

**Mental health and factors related to  
mental health among Pakistani  
university students**

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## **Attestation of Authorship**

To the best of my knowledge, material presented in this thesis does not incorporate, without acknowledgement, any material previously submitted for a degree or diploma in any university. Also, it is therefore my belief that it does not contain any material published or written by any other person or persons except where due reference is made in the text.

The research reported on in this thesis, has been approved by the University of Canterbury Educational Research Human Ethics Committee.

## **Dedication**

I dedicate this thesis to my Papaje Irfan Ahmed Siddiqui, and Ami Zamerud Irfan, who have given me not only endless love, inspiration and confidence but also instilled in me a persistent determination to be where I am today.

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## **Abstract**

This study investigated potential factors contributing to mental health in university students in Pakistan. The specific factors selected for investigation were father's warmth, extraversion vs. introversion, self-esteem, and peer relationships. Two demographic factors, gender and socio-economic status (based on parental income), were also examined to determine potential relationships with mental health problems.

A quantitative research design was utilized and data were obtained through participants completing five different standardized surveys. The participants were 314 undergraduate students from different departments, attending one university in Karachi. The age of participants ranged from 18 to 24 years, and 149 were female and 165 were male.

The findings of this study revealed a positive correlation between extraversion and mental health, father's warmth and mental health, and self-esteem and mental health, along with significant gender differences: male students reported more positive mental health levels than female students. There was also a trend for those students from the lowest parental income category to report lower mental health levels. Additionally, of the factors assessed, father's warmth predicted most variability in mental health scores.

These findings provide insights into student's perception of their mental health and factors that may be related to these self-reports. Such work highlights the importance of raising awareness of mental health among university students, their families, and university administration, particularly in cultures where there is potentially less acceptance of mental health problems. The findings should support the planning and development of effective interventions and strategies, not only for university students experiencing mental health problems, but also university administration: the influence of father's warmth on mental health self-reports in this context suggests a need to consider parental involvement in effective

interventions, for example. Findings are also discussed in terms of potential gender differences and cultural factors that influence students' perceptions of their psychological well-being.

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# **Chapter One: Introduction**

## **Introduction**

This chapter begins with a brief overview of the motivation for the research, including background information on social and mental health problems faced by university students in Pakistan. The rationale for the study highlights the importance of investigating these issues and the influence of factors such as father's warmth, self-esteem, peer support, socio-economic status (through parent's income scale), gender and introversion vs. extraversion (personality traits) are considered and discussed. The chapter concludes with a description of the aims of the study, the research questions asked, and an overview of the structure of the thesis.

## **Motivation for the Research**

This research was motivated by my experience working as a clinical psychologist in a hospital and university, in Karachi, Pakistan. It focuses on the mental health of young adult (ages 18–24 years) university students and aims to better understand the factors contributing to positive mental health outcomes in this group. In my eight years of clinical practice I counselled many students with a range of mental health complaints, including depression, sleep issues, lack of confidence, self-mutilation and various other emotional and behavioural problems. It was not uncommon to see some students work themselves to the point of physical and mental collapse, necessitating treatment in a hospital setting. Some students I spoke to felt they were under such pressure that their only option was suicide; others quietly left university prior to graduation, causing not only damage to their self-esteem but also devastation to their parents, who might have made considerable sacrifices to pay for their child's education.

Pakistan has a large cohort of young adults (ages 15–29 years), comprising at least 30 percent of the overall population (United Nations International Children's Emergency Fund, 2013). In many ways it is a country in transition, facing rapid psycho-social change – and

traditional social structures, beliefs, values and family dynamics are increasingly being affected. Many people struggle to cope. Mental health is still largely a taboo subject in Pakistan. There is a culture of not acknowledging or accepting the existence of mental health problems. A number of the students I counselled were worried about their problems being brought to the attention of the university authorities. They were concerned about possible repercussions and the effect such information might have on their academic progress and future success. Their fears were not unfounded. I witnessed some of my colleagues' biased attitudes towards students who had seen counsellors and their unsupportive attitudes towards students with mental health problems. However, my experience had also taught me that clinical psychologists and counsellors can make a huge difference to how these students manage their lives and achieve at university.

A large number of studies related to mental health and well-being have been conducted in Western countries but, as a result of prevailing attitudes, there is little research on this subject in developing countries such as Pakistan. Lack of acknowledgment or awareness results in lack of assessment tools and positive interventions. Through this research, I would like to initiate interest in and raise awareness of this complex issue, so that the stigma of mental illness can be more openly discussed and university authorities in Pakistan can start to consider the introduction of measures designed to support students coping with mental health problems.

### **Rationale for the Study**

Today's competitive lifestyle, coupled with changes in family dynamics, a lack of social support for mental health issues and changes in socioeconomic circumstances are factors making Pakistani students more vulnerable to mental health problems (United Nations Development Programme, 2012). In developing countries such as Pakistan the stigma associated with mental health problems is an added challenge to addressing mental health needs

and very few mental health services are accessible to young adults (World Health Organization, 2012). In Pakistan, students usually start university in late adolescence or young adulthood. The rapid biological and psychological changes and development occurring at this time can make it difficult to pinpoint the emergence of mental health problems, and this can result in an escalation of negative consequences before issues are detected.

To thoroughly understand the mental health problems Pakistani university students' experience, it is crucial to understand the environment they live in – including their cultural and social background, family dynamics, demographic background and social status. To begin, mental health is a critical, but frequently ignored, field of medical health science in Pakistan. It is not seen as exciting, nor does it have the status it should have in comparison to some other medical disciplines such as neurology and cardiology. Acknowledging and asking for help for the treatment of mental health problems primarily remains avoided and discussion of such issues is largely taboo. The reasons for this are tied to traditional beliefs, societal pressure, misconceptions and negative images surrounding mental hospitals, patients and related professionals such as psychologists and psychiatrists. Mental health professionals are still perceived by most people in a negative light. Large numbers of people will choose not to turn to a psychologist or psychiatrist for treatment if a family member is suffering from mental illness. This resistance is even stronger for adolescents and young adults, as parents fear what 'society' will say and worry that seeing a mental health professional may hinder their daughter's chance of getting married or their son's hope of finding a job. Even educated people have the misconception that if you suffer mental health problems it will become a lifelong issue and in the end you will become 'mental'. It is also worth noting that even the words or vocabulary associated with psychiatry, psychology and other mental health fields are relatively new and strange for many educated people in Pakistan (Afridi, 2008).



Awareness, treatment and research of mental health problems in Pakistan lags far behind that of the western world. Many people can still be seen seeking help from shrinks or placing themselves at the mercy of ‘quacks’. Others suffering mental health problems are sometimes beaten to death, chained, burned and scarred. This type of inhuman treatment and brutality is still all too common in countries such as Pakistan, India and Bangladesh (Sartorius, 2009).

Young adults – university students – are at a stage of their lives when promotion of mental health and effective care can have a positive influence. A positive sense of well-being is necessary for an individual’s development in terms of communication, thinking skills and learning, emotional development and self-esteem. Despite the importance of research that aims to understand how mental health problems affect university students and their academic success and future prospects this has been a largely neglected area in Pakistan. This study has been specifically designed to investigate mental health problems among university students in Karachi, Pakistan.

### **Defining Mental Health**

Keyes (2012) stated mental health is a combination of emotional (emotional well-being refers to the realization of well-being), social (social well-being refers to effective functioning of a person in the community) and psychological well-being (psychological well-being refers to effective individual functioning). Swami (2010) described a healthy mental state as key to a person attaining satisfaction in life. Subsequently, the World Health Organisation (WHO) defined mental health as “a state of well-being in which the individual realizes their own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community” (p. 12). To understand the theoretical background underpinning these definitions of ‘optimal’ mental health there is a need to also

identify risk factors associated with poor mental health. Factors which have been identified as of significant risk for mental health problems in developing countries are social (such as parenting styles, parental conflict or dispute, parental divorce, relationships, poverty, unemployment, lack of social support, no education or very low education) and psychological (such as depression) (WHO, 2012).

### **Mental Health in Muslims**

The Muslim population is believed to number approximately 1.6 billion people worldwide, which is around 23 percent of the total global population. The largest percentage (62 percent) of Muslims live in the Asia–Pacific region which includes Turkey, Iran, Bangladesh, India, Pakistan and Indonesia (United Nations Educational, Scientific and Cultural Organization, 2011). Muslims come from a wide range of countries and ethnicities. Their beliefs and ethnic cultural values are multifarious, but they are frequently observed as a monolithic group and subject to negative stereotypes and significant structural and interpersonal discrimination (Jamal, 2008). Before describing mental health in Muslim people and the intersection of culture, religion and mental health stigma, there is need for clarification of cultural definitions of health and mental health in Islam.

Across Muslim communities there are contextual differences in beliefs and practices around health and illness, as well as important commonalities. A fundamental and crucial belief of Islam is the concept of ‘One Allah’ (the Arabic word for God is ‘Allah’, used by Muslims all around the world) and that everything is caused by Allah, including illness. According to one Islamic prophet, “Sickness or illness is one way to connect with Allah so it should not be considered as a problem but rather an event, a mechanism of the body that is serving to cleanse, purify and balance us on the physical, emotional, mental, and spiritual planes” (Rasool, 1479, p. 132).

This central or elemental belief is echoed in many studies of the viewpoints of Muslim people towards mental, as well as physical sickness (Padella, Killawi, Forman, DeMonner, & Heisler, 2012). In a focus group of American Muslims discussing health attitudes, Padella et al. found two participants that believed, ‘Allah is the ultimate doctor. He is the one who brought down the disease. He is the one that brought down the cure’ (p. 849). Wahiba (2008) explained mental illness and health problems may be perceived as a test, or sometimes as a punishment, from God. In Islam, people strongly believe in ‘Kader’ (destiny). That means positive acknowledgement of Allah’s will and a greater level of positivity with respect to healing. However, such a belief may also lead to fatalism in some cases (Nabolsi & Carson, 2011).

### **Mental Health in Pakistan**

Pakistan is predominantly a Muslim country, with Muslims comprising around 90% of the total population. Pakistan also has the largest youth cohort (ages 15-29 years) in the world – estimated to be 54.2 million individuals (UNESCO, 2013). Pakistan used to have a low recorded incidence of mental health problems which could be an accurate assessment or conversely could be due to a lack of recognition and reporting. While there has been a dramatic increase in reporting since the mid-1990s, mental illness is still largely a taboo subject and therefore the accuracy of statistical data needs to be treated with caution. In terms of individuals acknowledging and accepting that they have mental health issues, and being willing to accept needed treatment, there is a long way to go (Khan, 2007; Shahid, 2012).

Mental health is an emerging profession in Pakistan. There are very few social workers, psychologists and psychiatrists working in the field, with only approximately 2 or 3 professional workers for every million people (Demyttenare, 2008; WHO, 2011). The majority of these professionals are in the largest cities, despite the fact that large numbers of Pakistan’s population reside in rural regions. According to one survey, there are no female psychologists

or psychiatrists practising in Baluchistan (one of Pakistan's largest provinces in terms of area) (Shahid, 2012). Furthermore existing hospital services are very poorly utilized because of the fear of 'social stigma' related to psychiatric patients and misconceptions and misinformation about mental health problems – for example, that such problems are related to 'possession' and caused by supernatural or evil forces (Ahmed, 2007). One positive outcome of the evolutionary process of de-institutionalization and de-centralization is that the focus of mental health has been moved from mental asylums to teaching hospitals, with the aim of reaching the doorsteps of suffering individuals.

In developed countries, even those with comprehensive and well-organized health care systems, between 42 percent and 68 percent of individuals with mental health problems do not receive treatment. However, in developing countries the figures are even more alarming, at nearly 90 percent (Sartorius, 2009). Of particular relevance to this study is the fact that in Pakistan only 4 percent of the government's annual budget is allocated to health and there is no separate budget for mental health. As a result, the official national rate of mental health disorders is not known and has never been officially reported to the World Health Organization (Khan, 2008). Mental health is a scantily researched subject in Pakistan. While a small number of studies have been undertaken in psychiatric settings and hospitals recruiting patients as respondents, there is very little information available about factors contributing to mental health problems among university students.

### **Mental Health in University Students**

There are approximately 1.2 billion youth and young adults (ages 16-28 years) worldwide and up to 90 percent of them live in developing countries (WHO, 2012). However, in spite of the fact that many research studies have been conducted with young people, there is still a marked lack of information about young adults (ages 18–24 years) (WHO, 2010). It has

been estimated that around 20 percent of young adult university students will experience mental health problems, with major depression or other mood disturbances caused by financial problems or lack of family support, as the most common triggers (WHO, 2010). Moreover, WHO (2010) predicts mental health problems such as these are likely to increase by approximately 15 percent by 2020. Zivin, Eisenberg, Gollust, and Golberstein (2009) provided evidence of increasing numbers of university students experiencing mental health problems. If left unaddressed or untreated, there is potential for these issues to negatively affect these students over a long period.

Data from the WHO (2012) indicated that 11 percent of university students in the United States of America have exhibited suicidal behaviour. Suicidal behaviour often results from depression, low self-esteem and a lack of parental support and warmth, among other factors (Izadinia, Amiri, Jahromi, & Hamidi, 2010). The WHO has also reported that poor mental health is associated with lower academic achievement, mood disorders, substance abuse and violence among university students (2012).

Hamdan-Mansour, Halabi, and Dawani (2009) found university students are more vulnerable to developing mental health problems when compared with their peers in the general population. They further identified other factors that play a substantial role in the mental health of students, including family life, economic issues and depression. In different parts of the world – but particularly in Western countries – a great deal of research has been carried out to identify factors that influence students' mental health, since poor mental health has been identified as one of the leading causes of suicide, hopelessness and lower academic achievement. However developing countries lack research in this field. According to Kay, Xiou, Nokkaew, and Park (2009) these problems need to be investigated as university students are considered to be the future leaders of a nation.

## **Factors influencing Mental Health in University Students**

Studies have shown that parental style, self-esteem, socioeconomic status (through parent's income), gender, extraversion vs. introversion personality traits and peer relationships have a considerable influence on a young person's mental health (Chan, 2010; Chen et al., 2000; Ponnet, 2011). This study examines the impact of several factors on the mental health outcomes of university students in Pakistan.

The first factor identified in this research study is 'father warmth' which refers to an emotional climate in a family, which encompasses support, kindness and affection (Baumrind, 1972; Kim, 2006; Rohner, 2013). This research examines how the students perceive their father's warmth and whether it influences their mental health and academic performance.

Second, 'Self-esteem' refers to an individual's belief in themselves. It has consistently been associated with positive mental health and well-being.

Third, demographic factors such as gender and socioeconomic background also influence mental health. In general women have been found to have poorer mental health than men. There is very little research looking at gender difference and its influence on mental health in university students in developing countries (Rothi & Leavey, 2006). It is evident however that in developing countries the influence of socioeconomic status on mental health and well-being is much greater than in more developed countries (Howell & Howell, 2008).

The fourth factor is personality which can be defined as the way an individual behaves, thinks, feels and their unique style of expressing themselves (Schacter, Gilbert & Wegner, 2009). The literature on personality shows some students are more vulnerable to mental health problems because of their specific personality traits (i.e., extraversion vs. introversion) (Wood & Tarrier, 2010). 'Extraversion' refers to a personality trait characterized by seeking and enjoying social experiences. It includes a broad disposition to experience positive effects, engaging in life's tasks and having the energy to pursue goals. 'Introversion' (low in

extraversion) refers to a personality trait characterized by emotional blandness, reservation, and shyness, withdrawn or quiet with over-control of impulses (Schacter, Gilbert, & Wegner, 2009). The literature on personality shows some students are more vulnerable to mental health problems because of their specific personality traits (Wood & Tarrier, 2010).

Finally, for many university students, peer relationships appear to have a significant influence on mental health. Peers are often the first line of support both inside and outside the university. Research has shown that lack of peer support or no peer support is associated with poor mental health and poor academic performance among university students (Gutafsson, Janlert, Theorell, Westerlund, & Hammarström, 2012). A detailed literature review of the aforementioned factors is presented in Chapter Two.

### **Aims of this Research**

This research aims to explore and better understand the mental health and overall well-being – and factors contributing to mental health problems – among university students (ages 18–24 years) in Karachi, Pakistan. It also seeks to contribute to literature on the subject of mental health problems in this cohort. A comprehensive investigation of current international research has revealed a paucity of data. There is very little research available about the experiences of and factors contributing to mental health problems among students at university in developing countries, and particularly in Pakistan. Most research on a similar theme that does appear in the literature is focused on students' experiences in Western countries and such work is presented in the literature review in Chapter Two.

This research seeks to raise awareness and understanding of this important issue in becoming a resource for the effective intervention for university students experiencing mental health problems. As well it will be a resource for university administration and students services for planning and developing the effective promotion of good mental health. It is also

anticipated that this research could become a resource in the planning and development of effective intervention strategies not only for university students experiencing mental health problems, but also for university administration and student services dedicated to effective promotion of good mental health.

### **Research Questions**

The research study was designed to attend to the following questions: What are the factors that influence the mental health of university students in Karachi, Pakistan? In order to delve deeper into this general question, the following sub-questions were derived to guide the analysis:

1. How does their perception of “father’s warmth” affect the mental health of university students?
2. What influence does self-esteem have on the mental health of university students?
3. What effect does their parent’s income have on the mental health of university students?
4. What influence does their degree of extraversion vs. introversion have on the mental health of university students?
5. What influence does their perception of peer relationships have on the mental health of university students?
6. Is gender a factor in the mental health of university students?

### **Overview of the Thesis**

Chapter One: Introduces the study’s background, rationale, purpose and significance, and outlines the research questions.

Chapter Two: Addresses and synthesizes relevant international research literature associated with the present research and upon which this study is largely based.



Chapter Three: Describes the methodological context of the study and provides a detailed outline of methodology and research design, and quantitative research – including different approaches, questionnaire design and relevance to the study. It focuses on the quantitative approach used in this study and describes the data collection process, research settings, ethical considerations and data collection instruments, as well as providing an overview of how the data was collected, analysed, and synthesized.

Chapter Four: The results are presented, along with research questions and tables.

Chapter Five: Provides a discussion and interpretation of the findings of this study and discusses practical implications for working with university students experiencing mental health problems. This chapter concludes with a discussion of the major contributions, the limitations of this study and recommendations for future research.

## **Summary**

The aim of this chapter was to clarify the motivation behind this research and provide some background information on mental health problems globally and in Pakistan, in order to place this study in context. It discussed the importance of research on the subject of mental health and well-being among university students, specifically in relation to factors such as parental style, self-esteem, socioeconomic status, gender, personality and peer relationships. As well as clarifying the aims of the study and its research questions, the chapter concluded with an overview of the thesis structure. The following chapter examines international literature pertaining to the study of mental health problems among university students.

## **Chapter 2: Literature Review**

### **Introduction**

This chapter provides background information on the complexities of mental health problems and associated factors among university students in a developing country – in this case, in the Islamic Republic of Pakistan (commonly known as Pakistan). It discusses relevant literature while highlighting existing gaps in research. While the examination of international literature as presented in this chapter provides a solid foundation for the discussion of the findings, it should be noted that all studies completed or available in Pakistan are discussed where appropriate. However, this has not been possible in every section owing to a paucity of information and a lack of studies in the mental health field in Pakistan. Additionally, it is important to highlight some definitions associated with research about the mental health of young people. Various authors use the terms “late adolescent” or “young adult” when discussing mental health issues concerning 18–24 year olds (Gore et al., 2011; Sawyer et al., 2012). This study uses the terms “young adults” or “university students” to refer to this age group.

This chapter begins with a definition of mental health, followed by a review of international research focusing on factors that are known to influence mental health, particularly parental style, father’s warmth, self-esteem, gender, socioeconomic status, personality, and peer support. The importance of mental health in young adults in general is discussed with regard to relevant literature, followed by a discussion of extant literature addressing mental health in a specific cohort of young adults: university students.

Next, Bronfrenbrenner’s (1989) ecological systems theory and its relation to mental health is outlined in order to provide a framework from which to better understand the subject of mental health issues in terms of Pakistani society and culture. This framework is then used to provide background information on Pakistan with respect to the systems that influence an

individual's mental health. More specific issues related to mental health in Pakistan are then explored, including mental health perceptions, mental health problems, stigma, mental health care, and the lack of research on mental health in Pakistan. The chapter concludes with mention of the lack of research on mental health in Pakistani university students.

### **Mental Health Defined**

The WHO comprehensively defines mental health as “a state of well-being in which every person realizes their own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community” (WHO, 2012, p. 12). For all individuals, the connections between physical health, social health and mental health are fundamental to a healthy life. It is becoming increasingly obvious that good mental health is essential to an individual's overall sense of well-being (Taylor & Brown, 2009). There are two different paradigms, and these two different paradigms are: the medical model and the psychological model (Keyes, 2002; Keyes, 2012). The “clinical tradition” or long-standing medical model operationalizes well-being and mental health of individuals through measures of psychopathology (e.g., alcohol or substance abuse, anxiety and depression). On the other hand, the “psychological model or tradition” operationalizes well-being and mental health in terms of an individual's level of life satisfaction and subjective evaluation of the presence of positive affect (Keyes, 2002, p. 209; Keyes, 2014). Namely, the medical model, perceives mental health as the absence of negative conditions and feelings (i.e., pathology) while the psychological model puts more emphasis on the presence of positive, rather than negative, perceived attributes. Recent research specified that a comprehensive understanding of mental health should include both components to ensure the “overall well-being and mental health of individual and their interaction, socially and environmentally” (Seligman, Steen, Park, & Peterson, 2005, p. 410).

## **Factors Influencing Mental Health**

Factors that contribute towards hindering mental health in young adult university students are complex, multifaceted, and inadequately understood (Rothi & Leavy, 2006). A review on the current literature on mental health reveals that there are a variety of factors which have a significant influence on mental health in young adults (Khaleque & Rohner, 2002; Rohner & Khaleque, 2013). These factors include parental style, father's warmth, self-esteem, gender, socioeconomic status, personality traits, and peer support

**Father's warmth.** Parenting is universal, but parenting practices or parental styles vary between cultures. In Western culture, parental attempts to monitor a growing child may be considered as a breach of autonomy, while in Asian culture; such monitoring is viewed as a sign of parental concern, care, and love (Nelson, Hart, Yang, Olsen, & Jin, 2006). In this regard, Kim and Rohner (2003) found that in Korea the normal parental style is expressed by the term "strict father, benevolent mother." In Asian cultures, fathers are expected to be more strict and task-oriented and show little or no warmth, while mothers are more likely to show warmth and be emotionally close to their children.

