PERSONALITY TRAITS AND ORGANIZATIONAL CULTURE AS DETERMINANTS OF POSITIVE MENTAL HEALTH: A LONGITUDINAL STUDY

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Abstract

The present study purported to explore determinants of positive mental health i.e., personality traits, organization culture. The primary objective entailed testing of Dual Continua Model of Mental Health in a sample of Pakistani adults. The current study aimed to analyze pattern of predictive relationship of personality traits with positive mental health among adults across three time points. It further aimed to explore moderating role of organization culture traits (involvement, consistency, adaptability and mission). A purposive convenient sample of 622 adults (aged 24 - 60) was administered with questionnaire booklet comprising Mental Health Continuum Short Form (MHC-SF; Keyes, 2005), Denison Organization Culture Survey (DOCS; Denison, 2000), NEO-Five-Factor Inventory (NEO-FFI; Costa & McCrea, 1992) to meet study objectives. Comprising on study I executed in 2 phases and study II in three phases (time point1, time point 2 & time point 3). At study I, during phase I try out was conducted for checking comprehension and relevance of the study measures. Phase II (N=225) of the study I dealt with establishing psychometrics of measures along with determination of factor structure for measures. The psychometrics of measures was established in a sample of 225 employees. Findings of Study I revealed satisfactory alpha coefficients and preliminary descriptive. Three-factor structure of MHC-SF was confirmed. Pretesting of Dual Continua model was done at study I, which showed confirmation of the Dual Continua Model of Mental Health. Findings provided support for good validity and reliability coefficients of study instruments. Analysis conducted for assessing prevalence of mental health of employees indicated higher proportion of males had flourishing and moderate mental health as compared to female employees. Time point 1 of the study II comprised of (N=622) adults aimed for hypotheses testing. Findings of time point 1 confirmed Dual Continua Model of mental health on the present sample. When computed for assessing prevalence of mental health states, higher proportion of employees had moderate mental health while others have flourishing mental health. Findings of hierarchical regression aimed at probing predictive relationship between personality traits and positive mental health displayed varied contribution of personality traits on positive mental health and psychopathology. Results of moderation analysis revealed significant moderation by involvement, consistency, adaptability and mission traits in neuroticism, extraversion,

agreeableness and positive mental health relationship. Effects of age, educational qualification, organization etc were analyzed through MANOVA followed by univariate analysis. The differences by gender and marital status were computed through independent t-test. Results depicted statistically significant difference between early and middle adulthood at P < .05 on emotional wellbeing. Of the three subscales of MHC-SF, significant univariate effects were found for the emotional wellbeing. Overall mean scores of middle adulthood were higher than early and late adulthood groups. Similarly, significant multivariate effects were found for personality traits, followed by univariate effects significant only for agreeableness among five traits. Results of Post hoc analysis indicates statistically significant mean difference between early and middle adulthood on agreeableness trait. On psychopathology, significant multivariate effects were followed by significant univariate for obsession compulsion and phobic anxiety. Across various work organizations significant multivariate effects were yielded for positive mental health, personality traits, organization culture, and psychopathology. On DOCS, Result endorse significant univariate effects of involvement trait by showing significant mean differences between bankers and telecom personnel, consultants and educational sector employees. Moreover, significant mean differences were found for job experience between less experienced and experienced employees on emotional wellbeing. On positive mental health dimensions i.e., emotional, psychological and social wellbeing, higher means were reported for highly qualified employees as compared to low qualified employees. For personality traits, mean scores for neuroticism were found higher for low qualified employees as compared to highly qualified, on agreeableness, conscientiousness traits, highly qualified scored higher mean than low qualified. Results of independent sample *t*-test indicated non-significant gender differences for all the study variables. Findings showed statistically significant mean differences between married and unmarried employees on emotional wellbeing which was found higher for married as compared to unmarried employees. Whereas on neuroticism unmarried employees scored higher than married employees. On the contrary, married employees scored higher on agreeableness trait as compared to their unmarried counterpart. For demographic variables, results showed non-significant group differences for mental health levels across marital status, work organizations, age categories, job experience, and educational qualifications except gender.

For time point II data, only 225 employees and for time point III only 178 employees (from total 622 in phase I) responded positively. The item differential drop out test came out less than 1 SD showing no significant change. During Time point II, hierarchical regression analysis was conducted to analyze predictive relationship between time point I and time point II study variables. Findings indicated among time I predictors neuroticism I significantly negatively, conscientiousness I significantly positively predicted positive mental health. Results of paired sample t-test indicated statistically significant increase in social wellbeing, openness to experience from time point 1 to time point II. While psychological wellbeing increased from T2 to T3 among males and females. Organization culture traits i.e., involvement, adaptability, mission increased from T1 to T2 and also from T2 to T3 among both male and females. Similarly, an increase in extraversion, openness to experience, agreeableness has been observed from T1 to T2. On the contrary, psychopathology scores had shown initially an increase from T1 to T2, and later decline from T2 to T3. Pattern of growth curve model indicated that positive mental health increased across three time points with a sharp decline within psychopathology levels among employees. However, results of repeated measure ANOVA depicted significant mean differences across educational categories over three time points. The study hold theoretical (contributing to indigenous existing literature by confirming Two-Continua model of positive mental health) as well as practical implications (by highlighting the need for investing in promoting for improving mental health of employees rather than aiming on the prevention

INTRODUCTION

Wellbeing of diverse work force has emerged as a significant domain of investigation. Globally recognition of mental health issues as a fundamental part of improving overall wellbeing both at the individual and organizational level (WHO, 2005) has been intensified. Socio-economic indicators of development partly improved by inhabitant's mental health (WHO, 2005). There is persistent need throughout world to address mental health issues to improve health policy and practice. Recently WHO highlights positive aspect of mental health construct by highlighting its role in determining overall health. Mental wellbeing determine individual's quality of life by enhancing meaningfulness and fulfillment (WHO, 2005). Mental health is fluid concept, since it is susceptible to change in relation to time, place, culture and milieu (Rogers & Pilgrim, 2005). With respect to exploration of nature of wellbeing and mental ill-health contrasting perspectives predominates during last decades. Recent years have witnessed change in concept of mental health. Historically lack of mental dysfunction has been equated with mental health. In recent times term mental health has gained increased recognition as positive affective states (WHO, 2004).Growing agreement among mental health researchers (Keyes, 2005; Lamers, 2012) have been attained towards new conceptualization of mental health comprising positive emotional states and optimal functioning level rather mere absence of mental dysfunction (Deci & Ryan, 2008; Ryff, 1989) in individual (psychological wellbeing) and social arenas (Keyes, 1998; Ryff, 1998; Waterman, 1993). These theoretical developments in mental health construct led to confirmation of two-continua model of mental health representing two distinctive continua i.e., mental wellbeing and mental dysfunction in individualistic cultures (Keyes, 2002; Lamers, 2012).

The exploration of optimal human function, positive idiosyncratic experiences, individual strengths and virtues, positive establishments and societies, positive psychological constructs (Seligman & Csikszentmihalyi, 2000) has been brought to attention by advent of positive psychology. Positive mental wellbeing constitutes a combination of positive emotion/affect, personality trait enhancing resilience, self-

mastery for managing individual stressors (WHO, 2004). Previously positive mental wellbeing was envisioned to be encompassing attributes such as proficient perceptive skills, heightened self-awareness, self-control, self-regard, self-acceptance and maintaining warm relationships (Jahoda, 1958). Quite recently plethora of empirical evidences have been generated in west (e.g., Keyes et al., 2007; Lamers, Westerhof, 2010) which explored wellbeing from a positive perspective. It had been considered to be extrapolative of the disease onset and subsistence proportions (Veenhoven, 2008).

Individual mental health is determined by numerous personal and contextual factors such as individual dispositions, social collaboration, cultural tenets, societal configurations and subjective experiences. Mental health is influenced by life experiences, relationships and work dynamics encountered by individual (Lahtinen et al. 1999). Prior evidences related with mental health problems at work identified organizational culture to shape and impact work environment within organizational dynamics (Dextras-Gauthier; Marchand & Haines, 2012).The individual mental health level relates directly to the effective functioning of work groups and community members. Likewise, culture directs towards developing beliefs and insight of world around us. Various typologies of organizational cultures at work come under umbrella of broader prevailing culture i.e., national culture. In Pakistan, specifically organizations can be grouped under national, public, private, multinational sectors. Organization culture registers guideline, list of ethical codes, nurture shared belief system of its members. It helps in shaping and configuring employee's behavior. Personality of the organization is determined by its culture that depicts assumption, values, beliefs, norms, concrete artifacts of its organizational members. Nature of organization culture varies with task performance required by its members e.g., business organizations culture will be different from that of a health care organization e.g., hospitals. Besides, organizational culture tend to be organization specific; therefore various organizations sharing same nature of work would be having their own specific cultures.

Nevertheless among personal dispositions personality traits significantly determine psychological and physical health outcomes (Bolger & Zuckerman, 1995). In terms of Individual differences personality traits most prominently determine individuals' well-being levels. In lieu of personality traits relationship to mental health

domain, hedonic and psychological wellbeing had been heavily explored. However, empirical underpinnings determining links between personality dispositions and social wellbeing are till date scare in western as well as in our indigenous literature.

Today organizations are exposed to multiple challenges in view of the changing global economic and industrialization trends such as competitiveness, lean productions, mergers, total quality management. These transitions and challenging environment has raised employee's wellbeing and mental health issues. Nonetheless work experiences directly recount employees mental wellbeing (e.g., kelloway & Barling, 1991) and indirectly to satisfaction with life in general and work domains (e.g., Hart, 1999; Higginbottom, Barling, & Kelloway, 1993). Currently, employee wellbeing has emerged to be most promising area of investigation within organizational literature (e.g., Danna & Griffin, 1999). To date, there is burgeoning voluminous empirical evidences directed towards exploration of wellbeing and mental health in western countries (e.g., Keyes, Dhingra, & Simoes, 2010; Lamers & westerhof, 2008; Wood & Joseph, 2009). However Pakistan lags behind towards investigating mental health from positive flourishing perspective. There is little research on this subject in developing countries such as Pakistan due to stigmatization of mental health as a study of psychological dysfunction specifically among professional groups. Empirical research (Headey et al., 1993; Keyes, 2005) has demonstrated evidences for supporting the proposition of two distinctive yet related continua i.e., mental health and mental dysfunction. However, Indigenous literature reports a gap towards exploration of mental health construct in the light of the recent theoretical developments i.e., two-continua model of mental health.

Keeping in view importance of employee well-being, the possible determinants which impact employee well-being appears as an intriguing and valued research area to be explored. Therefore, present study aimed to explore personality traits and organizational culture as determinants of positive mental health among employees. The present study employed (Keyes, 2005) two-continuum model of mental health as a theoretical framework to test in our indigenous cultural context among employed adults. Moreover, interaction of personality traits with organizational culture on positive mental health has been investigated longitudinally, in an effort to explore temporal

relationship of positive mental health with psychopathology and study variables longitudinally.

