

RELATIONSHIP BETWEEN GRATITUDE,
MENTAL WELL-BEING AND LIFE
SATISFACTION AMONG UNIVERSITY
STUDENTS



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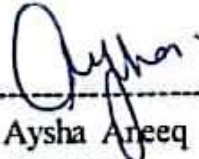
A Research Thesis submitted to the
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in partial fulfillment of the requirements for the degree of
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CERTIFICATE OF APPROVAL

It is certified that the Research Thesis titled "Relationship between Gratitude, Mental Well-being and Life Satisfaction among University Students" carried out by Sawaira Khan, Reg. No. BSP193060, under the supervision of Ms. Aysha Aneeq, Capital University of Science & Technology, Islamabad, is fully adequate, in scope and in quality, as a Research Thesis for the degree of BS Psychology.

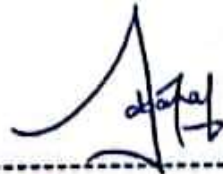
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Relationship between Gratitude, Mental Well-being and Life Satisfaction among
University Students

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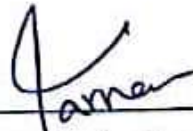
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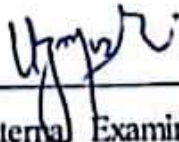
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Dedicated to my parents (Mohammad Shabir Khan and Seema Akhtar) and my siblings (Fawad Shabir, Zohad Ali and Wareesha Khan) who supported me, believed in my abilities and struggled constantly so that I could complete my bachelor's degree and be able to walk efficiently throughout the journey of my research.

DECLARATION

It is declared that this is an original piece of my own work, except where otherwise acknowledged in text and references. This work has not been submitted in any form for another degree or diploma at any university or other institution for tertiary education and shall not be submitted by me in future for obtaining any degree from this or any other University or Institution.

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Abstract

With the rise of positive psychology, researchers have shifted their interest towards number of positive factors and emotions. One of them is gratitude which has captured the interest of most researchers because of its relation with well-being and life satisfaction. The present study attempts to examine the relationship between gratitude, mental well-being, and life satisfaction among university students and it also explore the gender differences in study variables among university students. The sample consisted of 300 students which includes Female (N = 150) and Male (N = 150) participants which were selected by convenient sampling from universities of Islamabad and Rawalpindi. Gratitude Questionnaire-6, Warwick Edinburgh Mental Well-being and Satisfaction with Life Scales were used. Results were analyzed using descriptive statistics and inferential statistics. Results revealed a significant positive relationship of gratitude with mental well-being ($r_s = .17, p < .01$) and life satisfaction ($r_s = .49, p < .01$). Also, a significant positive relationship exists between mental well-being and life satisfaction ($r_s = .14, p < .01$). Significant gender differences exist among study variables. Females scored higher in gratitude ($p < .001$) and life satisfaction ($p < .001$) and males scored higher on mental well-being ($p < .001$). This study will be beneficial for further researchers as they can develop programs/interventions to enhance gratitude and ultimately the mental well-being of individuals which makes them satisfied.

Key words: Gratitude, Mental well-being, Life satisfaction, Gender differences, University students, Pakistan

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List of Abbreviations

GQ-6	Gratitude Questionnaire 6
SWLS	Satisfaction With Life Scale
WEMWS	Warwick Edinburgh Mental Well-being Scale
APA	American Psychological Association
SPSS	Statistical Package for Social Sciences
α	Cronbach alpha reliabilities
P	Significance level
r_s	Spearman rank order correlation
K-S	Kolmogorov-Smirnov test

Chapter 1 - Introduction

Research in psychology generally focuses on negative aspects that intimidate mental well-being of humans and lead towards psychopathology. Most of the researchers started to investigate the aspects that improves the lives of the people and then their focus also increases towards the impact of positive emotions on the consequences of mental health (Lambert et al., 2009). With the advancement in positive psychology, positive emotions captured interest of most of the researchers and gratitude is the most important positive emotion to be studied (Zhu, 2022). Positive psychology is the scientific method that aims to understand and improves the human virtues, strengths and well-being. The main objective of this is to encourage positive feelings, engagement, meaning, relationships and achievements in order to help people flourish in their lives (Seligman & Csikszentmihalyi, 2000). It looks for to go beyond the traditional interest on pathology and the related disorders by investigating the ways to develop positive experiences and consequences in people and the communities. According to Emmons and McCullough (2003), gratitude, healthy relationships and character strengths are few examples of the numerous related concepts of positive psychology. For example, gratitude which involves gratefulness for the good things happen in life and has been linked to stronger social ties and increased well-being. Fredrickson (2013a) recognized gratitude an important emotion among ten most vital positive emotions. Psychology has currently displayed a keen interest in knowing the positive characteristics of life (Fredrickson, 2013).

Gratitude

Gratitude is defined as a general tendency to appreciate and react toward the kindness of others with gratitude in positive experience and consequences that one has

achieved (McCullough et al., 2002). Gratitude is commonly accepted as a positive emotion (Emmons & McCullough, 2004). Gratitude is a generous aspect of how an individual sees the world that giving the individual with strategy of acquiring strength in happiness and peace of mind (Dambrun et al., 2012). Gratitude is defined as a constructive emotion, a psychological state, a moral character, a personality trait, dealing source, an attitude or a power of character (Skrzelinska & Ferreira, 2020). People experienced gratitude whenever they get something which is useful for them or recognized whenever someone shows kindness towards them. Gratitude has been referred as a feeling of appreciation and happiness for the things which has been received, even if the gift has actual benefit from a particular person or a point of pleasant blessings captured by the beauty of nature (Emmons, 2004). Gratitude has many facets that should be conceptualized in terms of general life directions instead of reduced to social interaction with others (Wood et al., 2010).

Basically, gratitude recognizes and appreciates the positive things in our life and also an indicator to appreciate the elements of life (Wood et al., 2010). Showing gratitude to the individuals who are kind with others confirms their attempts and this strengthens their actions in later life which encourages to increase the kindness towards those who are kind with us as well as with others. Hence, individuals who demonstrate and experiencing gratitude contributes to enhance their current relations and also make new caring relationships with others (Bono & Emmons, 2012). Gratitude may be viewed as a flexible psychological method through which an individual interprets their daily life incidents and also gain its advantages (Salavada-Ferrer, 2017). Positive emotions in an

individual's such as having gratitude helping them to change their mode of thinking which also leads them towards the subjective well-being (Liao & Weng, 2018).