Rohner (2005) introduced a new classification system of parental style based on parental behaviours: physical and verbal affection, warmth or lack of warmth, physical and verbal hostility or aggression, neglect or indifference, and indifferent rejection. The significance of this classification system is that it can be applied to individuals regardless of their cultural, parental values. Rohner (2005) also developed an assessment tool to measure parental style in his parental acceptance–rejection questionnaire (PARQ). This assessment tool assesses fathers and mothers parental style separately. This scale has been used widely in cross-cultural studies and results have shown it to be culturally sensitive, especially in Asian cultures such as China, India, Pakistan, Japan, and the Middle East (Kim, 2006). In this study, from Rohner's parental acceptance-rejection questionnaire on scale 'warmth' (father's warmth) has

been used to assess student's perception as one factor of mental health and well-being among university students.

Rohner and Khaleque (2005, 2013) developed the parental acceptance-rejection theory, which is used worldwide, regardless of variations in culture, geographic context, race, gender, or other such defining conditions. Parental acceptance-rejection theory is an evidence-based, robust theory of lifespan development and socialization that seeks to explain and predict major causes, consequences, and other correlates of both mother and father acceptance and rejection across different cultures. It predicts that parental acceptance–rejection has consistent effects on psychological adjustment, behavioural functioning, and personality development of children and adults in every culture.

The father's warmth refers to the quality of the affectional bond between fathers and their young adults, and the verbal, physical, and symbolic behaviours fathers use to express these feelings. Father's warmth refers to the affection, nurturance, love, care, comfort, support, and other such behaviours that fathers shows toward their children. On the other hand, father's rejection or lack of warmth refers to the withdrawal of love affection, or support. Father's lack of warmth or rejection can be shown by any combination of four principle expressions: (1) lack of warmth or cold (the opposite of warmth and affectionate) (2) hostile and aggressive; (3) indifferent and neglecting; and (4) differentiated rejecting. Several studies have explored the relationship of mothers or father's warmth or lack thereof, to psychological adjustment and mental health. However, in South Asian culture there is a lack of research on father's warmth and its impact on mental health issues in university students (Rohner, 2005)

Rohner and Khaleque (2013) conducted a meta-analysis of 43 studies involving 7,563 participants across 15 countries. The results of their analysis confirmed the expectations that that perceived mother or father acceptance or warmth is universally associated with positive mental health and sense of well-being in young adults. Furthermore, strong evidence supports

parental acceptance-rejection theory's suggestion that young adults who come from loving (accepting) families are more likely to feel good about themselves than those who come from unloving (rejecting) families. Young adults from accepting families feel competent, have emotional stability, have fewer problems with the management of hostility and aggression, and have a positive world view (Rohner & Khaleque, 2012). Research by Rohner and Britner (2002) yielded cross-cultural and intra-cultural evidence that converges on the conclusion that four classes of mental health issues (i.e., psychological well-being, unipolar depression and depression effect, behaviour problems, and substance abuse) are possible worldwide correlates of father's and mother's warmth or lack of warmth. Their research also revealed father's warmth or lack of warmth has a strong correlation with personality. This postulates a universal relationship between perceived father's or mother's warmth, or lack thereof, and overall mental health and adjustment. There is substantial evidence to support the likelihood of worldwide correlations between father's warmth or lack of warmth and other serious mental health issues (Khaleque, 2012). A cross-cultural study of university students showed that father's warmth or lack of warmth differs across countries. Lack of warmth was associated with psychiatric disorders and psychological problems, while father's warmth was associated, to a lesser extent, with better social and psychological adjustment and good mental health (Muhammad, 2007; Khaleque, 2012)

Rejection or lack of father's warmth is one of the major variables that influence a child's development and their mental and psychological health during adolescence and adulthood. Those adults who perceived their fathers as providing rejection or lack of warmth in their childhood had poorer psychological adjustment to university life than those who were given warmth or acceptance (Rohner, 2013). Etkin, Koss, Cumminss, and Patrich (2014) investigated the effects of perceived parental warmth, power, and prestige on young adults' well-being in a sample of 254 university students in Bangladesh. The study investigated a constellation of

specific personality factors (e.g., introversion, feelings of low self-esteem, emotional instability, and unresponsiveness), and their findings revealed that parental warmth and acceptance makes a significant contribution to a student's psychological adjustment.

An earlier study by Rasmi (2012) assessed the relationship between father's warmth or lack of warmth in childhood and three types of adjustment in young adulthood: negative (risky behaviour), positive (life satisfaction), and acculturative (sociocultural difficulties). Participants included 407 male and female university students, aged 18–25 years, from three ethno-cultural groups: European–Canadian, Arab–Canadian, and Arabs in Egypt and Lebanon. The findings revealed students who perceived their father's lack of warmth in childhood were consistently less likely to enjoy a higher level of psychological well-being, more likely to engage in risky behaviours, less likely to be satisfied with their lives, and more likely to encounter sociocultural difficulties in young adulthood. No significant differences were found between the three ethno-cultural groups concerning their performance on the two scales used for examining psychological well-being and risky behaviour.

There is an important positive relationship between father's warmth and the overall mental health and well-being of young adults (Kausar & Kazmi, 2011). There is also a negative relationship between father's lack of warmth and mental health outcomes among university students (Kim, 2006; Rasmi, 2012). These research findings highlight the importance of the father-young adults relationships and its impact on a university students psychological development and overall sense of well-being. There is particularly evident gap in the literature addressing the effects of father's warmth on the mental health of university students specifically in Karachi, Pakistan.

**Self-esteem.** Self-esteem plays a substantial role in the self-concept and psychological development of an individual. Self-esteem was a popular area of research in Western countries from the 1960s to the 1990s. Bandura's (1977) social cognitive theory states that every

individual possesses a self-system, which enables them to exercise a measure of control over their thoughts, feelings, actions, and motivation, and enables them to estimate their ability to get things done.

The beliefs and assessments individuals have about themselves determine what they can do, who they are, and what they can become (Burns, 1982). These strong inner beliefs contribute how individuals nurture and steer themselves through life, to their internal guiding mechanism, and to the governing of their behaviour. Such feelings and concepts are usually referred as self-esteem. These feelings, together with the ability to control what happens and to deal with life's challenges are widely documented in literature (Bandura, 1977; Seligman, 1975).

Markus & Nurius (1986) conducted a study in the United States of America in which they argued that self-esteem is constrained by sociocultural and historical context. According to Markus & Nurius, self-esteem is the affective and evaluative dimension of the self-concept, and refers to an individual's universal appraisal of their positive or negative values across different domains and different roles of life. They further stated positive self-esteem is not only seen as a fundamental feature of mental health, but also as a protective factor that contributes to better mental health and social behaviour by acting as a buffer against the impact of negative influences. Self-esteem has a positive influence on educational achievement, success in achieving goals, satisfaction, and the ability to cope with different and more challenging aspects of life, and it actively promotes healthy functioning. Hence, based on the views of Markus & Nurius, self-esteem is an important aspect of individual functioning, which should be as important for those in Pakistan as anywhere. However, the influence of social values and cultural variation in assessing levels of self-esteem among young adults means that direct comparisons of these levels across cultures needs to be treated with caution.



Conversely, unstable or low self-esteem can play a critical role in the development of an array of mental health problems and social and emotional problems, such as suicidal ideation, anxiety, violence, drug or substance abuse, and high-risk behaviours. These conditions not only impose a considerable burden on society, but also a high degree of personal suffering. Studies highlight positive self-esteem as a protective factor and low self-esteem as a risk factor for risky behaviours. Self-esteem has a considerable influence on both physical and mental health, and therefore should be an important focus in health promotion (Erol, & Orth, 2011; Dale and Zimmerman, 2012).

Erikson's (1968) theory of psychosocial development theorised the continuous growth of self-esteem throughout a person's life span. According to Erikson (1968), individuals are occupied with the development of self-concept and self-esteem as children, adolescents, and adults, for as long as the process of crystallization of identity continues. If each stage of development is not completed successfully the individuals, not knowing who they really are and what can they do. Problems such as diffused identity and unclear, or foreclosure, can occur. This, together with low self-esteem, can be the cause of and may result in many mental health and social problems in later life (Marcia, 1993).

During adolescence and young adulthood, the development of self-esteem depends on a wide variety of psychosocial and intra-individual factors. Support and approval, especially from parents and friends, and self-perceived competence in domains of importance are the primary determinants of self-esteem (Dale & Zimmerman, 2000). Unconditional parental support and attachment is essential during the phases of self-development. This is a reciprocal process, as a person with high self-esteem can better internalize the positive view of significant others. For instance, in a prospective study among university students, Garber and Flynn (2001) found that negative self-worth and hopelessness develops as an outcome of negative parenting practices, which in turn affects students' career choices.

Empirical studies indicate self-esteem is an important psychological factor contributing to quality of life, physical health, and mental health for all individuals, but for university students, it is a crucial factor (Evans, 2007). Several studies have shown subjective well-being significantly correlates with self-esteem, and high self-esteem shares significant variance in both happiness and mental well-being among university students (Zimmerman, 1999). Self-esteem has been persistently shown to be the most prevailing predictor of happiness. Indeed, while low self-esteem leads to dissatisfaction and maladjustment, positive self-esteem leads to aspirations and internal standards, actively contributing to well-being (Erol & Orth; Glick & Zigler, 1992). Thus, self-esteem is the key element of mental health for young individuals (Schunk & Zimmerman, 2012)

A number of studies on the relationship between self-esteem and academic achievement among university students have been conducted across the globe. Among university students, positive feelings of self-esteem have been shown to increase self-confidence and success, with positive self-esteem being a predicting factor for academic achievement (Coopersmith, 1967; Erol, & Orth, 2011). Results of a longitudinal study among university students from the United States of America indicate that students with high self-esteem are more psychologically well-adjusted and have higher cognitive aptitudes and aspirations when compared to students who have low self-esteem (Adams, 2006). Furthermore, research has revealed that core self-evaluations measured in childhood and in early adulthood are linked to success, job satisfaction, and well-being in middle age (McGee & Williams, 2000). However, few studies have considered such inter-relationships within a Pakistan context. Though, the current study does look at one of these potential relationships; that between self-esteem and mental health, which would provide data on which to consider influences on well-being in Pakistani university students’.

The outcomes of poor self-esteem can be multifarious. It can result in a cascade of diminishing self-worth and self-appreciation, which can lead to psychiatric vulnerability, self-defeating attitudes, risky behaviours, and social problems. Empirical literature highlights the

three differential clusters of negative outcomes that are the result of poor self-esteem: (a) mental health problems with internalizing characteristics, such as self-harm, anxiety, depression, and suicidal ideation; (b) poor psychosocial outcomes with externalizing characteristics, such as violence or aggressive behaviour and educational failure or exclusion; and (c) risky health behaviour, such as substance or drug abuse (Dale & Zimmerman, 2012).

Poor self-esteem plays a substantial role in the development of a variety of mental health problems. If they lack confidence and trust in themselves, university students suffering with poor self-esteem may be unable to handle daily problems, thus reducing their ability to reach their maximum potential, which may lead to an alarming deterioration in physical and mental well-being (Mann, Hosman, Schaalma, & De Vries, 2004). A decline in the mental health of university students could result in internalizing problematic behaviour, such as anxiety, depression, eating disorders, and ultimately suicide (UNICEF, 2013). Although the association between self-esteem and mental health has received considerable attention in the literature, there is very little research available in Pakistan that directly addresses the experience of university students.

**Gender.** Gender is a determining factor of mental health. The morbidity associated with mental problems has received substantially more consideration than the gender specific mechanisms and determinants that protect and promote mental health and foster resilience to stressors and adversity (WHO, 2009). In developing countries in particular, gender determines the differential power and control men and women have over the socioeconomic determinants of their mental health and lives, their status, their social position, their treatment in society, and their susceptibility and exposure to specific mental health risks. Gender differences occur particularly in the rates of common mental disorders, including depression, anxiety disorders, and psychosomatic complaints. These mental disorders, which are more common in women, constitute a serious public health problem and affect approximately 1 in

3 people in the community. Depression is predicted to be the second leading cause of the global disability burden by 2020, and it is twice as common in women (UNICEF, 2013; WHO, 2012).

Gender differences in the development of aggression, violence, and delinquent behaviour are well established in the literature. However, research about gender differences for individuals suffering from mental health issues is still lacking, especially in developing countries (Miranda & Patel, 2005). Likewise, little research has been conducted on gender difference and mental health problems among university students.

Much of the literature in Western and developed countries suggests a considerable proportion of young adults suffer from mental health problems. The most recent data on the global burden of diseases shows that mental disorders account for 4 and 5 out of 10 of the leading causes of disability-adjusted life years (DALYs) for 15–19 year-olds and 20–24 year-olds, respectively. This data also reveals female students are suffering more, as compared to male students (Gore et al., 2011; Patel, Flisher, Hetrick, & McGorry, 2007). The mental health of young adults is of concern not only because of the significant burden of disease, but also because early adulthood has been associated with the onset of a substantial proportion of mental health disorders diagnosed during adulthood as well as the risk and persistence of lifelong mental illness (Kessler et al., 2005; Patel et al., 2007; Thapar, Collishaw, Pine, & Thapar, 2012).

Research focusing on university students has found psychological distress is at least as common among females in the same age group when compared with their age group in the general population (Sun, Buys, Stewart, Shum, & Farquhar, 2011). A study of 78 final-year university students found 30% of the cohort rated above the clinical cut-off for depression, and more female students were affected (Hafen, Reisbig, White, & Rush, 2008). Research investigating the experience of 2,785 university students in the USA found 15.6% of

undergraduates tested positive for clinical depression, and female students were found to have more suicidal tendencies than males (Eisenberg, Gollust, & Golberstein, 2007; Hefner, 2015).

Of the available studies on gender difference in mental health among university students, a large proportion focused on the impact of stress on medical students (Dyrbye et al., 2008). A study in Sweden looking at the psychological well-being of first-year undergraduate university students found females reported higher levels of exhaustion than males (Law, 2007). Dyrbye et al. (2006) found 45% of female university students met the criteria for burnout, low self-esteem, and hopelessness. Further research confirmed these results, with Dyrbye et al. (2008) reporting burnout in 49.6% of female university students. Gore, Bloem, Patton, Ferugson, Coffey, Sawyer, and Mathers (2011) compared rates of academic and psychological distress in undergraduate university students across four distinct disciplines: mechanical engineering, medicine, psychology and law. They found females showed slightly higher levels of academic stress than males and law students showed slightly higher levels of psychological distress than medical students. A Chinese study investigating the perceptions of first-year undergraduate university students regarding academic and social stressors and psychological well-being found females experienced more pressures with regard to high course fees and lack of family and social support, which had considerable effects on their academic achievement and psychological well-being (Carver, Scheier, & Fulford, 2008).

Finally, the overall literature with regard to mental health and gender difference appears to be consistent, showing that in developing countries the impact of gender differences status on mental health and well-being is much greater than in higher income countries (Howell & Howell, 2008). Even though the association between gender and mental health has received considerable attention in the western literature, there is mark paucity of the research in Pakistan that directly addresses the gender and mental health association among university students.

**Socioeconomic status.** Socioeconomic status is a collective sociological and economic measure of an individual's or family's economic and social position relative to others, based on earnings, education, and occupation. Lareau and Annette (2003) observed socioeconomic status is usually classified into three categories – high, middle, and low – to describe the three areas an individual or a family may fall into. When placing an individual or a family into one of these categories any or all of three variables – education, occupation, and income – can be assessed.

No education, low education, and low income have been shown to be strong predictors of a range of physical and mental health problems, due to social and environmental conditions that may be the primary cause of an individual's social predicament. There are bidirectional casual links among socioeconomic status and physical health and mental health. Poor health and poor mental health can decrease earning potential, through their effects on education and employment opportunities, while poverty may lead to poorer physical health, lower educational attainment, and mental health issues (Case & Deaton, 2009).

In Western research in the social sciences, one of the most consistently replicated findings has been the negative relationship between socioeconomic status and mental health problems, that is, the lower the socioeconomic status of an individual, the higher the risk of mental health problems. However, there have been inconsistent findings concerning the causal structure of this relationship. Marmot and Michael (2005) investigated student socioeconomic status (as measured by parents' income, education, and occupation) and its subsequent effect on a student's overall sense of well-being and education choices. Results indicated that socioeconomic status appears to have a greater effect on a student's life and on their educational choices. Hudson's (2005) research provides strong evidence that socioeconomic status has direct impact on the development of mental health problems among university students, as well

as indirectly through its association with adverse social and economic conditions among lower income groups.

Das, Quy-Toan, Friedman, McKenzie, and Scott (2007) examined the correlates of mental health among university students in five developing countries. Results showed that being a single female (whether divorced, separated or widowed) and coming from a low-income group, are steadily related to poorer mental health outcomes. However, their assessment of the evidence they gathered on the relationship between socioeconomic status and mental health appears to be mixed. In four out of five countries, education was found to be positively associated with mental health.

Witoelar, Strauss, and Sikoki (2009) analyzed data from the Indonesian Family Life Survey and found education to be a protective factor against depression among Indonesian males and females aged 24 years and older. However, controlling for education, they found no association between per capita expenditure and mental health for this group. A survey from 11 smaller community-based studies across six countries found a substantial association between the socioeconomic status of parents and the well-being of university students. A further study found students who do not enjoy middle or high socioeconomic status tend to have low self-esteem and more introverted personalities. Results for other indicators of socioeconomic status – e.g., employment and income – were more mixed (Patel et al, 2008). Case and Deaton (2009) in two South African studies, found different aspects of socioeconomic status protect in different ways. Education appears to be a protective health factor for health status, but has little effect on depression, or any other mental health problems. Assets would appear to protect against depression, but are not a protective factor against poor health.

In both developed and developing countries, one of the most consistent findings in the study of mental health is that the risk of mental health problems increases with age and other socioeconomic factors such as poverty, lack of social support, and low educational

achievement (WHO, 2012). Not surprisingly, socioeconomic status is an important determinant of a university student's mental health and well-being. Although the association between socioeconomic status and mental health problems has received considerable attention in the literature, there is very little research that directly addresses the experience of university students.

**Extraversion vs. introversion.** Mental health can also be described as the ability of an individual to balance feelings, desires, ambitions, and ideas in daily life. It may also be understood as an individual's personality's traits and behavioural characteristics. Feldt, Metsapelto, Kinnunen, and Pulkkinen (2007) described mental health as a state of mind which is characterized by emotional and psychological well-being, relative freedom from anxiety and disabling symptoms, and a capacity to cope with the ordinary demands and stresses of life and establish constructive relationships. Mental health is an essential psychological factor with respect to human development and behaviour. Prevention literature, reviews and etiology, exploring the association between personality and positive mental health among university students, found personality strongly influences students' success and happiness (Goodwin & Friedman, 2006).

Different personality traits are associated with different mental health outcomes (Goodwin & Gotlib 2004). Certain personality traits, in particular, extraversion and introversion, have been shown to be related to mental health. In a study in the United States of America study, Goodwin and Friedman (2009) investigated health status and the five-factor model personality traits of young adults. Results indicated that a higher level of introversion substantially contributed to an increase in mental disorders, while a higher level of conscientiousness was associated with reduced levels of mental illness and physical illness. Results from another study by Sayeda, Fareeda and Hameeda (2013) on personality factors and mental health among students showed a significant positive relationship between mental health



and the personality traits of extraversion, openness (flexibility), and agreeableness. Results also showed a significant negative relationship between introversion and mental health (Sayeda, Fareeda & Hameeda, 2013).

Research has also suggested that individuals who are high in introversion may exhibit greater levels of emotional behaviour and anxiety when confronted with stressful situations. Goodwin and Friedman (2009) have found that a higher level of extraversion and agreeableness significantly decreases the probability of mental health problems, while a higher level of introversion significantly correlated to mental illness. Mental health problems, such as those related to family relationships or peer relations and individual personality traits, may also have reciprocal effects on university students and their educational attainment (Soldz & Vaillant, 1999).

Results from a study by Haslam, Whelan, and Bastian (2009) showed an association between personality traits like extraversion and openness with mental health and well-being in university students, which further indicates that an increase in introverted traits could lead to deterioration in mental illness. This result is consistent with yet another study which showed introversion can be associated with depressive episodes in students (Yang, Chiu, & Soong, 2008). Wismeijer and Assen (2008) found extraversion and conscientiousness related to positive associations of subjective well-being among university students. In addition, the interaction between levels of certain personality traits and family conflict also help explain differences in mental health outcomes (Hampson, 2012). There is a paucity of research which makes an attempt to understand the gender differences and its relationship to mental health among university students in Pakistan.

**Peer support.** Experiences with peers create an important developmental perspective for young adults, especially for university students (Rubin, Bukowski, & Parker, 2006). University students' experiences with peers occur in several different contexts: in academic

groups, in general interaction, and in friendships. Social skills and competence reflects a student's capacity to engage successfully with peers at different levels. Throughout childhood, adolescence, and young adulthood, peer relationships are of central importance to an individual. Individuals who enjoy positive relationships with peers experience higher levels of social and psychological well-being and positive beliefs about the self, as well as having values for prosocial behaviour and social interaction that are stronger and more adaptive than those of young adults without positive peer relationships. They also tend to be engaged in and even excel at academic tasks more than those who have peer relationship problems (Wentzel, 2005).

Scholars who have studied peer relationships among university students usually focus on one of three peer contexts: a person's dyadic friendships, their larger peer groups, and crowds (Rubin et al., 2006). The major distinction between involvement with the broader peer group and friendships is that friendships are often formed on the basis of idiosyncratic criteria and reflect relatively private, egalitarian relationships (Hampson and Friedman, 2008). However, friendships are a continuing aspect of an individual's peer relationships at all ages.

Researchers have studied the importance of friends to a young adult's mental health and well-being (Wentzel, 2005). For students of all ages, even one friend, as opposed to no friends, appears to be related to a range of positive outcomes. When compared to their peers without friends, individuals with reciprocated friendships were inclined to be more cooperative, more emotionally supportive, more social, more self-confident, more independent, more altruistic, more prosocial, and less aggressive. Undergraduate students with friends achieved better academic results and were more and engaged in university activities than those who did not have reciprocated friendships. University students without friends are often emotionally distressed and lonelier than their peers with friends (Wentzel, 2005).