Concept of Positive Mental health

Recently psychological literature has observed invigorating paradigm shift towards exploring positive aspect of wellbeing from prior emphasis on dysfunction and disorder (Huppert, 2005). The contemporary encroachment has intrigued new stream of research among researches and policy makers (Mulgan, 2006). Currently, positive perspective defines positive mental wellbeing as "a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community" (WHO, 2001, p.1). For years social scientists have endeavored for mental wellbeing as absence of mental dysfunction (Jahoda, 1958). Formerly, positive mental wellbeing has been acknowledged as a catchphrase and a reconvening entreaty rather than an empirical construct (Smith, 1958). Recently, Keyes (2002) coined positive mental health to be an empirical construct constituting syndrome of positive emotionality and functioning in life.

Positive mental health represents all-encompassing concept, incorporating rich theoretical background illustrating its understanding and assessment. It is usually conceptualized to integrate affect/feeling, optimal functioning, positive relations with others, physical wellbeing and spiritual orientation encompassing meaning and purposefulness in lifetime. The growing empirical evidences on positive wellbeing equates indispensable and appropriate elements of effective functioning states (Ryff et al, 2006). Surgeon General (1999) defines "mental health as incorporating productive activities, efficient use of mental abilities, gratifying relationships with people and marked capacity to stay adaptable and manage hardships" (1999, p.4)

WHO incorporated mental health as significant constituent determining global wellbeing. Health has been defined as "a state of complete physical, mental and social well-being and not merely absence of disease or infirmity" (WHO 2001, p.1). Gaining consensus on defining mental health has always been challenging with regard to existing variances across nationalities, cultures, strata's, and gender. These values

dissimilarities are huge making it difficult to reach agreement on a definition. Nevertheless, numerous concepts e.g., wealth or age having diverse connotations across the world tend to have universal meaning at the core, in similar way universal conceptualization of mental health across cultures can also be gained. Likewise, traits such as positive affectivity, all-encompassing self-esteem, mastery, resilience as psychological resources for coping with adversities are theorized to be a sign of individual's mental health. It relates to presence of states and capacities enhancing positive functioning rather than mere absence of mental illness. All the three domains of functioning i.e., mental, physical, and social functioning are mutually dependent, neither mental nor physical health can be present unaccompanied. Moreover, health and illness may co-exist. However, health if conceptualized as absence of disease in a restricted way, are mutually exclusive (Sartorius 1990). To be mentally healthy infers fitness rather than liberty from psychological dysfunction. This quest of attaining balance between environment, self, others, assists populations and people, brings understanding regarding struggle for its enhancement. In this positive regard, mental health is key driver determining effective functioning at individual and community level.

Numerous mental health models capture multiple dimensions of wellbeing (Jahoda, 1958; Ryff, & Keyes, 2005) which contribute to our understanding of positive mental health construct. The current definition of positive mental health builds on two time-honored traditions on a life well lived (Deci & Ryan, 2008). Hedonic and eudiamonic; hedonic perspective relates to experiences of pleasure whereas eudiamonic perspective focuses on strive for gaining personal strengths and greater good (Keyes, 1998). Keyes (2002) conceived positive mental health to be incorporating emotional wellbeing (hedonic), psychological and social wellbeing (eudiamonic).

More recently, Keyes (2007) categorized three primary levels of mental wellbeing (flourishing, moderate & languishing mental health) along continua's representing mental health and mental dysfunction. Within this context, mental wellbeing continuum moves from optimal mental health, flourishing to languishing. Languishing refers to desolation making an individual experience emptiness, low affective states accompanied by poor psychological, and social functioning, without experiencing psychological dysfunction. Moderately mentally healthy are neither

depressed nor languishers, but lag behind optimal functioning level. On the other end of this mental health continuum lies flourishing. Specifically, flourishing mental health represent higher emotional vitality along with progressive personal accomplishments and shared collective contribution for society and community (Keyes, 2003).

The Two Continuum Model of Mental Health

The dual continua model of mental health has been proposed by Keyes (2005). This model (2005) reflects a paradigm shift regarding mental health conceptualization. This paradigm views mental health construct as a positive state of affect and functioning rather mere absence of mental dysfunction. As an alternate mental health is regarded as a complete state of optimal functioning in personal and social domains (Keyes, 2002). Keyes (2005) contends two continua mental wellbeing and mental dysfunction when combined represent complete mental health.

Traditional perspective views absence of positive mental as presence of psychological dysfunction. Psychological dysfunction and positive mental health are viewed on a single continuum representing two extremes. Positive mental health does not go together with a high number of psychopathological symptoms. In disagreement to historical perspective psychopathology and positive mental wellbeing reveal two related continua that may be complimentary. This alternate model (Keyes, 2005) is termed two-continua model. One continua reflects presence or absence of psychological dysfunction that is moderately associated to other continua, reflecting presence or absence of positive mental wellbeing. In other words positive mental wellbeing is associated with mental illness yet distinct (Keyes, 2005). Therefore, individual who suffer from psychopathological disorders has higher likelihood towards deteriorated levels of wellbeing such as low level of positive affectivity and reduced propensity towards peak accomplishment of personal and social pursuits. Nevertheless, this relation is not impeccable. An individual can experience elevated level of positive mental wellbeing while suffering from some sort of psychological dysfunction (e.g., phobic disorder, anxiety disorders) simultaneously. Conversely experiencing fully productive, fruitful, and actualized life does not ensure absence of psychological dysfunction.

Keyes (2002) dual continua model allows for categorical diagnosis of mental health states varying from fully functioning mental health level i.e., flourishing, moderate mental wellbeing to languishing. Individuals who experience flourishing mental states are vibrant, enthusiastic, active, productively engaged in personal and social quests. These individuals experience positive affectivity thereby score high on measures of positive affectivity and optimal functioning (Keyes, 2003). By contrast individuals who are not suffering from mental dysfunction but display less than peak productivity level fall into moderate mental health and languishing mental health states. These individuals are said to be considered as having "incomplete mental illness" signifying presence of some sort of mental disorder e.g., depression, nevertheless displaying symptoms of positive mental health. Lastly, some individuals fall in to complete mental illness category who suffer from mental dysfunction and along with reduced zeal and enthusiasm towards fulfilling personal and professional pursuits, having languishing mental health along mental health axis. Hence these individuals lack presence of positive indicators of mental wellbeing, have complete mental dysfunction affecting their affect and overall performance (Keyes, 2003).

This model has been substantiated on US MIDUS data (midlife development in the United States) comprised of adults age ranged from 24-74 (Keyes, 2007). This data provided empirical support for two-continuum model. CFA (Confirmatory factor analyses) supported model fit for two distinct and linked factors, one loading indicators of positive mental wellbeing encompassing social, psychological and social wellbeing while other illustrating indicators of mental dysfunction. It has been suggested psychosocial functioning can be better predicted by measuring both mental health and mental dysfunction simultaneously since these two continua are harmonizing (Keyes & Grzywacz, 2005). Consequently, an evaluation of positive mental wellbeing has brought additional endowment to assessment of mental dysfunction.

Besides Keyes (2005) confirmation of two continua model of psychological dysfunction and mental health, it was confirmed across various nationalities (Keyes et al., 2008; Lamers, 2012) while employing various instruments of mental health and mental dysfunction (Westerhof & Keyes, 2010). These findings further validate positive mental health and psychopathology to be associated factors yet distinct. Positive mental wellbeing is positive indicator of mental wellbeing rather than mere

absence of undesirable psychological states such as apprehension. Likewise, dual continuum model (Keyes, 2003) instigates a paradigm shift in terms of assessing individuals as inevitably mentally healthy who does not suffer from mental dysfunction. Furthermore, model makes probable for individuals to suffer from some mental illness (e.g. Depression), but also exhibit other positive indicators of affect and functioning to be considered having flourishing mental states (as mentally health individual) at the same time. Moreover there exist possibility for individuals to be devoid of any sort of mental dysfunction but having languishing mental health status.

Keyes, 2005
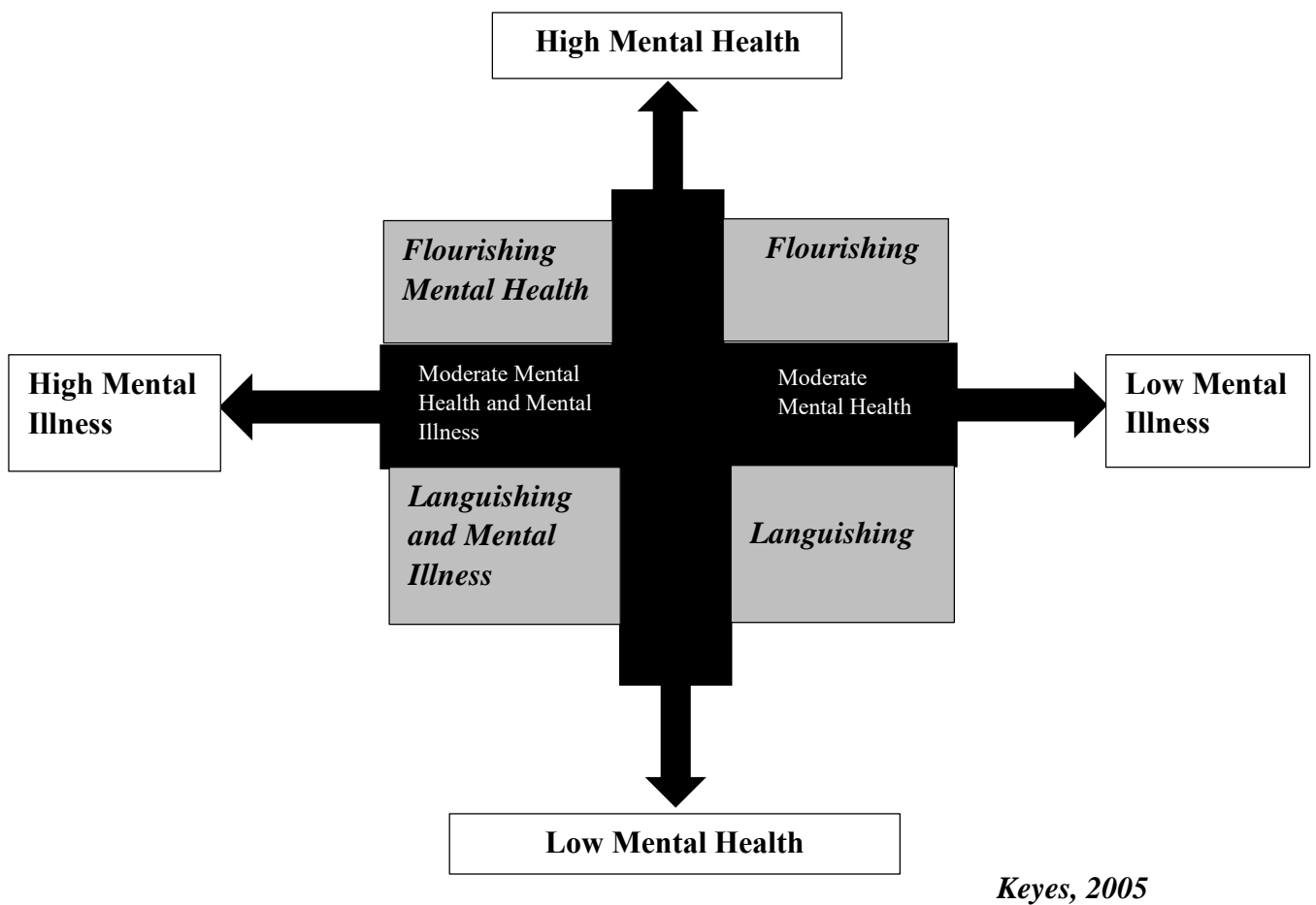
Figure.1. Dual Continua Model of Positive Mental Health

Conclusively besides two-continua model, hedonic wellbeing approach highlight emotional wellbeing while eudiamonic represents social and psychological aspects of individual functioning. This leads to multidimensional conceptualization of wellbeing

construct. The theoretical underpinnings of dimensions of positive mental health are discussed below.