Gratitude is considered as a captivating emotion as it motivates connections and at the same time also promotes friendly relationships with others in the surrounding (Algoe et al., 2008). In 1994, Lazarus and Lazarus have argued that gratitude reflects positive emotions. In a research study, gratitude has been defined as feeling of gratefulness or having an ability that one should make a positive reaction to an act of kindness (McConnell, 2013). It plays a most significant role in the process of establishing and acquiring internal peace as such it is not essential for people who are grateful to feel something for others instead of being appreciative or even dignified (Friedman, 2008). Having gratefulness helps a person in dealing with the stressful situations and also decreases the events of harmful emotions which are originated from the social associations (Emmons & Mishra, 2011). Past research also found that gratitude is the central and most vital concept which is beneficial for the well-being of an individual and may also lessen the depressive symptoms as well (Emmons & Stern, 2013).

Mental Well-being

Mental well-being is more than just happiness, involves both mind and body which includes living well for oneself and those around us (Stewart-Brown, 2013). World Health Organization has defined mental well-being in terms of developing the potential of individual to work in a constructive and in a creative way, building good and strong relationships with the people in our surrounding and be helpful for the community (WHO, 2004). In the literature, mental well-being is commonly applied in the same way with positive mental health (Tennat et al., 2007) in which hedonic as well as eudemonic

aspects are also included (Stewart-Brown & Janmohammad, 2008). Mental or psychological well-being is basically a condition of happiness which produces a positive influence on individual's health (Wilkinson & Walford, 1998). Individuals with positive mental well-being have a sense of believing on their own abilities in achieving their targets and also have a capability to affect others. They also exhibit resilience as they possess the abilities and the resources which are essential to cope after the difficult circumstances happen in life (Trenoweth, 2017).

Mental well-being is a main component for the ideal working of the society (Tennant et al., 2007). Mental well-being not only just incorporate the resources which are essential for the satisfaction and making the stabilize relations with others but it also includes most vital outcomes which are related to health and the social issues (Tennant et al., 2007). In 2009, Krause argues that grateful people tend to experience more happiness. People with better mental well-being are more innovative, easily cope with any stressful situations of their life and also perform well for their community (Surya et al., 2017).

Experiencing gratefulness and appreciation which tends to promote positive emotions contributing to overall well-being including satisfaction with life (Sansone & Sansone, 2010). Even adults who are grateful also have higher level of well-being (Hill & Allemand, 2011). People are always looking for the ways which enhances their well-being and leads them to a fuller and happier life (Lantz et al., 2021). So, well-being outcomes in stabilized growth as well as health, also it promotes the right growth of individuals' ability and potentiality (Stephen et al., 2011).

Life Satisfaction

Life satisfaction, a cognitive element of subjective well-being which indicates a general understanding of a person about their personal life events (Diener et al., 2013). It is considered as a major construct in the field of positive psychology (Giman & Huebner, 2003). Life satisfaction is basically a person's overall opinion about his own experiences of life that how much a person is satisfied with his own life (Diener, Oishi, & Lucas, 2003). In contrast to affective elements, life satisfaction is relatively a strong characteristic which has a lot of benefits towards quality of life and psychological health of an individual. It permits an individual to evaluate their life experiences by using their own criteria (Eid & Diener, 2004; Pavot & Diener, 1993). Life satisfaction is one of the leading measures of well-being and effective working in young people (Suldo et al., 2006).

Gratefulness is possibly a new strategy to educate people for life satisfaction, as it may be a main element of a good life (Watkins et al., 2003). Having gratefulness for things we have in our lives also permits a person to build good relationships with others, experience greater life satisfaction and how to deal with stressors in life (Lyubomirsky, Sheldon & Schkade, 2005). Life satisfaction is basically a way through which an individual display their feelings, their attitudes as well as how they feel about their directions and decisions for the things what to come. It also involves an appropriate way with respect to the one's life rather than evaluation of new emotions (Gulia, 2021).

Gratitude and life satisfaction are most vital contributors to live a better life which involves numerous benefits such as good health, helping behaviors or good relationships with others and living a purposeful life (Wood et al., 2010; Diener & Tay, 2017). In 2012, Fagley indicate that there is positive association between gratitude and the

satisfaction with life. So, individuals who are grateful also show greater satisfaction with their lives. It is also shown that gratitude is strongly connected with a person's life satisfaction (Froh et al., 2009).

Literature Review

There are number of research studies conducted which displayed the correlation between gratitude, mental well-being and life satisfaction. Past researches have also concluded that whenever people engage in purposeful activities including gratitude (Sheldon & Lyubomirsky, 2006) then it will also help them in increasing their well-being which is helpful in a way of living (Seligman et al., 2005).

A study conducted in India to investigate the relationship between gratitude, psychological well-being and happiness on 200 college students. Positive association was found between gratitude, psychological well-being and happiness (Hemarajarajeswari & Gupta, 2021). Another research study found that higher gratitude contributes towards the enhancement in well-being as well as in distress such as in adults (Disabato et al., 2016).

In one research study, it has been shown that gratitude has a positive correlation with well-being. Findings reveals that feeling of having gratefulness in an individual increases their well-being (Nezlek et al., 2017). In 2019, Corona et al., conducted a research study to find out the gratitude and its association with the well-being. One finding in a study showed that gratitude has a moderate to strong association with well-being. A study was conducted on middle and late adolescents in which one of the findings exhibit that boys have greater level of well-being as compared to girls (Sagone & Caroli, 2014).

Another research was conducted to know the association between gratitude and the well-being among young adults in China through online questionnaires. Result finding suggested that gratitude was positively associated with the well-being. The day when they felt gratefulness then they have a tendency to get higher mental well-being as well (Zhang et al., 2022).

One research study was conducted in Spain on 309 students which examined the association between gratitude and satisfaction with life. Results of study showed that there is a positive association between gratitude and life satisfaction (Salvador-Ferrer, 2017).

In 2016, Matteucci and Lima tested the gender differences in almost 85 different countries between the period of 1981 and 2009 and then found out that women tended to have higher life satisfaction. In a research study which was conducted in 2016, Alvarez and Miles-Touya found that when full time working women also did most housework then their life satisfaction reduces but similar results shows that women who do household work with half time job are more satisfied with their lives at the same time.

A study was conducted on the students to explore the association between gratitude and life satisfaction. Results indicates that the gratitude has positive association with life satisfaction (Puente-Diaz & Meixuerio, 2016). Another research study was conducted in Saudi Arabia on 141 undergraduate students to check the mediating outcome of stress in relation between gratitude and life satisfaction. Results concluded that there is a positive association of gratitude with the life satisfaction. Findings of the study also showed that people who show high level of gratitude will have higher life satisfaction (Yildirim & Alanazi, 2018).

Another study was conducted on university students in China in which students were randomly recruited in the process of data collection. One of the findings reveals an association between gratitude and life satisfaction. This also indicates that gratitude is directly contributed to the satisfaction of life (Xiang & Yuan, 2020).