Wentzel (2005) explains the influence of friends often focuses on the likelihood that positive emotional attachments to peers promotes healthy psychosocial functioning. Feelings

of belonging and relatedness that result from having friends are thought to contribute directly to positive feelings of self-esteem and self-worth. Consequently, these levels of emotional and social well-being are assumed to contribute to adaptive functioning in social as well as academic domains in a student's life.

Some researchers propose positive interactions with peers contribute directly to the psychological functioning and intellectual development of young adults (Gauvain & Munroe, 2009). Piaget (1965) argued that perspective taking, mutual discussion, and conflict resolution with peers can motivate psychological adjustment and the accommodation of new, more sophisticated approaches to intellectual problem-solving and well-being. Research shows problem-solving, active discussion, and elaborative feedback among peers are all associated with advances in a range of cognitive competencies, including conceptual understanding, and meta-cognitive reasoning, problem-solving skills, in samples ranging from early to late adolescence (Gauvain & Munroe, 2009).

However, the research leaves many unanswered questions concerning how peer relationships exert an influence on psychological development. Some of these questions concern the stability, timing, and quality of peer relationships – for instance, there is the question of whether there are critical periods (e.g. while at university) during which peer relationships have more powerful effects on certain developmental and social outcomes. Some researchers suggest the cumulative experience of a peer relationship is essential to development, rather than any one particular friendship in any one place or time (Keller, 2005). There is particularly evident gap in the literature addressing the effects of peer relationships on the mental health of university students specifically in Pakistan.

### **The Importance of Mental Health in Young Adults**

Good mental health is fundamental to an overall sense of health and well-being and has an influence on social and economic outcomes across an individual's life. Young adulthood is

a crucial period for laying the foundations for mental health as well as physical health. It is estimated that 10–20% of young people worldwide experience mental health problems (Herrman & Jané-Llopis, 2012; United Nations General Assembly, 2010). Poor mental health in young adulthood is associated with health problems and psychosocial problems, such as failure to attain educational achievement, low self-efficacy, alcohol or substance abuse as well as an increased risk of mental health disorders and other adverse outcomes in later adulthood. Interventions that promote positive mental health equip young people with the necessary life skills, supports and resources to fulfil their potential and overcome adversity (Jenkins, Baingana, Ahmad, McDaid, & Atun, 2011). A systematic review of the international evidence, which comes mainly from well-developed high income countries, shows that inclusive mental health promotion carried out in collaboration with families, educational institutions and communities leads to improvements not only in mental health, but also in academic and work performance, social functioning, and general health behaviours (Barry & Friedli, 2008; Durlak et al., 2011; Nores & Barnett, 2010; Weare & Nind, 2011).

Despite this acknowledgment of the importance of mental health promotion for young adults, mental health remains a neglected public health issue, especially in under developed countries as well as in low-and middle-income developing countries. Mental health is inequitably distributed, as people living in poverty or below the poverty line, and are subject to other forms of social and societal disadvantage, bear a disproportionate burden of mental health problems and their adverse consequences (Jenkins et al., 2008). Currently, 90% of young adults live in low- and middle-income countries, where they constitute up to 50% of the population (Patel, Flisher, Nikapota, & Malhotra, 2008).

Studies have shown that mental health problems account for a large number of the diseases among young adults in all societies (Patrick & McGary, 2008). Mental health problems usually begin during late adolescence, although they are often first detected later in

life, and they are frequently related to other developmental and health concerns in young people, notably lower educational achievement, violence, suicidal ideation and drug addiction (UNICEF, 2013). The effectiveness of some interventions for mental health issues in young adults has been established in the USA and Europe (Fussel, 2008), but in developing countries, more research is urgently needed. In these countries, including Pakistan, the needs of young adults dealing with mental health issues are mostly going unmet.

### **Mental Health in University Students**

Young adulthood (from 18–24 years of age) is a challenging and complex period in any individual's life. This age period commonly involves multiple transitions, which can include moving to higher education at tertiary level and into the workforce, leaving home and forming a new household, forming new relationships, and becoming a fully functional person in society. Social research on transition to adulthood provides insight into changing life-course patterns and their impact on the young individuals' lives in developed nations like the United States and Europe, but this period is still under-researched in developing nations like Pakistan (Fussel, 2008; Settersten, Richard, & Barbara, 2010).

Mental health problems appear to be a substantial concern among the university population, with very few numbers of students seeking mental health resources. Rising rates of mental health issues give significant reason for concern regarding investigating the mental health of university students, especially when there is history of mental health stigma and most university students are aged 18–24 years, an age group at high risk of manifesting poor mental health symptoms (Cook, 2007). A student's life has potential for more psychological or mental problems because of pressure to achieve excellence and greater competitiveness, a sense of responsibility to fulfil parental expectations, and a changing environment, among other things. Brain (2013) found that at any given time 10–20% of the student population will be suffering

from mental health problems such as stress, anxiety, or depression. All age groups face a range of mental health problems, but it is essential to consider university students as a distinct group. University students face a unique set of circumstances, which can play an intricate role in the manifestation of mental health problems.

Mental health problems among university students can lead to negative outcomes, such as physical illness, antisocial or risky behaviour, attrition and poor academic performance, and suicidal behaviour. Australian studies show a similar pattern to those of the US and Europe (Reavley, McCann, & Jorm, 2012). Additionally, it was also noted that the social, financial and academic challenges associated with university life can make this a very stressful time for students. (Dyrbye et al., 2008). Furthermore, empirical research findings indicated mental health enhancements lead to a better utilization of resources, while its impairment can lead to serious negative life consequences, especially for students following graduation. This group often faces uncertainty, with regard to the next step in both their professional and personal lives (Brain, 2013).

Haas, Hendin, and Mann (2003) described how some mental health problems have continued to rise among university students in the last two decades. For example, all around the world, from the mid-1980s to the 2000s, suicide rates doubled for women and tripled for men aged 18–24 years. Common mental health problems seen among university students include low self-esteem, depression, anxiety, self-mutilation, and self-destructive, impulsive and reckless behaviours (Cook, 2007). It is believed that while some young adults start university with pre-existing mental health problems, the stresses and problems associated with being at university can lead to the manifestation of symptoms in this high-risk age group (Cook, 2007).

To understand why, one first needs to understand what the factors that contribute to these problems. Although very little is known about the factors that play a critical role in the

mental health of students, interest in mental health problems among students appears to be growing. Findings based on results from a longitudinal study of 198 university students showed that failure to complete university was significantly (46%) associated with the presence of mental health issues (Vander, Adrian, Rhew, Herting, & Kraemer 2012). This has been supported by other research, implying that for university students, educational achievement, mental health and well-being are interlinked. These results are consistent with the findings of Cook (2007), which concluded that poor mental health, left untreated, is a significant factor in academic failure. The impact of the lack of attention given to mental health issues in Asian cultures not only significantly influences a student's current state of mental health and academic performance, but also jeopardizes their potential and future performance.

According to research, the university can be one of the most important unrestricted settings for fostering good mental health, as it provides a forum for social competence and promoting emotional growth as well as for academic learning, and it offers a means of reaching young people who experience mental health problems, of which there are significant numbers (Payton et al., 2008; Weare, 2011). Research projects in developing countries have shown that lifelong educational opportunities appear to be associated with improved mental health outcomes. The promotion of emotional health and well-being is a core feature of the WHO's initiative for promoting health in schools and universities (WHO, 2010). There is good evidence that mental health promotion programmes in schools, colleges and university settings, especially programmes that adopt a whole institution approach, have led to positive mental health and well-being as well as improved social and educational outcomes in low-income developing countries. Programmes incorporating emotional and social learning and life skills, as well as early interventions to address behavioural issues and emotional problems, produce long-term positive effects for young people, including improved social and emotional functioning, better academic performance and positive health behaviours (Lister-Sharp,

Chapman, Stewart-Brown, & Sowden, 1999; Tennant, Goens, Barlow, Day, & Stewart-Brown, 2007; Weare, 2011).

### **Bronfenbrenner's Ecological Systems Theory and Mental Health**

Research about mental health is now beginning to discover environmental influences (e.g., demographic factors, family and peer support) and ecological aspects that appear crucial in an individual's life. Ecological issues are thought to have a significant influence on factors related to mental health issues. Few studies have adopted an approach that takes all these factors into consideration at one time (Vogel, Wade, Wester, Larson, & Hackler, 2007). Bronfenbrenner (1989) determined that people are surrounded by different levels of expanding environmental settings which, in turn, are surrounded by even larger settings. In general, ecological systems theory suggests that there are varying levels of relational, environmental and social influences that interrelate with an individual's emotions, and have an impact on the individual's behaviour and overall mental health and well-being (Okun, 2005).

Bronfenbrenner's ecological systems theory (1979) describes an individual's environment as "a set of nested structures, each inside the next, like a set of Russian dolls" (p. 3). Over the course of an individual's lifetime, development is strongly influenced by people, by places, and by the individual's surroundings, starting with the intimacy of the home and radiating out to encompass the various other aspects of their environment (Bronfenbrenner, 1989). This theory's broad applicability has become the basis for the development of many applied models in human development and in mental health literature as well. Inside ecological systems theory, the encompassing environmental context in which a person develops consists of four primary levels: microsystem, mesosystem, exosystem, and macrosystem (Bronfenbrenner, 1989).



The microsystem is the child's immediate environment. It includes home and family and any institutions or organizations interacting with the child and his or her family, such as the child's school (Bronfenbrenner, 1999). Bronfenbrenner (1999) asserted the way children are raised by their parents has a tremendous influence on their emotional and psychological development, and this influence becomes most prominent in their adult lives.

The mesosystem, Bronfenbrenner's next level, consists of the interconnections between interactions of microsystem players and describes how the different parts of a child's microsystem work together. If a child's parents take an active role in the child's life, for example, by going to parent-teacher interviews at the child's school or attending the child's sports match, they will facilitate the child's overall physical, social, and psychological development simply by spending time with the child. In contrast, if a child's parents demonstrate conflicting behaviour, this can hinder the child's growth and development in different ways (Tudge, Mokrova, Hatfield, & Karnik, 2009). This stage has a substantial effect on young adulthood; positive interactions between a child and their father or mother will create balance for a child's learning and well-being, whereas conflicting interaction may cause dysfunction to a child's overall development in young adulthood (Okun, 2005).

The exosystem contains places and people that a child may not interact with often, but that can still have a significant effect on their life, such as the parents' workplaces, the community, and the child's extended family and peers. If parents are unemployed, it may have a negative effect on the child if the parents are unable to buy weekly groceries or pay rent or school fees. However, if a parent receives a promotion or a raise at work, this may have a positive effect, as the parents will be better able to meet the child's physical needs (Oswalt, 2008).

Bronfenbrenner's final level, the macrosystem, is the level farthest removed from the individual, but it has considerable influence over an individual's life. The macrosystem

describes the culture in which people live and includes such things as the relative freedoms allowed by government, societal norms and cultural values, the economy, wars, etcetera. All these things can have positive or negative influences in an individual's life.

In summary, Bronfenbrenner described human development as an interactive process, a relationship between a person and his immediate surroundings that is influenced by many other aspects of their environment. Mental health issues can potentially develop from multiple factors. It is not unexpected that researchers have started assessing mental health problems and barriers to accessing mental health services through the lens of this ecological model (Watts, Cockcroft, & Duncan, 2009).

### **Pakistan through the Lens of Bronfenbrenner's Ecological Systems Theory**

The lens of Bronfenbrenner's ecological systems theory can be used to understand how the mental health of young adults in Pakistan is inextricably linked with and influenced by family, culture, traditions, and social and environmental support. For individuals in Pakistan, the immediate environment of the microsystem includes extended family, as many live in situations where children, parents, grandparents and other relatives all share the same home or compound. Inevitably, such a setting will have an effect on the development of a child. The more nurturing and encouraging the parents and other adults in their extended family are, the better for the child, who is more likely to grow up with an overall sense of well-being and positive self-efficacy (Paquette & Ryan, 2001). Carlo, McGinley, Hayes, Batenhorst, & Wilkinson (2007) found that parenting style (i.e., the father's and mother's warmth or lack thereof) also has a considerable effect on the overall well-being of an individual, with positive mental health and well-being inextricably linked to their parents' behaviour and the family environment. Brendtro (2006) added that each child's special biologically and genetically

influenced personality traits and their temperament also end up affecting how others treat them, which can have lasting effects in shaping an individual's adult life.

Pakistani families, as with most traditional Muslim families, follow a patriarchal structure and tend to be collectivist in nature. The dominant male, usually the father, is considered the head of the house and the first authority (Al-Krenawi, Graham, & Kandah, 2000). Respect, conformity and obedience is expected from an early age. However, the traditional family structure in Pakistan is now being challenged through the influence of modernization and urbanization and democratic models are slowly beginning to emerge. Exposure to media, democratization, industrial capitalism, nascent women's liberation and women in employment outside the home is slowly changing the structure of the Pakistani family. Despite these changes, Pakistan, as with the rest of Islamic world, remains a traditional society and continues to hold to a strong family orientation. Family members are expected to take care of each other during crises, despite the fact that there is a gradual change from the extended family structure to the nuclear family (Khaleque & Rohner, 2002).

In terms of a macrosystem, Pakistan's system of government and way of life and is based on Islamic ideology. In addition to social and cultural factors, religion also affects many aspects of life. Islamic social and cultural teaching places significant emphasis on respecting parents and elders, as they are considered to be "highly respectably as Allah said it in Quran and second to Allah" (Obeid, 1988, p. 11). As a result, parents attempt to instil in their children ideals of obedience and respect as well as submission to conformity of communal values. Strictly adhering to social norms and harmony are considered to be desirable and valued characteristics of a "good" individual in Pakistan (Stewart, Bond, Abdullah, & Ma, 1999).

Stewart, Zaman, and Dar (2006) found that from the earliest years of their lives, girls in Pakistan are taught to follow and obey their mothers, while boys are taught to follow and obey their fathers. Such training means children and young adults in Pakistan are more likely

to unquestioningly obey their parents and elders, which is contrary to Western social mores. Furthermore, females in Pakistani culture have many more restrictions on their behaviour. The entrenched patriarchy means that the burden of pride for a family, clan and community lies on the “character” and chastity of its women. Here, I am compelled to point out that females in Pakistan are brought up in such a way that their own needs and choices are of secondary importance. More emphasis is given to looking after family needs.

Formed out of the partition of the Indian sub-continent in 1947, Pakistan is a culturally and ethnically diverse country located in the strategically important region of South Asia. Its official languages are Urdu and English, but the number of regional languages reflects the rich cultural and linguistic backgrounds of the people living in its four provinces. Islam is the predominant religion of Pakistan, with 97% of the population identifying as Muslim (Murad and Adnan 2006). It is no secret that Pakistan has suffered from years of terrorism, lawlessness, political disputes, violence, and problems with safety and security, which has resulted in rising poverty, considerable economic problems, unemployment and significant economic disparity. Pakistan’s annual growth rate is 2.09%. It has a median age of around 20 years. Pakistan is therefore a “young” country. It is estimated that there are currently approximately 104 million Pakistanis below the age of 30 years (Government of Pakistan Economic Development Report, 2009). The average annual income is US\$630. Due to foreign aid, Pakistan’s economy has improved somewhat, but more than 39% of the population still lives below the poverty line. The literacy rate, with literacy being defined as “anybody, aged 15 and above, who can read or write” (p.28), of the total population is 48.7% (Government of Pakistan EDR, 2009).

## **The Research Context**

**Mental health perceptions in Pakistan.** This section examines the ways mental health problems are perceived in Muslim communities, such as in Pakistan, and in the two principal

Islamic texts: the *Quran* and the *Hadees* or *Hadith*. The *Quran* is the holy book for Muslims, while the *Hadees* or *Hadith* are the sayings and traditions of the last prophet Muhammad (Peace Be upon Him PBUH) (Eltiba, 2007). The primary purpose of this examination of these Islamic texts is to understand how mental health problems are conceptualized and understood within Pakistani culture.

Islam is one of the Abrahamic religions, and for Muslim people it is a way of life that combines the spiritual, the social, the cultural, and the political. In Arabic, the word *Islam* means “submission,” which reflects one of the central tenets of the faith: submission to the will of God (Allah). According to statistics from new population projections by the Pew Research Center’s forum on religion and public life, Islam is now the main religion in 48 countries, and there are more than 1.65 billion Muslims around the world. Additionally, Muslim communities are growing rapidly in Western society, including in Europe, Canada and the USA. After Christianity, Islam is the second largest religion in the world (Al-Krenawi & Graham, 2000; Horrie & Chippindale, 2007; PEW, 2011). Throughout history, Islamic identity has been positively influenced by interaction with other cultures, and a basic belief of Islam is that it is important to acknowledge the holy books and all prophets of Judaism and Christianity. However, fundamental to the Muslim faith is the claim that “Allah is the only God and Muhammad is the last prophet sent to all human beings” (Al-Issa, 2000a, p. 44).

The *Quran* is the main source of learning for Muslims. It is believed to be the word of Allah, first revealed by the angel Gabriel to Muhammad in 610 AD (Husain, 1998). It is recorded that the *Quran* was gradually revealed over a period of 23 years (Smith, 1999). Written in Arabic, the *Quran* contains 114 *suras*, or chapters, that have remained unchanged for 1400 years (Husain, 1998). For Muslims, the Quran is considered to be a miracle. It is the basic source for helping people learn the Muslim way of life, Muslim beliefs and Muslim social systems (Horrie & Chippindale, 2003; Husain, 1998).

The other sacred text of Islamic religion and philosophy is the *Hadith*. This text is a record of the teachings, deeds and sayings of the prophet Muhammad. The *Hadith* describes how Muslims can apply the principles of the *Quran* and teachings of the prophet in order to live the best life possible.

Religion is a powerful force in Pakistani life. Islam is dominant, but many people nurture very complex belief systems. Spiritual and religious Imams attract huge numbers of followers and devotees. Perhaps as a result of low levels of education and literacy, belief in black magic, the evil eye and possession by Jinni (demons) are prevalent in Pakistani culture. Many people believe supernatural forces are a cause of their physical and mental illness and therefore seek help from faith healers or shamans and other alternative practitioners. This tendency to turn to spiritual healing has emerged as an effective coping mechanism for dealing with the various issues people face in this part of the world (Gadit & Callanan, 2007). A large number of these faith healers, shamans and alternative practitioners have no formal education, including a proper education of the *Quran o Sunn'ah*. They often introduce self-constructed beliefs which are not part of the traditional religion people understand, and they use these to make fools of those people who visit them in the name of religion. Faith in their work has implications for knowledge about, and stereotypes attached to, mental illness. People in south Asia who are dealing with poor socioeconomic conditions, low literacy, terrorism, violence and the prevalent social stigma towards mental health problems, remain hugely dependent on shamans for the treatment of mental health problems (Gadit & Reed, 2006).

**Mental health problems in Pakistan.** To understand conditions associated with mental health problems in Pakistani society, a few of the available clinical studies and surveys are discussed. According to a country profile report by the Eastern Mediterranean Regional office of the WHO, 10–16% of the general population in Pakistan suffer from mild to moderate mental illness, and in addition, a further 1% suffer from severe mental illness. However, this

does not take into account the large number of people unwilling to acknowledge or report mental health problems. Extrapolations of prevalence rates for depression in Pakistan yield statistics reporting that approximately 8,437,406 Pakistanis experienced depression, out of a total population of 159,196,336 individuals (UNICEF, 2010; WHO, 2010).

A study by Mirza and Jenkins (2004) found that 33% of Pakistani women suffered from a range of anxiety and depressive disorders, with contributing factors including domestic violence, poor or minimal education, financial crisis and relationship problems. A community-based survey conducted in 2012 by the Department of Clinical Psychology at Public University in Punjab, Pakistan revealed that among all the patients (aged 16–40 years) seeking medical help, 47% were found to be suffering from a range of mental health problems (Ahmed, 2007).

Hussain (2009) reviewed multiple studies investigating the risk factors of common psychiatric issues in Pakistan. They found women in Pakistan often face domestic violence, as well as restrictions in equal rights, particularly in rural settings. Other risk factors for women with mental health problems included coming from families with experience of authoritative or strict parenting, being of divorced or widowed status, conflict with in-laws, lack of support from friends or community, financial strain, and the status of being a housewife. This is particularly important, as poor mental health in a parent is also linked with the adverse psychological and physical development of children and consequent mental health problems during adulthood. The very few available aforementioned studies attempt to assess the true picture and issues raised by the dire condition of mental health problems in Pakistan.

**Stigma of mental health problems in Pakistan.** In recent years, a substantial amount of research has been published about the stigma of mental health problems. However, most of these studies have focused on Western society, and to date, there is scant research exists on the stigma of mental health problems in the developing world. People with mental health problems are highly stigmatized. Elliot, Ziegler, Altman, and Scott (1982) stated that “public stigma

associated with mental health problems renders the mentally ill socially illegitimate. They are perceived as incapable of normal interaction, dangerous and unpredictable, and these perceptions lead to their exclusion from the community” (p. 275). Today, people with mental health problems are still perceived as incapable of any normal interactions, dangerous and unpredictable, and these perceptions lead to their exclusion from the community (Elliot, Ziegler, Altman, & Scott, 1982; Evans-Lack, Henderson, & Thornicroft, 2013). As a result, individuals struggling with their mental health are challenged not only by their illness, but also by the stereotypes and stigmas associated with it.

As previously mentioned, many people in Pakistan have little to no education, live below the poverty line, and have to cope with a wide range of problems in their daily lives. Superstition is rife and the belief in supernatural causes of illness (e.g., witchcraft, the evil eye, or the will of Allah) can become a barrier to accessing care. Furthermore, psychiatric patients are stigmatized as mad and many people believe they cannot be cured. According to Jadoon, Raza, Shehzad, and Zesahan (2010), myths surrounding mental illness are largely a result of a lack of awareness of mental health issues and common mental illnesses. It will take time to demystify and remove the stigma surrounding mental health problems and available treatments.