Emotional wellbeing. The theoretical base of emotional wellbeing was inspired by broaden band theory of positive emotion proposed by Fredrickson (2004). According to this theory, positive feelings are enhanced and broadened by people transitory thought action repertoire and building of durable idiosyncratic resources. Positive emotions are considered to be prime factor that enhances individuals' attention spans, cognitive abilities and shape intellectual and social resources. Conversely, arousal of negative emotions constrict cognitive ability while building of enduring thought repertoire and positive affectivity leads to desired business outcomes within organizations. This advocates that experiencing positive emotions leads to emotional fulfilment within workplace. A distinctive conceptualization of wellbeing has been proposed by Multidimensional Model of Ryff (1989) in contrast to hedonic perspective. This model highlights six prime aspects that leads towards accomplishing peak psychological functioning. Empirical studies had shown consistency in regard to association of both subjective and psychological wellbeing with personality differences.

It has been suggested by broaden and built theory (Fredrickson, 2004), within the framework of temporal associations between psychological and subjective wellbeing, that by modelling positive emotions psychological resilience, wellbeing, and personal resources can be driven. The nature of relationship over time between subjective and psychological wellbeing appears to be bidirectional. However, in relation to strength of forthcoming effects, it has been anticipated by self-determination theory stronger lagged effect by psychological wellbeing on subjective wellbeing. On the other hand, opposite would be predicted by broaden and built theory. Furthermore cross-lagged effects on subjective wellbeing of psychological wellbeing were expected to be robust and steady in comparison of subjective wellbeing on psychological wellbeing. Nevertheless, (Joshanloo, 2018) suggested psychological wellbeing to be a more reliable and robust precursor of future wellbeing than subjective wellbeing.

Psychological wellbeing. Inspired by the earlier frameworks of Maslow, Allport, Rogers multidimensional model of psychological wellbeing (Ryff, 1989)

distinguished six components ensuring optimal functioning states (i.e., personal growth, purpose in life, environmental mastery, autonomy, self-acceptance & positive relations with others)

Self-Acceptance. A fundamental constituent of mental wellbeing and enriched peak functioning (Ryff, 1989). It largely represents individual positive self -evaluations and his/her earlier accomplishments in personal and professional domains (Ryff & Keyes, 1995). It also knocks individual's consciousness of their particular boundaries along with their strengths simultaneously (Keyes, Smothin, & Ryff, 2002). Individuals having higher level of self-acceptance evaluate themselves positively along with their previous life experiences. On the contrary, those who are low on self-acceptance report general unhappiness with their present and past life.

Positive Relations with Others. Relates to a significant domain signifying individual's level of maturity and wellbeing (Ryff, 1989). It comprises of trusting, warm, short-term and long term positive interactions with others. Individuals having higher inclination in this domain have comforting strong intimate relations with others, while those having lower disposition on this dimension symbolize deficient warmth and empathic understanding with others, and experience general dissatisfaction in interpersonal relationships.

Personal Growth. Refers to positivity and continual growth and developments (Ryff & Keyes, 1995). This specifies fulfillment of individual's inspirations and abilities. This aspect shares similar conception of eudiamonic proposed by Aristotle (Ryff, 1989). Individuals having higher level of personal growth experience full potential, accept challenges, explore and develop new skills for monitoring their personal developments. On the contrary, individuals scoring low on this dimension suffers from dearth of sense of development leading to overall dissatisfaction with life.

Purpose in Life. Relates to spending meaningful and purposeful life in terms of having a purpose, a direction for accomplishing a goal (Keyes et al., 2002). Individual's having higher level of purpose generally experience meaningfulness after accomplishing long and short term goals while others who do not have a clear direction of their life path, feel deficient and have less inspirations and objectives to accomplish.

Environmental Mastery. Relates to feature of mental wellbeing, indicative of individual personal resources to meritoriously monitor one's lifespan and his/her surroundings. It relates to personal capability of transforming surroundings in accord with subjective necessities and desires (Keyes et al., 2002). Individuals high on this domain manage, monitor their environments in a manner which is consistent with their needs and requirements. On the other hand, individuals low on this dimension lack this ability to intrude, mend or observe prospects in their immediate environments.

Autonomy. Last of all, autonomy reveals tendency for personal power, feelings of independence, and inner core appraisal (Ryff, 1989). Individuals highly autonomous set personal standards for their evaluation, find it difficult to conform to social norms and assure freedom and independence. On the contrary, those low on autonomy dimension find themselves susceptible to abide by others evaluations and expectations, also seek help from others for taking important decisions (Ryff & Keyes, 1995). Empirical evidences in regard to model (Keyes et al, 2002) that yielded best fit generated support for two related constructs i.e., eudiamonic and hedonic wellbeing rather than considering them as a single latent factor.

Though both were highly associated, hence maintain their exclusivity as distinct factors. The existential facets of eudiamonic well-being (i.e., personal growth & purpose in life) appeared to be most distinguished fragments from hedonic well-being. Correspondingly, Ryff (1989) established a strong relation of environmental mastery and self-acceptance dimensions with life satisfaction, affect and determination. Ryff (1989) claimed that these finding provide support for positive psychological fully functioning aspects that had not been embodied with previously well-being measures. Recently Joshanloo (2016) has shown subjective and psychological wellbeing to be empirically distinct concepts.

Need fulfillment and self-determination theory. Likewise eudiamonia, self-determination theory considers self-realization as central aspects of wellbeing concept. This theory further elucidate conceptualization of wellbeing as comprising of happiness, fulfillment by autonomy, competence and relatedness. Self-determination theory asserts that positive functioning (eudiamonic living) is predicted by "certain lifestyles, activities" particularly those associated with, reserve most consistent paths leading to pleasure and positive affect" (DeHaan & Ryan, 2014, p.40). Additionally

empirical evidence suggest that emotional and psychological wellbeing influence one another over time by prospectively predicting the higher levels of the other.

Social wellbeing. Within the eudiamonic tradition, social domain of individual functioning has received scant recognition. Recent conceptualization stresses need for assessment of individual functioning in both private and public domains (WHO, 2004). Consequently, a model of social well-being (Keyes, 2002) was proposed inspired by earlier work in sociology such as Marx. Keyes (1998) argued individual social functioning can be assessed by analyzing multiple dimensions that directly tap into individual's level of social functioning (i.e., social integration, social acceptance, social contribution & social actualization).Social integration infers feeling of relatedness to society. Social acceptance involves viewing social relationships generally in a positive way. Social contribution involves a sense of positively contributing to society by offering personal services. Social actualization refers to viewing society as evolving, adaptive to positive influences, has a potential to growth. Though evidence (Keyes, 2002) suggests considering these discrete elements, all components establish positive association with adaption markers (e.g., happiness, life satisfaction, generativity, and self-rated physical health). However, social wellbeing to be supported by both as a dimension distinguishable from either hedonic or eudemonic well-being both theoretically and empirically (Keyes, 2005). For instance, model that best fitted for these construct revealed a higher-order wellbeing factor with three lower order aspects for social, hedonic and eudiamonic wellbeing (Gallagher, Lopez & Preacher, 2009). To conclude, it has been suggested that these three wellbeing dimensions are very highly related while empirical evidences also generated support for them to be discrete.

In nutshell, psychological wellbeing is being abstracted as principally private phenomenon entranced on contests faced by adult in their personal lives, while social wellbeing characterizes a largely public phenomenon engrossed on social errands faced by adult in their social networks that are indicative of individual's functioning levels in social arena. As predicted theoretically, empirical evidence (Keyes, 2002) confirmed social well-being as multidimensional facet constituting prominence of individual functioning in life based on whether social life is being viewed as evocative and

comprehensible (social coherence); societal structures owning potential to evolve in positive directions (social actualization); feeling of belongingness and acceptance towards social networks (social integration); accepting strengths and weakness of others (social acceptance); also evaluating themselves as valuably contributing to society at large (social contribution). Moreover, assessment of quality of individual's relationships and maintaining effective contributions to societal structures and social groups has been neglected aspects of individuals' mental wellbeing.

Furthermore, Keyes (2002) has contended individual is considered mentally healthy by combined assessment of three wellbeing facets (i.e., social well-being, emotional & psychological wellbeing).

Determinants of Positive Mental Health

Well-being in the workplace has increasingly gained attention among researchers in last decade. Existing literature reported vast, fragmented and unfocused evidences on wellbeing across diverse fields. Currently, broad literature domain showed vast variation with regard to meaning and definition ascribed to term wellbeing. Recently, however, the term has acquired a broader meaning encompassing emotional, mental, physical and social aspects. Even though mental health is an important life elements, emphasis has not been augmented on personality factors as determinants of global emotional, psychological, social well-being among organizational workforce. Previously empirical literature had heavily focused on affective individual experiences based on subjective evaluations, neglecting other wellbeing domains (Ilies, Dimotakis, & Pater, 2010). Empirical evidence has established variation in emotional, psychological and social wellbeing levels at work could be accredited to various personality traits. Similarly wellbeing of employees has also been impacted by work context i.e., organizational culture which determines the way of doing things by providing certain code of ethics, values, principles and goal orientation to employees. Well-being in the workplace is deliberated to be aftermath of the collaboration between individual characteristics and those of the working and organizational environment. The present study aimed to explore determinants of positive mental health specifically personality traits and organizational culture among adults. The detailed description of

both personality traits and organizational culture and their nature of relationship with positive mental health are given below.

Personality Traits

In present study, relationship between personality dimensions and mental wellbeing is studied from a trait perspective, and more specifically the Big five personality dimensions (Costa & McCrae,1992). Personality traits considered to be stable, distal forces that influence behavior (Barrick & Mount, 2005). Personality facets represent clusters of inter-correlated traits (McCrae & Costa, 1997). Industrial psychology and organizational behavior congregated on the Big Five model comprising Neuroticism (nervous, restless, tense and insecure), Conscientiousness (sensible, planful, dependable and achievement oriented), Extraversion (friendly, talkative and confident), Agreeableness (Good nature, helpful and trusting) and Openness to Experience (artistically sensitive and intellectual) as a widely acceptable structure of personality (Digman, 1990)

Aforementioned studies (Garcia, 2011) generated support for personality traits to be primary predictor of adults' mental health since it is connected to varied ways people react to provocations and events in various settings. Specifically, extraversion and emotional stability (Lyubomirsky, king & Diener, 2005) have been found to be most closely related to well-being, extraversion is associated with positive affectivity enhancing subjective well-being while emotional stability closely linked with handling affective response to emotional events that determine individual's mental health (Larsen & Eid, 2008). Empirical literature reported agreeableness, conscientiousness, openness to be positively correlated with emotional well-being, though smaller magnitude (Steel, Schmidt & Shultz, 2008). Big five traits may accounted for variance in positive mental health domains which are generally stable across diverse circumstances and life span. With respect to work domain, the results of meta-analysis established that traits such as emotional stability, extraversion, agreeableness and conscientiousness generate positive work outcomes by enhancing job satisfaction moderately (Judge, Heller & Mount, 2002). Big Five traits dimensions has been widely explored for assessing individual differences with regard to their well-being in general (e.g., Diener & Scollon, 2003). Since well-being literature has established association

between big five trait dimensions (Keyes, 2002) and subjective as well as psychological well-being, their possible influence on mental well-being dimensions were indigenously explored in the present research.

