness level. Limitation and recommendation are discussed.

DECLARATION

I declare that the material contained in this paper is the end result of my own work and that due acknowledgement has been given in the bibliography and references to ALL sources be they printed, electronic or personal.

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Signed : _____

Date : 4th March 2011

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LIST OF ABBREVIATIONS

BAS	Behavioral Activation System
BIS	Behavioral Inhibition System
BMI	Body Mass Index
M	Mean
PHQ	Physical Health Questionnaire
SD	Standard Deviation
SHS	Subjective Happiness Scale
UTAR	Universiti Tunku Abdul Rahman
WVS	Values Survey Association

CHAPTER I

INTRODUCTION

Background of Study

Recently, there emerges a new field of psychology in our society, which is positive psychology. The emergence of this field suggests that our society had neglected the positive side of human being. As a human being, we tend to neglect our positive qualities. We have the tendency to think of our own negative characteristics, our own limitation but we often forget our positive qualities. We often wanted to change these weaknesses but forget to enhance our good qualities. According to Seligman and Csikszentmihalyi (2000), the emergence of positive psychology is to change the focus from repairing the worst thing in human being to building their good or positive quality. Thus, occurrence of positive psychology reminds us to think of our good qualities, to enhance our good quality instead of just focusing on our bad qualities.

One of the main focuses of positive psychology is happiness. Happiness had been explored by Classic Greeks since 6th century B.C under the topic of eudemonia, which means to live well (Steel, Schmidt, Shultz, 2008). However, it is until recent years that it is being explore empirically. Edward Diener is recognized as the dean of happiness research (Fowler, 2009). He was a pioneer in scientific study of happiness since about 30 years ago. Existing happiness studies have been mainly focus on benefits of happiness, relationship between demographics and happiness, and intervention to improve subjective well-being (Diener & Ryan, 2009). Benefits of happiness include social relationship,

income, health and longevity, while demographics variables include variables gender, education, age, religion, marriage, divorced, and unemployment.

Recent research suggest that happiness can enhance our skill in living a good live. Research by Cohn, Fredrickson, Brown, Mikels and Conway (2009), suggest that happiness predict our ability to build our internal resources and thus lead to life satisfaction. This internal resource helps us to adapt to the changing environment so that we are not so vulnerable to our challenging environment.

According to Seligman, Steen, Park, and Peterson (2005), happiness refer to our positive emotion and the pleasurable feeling or pleasurable life. Besides, it also involved engaged and meaningful life. Thus, the term happiness basically encompasses three things, which are positive emotion, engagement and meaning. Happiness can also be known as subjective well being. According to Seligman and Csikszentmihalyi (2000), subjective well being is the scientific term that people use to refer to happiness. Thus, these two words have the same meaning and can be used interchangeable. According to Alexandrova (2005), individual have the right to weight their level of happiness because he or she is the one who know their own experience and events that happening around them. Individual are belief to have the right to judge how they are going through their life. Different individual would attach their happiness to different objects or different events, thus, individual are giving the right to weight their level of happiness. This mean that different people will find certain thing to be more importance in contributing to their happiness compare to others things. Thus, individual is the one who choose their level of happiness.

According to Lu (2001), a total of five underlying themes can be used to explain definition of happiness. The first one is happiness is a mental state of satisfaction and contentment. This means that happiness is gained through achievement of some goal or desire and the ability to be content and satisfied. Another theme refers happiness as a positive feelings or emotions. Happiness include a wide range of feeling or emotion such as joy, comfortable, safe, warm, relaxed and so on. The third theme refers happiness as a harmonious homeostasis. Happiness is a state of harmony within an individual, for example, harmony between a real self and ideal self. Besides, happiness is also referring to a state of harmony between the individual and his or her surrounding environment, for example feeling of trust to the external environment. The fourth theme regards happiness as achievement and hope. This means that a person will be happy if he or she able to get what he or she wants through own effort. Besides, this theme also means that happiness is to be holding a positive view toward the future, to be hopeful. The last theme sees happiness as freedom from ill-being. This means that to be happy is to be free from illness, worries, suffering, and others negative aspects of our life.

For the present study, happiness refers to the person subjective evaluation of his or her overall or general level of happiness. As mentioned earlier, individual is the one who knows their experience and everyone judge different experiences differently, so, the level of happiness should be judge by the individual. Thus, the word “subjective evaluation” is used and is referring to a person’ self-report of his or her general happiness level.

Problem Statement

According to Veenhoven (2008), happiness strongly predicts the likelihood of a person from becoming ill. This mean that happiness is believe to be able to prevent someone from being illness. Thereby, although happiness is an emotional state, it can further exert its influence on our physical body. Another study by Koivumaa-Honkanen, Honkanen, Koskenvuo, and Kaprio, (2003), found out that the risk of committing suicide increase when level of happiness is decreasing. They conduct their study at the participants who are between ages 18 to 64 and found out that general populations with decreasing level of happiness have the higher tendency to commit suicide.

According to Schiffrin and Nelson (2010), they found out that there are inverse relationship between happiness and perceived stress among undergraduates students. This shows that people that are happy are unlikely to feel stress and vice versa. Thus, a student that feel stress would not likely to feel happy.

Besides the research presented here, there are still many similar researches that had been conducted to find out the benefit of happiness. Even we, as a layman believe that happiness can bring a lot of benefit to us, but what are the factors that really affect our level of happiness? Through common sense, we can provide lots of answer to this question, but are the answer provided by common sense can be trusted? In this scientific world, we cannot simply believe something that is without any prove. One way to find out this answer would be to conduct a research to support or find out any alternative suggestion about the factors that lead to happiness. Thus, there is a need for us to

understand the factors that lead to happiness so that we can understand and know the way that can lead to happiness.

Research Question

1. Are there any gender differences for UTAR students in level of happiness?
2. Are there any relationship between happiness and physical health?
3. Are there any relationship between Extraversion and Neuroticism with happiness?

Hypothesis

1. There is a gender differences in level of happiness.
2. There is a correlation between happiness and physical health.
3. There is a correlation between level of extraversion and happiness.
4. There is a correlation between level of neuroticism and happiness.

Objectives

1) To determine the gender differences in happiness.
2) To examine the relationship between physical health and happiness.
3) To find out the differences between personality and happiness

Operational Definition for Variables

Physical Health. Physical Health in this study is defined as a person self-evaluation of his or her health status on four aspects of the body health, which are gastrointestinal problems, headache, sleep disturbance as well as respiratory illness.

Personality. Two type of personality type will be use in this study, which are neuroticism and extraversion. According to John and Srivastava, extraversion is related to social and material world of a person, as well as his or her traits such as sociability, activity, assertiveness, and positive emotion (as cited in John, Naumann, & Soto, 2008). He also stated that neuroticism refer to emotional instability and it may be related to negative emotion such as anxious, nervous, sad feeling. In present study, neuroticism and extraversion will be determined by Big Five Inventory.

Theoretical Frameworks

There are several theories of happiness that explained how we attain our happiness.

Hedonic theory of happiness. According to Norrish and Vella-brodrick (2008), this theory explains that in order to be happy, we must maximize our pleasure while on the same time minimize experience that is painful. Thus, happiness will only occur if pleasure experience and sensory gratification are more than the painful experience. If painful experience is more than pleasure experience, then happiness is unlikely to occur.

Telic theory. According to Diener and Ryan (2009), telic theory state that a person only can obtain happiness by achieving his or her goal and needs. Achieved goals or fulfilled need lead the person to feel happy. It is the end product that contributes to happiness.

Top-down theory. According to Diener and Ryan (2009), top-down theory states that happiness is a trait or a state. This means that a person with a happiness

trait has the tendency to react positively to the surrounding events. It is the person's inborn tendency to experience things or events in a positive way. This inborn tendency then affect the way the person interacts with the world. Thus, for the same events, a person with positive state of mind will interpret the events as happier than a person with a negative state of mind. This theory stress that it is the positive attitude that contributes to happiness instead of objective events.

Cognitive theory. According to Diener and Ryan (2009), Cognitive Theory states that happiness is determine by our cognitive process. It is related to the Top-down Theory. Three components involved in this theory, which are attention, interpretation, and memory. Ability to interpret a neural event in a positive way will contribute to happiness. Besides, tendency to remember and recall positive events will also lead to happiness. Furthermore, according to Diener and Biswas-Diener, a person who is predisposed to direct their attention on a positive stimulus will feel happier (as cited in Diener and Ryan, 2009). Individual with high level of happiness is also able to interpret events more positively and more are likely to recall good experiences or memory.

Evolutionary theory. According to Diener and Ryan (2009), Evolutionary Theory explain that happiness serve as a motivators that lead to adaptive behavior. Thus, happiness serves similar function as negative emotion. It leads human being to become more adaptive and this further enhances the ability of an individual to survive.

Extensional theory of happiness. According to Korzybski (2005), Extensional Theory of Happiness is related to our expectation. If you expect something and the result you get back is lower than your expectation, then you will be unhappy. On the other hand,

if you expectation is low and the results that you get is higher than your expectation, then you will be happy. The results you obtained is known as a facts. When the fact is better than your expectation, you will be convinced that you get the maximum and you are succeeded, thus you will be happy, cheerful, and hopeful. But on the other hand, when our expectation is too high, and the facts are worse than our expectation, we will get disappointed and become unhappy.

Evaluation theory. According to Diener and Lucas (2000), Evaluation Theory explains that our cognitive ability is limited, we are not able to process all the information that are available to us. We only attend to and evaluate a small portion of this information, and our happiness is guide by our evaluation of this portion of information. We will not evaluate the information that we are not attend to. Evaluation Theory explains the types of information that we are likely to attend to. These involved our biological need, desires, culture, and situation. This theory predicts that certain information are often become our focal of attention. The fulfillment of biological needs is importance because it affects our survival. Thus, biological needs are often become our evaluative target. Our goals are always become obvious to us, because for every steps that we take, we will check with the goal that we set to know whether we are moving toward the goal or far away from the goal. Thus, it is often a standard for our evaluation. Situational variables such as social comparison or past comparison can only become obvious in particular moments. Hence, this theory stress that goals and needs are the most importance standard of evaluation as compare to culture and situational variables. This theory also state same stimulus that can trigger a particular standard of evaluation can also used to trigger the other standard of evaluations. For example, skipping a meal can trigger a need to achieve the goal and lead

to pleasurable feeling if the goal is to be diet. We can see that food is supposed to trigger the biological need but in this case it is not become the focus of attention. Only the most prominent standard of evaluation can lead to the feeling of happiness. This theory also take into account the individual differences in reacting to information, for example, extrovert tend to react more strongly to pleasant information. Besides, people will also react more strongly to new information. Thus, an individual will become happy through satisfied their need, and achieved their goals. These two conditions are chronically important and have ongoing effect in determining our happiness. On the other hand, everyone of us are active in choosing our comparison standard and even our behavior to determine our happiness level at specific circumstances.

Some of the theories discuss above are biological theories that focus on our genetic predisposition toward happiness, some of these theories are relative standard theories where we compare ourselves with others to determined our perceived happiness and some focus on our expectation and goal. In addition, the more recent developed theory, which is Evaluation theory focus on the combine elements of the previous theories.

Significant of Study

The education of Malaysia is very much focus on the academic part of the students. Teacher, parents wish that their students, child will perform better in their academic performance. The well-being of the students is left behind, the school, university seldom concern about the students' general well-being. According to Chan, Miller and Tcha (2005), happiness is related to many factors which included grades

achieved, school facilities, lecture quality, friendship developed and others. Thus happiness is an importance element for every university students. Many of their daily activities are related to their happiness. Therefore, this research is carried out to study the degree of happiness among UTAR students.

This study will focus on whether undergraduate's happiness is related to their personality, their gender, and also their health status. From the results of this study, we can understand more about happiness. Beside, this study can affect the design of the university curriculum. If we found out that there is a relationship between health status and happiness, instead for the university to just focusing on academic performances of the students, many more activities might be carried out to improve the level of happiness among university students.

Female are often associate with emotionally unstable and are being associated with internalizing disorder such as depression and anxiety. Beside, male and female has differences expected gender role. All of these are assume to affect the happiness level between genders. This study is carried out to find out whether there are any gender differences in happiness level.

Besides, is happiness something that is permanent or something that is always changeable from one event to another? Is each individual has their own baseline of happiness? This research is aim to find out whether happiness and personality are correlated. As we know, personality is something that is quite permanent. If happiness is related to personality, then, the level of happiness for each of us will be quite stable and can say to be free from the events that we experience. If our happiness is depend on the

events that are happen around rather than depended on personality, then, the administrative department of school can consider carrying out different type of activities to increase the happiness of students with different personality.