A good example of mental health problems in Pakistan can be gleaned from a report of an incident published in the Daily Dawn newspaper on the 18<sup>th</sup> of September, 2015. This article described how a 25-year-old woman, Sakina, died as a result of physical torture inflicted on her by a religious healer in the city of Badin in Sindh, Pakistan. According to the religious healer, Sakina was possessed, and torturing her was a way to give pain to the supernatural entity who had possessed her. A large number of cases such as this one are not reported; instead, they are silenced as a result of the myths and maltreatment associated with mental health problems in Pakistani society. The strong stigma attached to and lack of awareness about mental health problems and treatment, the myths related to mental health issues, the scarcity



of appropriate care facilities, and the sociocultural and religious issues of Pakistani society are all obstacles to the development of the mental health treatment sector and appropriate care of people with mental health problems in Pakistan

An absence of understanding about mental illness hinders treatment of the disease. Kakuma et al. (2010) believe awareness is key to changing public attitudes and behaviours and to dealing with the issue of stigmatization of the mentally ill. Mental illnesses are preventable nor are they caused by supernatural entities, and this understanding can only be nurtured through building awareness. By dispelling some of the myths surrounding mental illness and working towards better outcomes, it should become common knowledge that mental illness is like physical illness and such patients also have a right to care and good health. Hasan, Naqvi, Naqvi and Yusaf (2014) reported the results of a small survey conducted about mental health awareness in a private hospital of Karachi. Results revealed 25% of participants had self-perceived stigma and even if other people did not point it out, they hesitated to consult with a psychiatrist or psychologist. Furthermore, 60% of participants described the public stigma or taboo attached to psychiatric treatment, that is, to consult with a psychiatrist or clinical psychologist was to be publicly declared mad. The most interesting finding was that almost 80% of participants believed that there was a need for mental health services in Pakistan, but a lack of awareness, not only among the general public, but also among healthcare providers working outside the mental health sector. Most of the participants used negative coping mechanisms, for example, alcohol, drugs, isolation, lack of exercise and lack of exercise and isolation from friends and family, all of which lead to further mental illness (Hasan et al., 2015).

In Pakistan, many people define mental health problems as *pagaloon ki sehat*, which means “health of mad.” This label and stereotype hinders the care or treatment of mentally ill patients. But the fact is, mental health is a crucial component of overall health. Mental health

problems can happen to any individual who has neuro-biochemical changes, and it warrants proper treatment and care (Hasan, 2014).

**Mental health care in Pakistan.** According to Papish et al. (2013), mental health is a “state of psychological and emotional well-being in which a person is able to use his or her emotional and cognitive capabilities, function in society, and meet the ordinary demands of everyday life” (p. 19). In addition, another factor that influences health and well-being is culture, which is comprised of the religious values of a society and societal norms. Good mental health is as vital as good physical health. Mental health provides us with resilience, or the ability to cope with life stressors, provides emotional well-being and inner strength, and enables us to adapt to the demands of daily life (Peterson, Lund & Stein, 2010).

In Pakistan, however, mental health is the most neglected field in medicine (Afridi, 2008). Conventional healthcare is available, with facilities including 4,554 dispensaries, 946 hospitals, health sub-centres and units. There are 300 practicing psychiatrists and 480 psychologists. For such a large population, the numbers of mental health professionals in Pakistan are pitifully small (Hassan et al., 2014).

Mental health has been a topic of debate among mental health professionals in Pakistan for quite some time. However, the low numbers of mental health professionals, the stigma attached to psychiatric care, the ideas about mental illness, the poor facilities, the limited awareness, the low literacy rates (< 50%) and the myriad other problems, including low government priority of the topic, means the area of mental health continues to be a neglected. There are inadequate facilities given the prevalence of mental disorders in the population. Currently, Pakistan has only one psychiatrist for every 10,000 patients who suffer from a mental disorder and only one child psychiatrist for every 4 million children who suffer from a mental disorder. According to the Pakistani Ministry of Health (2009), most psychiatrists in the country are concentrated mostly in urban areas. There are only four major psychiatric

hospitals in the entire country. There is no concept of psychiatric nurse, mental health workers, social workers, or support groups. There are a number of non-governmental organizations (NGOs) working in the mental health sector in Pakistan, but their resources are very limited.

There has long been a demand for more meaningful investment in the mental health sector, and development of its infrastructure and workforce. Mental health indicators such as stress, unhappiness, suicide attempts, criminal activities and drug abuse show there is a high prevalence of mental illness in Pakistan. According to Shah (2015) there has been a substantial rise in the incidence of mental health problems and disorders among young adults over the past 10 years, mainly due to lack of basic necessities of life, lack of education, lack of family support, rising inflation and erratic power supply and, most importantly, due to the effects of terrorism.

**Lack of research on mental health in Pakistan.** Developing countries contribute only about 6% of articles to leading psychiatric journals. There are many reasons for this, including an unwillingness of people affected by mental health issues to take part in research, unreported mental health problems due to social stigma or due to sufferers being taken to spiritual healers, as well as fewer resources for supporting research and difficulties in reporting research due to language barriers (WHO, 2010). Research from developing countries focusing on mental health problems has also been criticized, because it is perceived that the information gathered has not been well documented. The fact that researchers in these countries often work in extremely difficult conditions, even in at-risk situations, is often overlooked. Pakistan counts as one of these countries where researchers often work in difficult conditions. (UNICEF, 2011). Many people in Pakistan are living with mental health problems, as well as a myriad of other social ills: low literacy, poverty, malnutrition-related diseases and serious childhood diseases. Government resources are stretched and mental health services have low priority. There are few research opportunities, especially for female researchers working in the mental health field.

Without funding and research, there is unlikely to be an improvement in the area of mental health (Economic survey of Pakistan, Government of Pakistan, 2011; Central Intelligence Agencies, Pakistan, 2006).

**Mental health in Pakistani university students.** In Pakistan, university students are perceived as biologically mature, in the final stages of education, and ready to embark on adult pursuits, such as finding a job, marriage and adopting the role of breadwinner. Research shows most mental health problems are detected for the first time at this stage in developing countries (Shirazi & Ansari, 2012; Shaikh, Khaloon, Kazmikhalid, Nawz, & Khan, 2005). However, there is a lack of assessment of risk factors and interventions associated with mental health issues among university students in Pakistan.

To date, there has been very little research or discussion about university students in Pakistan. There has been an equal lack of initiatives to promote mental health and well-being among university students in Pakistan. This study aims to take that first step, to raise awareness of mental health issues, to give voice to those young adults who suffer, and which may then allow them to seek help and support.

## **Summary**

This chapter has offered a theoretical background for this research. A thorough review of the literature review has shown that no study has been carried out to date in Pakistan in which mental health of university students has been examined. The present study is a humble attempt to fill up this gap of knowledge. A careful review of the research has highlighted a number of gaps in the literature. More specifically, the present study is designed to investigate the factors that influence the mental health of university student in Karachi; Pakistan. In addition, this study seeks to investigate the impact of the following influences on the mental health of university students in Karachi, Pakistan: father's warmth, self-esteem, extraversion

vs. introversion, peers, parent's income, and gender. Overall, this study will determine whether there are any relationships between the independent variables and the mental health of University students. Chapter 3 explains the methodology adopted for this study.

## **Chapter 3: Methodology**

### **Introduction**

This chapter presents the methodological influences that guided decisions about the research design of this study. It begins with an introduction to the research methodology and research design, followed by the research assumptions and theoretical perspectives underpinning the research process. It includes an outline of the quantitative approach for the research and describes the methodology, settings, objectives, and hypotheses for the research. The ethical considerations and permissions required for this study are outlined and discussed, as are the steps taken to ensure collection of reliable and valid data. The chapter concludes with an outline of data analysis methods and the measures taken to ensure accurate and sensitive reporting of the data.

### **Research Methodology**

Methodology is described by Van Manen (2014) as “the theory behind the method, including the study of what method one should follow and why” (p. 27). Methodology not only explains the way a researcher conducts the research, but also describes the purpose of the work. In other words, it is the justification for carrying out the proposed research in a specific way. It is important that a researcher should start by providing valid and justified reasons for exploring a particular phenomenon and then defend the process of the research itself by describing its appropriateness and validity (Clough & Nutbrown, 2012). In order to present a valid and strong methodology, the philosophical and theoretical reasoning behind the choice, as well as important practical considerations regarding the research design, must be explained. A methodology should have a strong foundation, be developed using well-defined objectives, and be supported by the practical considerations required for the research. Finally, a good

methodology must prove that the selected approach furthers the aims of the intended project and fits the context of the research (Creswell, 2008).

The researcher's own philosophical foundation – the ontology – is a significant part of the methodological structure. Any philosophical framework, selected when beginning a research project, is influenced by the worldview and experience of the researcher involved. The belief systems an individual holds shapes the overarching research paradigm as well as the interpretative focus, which the researcher implies during data analysis (Denzin & Lincoln, 2011; Creswell, 2011).

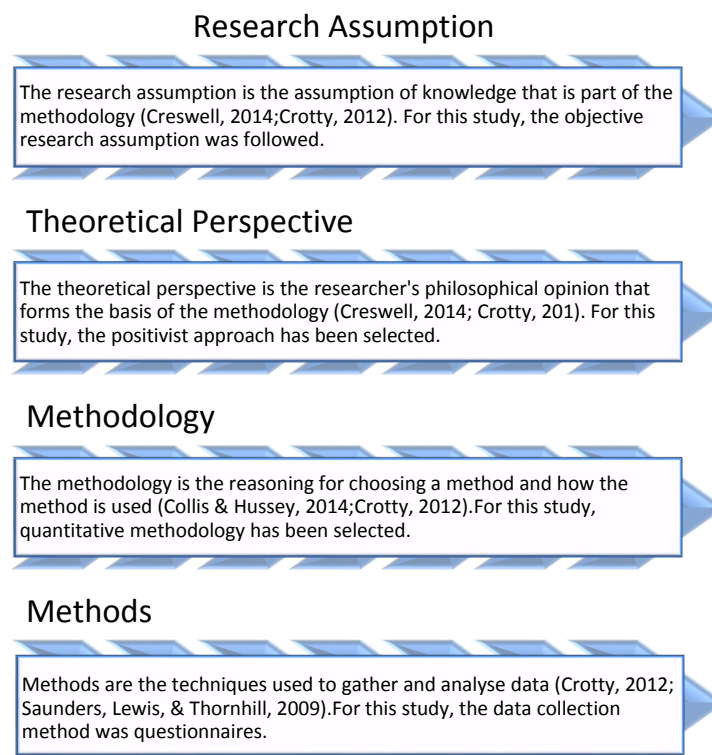
Descriptive research aims to produce an accurate profile of events, situations, and people. The whole research process is guided by the hypothesis, which is derived from theory and provides details of what needs to be measured, while the structure and design of the descriptive research is guided by characteristics defined in the research questions that need to be measured. (Moore, Garrett, Ling, & Cleveland, 2008). The aim of explanatory research, on the other hand, is to establish causal relationships between variables. With an explanatory study, the focus is on investigating a problem or situation in order to elucidate relationships between variables.

This study was grounded in descriptive research which gathered quantifiable information from a specific group sharing a similar experience – specifically, it gathered quantifiable information from university students in Pakistan. As well as being descriptive, this research also had an explanatory purpose. Descriptive data was collected through the standardized survey questionnaire and the relationship between mental health and associated factors was examined and explained.

## Elements of the Research Process

Research design refers to a process that encompasses the overall assumptions of the research, from the methods of analysis to the reporting of results (Creswell, 2013). The research design is selected according to the objectives of the research and whether or not the design is able to produce data that will provide answers to research questions. A researcher should describe the research elements in general before outlining their own philosophical stance.

Figure 3.1 shows the four elements of the research process.



**Figure 3.1**

*The Four Elements of the Research Process (adopted by Frankfort-Nachmias & Nachmias, 2007)*



After explaining the four elements of the research process, the researcher gives an overview of the process undertaken. Figure 3.1 shows that this study follows an objective research assumption. It uses a positivist approach that includes quantitative methodology and questionnaires for data collection.

### **Research Assumption and Theoretical Perspective**

The research assumption clarifies the basis and opinion upon which the researcher builds the research methodology (Crotty, 1998; Creswell, 2011). A researcher's understanding of the world and beliefs, or worldview, can influence the research design (Gill & Johnson, 2010). This worldview can be fundamentally different from one researcher to another. Therefore, it is important that the researcher explains the philosophical position that has been adopted (Crotty, 1998). Furthermore, the research assumption concludes that there is a degree of certain knowledge and novelty that can be uncovered (Hanson & Grimmer, 2007).

The research assumption can be conceptualized as a continuum with subjectivism and objectivism on opposite ends (Duberley, Johnson, & Cassell, 2012). The subjectivist research assumption presupposes that the researcher and the field being researched are inseparable, and the researcher may participate in the enquiry (Collis & Hussey, 2013). On the other hand, objectivism assumes that the researcher is independent, with nothing more than an academic interest in the research field. This implies a researcher is capable of studying or examining a certain subject area without being influenced by their own views (Duberley, Johnson & Cassell, 2012). Researchers following an objective research assumption typically adopt a positivist approach, an approach historically used for natural sciences, such as physics and biology, and later adopted by the social sciences (Babbie, 2015).

Many scholars believe positivism is the foundation and rationale for most of today's management research (Babbie, 2015). However, this is not the case, because many current

social science approaches have drawn their ideas from positivism or the contradiction to positivism, despite the fact that it has been challenged (Smith, 2006; Duberley, Johnson & Cassell, 2012; Gill & Johnson, 2010). For this reason, some aspects of positivism have become the accepted way of judging reality and truth and are now a part of Western culture. As a result, positivism has influenced many approaches that are thought to be an objective way of viewing reality (Duberley et al., 2012).

Positivism has eight main features: a quantitative method is usually used; large samples are usually tested to generalize samples; hypotheses are tested using statistical analysis preceding a decision to accept or reject the null hypothesis; data is specific; the researcher measures the data and comes to a conclusion; location – or where and how the question is investigated, usually not in the field; reliability – i.e., with regard to repetitions of the test, if the test is repeated will the same results be obtained?; and validity – i.e., with regard to the findings, do the findings represent the real situation? Generalizations are made from the samples. Here a confidence test may be used to ensure the researcher is 95–99% confident that the sample represents the population (Collis & Rogers, 2013).

In comparison, the interpretative approach has a subjective epistemology that uses qualitative methods and inductive logic reliant on investigating theories. It may be that the theory is an existing one or one created by the researcher in order to acquire more in-depth knowledge of the main topic. Frequently, validity is high and reliability low in results of research undertaken using the interpretative approach, because in using the interpretative approach, reliability is not as important as it is when using the positivist approach (Collis & Hussey, 2003).

In the deductive approach, the emphasis is on arguing from the general to the particular of an area of research (Creswell, John, Plano, & Vicki, 2008). In this approach, the researcher forms a theory based on a hypothesis, which allows them to deduce conclusions, which are

then assessed to establish whether they add to the general knowledge. The researcher must identify the method of data collection and the hypothesis formed must be empirically tested (Bryman & Bell, 2007). Bryman and Bell (2007) described the deduction process as follows: theory, hypothesis, data collection, findings, hypothesis confirmation or rejection and revision of the theory.

This study followed an objective research assumption, applied a positivist approach and used deductive logic. The positivist approach was most appropriate for using standardized questionnaire scales to collect information from a large number of participants, which was then analysed and generalized to some degree.

## **The Research Method**

The research methodology of any study shapes the basic research method – quantitative, qualitative or mixed – which researchers then use to answer their questions (Polit & Beck, 2010). It is important for the researcher to select the most appropriate research method in order to meet the aims and objectives of the study (Parahoo, 2014). O’Leary (2004) described methodology as the framework associated with a particular set of paradigmatic assumptions that can be used to conduct the research.

**Quantitative approach.** In 1982, Trochim and Land comprehensively defined the quantitative approach to research. They described quantitative research design as the “glue that holds the research project together. A design is used to structure the research, to show how all of the major parts of the research projects, the samples or groups, measure” (p. 1). Lincoln and Guba (1985) referred to the quantitative method as, “natural phenomena or behaviours through “objective measurement and quantitative analysis” (p. 16).

One of the considerably difficult and equally most important decisions to make is whether to use a qualitative method, quantitative method or mixed method approach. The

differences between these approaches are actually based on the judgements of different authors, because these approaches may include different methods (Hanson & Grimmer, 2007).

The quantitative research approach involves testing an objective theory, which generally requires the researcher to gather numerical data and analyse it statistically. Parahoo (2006) described the quantitative approach as arising from the belief that variables in human behaviour and human phenomena can be objectively studied. The quantitative methodology is mostly concerned with collecting data, assessing the relationship between variables and making generalizations about the population under investigation (Zikmund, Babin, Carr, & Griffin, 2010).

The research method chosen for this study was the quantitative approach. A questionnaire was the main method of data collection, with the intention of providing data that could be used to identify, analyse and describe the factors and its relationship that contribute to university students mental health. This method offered the opportunity to approach a large sample population. Additionally, the participating university did not grant permission to conduct face-to-face interviews, because of the sensitivity and stigma related to mental health problems and the possibility of upsetting the students or their families. This was another reason why a quantitative research methodology was most appropriate.

The quantitative approach is most often referred to as the hypothesis testing research approach. This method is deductive in nature, contributing to the scientific knowledge by testing the theory (Leeuw, Hox, & Dillman, 2008). In other words, a quantitative research project uses instruments, such as questionnaires, to gather the data and relies on probability theory to test the statistical hypotheses that correspond to the research questions posed. For this study, all students had the opportunity to participate, but only those who were willing filled the questionnaires.

One of the great contribution of the quantitative research approach is, it allows researcher to collect large amount of data from a large number of participants. Such data is proving significant in the design of comprehensive solutions to public health problems in developing countries (Tanner & Harpham, 2014; UNICEF, 2014). Table 3.1 lists the strengths and weakness of quantitative research.

For the purposes of this research, the quantitative design approach involved using questionnaires as the main method of data collection, with the intention to identify, analyse and describe the factors that contribute to a university student’s mental health and overall sense of well-being. This method offered the opportunity to approach a large sample population, without incurring significant expense and, as respondents could remain anonymous. It helped to produce quantitative data that was entered in SPSS for further analysis.

**Table 3.1**  
*Strengths and Weaknesses of Quantitative Research*

<b>Strengths</b>
<ul style="list-style-type: none"> <li>➤ Tests and validates contrasting theories about how and why phenomena happen.</li> <li>➤ Able to generalize findings when replicated in many different populations and cultures.</li> <li>➤ Helps construct a situation that removes the confounding impact of many variables, and allows establishment of one or more cause and effect relationships.</li> <li>➤ Very helpful when dealing with large numbers of people, as it provides precise numeric data and is relatively less time consuming.</li> </ul>
<b>Weaknesses</b>
<ul style="list-style-type: none"> <li>➤ Researcher may miss out on some phenomena, because of a focus on theory or hypothesis testing instead of on hypothesis generation (refers to confirmation bias).</li> <li>➤ Findings might be too general and abstract for direct application in specific contexts and situations, or to individuals.</li> <li>➤ Theories used by researcher may not reflect the participants’ understandings.</li> </ul>

## **Research Strategy**

The research strategy can be described as the plan for the research and how the researcher will answer the research questions. The research strategy has clear objectives that are derived from the research questions. It specifies the source or sample population from which to collect the data and considers the constraints of the project – such as time, data, location and money, as well as ethical, social and cultural issues.

There are two types of quantitative research methods: surveys and experiments (Creswell et. al., 2011). Surveys can be described as the collection of data by using questionnaires, in order to ascertain opinions, based on a sample of the population (Creswell, et al., 2011). While experiments can be described as assigning subjects into groups – a treatment group and a control group – with the treatment group being the subject of the experiment. Usually, experiments are conducted to examine cause and effect relationships.

Based on the objectives of this study, a quantitative method has been used to examine the mental health and well-being of university students in Pakistan and the factors associated with dealing with mental health issues. The most widely known paper and pencil survey used a quantitative method as the key approach for data collection. Questionnaires are the most common tool to collect data in big settings. This is explained in detail below.

**Survey.** Zikmund et al. (2010) defined a survey as “a research technique in which response is collected through structured instruments from a sample in some form or the behaviour of respondents is observed and described in some way” (p. 64). Most often, surveys are used to find out deductive logic. Public health and management research frequently uses questionnaires to collect data from a sample; then uses statistical analysis to interpret the results. (Saunders et al., 2007). Surveys appear to be very effective tools when used to collect measureable data from participants in order to measure, examine and analyse generalize

findings. Furthermore, questionnaires are accepted as accurate and scientific ways of gathering data to calculate the information gathered, even if some aspects of the survey might be qualitative (Walonick, 2006).

Surveys usually record perceptions, attitudes, beliefs and opinions and provide a way to understand respondents' preferences (Amato & Fowler, 2002). The main reason for using a questionnaire or survey is to get information from participants and compare and contrast results. Therefore, a questionnaire should follow a logical order, it should be easy to understand and allow participants space to record their responses and comments where appropriate.

Miles, Huberman, and Saldana (2013) suggested researchers should aim to gather data in the simplest way possible in order to answer the research question, and should collect no more data than necessary. A questionnaire is one way to undertake data collection, which asks individuals to give a written or verbal response to a written set of questions (Parahoo, 2014). The method of data collection selected for this research was a questionnaire. It was selected because it may be a quick, inexpensive and convenient method of collecting standardized information from a relatively large number of people.

One of the most widely used methods of inviting participants to respond is through Likert Scale. The Likert Scale (1932) developed the principle of measuring attitudes by asking people to respond to a series of statements about a topic, in terms of the extent to which they agree with the statements posed, and so tapping into the cognitive and affective components of attitudes. Likert Scales are used for measuring attitudes and ask participants to choose a response from a number of statements – e.g., ranging from “strongly agree” to “strongly disagree” or other statements as per requirement can be used. Participants are usually asked to choose a response from a set of five or seven statements, where each response is assigned a weight, which then allows the researcher to perform statistical analysis (Boone, Boone, &

Deborah, 2012). The choice of response – whether they agree, disagree or are indifferent – allows participants to express their feelings (Saunders, 2007).

Likert-type or frequency scales use fixed choice response formats and are designed to measure attitudes or opinions (Bertram, 2007). They assume the strength or intensity of experience is linear – i.e., on a continuum from strongly agree to strongly disagree – and make the assumption that attitudes can be measured. Ordinal scales measure levels of agreement or disagreement (Johns, 2010).

Five validated questionnaire scales, including Likert Scales and True and False statement scales, were used in this research. Respondents were offered a choice of seven, four and five, and true and false pre-coded responses, which were weighted from 0–7 points.