Five Factor Model of Personality (A Contemporary Approach of Personality Traits)

Formerly it has been established that substantial amount of variation in human behavior has been predicted by big five (Paunonen & Ashton, 2001). With increasing popularity and acceptability of big five taxonomy, there is a need to establish association between big five personality dimensions and mental health, current study addressed this gap in indigenous literature. According to this theory, five core traits interrelate to form human personality and differential combination of these traits lead to diverse organizational outcomes.

Of five, neuroticism refers to negativity emotionality experienced by person in response to aversive stimuli leading to restless, unhappy, annoyed, humiliated, emotionally worried, and anxious states (Barrick & Mount, 1991). Highly complex jobs requires proficiency and greater skills, more challenging, these higher demands might activate greater apprehension among individuals high on neurotic tendency. Neuroticism negatively predict wellbeing (Subburaj, Sundaram, Sekar & Sumathi, 2012). Neuroticism was hypothesized to be directly predicting individual level of affectivity i.e., positive and negative affect, subjective well-being and overall life satisfaction by accounting higher variance in all indicators of subjective wellbeing (Libran, 2006). People high on neuroticism experience low level of emotional well-being, rendering positive associations with job stressors (DeNeve & Cooper, 1998; Jam, Khan, Anwar, Sheikh & Kaur, 2012).

Extraversion refers to being friendly, sociable, confident, talkative, and active (Barrick & Mount, 1991). Individual high on extraversion seek greater social support and positivity connectivity with others leading to experience more positive affect and lower job stress (Subburaj et al, 2012). Globally, subjective well-being is more closely related to emotional stability than to the trait of extraversion, extraversion predicts positive job experiences (Libran, 2006).

Agreeableness refers to being polite, flexible, credulous, friendly, supportive, merciful, soft-hearted, and liberal (Barrick & Mount, 1991). Individuals high on agreeableness show more courteousy, flexiblility, trust, cooperation, and forgive, experiences positive subjective wellbeing (Subburaj, Sundaram, Sekar, & Sumathi, 2012).

Openness to experience refers to being creative, refined, inquisitive, unusual, broad minded, intellectual (Digman, 1990), and having greater sensitivity towards diversity, novel ideas and creative expression (McCrae & John, 1992). Individual high on openness to experience tend to bring refined, original ideas and experience positive work outcomes (Subburaj, Sundaram, Sekar, & Sumathi, 2012).

Conscientiousness refers to traits such as hard work, high achievement-orientation, persistent, careful, and responsible (Barrick & Mount, 1991). Highly conscientiousness Individuals are less disposed to low mood effects with more inclination to experience positive affect. The conscientious individuals are highly motivated, determined, their persistence help them to successfully complete tasks. Conscientiousness individuals through their discipline indulge in positive health enhancing activities, reduce stress and enjoy positive health outcomes (Besser & Shackelford, 2007). These positive associations between high conscientiousness and subjective wellbeing, happiness indicative of more positive job experiences (DeNeve & Cooper, 1998).

Empirical studies have shown stronger impact of personality traits on life satisfaction in individualistic cultures as compared to nations having collectivistic values (Schimmack, Oishi, Radhakrishman, Dzoko, & Ahadi, 2002).Generally with regard to emotional wellbeing, empirical evidences incorporated developments within last decades signify less significant impact of demographic factors on well-being (e.g., age, gender, marital status) in comparison to personality differences (Gutierrez at al., 2005). Though exploration of individual differences dominate the field, presently focus has been diverted towards interactive impact of contextual factors and personality traits on emotional well-being and other wellbeing dimensions (e.g., Lu, 2006).

Organizational Culture

Culture portrays variations on large range of social and psychological variables at population level while organizational culture is being built and maintained at organizational level. Their exist differences among organizations in terms of variations in product marketing, production procedures and employees outlook towards accomplishing organizational goals but also with regard to deeply ingrained dogmas and tenets. At most general level, culture can be considered as "*world outlook*" that provide guideline for organization members to operate. Culture essentially represents "*lens*" through which employees of an organization interpret their environment. Organizational culture refers to fundamental pattern of collective traditions, tenets, views, bringing out accurate perspectives for confronting and coping problems faced by organizations. Organizational culture tenets, dogmas and norms regulate manifestations of organization behavior beneath surface. These may not be perceived directly, however their effects can be felt far and wide. "*Assumptions*" characterize inmost part of the organizational culture, since unconscious usually taken for granted. Assumptions represent shared mental models, broad worldviews or theories that regulate individual's perceptions and behaviors.

In collectivistic societies like Pakistan, people belonging to diverse groups conform in-group harmony by predisposing personal preferences to those of group (Triandis, 1995). It has been suggested that individual inclination to show enhanced cooperation in group milieus by collectivism (Chen, Chen & Meindl, 1998). Collectivists give priority to group norms and connectedness rather than pursing their individual interests (Triandis, 1995). Recent years have witnessed accumulation of cross-cultural evidence extending support for Big Five model structural stability (Triandis & Suh, 2002). Exploration of cultural differences in personality enhance intercultural understanding (Heine, Buchtel, & Norenzayan, 2008). Among personality traits, extraversion showed highest correlation with culture dimensions. Moreover, neuroticism also showed closest relationship with the culture dimensions. Most complex relationship was found between Openness to experience and culture dimensions. Agreeableness factor scores did not show association with all dimensions. Finally Conscientiousness was found to be linked with collectivism (Hofstede & McCrae, 2004).

In nutshell, organizational culture corresponds to framework of these basic values and assumptions that directly influence ways to observe, contemplate, feel, conduct, and anticipate for others to behave in particular organizational context. Schein (1999) argues, organizational culture gradually develops over time to confront challenges related with external adaptation and internal amalgamation. Organizational culture is understood as shared patterns of beliefs, rituals, symbols, and myths evolving over time, resultantly lessen human variability, shaping employees' behavior (Denison, 1990; Wilkins & Ouchi, 1983).

Denison models of organizational culture. For present study, Denison Organizational Culture Survey Model (1990) was used for measuring organizational culture traits among heterogeneous employees population. Denison (1990) ascertains four basic organizational culture traits namely, involvement, consistency, adaptability and mission. Denison's model (1990) also allows culture to be conceptualized largely as outwardly or internally engrossed as well as flexible opposed to steady. A detailed account of the Denison Organizational Culture Survey (DOCS) model had been given

Involvement. Involvement relates to building capability among professional and administrative employees. Higher level of employee involvement signifies organization orientation towards improving ownership, enhanced involvement in decision making as opposed to individual accomplishment (Wesemann, 2001). It has been asserted that involvement leads to greater input, ownership, responsibility, committed to work in line with meeting organizational goals under periods of ambiguity (Denison, Jonovics, Young & Cho, 2006). This reduces excessive control systems operating member's performance (Denison, 1990). Organizations inculcating high involvement culture exercise inherent control systems, rather than formal, overt control systems. Individuals scoring low on involvement trait signifies lesser devotion, fearfulness to take responsibility and lack commitment to work, less comfortable while working with unfamiliar members (Denison et al., 2006). Involvement trait has further three indices i.e., team orientation, capability development, empowerment.

Consistency. Refers to agreement, stability enhanced reliability in terms of information exchange. The shared beliefs, collective values inculcate enhanced internal conferment while also promoting meaning and a sense of identification among

organizational members (Denison, 2006). Effective organizations are more consistent and integrated (Saffold, 1998). There is consensus among organizational theorists in terms of proposition that behavior is engrained in a set of fundamental tenets that regulate more agreement while incorporating diverse viewpoints leading to greater integration and coordination among leaders and followers (Gordon & Ditomaso, 1992). Consistency further has three indices namely agreement, coordination and integration and core values.

Adaptability. Relates to culture open to change and adaptable to the requirements of external environment leading to higher level of effectiveness. This trait allows organizational structure to evolve and adapt in accord with internal and external stimuli (Denison, 1990). Highly integrated organizations might suffer from lack of adaptability since more inclined towards internal integration. Increased market share and sales growth are trademarks of organizations having strong adaptability trait (Denison & Mishra, 1995). Organizations having lower adaptability orientation usually respond less effectively towards novel challenges to meet up customers and employees demands due to high inward focus. For instance, focus of management is directed towards standard operating procedures, monitoring and supervising short-term performance goals, regardless of responding to external demands (Denison et al., 2006). Adaptability trait has three indices, organizational learning, creating change and customer focus.

Mission. Refers to culture that propagates a broad vision and shared purpose of an organization. Though positively associated with organizational outcomes, gives a clear plan of action for achieving desired objectives and goals within the defined time frame. High mission orientation shape member's behavior by foreseeing a preferred future performance. Both short term and long term organizational commitment is enhanced by identifying and internalizing organization's mission (Denison, 1990). Furthermore, low mission orientation leads towards reduced competitiveness and lack of clear future vision which hamper higher inspiration. In the model, mission also has three indices, goals and objectives, vision, strategic direction and intent.

Role of Demographics in Positive Mental Health

Mental wellbeing of individual gets directly impacted by the work context and other relevant demographic variables (e.g., age, educational qualification, job designation, gender, marital status & work organization). Plethora of empirical research explored subjective wellbeing and psychological wellbeing (Eid & Diener, 2004; Hayes, & Joseph, 2003) in relation to demographic variables such as age, marital status, gender and educational level (Diener, 1984). However scant evidence has been found for social wellbeing in this regard.

How people generally evaluate their life, including their life fulfillment, satisfaction within the work place and health, pleasant emotions and lower levels of unpleasant emotions, accompanied by feeling satisfaction and meaningfulness of life is incorporated within subjective well-being (Diener & Scollon, 2003). In individualistic cultures such as USA and U.K, empirical evidences have uncovered subjective well-being to be higher among females, married folks, highly accomplished people and among individuals having intact family structure. Intriguingly, it was discovered when other factors were kept constant, happiness and life satisfaction revealed U-shaped relationship with regards to age. Moreover, this pattern of relationship for subjective well-being was found to extend to a minimum age of 40 for both Britain and U.S. samples.

Likewise, empirical literature revealed similar U-shaped relationship across various nationalities and cohort samples (Blanchflower & Oswald, 2008). However, measurement of wellbeing through comprehensive instruments reflected far more complex scenario which has not been revealed from utilizing single items measures. For instance, measures like (sense of coherence; Stephens et al, 1999) and (autonomy & environmental mastery; Ryff & singer, 1998) depicted sharp rise with increasing age in wellbeing. Conversely across Asian nationality like Pakistan with a broader collectivistic culture, (Jamal, 2018) respondents age and life satisfaction significantly negatively correlated with each other in general on Pakistani adult populace, there by depicting decline in life satisfaction over lifespan.