In one of the research studies conducted in Pakistan, the findings have revealed that women show higher gratitude, life satisfaction and happiness as compared to men and also shown that the gender differences exist in expressing the gratitude (Saleem et al., 2021).

Another study was conducted in Sagaing Township on 840 university students using simple random sampling. To investigate the relationship between gratitude and life satisfaction, Pearson correlation was used in a study. According to the results of the study, a positive relationship was found between gratitude and life satisfaction. When they experience higher gratitude, they will get more satisfaction with their lives. In addition, this research study also confirms that significant gender differences exist. Female shows more gratitude as well as life satisfaction than men (Khaing & Phyo, 2020). Men perceives that if they express gratitude then it will lead them to vulnerability and also make them weak (Levant & Kopecky, 1995).

A cross-sectional research study was conducted in Pakistan. Analysis of the study indicates that a positive association exists between gratitude and satisfaction with life. Grateful people tend to be satisfied more with their lives (Ramzan & Rana, 2014). In 2018, a study was conducted on 200 students. The purpose of the study was to explore the relationship between gratitude and life satisfaction. Analysis of the collected data concludes a positive correlation exists between gratitude and satisfaction of life.

among students (Santosa, 2018). One of the correlational research study that was conducted on adults in which 110 students were recruited by using convenient sampling. After the analyses, it was found that a positive relationship exists between gratitude and life satisfaction. Findings suggest that significant differences exist on the bases of gender in gratitude. Results indicate that female shows higher gratitude than males (Gulia, 2021).

A study has found that higher gratitude will contribute to higher life satisfaction and when there is lack of gratitude and life satisfaction then it directs towards the negative aspect in people wellness process. (Unanue et al., 2019). In one of the research studies, it was concluded that positive emotions are strong predictors of increased life satisfaction and also argued that positive emotions and a positive evaluation of one's own life bring happiness to one's life (Cohn et al., 2009). Findings of one study concluded that female have more satisfaction with their life as well as psychological well-being than males (Fatima et al., 2021). According to one study, the findings confirm that gender differences were noticed in experiencing life satisfaction. Study revealed girls reported higher level of life satisfaction than boys (Yuen, 2015).

A study was conducted on university students to examine psychological well-being and life satisfaction in regards to predict quality of living. Analyses of data indicate a positive relation between well-being and life satisfaction among students. Also, a statistically significant association was found between these two variables with quality of life (Demir et al., 2021). In past research studies, findings indicate the positive association and also the effects of gratitude on satisfaction and well-being in various populations. (Robustelli & Whisman, 2018). Another research is carried out on nursing

students in which one of the findings revealed a positive association between life satisfaction and the psychological well-being (Tekir, 2022).

Theoretical Framework

In 1998, Barbara L. Fredrickson developed the Broaden and Build theory of positive emotions. According to this, positive emotions such as gratitude increases the current range of thoughts and behaviors of an individual which is helpful for well-being and also granting them to flexibly think and act whenever needed. In this theory, broaden and build indicates that positive emotions are necessary factors for efficient working and contribute a vital role in well-being discipline. People need to develop positive emotions in their own lives as well as those in their surroundings. It's not about just feeling good in the moment but also changing them for better and putting them towards the direction of prosperous and healthful span of life (Fredrickson, 2004). This theory is based on positive emotions and linked with positive psychology which explores the function of positive emotions in an individual's life.

Figure 1:

Original Model of Broaden and Build Theory

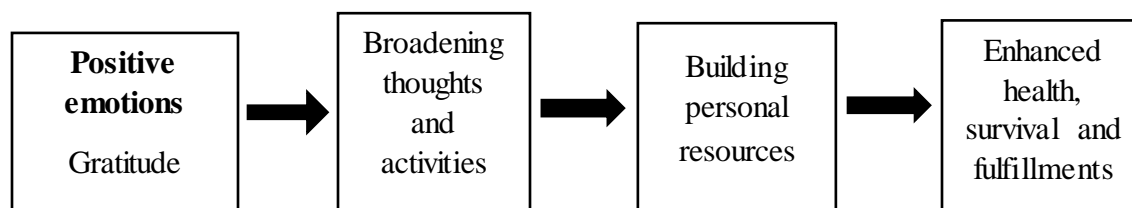


Fig. no. 1

Positive emotions expand the range of our thoughts and behaviors. It also forms intellectual, personal as well as social resources of an individual and also increases their well-being (Fredrickson, 2001). Gratitude acts in a way that it could help people to make social relationships in stress free situations which intends to become more resources of an

individual (Fredrickson, 2004). Broaden and build theory of Fredrickson (1998) determined that people are capable to adjust in their environment and living satisfying lives. Also involves in personal resources to a greater extent who think and act positively which also increases the elements that encourages the span of their health.

This study is addressing the association between gratitude, and life satisfaction. Broaden and build theory supported the present study in the sense that positive emotions such as gratitude can enhance the well-being of individuals and their life satisfaction as well.

Figure 2:

Theoretical Model which describes the relationship between gratitude, mental well-being and life satisfaction