Meanwhile, there is only few existing research about happiness that are conducted in Malaysia. Thus, we need more happiness research in our country, Malaysia. Moreover, the finding of this study can give awareness and understanding to school as well as parents about the importance of happiness of students. Besides, school, parents and the students itself need to know the factors that lead to their level of happiness so that they can understand and further improve their current level of happiness.

Furthermore, this study will help to contribute to the existing literature between happiness and health, gender, as well as personality.

CHAPTER II

LITERATURE REVIEW

This chapter will discuss about literature review or journal that are related to the research question mentioned above. The discussion will focus on three aspects, which are gender differences, personality and physical health status that are related to happiness.

Gender Differences

Crossley and Langdridge (2005) have conducted a research about the perceived sources of happiness among undergraduates in North of England. Seven significant different between male and female have been showed in the finding. Male perceive sexual activity, sports, being "liked" and having a "good social life" significantly higher in influencing their level of happiness compare with female. On the other hand, female perceived that helping others, having a close family and being loved by loved one to be more importance than male in affecting their level of happiness. Meanwhile, both of the gender ranked the same weight for self-confidence, stress-free, occupational and social factors, family support and personal relationship factor as the reason for their happiness.

Tesch-Romer, Motel-Klingebiel, and Tomasik (2008) studied on unequal opportunity structures on societal level that lead to gender differences in happiness. Finding showed that the degree of gender differences in happiness is affected by the extent of gender inequality and cultural attitudes toward gender equality in different country. Gender inequality in this research refers to the availability of income, economic activity and political power.

Many studies have been done to find out whether there are gender differences in level of happiness. One of these studies was done by Abdel-Khalek (2006). One of the objectives of his study was to identify whether there are any gender differences in self-rating of happiness. This study consists of 2210 undergraduates, which are 1056 male and 1154 female. The participants need to rate their level of happiness from No (0) to always (10) by answering to a self-rating scale ("Do you feel happy in general?"). Their result showed that male had significantly higher mean score in their level of happiness compare to the females. The mean score of happiness for male was 7.05 compare to only a mean score of happiness of 6.59 in female. The researcher explains that factors such as child rearing practices and gender role can used to explain their finding. The limitation of this study is that the sample used has limited range of ages. Similar result is obtained by Abdel-Khalek (2005) which reveal that women showing a lower mean score of happiness.

Selim (2008) done a similar research and obtain opposite result compared to the two study described above. Selim used the pass data obtained through European Values Study Group and World Values Survey Association 2006 (WVS) for turkey in their research. WVS is conducted in all of the leading universities throughout the world. Since 1981, the researchers carried out global analysis through interviews with nationally representative samples of the public for a total of four waves. A total of 6338 individuals in Turkey are involves to represent Turkey population. Happiness level was measure by getting participants to answer to the question "taking all things together, would you said you are very happy (4), quite happy (3), not very happy (2), or not at all happy (1)." Selim analyze the results of WVS by focusing on happiness and life satisfaction. Only results of happiness will be discussed here. The results of this study showed that there are

significant gender differences in happiness. The result reveals that male is predicted to be 0.03 times less happy than female. Male has a significantly negative effect on happiness. This means that male is less happy compare to female. Result by Selim is supported by Perneger, Hudelson, and Bovier (2004). Perneger, Hudelson, and Bovier showed that feeling of happiness is associated with female sex.

Contradict to the discussion above, some of the research actually showed that there are no significant gender differences in happiness. Let look at the following research that had been done. Tkach and Lyubomirsky (2006), conduct a research to find out whether there are different in the strategies individual use to increase their level of happiness. Then from the results obtained, they can identify the power of the strategy that is associated with level of happiness. They expected that the strategies been used are correlated with the self-reported happiness. Participants in this study are 500 undergraduates, 341 of them are female and 157 of them are male while two of them are unknown. The tool being used to measure the level of happiness is Subjective Happiness Scale. Result showed that male and female used different strategies to increase their level of happiness. Male tend to choose to use Mental Control and Active Leisure strategies while female tend to use affiliation, Goal Pursuit, Passive Leisure, and religion more frequently than male. Although male and female uses different strategies to increase their level of happiness, their overall level of happiness is the same. Thus, this study yield different results compare to the previous studies that had been discussed.

From the discussion above, we can see that research that had been done about gender differences in happiness yielded contradict results. More research needs to be done to find out the answer. Thus, present study will conduct a research in a University

located in Malaysia. Similar with the research discuss above, the sample used in present study will be undergraduates. This study will find out whether there are gender differences in happiness in UTAR undergraduates.

Physical Health

Selim (2008) conduct a study on life satisfaction and happiness in Turkey. One of the objectives of his study was to identify the factor that correlates with happiness. Specifically, the researcher wants to find out the correlations between health status and happiness level. Number of participants as well as way to measure the level of happiness was mentioned above. The health status is measured by having the participants to responds to the self-rating scale on a 5-point scale, which indicate very poor, poor, fair, good and very good health status. Results showed that good and very good health status levels had higher significant effects on happiness compare to poor and fair health status level. As people health status improves, their level of happiness become higher.

According to Cornelisse-Vermaat, Antonides, Van Ophem, and Van Den Brink (2006) perceived health had a significantly positive relationship with happiness. This study also reveals that Body Mass Index (BMI) determines individual's perceived health. Thus, BMI should increase health perception and then increase happiness level. Roysamb, Tambs, Reichborn-Kjennerud, Neale, and Harris (2003) conduct a research to find out whether healthy people are happier. The scale that they used to measure their happiness is subjective well-being scale. Perceived health is measure by letting the participants answer the following items, "what is your health like, at present?". Their finding showed that individual who perceived that they have good physical health is happier than those who

do not do so. However, their finding also showed that not all dimensions of physical health are associated with happiness. They found out that perceived health is more strongly related to happiness compared to musculoskeletal pain and allergic disorder. Musculoskeletal pain refer to pain in the back, neck, shoulder, and head, while allergic disorder refer to asthma, allergy and hay fever.

Abdel-Khalek (2006) also carried out a study to study the relationship between happiness, religiosity, mental health and physical health status. Only results for happiness and physical health level will be discussed here. Self-rating scale was used to measure happiness level and physical health. Self-rating scale for happiness is "Do you feel happy in general?" participants rate their answer from No (0) to always (10). For physical health, participants need to rate from poor (0) to excellent (10) by responding to this question: "How is your physical health?". The results showed only low inter-correlation between physical health and happiness. After applied multiple regression techniques, the researcher found out mental health and religiosity appear to be the two main predictor of happiness. Multiple regression analysis showed that physical health does not significantly predict happiness.

Perneger, Hudelson, and Bovier (2004) also conducted a similar study to find the association between self-reported health and self-reported happiness. 1257 students in University of Geneva answer the self-perceived questionnaire on a five-point scale and a 12 items short-form health survey. Result showed that happiness is not at all associated with physical health, but it is associated with mental health, getting enough love and affection, female sex, being Swiss and higher self-esteem.

Discussion above showed contradicts result for physical health and happiness. More research need to be done to find out whether there are relationship between happiness and physical health. Thus, my third research question is to find out whether there are any relationship between happiness and physical health.

Personality

According to Gray, personality has biological components (as cited in Steel, Schmidt, and Shultz 2008). Gray proposes Reinforcement Sensitivity Theory to explain about the biological components in personality. It is a Top-Down or temperamental approach. Gray explained that there are two systems involved in explaining personality, which are behavioral activation system (BAS) and behavioral inhibition system (BIS). BAS is responsible in regulate approach behavior and it is linked to extraverts. BAS help to signal the occurrence of reward stimuli and promoting positive affect. Thus, extravert tends to approach to reward stimuli and find it to be more positive. On the other hand, BIS is responsible in regulating avoidance behavior and it is linked to neurotics individual. BIS will help to signal the presence of punishment and promote negative effect. Therefore, neurotics are more sensitive to punishment and hence easily feel unhappy.

According to Iwasa et al. (2008), five-factor modal of personality explain 5 major type of personality, which are neuroticism, extraversion, openness, agreeableness, and conscientiousness. According to Diener, Suh, Lucas and Smith (1999), extraversion and neuroticism are the personality traits that received most empirical attention in relation to happiness. Extraversion refers to a person inclination to be sociable, active, experience

positive emotions. An individual with high level of extraversion are more likely to socialize with the others (Iwasa et al., 2008). Besides, neuroticism refers to the tendency of a person to be susceptible to psychological stress.

Francis, Katz, Yablon, and Robbins (2004) conduct a research to study the relationship between happiness, personality, and religiosity. The sample involved was 203 male Hebrew speaking undergraduates. The measurement used in this study is Oxford Happiness Inventory and Eysenck Personality measure. The finding showed that happiness is positively correlated with extraversion. On the other hand, happiness is showed to be negatively correlated with neuroticism and psychoticism. Multiple regression technique showed that only neuroticism and extraversion can significantly predict happiness. Psychoticism was not a significant predictor of happiness.

Relationship between happiness and personality was showed in research by Demir and Weitekamp (2006). The sample involved 300 female students and 123 male students. Satisfaction with life scale and Big Five personality inventory was used in this research. Their results showed that extroversion, neuroticism, agreeableness, and conscientiousness were significantly correlated with happiness. Neuroticism was showed to be the strongest related with happiness. However, openness to experiences was not significantly correlated with happiness level. Neuroticism is more likely than extraversion in predicting positive affect. Besides, according to Vitterso, Nilsen (2002), neuroticism is more importance in predicting subjective well-being compare to extraversion. The sample size of this study consists of 461 participants aged 19 to 88 years old. Neuroticism was measure by using revised NEO personality inventory while extraversion is measured using NEO-PI-R.

Furnham and Christoforou (2007) conduct a research to find out the correlation between Extraversion and Neuroticism with happiness. 120 participants complete the Oxford Happiness Inventory and Eysenck Personality Questionnaire. The finding showed that Extraversion does predict happiness but Neuroticism is not a significant predictor of happiness. the researcher explained that Extravert are related to happiness because extravert people are more sociable, have a large circle of friends, more involve in social activity and enjoy greater social support. Individual high on neuroticism perceived themselves as moody, nervous, easily stress and sensitive.

According to Robbins, Francis, and Edwards (2008), extraversion and neuroticism are a strong predictor in happiness while psychoticism was not. 131 undergraduates involved in this study, 71 of them are females and 60 of them are males. The tool used to assess the happiness is Oxford Happiness Questionnaire while the tool used to assess personality is Eysenck Personality Questionnaire. Similar result had been obtained by Lu and Hu (2005) which show that extraversion and neuroticism significantly predict happiness.

This study will find out whether there is a relationship between happiness and neuroticism and extraversion. Beside, similar research had not been done in Malaysia, so this study is carry out to find out whether there is a relationship between happiness and personality in Malaysia' undergraduates. Almost all of the discussion above showed that neuroticism and extrovert can predict happiness. Thus, I expected that this present study can also get the same result with them.

CHAPTER III

METHODOLOGY

Sample

Population of this study was Universiti Tunku Abdul Rahman (UTAR) students from varies faculties in Kampar campus. 100 undergraduates have participated in this study. They were 50 female students and 50 male students. The response rate of this study is 100%.

Apparatus

The instruments used in this study were 3 set of questionnaires which involved Subjective Happiness Scale, Physical Health Questionnaire and Big Five Personality Questionnaire.

Subjective Happiness Scale (SHS). Participants' level of happiness is measured by using Subjective Happiness Scale (see Appendix A2). Lyubomirsky, Sonja, Lepper, and Heidi (1999) showed that this scale contains 4 items, one items asking respondents about their general level of happiness (e.g., "In general, I consider myself"), another items asking respondents to characterize themselves by comparing with their peers (e.g., "Compare to my peer, I consider myself"), while another two items briefly describe what constitute a happy and unhappy individual and respondents need to responds by choosing the extent to which the description characterize them (e.g., "Some people are generally very happy. They enjoy life regardless of what is going on, getting the most out of everything. To what extent does this characterization describe you?"). The scale of

measurement for this questionnaire is interval scale. Items were rated on 7-point Likert scale range from never (1) to always (7). The SHS scores are obtained by reversing the scores on question 4 and then summing up the score for all items, and finally averaging the total score. Higher score indicated higher level of happiness. Lyubomirsky et al. (1999) shows that the internal consistency of this questionnaire ranged from 0.79 to 0.94 while test-retest reliability ranged from 0.55 to 0.90. Convergent validity ranged from 0.52 to 0.72. This questionnaire had been used in many current research to assess level of happiness (e.g., Hong, & Son, 2009; Okun, Levy, Karoly, & Ruehlman, 2009; Tkach & Lyubomirsky, 2006).