Contrary to these findings previous research did not validate marital status relationship with self-evaluated life satisfaction and positive affectivity to be positive

in collectivistic cultures such as Pakistan. In Pakistan empirics indicate low rating of subjective wellbeing reported by married respondents. However among other countries such as India, literature revealed married couples too be happier as compared to non-married respondents (Diener et al., 1998). These findings reflect upon the merits of marital relationship in terms of having long term companionship that reduce isolation. With regard to gender differentiation, there exist variation from one nationality to another, but most found to be trivial among Asian and Western countries (Dolan et al, 2008). One of recent study (Jamal, 2018) exploring subjective wellbeing in indigenous context also found non-significant gender differences for subjective wellbeing. In our indigenous context, females are gaining greater educational qualifications and joining the workforce; although mostly in selected fields such as education or medicine. Furthermore, attitudes regarding gender roles and family values are slowly changing in Pakistani society. One of study (Irfan, 2016) indicated female Pakistani adolescents as belonging to poor mental health group compared to the male students having average mental health level. 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. On other indicators such as nature of job, (Jamal 2018) comparatively low level of subjective wellbeing was found among employed respondents in comparison with the reference category (mostly self-employed).

Demographic variables displayed distinct properties for well-being and ill-being. Females were found to have considerably higher rates of diagnosis for common psychological dysfunction e.g. disquiet and melancholy, compared to males. However, the impact of gender differences has garnered little evidence (e.g. Helliwell, 2003).In some, higher scores for males was observed (e.g. Stephens, Dulberg, & Joubert, 1999), whereas on others, those sub-scales gauging societal operations (e.g. Singer, 1998) showed higher scores for women. By far the highest prevalence of typical mental issues was noted among the middle-aged group (e.g., Ryff & Singer, 1998) the British Health and Lifestyle Survey have supplied data showing lesser inclination of older males towards experiencing psychological distress symptoms as compared to middle-aged and younger males in addition to scoring low on positive psychological well-being assessment.

In older females, high psychological distress combined with low level of positive mental health have been observed (Huppert & Whittington, 2003). Married couples have typically shown better results in relation to life fulfillment as well as lower levels of psychological illness (Dolan, Peasgood, & White, 2008). However, the direct causality is not obvious, as it is more probable for people having higher psychological well-being to get married (Diener, 2000).This trend has also been seen in collectivistic cultures like Pakistan and India (Diener, 1980). Factors that are socioeconomically important are probably having an equivalent bearing on mental well-being and mental disorders. Generally speaking, higher earnings and socioeconomic standing are related to higher levels of well-being and lower levels of psychological dysfunction (e.g. Dolan et al., 2008) but this influence is seen to diminish at higher income levels. Empirical literature has concluded that higher educational credentials protect against reduced level of mental health but a few have also discovered a converse gradient regarding education (Fagg et al., 2008).

For example, highly educated men were more likely to be depressed than less qualified (Chevalier & Feinstein, 2006). This might be suggestive of higher level of depression related with accomplishing more challenging and complex tasks resulting job-related stress due to possessing high educational credentials. The contrary trend for education can also symbolize the part played by education in unreasonably raising aspirations which might have been left unfulfilled. Resultantly, ambitious educational pursuits are not equivalent to improved mental health. Furthermore, disproportionate income is found to be linked with psychological dysfunction and also, well-being. Greater disparity in national income related to a higher incidence of mental disorders (e.g., Pickett, James & Wilkinson, 2006) and consequently low scores on well-being instruments (e.g., Tella, & MacCulloch, 2004).

Additionally, it was also established by Keyes (2002) that well-being is closely interrelated with age and education. Older and middle-aged adults possessing a higher educational qualification were the likelier ones to flourish in life while also having a higher supposed life quality. Younger adults possessing lower educational qualifications were less likely to flourish in life and also had lower levels of supposed

life quality. Younger adults with higher academic qualifications seemed to be flourishing in life along with lower levels of supposed quality of life.

Among Contextual variables people's discernments of emotional well-being were profoundly impacted by the prevalent societal culture. Theoretically, variations with respect to significance, ethnic group, notch of public expansion caused by culture factors influencing people's subjective wellbeing are quite inconsistent (Diener & Suh, 2000; Xing, 2005). For instance, various sources and conditions of subjective wellbeing are delivered by culture (Lu & Gilmore, 2004). Research stresses inherent ethnic underpinning of subjective wellbeing. The exploration of the possible differences based on affluence among nations in subjective wellbeing found positive affectivity predicted subjective wellbeing beyond objective methods (Diener et al., 2000)

Taking in to consideration a broader concept of culture, from a socio-cultural level, culture impacts each of six psychological wellbeing dimensions. Socio-demographic dissimilarities not only yield varied level of wellbeing (Salud, 1993), but also different levels of well-being and ill-health. Individual's subjective experiences are influenced by psychological wellbeing, also closely linked to various aspects of physical, mental and social functioning. One component of wellbeing relates to life satisfaction in general impacted by interactions with wider social milieu. Psychological wellbeing is conceptualized to be related to dynamics ascertaining cultural disparity. Wellbeing is a multidimensional construct, not solely determined by a solitary factor (Matrire, Stephen & Townend, 2000). Wellbeing is profoundly impacted by cultural and subjective influences. Wellbeing can fluctuate mildly in respect to age, gender and culture (Villar, Triado, & Reano et al., 2003).

Longitudinal Correlates of Positive Mental Health

Studies examining positive mental health and prospective associations among correlates are currently limited in collectivistic cultures like Pakistan in comparison to empirical investigations on mental dysfunction. Though recent decade has witnessed a growing upsurge in exploring mental health from positive psychology perspective among adolescents and adults. So far, studies directly exploring determinants of positive mental health (social, emotional & psychological) are scant. Keeping in view dynamic and uninterrupted interactive, numerous longitudinal models have established

developmental interaction between personality and wellbeing (e.g., Lehnart & Neyer, 2006). This raises an interesting inquiry regarding personality traits and wellbeing relationship, how personality traits relate to adaptation and changes in wellbeing levels in adulthood

Across countries numerous indicators of positive mental wellbeing in general populace have been recognized such as physical health, social support, education (Keyes, 2002; Gilmour, 2013; Vaingankar, Subramaniam, Abdin, Picco, Phua, Chua, Chong, 2013). These cross cultural variation in PMH by various factors such as marital status, education and employment give valuable direction for future hypothesis testing. As previously mentioned, higher levels of total PMH has been reported for married respondents in comparison to non-married. In contrast to previously established theoretical footings, educational qualification did not impact total PMH and its domains (Michalos, 2008). This relates to contrasting evidence of higher education on a person's well-being levels. Though in general education has been considered to enhance psychological and emotional wellbeing (Keyes, 2002) by boosting complex learning, self-worth and socio-economic status (Michalos, 2008; Schieman, 2002) however several studies have constantly reported highly qualified individuals having lower levels of satisfaction and well-being (Gardner & Oswald, 2002). This might indicate a disposition towards increasing material gains, handling multifaceted work tasks initiating multiple stresses. Findings of a longitudinal study (Keyes et al, 2010) revealed a general increase in mental health marks decline of mental dysfunction and psychological problems. In other words fall in mental health results in rise of mental dysfunction. These results indicated that mental health is dynamic at an individual level. However, mental dysfunction can be reduced by focusing on promotion and protection of mental health in the populace.

Figure 2. Conceptual Frame work of Present study

The current study aimed to explore determinants of positive mental health within Pakistani organizations contexts. Specifically, personal and organizational factors i.e. personality traits and organizational culture which have impact on positive mental health had been explored in a longitudinal trend. The current study would be an effort to explore latest shifts in west within mental health field in indigenous context. Theoretical underpinnings of two continua model of mental health served as backdrop of present research and will also be tested on Pakistani adults. The present research is an effort towards acknowledging mental health as an important indicator of employee wellbeing. This enable cultivate awareness regarding the need to admit mental health as an important resource for effective functioning of general population.

Rationale of the Present Study

Mental wellbeing of the employees has been neglected area of investigation since last decades. Organizations in today's changing dynamic global environments are greatly exposed to massive transitions in terms of competitiveness, centrality of computerized information processing, unifications, freelance and flexible work hours, job uncertainty and timidity, mandatory movement, downsizing and changes in the composition of the labor market (Marmot & Wilkinson, 2006). Pakistani organizations are facing the same dilemma, these challenges have raised concerns regarding the mental health of the diverse work force. Lately, Pakistan has encountered radical transitions, psychosocial changes, economic upheavals and terrorism which has directly affected social fabric and mental health states of general population.

Furthermore, globally, work-related issues such as frequent absences from work and premature retirement are caused majorly due to mental health problems. Not only the employee but the whole society and economic structure is impacted when a company's output and effectiveness is adversely affected due to the mental health issues faced by the individual. The on-going economic recession and the reduction in job opportunities is also expected to have negative effects. The predicted consequences on public health due to the lack of jobs leading to limited access to basic amenities such as healthcare and general decrease in the quality of life due to the economic decline is also worrisome. A healthy work environment induces a healthy culture which in turn provides psychological relief for the workforce. Additionally, it contributes to the immersion of adults facing mental health issues into society, by allowing them financial security that lets them participate fully (McDaid, 2008).

The concept of positive mental health has recently emerged to be an affirmative indicator of individual wellbeing not mere absence of psychological illness. This radical paradigm shift led to gaining a new perspective on mental health as comprising of mental health and mental illness. This transition has heavily inspired empirical investigation within organizational literature. Although the field underlies importance of an individual approach, research and questionnaire on positive mental health are mainly theory based. This concept has been explored within west, with different variables such as age, physical illness, subjective health (Kivela & Pahkala, 2001; Van

den Akker, 1998) and personality traits (DeNeve & Copper, 1998; McCrea & Costa, 1991; Steel et al., 2008).

Given the significance of positive mental wellbeing within theoretical framework of two continuum model, need was felt to explore it among the employees of Pakistani public service and private organizations. Thus, the main aim of present study resided in exploring determinants of Pakistani employee's subjective social psychological and well-being. The current study employed two- continua model of mental health as theoretical backdrop (Keyes, 2005). The primary conceptualization of the dimensional model emphasizes presence of two distinct yet related continua (Furlong et al, 2014) that collectively reflect mental health states in a cohesive way. This framework allows for predicting adults wellbeing based on the current level of mental health and mental illness presently experienced (Suldo et al, 2011). Previously psychopathology has been investigated exclusively, the emerging trends has increasingly highlighted significance of positive mental health (PMH), as improving positive aspects of mental wellbeing results in decline of psychological dysfunction among adults. (Jones et al, 2013).

In this realm, there had been little empirical research, there exists a huge gap in indigenous literature in regard to exploration of the holistic wellbeing assessment as well as presence of two distinct continua. There is growing recognition of presence of high levels of mental wellbeing, since it has been linked with higher level of individual resilience, positive business outcomes, greater productivity, increased commitment, reduction in mortality rates, enhanced intellectual functioning; and increased levels of social capital (Diener & Seligman, 2004;Harter et al., 2003).