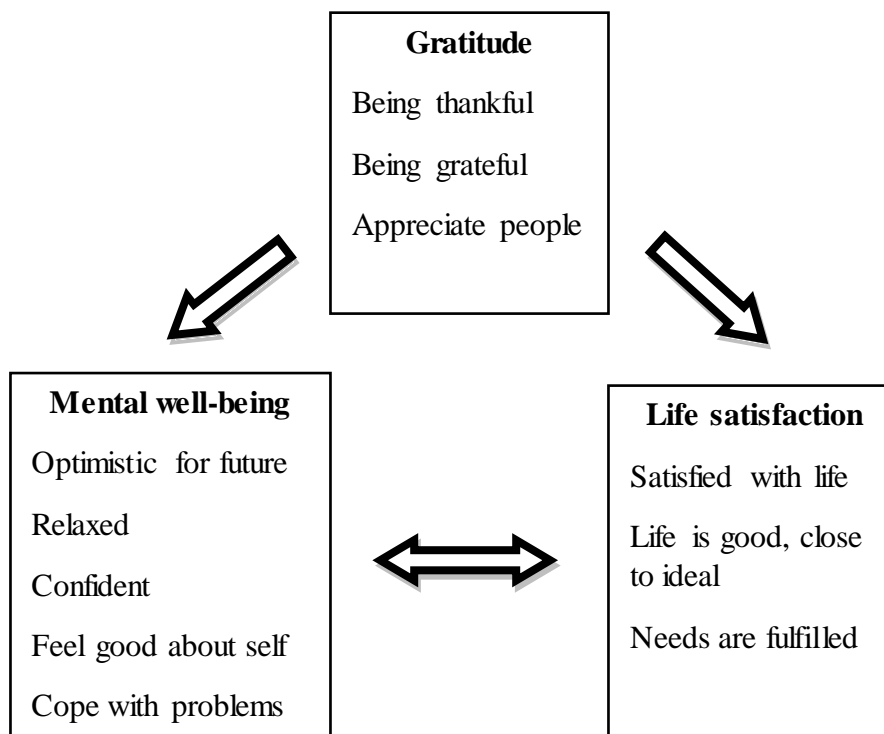


Fig. no. 2

Rationale

As there is limited research focused on positive psychology variables. Numerous research studies were conducted in the past which has dealt with children and adolescents but research on young adults is limited. In Pakistan, culture is different from other Asian and foreign cultures (Mehmood & Shaukat, 2004). University life is important because students experience challenging situations. University students are the ones facing many sudden changes in their lives, and they also have to take responsibility and decisions about the future (Gore & Aseltine, 2003). To deal with challenges and solve problems with courage, they need to reflect positive emotions such as gratitude which leads to a comfortable life (Khaing & Phyo, 2020). Gratitude is being captured as a variable of positive psychology. Still little research has been done to find out the relationship between these variables.

To understand this difference, a current study is formulated. The main purpose of present study is to investigate the relationship between gratitude, mental well-being, and life satisfaction in Pakistani young adults. So, this study focuses on how positive psychology and its related variables can contribute to the mental well-being and life satisfaction of individuals, especially among university students.

Objectives

Following are the objectives of present study:

1. To find out the relationship between gratitude and mental well-being among university students.
2. To find out the relationship between gratitude and life satisfaction among university students.
3. To find out the relationship between mental well-being and life satisfaction among university students.
4. To find out gender differences in gratitude, mental well-being and life satisfaction among university students.

Hypotheses

H1: There will be a significant positive relationship between gratitude and mental well-being among university students.

H2: There will be a significant positive relationship between gratitude and life satisfaction among university students.

H3: There will be a significant positive relationship between mental well-being and life satisfaction among university students.

H4: There will be significant differences in gratitude, mental well-being and life satisfaction among male and female university students.

Chapter 2 - Methods

The method section explains the research design, population and sample, sampling technique and criteria of participant's selection, instruments, procedure, ethical considerations and then the data analyses are explained.

Research Design

Cross-sectional correlational design was used in this study to investigate the relationship between gratitude, mental well-being and life satisfaction among university students.

Population and Sample

For present study, 300 young adults including male (n=150) and female university students were taken from the universities of Rawalpindi and Islamabad between 18-25 years of age. For sample size calculation, G Power Software 3.1.9.4 was used (Faul et al., 2009).

Sampling Technique

Sample was selected on the basis of convenient sampling from the universities of Rawalpindi and Islamabad. It's a non-probability sampling method in which participants were selected in a study because they are easiest to access for the researchers (Acharya et al., 2013).

Sampling Selection Criteria

Inclusion Criteria

The following inclusion criteria were used in this study:

- Both male and female students of age 18-25 years were included in this study.
- Students of both government and private universities were included.

Exclusion Criteria

The following exclusion criteria were used in this study:

- Students with any kind of mental or cognitive impairment which hindered their ability in participation were not included.

Instruments

Demographic Sheet

To assess the demographic characteristics of the participants, there were given a demographic sheet and were asked to complete the questions related to age, gender, university, and working status.

Gratitude Questionnaire-6 (McCullough et al., 2002)

To measure the level of gratitude, a Gratitude Questionnaire (GQ-6) is used in this study. It was developed by McCullough et al., (2002). This scale is a self-report measure and is used to assess individual disposition to practice gratitude in their daily lives. It consists of 6 items on which respondent have to rate items on a 7-point Likert scale which usually ranges from strongly disagree to strongly agree. There are two items which are 3 and 6 in this scale which are reverse scored because the reverse scoring is necessary in order to avoid any biasness in the answers. Cronbach's alpha was found out to be .82 (Hemarajarajeswari & Gupta, 2021).

Satisfaction with Life Scale (Diener et al., 1985)

Satisfaction with Life Scale was developed by Diener et al., (1985). It is used to measure an individuals' overall life satisfaction. It is also suitable for different age groups of people. There are total 5 items in this scale on which respondent has to rate items on a

7-point Likert scale. Scores of this scale range from 5 to 35. Higher scores reveal higher level of satisfaction with life. Cronbach's alpha coefficient is .83 (Kardas et al., 2019).

Warwick Edinburgh Mental Well-being Scale (Tennant et al., 2007)

The Warwick Edinburgh Mental Well-being Scale was developed by Tennant et al., (2007). It is used to measure the mental well-being of an individual. It consists of 14 items which include psychological and subjective well-being. It is appropriate for adults with ages of 16 and above (Tennant et al., 2007). High scores in this scale indicate the higher mental well-being of an individual. Cronbach's alpha coefficient of this scale is .89 (Demirtas, 2019).

Procedure

At first, permission was taken from the Head of Psychology Department of Capital University of Science and Technology to conduct a research study. Approval for data collection was taken from the institutions of Rawalpindi and Islamabad. Then participants were selected through convenient sampling. Participants were provided with the informed consent. After that, purpose of study was explained to participants before distribution of questionnaires and was also ensured that the data they provide will be kept confidential and used only for the research purpose. The Gratitude Questionnaire 6, Satisfaction with Life Scale and Warwick Edinburgh Mental Well-being Scale were administered on participants having the informed consent and demographic sheet attached to it to collect the data related to study variables. Then the data that obtained from the participants was used for analysis by using SPSS.

Ethical Considerations

According to the guidelines of American Psychological Association (APA), written informed consent was taken from the participants to ensure that their participation in the present study is voluntary. Then the demographic sheet was given to them. After that, debriefing was given to participants about the study. Researcher ensured the participants that their information will be kept confidential and data which was obtained from them will be used only for the research purpose. The researcher ensured the participants that their participation in this study causes no harm to them. Anonymity of their identity was also assured to them. Also, the participants have the rights to withdraw from the study at any time.

Data Analyses

Statistical Package for Social Sciences (SPSS-21) was used to analyzed the data. Initially, the data was cleaned, processed and then analyzed. Descriptive statistics such as frequencies and percentages were calculated. Then mean, standard deviation, skewness, kurtosis and Kolmogorov-Smirnov values were computed. K-S values and the histograms show the non-normal distribution of data. The Spearman correlation analysis was used to explore the relationship between gratitude, mental well-being, and life satisfaction. Finally, Mann Whitney U-test was used to investigate the gender differences in gratitude, mental well-being, and life satisfaction among the university students.