Physical Health Questionnaire (PHQ). Physical health on participants is measure using Physical Health Questionnaire (PHQ) (see Appendix A3). This scale was originally developed by Spence, Helmreich, and Pred at year 1987 (Schat, Kelloway, & Desmarais, 2005). After that, a shortened and modified version has been developed. PHQ contains 14 items which cover 4 dimension of physical health, which are quality of sleep (e.g., “How often have you had difficulty getting to sleep at night?”), digestion problem (e.g., “How often did you have to watch that you ate carefully to avoid stomach upset?”), headaches (e.g., “How often did you get a headache when there was a lot of pressure on you to get things done”) as well as respiratory problems (e.g., “how often have you had minor colds that made you feel uncomfortable but didn’t keep you sick in bed or made you miss work”). Participants are required to rate their level of physical health on a 7-point scale (not at all=1, rarely=2, once in a while=3, some of the time=4, fairly often=5, often=6, all of the time=7) for question 1 to 11. The scores for PHQ are computed by reversing the score for items 4 follow by summing up all the score for every items and

then averaging the total score. Lower scores indicate better physical health. According to Schat, Kelloway, and Desmarais, (2005), internal consistency coefficients are α = .81 for sleep disturbance subscale, α = .84 for gastrointestinal subscale, α = .90 for headache subscale and exceeded α = .70 for respiratory subscale. This study also shows evidence of construct validity for this questionnaire.

Big Five Personality Inventory. Personality in this present study will be measured by using Big Five Personality Inventory (see Appendix A4). Only the Neuroticism and Extroversion scale will be included in this research. As the pervious discussion showed, these two dimensions are most strongly related to happiness. According to John, Naumann, and Soto (2008), Extraversion contains of 8 items (e.g., "_____ is talkative") while Neuroticism also the same number of items (e.g., "_____Is depressed, blue"). Items were rated on 5-point scale range from disagree strongly (1), disagree a little (2), neither agree nor disagree (3), agree a little (4), and agree strongly (5). The score indicate the intensity of a person's personality ("*Personality Tests*", 2009). Higher score indicate that a person possess higher degree of the trait while lesser score indicate lesser degree of the trait for a person. The score for Extraversion (questions 1, 3, 5, 7, 9, 11, 13, 15) and Neuroticism (questions 2, 4, 6, 8, 10, 12, 14, 16) are obtained separately. The Extraversion score were computed by reversing the score for items 3, 9 and 13, and then summing up the score for all items, and finally averaging the total score. Similar procedure is used to compute the score for Neuroticism by reversing the scores for items 4, 10, and 14. The reliability for this scale was .83. The reliability for both Extraversion and Neuroticism was more than .80 (John, Nauman &, Soto, 2008).

Procedure

A cross-sectional survey was conducted on the UTAR students in Kampar campus where one sample is drawn from population at one time. Survey method is used to conduct this research. Convenient sampling is used in this study where only participants that are available and willing to participate in this study are selected. This make sure those participants are free when they answer the questionnaire and they are more honest when answers the questionnaires as they are volunteer to participate in this research.

The researcher is fully responsible to distribute and collect back the questionnaires. Every participant will need to complete a questionnaire packet which consists of an informed consent, demographic information and a battery of questionnaires. Demographic questions included are gender and faculty of studies. The first questionnaire was four items Subjective Happiness Scale. The second questionnaire was eight items Neuroticism dimensions and 8 items Extroversion dimension from Big Five Personality Questionnaire. The last questionnaire was 14 items Physical Health Questionnaire. Before distribute the questionnaire to the participants, research briefly explained the purpose of this study to the participants and ask their permission to engage in this study. Besides that, participants will be reminded that the information that their fill in will be keep confidential through a written informed consent. Inform consent (see Appendix A1) served to inform the participants that the information they provided will only be used for the research purpose. Besides, it is also intended to inform the participants that they have the right to decide whether to participate in present study or not. Meanwhile it contains the title of this study.

The researcher distributed the questionnaire at Block B, canteen and library of UTAR Kampar campus at 3pm to 7.30pm in the month of November 2011. Researcher will stand nearby to the participants so that they can provide immediate responds to the participants if they face any doubts or difficulty. Participants are given as much time as needed to answer the survey. Approximately, each participant only spent about 5 to 10 minutes in answering the survey questions. After the participants had fill out the survey completely, the questionnaire is collect back on the spot.

The data will be analyzed by using statistical techniques. Independent Sample T-Test was used to analyze the gender differences in happiness. Besides, Correlation analysis was used to examine the relationship between extraversion and happiness, Neuroticism and happiness as well as physical health and happiness.

CHAPTER IV

FINDINGS & ANALYSIS

There were 50 female and 50 male participants in this survey. They come from various faculties which include Foundation in Art and Science, Faculty of Art and Social Science, Faculty of Business and Finance, Faculty of Information and Communication Technology, and Faculty of Science, Engineering and Technology.

The maximum score for the subjective happiness scale is seven. The mean score for subjective happiness is 4.58 (SD=1.039) while the median score for subjective happiness is 4.75. The scores that most people get is 12, where there are 12 out of 100 participants get this score. Out of maximum score of 7, subjective happiness was rated 3.5 or below by 21% of the participants, above 3.5 to 5.5 by 65% of participants and above 5.5 to 7 by 31% of the participants.

The first hypothesis predicted that there would be gender differences in level of happiness. Independent sample t-tests were conducted between gender and happiness level. The results of this analysis are showed in Table 2.1. The result of *t-Test between Independent Sample Means* showed that there is no significant difference between gender and subjective happiness, $t(98) = 0.718$, $p>0.05$. Female students had same level of subjective happiness (M = 4.67, SD = 0.931) with male students (M = 4.52, SD = 1.149), *n.s* (see Appendix C1 for calculation, p. 68-71). Thus, the first hypothesis is not supported by presence finding.

Table 2.1

Means, Standard Deviations and t value of the Subjective Happiness Scale for UTAR Undergraduates according to Gender

Variables	n	M	SD	cv (*df* = 120)	*t* value
Female	50	4.67	0.931	1.980	0.718
Male	50	4.52	1.149	1.980	0.718

*p>.05, two tailed

Pearson correlation coefficient were computed for subjective happiness with physical health; subjective happiness and extraversion; subjective happiness with neuroticism. The results of these analyses are showed in Table 2.2.

The second hypothesis predicted that there is a correlation between level of physical health and happiness. The results of *Pearson Correlation* show that there was a significant positive correlation between level of physical health and subjective happiness level, r (98) = -0.248, $p < 0.05$. The higher the level of physical health among UTAR undergraduates, the higher is their level of subjective happiness (see Appendix C2 for calculation, p. 72-76). The second hypothesis is supported by current finding.

In addition, the third hypothesis predicted that there is a correlation between level of extraversion and happiness. The results of *Pearson Correlation* show that there was a significant positive correlation between Extraversion and level of happiness, r (98) =

0.427, $p < 0.05$. The higher the level of Extraversion obtained by UTAR undergraduates, the higher is their level of happiness (see Appendix C3 for calculation. p. 77-81). The third hypothesis is supported by current finding.

Table 2.2

Relationship between Subjective Health Happiness and Extraversion, Neuroticism and Physical Health among UTAR Undergraduates

Variables	SHS
PHQ	-.248
Extraversion	.427
Neuroticism	-.698

Note. PHQ = Physical Health Questionnaire; SHS = Subjective Health Questionnaire Higher PHQ's score indicate lower level of physical health

*p<.05, two-tailed

Meanwhile, hypothesis 4 predicted that there is a correlation between neuroticism and happiness. The results of *Pearson Correlation* show that there was a significant negative correlation between level Neuroticism and happiness, r (98) = -0.698, $p < 0.05$. The higher the Neuroticism level obtained by UTAR undergraduates, the lower is their Neuroticism (see Appendix C4 for calculation, p. 82-86). The last hypothesis is also supported.

CHAPTER V

DISCUSSION & CONCLUSION

The aim of current study was to examine the gender differences in level of happiness among UTAR undergraduates. Mean while, relationship between physical health, neuroticism and extraversion with level of happiness will also be examined.

Subjective Happiness

The finding showed that more than half of the participants rated 3 to 5 out of a total score of 7, which showed that there has average level of happiness. Only slightly more than one quarter of the participants fall in the low or high level of happiness level.

Happiness and Gender

Current finding showed that there are no gender differences in subjective happiness level. Being a male or female had no influence on the happiness level. Current study yield similar result as the study of Tkach, and Lyubomirsky (2006). In addition, this finding is further support by finding of Alavi (2007), there are no significant differences between gender and happiness among undergraduates. Moreover, according to Suhail and Chaudhry (2004), male and female are equally happy.

However, findings regarding gender difference in happiness among undergraduates have been inconsistent. Some of the studies showed that male is happier than female as showed in study by Abdel-Khalek (2005) and Abdel-Khalek (2006). On the other hand, study by Selim (2008), Perneger et al. (2004) showed that female is happier than male.

Several factors need to be considered in interpreting these differences. Firstly, present study only focuses on participants in a University with majority of Chinese undergraduates. It may be due to this specific population that contributes to different finding regarding gender differences in happiness. For example, Chinese's belief system, culture values or different views towards happiness may contribute to the similarity between genders in happiness. In other word, interacting effect between ethnicity (Chinese) with gender might occur and affect level of happiness. Further research need to examined ethnic differences when investigate gender differences in happiness by replicate present study in other university in Malaysia.

Besides, the lifestyle in Kampar here is quite relaxing if compare to others cities like Kuala Lumpur. Thus, no gender differences in happiness might be due to the reason that both male and female are enjoying their University life in a small town in Kampar. Further research is suggested to conduct in University located at busy city such as Kuala Lumpur to examine whether the location of university will affect the gender differences in happiness.

Different nations have different level of subjective well-being due to several factors. Aspect such as equality between genders might influence the finding regarding gender differences in happiness in different countries. Research conducted by Swami (2008) by using a community sample in Malaysia showed that there were no significant gender differences in subjective well-being. The finding of Swami is consistent with the finding of this study. This may be due to the fact that the gender gap in education in Malaysia had been closing (Kamogawa, 2003). Male and female are now have equal opportunity to study in higher education. According to Tech-Romer, Motel-Klingebiel,

and Tomasik (2008), gender differences in happiness are affected by unequal access to individual resources such as education. This means that gender equality in education may reduce the size of gender gap in happiness. Further research need to be conduct in Malaysia context since there are only a few studies regarding this topic in Malaysia.

Meanwhile, most of the existing studies discuss above use single-rating scale to rate the happiness rather than multi-items rating scale as use in this study. It is curious whether single-rating scale and multi-items rating scale are measuring the same concept or attribute.

Beside, as they are more and more gay and lesbian in Malaysia University, further research is expected to examined this aspect in relation to happiness.

Physical Health and Subjective Happiness

Current finding showed that there are positive relationship between subjective happiness and physical health. Being physically healthy are related to a person' happiness level. Happiness decreased the chances of developing illness. Current study is supported by finding of Hamer and Stamatakis (2010), which reveal that self-report health was associated with subjective well-being.

As discuss earlier, finding from the existing studies have showed contradict result. Some of the existing studied found that happiness and physical health are related while some of these studies only found weak relationship or even fail to find the relation between these two variables.

One factor need to be considered in order to interpret the finding of this research. Current study used a multi-items scale to assess the physical health of participants. However, large proportion of the existing studies assesses the participants' perceived health by using single items rating scale. Again, we are not sure whether single-rating scale and multi-items rating scale are measuring the same construct.

Asian cross-national studies found that self-rated health is associated with happiness (Tokuda, Fujii & Inoguchi, 2010). Beside, a study conducted in a Malaysia University showed that good health is the causes of happiness while is strongly associated with unhappiness (Al-Naggar et al. 2010). As our health status improved, happiness level also increased.

Individual that perceived their health to be good are happier (Roysamb, Tambs, Reichborn-Kjennerud, Neale, & Harris, 2003). Their research finding indicates a strong association between perceived health and general well-being. Perceived health and happiness had long-term effect on physical health. It may be both immune system functioning and behavioral pathway that influence this long-term relationship.