**Table 3.2**

*Advantages and Disadvantages of Survey Questionnaires*

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**Advantages**

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- Large number of participants or subjects can be reached.
- Participants have time to think about and understand the questions and are able to focus on supplying the most appropriate answer.
- A questionnaire can be less time consuming to administer and less expensive to undertake.
- It offers privacy for participants, as there are no face-to-face interactions or interviews.

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**Disadvantages**

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- May result in low response rates or incomplete or poorly completed answers.
  - As participants can read all questions before answering, responses to some questions may be influenced by responses made to other questions.
  - It might be more costly, especially if the researcher has to supply reply paid envelopes to reach all participants.
  - If participants do not understand some questions, there is no opportunity to clarify the situation.
-



**Research population.** The research setting can be defined as the place where the data is collected (Lincoln & Guba, 1985). For this research, the data was collected at a federal public university in Karachi, Pakistan. Rathod, Kingdon, Phiri, and Gobbi (2010) described population as the sum of all participants that adhere to a set of specifications, comprising the entire group of individuals that is of interest to the researcher and about whom the research results can be generalized. Whereas, Parahoo (2014) described population as the total number of units from which data can potentially be collected. The eligibility criteria specify the attributes that individuals in the population must have in order to be part of the study (Rathod et al., 2010). In this study, the participants were all university students, aged 18–24 years, in the under graduate years of study prior to graduation. If they met these criteria, they also had to be willing to participate and provided informed consent.

**Sample size.** Sample size has a substantial effect on how the sample represents the population being studied (Ivy, 2010). If the sample is adequate it will have the same characteristics as the population (Zikmund, 2003). The larger the sample, the more likely that the generalizations will be an accurate reflection of the population (Saunders et al., 2009). According to Polit and Beck (2006) a quantitative researcher should select the largest sample size possible so that it is representative of the target population. Gerrish and Lacey (2010) suggested that in quantitative research the size of the sample should be calculated at the design stage. Sample size selection depends on many factors, including the time allowed for the project and funds available to facilitate collection of the data. Small or very large samples have a negative impact on the statistical tests, because either the sample is not big enough to make reliable generalizations or is too big to reach any significant conclusions (Hair & Babin, 2003). For this reason, data were gathered from 336 students and questionnaires were distributed to willing participants while they were in the classroom.

## **The Research Objectives and Hypotheses**

The first objective of this study was to examine and better understand the overall mental health of university students. The second objective was to identify factors contributing to mental health problems among university students (ages 18–24 years) in Karachi, Pakistan. Finally, the third objective of this research was to raise awareness and understanding of this important issue, with the view that the results could become a resource in the planning and development of effective intervention strategies – not only for students experiencing mental health problems, but also for university administration and student services dedicated to effective promotion of good mental health.

The following research sub-questions were developed based on the existing knowledge from the literature review and on the objectives of this study:

What are the factors that influence the mental health of university students in Karachi, Pakistan?

1. How does the perception of “father’s warmth” affect the mental health of university students?
2. What influence does self-esteem have on the mental health of university students?
3. What effect does parents’ socioeconomic status have on the mental health of university students?
4. What influence does degree of extraversion vs. introversion have on the mental health of university students?
5. What influence does the perception of peer relationships have on the mental health of university students?
6. Is gender a factor in the mental health of university students?

## **Ethical Considerations**

It is crucial that a researcher exercise care in their work to safeguard the rights of participants and institutions (Polit & Hungler, 2010). Whether conducting research or participating in research, researchers and students alike face ethical issues. Polit and Beck (2013) suggested that when the indented research involves human beings, such ethical issues should be managed carefully and with sensitivity.

The ethical issues present in this study required particularly careful consideration. The subject of mental health problems is a sensitive one, and in the conservative, traditional society of Pakistan, it is a taboo subject with considerable stigma. The university approved the research component and method of collecting data, but made it very clear that no face-to-face interviews or qualitative interviews would be allowed as this had the potential to upset both the participating students and their parents, and might leave the university open to complaints. As already mentioned in the contextual information, the stigma surrounding mental health problems is very strong in Pakistani society.

**Permission to conduct the study.** Permission to conduct the research was sought from and granted by the participating university in Karachi, Pakistan. Students were informed about the study before the data was collected and provided written consent. During data collection, two key principles were observed: the principle of respect for human dignity and the principle of beneficence.

***Principle of respect for human dignity.*** The principle of respect for human dignity refers to the right for participants to have full disclosure and self-determination (Polit & Beck, 2006). In terms of self-determination, all participants had the right to decide independently, and without pressure, whether or not to participate. Participants were given the right to withhold personal information, they didn't have to respond to all questions and to ask for clarification about any aspects that caused uncertainty. Prior to agreeing to participate, all

interested students were given an information sheet that outlined the nature of the research and their right to participate or refuse to participate in the study, ensuring the right to full disclosure was respected. No names were taken in any of the questionnaires to ensure confidentiality was maintained. Any participant who wished to obtain a research report was asked to supply an email address on the student information sheet.

***Principle of beneficence.*** The principle of beneficence refers to freedom from exploitation and harm (Polit et al., 2010). Completing questionnaires did not expose participants to any physical harm, however, there was the potential for participants to experience psychological discomfort due to the nature of some of the questions. Students were therefore informed, both in the information letter that was provided to them and again verbally prior to distribution of the questionnaires, of the availability of university counselling services should they become distressed. Additionally, the university counselling service centre was advised of the nature of the research, had been given copies of the questionnaires and was advised of the times the students were being surveyed.

### **Data Collection Procedure**

Data collection refers to information collected during the course of the research (Lincoln & Guba, 1985). Below is an outline of the step-by-step process used to obtain the research data.

1. The research proposal, questionnaires and consent forms were submitted to the director of the participating university for permission to be granted to collect data.
2. Permission was sought to collect data from about 400 undergraduate students, and classes within the university were approached that would comprise a number of students around this number. However, the students in those classes who agreed to take part in the study was 336, with 22 questionnaires being incomplete and deemed ineligible for

inclusion in the subsequent analyses. Therefore 314 students were analysed and include in this study. These student came from different departments within the same university in Karachi, Pakistan. Of these 314 students, 149 were female and 165 were male.

3. The students were told about the survey several days before data collection. All final year students present on the data collection days were encouraged to participate. The university counselling service centre was advised of the nature of the research, had been given copies of the questionnaire and knew the times the students were being surveyed.
4. Data collection took place before scheduled class time on data collection days. (Allocated data collection dates were cancelled three times because of the very tense law and order situation, continued strikes and Army operations in Karachi, Pakistan.) Students were briefed about the research project at the beginning of class. As the content of the questionnaires could raise emotional issues all participating students were made aware of available university counselling services, both in the information sheet and verbally. In the unlikely event that a student should become distressed – either when filling in the questionnaire, or following it – they could be referred to the counselling service. Students were also told of this safety guideline, prior to the start of data collection.
5. Questionnaires containing a short explanation of the study were distributed to students and then collected by the researcher (a clinical psychologist) with the assistance of two colleagues: the director of the participating university and an associate professor (also a clinical psychologist) at the participating university.
6. The target was to collect 400 questionnaires, with equal numbers of male and female students.
7. After collecting the completed questionnaires, the data was entered into the SPSS software program for analysis.

After data collection, 26 students (8 females and 18 males) opted to seek assistance from university counselling services. The number of men seeking assistance was surprising, as it was uncommon for male students at the participating university to voluntarily seek counselling.

### **Data Collection Instruments**

This research used questionnaires to obtain the relevant data required for achieving the study's aim and objectives as well as answering the research questions. The aim of the study was to examine students' mental health and also to find out whether there was any relationship between students' mental health and well-being and a number of specified factors. The questionnaires consisted of the following sections:

Section 1: Demographic information

Section 2: Father's warmth

Section 3: Rosenberg self-esteem scale

Section 4: Mental Health Continuum – Short Form

Section 5: Extraversion vs. Introversion scale

Section 6: Peer relationship scale

**Section 1: Demographic information.** The demographic information questionnaire was used to assess each student's age, gender and socioeconomic status, measured by their parent's income scales according to scales used by the Pakistan Bureau of Statistics. In addition, the students were asked which university department they belonged to, their year of study and their employment status (if applicable).

**Section 2: Father's warmth.** The parental acceptance-rejection questionnaire (PARQ) was used to collect data on the father's warmth factor (Rohner, Khalique, & Cournoyer, 2005). The PARQ contains 60 Likert-type items designed to measure perceptions of parental style in

four subscales: 1) warmth/lack of warmth, 2) hostility/aggression, 3) indifference/neglect and 4) undifferentiated rejection. Many cross-cultural studies of parenting including Pakistan have used the PARQ and the measure has been found to have an alpha coefficient ranging from 0.76 to 0.95, which is considered as moderate to high reliability. In one study with a Korean sample, Cronbach's alpha coefficients for the PARQ subscales ranged from 0.51 to 0.95 for adolescents, 0.61 to 0.93 for fathers and 0.70 to 0.90 for mothers (Khaleque & Rohner, 2012).

The father's warmth scale has 19 statements related to father's warmth paired with a three-point scale to record the how much the respondent agrees. Responses are coded from 0 to 3 on an ordinal scale. Adding up the scores from all 19 statements results in a total score for father's warmth that can range from 0 to 57; scores under 25 indicate perception of "lack of warmth," while scores of 25 or more indicate perceptions of "have warmth." Those with high scores sense the presence of their father's warmth and care, while those with low scores have a sense that this warmth and care is lacking (Ahmed & Reed, 2007).

The PARQ has been subjected to nine meta-analytical studies. These meta-analyses were based on a number of studies conducted over a period of 37 years from 1975 to 2012. They represented an aggregated sample of 89,934 respondents on five continents (Africa, Asia, Europe, North America and South America) and from 25 countries (Bangladesh, Barbados, Columbia, Czechoslovakia, Egypt, Estonia, Finland, India, Iran, Jamaica, Japan, Kuwait, Mexico, Nigeria, Pakistan, Peru, Puerto Rico, Romania, South Korea, Spain, St. Kitts, Sweden, Turkey, Ukraine and the USA). The meta-analyses were completed over a period of 10 years, from 2002–2014. Findings confirmed the PARQ to be a globally reliable and valid measure (Rohner & Khaleque, 2012).

**Section 3: Rosenberg Self-Esteem Scale (1965).** To collect data on the self-esteem factor, the Rosenberg self-esteem scale (RSES), (Rosenberg, 1965) which is designed to assess feelings of self-worth among respondents aged 18 years or older. The RSES has 10 statements

relating to self-esteem, each with four possible response options: *strongly disagree*, *disagree*, *agree*, or *strongly agree*. These categories are coded from 1 to 4 on an ordinal scale. In this instance, the positive statements (items 1, 3, 4, 7, 10) were coded from 1 to 4, with 1 being *strongly disagree* and 4 being *strongly agree*, and the negative statements (items 2, 5, 6, 8, 9) were coded in reverse order from 4 to 1, with 4 being *strongly disagree* and 1 being *strongly agree*. The overall score for self-esteem is derived by adding the 10 scores together, resulting in a score from 10 to 40. A score of 15 or less indicates low self-esteem, a score of 16 to 25 indicates normal self-esteem and 26 or more indicates high self-esteem (Ciarrochi, Heaven, & Fiona, 2007).

In general, this scale has high reliability, with test-retest correlations in the range of 0.82 to 0.88, and Cronbach's alpha coefficients for various samples in the range of 0.77 to 0.88. Studies have demonstrated both a one-dimensional and a two-factor (self-confidence and self-deprecation) structure to the scale. The RSES scale has been used in many cross-cultural studies and translated into many languages. When tested for reliability and validity, these different versions of the scale have, on average, been found to be effective in social science research, mental health and psychiatry (Marsh, 2006).

**Section 4: Mental Health Continuum – Short form (2009).** In order to measure the mental health of university students Mental Health Continuum-short form scales has been used. The short form of the Mental Health Continuum (MHC–SF) is derived from the long form (MHC–LF). The MHC–SF consists of 14 items that have been chosen as the most prototypical items representing the construct definition for each facet of mental health and well-being. The response option for MHC–SF was adjusted to measure how often respondents experienced positive mental health symptom. This provided a clear standard, for the assessment and categorization of levels of positive or poor mental health (Keyes, 2012).



The MHC–SF has 14 items that prompt respondents to consider how often they think about various statements related to mental health. Respondents are given six possible options: *never, once or twice, about once a week, 2–3 times a week, almost every day, and every day*. Responses are coded from 0–5. All 14 scores are then added together for a total mental health score that can range from 0 to 70, with positive mental health represented by a score of 46 or more, average mental health represented by a score of 25 to 45, and poor mental health represented by a score of less than 25 (Keyes, 2005).

In the US, the Netherlands and South Africa, the MHC–SF has shown excellent internal consistency ( $>0.80$ ) and discriminant validity in young adults (ages 19–24 years) (Keyes et al., 2008; Lamers et al., 2011). Over three successive 3-month periods, the test-retest reliability of the MHC–SF averaged 0.68, and the 9-month test-retest was 0.65 (Lamers et al., 2011). The three-factor structure of the long and short forms of the MHC – emotional, psychological and social well-being – has been confirmed in nationally representative samples of college students and young adults (ages 19–24 years) in the US, as well as in South Africa and the Netherlands (Lamers et al., 2011).

**Section 5: Extraversion vs. introversion (2007).** In order to measure the factor of extraversion vs. introversion, this section used the extraversion vs. introversion scale from the Big Five Inventory (BFI) short form. The BFI measures an individual’s levels of five dimensions of personality: extraversion vs. introversion, agreeableness vs. antagonism, openness vs. closedness to experience, neuroticism vs. emotional stability and conscientiousness vs. lack of direction. All of these are measured on a five-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). Each of these personality dimensions is comprised of various subcategories of characteristics. For the purpose of this study, only this extraversion vs. introversion scale was used (Rammstedt and John, 2007).

The scale extraversion vs. introversion scale is comprised of 16 statements related to extraversion or introversion. Each has five possible response options that represent how much the respondent agrees or disagrees with the statement. In this instance, statements related to extraversion were coded on a scale ranging from 1 *disagree strongly* to 5 *agree strongly*, while the statements related to introversion were coded in the reverse, ranging from 5 *disagree strongly* to 1 *agree strongly*. Total scores ranged from 16 to 80 higher scores indicative of greater levels of extraversion.

In their assessment of the extraversion vs. introversion, Chen, Benet-Martinez and Harris (2008) reported a mean alpha coefficient of 0.85, which is considered as moderate. Similar moderate reliabilities with mean alpha coefficients from 0.81 to 0.84 are reported in several studies using the German and English versions of the extraversion vs. introversion scale. Rammstedt et al., (2007) tested convergent validity of the extraversion vs. introversion results indicated it is a valid instrument. Correct convergent validity of the extraversion vs. introversion is 0.95, while divergent validity amounts to 0.20.

The extraversion vs. introversion was well suited to this research for several reasons. First, the extraversion vs. introversion domain has previously demonstrated strong internal consistency in studies conducted in developing countries (Srivastava, 2011). Second, the BFI is easy for respondents to understand and the core personality traits it assesses reflect common behaviours, feelings and thoughts that should be consistent across individuals of diverse ages and backgrounds. Finally, the extraversion vs. introversion scale can be completed in less than 15 minutes, which is a clear advantage for a study where participants have only a limited amount of time.

**Section 6: Peer relationship scale (1998).** In order to measure the peer relationship of university students, peer relationship scale has been used. The peer relationship scale was taken from the Personality Inventory for Youth (PIY) to measure. The PIY is a multidimensional,

psychometrically sound, self-reporting instrument designed specifically for young people. It measures factors such as emotional and behavioural adjustment, family interaction, and peer relationships.

The peer relationships scale consists of five true or false statements. The first three statements were coded as 1 (*true*) and 2 (*false*). The last two statements were coded as 2 (*true*) and 1 (*false*). The scores obtained in response to each of the five statements on the peer relationships scale were added together to calculate the total score for each individual. This resulted in a total peer relationships score ranging from 5 to 10 (Sharkin, 2003).

Psychometric studies of the nine PIY clinical scales generated median alpha coefficients of 0.85 and 0.80 and median test-retest correlation coefficients of 0.82 and 0.85 for clinical and regular education samples respectively. A comparable study of the 24 short subscales resulted in median alpha coefficients of 0.74 and 0.68 and median test-retest correlation coefficients of 0.73 and 0.80 respectively (Miles, Huberman, & Saldana, 2013).

### **Methods of Data Analysis**

This section outlines the different techniques used for data analysis in this study. Coming after the data has been collected, data analysis is an integral part of any research project as it brings all strands of the work together and allows the researcher to fully understand and draw relevant conclusions from the findings. All data gathered in this study was analysed using the Statistical Package for the Social Sciences (SPSS) program.

**Chi-square test.** A chi-square test is a non-parametric test of significance, appropriate when the data is in the form of frequency counts occurring in two or more mutually exclusive categories. This test compares proportions actually observed in a study with what is expected, in order to establish whether they are significantly different. Brown (2004) and Kothari (2007) stated the chi-square method is the best single way to obtain a preventative sample. The main applications of this test utilized for this study included the test of frequencies – to test the

homogeneity of a number of frequency distributions – and the tests of independence and population variance.

**Correlations, analysis of variance (ANOVA) and regression analysis.** Regression analysis has become a popular method for finding the relationship between the dependent variable and one or more independent variables (Hair et al., 2008). Regression analysis is another way to examine the links between the dependent and independent variables (Zikmund, 2015). According to Zikmund, Babin, and Griffin (2010), simple regression analysis and correlation are mathematically the same in many respects; however, regression analysis is a dependence technique that differentiates between dependent and independent variables, while correlation is an interdependence technique that does not differentiate between dependent and independent variables.

R-squared ranges from 0–1, and implies how much of the dependent variable is explained by the independent variables. The higher the R square the stronger the association between the dependent and independent variables. When performing regression analysis normality is not always required when analysing variables, however the results improve slightly if data is normally distributed. To perform regression analysis, the sample size should be large enough for the results to be meaningful. Analysis of variance is based on the approach in which the procedure uses variances to determine whether the means are different, it tends to assess the differences between two or more means (Limantigul & Robson, 2009).

## **Conclusion**

This chapter presented the methodological influences that guided decisions about the research design, as well as an overview of the research strategy devised to support the objectives of the study. The influences underpinning the research process have been described, with a particular focus on quantitative research methods and approach. The data collection instruments, methods and analysis have been outlined, and the research setting, sample

population and ethical considerations explored in relation to the specific methods used throughout the research process. The next chapter reports the results obtained from the quantitative survey data analysis.

## Chapter 4: Results

### Introduction

This chapter first presents descriptions of the quantitative data, before analysing these data in order to answer the research questions addressed in the thesis, and thereby providing insight into the mental health of university students in Karachi, Pakistan.

In the first section of the chapter, the data obtained from the participants by way of analysing their responses to a series of questionnaires are summarized in response and frequency tables. These tables are followed by Cronbach's alpha scores, reported for each scale as evidence for the reliability of the scale. In subsequent sections, the data are examined to determine evidence for the study factors (derived from the research questions below) to be related to the mental health of the university students who were the participants in this research. The analyses, reported across the sections of this chapter, and further discussed in the final chapter, support the development of answers to the main research question that guided this study: "What are the factors that influence the mental health of university students in Karachi, Pakistan?" In order to delve deeper into this general question, the following sub-questions were derived to guide the analysis:

1. How does their perception of "father's warmth" affect the mental health of university students?
2. What influence does self-esteem have on the mental health of university students?
3. What effect does their parent's income have on the mental health of university students?
4. What influence does their degree of extraversion vs. introversion have on the mental health of university students?
5. What influence does their perception of peer relationships have on the mental health of university students?

## 6. Is gender a factor in the mental health of university students?

Following the basic descriptive statistics and reliability analyses, the second section of this chapter reports correlations between the measures used in this study. Consistent with the focus of this work, the primary correlations noted are those that suggest possible factors that impact on the mental health of university students. However, overall inter-relationships are reported given that the study comprised an analysis of the responses made by participating university students to five well-known mental health assessment scales: (i) the Mental Health Continuum–Short Form, (ii) Rosenberg’s Self-Esteem Scale, (iii) the Extraversion vs. Introversion Scale – taken from the Big Five Personality Inventory, (iv) the Peer Relationships Scale – taken from the Personality Inventory for young adults, and (v) Rohner’s Father’s Warmth scale. In addition, two key demographic factors – gender and parent’s income – were also included in the analyses, based on the research questions detailed above. The relationships between all these factors were considered (and will be discussed in detail in the following chapter). This second section of the results chapter, therefore, allows the study not only to discuss factors influencing mental health, but also to consider the relationships between the scales used and the selected key demographic factors, which should provide a comprehensive examination of the results and the factors considered to have an impact on mental health.

Based on the scores derived from their responses to the questionnaires, the participating students were divided into three groups: (i) those with low scores, and thus poor mental health, (ii) those with scores between the high and low levels, who are considered to have average mental health, and (iii) those with high scores and, therefore, positive mental health. The third section of this chapter provides an analysis of potential differences between students with poor, average and positive mental health outcomes using analysis of variance (ANOVA) and chi-squared analysis. This allows the study to focus on the specifics of those students identified as

having positive or poor mental health scores and to consider what factors might be associated with these levels of mental health. The results for students described as having average mental health were also considered, to ensure that for the purposes of this study the positive and poor mental health groups were clearly delineated. Comparisons between the three mental health groups will be made to determine whether they show significant differences in scores on the other four mental health scales and whether they differ in terms of the two demographic variables targeted by this research. The overall conclusions, derived from findings across the second and third sections, will be considered in the discussion chapter.

### **Section 1: Participant Responses and Scale Reliability Analyses**

In this section overall responses to the five scales will be presented, along with an assessment of the reliability of the data produced by each scale using Cronbach's alpha. The frequency and percentages of individual responses will also be discussed in the following chapter to provide a comprehensive interpretation of the responses of this relatively unique group of participants, which should inform research with such groups in the future.

These quantitative data were derived from the results obtained through information gathered in five standardised survey questionnaires completed by the participating students. Data were derived from the results of five standardised questionnaires completed by the participating students. All questionnaires were administered in English with no translation or pilot study. Initially, the data were gathered from 336 students, but 22 questionnaires were incomplete and deemed ineligible for inclusion in the data analyses. Therefore, responses from 314 students were analysed in the subsequent pages. These students were recruited from different departments within the same university in Karachi, Pakistan. Out of 314 students, 149 were female and 165 were male. All students were undergraduate students, and between 18 and 24 years of age, with a mean age of 21.5 years and a standard deviation of 1.49 years.