Chapter 3- Results

This chapter will present the results of the statistical analysis in the form of tables and graphs. The aim of present study was to examine the relationship between gratitude, mental well-being, and life satisfaction among university students. Initially, demographic characteristics of participants were identified through the frequencies and percentages. Then descriptive statistics and alpha reliability coefficients of all variables were calculated. After that, distribution of the variables was determined by using Kolmogorov - Smirnov test as well as skewness and kurtosis values. As the data was non- normally distributed so, the spearman correlation analysis was used to examine the relationship between variables. Spearman correlation is appropriate when the data is not normally distributed and is relatively strong against the outliers (Schober et al., 2018). Finally, Mann Whitney U-test was conducted to examine the gender differences in study variable and all the results are presented in tabular form.

Descriptive Statistics

Sample Characteristics

The demographic characteristics were presented in the table given below.

Table 1

Frequencies (f) and Percentages (%) for the Demographic Characteristics of the Study

Sample (N=300)

Variables	<i>f</i>	%
Age		
18-21	206	68
22-25	94	31
Gender		
Male	150	50
Female	150	50
University		
Government	168	56
Private	132	44
Employment Status		
Working	66	22
Non-working	234	78

Note: f = frequency, % = percentage

Table 1 exhibits demographic variables along with their frequencies and percentages. The variables include age, gender, university, employment status. The sample was consisted of 300 undergraduate university students with age ranging from 18-25. Table 1 reveals that greater number of participants were from age 18-21($f = 206$, $\% = 68$) participated in the study as compared to participants aged 22-25 ($f = 94$, $\% = 31$). From 300 participants, 150 were female (50%) and 150 were male (50%). Higher number of students from government universities ($f = 168$, $\% = 56$) participated compared to the

students of private universities ($f = 132$, $\% = 44$). Majority of the participants were non-working ($f = 234$, $\% = 78$) as compared to working ($f = 66$, $\% = 22$).

Reliabilities of scales in terms of Cronbach's Alpha Reliability (α)

Descriptive statistics and reliabilities of the scales used in this study were presented in the table given below.

Table 2

Alpha Coefficients and Descriptive Statistics for Gratitude Questionnaire-6, Warwick Edinburgh Mental Well-being Scale and Satisfaction with Life Scale (N=300)

Measures	Items	α	M	SD	Range		Skew	Kurt	K-S	p
					Potential	Actual				
GQ6	06	.56	26.75	5.34	6-42	8-42	-.19	.50	.06	.00
MWS	14	.75	48.01	7.92	14-70	24-63	-.68	.06	.12	.00
SWLS	05	.64	21.84	4.79	5-35	6-35	-.35	.33	.08	.00

Note: α = alpha reliability, M= Mean, SD= Standard deviation, Range= maximum-minimum, Skew= Skewness, Kurt= Kurtosis, K-S= Kolmogorov Smirnov, p= Significance level

Table 2 shows number of items, alpha reliabilities, means, standard deviations, ranges, skewness and kurtosis and Kolmogorov-Smirnov test values of all scales used in this study. Mean and standard deviation score for Gratitude Questionnaire 6 ($M = 26.75$, $SD = 5.34$), Warwick Edinburgh Mental Well-being Scale ($M = 48.01$, 7.92) and Life Satisfaction Scale ($M = 21.84$, $SD = 4.79$). The Cronbach's alpha value of Gratitude Questionnaire 6 scale is .56 which indicates low internal consistency. The Cronbach's alpha value for Warwick Edinburgh Mental Well-being Scale is .75 which indicates high

internal consistency. The Cronbach's alpha value for Satisfaction with Life Scale is .64 which indicates satisfactory internal consistency.

Kolmogorov-Smirnov test values indicates that the data is not normally distributed across the study variables as the significance values of all scale were less than .05. If p values are less than .05, so it indicates that it is statistically significant and data is deviating from the normal distribution.

Figure 3:

Distribution of scores across scale "Gratitude Questionnaire 6"

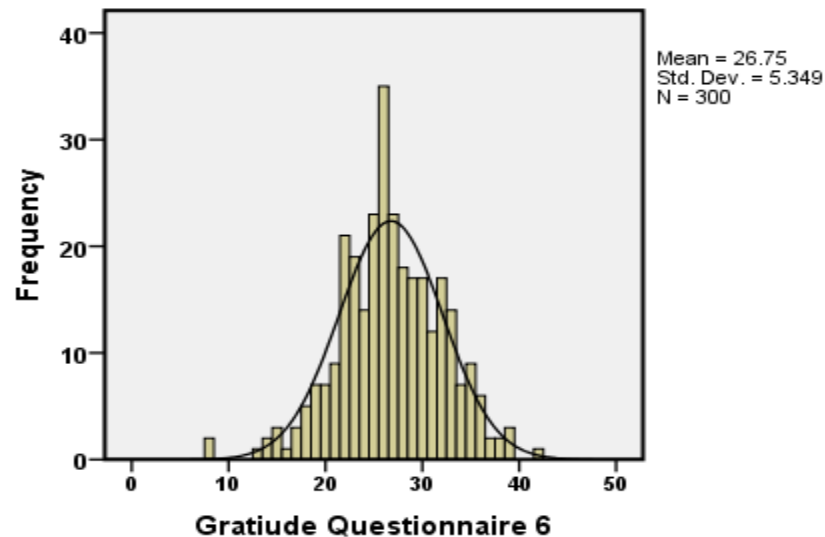


Figure 1 shows the distribution of scores of gratitude through Gratitude Questionnaire 6 scale (N=300). The normality curve is indicating that data is not normally distributed.

Figure 4:

Distribution of scores across "Satisfaction with Life"

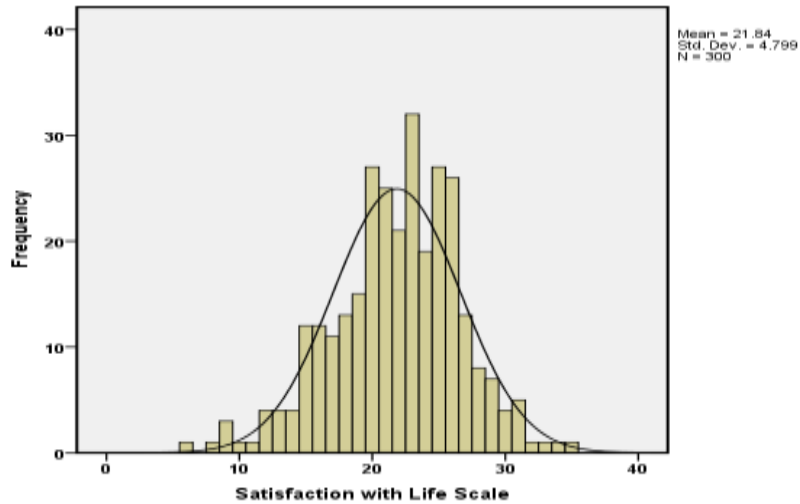


Figure 2 shows the distribution of scores of life satisfaction through Satisfaction with Life scale (N=300). The normality curve is indicating that data is not normally distributed.