Moreover, according to Veenhoven (2008), although happiness does not cure serious illness but it do protect us against falling ill and happy people do live longer. Further evident is provide by Diener and Chan (2011), they reviewed studies in experimental human and animal research, naturalist studies and physiological process overtime and found that there is compelling evident that support the relationship between happiness and health, and also longevity in healthy population.

More specifically, according to Cohen, Doyle, Turner, Alper, and Skoner (2003), people with greater level of happiness have lower chances in developing a cold. Thus, people with higher level of happiness will be more resistant when expose to virus compare with people with low level of happiness.

According to Perreau-Linck et al., participant's level of happiness was positively correlated with serotonin synthesis in the right anterior cingulated cortex (as cited in Young, 2007). Serotonin may be associated with physical health. As we know, serotonin not only plays a role in the treatment of depression but also involved in susceptibility to depression and suicide. Happiness is a factor that protects us against physical and mental disorder by increasing serotonin level in our body without the use of drugs (Young, 2007).

Other than the biological explanation, finding by Tsaousis, Nikolaou, Serdaris, Judge (2007), showed that relationship between physical health functioning and subjective well-being is moderated by positive self-evaluations of an individual. Good ability in making positive or successful self-evaluations intensifies the relationship between physical health functioning and subjective well-being. Example of positive self-evaluation include "I complete task successfully", "Overall, I am satisfied with myself".

Besides, according to Pettit, Kline, T. Gencoz, F.Gencoz and Joiner (2001), positive mood state is essential for someone to remain physically healthy. Finding indicated that by having high positive emotions, our physical health is predicted to be improved after 5 weeks period. On the other hand, individual with low positive affect were more likely to report poor physical health. Thus, remain positive mood states may be important factor to be physically healthy.

Relationship p between these two variables is further discussed by taking the issues of drugs into consideration. According to Al-Windi, Elmfeldt, Svardsudd (2000), low perceived subjective well-being significantly increased the use of drugs, especially prescribed pharmaceuticals. Pharmaceuticals user experiences depression, tension, gastrointestinal and urinary, as well as muscular-skeletal problem more frequently than non-pharmaceuticals user. This account for substantial amount of public drugs cost and brings further affect the allocation of health care resources.

Present studies have brought further support for the relationship between health and happiness. Future research is needed to investigate the underlying physiological or psychological processes that are accounted for the relationship between these two variables.

Personality (Extraversion and Neuroticism) and Happiness

Result showed that there is positive relationship between Extraversion and happiness, and negative relationship between Neuroticism and happiness. This means that being an Extraverts are happier compare to being an introverts. While Neurotics individual are less happy compare to emotionally stable individuals.

This finding is consistent with the finding of existing studies. Many researches had been conducted to prove the relationship between these two variables and the result is quite consistent.

Finding by Weiss, Bates, & Luciano (2008) showed that the same genetic structure is responsible for a person's happiness, Neuroticism and also Extraversion. This means that individual differences in happiness and individual differences in Neuroticism

and Extraversion can be explained by individual differences in their genetic structure. The finding of this study also showed support to the set-point theory (Top-Down Theory) of subjective well-being that is discussed above. There are individual differences in their happiness set point and their degree of adaptation to circumstances. The rate of well-being return to set point after a disturbance and the rate at which the set-point will undergo permanent changes when response to environmental events is determine by genetic.

Besides, according to Borkenau and Mauer (2007), differential accessibility of pleasant and unpleasant concepts in mental networks explained the differences between happy and unhappy people. This means that extraverts identify and process pleasant information more easily than introverts while neurotic identify and process unpleasant information more easily compare with more emotionally stable individual.

Study by Lucas and Dyrenforth (2008) show support for the temperament model that there is direct link between trait and affective outcome and show only weak support for the instrumental model which explained that trait was only indirectly affect the affective outcome through choice of situation or other related process. Their finding showed that Extraverts are happier than Introverts regardless of the time and amount of social activity they engaged in. This showed a direct link between Extraverts and positive affect in that being an Extraverts directly lead to happiness rather than the activities that they choose to involved in. However, this study also state that they might be others indirect explanation for the association between Extraverts.

According to Ozer and Benet-Martinez, personality can indirectly influences a person level of happiness by exert its influences through a person' behavior or outcomes, such as through occupational choice, achievement, and community involvement (as cited in, Steel, Schmidt, & Shultz, 2008).

Besides, according to Tkach and Lyubomirsky (2006), traits might affect the conscious self-regulatory actions that they take to manage their emotion, and this in turn affects their current mood and ultimately their happiness level. This study pointed out that there are only little research had been conducted to study the intentional activities that people use to increase their chronic happiness. Thus, further research is needed to examine this issue.

Moreover, trait indirectly affects well-being via specific striving dimension (Romero, Villar, Luengo, & Gomez-Fraguela, 2009). Personal striving refers to the typical thing that people intended to do. Neuroticism and Extraversion are related to a persons' perceived efficacy in their striving effort. People scoring high in neuroticism perceived themselves to be less efficient in their striving and feel more stressful in their striving compare to those who scored low in neuroticism. On the other hand, Extraverts tend to perceived themselves as more efficient in doing thing, anticipate more happiness in achieving their goals compare to introverts.

In addition, research by Lee, Dean and Jung (2008) showed that social connectedness as different from Extraversion and mediate the relationship between Extraversion and subjective well-being. Social connectedness is the self-evaluation of the degree to which an individual are close to others, or community. It is distinct from

Extraversion in the sense that it does not include the motivation to form social bound with others. Thus, being Extraverts might contribute to the emergence of social connectedness and then lead to well-being.

Furthermore, study by McNiel and Fleeson (2006) showed that relationship between personality and happiness is partly mediated by the extravert or neurotic behavior. This mean that simply acting Extravert will made a person feels more positive while acting like a neurotic made a person feel unhappy. The intentional behavior mediated the relationship between these two variables.

From the discussion above, we can conclude that there are actually two major pathways that explained the link between happiness and personality. One of the major pathways is direct pathway, which is also known as Temperament or Top-Up approach. It is related to genetic, cognitive and biological aspects. On the other hand, another pathway would be instrumental approach or as know as bottom-up approach. It is refer to the environmental event or other indirect influences of our personality on our behavior. One thing to be notice is that these two pathways might not be mutually exclusive. According to Lee et al. (2008), temperament and instrumental pathway may work independently and collectively, or through others psychological structure. Further research should examine this issues so that a comprehensive model of personality and happiness will be developed.

Besides, finding of substantial studies and presence study have shown that personality is significantly related to happiness and consistent result had been obtained. Thus, it might be beneficial if further study is able to find out the factor that lead personality to happiness. As mentioned earlier, there are generally two pathways that lead

personality to happiness, but firm conclusion has not been draw. Especially for the instrumental pathway, many factors had been thought to link personality to happiness, but there is lack of research to indicate which of these factors are accounted for the relationship between these two variables. Furthermore, further research is needed to explore others personality type that are related to happiness instead of just focus on Extraversion and neuroticism. Moreover, it would be beneficial if further research is able to find out the different happiness increasing strategies used by Extravert or Introvert or Neurotic individual. This can contribute to the practical side of happiness studies in helping those unhappy individual to increase their happiness level to the higher level of their set-point for happiness.

Limitation and Suggestion

This study has several limitations. Test-retest reliability is neglected due to the used of cross-sectional design. Undergraduate's level of happiness might be influence due to the period of study. They may face different challenges during beginning of the semester, middle of the semester and at the end of the semester. This can affect the happiness level of undergraduates. Further research need to take this aspect into consideration by conducting a longitudinal study.

The used of convenience sampling lead to problem in representativeness. Future research is expected to use probability sampling to increase the representativeness of the sample. Mean while, the finding of this study can only generalize to the population of undergraduates at UTAR Kampar campus and cannot represent the general undergraduates in Malaysia. Further research need to replicate the study by using samples

from others University and colleges so that the finding can be generalized to others Undergraduates in Malaysia. More diverse sample of undergraduates that consists of different races need to be included in future research.

Furthermore, causal conclusion was unable to establish due to the used of correlation techniques. This study was unable to exclude the presence of reverse causality. This means that it might be the neuroticism, extraversion or health that leads to happiness and not happiness that lead to the presence of these variables. In other words, the relationships between these two variables are bidirectional. There may also be the presence of third variables that affect the relationship between happiness and neuroticism, extraversion or physical health. Causality enables us to have a better understanding on the cause and effect and make the society better able to develop suitable intervention that can increase the level of happiness of population. I suggest that further research can be conduct to establish causality between the variables by using longitudinal research. Research conduct over time can give us a clearer picture on which variable come first.

In addition, the use of self-report measure might lead to bias in the finding. To reduce the bias created by self-report, future research can use objective measure to measure the happiness level of a participants. According to Frey and Stutzer, controlled observation of asymmetric brain waves can be use (as cited in Borghesi & Vercelli, 2010). In addition, diverse assessment methods such as physiological measure, informants report, memory and reaction-time measure can also be utilized in assessment of happiness (Diener, 2000). The limitation of different methods can be compensated by the strength of other method to produce the most informative composite. Informant reports refer to

the ratings of the target by someone that understand the target well, such as friends, classmates (Vazire, 2006).

Conclusion

Current study is intended to find out gender differences in happiness, relationship between happiness and physical health as well as relationship between happiness with neuroticism and extraversion in UTAR undergraduates. Finding showed that there are no significant gender differences in happiness. This means that female and male UTAR undergraduates are similar happy. Besides that, happiness is related to Neuroticism and Extraversion of UTAR undergraduates. Either being outgoing or being emotionally stable will made us become happier. Lastly, happiness is related to our physical health. Presence study had added scientific finding to the repertoire of happiness research in University in Malaysia context. More research are needed to be carry out in others University in Malaysia so that the administration of the universities can utilize the research findings to improve the undergraduates campus life.

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Appendix A: Informed Consent and Questionnaires

Appendix A1

Informed Consent

I am student from Psychology Year 3 Trimester 2 of University Tunku Abdul Rahman (UTAR). I am conducting a research about Happiness among UTAR Undergraduates. I need your cooperation to help me to complete the survey and I will be very appreciated if you are willing to help me. The following information is provided for you to decide whether you wish to participate in the present study.

Your name will not be associated in any publication or presentation with the information collected about you or with the research findings from this study. Instead, the researcher(s) will use a study number or a pseudonym rather than your name. Your identifiable information will not be shared unless required by law or you give written permission.

Your kind contribution is deeply appreciated. Thank you for your cooperation.

Gender : F / M

Faculty :

Appendix A2

Subjective Happiness Scale (SHS)
By Sonja Lyubomirsky, Ph.D.

For each of the following statements and/or questions, please circle the point on the scale that you feel is **most appropriate in describing you**.

1. In general, I consider myself:

1	2	3	4	5	6	7
not a very happy person						very happy person

2. Compared to most of my peers, I consider myself:

1	2	3	4	5	6	7
less happy						more happy

3. Some people are generally very happy. They enjoy life regardless of what is going on, getting the most out of everything. To what extent does this characterization describe you?

1	2	3	4	5	6	7
not at all						a great deal

4. Some people are generally not very happy. Although they are not depressed, they never seem as happy as they might be. To what extent does this characterization describe you?

1	2	3	4	5	6	7
not at all						a great deal

Appendix A3

Physical Health Questionnaire

The following items focus on **how you have been feeling physically during the past (till now).**

Please respond by **circling the appropriate number.**

Over the past till now	Not at all	Rarely	Once in a while	Some of the time	Fairly often	Often	All of the time
1. How often have you had difficulty getting to sleep at night?	1	2	3	4	5	6	7
2. How often have you woken up during the night?	1	2	3	4	5	6	7
3. How often have you had nightmares or disturbing dreams?	1	2	3	4	5	6	7
4. How often has your sleep been peaceful and undisturbed?	1	2	3	4	5	6	7
5. How often have you experienced headaches?	1	2	3	4	5	6	7
6. How often did you get a headache when there was a lot of pressure on you to get things done?	1	2	3	4	5	6	7
7. How often did you get a headache when you were frustrated because things were not going the way they should have or when you were annoyed at someone?	1	2	3	4	5	6	7
8. How often have you suffered from an upset stomach (indigestion)?	1	2	3	4	5	6	7
9. How often did you have to watch that you ate carefully to avoid stomach upsets?	1	2	3	4	5	6	7

Over the past till now	Not at all	Rarely	Once in a while	Some of the time	Fairly often	Often	All of the time
10. How often did you feel nauseated ("sick to your stomach")?	1	2	3	4	5	6	7
11. How often were you constipated or did you suffer from diarrhea?	1	2	3	4	5	6	7
12. How often have you had minor colds (that made you feel uncomfortable but didn't keep you sick in bed or make you miss work)?	1	2	3	4	5	6	7
13. How often have you had respiratory infections more severe than minor colds that "laid you low" (such as bronchitis, sinusitis, etc.)?	1	2	3	4	5	6	7
14. When you had a bad cold or flu, how often does it last longer than it should?	1	2	3	4	5	6	7

Appendix A4

Big Five Inventory

Instructions: Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who likes to spent time with others? **Please write a number next to each statement** to indicate the extent to which you agree or disagree with the statement.