**Mental Health Continuum–Short Form.** Table 4.1 illustrates the responses provided by the students on the Mental Health Continuum–Short Form (MHC–SF) scale. The MHC–SF has 14 statements, with six possible response options. These responses – never, once or twice, about once a week, 2–3 times a week, almost every day, and every day – asks each person to consider how often they think about various statements related to mental health. The responses were coded from 0–5 and the total score was obtained by adding up all the single scores from each of the 14 statements. The final result, which could be any number ranging from 0 to 70, then becomes the total mental health score for each individual. This score was then further sorted into three categories. Poor mental health is expressed by a score under 25, average mental health is expressed by a result in the range of 25 to 45, and positive mental health is expressed by a score of 46 or more. High scores are indicative of a state of positive mental health, while the lower the score the more likely it is for an individual to suffer from poor mental health (Keyes, 2009).

The statement “How often did you feel .....you liked your personality” elicited the most positive response, with 105, 63 and 23 respondents reporting a frequency of ‘2–3 times a week’, ‘almost every day’, and ‘every day’ respectively. Whereas, 65, 45 and 96 participants responded with ‘never’, ‘once or twice’, or ‘about once a week’ to the statement “How often did you feel ...people are good”, suggesting that this statement is seen somewhat negatively by the largest number of students. Similarly, both “society is a good place” and “society makes sense” elicited relatively negative responses from a large number of students. Despite this, many students seem to report relatively high frequencies for “happy” and “life has direction”.

**Table 4.1***Responses of University Students on the Mental Health Continuum–Short Form Scale*

<b>During the past month, how often did you feel ...?</b>	<b>0 Never</b>	<b>1 Once or twice</b>	<b>2 About once a week</b>	<b>3 2–3 times a week</b>	<b>4 Almost every day</b>	<b>5 Every day</b>
Happy	13	34	69	70	97	28
Interested in life	14	80	48	72	56	40
Satisfied with life	54	45	59	89	45	18
It is important to contribute	27	67	66	63	72	12
A sense of belonging to community	35	61	67	65	37	43
Society is a good place	42	118	47	54	37	43
People are good	65	45	96	59	34	11
Society makes sense	29	90	56	84	38	13
You liked your personality	09	62	42	105	63	26
Ready for the responsibilities of life	42	31	93	52	71	21
Involved in a trusting relationship	13	55	54	84	80	23
You could become a better person	15	60	44	89	65	38
Confident to express yourself	16	48	51	79	78	38
Life has direction	10	59	52	95	70	23

Assessment of the reliability of the MHC–SF using the present data set was undertaken using Cronbach’s alpha. For the scores produced, the alpha coefficient proved to be .934. According to the definition of Cronbach’s alpha, this scale is thus highly reliable and deleting an item would not yield a substantially higher reliability.

**Table 4.2***Frequency and Percentage of Responses on the Mental Health Continuum–Short Form Scale*

<b>Mental Health</b>	<b>Frequency</b>	<b>Percentage</b>
Poor mental health (under 25)	89	28.3
Average mental health (25–45)	136	43.3
Positive mental health (46 and over)	89	28.3
Total	314	100

As shown in Table 4.2, about half of the university students – 136 out of 314 participants – produced scores indicative of average mental health. However, a significant number – 89 participants (28% of the group surveyed) – showed evidence of poor mental health, with a similar number showing evidence of positive mental health. These findings will be discussed in the next chapter.

**Rosenberg Self-Esteem Scale.** Table 4.3 illustrates the level of self-esteem of the participating students, as established by their responses to statements included in the Rosenberg Self-Esteem Scale (SES). The Rosenberg SES has 10 statements, each with four possible response options. These responses – strongly disagree, disagree, agree, or strongly agree – show how much each person agrees or disagrees with a statement related to self-esteem. The categories are coded from 1 to 4 on an ordinal scale. In this instance, the positive statements (1, 3, 4, 7, 10) were coded from 1 to 4, with 1 being “strongly disagree” and 4 being “strongly agree”, and the negative statements (2, 5, 6, 8, 9) were coded in the reverse order from 4 to 1, with 4 being “strongly disagree” and 1 being “strongly agree”. The overall score is calculated by adding up all the single scores from the 10 statements, which results in a total self-esteem score for each person ranging from 10 to 40. Low self-esteem is expressed by a total under 15, normal self-esteem is in the range of 16 to 25, and high self-esteem is expressed by a total of 26 or more (Ciarrochi, Heaven, & Fiona, 2007).

The majority of responses seem to be on the more positive side of the scale for this cohort – as an example, on the item, “I have a positive attitude towards myself” 145 respondents agreed with the statement, but only 4 students strongly disagreed.

**Table: 4.3***Responses of University Students on the Rosenberg Self-Esteem Scale*

<b>Rosenberg Self-Esteem</b>	<b>1 Strongly disagree</b>	<b>2 Disagree</b>	<b>3 Agree</b>	<b>4 Strongly agree</b>
I am satisfied with myself	50	80	121	61
I have a number of good qualities	62	104	107	38
I am able to do things	41	116	99	56
I am a person of worth	48	46	132	82
I have a positive attitude towards myself	4	67	145	94

	<b>4 Strongly agree</b>	<b>3 Agree</b>	<b>2 Disagree</b>	<b>1 Strongly disagree</b>
I am no good at all	62	104	107	38
I do not have much to be proud of	30	118	136	28
I feel useless	68	125	83	31
I could have more respect for myself	75	113	98	24
I am a failure	26	113	129	42

Assessment of the reliability of the Rosenberg SES with the present data set was undertaken using Cronbach's alpha. For the scores produced, the alpha coefficient proved to be .836. According to the definition of Cronbach's alpha, this scale is thus highly reliable and deleting an item would not yield a substantially higher reliability.

**Table 4.4***Frequency and Percentage of Responses on the Rosenberg Self-Esteem Scale*

<b>Self-Esteem</b>	<b>Frequency</b>	<b>Percentage</b>
Low self-esteem (up to 15)	5	1.6
Normal self-esteem (16–25)	169	53.8
High self-esteem (26 or more)	140	44.6
Total	314	100

Table 4.4 shows that 5 (1.6%) students produced scores indicating low self-esteem, as determined by their responses to the Rosenberg SES. The results also indicated that little over half the students surveyed (approximately 54%) scored between 16 and 25, indicative of normal self-esteem, and just under half the students surveyed (about 45%) scored 26 or more, which is indicative of high self-esteem. While the low number of low self-esteem students is a surprising finding, it is supported by the literature from some studies in Asian cultures (Schmitt & Allik, 2005; Zafar, Saleem, & Mahmood, 2012) – this will be discussed further in the following chapter.

**Extraversion vs. introversion.** The Extraversion vs. Introversion scale was taken from the Big Five Personality Inventory. For the purpose of this study only this one scale was used, designed to measure the students' extraversion vs. introversion personality traits. Table 4.5 illustrates the results obtained from the current sample using this scale. The scale comprises 16 statements, each with five possible response options – disagree strongly, disagree a little, neither agree nor disagree, agree a little, agree strongly – which show how much each person agrees or disagrees with a statement related to extraversion or introversion. In this instance, the extrovert personality statements were coded from 1–5, with 1 being “disagree strongly” and 5 being “agree strongly”, and the introvert personality statements were coded in the reverse order from 5–1, with 5 being “disagree strongly” and 1 being “agree strongly”. The scores, therefore, ranged from 16 to 80, producing an overall score for each individual, with a higher score indicative of greater extraversion.

**Table 4.5***Responses of University Students on the Extraversion vs. Introversion Scale*

<b>I am someone who?</b> <i>Extrovert personality</i>	<b>1</b> <b>Disagree</b> <b>strongly</b>	<b>2</b> <b>Disagree</b> <b>a little</b>	<b>3</b> <b>Neither</b> <b>agree</b> <b>nor</b> <b>disagree</b>	<b>4</b> <b>Agree</b> <b>a little</b>	<b>5</b> <b>Agree</b> <b>strongly</b>
Is talkative	57	64	47	85	59
Is full of energy	54	64	76	44	53
Has lots of enthusiasm	61	77	83	70	21
Has an assertive personality	53	63	64	55	75
Is sociable and outgoing	43	85	72	56	56
Is relaxed, can handle stress	44	66	59	100	39
Is emotionally stable	42	74	77	80	39
Is calm in a tense situation	37	87	74	77	45

<b>I am someone who?</b> <i>Introvert personality</i>	<b>5</b> <b>Disagree</b> <b>strongly</b>	<b>4</b> <b>Neither</b> <b>agree</b> <b>nor</b> <b>disagree</b>	<b>3</b> <b>Disagree</b> <b>a little</b>	<b>2</b> <b>Agree</b> <b>a little</b>	<b>1</b> <b>Agree</b> <b>strongly</b>
Is reserved	40	119	80	61	11
Tends to be quiet	48	94	85	58	23
Is sometimes shy	83	73	63	68	25
Is depressed	58	53	69	63	68
Is tense	37	100	91	48	36
Worries a lot	42	93	73	73	26
Can be moody	52	103	73	53	30
Gets nervous easily	63	84	103	40	20

Assessment of the reliability of the Extraversion vs. Introversion scale with the present data set was undertaken using Cronbach's alpha. For the scores produced, the alpha coefficient proved to be .903. According to the definition of Cronbach's alpha, this scale is thus highly reliable and deleting an item would not yield a substantially higher reliability.

The scores were further divided into two scores: one indicating the level of extraversion reported and the other suggesting the level of introversion. Introvert personality style was expressed by a score in the range of 16 to 47, whereas an extrovert personality style was expressed by a score in the range of 48 to 80 (John, Naumann, & Soto, 2008).

**Table 4.6**

*Frequency and Percentage of Responses on the Extraversion vs. Introversion Scale*

<b>Personality</b>	<b>Frequency</b>	<b>Percentage</b>
Extraversion	162	51.6
Introversion	150	47.8
Total	314	100

Table 4.6 shows little over 50% of participants – 162 students – produced extraversion scores, while nearly 48% – 150 students – identified with introversion personality traits.

**Peer relationships.** Table 4.7 illustrates the responses made by participating students on the peer relationships scale. The peer relationships scale has five statements, each with two possible response options. These responses – true or false – show whether the participant thinks each statement is true or false in the context of peer relationships. The first three statements – “stay in my room for hours”, “often rejected by friends” and “prefer other people to friends” – were coded 1 = True and 2 = False, whereas the last two statements were coded in reverse, with 2 = True and 1 = False. The scores obtained in response to each of the five statements on the peer relationships scale were added together to calculate the total score for each individual. This resulted in a total peer relationships score ranging from 5 to 10 (Ara, 2003).

**Table 4.7***Responses of University Students on the Peer Relationships Scale*

	<b>True = 1</b>	<b>False = 2</b>
Stay in my room for hours	176	140
Often rejected by friends	95	213
Prefer other people to friends	122	177
	<b>True = 2</b>	<b>False = 1</b>
Except university, I often stay at home	170	132
No true friends	215	92

Assessment of the reliability of the peer relationships scale with the present data set was undertaken using Cronbach's alpha. For the scores produced, the alpha coefficient proved to be close to zero ( $\alpha = 0.047$ ). According to the definition of Cronbach's alpha, this scale is thus highly unreliable. In order to improve the reliability of this scale items 1 and 4 were deleted and Cronbach's alpha recalculated. This three-item scale produced a reliability score of 0.359 which provides poor evidence for the reliability of the scale. This suggests that these items are either culturally not appropriate or this scale is not assessing what it is meant to assess. Either way, this scale is not appropriate for the context of this research and no further analysis was done on this data.

**Father's warmth scale.** This study used Rohner's Father's Warmth Scale to assess how the participating students perceived their relationship with their father and level of "father's warmth". Table 4.8 illustrates their responses. The father's warmth scale has 19 statements, each with four possible response options. These responses – almost always true, sometimes true, rarely true, almost never true – show how much each person agrees with a statement related to father's warmth. The responses are coded from 0 to 3 on an ordinal scale. The overall score is calculated by adding up all the single scores from the 19 statements, which results in a total father's warmth score ranging from 0 to 57. This total was then divided into two categories: "lack of warmth" for those participants with scores under 25, and "have



warmth” for those with scores of 25 or more. High scores indicate a positive perception and appreciation of father’s warmth and care, whereas low scores indicate a sense of lack of warmth and less care (Ahmed & Munaf, 2005).

**Table 4.8**

*Response of University Students on the Father’s Warmth Scale*

<b>Response to comment</b>	<b>3 Almost always true</b>	<b>2 Sometimes true</b>	<b>1 Rarely true</b>	<b>0 Almost never true</b>
Says nice things	44	48	158	60
Talks to me about my plans	63	80	118	48
Wants me to bring my friends home	66	99	107	38
Easy to discuss important things with him	36	75	162	37
Makes me feel proud	25	93	136	54
Praises me to others	12	109	112	73
Talks to me	9	95	134	71
Says nice things to me	37	82	132	55
Interested in what I do	28	71	160	47
Makes me feel wanted	37	58	152	57
Tells me how proud he is	26	77	120	86
Makes me feel what I do is important	17	85	148	57
Tries to help me	16	54	176	63
Cares about what I think	20	95	129	65
Lets me do things I think are important	55	119	78	58
Tries to make me feel better when I am hurt	29	66	161	53
Lets me know he loves me	16	104	133	56
Treats me gently and with kindness	14	80	130	86
Tries to make me happy	34	57	151	67

Assessment of the reliability of father’s warmth scale with the present data set was undertaken using Cronbach’s alpha. For the scores produced, the alpha coefficient proved to be .944. According to the definition of Cronbach’s alpha, this scale is thus highly reliable and deleting an item would not yield a substantially higher reliability.

**Table 4.9**

*Frequency and Percentage of Responses on the Father’s Warmth Scale*

<b>Father’s Warmth</b>	<b>Frequency</b>	<b>Percentage</b>
Lack of warmth	103	32.8
Have warmth	211	67.2
Total	314	100

As shown in Table 4.9, 211 of the students’ fathers meet the “have warmth” criterion, but the remaining 103 participants have a less positive perception of the degree of father’s warmth and their fathers demonstrate a “lack of warmth”.

**Section 2: Relationships between Mental Health, Additional Scales and Key Demographic Variables**

The spearman correlation between the scales and the key demographic used in this study as Table 4.10 shows. The dependent variable is mental health and the independent variables are father’s warmth, self-esteem, peer relationships, extraversion vs. introversion and two demographic factors, gender and parent’s income. The data sample showed father’s warmth is the strongest predictor of mental health with a correlation of .545 among this cohort of university students.

**Table 4.10***Spearman Correlations among Associated Factors and Demographic Factors in this Study*

<b>Correlations</b>	<b>1 Mental Health</b>	<b>2 Parent's Income</b>	<b>3 Gender</b>	<b>4 Self- esteem</b>	<b>5 Extraversion vs. Introversion</b>	<b>6 Father's Warmth</b>
Mental Health	1	.026	.309**	.435**	.525**	.545**
Parents Income		1	.028	.009	-.015	.140*
Gender			1	.269**	.296**	.261**
Self-Esteem				1	.490**	.342**
Extraversion vs. Introversion					1	.377**

Note: \*\* Correlation is significant at the 0.01 level (2-tailed). \* Correlation is significant at the 0.05 level (2-tailed).

Correlations with the mental health scale suggest that more positive mental health is related to a higher level of perceived father's warmth ( $r_s=0.545$ ,  $p<0.001$ ) and a more extravert personality ( $r_s = 0.525$ ,  $p<0.001$ ). There is also evidence from these correlations to suggest that male students report more positive mental health scores than female students. Gender also showed a correlation with the extraversion vs. introversion scale, indicating that male students scored higher on the extraversion scale. There is also evidence from these correlations for a significant correlation between gender and perceived father's warmth, with male students reporting higher father's warmth scores.

Self-esteem shows a significant correlation with mental health ( $r_s = 0.435$ ,  $p<0.001$ ). Self-esteem and extraversion vs. introversion show a positive correlation and there is also evidence for male students to report higher self-esteem than female students.

According to Table 4.11, parent's income group does not correlate to mental health, which is an interesting point to note. This will be further discussed in the next chapter.

### Section 3: Analysis of Differences between Mental Health Outcomes in terms of Additional Scales and Key Demographic Variables

This section compares the three groups of students based on their mental health scale scores – positive, average, or poor. It aims to determine the factors contributing to both positive and poor mental health among the students who took part in the study. The three groups were compared on three separate scales – Rosenberg’s Self-Esteem Scale, the Extraversion vs. Introversion Scale, and Rohner’s Father’s Warmth scale – using analysis of variance (ANOVA). These groups were also compared on two key demographic variables – age and parent’s income – using chi-squared analysis.

**Self-esteem.** The ANOVA results for the self-esteem scale (see descriptive statistics in Table 4.11) indicated a significant difference ( $F(2, 309) = 37.52$ , and  $p < 0.001$ ) between the three groups in terms of their self-esteem. This significant finding is consistent with the correlation analysis in the previous section and posits that within this population of university students there is evidence of a relationship between mental health and self-esteem.

**Table 4.11**  
*Means and Standard Deviations (SD) on the Self-esteem Scale for the Three Mental Health Groups*

		<b>Poor mental health (N=87)</b>	<b>Average mental health (N=136)</b>	<b>Positive mental health (N=89)</b>
Self-esteem scores	Mean	21.64	26.50	28.11
	SD	3.95	5.24	6.15

Given the significant effect of mental health on the self-esteem scores, post hoc comparisons were performed in order to pinpoint the differences. Based on the Scheffe method, the difference between the means for the poor and average mental health groups was significant (mean difference = -4.86,  $p < 0.001$ ), and the difference between the means for the poor mental

health and positive mental health groups was also significant (mean difference = -6.47,  $p < 0.001$ ).

**Father's warmth.** This analysis focused on the participants' scores on the father's warmth scale (see Table 4.12). The ANOVA results of the father's warmth scale indicated a significant difference ( $F(2, 308) = 49.44$ , and  $p < 0.001$ ) between the three groups in terms of their scores on the Father's warmth scale. This finding is consistent with the correlation analysis in the previous section of the results and suggests that within this population of university students there is significant evidence of a relationship between mental health and father's warmth.

**Table 4.12**

*Means and Standard Deviations (SD) on the Father's Warmth Scale for the Three Mental Health Groups*

		<b>Poor mental health (N=89)</b>	<b>Average mental health (N=133)</b>	<b>Positive mental health (N=89)</b>
Father's warmth scores	Mean	25.48	31.97	40.61
	SD	11.03	10.78	8.19

Given the significant effect of mental health on the father's warmth scores, Scheffe post hoc comparisons were performed in order to specify the differences between the three groups. The difference between the means for poor and positive mental health groups was significant (mean difference = -15.12,  $p < 0.001$ ). The difference between the means of average and positive mental health groups was also significant (mean difference = -8.64,  $p < 0.001$ ). Furthermore, the difference between the average and poor mental health groups was significant (mean difference = 6.49,  $p < 0.001$ ).

**Extraversion vs. introversion.** This analysis focused on the participants' scores on the Extraversion vs. Introversion scale (see Table 4.13). The ANOVA results of the extraversion vs. introversion scale indicated a significant difference ( $F(2, 309) = 48.70$ , and  $p < 0.001$ ) – between the three groups in terms of their scores on this personality scale. This finding is consistent with the correlation analysis in the previous section of the results and suggests that within this population of university students there is evidence of a relationship between mental health and extraversion vs. introversion personality styles.

**Table 4.13**

*Means and Standard Deviations (SD) on the Extraversion vs. Introversion Scale for the Three Mental Health Groups*

		<b>Poor mental health (N=87)</b>	<b>Average mental health (N=136)</b>	<b>Positive mental health (N=89)</b>
Extraversion Vs. Introversion scores	Mean	37.85	45.35	54.40
	SD	11.55	12.87	7.22

Given the significant effect of mental health on the extraversion vs. introversion scores, Scheffe post hoc comparisons were performed in order to pinpoint the differences. The difference between the means for poor and positive mental health groups was significant (mean difference = -16.55,  $p < 0.001$ ). The difference between the means of average and positive mental health groups was also significant (mean difference = -9.05,  $p < 0.001$ ). And the difference between the average and poor mental health was significant (mean difference = 7.50,  $p < 0.001$ ).

**Gender.** Potential gender differences across the three mental health groups were examined using chi-squared analysis. Table 4.14 shows more male students were identified as belonging in the average mental health group and positive mental health group, when compared

with female students. A larger number of female students were identified as belonging in the poor mental health group compared to the male students.

**Table 4.14**

*Numbers of Females versus Males Reporting Poor, Average and Positive Mental Health*

<b>Gender</b>	<b>1 Poor mental health (under 25)</b>	<b>2 Average mental health (25–45)</b>	<b>3 Positive mental health (46 and over)</b>
Female	60	61	25
Male	28	75	63
Total	88	136	88

The chi-squared analysis supported the interpretation. There was a significant relationship between mental health and gender ( $X^2 = 28.321$ ,  $df = 2$ ,  $p < 0.001$ ). Overall, this suggests that female students were more likely to report poor mental health compared to their male peers.

**Parent’s Income.** Relationships between Mental Health category and parent’s income levels were investigated using chi-squared analyses. Parent’s income was categorized according to information available from the Pakistan Bureau of Statistics. Given that very few participants reported parental income in the first two categories of the Pakistan Bureau of Statistics, the first three categories were merged to produce a ‘low income’ category comprising student who report parental income of up to PKR40, 000 (see Table 4.15). The initial chi-squared analysis indicated a relationships between Mental Health level and parent’s income ( $X^2 = 18.01$ ,  $df = 6$ ,  $p = 0.006$ ). Inspection of the simple frequency levels in Table 4.15, however, indicated that this was not a simple relationship – i.e., there was not a simple linear relationship indicating that as family income increased, so did mental health, a

conclusion consistent with the previous analysis of the correlation between Mental Health score and parental income.