Specifically in case of Pakistan; mental health is the most neglected field of investigation among employed workforce. The encumbrance of mental dysfunction has outgrown overall gains in health (Eisenberg, 1998). The Prevailing approach advocates prevention approach rather than diverting focus on promotion of positive mental wellbeing indicators. Positive mental wellbeing is a resource for inculcating and sustaining positive health outcomes. It predicts onset, progression, and aftermaths of negative health effects both physical and mental illnesses. For instance, there has been recognized association of diseases like cardiovascular and cerebrovascular diseases with psychological issues such as depression and anxiety (Carson et al., 2002; Kuper,

Marmot, & Hemingway, 2002). The all-inclusive conceptualization of health incorporated these interrelationships. During last decade, Pakistan, has encountered major challenges such as political instability, economic recession, social injustice. These challenges manifested a higher frequency of depression and anxiety across general populace (mean overall prevalence of depressive disorders and anxiety is 34%).

Modern organizations are complex, dynamic and pervasive institutions which influence individuals, groups, organizations and nations. Plethora of empirical research (e.g., Stoetzer et al., 2009) has confirmed the impact organizational culture and work settings impact on organizational outcomes such as overall performance, proficiency, dropouts, malingering, involvement, social connectivity, and affective behavior of employees. So there is a need to explore these particular aspects of workforce which affect their psychological, emotional and social wellbeing. The dynamics interactions at work, emphasizing significance of research addressing positive mental health and its determinants, i.e., personality traits, organizational culture in the workplace. (e.g., Deneve, & Cooper, 1998; Watson, Clark, Mclntyre, & Hamaker, 1992). Within this context, organizational culture is an important contributing factor in maintaining positive mental health of employees. (e.g., Ahmed, 2012; Bethlem, 1999; Cook & Rousseau, 1988, Hofstede, 1990; Shim, 2012; Schein, 1992). Moreover, focus of the present research would be on bankers, telecom officers and medical professionals, consultants and instructors working in different organizations, for assessing determinants of positive mental wellbeing in pleuritic work settings.

In Pakistan mental health has been explored by many researchers, though focusing more on psychopathology and mental illness e.g. (Ahmed, 1994; Ahmed & Abidi, 2006; Ahmed & Haroon, 2006; Munaf & Ahmed, 1998). Moreover, no significant work has been done with regard to the exploration of determinants of positive mental health i.e., organizational culture and personality traits in relation to the domain of positive mental health longitudinally. The current study intended to examine determinants of the positive mental health i.e. holistic assessment of wellbeing among heterogeneous group of employees across three time points. Moreover, two -continua model of positive mental wellbeing has been tested. The pattern of relationship between organizational culture and personality traits with regard to positive mental wellbeing were examined. The current study also aimed to explore role of some demographics such as age, education qualification, work organization, gender, and marital status of the employees. It was assumed that with particular reference to Pakistani culture, gender and all above mentioned demographic variables

may show varied relationships with study variables from individualistic literature. The exploration of demographic variables such as gender, education, job experience might reflect variations in socialization practices, religious beliefs, gender roles, impact of educational qualification, and job experience with respect to prevalent collectivistic culture in Pakistan.

In the present study, employees from public service organizations and private organizations like bank, telecommunication officers, and medical professionals were included in an effort to explore impact of work settings i.e. organizational culture, nature of job and personality traits of employees on mental health. The current study had been executed on a longitudinal trend to observe stability or change within prospective variables; the pattern of interaction of work context (organizational culture), and personal factors (personality traits), on levels of positive mental health across three time points. Hence study variables had been repeatedly measured for analyzing temporal associations across three measurement points.

Chapter II

Method

Objectives

1.   To measure positive mental health and psychopathology among employees working in diverse settings.

2.   To assess associations between positive mental wellbeing, personality traits and organization culture traits among employees.

3.   To explore personality traits and organizational culture traits as determinants of positive mental health among employees across three time points.

4.   To see differential relationship of personality traits on positive mental health.

5.   To analyze differential relationship of personality traits on psychopathology.

6.   To explore impact of demographic variables on study variables.

Research Design

The current study was intended to examine personality traits and organization culture as determinants of positive mental wellbeing in a heterogeneous professionals sample across three time points. The primary aim was exploration of determinants relationship with positive mental health across professional workforce employed in diverse work settings, along with analyzing the pattern of stability and change in study variables over a period of time. Self-report measures were used for measuring prospective study variables across study I and study II (across three time points). The current study employed original standardized version of instruments for measuring study constructs i.e., positive mental health, psychopathology, personality traits and organizational culture. The objectives of current study were met through two successive studies.

Study-I. Study I comprised of two phases. During Phase I study measures were identified. Try out of the measures was done and few items of study measures i.e., Mental health continuum short form (MHC-SF), Denison Organization culture survey questionnaire (DOCS), NEO-FFI were slightly modified in light of respondents suggestions which were further finalized by utilizing committee approach. Phase II of study I comprised of pilot study. During this phase study measures i.e., MHC-SF,

DOCS, BSI and NEO-FFI were validated. In addition psychometrics properties of these measures were established (alpha reliabilities, item total correlation, relationship among study variables).

Study-II. Study-II comprised of three phases i.e., time point 1, time point II and time point III respectively. Time point 1 was primarily intended at hypothesis testing. The latter phase i.e., time point II and time point III were subjected at exploring changes and stability within positive mental wellbeing, psychopathology and its determinants longitudinally.

Study I		Study II	
Phase I: Try out	**Phase II: Pilot study** $N=225$ $M=137, F=88$	**PhaseI-Timepoint1** $N=622$ $M=376, F=234$	**Phase II-Time2** $N=225$ $M=125, F=90$ **Phase III-Time 3** $N=178 M=95, F=81$
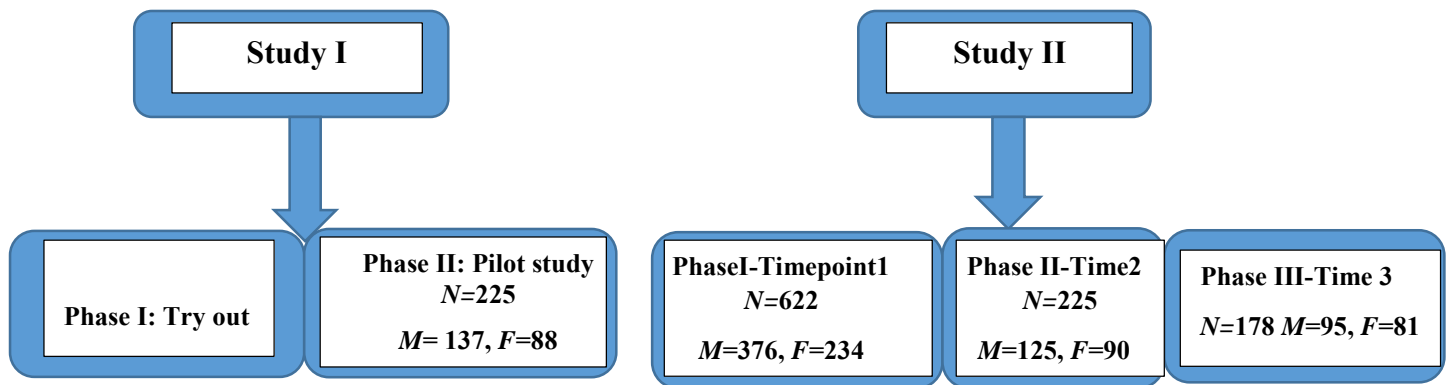
Figure 3. Research Design of the present study

Chapter III

Study I: Try out and pilot study

Study I was further carried out in two phases.

Phase-I: Identification (try out) and modification of instruments

Phase II: Pilot study

Objectives

1.   To identify appropriate measures for study variables.

2.   To examine study measures for their comprehension and cultural relevance.

3.   To incorporate modifications on basis of respondents responses for improving comprehension with respect to indigenous context.

Phase I: Identification and Tryout of the instruments

During phase-I study measures were identified and try out was conducted. Measures were finalized by utilizing committee approach.

Sample. Sample of the try out consisted of 25 professionals ($n=18$ males, $n=9$, females), age range from 25 to 47yrs ($M=30.28$, $SD=5.77$), marital status (n =20 married, $n=5$ unmarried) work experience (ranging from 5 to 18 yrs.). Professionals were working as executives and grade I, II and III officers belonging to banking sector, telecommunication, health care, educational institutes and consultancy companies.

Procedure. During tryout phase, questionnaires had been distributed to group of professional's serving in diverse sectors i.e., bankers, consultants, doctors and telecommunication officers for a thorough review in terms of comprehension, understanding and relevance of the items in our indigenous work circumstances. The questionnaires booklet had been distributed to group of doctors, bankers and telecom employees, after seeking their consent. On basis of the feedback and comments of the professionals, instruments items that were difficult to comprehend had been identified.

Committee approach. During phase I, identified instruments were thoroughly reviewed by committee comprising of three subject matter experts, one professor and two scholars (Ph.Ds.) having expertise in psychometrics. Experts reviewed items to check for their clarity, relevance and appropriateness. At this stage, feedback and comments gathered by respondents on study measures were also considered before

finalizing required modifications. Permission from the authors had been sought for minor modifications in respective measures for improving comprehension and indigenous relevance. The original items and modified items of study measures were shown in Table below.

Modification and Finalization of the instruments

Original Item	Modified Item
Mental Health Continuum	
1.Happy	Happy with life.
9.that you liked most parts of your personality	You like your personality
Denison Organization Culture Survey	
4. Everyone believes that he or she can have a positive impact.	Everyone believes that he or she can have a positive impact on the organization
5. Career planning is ongoing and involves everyone in the process to some degree	Career planning is ongoing process and to some extent involves everyone in this process
7. People work like they are part of a team	People work as they are part of a team.
8. Teamwork is used to get work done, rather than hierarchy	Mostly work is getting done through teamwork rather than hierarchy.
10. Work is organized so that each person can see the relationship between his or her job and the goals of the organization.	Work is organized so that each individual can see the relationship between their job and goals of the organization
11. Authority is delegated so that people can act on their own	Authority is delegated so that people can act on their own/ according to their style of work.
12. The 'bench strength' (capability of people) is constantly improving.	The 'bench strength' (capability of people) is constantly improving in terms of their output/performance
13. There is continuous investment in the skills of employees	There is continuous investment in skills of employees.
15. Problems often arise because we do not have the skills necessary to do the job	Problems often arise because we do not have the right skills for the job.

Original Item	Modified Item
18. There is a clear and consistent set of values that governs the way we do business	There is a clear and consistent set of values that governs the way we do business/ the way we do things.
20. There is an ethical code that guides our behavior and tells us right from wrong.	There is an ethical code that guides our behavior and distinguishes right from wrong.
22. There is a "strong" culture.	There is a "strong" culture in our organization/hospital.
29. Working with someone from another part of this organization is like working with someone from a different organization	Working with some colleague from another department of organization is similar to working with someone from a different organization
41. We view failures as an opportunity for learning and improvement.	Failures are viewed as an opportunity for learning and improvement.
42.Innovation and risk taking are encouraged and rewarded	Innovation and risk taking are encouraged and rewarded in our organization/ work context.
43. Lots of things " fall between the cracks"	A lot fall between the cracks.
55. People understand what needs to be done for us to succeed in the long run.	Professionals have the understanding for running successful program.
47.Our strategy leads other organizations to change the way they compete in the industry	Our strategy leads other organizations to change the way they compete in their respective fields.
58. Short term thinking often comprises our long term vision.	Short term thinking often comprises on from long term vision.
Neo Five Factor Inventory	
11.When I 'm under a great deal of stress, sometimes I feel like I ' going to pieces	When I 'm under a great deal of stress, my body feels a bit torn apart or I am going to pieces
21. I often feel tense and jittery	I often feel tense.
29. I believe that most people will take advantage of you if you let them	I believe most people will take advantage of you if you let them.
Rosenberg Self Esteem Scale	
2.At times I perceive myself as not good at all	At times I think I am no good at all.
4. I am able to do things as good as most other people.	I am able to do things as well as most other people.