1 Disagree Strongly	2 Disagree a little	3 Neither agree nor disagree	4 Agree a little	5 Agree strongly

1. _____ is talkative
2. _____ Is depressed, blue
3. _____ Is reserved
4. _____ Is relaxed, handles stress well
5. _____ Is full of energy
6. _____ Can be tense
7. _____ Generate a lot of enthusiasm
8. _____ Worries a l ot
9. _____ Tends to be quiet
10. _____ Is emotionally stable, not easily upset
11. _____ Has an assertive personality
12. _____ Can be moody
13. _____ Is sometimes shy, inhibited
14. _____ Remains calm in tense situations
15. _____ is outgoing, sociable
16. _____ Gets nervous easily

Appendix B: Original Data

Appendix B1

Table 1.1

Raw data for Subjective Happiness Score (SHS) according to Gender

Participants	Q1	Q2	Q3	Q4	Total Score	Average Score
Male						
1	5	6	3	5	19	4.75
2	5	5	5	5	20	5.00
3	4	2	6	2	14	3.50
4	4	5	3	5	17	4.25
5	5	5	6	3	19	4.75
6	4	4	3	5	16	4.00
7	5	6	4	7	22	5.50
8	5	5	5	3	18	4.50
9	6	5	7	3	21	5.25
10	3	3	4	4	14	3.50
11	7	7	7	5	26	6.50
12	6	6	6	6	24	6.00
13	6	6	5	7	24	6.00
14	7	6	5	4	22	5.50
15	7	6	5	6	24	6.00
16	5	3	5	4	17	4.25
17	6	6	6	2	20	5.00
18	6	5	6	4	21	5.25
19	3	2	2	2	9	2.25
20	5	5	6	6	22	5.50
21	6	6	6	2	20	5.00
22	7	7	5	7	26	6.50
23	3	3	3	3	12	3.00
24	4	3	2	3	12	3.00
25	4	4	3	3	14	3.50
26	4	4	3	4	15	3.75
27	5	4	5	4	18	4.50
28	5	6	7	7	25	6.25
29	5	4	5	3	17	4.25
30	5	5	5	7	22	5.50
31	4	4	4	3	15	3.75

32	7	6	7	7	27	6.75
33	4	4	4	4	16	4.00
34	6	7	4	3	20	5.00
35	6	5	5	4	20	5.00
36	6	7	5	5	23	5.75
37	6	6	7	5	24	6.00
38	4	5	5	5	19	4.75
39	6	1	4	3	14	3.50
40	3	3	5	2	13	3.25
41	3	3	4	3	13	3.25
42	5	5	4	4	18	4.50
43	3	3	3	4	13	3.25
44	1	2	4	4	11	2.75
45	4	2	2	2	10	2.50
46	5	3	4	3	15	3.75
47	4	3	2	5	14	3.50
48	1	1	7	7	16	4.00
49	5	5	5	5	20	5.00
50	2	4	3	3	12	3.00
Female						
1	5	5	4	3	17	4.25
2	6	6	7	2	21	5.25
3	7	6	4	4	21	5.25
4	5	4	4	3	16	4.00
5	5	5	5	7	22	5.50
6	6	6	3	6	21	5.25
7	5	6	4	4	19	4.75
8	6	6	5	6	23	5.75
9	5	5	4	6	20	5.00
10	5	4	5	6	20	5.00
11	5	5	6	6	22	5.50
12	7	7	6	7	27	6.75
13	6	5	4	3	18	4.50
14	6	5	5	4	20	5.00
15	6	4	5	6	21	5.25
16	4	4	3	5	16	4.00
17	4	4	5	3	16	4.00
18	6	5	5	5	21	5.25
19	6	6	6	4	22	5.50
20	6	6	5	3	20	5.00

21	4	4	2	3	13	3.25
22	6	5	5	3	19	4.75
23	6	6	6	6	24	6.00
24	5	5	5	4	19	4.75
25	4	4	5	3	16	4.00
26	3	5	6	3	17	4.25
27	7	7	6	2	22	5.50
28	5	4	4	2	15	3.75
29	5	5	5	4	19	4.75
30	6	5	6	5	22	5.50
31	1	1	3	5	10	2.50
32	5	5	7	2	19	4.75
33	4	4	2	4	14	3.50
34	4	4	3	3	14	3.50
35	6	7	2	6	21	5.25
36	4	4	4	5	17	4.25
37	5	4	5	2	16	4.00
38	7	7	7	7	28	7.00
39	5	5	4	6	20	5.00
40	5	5	5	3	18	4.50
41	4	3	2	2	11	2.75
42	4	3	3	4	14	3.50
43	6	6	4	6	22	5.50
44	5	5	4	4	18	4.50
45	5	4	4	3	16	4.00
46	6	6	5	6	23	5.75
47	5	5	4	1	15	3.75
48	5	6	5	4	20	5.00
49	4	3	4	3	14	3.50
50	4	4	4	3	15	3.75

Appendix B2

Table 1.2

Raw data for Physical Health Questionnaire according to Gender

Participants	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Total Score	Average Score
Male																
1	6	1	2	1	2	1	1	2	1	2	1	2	2	2	26	1.857
2	6	4	3	2	4	4	3	3	3	3	3	4	3	2	47	3.357
3	3	2	2	2	2	4	4	1	1	1	1	3	2	4	32	2.286
4	4	2	2	6	1	1	2	2	5	2	1	3	1	4	36	2.571
5	2	2	2	4	2	3	3	4	4	3	2	2	1	2	36	2.571
6	6	6	5	6	4	4	4	3	3	3	2	4	1	7	58	4.143
7	4	2	1	2	5	5	3	3	2	3	3	3	2	7	45	3.214
8	2	1	2	3	3	2	2	2	3	2	2	2	2	1	29	2.071
9	3	1	2	2	4	4	3	2	4	2	2	3	2	7	41	2.929
10	3	5	4	4	5	6	4	3	2	6	2	4	1	4	53	3.786
11	2	2	2	3	6	6	6	6	2	4	4	2	4	2	51	3.643
12	4	6	2	3	2	1	1	2	5	2	3	7	1	3	42	3.000
13	1	3	1	6	1	1	1	2	1	2	1	6	3	7	36	2.571
14	6	1	1	4	1	1	4	2	1	1	1	1	1	1	26	1.857
15	2	2	2	2	1	1	1	1	1	1	1	1	1	1	18	1.286
16	2	3	1	2	2	1	3	1	4	3	1	2	2	2	29	2.071
17	6	5	6	7	5	7	7	1	7	5	5	3	6	7	77	5.500
18	5	2	2	3	2	3	4	1	1	1	1	2	2	2	31	2.214
19	2	2	2	2	1	2	2	1	1	2	1	1	1	1	21	1.500
20	3	2	6	1	4	3	3	2	1	2	3	2	1	5	38	2.714
21	4	2	2	3	4	3	3	2	1	1	1	5	1	5	37	2.643
22	1	1	1	3	2	2	3	2	3	2	3	3	2	2	30	2.143
23	4	5	7	3	3	3	4	4	6	4	1	2	1	3	50	3.571
24	5	5	5	6	1	2	3	2	1	2	3	2	2	1	40	2.857
25	2	2	1	2	2	4	4	2	4	3	2	2	2	3	35	2.500
26	3	6	4	4	4	3	5	4	3	1	3	2	4	3	49	3.500
27	2	1	2	2	1	1	1	2	2	2	1	2	1	3	23	1.643
28	6	2	2	2	5	2	6	2	2	2	2	2	1	2	38	2.714
29	3	2	5	2	4	3	4	2	2	2	2	2	2	2	37	2.643

30	2	1	1	1	2	3	3	2	1	2	1	1	1	1	22	1.571
31	4	3	4	4	3	4	4	5	4	4	5	4	5	4	57	4.071
32	4	6	1	6	6	1	1	1	1	1	2	7	2	2	41	2.929
33	1	4	1	1	2	2	2	4	4	3	3	2	2	1	32	2.286
34	7	6	2	6	1	2	2	2	1	2	1	2	2	1	37	2.643
35	2	2	2	2	3	3	5	4	2	2	2	5	1	6	41	2.929
36	1	4	2	2	3	2	2	1	3	2	2	3	2	1	30	2.143
37	1	1	3	2	2	2	2	2	2	2	2	3	2	1	27	1.929
38	1	2	2	2	2	2	2	2	2	2	5	6	1	6	37	2.643
39	2	3	3	3	3	3	2	6	1	6	4	2	2	4	44	3.143
40	2	3	3	3	4	3	3	2	2	2	2	2	1	6	38	2.714
41	3	4	6	7	4	5	3	1	1	1	6	2	1	7	51	3.643
42	2	4	3	2	2	2	2	2	2	2	3	4	1	3	34	2.429
43	6	6	5	6	6	4	3	5	3	5	2	2	1	3	57	4.071
44	6	6	7	6	4	4	6	5	6	3	4	5	5	3	70	5.000
45	2	4	4	4	1	1	2	1	3	1	1	2	1	1	28	2.000
46	4	4	3	4	5	6	4	3	3	4	1	6	1	1	49	3.500
47	3	2	4	3	2	3	3	3	3	4	4	2	2	2	40	2.857
48	5	4	3	2	7	7	7	5	2	5	4	1	2	3	57	4.071
49	2	2	3	2	3	3	3	4	6	4	3	7	1	7	50	3.571
50	4	3	4	3	4	5	5	3	3	3	2	3	1	6	49	3.500
Femal e																
1	5	2	3	2	2	4	2	3	3	3	1	1	1	3	35	2.500
2	1	2	2	3	2	1	1	1	1	1	1	2	1	2	21	1.500
3	4	2	2	2	1	1	1	1	1	1	1	1	1	1	20	1.429
4	3	2	1	2	3	2	3	3	1	1	2	2	1	2	28	2.000
5	3	2	2	2	1	1	1	1	1	2	3	2	1	3	25	1.786
6	4	3	3	3	4	3	2	4	4	4	4	3	2	3	46	3.286
7	2	1	2	2	1	1	1	1	2	2	2	1	1	3	22	1.571
8	3	2	2	1	6	6	4	3	2	3	2	6	1	3	44	3.143
9	2	4	2	2	3	2	2	2	2	2	3	1	1	4	32	2.286
10	3	3	2	3	3	4	3	1	1	1	1	4	2	2	33	2.357
11	1	1	2	2	2	2	2	2	2	2	2	1	1	1	23	1.643
12	3	2	2	1	4	3	2	3	2	2	3	4	2	5	38	2.714
13	4	4	5	6	5	6	4	2	1	5	3	2	4	3	54	3.857
14	2	4	2	4	4	5	5	2	1	1	1	2	1	2	36	2.571
15	2	2	2	2	4	4	3	4	4	4	3	7	2	7	50	3.571
16	3	1	2	2	4	4	6	1	1	2	1	2	1	7	37	2.643
17	4	3	4	3	2	3	3	2	6	4	2	2	2	7	47	3.357