Figure 5:

Distribution of scores across scale “Warwick Edinburgh Mental Well-being”

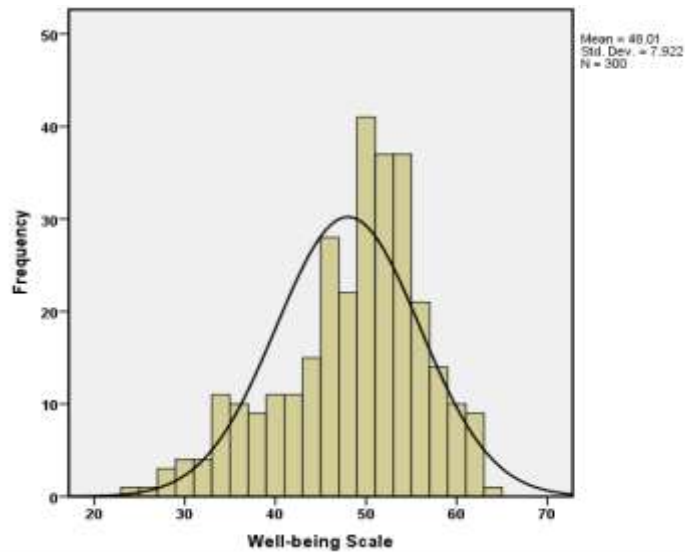


Figure 3 shows the distribution of scores of mental well-being through Warwick Edinburgh Mental Well-being scale (N=300). The normality curve is indicating that data is not-normally distributed.

Inferential Statistics

This section presents the results of the hypotheses testing.

Correlation among study variables (N=300)

Table 3

Relationship between Gratitude, Mental Well-being and Life Satisfaction as measured by Gratitude Questionnaire 6, Warwick Edinburgh Mental Well-being Scale, and Life Satisfaction Scale

	Scale	N	M	SD	1	2	3
1.	GQ6	300	26.75	5.34	_		
2.	MWS	300	48.01	7.92	.17**	_	
3.	SWLS	300	21.84	4.79	.49**	.14**	_

*Note: **p < .01*

Table 3 exhibits that Spearman correlation coefficient (r_s) was used to examine the relationship between gratitude, mental well-being, and life satisfaction. Results indicates that gratitude has a significant positive relationship with mental well-being ($r_s = .17$, $p < .01$) as well as with life satisfaction ($r_s = .49$, $p < .01$). It also reveals that mental well-being has a significant positive relationship with life satisfaction ($r_s = .14$, $p < .01$).

Table 4

Mann Whitney U-test for Differences in Gratitude, Mental Well-being and Life Satisfaction between Male and Female University Students

Variables	Male		Female		U	P
	N	M	N	M		
GQ6	150	100.01	150	200.99	3676.00	.00
MWS	150	194.11	150	106.89	4708.00	.00
SWLS	150	123.99	150	177.01	7273.00	.00

Note: N=number of participants, M= Mean rank, U= Mann Whitney test value, p= Significance level

The results revealed that there exists a significant gender differences in the variables of present study as the p value is less than .05 for all scales. A Mann Whitney U test reveals that gratitude scores were significantly higher in females ($M = 200.99$) as compared to males ($M = 100.01$), ($U = 3676.00$, $p < .001$). The results also indicate that there exist significant differences between male and female students on mental well-being. Mental well-being scores were significantly higher in males ($M = 194.11$) as compared to females ($M = 106.89$), ($U = 4708.00$, $p < .001$). Also, there exists a significant difference between male and female students on life satisfaction. Life satisfaction scores were significantly higher in females ($M = 177.01$) as compared to males ($M = 123.99$), ($U = 7273.00$, $p < .001$).

Chapter 4 - Discussion

The study was aimed to explore the relationship between gratitude, mental well-being and life satisfaction among university students. This research study has also explored the gender differences in gratitude, mental well-being, and life satisfaction between male and female university students. This chapter will demonstrate the discussion on the reliabilities of scales which were Gratitude Questionnaire-6, Warwick Edinburgh Mental Well-being Scale and Satisfaction with Life Scale. As the data was not normally distributed, Spearman correlation was used to test the relationship between study variables. Moreover, the differences were also analyzed among male and female groups by using the Mann Whitney U-test. Finally, the limitations of the current study are discussed and then the recommendations are given for further researches and also offered the implications.

This study uses convenient sampling technique to recruit 300 university students of age ranging from 18 to 25 years. 150 male and 150 female participants were part of this present study. Three questionnaires include Gratitude Questionnaire-6 (GQ-6), Warwick Edinburgh Mental Well-being Scale (WEMWS), and Satisfaction with Life Scale (SWLS) was used in present study. Cronbach alpha reliabilities of scales were established for the psychometric evaluation of scales. The Cronbach's alpha reliability value of Gratitude Questionnaire 6 obtained in this study was .56 which is low. In Asian settings, one of the research study was conducted in Pakistan in which the Cronbach's alpha for Gratitude Questionnaire-6 is .51 (Hermaen & Bhutto, 2020) which indicates a low reliability. But according to Tan, 2009, the less number of items is the cause behind the low internal reliability of the scales. In one of the study, it is argued that low value of

alpha is because of the number of not enough items in the scale and another reason could be the reverse scoring of items present in scale (Nawi et al., 2020). While, the reliability for Mental Well-Being Scale was .75 which is good and for Satisfaction with Life Scale $\alpha = .64$ which is acceptable.

There are four major hypotheses that were used in present study to explore. Spearman correlation was used to test the relationship study variables as the data was not normally distributed. It was hypothesized that there will be a significant positive relationship between gratitude and mental well-being and the results of the present study supported this hypothesis and showed a significant positive relationship between gratitude and mental well-being ($r_s = .17, p < .01$). In the light of literature, based on the previous study which was conducted on the undergraduate students, it was shown that gratitude has a significant positive relationship with students' well-being which means that when an individual appreciates other people in surrounding then this will enhance their mental well-being as well (Bilong et al., 2021). According to Jans-Beken et al., 2017, gratitude is a major source of individual strength in order to obtain and maintain good mental health. Developing a sense of gratitude may thus reduce psychopathology indirectly by increasing level of mental-well-being. Gratitude has a complex association with the existence of mental well-being and the lack of psychopathology, which should be considered when studying the dynamics of gratitude and mental well-being. It's also important because mental and the physical health are mutually connected (Ohmberger, Fichera & Sutton, 2017). These findings are aligned with the previous literature in which it was argued that by involving in activities such as having gratefulness increases the well-being of a person (Sheldon & Lyubomirsky, 2006). So, this finding is consistent

with our present study in which there is a significant positive relationship between gratitude and mental well-being.