Results. Generally, it was found that items of these measures were culturally relevant but few of items of MHC-SF, NEO-FFI and Denison Organization Culture Survey Questionnaire (DOCS) were modified to increases their comprehension as they were reported as confusing and difficult to comprehend by respondents. These

measures had been slightly modified to improve sentence structure by employing committee approach, after scrutinizing feedback and comments from the respondents. Item no.1 and 9 of MHC-SF. Denison Organizational Culture survey questionnaire items had been modified i.e., item no. 4, 5, 7, 8, 10, 11, 12, 13, 15, 18, 20, 22, 29, 41, 42, 43, 55, 47, 58 especially to satisfy doctors concern for improving relevance to their work nature. Mostly doctors were having opinion that Denison Organizational Culture survey (DOCS) was more relevant to business oriented organizations than to be administered within the health care sector. Researcher consulted Denison Consultancy center and inquired about its suitability, they informed that this questionnaire had been widely used within health care sector and for medical practitioners. After getting assurance from the Denison Consultancy center, researcher made few additions in the items for increasing relevance for the study participants e.g., organizations/hospitals, customer/patients to improve relevance for the prospective research participants i.e. health care professionals. Original items and modified items are shown in the table given above. After finalizing study instruments, next step was initiated.

      Conclusion. During try out phase instruments were identified for measuring study constructs. The comprehension and relevance of study instruments were explored for prospective study participants within indigenous organizational context. Some items of MHC-SF, DOCS and NEO-FFI were modified to improve their relevance and comprehension based on comments and suggestions of employees working in varied work organizations. These modifications were further scrutinized after employing committee approach. These finalized standardized measures were employed in the next phase. Since participants were educated, original versions of these instruments were used for subsequent phases.

Phase II: Pilot Study

Objectives

Pilot study was carried out with following objectives:

1. To determine construct validity of the Mental Health Continuum-Short Form (MHC-SF), Denison Organization Culture Survey questionnaire (DOCS), Brief Symptom Inventory (BSI) questionnaires.

2. To pretest the two- continua model of positive mental wellbeing.

3. To determine the psychometrics (i.e., alpha reliabilities, skewness, kurtosis, discriminant and convergent validity of study measures)

4. To see the overall trends of the study variables on the present data.

Sample

Sample of the pilot study consisted of 225 professionals (doctors=76, telecommunication engineers=65, consultants=4, bankers=71and others (*n=9*) with an age ranged from 24- 40 years (*M*= 30.72, *SD=*7.03). Of 225 professionals,(males=137, females=88) were approached from diverse work environments telecommunication, computers software houses, health sector, consultancy companies, industries, government sector through purposive convenient sampling method. The monthly income of professionals ranged from Rs. 18000/- to 3 lacs. The inclusion criteria was minimum work experience of at least six months, with work experience ranged from (1 year to 40 years). Initially 235 professionals were approached, 10 questionnaires were discarded for not being fully completed. Table 1 displays frequencies and percentages of demographic specifications of the sample.

Table 1 shows percentages and frequencies of demographic variables.

Table 1

Frequency and percentages of demographic variables (N=225)

Demographic Variables	*F*	%
Gender		
Male	137	60.9
Female	88	39.1
Missing System	0	0
Marital Status		
Married	123	54.7
Unmarried	99	44.0
Missing System	2	.9
Education		
PhD/FCPS/FRCP	13	5.8
MS/ Masters/M.Sc./MA/MBA	80	35.6
Bachelors/MBBS/B.Sc./BHons/BA/B.com/BDS	132	58.7
Missing System	0	0
Years of experience		
1-2 years	39	17.3
3-6 years	20	8.9
6-10 years	18	8.0
10-40 years	24	10.7
Missing System	3	1.3
Monthly income		
Rs.15-18000	21	9.3
Rs 25-35000	8	3.6
Rs 35-50000	57	25.3
>50,000	59	26.2
1-3 lac	21	9.3
Missing System	18	8.0
Designation		
Bankers	71	31.6
Telecommunication	65	28.9
Doctors	76	33.8
Consultants	13	5.8
Missing System	0	0
Work Organization		
Banks	76	33.8
Telecommunication	69	30.7
Hospitals	66	29.3
Other organizations	14	6.2
Missing System	0	0

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Table 1 depicts percentages and frequency distribution of demographics characteristics of the sample. Sample comprised of higher number for males as compared to females. Higher number of professionals had bachelor's level educational qualification.

Instruments

The following instruments were employed in pilot study.

Demographic Information Sheet. A demographic information sheet (see *Appendix A*) was attached with study instruments for obtaining information about respondent's gender, age, educational qualification, marital status, job experience, job designation, work organization. The consent form (see *Appendix B)* was also attached along with the above instruments, to obtain respondents willingness to participate in present research.

Mental health continuum-short form (MHC-SF). MHC-SF comprised of 14 items. Of 14 items, three items for emotional (happy, interested in life, and satisfied), six items for psychological wellbeing dimensions (i.e., autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, self-acceptance) and 5 items for social wellbeing aspects (i.e., social contribution, social integration, social actualization, social acceptance, and social coherence, respectively) (Keyes, 1998) (see *Appendix C*). It is 6-point Likert scale with response options ranging from ('never=0', 'once or twice=1', 'about once a week=2', '2 or 3 times a week=3', 'almost every day=4', 'every day=5'). All items are positively scored 0-5, total score on scale can range from 0 to 84. Higher scores reflect higher level of wellbeing on each dimension. Despite overall score, categorical diagnosis of mental health states i.e., flourishing, moderate mental health and languishing mental health can also be evaluated. Flourishing mental health can be accounted for individuals that endorse 'every day' or 'almost every day' on three of emotional wellbeing items and six items of positive functioning during past month. Languishing mental health is diagnosed for individuals that endorse 'never' or 'once or twice' experienced at least seven of the symptoms, where one of the symptoms is from hedonic (i.e., EWB) cluster (i.e., happy,

,

interested in life, or satisfied)." Individuals that did not fit the above criteria are diagnosed as having moderate mental health (Keyes, 2008)

The psychometric properties and construct validity of MHC-SF has been established on various populations (e.g., Keyes, Eisenberg, Perry, Dube, Kroenke, & Dhingra, 2012).

The Brief Symptoms Inventory (BSI; Derogattis, 1983). Brief symptom inventory (BSI; see *Appendix D*) was employed in the study to measure psychological distress among heterogeneous professional employees. The inventory comprises of 53-items measuring nine primary dimensions of psychological distress namely (somatization, obsession compulsion, depression, anxiety, phobic anxiety, interpersonal sensitivity, hostility, paranoid ideation & psychoticism) and three global indices. BSI is a self-reported Likert type 5-point rating scale ranging from 0 (not at all) to 4 (extremely). Higher scores on subscales are indicative of more severe psychological symptoms. It was normed on adolescents and adults who were not psychiatric patients, were psychiatric outpatients, or were psychiatric inpatients. The BSI is appropriate for individual's aged 13 years and older. BSI was found to be a reliable (alpha reliabilities for subscales was found high, ranging between .73 and .81 and reliable scale with acceptable psychometric properties (Derogattis, 1993). Of 9 symptom dimensions, Somatization (Items 2, 7, 23, 29, 30, 33, 37), Obsession-Compulsion (Items 5, 15, 26, 27, 32, 36),Interpersonal Sensitivity (Items 20, 21, 22, 42) Depression (Items 9, 16, 17, 18, 35, 50), Anxiety (Items 1, 12, 19, 38, 45,49), Hostility (Items 6, 13, 40, 41, 46), Phobic Anxiety (Items 8, 28, 31, 43, 47), Paranoid Ideation(Items 4, 10, 24, 48,51), Psychoticism (Items 3, 14, 34, 44, 53).

Denison Organizational Culture Survey (DOCS). DOCS (Denison, 2000) was used for quantitative measurements of organizational culture traits (see *Appendix E*). The scale was developed by Denison and Neal in 1996. DOCS-60 items measures specific organizational culture traits i.e., involvement, consistency, adaptability, and mission that directly impact performance. Each trait has 15 items and further subdivided into three indices (management practices) having five items each. DOCS is a 5-point Likert type rating scale ranging from 1-5. Minimum score on this scale is 60 and maximum is 300. High score on each of the organization culture traits depicts individual high on that trait. Item no.15, 24, 29, 34, 39, 43, 50 and 58 of DOCS are reverse scoring items. DOCS has

found to have good alpha reliability and psychometric properties on Pakistani employees (Akhtar, 2004).

NEO-Five Factor Inventory (NEO-FFI). The NEO-FFI (Costa & McCrea, 1992) (see *Appendix F*) is a 60-item instruments used for assessment of personality traits. Responses were rated on 5-point Likert scale ranging from 1-5. It measures five personality traits namely, neuroticism, extraversion, openness to experience, agreeableness and conscientiousness. High score represent respondent is high on that particular trait and vice versa. Reversely scored Items are. 1, 3, 8, 9, 12, 14, 15, 16, 18, 23, 27, 29, 30, 31, 33, 38, 39, 42, 44, 45, 46, 48, 54, 55, 57, and 59.

Rosenberg Self-Esteem Scale (RSES). RSES (See Appendix *G*) measures overall self-esteem (Rosenberg, 1979). RSE comprised of 10 items with 7- point rating scale, ranging from (1= totally disagree to 10=totally agree). Cronbach's alpha for the RSE was found to be .77 to .88. Test-retest reliability for RSE ranged from .82 to .85. Construct validity was found to be with anxiety (- 0.64), depression (- 0.54) (Rosenberg, 1979).

Procedure

Sample was approached after seeking permission from organizations heads. The organizations authorities were approached and briefed about purpose of current study. The respondents were requested to provide written consent to ensure their voluntary participation. Ethical consideration were also kept in account i.e. participants were allowed to leave at any stage of the study when they were not comfortable. They were assured about confidentiality and their right of privacy that given information will be used only for research purpose. Each participants was approached individually and debriefed. The booklets comprised of the instruments i.e. Mental Health Continuum Short Form (MHC-SF), Denison Organization Culture Survey Questionnaire (DOCS), Brief Symptom Inventory (BSI), and NEO Five Factor Inventory (NEO-FFI) were delivered to participants. Besides the detailed written instructions, respondents were instructed in person to respond to each questionnaire items after thorough reading. Some of the respondents who were having difficulty in understanding instruments items were verbally briefed separately for better clarity and comprehension of the instrument items. They were specifically requested to properly read each item and with

maximum honesty by choosing response option that is nearest to their attitudes, behaviors and experiences. They were also asked to comply with the instructions diligently. At average, the time required to fully attempt the booklet in its entirety was approximately 20 minutes. Respondents were repeatedly assured about confidentiality of shared information as some respondents displayed hesitance in sharing personal information with the researcher. When the essential data had been acquired, data analysis were done for generating emerging trends in data.