18	3	2	2	2	6	6	4	2	1	3	2	2	2	3	40	2.857
19	5	4	2	2	1	1	2	1	1	1	1	2	1	1	25	1.786
20	1	1	1	2	2	2	2	5	2	4	3	1	1	1	28	2.000
21	4	3	5	2	4	6	5	3	2	3	3	4	2	1	47	3.357
22	3	3	4	3	5	6	6	5	4	3	4	3	1	4	54	3.857
23	2	4	4	2	2	2	2	2	2	2	2	2	1	1	30	2.143
24	3	3	4	3	3	5	4	6	6	2	5	2	2	4	52	3.714
25	2	4	3	6	4	4	3	3	1	2	1	2	2	7	44	3.143
26	4	1	2	3	6	5	5	5	5	4	4	4	3	3	54	3.857
27	5	3	3	2	4	4	4	4	5	3	3	3	2	7	52	3.714
28	3	2	4	3	4	2	2	1	1	2	2	2	1	2	31	2.214
29	6	6	3	5	6	6	3	2	2	2	2	2	1	6	52	3.714
30	4	2	2	4	2	4	3	3	3	3	3	2	1	3	39	2.786
31	6	2	3	2	3	3	3	3	3	3	2	2	1	3	39	2.786
32	3	4	5	2	2	6	5	1	2	1	1	1	1	1	35	2.500
33	1	1	2	3	4	5	5	3	2	2	4	6	3	2	43	3.071
34	1	1	1	1	4	4	2	3	2	2	5	5	1	7	39	2.786
35	3	1	4	2	3	3	2	1	1	2	2	2	1	2	29	2.071
36	2	2	2	2	3	4	4	4	3	3	3	5	3	7	47	3.357
37	1	1	1	6	3	6	6	3	2	1	3	4	4	3	44	3.143
38	2	2	2	6	2	2	2	4	2	2	4	2	2	2	36	2.571
39	2	2	1	1	2	2	4	5	5	2	2	2	1	1	32	2.286
40	3	2	2	6	5	5	5	3	2	2	2	2	2	3	44	3.143
41	3	2	4	4	4	4	5	3	1	2	3	2	1	1	39	2.786
42	2	2	4	3	4	3	4	2	5	2	3	2	1	4	41	2.929
43	4	1	1	3	4	3	3	3	3	3	3	2	2	5	40	2.857
44	4	2	2	2	3	4	4	3	4	5	4	4	2	3	46	3.286
45	6	2	2	5	2	4	5	3	4	3	5	3	4	2	50	3.571
46	2	2	2	6	4	4	3	4	1	2	2	2	2	7	43	3.071
47	1	1	2	2	3	3	3	2	1	4	3	4	1	3	33	2.357
48	2	2	2	2	1	1	1	2	1	1	5	1	1	1	23	1.643
49	2	4	2	2	6	5	4	2	2	2	2	1	1	2	37	2.643
50	4	5	4	4	4	5	4	3	3	3	3	5	1	7	55	3.929

Appendix B3

Table 1.3

Raw data for Extraversion and Neuroticism according to Gender

Participants	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16
Male																
1	4	3	3	2	5	3	4	5	1	1	4	2	1	3	3	4
2	4	2	3	2	3	3	3	2	3	3	3	3	2	3	3	3
3	3	4	3	4	2	3	3	5	2	5	3	5	2	5	3	5
4	4	2	3	1	4	3	3	4	4	2	4	5	4	2	5	5
5	3	3	3	2	4	2	3	2	4	3	4	3	4	3	4	2
6	5	4	2	2	4	3	4	3	3	2	4	4	2	2	4	3
7	4	2	3	3	4	3	3	2	3	2	3	3	2	3	4	4
8	3	4	4	2	4	4	3	5	4	2	2	4	2	2	4	2
9	4	3	3	2	4	4	4	3	2	2	4	4	3	4	5	1
10	4	4	3	3	2	4	3	4	3	3	4	4	2	3	3	4
11	5	2	5	1	4	3	3	3	4	3	3	3	3	3	4	2
12	3	1	3	2	3	3	3	2	3	2	3	3	2	3	2	2
13	3	2	3	1	4	3	3	4	3	3	3	3	3	3	5	4
14	4	4	2	2	4	4	4	2	3	3	3	3	1	2	4	3
15	4	2	3	2	4	3	3	2	3	3	3	3	3	2	4	2
16	3	2	3	2	5	4	4	2	5	1	3	4	4	3	4	3
17	5	2	3	2	4	3	4	4	4	2	5	4	2	1	5	3
18	4	2	3	2	3	4	4	3	3	3	3	4	4	1	4	3
19	2	4	2	4	2	4	2	5	3	4	2	4	2	5	2	4
20	2	1	1	3	3	4	3	4	2	2	3	2	2	1	4	1
21	5	1	4	1	5	3	4	1	5	1	5	2	3	5	5	3
22	5	3	5	3	2	3	4	2	1	2	4	2	5	3	5	3
23	2	4	3	4	2	3	3	5	1	5	3	4	2	3	4	4
24	3	4	5	2	3	5	4	4	2	3	1	3	1	3	4	5
25	4	3	3	2	5	3	3	3	3	3	4	2	4	4	4	4
26	2	3	4	5	4	5	3	2	2	5	2	3	2	1	3	5
27	2	4	3	2	3	3	3	1	1	3	3	2	1	1	2	3
28	2	2	4	2	4	3	2	2	2	3	3	3	2	2	2	2
29	3	4	3	2	4	3	3	4	2	3	3	3	2	2	3	4

30	3	2	3	2	4	3	3	2	4	1	4	3	2	1	5	3
31	4	2	2	3	4	4	2	3	3	3	3	3	3	3	4	3
32	5	1	4	1	3	3	3	1	5	1	4	1	5	1	5	1
33	3	4	3	4	4	3	3	5	2	3	3	4	2	3	3	4
34	4	1	3	2	4	3	4	2	4	1	3	1	1	2	4	3
35	2	2	2	4	2	2	3	3	2	3	2	4	2	3	4	3
36	5	3	3	2	4	3	2	5	4	2	3	2	2	3	4	2
37	4	3	3	2	4	4	3	3	4	2	3	2	2	2	3	2
38	4	2	2	2	4	4	3	4	4	2	3	3	2	2	4	3
39	3	1	3	5	1	5	1	5	2	5	3	5	2	5	1	5
40	3	3	3	3	3	3	2	2	2	3	4	4	2	2	3	3
41	5	4	3	5	4	4	5	5	5	4	4	3	3	3	5	5
42	4	2	3	2	5	5	4	3	2	2	3	4	2	2	5	2
43	4	3	3	3	3	3	3	4	4	3	3	4	3	3	3	3
44	4	5	3	4	2	2	3	5	4	5	4	5	2	3	3	5
45	2	3	2	5	2	2	3	4	2	4	3	4	3	2	4	5
46	5	4	3	5	1	5	2	5	2	4	3	4	3	2	2	5
47	3	3	2	3	2	3	3	4	2	4	3	4	2	3	2	2
48	4	5	2	4	5	3	4	5	1	5	4	5	1	2	4	5
49	3	4	3	3	5	3	5	4	3	4	3	4	3	3	3	4
50	3	2	2	3	3	4	2	4	2	2	2	4	2	2	2	4
Female																
1	3	2	4	4	3	3	2	4	3	3	3	4	2	3	2	1
2	4	2	3	2	4	4	4	3	4	3	3	3	3	2	4	3
3	3	3	3	2	4	5	3	5	2	3	3	3	3	3	3	3
4	1	4	3	4	2	4	5	2	5	4	3	4	5	4	2	4
5	3	3	3	4	4	4	4	3	4	1	3	2	3	2	4	2
6	4	3	3	1	4	3	4	3	3	2	3	4	2	3	4	4
7	1	2	3	1	4	3	3	3	2	2	3	2	2	3	3	2
8	5	1	5	2	5	4	4	3	5	2	4	4	4	3	4	4
9	4	3	3	3	4	4	4	2	3	4	3	4	4	4	4	2
10	4	2	3	2	4	4	3	3	3	4	3	4	2	3	3	3
11	3	1	2	4	4	4	4	1	4	4	4	4	4	3	3	3
12	5	2	2	2	4	4	4	2	4	4	4	5	2	3	5	2
13	4	3	3	2	5	2	4	4	4	2	3	5	2	3	2	3
14	4	3	1	2	5	3	3	3	4	2	4	3	2	2	5	5
15	4	4	3	4	4	4	3	4	2	4	2	5	1	4	2	5
16	1	4	3	4	3	4	2	5	1	2	1	3	2	4	1	4
17	3	4	2	3	3	4	2	4	1	2	2	3	2	2	1	5
18	5	3	3	3	4	3	3	3	3	3	3	3	2	2	3	1

19	4	1	3	2	5	3	5	2	5	2	3	2	4	2	4	2
20	2	4	1	1	4	2	2	5	1	2	3	4	1	2	3	4
21	4	3	3	5	1	5	3	4	3	4	3	5	1	5	3	4
22	4	3	2	2	3	4	4	5	2	2	4	4	2	2	4	4
23	4	2	3	2	4	2	5	2	4	3	3	2	4	2	5	2
24	4	4	1	4	2	5	2	4	1	4	1	4	2	2	4	5
25	3	3	3	2	4	3	3	2	4	4	3	4	2	3	2	4
26	5	2	3	3	4	3	3	3	4	1	3	3	3	3	5	4
27	1	1	1	1	4	4	4	4	2	3	4	2	3	3	3	3
28	4	4	2	3	3	3	4	2	5	4	4	4	5	1	4	2
29	4	4	2	4	3	4	4	5	2	4	4	4	2	2	4	4
30	5	2	2	5	5	3	3	4	2	5	3	4	4	3	5	5
31	5	4	2	5	2	1	3	1	5	5	1	4	1	5	5	5
32	5	3	4	3	5	4	5	4	3	2	5	2	2	3	5	4
33	1	3	3	4	2	3	2	5	2	4	3	3	1	5	2	4
34	3	1	3	5	1	3	2	5	2	4	3	4	1	5	1	4
35	3	1	2	2	4	4	4	2	3	1	5	3	2	2	4	3
36	4	3	3	4	3	3	3	2	3	3	3	3	3	3	3	5
37	4	2	4	1	4	5	5	5	4	4	1	5	2	3	5	5
38	4	4	2	1	3	3	5	2	2	2	4	4	1	2	5	2
39	2	2	4	3	3	2	3	4	2	3	3	2	2	2	3	4
40	3	4	3	3	3	3	4	3	2	2	4	2	2	3	3	2
41	2	5	3	4	1	3	4	5	3	2	3	4	2	4	3	4
42	2	4	3	4	3	3	2	4	3	4	3	4	2	4	2	5
43	4	3	3	2	3	3	3	4	4	3	3	4	2	3	3	4
44	5	2	3	3	4	3	3	2	5	3	3	4	4	3	4	4
45	4	3	3	3	2	2	3	4	2	2	2	3	3	2	4	3
46	3	3	3	2	4	1	4	2	4	3	3	3	3	2	3	2
47	5	4	3	2	4	3	3	5	3	3	3	4	2	3	3	5
48	3	3	3	1	4	3	3	2	3	3	3	3	2	3	1	1
49	4	2	3	4	3	4	3	4	3	4	3	5	3	4	2	4
50	3	4	2	4	3	4	4	4	3	4	3	5	3	4	3	3

Appendix C: Result

Appendix C1

Research Question

1. Are there any gender differences for UTAR students in level of happiness?

Table 2.3

Subjective Happiness Score for UTAR Undergraduates according to Gender

Female (X)	Male (Y)	X^2	Y^2
4.25	4.75	18.06	22.56
5.25	5.00	27.56	25.00
5.25	3.50	27.56	12.25
4.00	4.25	16.00	18.06
5.50	4.75	30.25	22.56
5.25	4.00	27.56	16.00
4.75	5.50	22.56	30.25
5.75	4.50	33.06	20.25
5.00	5.25	25.00	27.56
5.00	3.50	25.00	12.25
5.50	6.50	30.25	42.25
6.75	6.00	45.56	36.00
4.50	6.00	20.25	36.00
5.00	5.50	25.00	30.25
5.25	6.00	27.56	36.00
4.00	4.25	16.00	18.06
4.00	5.00	16.00	25.00
5.25	5.25	27.56	27.56
5.50	2.25	30.25	5.06
5.00	5.50	25.00	30.25
3.25	5.00	10.56	25.00
4.75	6.50	22.56	42.25
6.00	3.00	36.00	9.00
4.75	3.00	22.56	9.00
4.00	3.50	16.00	12.25
4.25	3.75	18.06	14.06
5.50	4.50	30.25	20.25
3.75	6.25	14.06	39.06
4.75	4.25	22.56	18.06

5.50	5.50	30.25	30.25
2.50	3.75	6.25	14.06
4.75	6.75	22.56	45.56
3.50	4.00	12.25	16.00
3.50	5.00	12.25	25.00
5.25	5.00	27.56	25.00
4.25	5.75	18.06	33.06
4.00	6.00	16.00	36.00
7.00	4.75	49.00	22.56
5.00	3.50	25.00	12.25
4.50	3.25	20.25	10.56
2.75	3.25	7.56	10.56
3.50	4.50	12.25	20.25
5.50	3.25	30.25	10.56
4.50	2.75	20.25	7.56
4.00	2.50	16.00	6.25
5.75	3.75	33.06	14.06
3.75	3.50	14.06	12.25
5.00	4.00	25.00	16.00
3.50	5.00	12.25	25.00
3.75	3.00	14.06	9.00
233.50	225.75	1132.88	1083.94

Research Hypothesis, H_1= There is significant difference between gender and happiness level among UTAR undergraduates.