It was also hypothesized that there will be a significant positive relationship between gratitude, and life satisfaction among university students. The results of the present study supported this hypothesis and showed a significant positive relationship exists between gratitude and life satisfaction ($r_s = .49, p < .01$). This finding is consistent with a research study which was conducted by Zhang et al., 2022 on the college students. One of the results from the research study found out that gratitude positively predicted life satisfaction among the college students. In another research study conducted on 877 students in Korea, it was found that there exists a positive association between gratitude and life satisfaction. Results revealed that those who experiencing higher gratitude reported more satisfaction with their lives (You et al., 2018). Another research finding revealed that there was also a statistically significant association of gratitude with the life satisfaction. Having a grateful orientation of life positively affects the life satisfaction of a person (Datu & Mateo, 2015).

The current study hypothesized that there will be a positive relationship between mental well-being and life satisfaction and the results have supported this hypothesis. The current research study reveals a significant positive relationship between mental well-being and life satisfaction ($r_s = .14, p < .01$). Several studies have conducted to examine the relationship between mental well-being and life satisfaction among university students and most of them found out a significant positive relationship between these two variables. As in a research study which was conducted by Fatima et al., 2021 in Pakistan. Findings of the study revealed that life satisfaction is associated positively with the

psychological well-being among young adults. In past researches, it was also concluded that life satisfaction is strongly associated with the mental health of a person. People with good mental health reported higher life satisfaction as compared to those with poor mental health. Mental health leads towards higher level of satisfaction with life (Lombardo et al., 2018).

Gender differences in gratitude, mental well-being and life satisfaction among male and female university students were analyzed by using Mann Whitney U-test. Previous researches have also shown consistent findings regarding gender differences in gratitude, mental well-being and life satisfaction.

In the present study, the results of Mann Whitney U-test indicate that there were significant differences between male and female scores on the gratitude. Females reported higher gratitude ($M = 200.99$) as compared to males ($M = 100.01$). In a research study conducted by Croxford in 2012, findings indicated that female participants report higher level of gratitude than male participants. The results are consistent with previous literature which reported that females had more scores than males on gratitude as females use more gratitude strategies in daily life as compared to males (Sun & Kong, 2013).

The results of the present study indicate that there were significant differences between male and female scores on the mental well-being. Males reported higher mental well-being ($M = 194.11$) as compared to females ($M = 106.89$). Past researches have also exhibited that males score higher on mental well-being as compared to females. In the light of literature, similar results have been in a study which concluded that significant high level of mental well-being was found in males as compared to females (Khalid et al., 2019). A study conducted by Wetherell et al., 2019 found that males had significant

higher scores than females on mental well-being measures. People who feel that they have a positive mental well-being have the ability to achieve their goals and also have a tendency to encourage others (Trenoweth, 2017).

Results of the present study indicate that there were significant differences between male and female scores on the life satisfaction. Females reported higher level of life satisfaction ($M = 177.01$), as compared to males ($M = 123.99$). In a study conducted by Tekir in 2022, it was shown that significant gender differences in life satisfaction were found which explains that women experiencing higher level of life satisfaction than men. People enhances their satisfaction with life over the time as a result of establishing resources for a better life as well as a collection of good and bad emotions (Cohn et al., 2009).

Limitations

The following are the limitations of present study:

- The current sample was limited to the university students which could prevent generalizing the findings of the study to other populations. Due to this reason, the results may be limited in generalizability.
- The age range in this study is in between 18-25 years which is limited so the results may not be same for other ages.
- Self-report measures were used in this study which carries a potential risk of social desirability in the responses which may affect the findings of the study.
- The educated students were included in present study. So, it was not possible to generalize the findings to those with lower education level as well as uneducated people.

Recommendations

Following are the recommendation:

- As this research included only the university students. So, it is recommended that further research studies should include sample with more heterogeneous characteristics.
- In order to enhance the possibilities of generalizability, future studies should be carried out on other education levels as well such as on Intermediate, Masters, M. Phil and Ph. D level.
- Future research studies can be carried out with a large sample size.
- Future studies would have to include more distinct methods of data collection such as interviews, behavioral observation of people etc.

- More work is required with the longitudinal designs to determine the causation among variables.
- The present study only uses non probability convenient sampling method. Future research studies could use various methods of sampling as well which will give better results.

Implications

- This study may serve as an important contributor in providing evidence-based literature for those working in the field of positive psychology as well as beneficial for others.
- It is also of great importance in the lives of people that how gratitude plays a most vital role in enhancing their well-being as well as their satisfaction with life.
- Future researches can develop programs/interventions by targeting these variables to enhance gratitude and ultimately the mental well-being of young adults.

Conclusion

The current study was intended to investigate the relationship between the gratitude, mental well-being and life satisfaction among the university students. It was concluded that gratitude is positively associated with mental well-being and life satisfaction. Gender differences were also analyzed between the study variables among male and female adults. These findings concluded that significant differences exist among male and female scores on gratitude, mental well-being and life satisfaction. Thus displaying gratitude plays a most essential role in a life of individual to improve and enhancing their sense of mental well-being and their satisfaction with life as well.

These findings provide an empirical support and are beneficial for future researchers which help them to develop interventions and can train people to practice gratefulness. Further, the researchers should focus on the gratitude based interventions to establish an effective way to increase the mental well-being and life satisfaction.

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Appendices

Appendix 1- Informed Consent

Appendix 2- Demographic Form

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Appendix 1

Informed Consent

Capital University of Science and Technology

Department of Psychology

Informed Consent

I am a student of BS Psychology at Capital University of Science and Technology. This study is conducted as a requirement for the fulfillment of BS degree. The title of my research study is “**Relationship between Gratitude, Mental Well-being and Life Satisfaction among University Students**”.

I hereby request you to take part in this study. In order to participate in this study, you have to fill out questionnaires which will provided to you. Your identity will not be disclosed to anyone. Your demographic information as well as confidentiality will be maintained. Your participation is voluntary. If you want to quit participation then you have a right to leave at any time from this study, but it would be a great contribution if you participate and give your honest responses on questionnaires.

I have carefully read all the conditions given above and agreed to give my consent accordingly.

Signature of Participant: _____

Date: _____

Contact and questions:

If you have any questions regarding the study or the results, you may contact on this email bsp193060@cust.pk

Thank You

Appendix 2

Demographic Form

Demographic Form

Directions: Please answer each of the following questions as accurately as possible.

What is your Age?

- 1) 18-21
- 2) 22-25

What is your Gender?

- 1) Male
- 2) Female

Your University?

- 1) Government
- 2) Private

What is your Employment status?