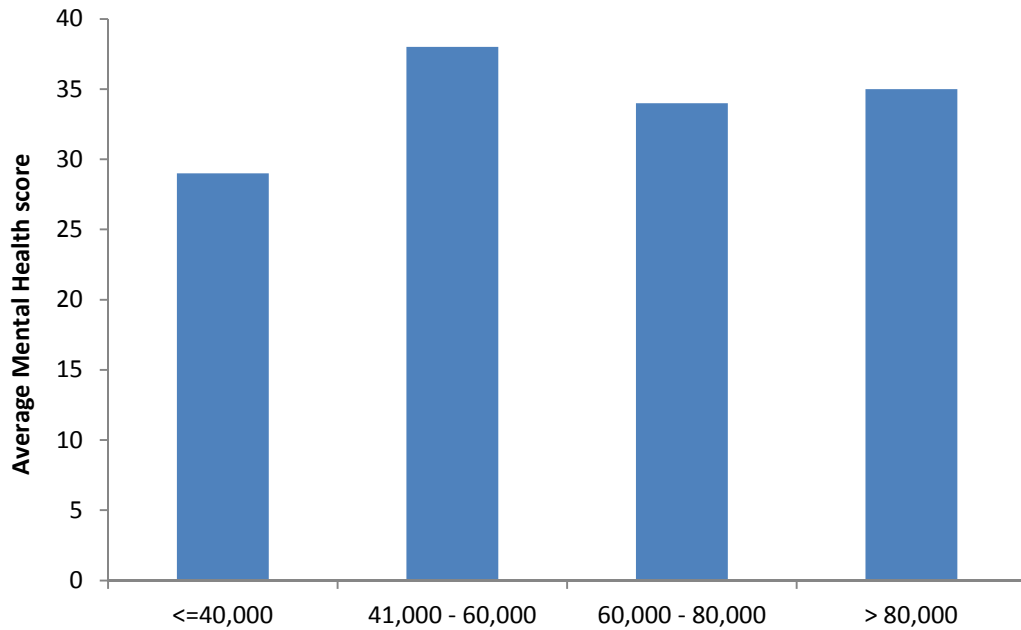
**Table 4.15**

*Number of Students within each Parental Income Category Reporting Poor, Average and Positive Mental Health (residual scores for each frequency count in brackets)*

<b>Parent's Income Scale</b>	<b>1 Poor mental health</b>	<b>2 Average mental health</b>	<b>3 Positive mental health</b>
Low income (up to PKR 40,000)	23 (2.2)	27 (0.6)	7 (-2.9)
Average income (PKR 41,000–60,000)	25 (-2.3)	46 (-1.3)	47 (3.7)
Above average income (PKR 61,000–80,000)	30 (0.5)	45 (0.6)	23 (-1.1)
Highest income group (above PKR 81,000)	11 (0.1)	17 (0.3)	9 (-0.5)

In order to investigate the significant chi-squared analysis further, residuals were calculated for each cell of the chi-squared table: these are presented in brackets in Table 14.5. Taking a residual over +2 as indicative of a frequency larger than expected, and a residual below -2 as a frequency below that expected, the results suggest that the relationship between mental health category and parental income is confined mainly to the two lower income levels. For the lowest income level (less than 40,000), there are more students than expected in the poor mental health category, but less than expected in the positive mental health category. The reverse is true for the next income category (41,000 - 60,000) where there are fewer than expected in the poor mental health category and more than expected in the positive category. For the two highest income categories, the residuals suggest that there is not much of a relationship between mental health category and parental income levels.





**Figure: 4.1**

*Average Mental Health Scale Score for Four Levels of Parental Income*

Overall, it appears that there is no simple general pattern of improving mental health with increased income. If parental income is contrasted with average scores on the mental health scale (see Figure 4.1), then students with parental incomes within the average income range (41,000 - 60,000) seem to report slightly better mental health scores than the other income groups. These data argue that there is no linear relationship between the parent's income group and mental health categories. These rather interesting findings will be discussed in the next chapter.

#### **Section 4: Regression Analysis**

A final analysis was performed to contrast the level of association between Mental Health and the three other scales in the study (Self-esteem, Extraversion vs. Introversion and Father's warmth). This comprised a stepwise regression analysis that used the Mental Health

scale scores as the dependent variable and compared the level of prediction of Mental Health scores provided by each of the other three scales using a stepwise regression procedure. However, this regression analysis also provided the opportunity to control for gender relationships found within the study: gender seemed to be related not only to Mental Health, but also to Self-esteem, Extraversion vs. Introversion and Father's warmth, which may mean that relationships between scales may simply be due to the common relationships with gender. Therefore, in the regression analysis, gender was entered first into the regression model. This was followed by the scales of Self-esteem, Extraversion vs. Introversion and Father's warmth using a stepwise regression procedure.

This regression analysis indicate that gender (entered first in the model) explained just under 10% of the variability in Mental Health scale scores produced by the students in this study ( $F_{(1,304)} = 30, p < .001$ ). The subsequent stepwise procedure indicated that Father's warmth was entered first amongst the three potential predictor scales and explained an additional 23% of the variability in Mental Health scores over that provided by gender ( $F_{(1,303)} = 104, p < .001$ ). The Extraversion vs. Introversion scale was entered second in the stepwise procedure, and explained roughly an additional 10% of variability in Mental Health scores ( $F_{(1,302)} = 49, p < .001$ ). The Self-esteem scale was the final of the three scales to enter the model, but still explained an additional significant 1 to 2% of variability in Mental Health scores ( $F_{(1,301)} = 8.05, p = .005$ ). Overall, these findings indicated that all three scales predicted variability in Mental Health scores, but that Father's warmth seems to be the most predictive of Mental Health scores among the scales, followed by the personality Extraversion vs. Introversion scale. The regression also indicates that relationships between Mental Health and Father's warmth, Extraversion vs. Introversion and Self-esteem were unlikely to be due simply to gender differences across all scales. These findings will be discussed in the following chapter.

## **Summary of Findings**

This chapter presented and analysed the data and discussed the statistical results of a quantitative research study focusing on the mental health of a group of university students in Karachi, Pakistan.

The results can be summarized as follows:

The two most significant factors associated with mental health are father's warmth and extraversion vs. introversion. Student's perception of father's warmth is associated with good mental health, and higher levels of extraversion are also associated with good mental health.

On examining the data drawn from the Rosenberg Self-esteem, it was surprising to find that very few participants had scores that identified them as belonging in the low self-esteem category. Despite this, overall scores on the self-esteem scale were related significantly to mental health, with better self-esteem been associated with higher mental health.

Between the key demographic variables of gender and parent's income, gender was found to be related to mental health, with males more likely to be identified as having positive mental health when compared with their female peers. As for parents income there was not a simple linear relationship found indicating that as family income increased, so did mental health and these rather interesting findings will be discussed in the next chapter.

The next and final chapter reports the conclusions based on the results outlined above.

## Chapter 5: Discussion

### Introduction

This chapter discusses the findings of the research conducted in relation to the literature review and the implications of these findings. It starts by outlining the main findings and then discusses the implications of these findings according to each of the six factors investigated: father's warmth, extraversion vs. introversion, self-esteem, peer relationships, gender and parent's income (the measure for socioeconomic status). It goes on to consider the limitations of the study and make recommendations for future research.

The research objectives that motivated this study were to examine and better understand the overall mental health of university students. More specifically, to identify factors contributing to mental health problems among university students (aged 18–24 years) in Pakistan. It sought to answer the key question: What are the factors that influence the mental health of university students in Karachi, Pakistan? In order to do this, the following research questions were developed to guide the analysis:

1. How does the perception of father's warmth affect the mental health of university students?
2. What influence does self-esteem have on the mental health of university students?
3. What effect does their parents' socioeconomic status have on the mental health of university students?
4. What influence does personality have on the mental health of university students?
5. What influence does their perception of peer relationships have on the mental health of university students? (Ultimately, this question was dropped because of the unreliability of the measure selected.)

## 6. Does gender affect the mental health of university students?

### **The Main Findings**

The two most significant factors demonstrating the largest correlation with positive mental health among university students were perception of father's warmth, and extraversion vs. introversion. The perceived level of father's warmth and stronger characteristics of extraversion were both found to be largest predictors of positive mental health. Furthermore, high self-esteem was also related to more positive mental health.

Between the key demographic variables of gender and parental income, gender was found to be more likely to have a significant difference with regard to mental health. Parental income have a significant impact with regard to mental health; however, this effect is not straight-forward. Male students were more likely to be identified as having positive mental health when compared to their female peers.

### **Father's Warmth**

The results showed higher perceived levels of father's warmth were significantly associated with positive mental health. Students who reported a positive sense of father's warmth demonstrated better mental health when compared to those students who perceived their relationship with their father to be one that lacked warmth. This may suggest that students who have been brought up in a loving environment, who have a strong sense of their father's warmth, and who are able to express their emotions and thoughts freely, develop a greater degree of self-confidence, which increases their experience of positive mental health and well-being (Rohner & Khaliq, 2013).

These findings are consistent with the work of Bronfenbrenner (1979), who also suggested that fathers' parenting style was one of the most significant factors influencing a

child's mental health development, which could continue to have a profound effect on mental health and well-being in young adulthood. According to Sullivan (1953), psychological and personality development occurs as a result of human relationships, particularly interactions with important people, like fathers, who are usually significant authority figures in a child's life. Sullivan pointed out how a child's perception of their father's warmth or lack of warmth could have a profound effect on their personality and their sense of feeling good or bad. These theories may have been put forward decades ago, but – as discussed in the literature review – research continues to indicate that although parenting styles may differ across cultures, a father's influence consistently has considerable effect on psychological development and mental health. These results are supported by Rohner's (2013) parental acceptance–rejection theory. Rohner's research focused on university students, as these are such crucial transition years in an individual's life: a time when they begin to make important life decisions and become active participants in society. In a study undertaken in various countries across different cultures, Rohner established that correlates of father's warmth or lack of warmth were shown to have a significant effect on the mental health and relationships of participants.

There has been very little research conducted in Pakistan that looks at how parental style – whether of mothers, fathers, or both – affects the mental health of university students. It is worth making some comparisons with those studies that are available, however, even if they are not directly concerned with assessing the mental health of university students. Cross-cultural studies by Kwan, Bond, and Singeelis (1997) and Stewart, Bond, Kennard, and Zaman (2002) looked at the influence of the parenting styles of mothers and fathers from Hong Kong, Pakistan and America. They reported that lack of warmth and a perception of strictness in fathers was associated with positive outcomes, in terms of psychological development and life satisfaction, only among young adults in Hong Kong and Pakistan. At a glance the results of this study are consistent with the findings of research undertaken in the Western world, but on

closer examination it encompasses significant cultural differences, which can be explained in a cultural context. In Pakistani culture, it is the mother who shoulders most of the responsibility for parenting; traditionally, the father's involvement is somewhat limited. A popular cultural stereotype depicts the Pakistani father as strict and aggressive, a domineering, withdrawn and tyrannical disciplinarian. In Pakistan, parenting is still frequently defined by such stereotypical gender role boundaries. It is perceived to be the mother's responsibility to show warmth and love, to care for and nurture the children until they reach maturity. The father or head of the family was traditionally the breadwinner, charged with the task of providing shelter, food and money. This, therefore, became the father's way of showing love. Showing "warmth" was not a normative role (Shirazi, 2012).

This study shows a significant connection between fathers' warmth and positive mental health, which might suggest attitudes regarding gender roles and family values are slowly changing in traditional Pakistani society. Hassan et al. (2014) observed that it is time to accept and welcome such changes in the father's role in Pakistani culture and pay more attention to the relationship between father and child or young adult.

The findings of the current study suggest that a positive paternal role model, an involved father, will have a beneficial influence on his child's university experience. For many families in Pakistan, the father is the gateway to society and a perceived lack of father's warmth may, if they encounter difficulties, predispose a student to form the idea that university is a hostile social environment, this may put them at risk of mental health problems.

Correlation analysis showed a notably stronger association between the male participants and a positive perception of fathers' warmth as compared to the females. Cultural and economic factors may explain why male students had higher perceived levels of fathers' warmth. In traditional Pakistani society sons frequently receive preferential treatment over daughters (Kausar & Kazmi 2011). This is due to the widespread familial expectation that a

son will succeed his father and become the family breadwinner. A son will therefore be in a position to offer financial support to his parents when they reach old age (Kausar & Kazmi 2011). Fathers often show more warmth and care towards their sons, give their needs priority within the family and expect them to achieve high academic success (Shaikh, 2005). From an early age, sons are allowed to show and express their feelings more openly than daughters (Shaikh, 2005). Additionally, fathers may demonstrate a more relaxed parenting style with their sons. In Pakistani society, males are generally given more freedom. They are treated as leaders and given a greater say in household matters than female family members (Shaikh, 2005).

The gender differences in the results may be explained by the different social and emotional expectations that exist across Pakistani society. These should be explored by further comparative research, in order to gain a better understanding of the dynamics of such expectations and their relationship to mental health among university students. Students who perceive a lack of warmth or experience rejection from their fathers may suffer damage to their psychosocial functioning, as this subjective experience of feeling rejected can affect their mental health. Earlier studies emerging from Asian countries have shown that a father's strict and controlling attitude, despite limited involvement in the home, can influence achievement, motivation, and mental well-being (Khan, 2005). Given the societal changes and economic developments taking place in Pakistani society, the responsibilities and expectations of a father's role have gradually changed over the last ten years (Hasan et al., 2012). Females are gaining greater educational qualifications and joining the workforce; although mostly in selected fields such as education or medicine. Additionally, attitudes regarding gender roles and family values are slowly changing in Pakistani society. The perception that it's only the mother's responsibility to care and show warmth is steadily undergoing change and as a consequence the involvement of a father in a child's upbringing is increasing (Shirazi, 2012).



Future research may explore the developing pathways of both mothers and fathers, and the influence both have on their offspring.

Overall, these results support the notion that father's warmth appears to be linked to a positive sense of mental health for university students.

### **Extraversion vs. Introversion**

This study found that the degree of extraversion vs. introversion was a strong predictor of positive mental health among this cohort of university students. As reported in the results, 162 (51.6%) students produced extraversion scores, while 150 (47.8%) students identified more strongly with introversion personality traits. Correlation results revealed that positive mental health was related to a higher level of extraversion. It would appear, therefore, that a tendency towards extraversion might act as a protective factor for positive mental health. Extraverts might experience greater positive affect when exposed to rewarding stimuli in an academic environment. Such students are likely to have higher self-esteem, and a higher propensity towards seeking and engaging in social interaction (Ryan, 2001). Positive mental health, with a high degree of extraversion, might motivate an individual to have a more confident and open-minded approach to life. Extraversion personality traits affect characteristic patterns of behaviours, which then have an impact on how an individual responds to particular circumstances. For example, extraverted students are more likely to approach life with a sense of optimism, have better coping strategies, be flexible in how they achieve their goals, and have a greater sense of subjective well-being and more positive mental health (Keyes, 2002; Ryan, 2001).

This study also found significant gender differences between the students' perceptions of characteristics of extraversion vs. introversion. Male students showed higher levels of extraversion than females, while females showed higher levels of introversion than males. This

may be due to differences in personality development, particularly in terms of self-esteem and extraversion, as a result of the higher value placed upon sons in traditional Pakistani society. Sons are more likely to receive preferential treatment, are shown more warmth, are allowed to express themselves more openly and are given more freedom and voice within the family (Kausar, 2009).

Introversion, on the other hand, was shown to be associated with poor mental health and female students showed more tendencies towards introversion than males. As discussed in the literature review, a possible reason for this is that female students often have to deal with more stressful life events due to the pressures and expectations placed on them by Pakistan's largely patriarchal society. This exposure to stress, restrictive societal and familial expectations, and the lowly status of females in Pakistan, may contribute to them being prone to introversion and poor mental health. Furthermore, female students showed lower self-esteem, indicating a significant correlation between introversion, low self-esteem and poor mental health.

These gender differences between extraversion vs. introversion may well be explained by the influence of the society in which the students live. In Pakistan, young women are rarely able to express their true feelings and are more likely to experience psychological distress. Most of the time they do not have an outlet – a place to go or someone to talk to where they can find support – they have to bear it alone. Living in this way, it is no wonder they become quiet and introverted, perhaps even emotionally unstable or fearful in their everyday lives (Ahmed et al., 2007). In Asian culture, extraversion, including dominance, is more likely to be a masculine characteristic, whereas introvert tendencies, which include nurturing and being able to make compromises, are more likely to be found in women. Asian cultures are largely collectivist cultures and, specifically in Pakistan, the tendency for women to be more interdependent and for men to have more independence could serve to explain these gender

differences from a cultural perspective (Madnani & Pradhan, 2015). In this study the finding that males have higher extraversion scores implies that male students are more emotionally stable, more capable of positive thinking, more resilient and may have better social skills than their female counterparts.

External situational factors may play a crucial role in understanding why female students show a greater tendency towards introversion (Ahmed, 2007). As previously discussed, females are more likely to be subject to gender-specific stresses such as role expectations and familial pressures. Female students can be more sensitive to certain psychosocial variables, such as failure to deal with stressors effectively, which may exacerbate their problems and create a vicious cycle. It may be that male students tend to tackle stressful situations by being more tenacious, industrious and open to discussing and sharing their feelings, whereas female students tend to direct more energy to dealing with associated emotions and trying to hide their feelings of worthlessness (Shriazi, 2012). The result may also be explained by the fact that people who have difficulty with social relationships, are at risk of social isolation in the university environment (Ahmed & Reddy, 2007). This could be one reason why female students experience greater psychological distress as compared to male students and have a higher risk of mental health problems.

Another explanation for the differences between extraversion vs. introversion scores among the male and female students relies on attribution processes. In an egalitarian, individualist country, having a sunny personality, which is more characteristic of an extravert, is simply seen as an expression of free choice (Khaleque & Rohner, 2012). In a collectivist, traditional society, however, such behaviour is more likely to be frowned upon. In Pakistani society, it is difficult for women, even educated women, to live as they wish or to speak their minds. Any behaviour that deviates from the accepted norm will see such a person labelled a “bad woman” or worse (United Nations Development Program UNDP, 2015). Because of the

importance placed upon their honour, women feel they have to act very cautiously when outside the home, including at university. Research shows personality traits like extraversion and introversion develop in childhood and are commonly influenced by culture, society, family and genetics (Rohner & Khalique, 2005).

While the results of the current study suggest the structure of the extraversion vs. introversion scale may be generalized cross-culturally, the significance of extraversion vs. introversion character traits may depend on contextual variables (Mirza & Jenkins, 2004). For example, ideas about what constitutes a good upbringing and the socialization practices of a particular culture have significant influence on the personality development of individuals within that culture (Mirza & Jenkins, 2004).

Introverted individuals have a tendency to appraise situations negatively and perceive them to be more threatening, which could explain the association between poor mental health and introversion. As a result, introverted students are more likely to feel overwhelmed because they perceive environmental threats as more menacing (Shirazi, 2012). They are unable to cope with perceived stressors in the university environment. Further research could investigate ways to identify the specific stressors that students perceive in the university environment or their ability to cope with those stressors.

Since extraverted students are more likely to be easy-going and optimistic, it is reasonable to assume extraverted students enjoy positive mental health because such feelings of self-worth reduce inner turmoil and tension, and contribute to a greater sense of well-being (Srivastava, 2005). Similarly, since introverted students are more likely to be quiet, somewhat pessimistic and not willing to easily share their feelings with others, it is reasonable to assume that introverted students will succumb to poor mental health (Wei, Liao & Shaffer, 2011). Yet, however plausible these explanations for the association of introversion with mental health

problems in female students, they will remain hypotheses until they can be assessed by further empirical social and psychological research.

### **Self-Esteem**

As reported in the results, 174 (53.8%) students had average self-esteem scores, while 140 (44.6%) students had high self-esteem scores. Surprisingly, very few students had low self-esteem. Male students scored higher on the self-esteem scales when compared to females. Correlation results also revealed a positive correlation between self-esteem and mental health.

The results revealed most students reported average-to-high levels of self-esteem and few with low levels. Age and cultural factors, however, may explain this small number with low self-esteem. It has been found that university-aged students are concerned about self-image, self-perception and identity, and may be more sensitive to giving responses that result in a perception of negative or low self-esteem (Zafar, Saleem, & Mahmood, 2012). The self-esteem questionnaire asked students to consider their response to a number of statements, including: “at times, I think I am no good at all”, “I am inclined to feel that I am a failure”, and “I do not have much to be proud of”. It may be that some respondents did not want to be seen to be suffering from feelings of failure or depressing thoughts, because such feelings are not socially acceptable in the context of Pakistani culture. It has been shown Pakistani’s are aware of the public stigma and taboo associated with suffering from psychiatric problems and mental health issues (Hassan et al., 2014). Consequently, it is possible some students chose responses to show they were not suffering problems. In general, failure and hopelessness is never acceptable in Pakistani culture and if expressed, is mostly interpreted as the afflicted person starting to lose his or her faith in Allah. It is almost never culturally acceptable to be open about failure or to express doubts, as this can be seen as questioning Allah’s will (Abu-Ras, Gheith, & Cournos, 2008). In Pakistan, there is a cultural norm that suggests showing

failure is to show weakness, which is simply not acceptable. Pride has very high value in Pakistani culture. Trust or faith in Allah is one of the pillars of Islamic religion and to express doubts could have grave social consequences (Ahmed, 2007).

Another reason for the finding that the participating university students had high self-esteem scores may be due to a fundamental difference of conceptualization in terms of the definition, expression and function of self-esteem. Ang, Neubronnerand, Oh, and Leong (2006) noted the uni-dimensionality of self-esteem might not be applicable in an Asian-based sample. This idea is consistent with these results, which also gives insight into the value of assessing self-esteem with consideration to the influence of social values and cultural variation. Many studies consider self-esteem in the context of an individualistic (that is, Western) culture. Western culture tends to give more importance to individuality, uniqueness, independence and the concept of “I” when discussing feelings. Whereas, Eastern cultures focus more on collectivism, compliance, dependence and the concept of “we” (Heine & Hamamura, 2007). Although this does not explain the current findings of high self-esteem scores within these Pakistani data, they do reiterate the influence of culture on self-esteem (also discussed on page 19 of this thesis), which is an area for future research that may lead to additional explanations for variations in self-esteem.