Null Hypothesis, H_0 = There is no significant difference between gender and happiness level among UTAR undergraduates.

$n\chi = 50$ $n\gamma = 50$

$\overline{X} = \frac{\sum X}{n} = \frac{233.50}{50} = 4.67$ $\overline{Y} = \frac{\sum Y}{n} = \frac{225.75}{50} = 4.52$

$$S\chi = \sqrt{\frac{\sum X^2 - \frac{(\sum X)^2}{n}}{n-1}} = \sqrt{\frac{1132.88 - \frac{(233.50)^2}{50}}{50-1}} = \sqrt{\frac{1132.88 - \frac{54522.25}{50}}{49}} = \sqrt{\frac{1132.88 - 1090.445}{49}}$$

$$= \sqrt{\frac{42.435}{49}} = \sqrt{0.866} = 0.931$$

$$S\Upsilon = \sqrt{\frac{\sum Y^2 - \frac{(\sum Y)^2}{n}}{n-1}} = \sqrt{\frac{1083.94 - \frac{(225.75)^2}{50}}{50-1}} = \sqrt{\frac{1083.94 - \frac{50963.0625}{50}}{49}} = \sqrt{\frac{1083.94 - 1019.2613}{49}} = \sqrt{\frac{64.6788}{49}}$$

$$= \sqrt{1.32} = 1.149$$

$$\text{est. } \sigma_{Diff} = \sqrt{\frac{S_\chi^2}{n_\chi} + \frac{S^2}{n}} = \sqrt{\frac{0.931^2}{50} + \frac{1.149^2}{50}} = \sqrt{\frac{0.867}{50} + \frac{1.32}{50}} = \sqrt{0.017 + 0.0264}$$

$$= \sqrt{0.0437} = 0.209$$

$$t = \frac{(\bar{X} - \bar{Y})}{\sigma_{Diff}} = \frac{4.67 - 4.52}{0.209} = \frac{0.15}{0.209} = 0.718$$

$df = (n\chi - 1) + (n\Upsilon - 1) = (50 - 1) + (50 - 1) = 49 + 49 = 98$

p = 0.05, Critical Value = 1.980 (Critical value taken from *df* = 120, a value that is nearer to *df* = 98 since the degree of freedom 98 is not found at the distribution table)

Critical t (df = 120, p = 0.05, two-tailed) = 0.718

Since cv > t, therefore fail to reject null hypothesis.

The result of *t-Test between Independent Sample Means* showed that there is no significant difference between gender and subjective happiness, $t(98) = 0.718$, $p>0.05$. Female students had same level of subjective happiness (M = 4.67, SD = 0.931) with male students (M = 4.52, SD = 1.149).

Appendix C2

Table 2.4

Scores for Subjective Happiness Scale and Physical Health for UTAR Undergraduate

Participants	PHQ (X)	SHS (Y)	X^2	Y^2	XY
1	2.500	4.250	6.250	18.063	10.625
2	1.500	5.250	2.250	27.563	7.875
3	1.429	5.250	2.041	27.563	7.500
4	2.000	4.000	4.000	16.000	8.000
5	1.786	5.500	3.189	30.250	9.821
6	3.286	5.250	10.796	27.563	17.250
7	1.571	4.750	2.469	22.563	7.464
8	3.143	5.750	9.878	33.063	18.071
9	2.286	5.000	5.224	25.000	11.429
10	2.357	5.000	5.556	25.000	11.786
11	1.643	5.500	2.699	30.250	9.036
12	2.714	6.750	7.367	45.563	18.321
13	3.857	4.500	14.878	20.250	17.357
14	2.571	5.000	6.612	25.000	12.857
15	3.571	5.250	12.755	27.563	18.750
16	2.643	4.000	6.985	16.000	10.571
17	3.357	4.000	11.270	16.000	13.429
18	2.857	5.250	8.163	27.563	15.000
19	1.786	5.500	3.189	30.250	9.821
20	2.000	5.000	4.000	25.000	10.000
21	3.357	3.250	11.270	10.563	10.911
22	3.857	4.750	14.878	22.563	18.321
23	2.143	6.000	4.592	36.000	12.857
24	3.714	4.750	13.796	22.563	17.643
25	3.143	4.000	9.878	16.000	12.571
26	3.857	4.250	14.878	18.063	16.393
27	3.714	5.500	13.796	30.250	20.429
28	2.214	3.750	4.903	14.063	8.304
29	3.714	4.750	13.796	22.563	17.643
30	2.786	5.500	7.760	30.250	15.321

31	2.786	2.500	7.760	6.250	6.964
32	2.500	4.750	6.250	22.563	11.875
33	3.071	3.500	9.434	12.250	10.750
34	2.786	3.500	7.760	12.250	9.750
35	2.071	5.250	4.291	27.563	10.875
36	3.357	4.250	11.270	18.063	14.268
37	3.143	4.000	9.878	16.000	12.571
38	2.571	7.000	6.612	49.000	18.000
39	2.286	5.000	5.224	25.000	11.429
40	3.143	4.500	9.878	20.250	14.143
41	2.786	2.750	7.760	7.563	7.661
42	2.929	3.500	8.577	12.250	10.250
43	2.857	5.500	8.163	30.250	15.714
44	3.286	4.500	10.796	20.250	14.786
45	3.571	4.000	12.755	16.000	14.286
46	3.071	5.750	9.434	33.063	17.661
47	2.357	3.750	5.556	14.063	8.839
48	1.643	5.000	2.699	25.000	8.214
49	2.643	3.500	6.985	12.250	9.250
50	3.929	3.750	15.434	14.063	14.732
51	1.857	4.750	3.449	22.563	8.821
52	3.357	5.000	11.270	25.000	16.786
53	2.286	3.500	5.224	12.250	8.000
54	2.571	4.250	6.612	18.063	10.929
55	2.571	4.750	6.612	22.563	12.214
56	4.143	4.000	17.163	16.000	16.571
57	3.214	5.500	10.332	30.250	17.679
58	2.071	4.500	4.291	20.250	9.321
59	2.929	5.250	8.577	27.563	15.375
60	3.786	3.500	14.332	12.250	13.250
61	3.643	6.500	13.270	42.250	23.679
62	3.000	6.000	9.000	36.000	18.000
63	2.571	6.000	6.612	36.000	15.429
64	1.857	5.500	3.449	30.250	10.214
65	1.286	6.000	1.653	36.000	7.714
66	2.071	4.250	4.291	18.063	8.804
67	5.500	5.000	30.250	25.000	27.500
68	2.214	5.250	4.903	27.563	11.625

69	1.500	2.250	2.250	5.063	3.375
70	2.714	5.500	7.367	30.250	14.929
71	2.643	5.000	6.985	25.000	13.214
72	2.143	6.500	4.592	42.250	13.929
73	3.571	3.000	12.755	9.000	10.714
74	2.857	3.000	8.163	9.000	8.571
75	2.500	3.500	6.250	12.250	8.750
76	3.500	3.750	12.250	14.063	13.125
77	1.643	4.500	2.699	20.250	7.393
78	2.714	6.250	7.367	39.063	16.964
79	2.643	4.250	6.985	18.063	11.232
80	1.571	5.500	2.469	30.250	8.643
81	4.071	3.750	16.577	14.063	15.268
82	2.929	6.750	8.577	45.563	19.768
83	2.286	4.000	5.224	16.000	9.143
84	2.643	5.000	6.985	25.000	13.214
85	2.929	5.000	8.577	25.000	14.643
86	2.143	5.750	4.592	33.063	12.321
87	1.929	6.000	3.719	36.000	11.571
88	2.643	4.750	6.985	22.563	12.554
89	3.143	3.500	9.878	12.250	11.000
90	2.714	3.250	7.367	10.563	8.821
91	3.643	3.250	13.270	10.563	11.839
92	2.429	4.500	5.898	20.250	10.929
93	4.071	3.250	16.577	10.563	13.232
94	5.000	2.750	25.000	7.563	13.750
95	2.000	2.500	4.000	6.250	5.000
96	3.500	3.750	12.250	14.063	13.125
97	2.857	3.500	8.163	12.250	10.000
98	4.071	4.000	16.577	16.000	16.286
99	3.571	5.000	12.755	25.000	17.857
100	3.500	3.000	12.250	9.000	10.500
	281.143	459.250	852.276	2216.813	1270.946

Note. Higher PHQ's score indicate lower level of physical health

Research Hypothesis, H_1= There is significant correlation between physical health and level of happiness among UTAR undergraduates.

Null Hypothesis, H_0 = There is no significant correlation between physical health and level of happiness among UTAR undergraduates

$$r_{xy} = \frac{(n\,.\,\sum XY) - (\sum X\,.\,\sum Y)}{\sqrt{[(n\,.\,\sum X^2) - (\sum X)^2]\,.\,[(n\,.\,\sum Y^2) - (\sum Y)^2]}}$$

$$= \frac{(100\,.\,1270.946) - (281.143\,.\,459.250)}{\sqrt{[(100\,.\,852.276) - (281.143)^2]\,.\,[(100\,.\,2216.813) - (459.250)^2]}}$$

$$= \frac{(127094.6) - (129114.923)}{\sqrt{[(85227.6) - (79041.386)]\,.\,[(221681.3) - (210910.563)]}}$$

$$= \frac{-2020.323}{\sqrt{[6186.214]\,.\,[10770.737]}}$$

$$= \frac{-2020.323}{\sqrt{66630084.02}}$$

$$= \frac{-2020.323}{8162.725} \qquad = -0.248$$

df = n – 2= 100 – 2 = 98

p = 0.05; Critical Value = 0.195 (Critical value taken from *df* = 100, a value that is nearer to *df* = 98 since the degree of freedom 98 is not found at the distribution table)

r > Critical Value, reject null hypothesis

The results of *Pearson Correlation* show that there was a significant positive correlation between level of physical health and subjective happiness level, r (98) = -0.248, $p < 0.05$. The higher the level of happiness among UTAR undergraduates, the better is their physical health.

(Note. Higher PHQ score indicate lower level of happiness)

Appendix C3

Table 2.5

Scores of Extraversion and Subjective Happiness Score among UTAR Undergraduates

Participants	SHS (X)	Extraversion (Y)	X^2	Y^2	XY
1	4.25	2.750	18.063	7.563	11.688
2	5.25	3.625	27.563	13.141	19.031
3	5.25	3.000	27.563	9.000	15.750
4	4.00	3.250	16.000	10.563	13.000
5	5.50	3.500	30.250	12.250	19.250
6	5.25	3.375	27.563	11.391	17.719
7	4.75	2.625	22.563	6.891	12.469
8	5.75	4.500	33.063	20.250	25.875
9	5.00	3.625	25.000	13.141	18.125
10	5.00	3.125	25.000	9.766	15.625
11	5.50	3.250	30.250	10.563	17.875
12	6.75	3.750	45.563	14.063	25.313
13	4.50	3.375	20.250	11.391	15.188
14	5.00	3.500	25.000	12.250	17.500
15	5.25	2.625	27.563	6.891	13.781
16	4.00	1.750	16.000	3.063	7.000
17	4.00	2.000	16.000	4.000	8.000
18	5.25	3.250	27.563	10.563	17.063
19	5.50	4.125	30.250	17.016	22.688
20	5.00	2.125	25.000	4.516	10.625
21	3.25	2.625	10.563	6.891	8.531
22	4.75	3.125	22.563	9.766	14.844
23	6.00	4.000	36.000	16.000	24.000
24	4.75	2.215	22.563	4.906	10.521
25	4.00	3.000	16.000	9.000	12.000
26	4.25	3.750	18.063	14.063	15.938
27	5.50	2.750	30.250	7.563	15.125
28	3.75	3.875	14.063	15.016	14.531
29	4.75	3.125	22.563	9.766	14.844
30	5.50	3.875	30.250	15.016	21.313