- 1) Working
- 2) Non-working

Appendix 3**The Gratitude Questionnaire – Six Item Form (GQ-6)**

Instructions: Using the scale below as a guide, write a number beside each statement to indicate how much you agree with it.

1 = strongly disagree

2 = disagree

3 = slightly disagree

4 = neutral

5 = slightly agree

6 = agree

7 = strongly agree

____ 1. I have so much in life to be thankful for.

____ 2. If I had to list everything that I felt grateful for, it would be a very long list.

____ 3. When I look at the world, I don't see much to be grateful for.

____ 4. I am grateful to a wide variety of people.

____ 5. As I get older, I find myself more able to appreciate the people, events, and situations that have been part of my life history.

____ 6. Long amounts of time can go by before I feel grateful to something or someone.

Appendix 4

The Satisfaction with Life Scale

DIRECTIONS: Below are five statements with which you may agree or disagree. Using the 1-7 scale below, indicate your agreement with each item by placing the appropriate number in the line preceding that item. Please be open and honest in your responding.

1 = Strongly Disagree

2 = Disagree

3 = Slightly Disagree

4 = Neither Agree or Disagree

5 = Slightly Agree

6 = Agree

7 = Strongly Agree

_____ 1. In most ways my life is close to my ideal.

_____ 2. The conditions of my life are excellent.

_____ 3. I am satisfied with life.

_____ 4. So far, I have gotten the important things I want in life.

_____ 5. If I could live my life over, I would change almost nothing.

Appendix 5

The Warwick–Edinburgh Mental Well-being Scale (WEMWBS)

Instructions: Below are some statements about feelings and thoughts. Please tick the box that best describes your experience of each over the last 2 weeks

STATEMENTS	None of the time	Rarely	Some of the time	Often	All of the time
I've been feeling optimistic about the future	1	2	3	4	5
I've been feeling useful	1	2	3	4	5
I've been feeling relaxed	1	2	3	4	5
I've been feeling interested in other people	1	2	3	4	5
I've had energy to spare	1	2	3	4	5
I've been dealing with problems well	1	2	3	4	5
I've been thinking clearly	1	2	3	4	5
I've been feeling good about myself	1	2	3	4	5
I've been feeling close to other people	1	2	3	4	5
I've been feeling confident	1	2	3	4	5
I've been able to make up my own mind about things	1	2	3	4	5
I've been feeling loved	1	2	3	4	5
I've been interested in new things	1	2	3	4	5
I've been feeling cheerful	1	2	3	4	5

Appendix 6

Approval Letter for Data Collection



Capital University of Science and Technology
Islamabad

Islamabad Expressway, Kahuta Road,
Zone - V, Islamabad, Pakistan
Telephone : +92 (51) 111-555-666
+92-51-4486700
Fax: +92 (51) 4486705
Email: info@cust.edu.pk
Website: www.cust.edu.pk

Ref. CUST/IBD/PSY/Thesis-371
February 17, 2023

TO WHOM IT MAY CONCERN

Capital University of Science and Technology (CUST) is a federally chartered university. The university is authorized by the Federal Government to award degrees at Bachelor's, Master's and Doctorate level for a wide variety of programs.

Ms. Sawaira Khan, registration number **BSP193060** is a bona fide student in BS Psychology program at this University from Fall 2019 till date. In partial fulfillment of the degree, she is conducting research on "Relationship between gratitude, mental well-being and life satisfaction among university students". In this continuation, the student is required to collect data from your institute.

Considering the forgoing, kindly allow the student to collect the requisite data from your institute. Your cooperation in this regard will be highly appreciated.

Please feel free to contact undersigned, if you have any query in this regard.

Best Wishes,

Dr. Sabahat Haqqani
Head, Department of Psychology
Ph No. 111-555-666 Ext: 178
sabahat.haqqani@cust.edu.pk

Appendix 7
Permission of Scales

Gratitude Questionnaire (GQ-6)

The Gratitude Questionnaire-Six-Item Form (GQ-6) is a six-item self-report questionnaire designed to assess individual differences in the proneness (tendency) to experience gratitude in daily life. Originally developed for an adult population, research has since indicated acceptable internal consistency and suitability of the measure for older adolescent populations (Froh et al, 2011). The scale measures four qualities of gratitude- intensity; frequency; density; span. Respondents endorse each item on a 7-point Likert-type scale (where 1 = strongly disagree and 7 = strongly agree).

Theme

Behaviour; Wellbeing

Subject

Personality; Positive Psychology; Wellbeing; Prosocial; Spirituality

Permission to use

Free to use

Permission details

Freely available for use in non-commercial research in the public domain.

For commercial purposes; permission is needed.

Satisfaction with Life Scale

Diener, Edward F	Inbox Automatic reply: Permission to use Satisfaction with Life Scale	Dec 22
me	Permission to use Satisfaction with Life Scale - Dear Sir, I hope this email finds you well. I am Sawaira Khan from the ...	Dec 22


Satisfaction With Life Scale (SWLS)

Permission to Use

The scale is copyrighted but you are free to use it without permission or charge by all professionals (researchers and practitioners) as long as you give credit to the authors of the scale: Ed Diener, Robert A. Emmons, Randy J. Larsen and Sharon Griffin as noted in the 1985 article in the *Journal of Personality Assessment*.

Warwick Edinburgh Mental Well-being Scale

Permission to use Warwick Edinburgh Mental Well-being Scale Inbox x

 **Sawaira Khan** <sawairakhan716@gmail.com>
to rutherfordnant71@hotmail.com

Nov 12, 2022, 10:59 AM

Dear Sir,

I hope this email finds you well. I am Sawaira Khan from the Capital University of Science and Technology Islamabad Pakistan, Majoring in Psychology with a bachelor's degree.

As a part of my studies, I am working on a research thesis that is the Relationship between Gratitude, Mental Well-being and Life Satisfaction. The Warwick Edinburgh Mental Well-being Scale is of great value and insight to me.


With all humbleness, I request you please grant me permission to use the scale.

I'm looking forward to your valuable response.

Thank you.

Sincerely,

Sawaira Khan
Capital University of Science and Technology
Islamabad

 **Ruth** <rutherfordnant71@hotmail.com>
to me

Nov 15, 2022, 3:19 AM

Thank you for your interest in using WEMWBS.

Appendix 8
Plagiarism Report

report

ORIGINALITY REPORT

14%

SIMILARITY INDEX

9%

INTERNET SOURCES

10%

PUBLICATIONS

7%

STUDENT PAPERS

PRIMARY SOURCES

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3	Mogeda El Sayed El Keshky, Shatha Jamil Khusaifan, Feng Kong. "Gratitude and Life Satisfaction among Older Adults in Saudi Arabia: Social Support and Enjoyment of Life as Mediators", Behavioral Sciences, 2023 Publication	1%
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