Another interesting aspect of this result was that low self-esteem was significantly associated with female students when compared to male students. Multiple factors may contribute to this finding. First, in traditional Pakistani culture females generally learn to identify more with the collective notion of self than males, self-esteem is often multidimensional and females tend to report more opposing self-attributes. They also strongly relate to social acceptance and inclusion rather than to accomplishments (Shaikh, 2014). Another possible reason for females more frequently reporting lower self-esteem may be the complexities of study and difficulty coping due to the un-supportive or restricted environment

of family, which then leads to social difficulties and stress (Murad & Hadier, 2005). Finally, female students may also perceive themselves as not being competent enough to cope in the university environment, which leads to negative self-thinking and ultimately being at risk for mental health problems.

The results of this study demonstrated that a higher perceived level of father's warmth was associated with good self-esteem and positive mental health. These results confirm that while university students on the cusp of adulthood need independence and freedom, they also need psychological support and approval from their parents. Studies by Manzari Tavakoli, and Kohandel (2010), and Hedaiati, Fatehizadeh, and Akuchekian (2008), show a significant relationship between father's warmth and self-esteem. Fathers who did not have a warm emotional relationship with their young adult children did not see any reason to explain their actions or decisions. Consequently, their children questioned their own ability to make decisions, lacked confidence, were less able to cope with life's problems and reported lower self-esteem. The university years come at a time when young adults have an opportunity to explore who they want to be and how they can find their place in society. It is a time when achieving good mental health is vitally important (Hedaiati et al., 2008). Students who have high self-esteem tend to have positive mental health, are likely to work more productively, be optimistic, perceive situations rationally and express their feelings. They can generally cope better and devise appropriate solutions to deal with any problems that arise during their university years.

## **Gender**

The findings of the current research revealed clear gender differences with regard to good mental health. Female students were more likely to have poor mental health when compared to males. These findings are consistent with previous studies that show female

students suffer more from psychological distress during their university years than their male counterparts, which can be an indicator of poor mental health (Gore et al., 2011). The literature has been consistent in reporting how poor mental health in female university students can lead to negative outcomes, such as poor academic performance, depression and suicide (Reavley, McCann, & Jorm, 2012). Similarly, the findings showed male students tend to have better mental health than females, which is also consistent with previous research and may be related to the social and cultural pressures faced by young Pakistani women (Patel et al., 2007).

In Pakistani society, women are more likely to be socially deprived than men. A case study by Khan and Rogers (2007) effectively illustrates how Pakistani females are socially underprivileged and under-employed in Pakistan's male-dominated society. Men have more choices in life, whereas women's lives are constricted by the limited choices available to them. Women in Pakistan are enormously vulnerable to the radical social forces that are opposed to women being more active participants in society (Hussain et al., 2007). This could well make young females psychologically and emotionally more vulnerable during their university years.

It is important to note there is a deeply rooted belief in Pakistani culture that parents prefer sons. Many parents see educating their sons and encouraging them to choose a lucrative career path as a form of security for their old age, as it means their sons will have the means to look after them in later years (Chandors, Afridi, & Cred, 2007). Daughters are expected to help their mothers and share in household chores and responsibilities, which may put too much stress on them as they try and get a good education and develop a career. For many women this stress and constant pressure, and a nagging sense of unhappiness, makes them more vulnerable to mental health problems, specifically depression (UNICEF, 2011a ; WHO, 2009). From childhood, daughters are taught to ask for and expect less, and to tolerate and accept pain and problems. This may well be a reflection of the power relationships between men and women in Muslim cultures. Men generally take a dominant role in a relationship and women are



expected to be more subservient, which may result in females being more sensitive to relationship difficulties and emotional instability, and more vulnerable to mental health problems (Kabeer, 2005; Qureshi, 2007).

It is also important to understand that it is not easy for many women to attend university. In Pakistan, there is by no means a cultural expectation of a universal right to education for all, let alone for women. In many families it is the sons who get priority when deciding which child should receive a university education. Male children carry on the family name, become the family breadwinner, are expected to take on more familial and social responsibilities, and so are more likely to be supported in their education choices (Narayana, 2005).

According to a case study on women's education by Noureen, Ghazala, and Riffat-un-Nisa (2012), social beliefs, cultural norms, attitudes and practices prevent females from benefitting from educational opportunities. Even if a young woman makes it to university, these same social and cultural beliefs act as a barrier for them to be able to access and enjoy the same range of educational opportunities that are offered to male students. There is a powerful social rationale for investing in a son's education and that almost always takes precedence over investing in educating a daughter.

Another possible reason for a higher likelihood of poor mental health among female students might be concerned with issues of security, which could affect their university experience and educational achievement. Many women have to travel long distances on public transport to attend university. Such journeys can be extremely stressful. They face constant threats – and not just to their personal sense of safety and security. If something happens, their family's honour is at stake as well. Incidents of sexual and physical abuse, including acid throwing, have increased in recent years. Parents put pressure on their daughters to be very

cautious in their dealings with strangers, especially males, which leads to constant fear and added psychological distress (Karim, Saeed, Rana, Mabbaskar, & Jenkins, 2004).

As Noureen (2012) showed, there is also evidence to suggest some female students are allowed to attend university as a result of emotional breakdown or emotional blackmail. So strong was their desire for higher education that some young women have resorted to hunger strikes, boycotting family events, or even threats to commit suicide. While they did get permission to attend university, they then had to face the very real fall-out from their behaviour, and the psychological and emotional pressure of their families' reactions. Such behaviour, such a rebellious attitude, is not at all acceptable in daughters and can have a damaging ripple effect. To try and stop what they perceive to be a negative or bad influence on other girls, other family members cut or limit contact with the female concerned. When the less-privileged – that is, females – are suppressed, there may come a time when they revolt or stand up for their rights. However, as lone voices struggle to be heard, it makes this population more vulnerable to mental health problems.

Gender discrimination is internalized in Pakistani society. Women simply do not have many choices available to them that could change the dominant patriarchal reality of their lives. By excluding them from education, Pakistani society often does not allow women to fully develop their human capabilities and those who have made it to university have to cope with enormous pressures in the process (Ali, Krantz, Gul, Asad, Johansson, & Mogren, 2011). A lack of emphasis on the importance of women's education is one of the cardinal features of gender inequality in Pakistan. The Human Development Report (HDR) (2013) listed Pakistan in the category of "low human development", with a female literacy rate of below 30 percent. Globally, Pakistan is ranked 145th in terms of human development. Further research on gender discrimination in Pakistan is needed to explore the issues raised in more depth. Face-to-face

interviews with male and female students, in a supportive and confidential setting, would be the ideal.

### **Parent's Income**

Participants were asked to indicate their parent's income within a range of specific salary bands, and results suggested it had negligible influence on mental health. There was no overall pattern of improved mental health commensurate with increased income. However, the results showed students with parental incomes within the average income range (41,000–60,000 Pakistani rupees) reported slightly better mental health scores than students in other income groups.

One possible reason may be that when the students responded to this key demographic question they ticked the box pertaining to their parents' income only. For students living within a joint family system, however, such a response may not be an accurate reflection of the entire family's income. As previously mentioned, many families in Pakistan still live in joint family systems and if one branch is financially weak, another member of the extended family will step in and help out – for example, by paying university fees. In Karachi, a large number of families have moved to the city and yet still own land and farms in their traditional villages, which continue to provide them with a source of income. In the city they might work in menial jobs for low pay, but that does not tell the whole story. It is therefore possible that parent's income might not have a significant effect on mental health, because in the joint family system resources are more likely to be shared.

The results suggest parent's income plays a limited role in a student's mental health, either in a positive or negative sense. The findings also indicate there is no pattern of improved mental health linked to higher incomes – that is, there is no suggestion that mental health is any better when parents earn more money. A possible explanation for this could be that students

whose parents' income was in the average income group may have higher aspirations and expectations for their future and social mobility and work harder as a result. Students whose parents' income was in the low income group might not feel such an incentive, and instead work slowly but steadily towards their goals. While students from families in the above average or high income group are unlikely to have the same financial concerns as their peers and may already be members of the ruling elite.

Although it does not appear to show a meaningful relationship with mental health, there are some factors regarding parents' income that should be taken into consideration for future research. One of the most important of these being, quite simply, whether or not to ask the question at all, because it seemed many of the respondents were not prepared to speculate on this matter (twenty one students didn't answer their parent's income). Feedback asking why this information had to be included was mostly negative; many participants asked questions such as why was I asking this question, what was the importance of this question, and what if I do not want to mention my parent's income?. This negativity or confusion regarding the question suggests the results associated with parents' income may not be entirely accurate. It should be noted that in Pakistani culture it is not considered a social norm to ask about income, and this could have influenced the answers received.

### **The Participating Students**

This research had three main objectives: first, to examine and better understand the overall mental health of university students; second, to identify factors contributing to mental health problems in this group of students; and, third, to raise awareness and understanding of the importance of good mental health. Data were collected from university students, aged 18–24 years, who were enrolled in undergraduate study at a university in Karachi, Pakistan. All participating students were fully informed about the process, receiving information both

verbally and in a letter. They were invited to ask questions and give feedback about the study, if they so wished.

Many students were very eager for more information about some of the statements they were asked to give a response to on the Mental Health Continuum – Short Form scale. After completing the questionnaire, some students asked questions, such as: When do we need to be really worried? What symptoms are alarming? What can we do to help ourselves without going to our doctors or telling our parents? These questions indicate that they may be cautious or fearful, but are ready to ask for help if the need arises. It was actually very brave of them to ask such questions with other students and senior faculty present.

In the weeks after data collection, 26 of the students turned up at the university counsellor's office because they felt they needed expert help. The process of reading and responding to the questionnaires had raised many questions in their minds and they decided to seek assistance. The stigma of mental illness is very strong, however, and their main concern was confidentiality. They did not want their parents and friends to know, because of how it might affect their lives. That said, these students were eager to learn about mental health concepts, and some showed great desire to communicate their views, as well as to share and discuss their family backgrounds and the problems they faced.

It is very important to give these and other students who seek help a chance to express themselves, give their untold stories voices, help them and, when the time is right, support their parents in understanding that their children may need and should be encouraged to access help. It is vital to dispel the myths and suspicions around mental health problems, get rid of the negative labels, and move towards creating a culture that can effect positive change.

### **Limitations of this Study**

To the best of the researcher's knowledge, this is the first study on factors influencing mental health in students at university in Karachi, Pakistan. Although this was quantitative

research, the descriptive nature of this study set some limits to its scope. Producing detailed statistical analysis of the phenomenon and presenting an accurate profile of the situations, events and people under investigation are considered to be the strengths of descriptive research (Hair et al., 2003).

This study did not account for the amount of time fathers spent with their young adult children or on what basis the students perceived their father's warmth. Fathers' warmth, or lack of warmth, was assessed through self-reporting and, as such, may be subject to pressures of social desirability or family loyalty. Future research might consider asking fathers as well as children about their perceptions of parenting style. This could be delivered through questionnaires or, if all participants agree, face-to-face interviews. To understand the student's perception, alongside that of their father, could reveal a rich mine of information in future research.

All of the questionnaire assessment tools used in this study were developed in Western culture context, which has a tendency to focus on individuality and the uniqueness of the individual. As a result, some content could be interpreted differently, depending on particular cultural and social norms. Another concern here may be whether the meaning of the items of the questionnaires is understood by participants and function in the same manner across cultures. To overcome these difficulties in the future, it would be useful to develop culturally sensitive assessment tools and indigenous scales suitable for Pakistani cultural norms and validated them in this social context.

Students from all over Pakistan come to Karachi to study; nevertheless, it is important not to make too many generalizations from the results. The results are specific to a student sample from one university, in one geographical area, and should not be extrapolated out to include the whole country. There are too many variables: all provinces, cities, sects, and

families have their own customs, characteristics, social norms and even languages. It is recommended universities in different areas of Pakistan be included in any future research.

Extraversion vs. introversion was the only personality factor examined in this study. There are other important personality aspects, cultural factors and demographic variables that could also be explored. For instance, religion has enormous influence in Pakistani society. Future research should take into account the moderating effects of religious beliefs and orientation and the role religion plays in mental health.

### **Contribution to the Field and Directions for Future Research**

Despite the aforementioned limitations, this research makes a number of noteworthy contributions to the field. First, it identifies two significant factors associated with good mental health in Pakistani university students: the perception of father's warmth and level of extraversion, which may help elucidate factors that may put students at risk of poor mental health (for example, a lack of father's warmth and tendencies towards introversion). Second, it shows female university students in Pakistan are less likely to enjoy positive mental health when compared with their male counterparts. These findings, therefore, provide valuable insight into which students are more likely to suffer from poor mental health, which represents a first step in raising awareness about and understanding this issue and could therefore help educationalists, counsellors, psychologists and university authorities to understand the complexity of the mental health issues students face. University authorities could use this research as a foundation from which to develop and introduce effective pastoral care programmes and guide them in taking steps to put systems in place that will meet students' emotional and psychosocial needs. These steps could include programmes to promote positive mental health in students and programmes designed to support these young adults when they have completed their degrees and as they take their place in society. This research investigated

students' own perceptions of factors that contribute to their mental health and sense of well-being. Because university services and faculty can make a real difference to student experience, it is crucial they recognize the actual or potential problems students face and take appropriate actions to help their students overcome mental health problems and related challenges.

This research identified intriguing gender differences in terms of research variables such as father's warmth, extraversion vs. introversion and assessment of mental health. Future qualitative or quantitative researchers could explore the pathways of these gender-specific differences to uncover the underlying reasons behind them. As mental health is a sensitive subject in Pakistani society, future studies involving a combination of interviews and questionnaires could help explain the interplay between gender, character and mental health in a more comprehensive manner.

The cultural background described in this thesis also helps highlight issues and barriers that may discourage students from seeking help, including the effects of myths, taboos, religious beliefs and societal perceptions of mental health problems. This information, gives university authorities insight into how education and care programmes could be put in place in order to raise awareness of the importance of positive mental health and reduce barriers for those students who are suffering and need to seek help. For example, there is a clear need to dispel some of the myths and break the taboos around mental health problems.

A thorough search of the available literature revealed no studies which examined the awareness and experience of the mental health issues and its associated factors of university students in Pakistan. This study is a first step in giving these students a meaningful voice. It provides valuable insight into some of the ways in which university authorities could develop and maintain initiatives to foster positive mental health. Establishing guidance and counselling centres in all departments would help address psychological problems of not only students, but also teachers. Workshops, seminars, discussions and conferences to promote positive mental



health could be organized at class level. Every student would benefit. If good mental health contributes to improved academic performance, achieving it should be considered a priority in the university environment.

This study also lays a foundation for future mental health research. The positive correlations between extraversion and mental health, father's warmth and mental health, and the gender differences identified, point the way to new directions for mental health research in the educational setting. At present, little is known about how these students behave in the academic environment and what effect mental health has on educational achievement. A suggestion for future research is to conduct qualitative interviews designed to gain information about family background, personal problems and the issues students face before starting university. The information collected could enable university counsellors and psychologists to develop a deeper understanding of the impact of these issues, enabling them to better work with students to strengthen their interpersonal relationships and coping strategies, thereby giving them the tools to maintain positive mental health.

This study indicates that there is a considerable degree of mental health issues experienced by students at university in Pakistan. Because of the strong sensitivity attached to this subject, however, many students do not feel able to ask for help. This also highlights the need to bridge the gap between reality – the truth is, many people experience mental health issues – and the dire situation they face if they admit to such problems in Pakistan today. There is an urgent need to address and dispel the huge stigma attached to people who suffer mental health problems in Pakistan. The results of this research could be used to develop effective programmes, where students and their parents could take part in counselling in a supportive setting, which would be far less threatening than to be in hospital under the care of a psychiatrist or clinical psychologist.

Perhaps the most important element in promoting positive mental health awareness is dialogue. Teachers are very important to young people. In Pakistani society, where teachers are almost regarded as second parents, compassion, understanding and dialogue will make a great difference to the mental health outcomes of the young people in their care.

The knowledge contributed by the results of this study may be used to develop more effective identification and evaluation tools for psychological assessment of young adults of Asian cultural heritage. It could also be used as a source for designing intra- or extracurricular programmes to improve the mental health and well-being of university students.

Future research should also assess other variables, such as academic pressure, as a predictor of mental health. It should also examine anxiety and depression from a broader perspective of core psychosocial factors. This may open up opportunities to advance educational strategies and psychotherapeutic interventions through approaches that target the variables that represent fundamental human needs and individual characteristics. Based on the findings of this research, there is scope for future comprehensive study investigating the effect on students of all the various areas and dimensions of their lives, including mother's and father's parental style, mental health of family and friends, personality types and academic achievements. The findings of such a study would present a clearer picture of how all these factors combine to influence the mental health of university students.

## **Conclusion**

The main objective of this study was to better understand the mental health of university students in Karachi, Pakistan and to identify the factors which are contributing to their mental health problems. The results of this study have shown a positive correlation between extraversion and mental health, father's warmth and mental health, and self-esteem and mental health, along with significant gender differences.

This study also uncovered a number of correlates of positive mental health – for example, the link between extraversion and high self-esteem. Overall, male students have shown more positive mental health as compared to female students.

The results reported in this thesis provide an overview of factors affecting the mental health of a cohort of undergraduate students, from various disciplines and at different year levels, studying at university in Karachi, Pakistan. It is the author's hope that this information will help university administrators, counsellors and health service personnel to implement appropriate services to improve their overall mental health and well-being.

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## Appendix 1: Information Letter for Director

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### Mental Health among University Students in Karachi, Pakistan

#### (Information Letter for Director)

I am PhD student at the University of Canterbury, New Zealand. My proposed research will examine university students' overall mental health as no data of this kind is currently available in our country. The aim is to investigate the factors contributing to positive mental health among university students in Karachi, Pakistan. My supervisory team is Professor Garry Hornby, Associate Professor Penni Cushman, and Professor John Everatt.

I am writing to ask permission for the university students to participate in my present study. If you agree for the students to take part they will be asked to complete a questionnaire comprising of 5 scales during scheduled class-time. This will take them approximately 30 minutes. Students will be notified of the research by their lecturers several days before data collection. Every student who is present on the data collection days will be invited to participate. Participation is voluntary and those who choose not to participate can leave the class. Students will also know they have the right to withdraw from the study at any time during the scheduled data collection period without penalty.

I will brief students about research project at the beginning of class before they fill in the questionnaire. I will also inform students about safety measures and the available university counselling services, should distress occur. As a trained clinical psychologist I will be sensitive to any issues that might arise in the filling in of the questionnaire I will also notify the university counselling services of the nature of the questionnaire, the proposed dates and data collection times, and the potential risk for students to become emotionally distressed. I am hoping to collect data from 400 students from different departments with equal numbers of male and female students.

I will take particular care to ensure the confidentiality of all data gathered for this study. As the questionnaires will be anonymous, there will be no issues around anonymity in publications of the findings. All the data will be kept in locked and secure facilities at University of Canterbury for ten years following the study. It will then be destroyed.

The results of this study might be reported internationally at conferences and a summary will be provided to Director of the Institute of Professional Psychology, Bahria University.

If you have any questions about the study; please contact me (details above). If you have a complaint about the study, you may contact the Chair, Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch ([human-ethics@canterbury.ac.nz](mailto:human-ethics@canterbury.ac.nz)).

If you agree to the university students participating in this study, please complete the consent form attached and return it to me at: B:62, Block "L", North Nazimabad, Karachi, Pakistan.

Yours sincerely  
Uzma Irfan

## Appendix 2: Consent Form for Director

Uzma Irfan  
debutanate@hotmail.com



### Mental Health among University Students in Karachi, Pakistan

#### (Consent Form for Director)

I have been given a full explanation of the research project and an opportunity to ask questions.

Participants will be notified by their lecturers in advance of the data collection. , Those students present on the day of the data collection will be invited to participate during a timetabled class. Students, who choose not to participate, can leave the class.

I understand that a full explanation of this project will be provided to participants and they will be given an opportunity to ask questions of the research prior to data being collected.

Participants will understand that their participation is voluntary and they may withdraw at any stage without penalty. It is anticipated the questionnaires will take approximately 30 minutes to fill in.

The university counselling services will be notified so they will be available to participants, should any distress occur during the collection of data. Student's forms will be anonymous and neither the students nor the university will be named in publications. Students' data will be kept confidential to the researcher.

Participants will understand that all data collected for this study will be kept in locked and secure facilities at the University of Canterbury and will be destroyed after ten years.

I understand I will receive a summary of the findings.

Participants will understand that they can receive a report on the findings of this study by emailing the researcher.

I understand that if I require further information I can contact the researcher, Uzma Irfan Siddiqui. If I have any complaints, I can contact the Chair of the University of Canterbury Human Ethics Committee, Private Bag 4800, Christchurch ([human-ethics@canterbury.ac.nz](mailto:human-ethics@canterbury.ac.nz)).

I understand that at any stage I may with draw the university from the study.

By signing below, I am giving consent for the university students to participate in this research project.

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

Email address: \_\_\_\_\_

## Appendix 3: Information Letter for University Students

Uzma Irfan  
debutanate@hotmail.com



### **Mental Health among University Students in Karachi, Pakistan (Information Letter for University Students)**

I am a Pakistani student enrolled as a PhD student at the University of Canterbury, New Zealand. My research will examine university students' mental health. The aim of this study is to better understand the factors contributing to positive mental health among university students in Karachi, Pakistan.

The university has agreed for me to invite students to participate in the study. If you agree to take part, your involvement will be completing a questionnaire comprising 5 scales related to your mental health and well-being. This will take you about 30 minutes. Please note that participation in this study is voluntary. If you do participate, you have the right to withdraw from the study and leave the class at any time without penalty. Your survey form is anonymous and there is no way that the information you provide can be traced to you.

If you find that answering any questions causes you some distress I would suggest you talk to someone at the university counselling services. The counsellors there have seen the questionnaires and are aware that you are filling it in at this time.

All the data will be kept in locked and secure facilities at the University of Canterbury. It will only be able to be accessed by myself and my supervisors and kept for ten years following the study, as is required by the university. It will then be destroyed.

The results of this study might be published internationally and reported at conferences. A summary will be provided to the University Director. If you wish to receive a summary of the results please email me at the address above and I will email you a summary once the data is analysed.

If you have any questions about the study; please contact me (details above). If you have a complaint about the study, you may contact Dr. Zainab Ali, Director of Institute of Professional Psychology or the Chair, Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch, New Zealand ([human-ethics@canterbury.ac.nz](mailto:human-ethics@canterbury.ac.nz)).

By filling in the anonymous questionnaire you are giving consent for your information to be used in the study. Thank you for considering participating in this study.

Uzma Irfan