31	2.50	3.000	6.250	9.000	7.500
32	4.75	4.250	22.563	18.063	20.188
33	3.50	2.000	12.250	4.000	7.000
34	3.50	2.125	12.250	4.516	7.438
35	5.25	3.375	27.563	11.391	17.719
36	4.25	3.125	18.063	9.766	13.281
37	4.00	3.625	16.000	13.141	14.500
38	7.00	3.250	49.000	10.563	22.750
39	5.00	2.750	25.000	7.563	13.750
40	4.50	3.000	20.250	9.000	13.500
41	2.75	2.625	7.563	6.891	7.219
42	3.50	2.500	12.250	6.250	8.750
43	5.50	3.125	30.250	9.766	17.188
44	4.50	3.875	20.250	15.016	17.438
45	4.00	2.875	16.000	8.266	11.500
46	5.75	3.375	33.063	11.391	19.406
47	3.75	3.250	14.063	10.563	12.188
48	5.00	2.750	25.000	7.563	13.750
49	3.50	3.000	12.250	9.000	10.500
50	3.75	3.000	14.063	9.000	11.250
51	4.75	3.125	22.563	9.766	14.844
52	5.00	3.000	25.000	9.000	15.000
53	3.50	2.625	12.250	6.891	9.188
54	4.25	3.875	18.063	15.016	16.469
55	4.75	3.625	22.563	13.141	17.219
56	4.00	3.500	16.000	12.250	14.000
57	5.50	3.250	30.250	10.563	17.875
58	4.50	3.250	20.250	10.563	14.625
59	5.25	3.625	27.563	13.141	19.031
60	3.50	3.000	12.250	9.000	10.500
61	6.50	3.875	42.250	15.016	25.188
62	6.00	2.750	36.000	7.563	16.500
63	6.00	3.375	36.000	11.391	20.250
64	5.50	3.125	30.250	9.766	17.188
65	6.00	3.375	36.000	11.391	20.250
66	4.25	3.875	18.063	15.016	16.469
67	5.00	4.000	25.000	16.000	20.000
68	5.25	3.500	27.563	12.250	18.375

69	2.25	2.125	5.063	4.516	4.781
70	5.50	2.500	30.250	6.250	13.750
71	5.00	4.500	25.000	20.250	22.500
72	6.50	3.875	42.250	15.016	25.188
73	3.00	2.500	9.000	6.250	7.500
74	3.00	2.875	9.000	8.266	8.625
75	3.50	3.750	12.250	14.063	13.125
76	3.75	2.750	14.063	7.563	10.313
77	4.50	2.250	20.250	5.063	10.125
78	6.25	2.625	39.063	6.891	16.406
79	4.25	2.875	18.063	8.266	12.219
80	5.50	3.500	30.250	12.250	19.250
81	3.75	3.125	14.063	9.766	11.719
82	6.75	4.250	45.563	18.063	28.688
83	4.00	2.875	16.000	8.266	11.500
84	5.00	3.375	25.000	11.391	16.875
85	5.00	2.375	25.000	5.641	11.875
86	5.75	3.375	33.063	11.391	19.406
87	6.00	3.250	36.000	10.563	19.500
88	4.75	3.250	22.563	10.563	15.438
89	3.50	2.000	12.250	4.000	7.000
90	3.25	2.750	10.563	7.563	8.938
91	3.25	4.250	10.563	18.063	13.813
92	4.50	3.500	20.250	12.250	15.750
93	3.25	3.250	10.563	10.563	10.563
94	2.75	2.875	7.563	8.266	7.906
95	2.50	2.625	6.250	6.891	6.563
96	3.75	2.625	14.063	6.891	9.844
97	3.50	2.375	12.250	5.641	8.313
98	4.00	3.125	16.000	9.766	12.500
99	5.00	3.500	25.000	12.250	17.500
100	3.00	2.250	9.000	5.063	6.750
	459.25	314.215	2216.813	1022.156	1469.209

Research Hypothesis, H_1= There is significant correlation between Extraversion and level of happiness among UTAR undergraduates.

Null Hypothesis, H_0 = There is no significant correlation between Extraversion and level of happiness among UTAR undergraduates

$$r_{xy} = \frac{(n\,.\,\sum XY) - (\sum X\,.\,\sum Y)}{\sqrt{[(n\,.\,\sum X^2) - (\sum X)^2]\,.\,[(n\,.\,\sum Y^2) - (\sum Y)^2]}}$$

$$= \frac{(100\,.\,1469.209) - (459.25\,.\,314.215)}{\sqrt{[(100\,.\,2216.813) - (459.25)^2]\,.\,[(100\,.\,1022.156) - (314.215)^2]}}$$

$$= \frac{(146920.9) - (144303.239)}{\sqrt{[(221681.3) - (210910.563)]\,.\,[(102215.6) - (98731.066)]}}$$

$$= \frac{2617.661}{\sqrt{[10770.737]\,.\,[3484.534]}}$$

$$= \frac{2617.661}{\sqrt{37530999.28}}$$

$$= \frac{2617.661}{6126.255}$$

$$= 0.427$$

df = n – 2 = 100 – 2 = 98

p = 0.05; Critical Value = 0.195 (Critical value taken from *df* = 100, a value that is nearer to *df* = 98 since the degree of freedom 98 is not found at the distribution table)

r > Critical Value, reject null hypothesis

The results of *Pearson Correlation* show that there was a significant positive correlation between level of Extraversion and happiness, r (98) = 0.427, $p < 0.05$. The higher the level of Extraversion obtained by UTAR undergraduates, the higher is their level of happiness.

Appendix C4

Table 2.6

Scores of Neuroticism and Happiness among UTAR Undergraduates

Participants	SHS (X)	Neuroticism (Y)	X^2	Y^2	XY
1	4.250	3.000	18.063	9.000	12.750
2	5.250	2.750	27.563	7.563	14.438
3	5.250	3.375	27.563	11.391	17.719
4	4.000	3.750	16.000	14.063	15.000
5	5.500	2.375	30.250	5.641	13.063
6	5.250	2.875	27.563	8.266	15.094
7	4.750	2.250	22.563	5.063	10.688
8	5.750	2.875	33.063	8.266	16.531
9	5.000	3.250	25.000	10.563	16.250
10	5.000	3.125	25.000	9.766	15.625
11	5.500	2.500	30.250	6.250	13.750
12	6.750	3.000	45.563	9.000	20.250
13	4.500	3.000	20.250	9.000	13.500
14	5.000	2.875	25.000	8.266	14.375
15	5.250	4.250	27.563	18.063	22.313
16	4.000	3.750	16.000	14.063	15.000
17	4.000	3.375	16.000	11.391	13.500
18	5.250	2.625	27.563	6.891	13.781
19	5.500	2.000	30.250	4.000	11.000
20	5.000	3.000	25.000	9.000	15.000
21	3.250	4.375	10.563	19.141	14.219
22	4.750	3.250	22.563	10.563	15.438
23	6.000	2.125	36.000	4.516	12.750
24	4.750	4.000	22.563	16.000	19.000
25	4.000	3.125	16.000	9.766	12.500
26	4.250	2.750	18.063	7.563	11.688
27	5.500	2.625	30.250	6.891	14.438
28	3.750	3.125	14.063	9.766	11.719
29	4.750	3.875	22.563	15.016	18.406

30	5.500	2.875	30.250	8.266	15.813
31	2.500	3.750	6.250	14.063	9.375
32	4.750	3.125	22.563	9.766	14.844
33	3.500	3.875	12.250	15.016	13.563
34	3.500	3.875	12.250	15.016	13.563
35	5.250	2.250	27.563	5.063	11.813
36	4.250	3.250	18.063	10.563	13.813
37	4.000	3.750	16.000	14.063	15.000
38	7.000	2.500	49.000	6.250	17.500
39	5.000	2.750	25.000	7.563	13.750
40	4.500	2.750	20.250	7.563	12.375
41	2.750	3.875	7.563	15.016	10.656
42	3.500	4.000	12.250	16.000	14.000
43	5.500	3.250	30.250	10.563	17.875
44	4.500	3.000	20.250	9.000	13.500
45	4.000	2.750	16.000	7.563	11.000
46	5.750	2.250	33.063	5.063	12.938
47	3.750	3.625	14.063	13.141	13.594
48	5.000	2.375	25.000	5.641	11.875
49	3.500	3.875	12.250	15.016	13.563
50	3.750	4.000	14.063	16.000	15.000
51	4.750	2.875	22.563	8.266	13.656
52	5.000	2.625	25.000	6.891	13.125
53	3.500	4.500	12.250	20.250	15.750
54	4.250	3.000	18.063	9.000	12.750
55	4.750	2.500	22.563	6.250	11.875
56	4.000	2.875	16.000	8.266	11.500
57	5.500	2.750	30.250	7.563	15.125
58	4.500	3.125	20.250	9.766	14.063
59	5.250	2.875	27.563	8.266	15.094
60	3.500	3.625	12.250	13.141	12.688
61	6.500	2.500	42.250	6.250	16.250
62	6.000	2.250	36.000	5.063	13.500
63	6.000	2.875	36.000	8.266	17.250
64	5.500	2.875	30.250	8.266	15.813
65	6.000	2.375	36.000	5.641	14.250
66	4.250	2.625	18.063	6.891	11.156
67	5.000	2.625	25.000	6.891	13.125

68	5.250	2.750	27.563	7.563	14.438
69	2.250	4.250	5.063	18.063	9.563
70	5.500	2.250	30.250	5.063	12.375
71	5.000	2.125	25.000	4.516	10.625
72	6.500	2.625	42.250	6.891	17.063
73	3.000	4.000	9.000	16.000	12.000
74	3.000	3.625	9.000	13.141	10.875
75	3.500	3.000	12.250	9.000	10.500
76	3.750	3.625	14.063	13.141	13.594
77	4.500	2.375	20.250	5.641	10.688
78	6.250	2.375	39.063	5.641	14.844
79	4.250	3.125	18.063	9.766	13.281
80	5.500	2.125	30.250	4.516	11.688
81	3.750	3.000	14.063	9.000	11.250
82	6.750	1.250	45.563	1.563	8.438
83	4.000	3.750	16.000	14.063	15.000
84	5.000	1.875	25.000	3.516	9.375
85	5.000	3.000	25.000	9.000	15.000
86	5.750	2.750	33.063	7.563	15.813
87	6.000	2.500	36.000	6.250	15.000
88	4.750	2.750	22.563	7.563	13.063
89	3.500	4.500	12.250	20.250	15.750
90	3.250	2.875	10.563	8.266	9.344
91	3.250	4.125	10.563	17.016	13.406
92	4.500	2.750	20.250	7.563	12.375
93	3.250	3.250	10.563	10.563	10.563
94	2.750	4.250	7.563	18.063	11.688
95	2.500	3.625	6.250	13.141	9.063
96	3.750	4.250	14.063	18.063	15.938
97	3.500	3.250	12.250	10.563	11.375
98	4.000	4.250	16.000	18.063	17.000
99	5.000	3.625	25.000	13.141	18.125
100	3.000	3.125	9.000	9.766	9.375
	459.250	308.875	2216.813	997.734	1370.625

Research Hypothesis, H_1= There is significant correlation between Neuroticism and level of happiness among UTAR undergraduates.

Null Hypothesis, H_0 = There is no significant correlation between Neuroticism and level of happiness among UTAR undergraduates

$$r_{xy} = \frac{(n\,.\,\sum XY) - (\sum X\,.\,\sum Y)}{\sqrt{[(n\,.\,\sum X^2) - (\sum X)^2]\,.\,[(n\,.\,\sum Y^2) - (\sum Y)^2]}}$$

$$= \frac{(100\,.\,1370.625) - (459.250\,.\,308.875)}{\sqrt{[(100\,.\,2216.813) - (459.250)^2]\,.\,[(100\,.\,997.734) - (308.875)^2]}}$$

$$= \frac{(137062.5) - (141850.844)}{\sqrt{[(221681.3) - (210910.563)]\,.\,[(99773.4) - (95403.766)]}}$$

$$= \frac{-4788.344}{\sqrt{[10770.737]\,.\,[4369.634]}}$$

$$= \frac{-4788.344}{\sqrt{47064178.6}}$$

$$= \frac{-4788.344}{6860.334}$$

= -0.698

df = n – 2 = 100 – 2 = 98

p = 0.05; Critical Value = 0.195 (Critical value taken from *df* = 100, a value that is nearer to *df* = 98, because the degree of freedom 98 is not found at the distribution table)

r > Critical Value, reject null hypothesis

The results of *Pearson Correlation* show that there was a significant negative correlation between level of happiness and Neuroticism, r (98) = -0.698, $p < 0.05$. The higher the level of Neuroticism obtained by UTAR undergraduates, the lower is their level of happiness.

Appendix D: Soft Copy of Research Paper in CD