Results

Results of the pilot study revealed factor structure, determination of psychometric properties, and descriptive statistics of the study measures i.e., MHC-SF, DOCS, BSI, and NEO-FFI. Two-continuum model of the positive mental health was pretested. Interrelationship midst study variables were also computed to analyze the general trends of the data.

Descriptive analyses. At the preliminary stage, data was first cleaned, and then explored to identify the outliers, missing data. After dealing with missing data, basic descriptive were computed. The Cronbach alpha reliabilities of instruments were determined and general pattern of the data were also analyzed. The details were as follows.

Table 2

Descriptive Statistics, alpha reliability coefficients and univariate normality of the study variables (N=225)

Subscales	No of Items	α	*M*	*SD*	Skewness	Kurtosis
MHC-SF total	14	.89	55.97	11.89	.373	-.070
Emotional wellbeing	3	.86	12.58	3.32	-.491	-.304
Social well being	5	.75	17.37	5.01	.100	-.279
Psychological well being	6	.85	26.01	5.68	-.763	-.332
DOCS	60	.93	198.9	28.64	.553	.211
Involvement	15	.86	49.04	8.76	-.431	-.003
Consistency	15	.78	49.35	7.26	-.323	.209
Adaptability	15	.74	48.67	6.83	-.202	.407
Mission	15	.83	49.91	8.13	-6.49	.322
NEO-FFI						
Neuroticism	12	.45	35.02	5.01	-.431	.596
Extraversion	12	.50	39.41	4.82	.469	.297
Openness to Experience	12	.63	34.99	3.49	.147	.371
Agreeableness	12	.43	37.25	3.94	.404	.110
Conscientiousness	12	.71	42.32	6.07	.283	-.612
BSI	53	.97				
Somatization	7	.88	15.20	7.62	.636	-.810
Obsession-Compulsion	6	.78	15.42	5.82	.398	-.542
Interpersonal Sensitivity	4	.76	9.35	4.35	.808	-.01
Depression	6	.86	13.88	6.63	.587	-.681
Anxiety	6	.82	13.55	5.92	.553	-.620
Hostility	5	.89	11.86	5.15	.604	-.392
Phobic Anxiety	5	.95	10.88	5.50	.798	-1.80
Paranoid Ideation	5	.75	12.79	4.79	.306	-.572
Psychoticism	5	.78	12.06	5.31	.506	-.632
RSE	10	.78	28.81	5.59	-.502	.971

Note. RSE= Rosenberg Self Esteem scale

Table 2 indicates the descriptive i.e., alpha coefficients, mean, standard deviation, skewness and kurtosis for Mental Health Continuum Short Form, Denison Organization Culture Survey Questionnaire, Neo Five Factor Inventory and Brief Symptom Inventory (BSI) and their subscales. Reliabilities of these scales and subscales were ranged from .43 to .97. Nunnally (1978) had suggested .7 to be

considered as an adequate alpha coefficient but at times alpha coefficients less than .7 were also reported in several studies. Before running the inferential statistics, test of normality was run to determine either the sample distribution approximates normal distribution and symmetry for accurate measure of standard deviation and standard error. The skewness and kurtosis values all lie within the normal range, hence data was normally distributed.

Confirmatory Factor Analysis of MHC-SF and BSI. Confirmatory factor analysis (CFA) was computed to ascertain the factor structures of MHC-SF, BSI in a sample of 225 Pakistani adults through AMOS-18. The major aim of evaluating these models was to analyze their alignment with current theoretical underpinnings. CFA precisely relies on several statistical tests to determine acceptability of the model fit to the data. These Fit indices (CFI, GFI, TLI & RMSEA) and factor loadings (.30 and above) determine the criterion to test validity of the test items in examining goodness/fitness of model. The factor loadings (standardized regression weights values) depict amount of association between each item and particular construct, > 0.30 is considered adequate value (Stevens, 2009). This indicator evaluate relevance of item in assessing the particular construct. On the other hand, few investigators (e.g., Bernard,1998; Costello & Osborne, 2005 & Matsunaga, 2010 suggested .40 as cut off criterion to determine whether or not a particular item loaded substantially on a factor. Among the model fit indices CFI ranges from 0 to1 with larger value indicating better model fit. Acceptable model fit is indicated by a CFI value of .90 or greater (Hu & Bentler, 1999). The Tucker-Lewis index (TLI; Tucker & Lewis, 1973) is a nonnormed fit index that refits model fit very well at all sample sizes (Bentler, 1990). Values of RMSEA are interpreted as zero indicate perfect fit between the model and data, values less than .05 depict good fit, values between (.05 & .08) specify fair fit, and values between (.08 & .10) mediocre fit ,and values above.10 poor fit (Fabrigar,Wegener, MacCallum &Strahan,1999).

Confirmatory Factor Analysis of MHC-SF had been conducted to validate three factor structure of positive mental health on Pakistani sample as was found in western population (Keyes, 2005; Westerhof & Lamers, 2008). Three models of positive mental health had been tested for identifying best fitting model to present data; a single-factor model considering positive mental health as a uni-dimensional construct; two-factor

model taking into account positive mental health as being consisted of two components i.e., hedonic and eudiamonic wellbeing; and finally our hypothesized proposition of multidimensional three-factor model constituting three dimensions of positive mental health i.e., social, emotional and psychological wellbeing. Findings of CFA for MHC-SF and BSI were reported in the following table.

Table 3

Robust Maximum Likelihood Estimation of CFA Models of single, two factor and three factor Latent Structures of the MHC-SF Items (N=225)

Models	χ^2 (df)	CFI	IFI	TLI	RMSEA	$\Delta\chi^2$
M1-Single factor	385.20 (77)	.77	.78	.73	.13	-
M2-Two factor	314.22 (76)	.82	.83	.79	.11	70.98 (1)
M3-Three factor	131.97 (70)	.92	.95	.94	.06	182.25 (6)

Note. TLI = Tucker-Lewis index, CFI = comparative fit index, RMSEA = root mean square error of approximation

Table 3 shows fit indices values of single factor (model I), two factor (model II) and three factor structure (model III) for MHC-SF. Values of fit indices for single-factor model and two-factor model indicated a poor model fit. Findings of table 3 also reveals major fit indices presenting good fit for three-factor model in comparison to single-factor and two-factor models of positive mental health. Single-factor model considers positive mental health construct as uni-dimensional, two-factors model represents positive mental health construct as comprises of two dimensions i.e., hedonic and eudiamonic wellbeing. However, three-factor model of MHC-SF; represents mental health as a multidimensional construct constituting of emotional, social and psychological wellbeing dimensions. Hence, values of fit indices for model III indicates, MHC-SF is statistically valid measure for positive mental health comprising of psychological, emotional and social wellbeing for Pakistani adults.

Table 4

Factor loadings of CFA for Mental Health Continuum MHC- SF (N=225)

Item no.	Items	Factor Loadings
1.	Feel happy with life	.82
2.	Feel interested in life	.84
3.	Satisfied with life	.79
4	That you had something important to contribute to society.	.48
5.	That you belonged to a community (like a social group, or your neighborhood)	.54
6.	That our society is a good place, or is becoming a better place, for all people	.67
7.	That people are basically good	.77
8.	That the way our society works makes sense to you.	.51
9.	You like your personality	.63
10.	Good at managing the responsibilities of your daily life	.63
11.	That you had warm and trusting relationships with others	.78
12.	That you had experiences that challenged you to grow and become a better person	.67
13.	Confident to think or express your own ideas and opinions	.72
14.	That your life has a sense of direction or meaning to it	.69

Table 4 shows factor loading of items for psychological, emotional and social wellbeing subscales of MHC-SF, ranging from .48 to .84. The cut off criterion of .40 is used to determine whether or not a particular item loaded substantially on a factor (Bernard 1998; Costello & Osborne, 2005; Matsunaga, 2010). It is evident that all the items has factor loadings >.40, therefore meet the criteria for the items selection within their respective factors.

Confirmatory factor analysis of BSI was examined to determine factor structure on the present data. BSI was found to be sensitive to factor analytic procedures and sample size, one- factor, eight-factor, six-factor, and five-factor solutions have been reported. For the present study original nine factor solution (Derogattis, 1983); single factor solution and six-factor models were tested. Detailed account of goodness of fit indices for nine-factor solution of BSI i.e. somatization, obsessive compulsive disorder, interpersonal sensitivity, depression, anxiety, phobic anxiety, paranoid ideation, hostility, psychoticism, BSI as a measure of one factor (single-factor solution) i.e., general distress, and six-factor solution (somatization, obsessive compulsive disorder, depression, anxiety, phobic anxiety, and psychoticism) has been mentioned below.

Table 5

Model fit indices of CFA for Nine Subscales of Brief symptom Inventory (BSI) (N=225)

Models-I	χ^2 (*df*)	CFI	IFI	TLI	RMSEA
Somatization	18.274 (14)	.99	.99	.99	.03
Anxiety	11.434 (8)	.99	.99	.98	.04
Obsession-Compulsion	15.23 (7)	.97	.97	.94	.07
Depression	7.705 (5)	.99	.99	.98	.04
Phobic anxiety	9.36 (5)	.99	.99	.98	.06
Paranoid ideation	15.40 (5)	.95	.95	.91	.09
Psychoticism	2.00 (5)	.99	.99	.98	.01
Hostility	19.65 (3)	.85	.87	.85	.15
Interpersonal sensitivity	5.46 (1)	.85	.88	.88	.14

Note. TLI Tucker-Lewis index, CFI comparative fit index, RMSEA root mean square error of approximation

Table 5 indicates values of fit indices for nine subscales of BSI. It clearly shows values of fit indices for paranoid ideation, hostility and interpersonal sensitivity are undesirable. While fit indices values for somatization, anxiety, phobic anxiety, depression, psychoticism and obsession-compulsion, subscales depicts good fit to present data.. These results indicate that Somatization, anxiety, depression, phobic anxiety, psychoticism and obsession compulsion is statistically valid dimensions of BSI. However, values of fit indices for obsession compulsion shows good fit to the data except RMSEA=.07, which is slightly above the desired value of below .05.

Table 6

Model Fit Indices of CFA for One-Factor Model of Brief Symptom Inventory (BSI)
(N=225)

Model-II	χ^2	*df*	χ^2/df	CFI	TLI	IFI	RMSEA
BSI-One Factor Solution	2830.3	1269	2.230	.81	.80	.81	.07

Note. TLI= Tucker-Lewis index, CFI= comparative fit index, RMSEA= root mean square error
of approximation

Table 6 shows fit indices values for Single factor solution of BSI which clearly
depicts one-factor solution of BSI does not fit to present data.

Table 7

Model fit Indices for Six factor structure of Brief Symptom Inventory (BSI) (N=225)

Model-III	χ^2 *(df)*	CFI	TLI	IFI	RMSEA
M-Six-Factor-solution(BSI):Som, O.C, Dep,,Anx, Phobanx, Psy	837.89 (454)	.92	.90	.92	.06

Note. Som = somatization, O.C= obsession compulsion, Dep = depression, Anx = anxiety, phobanx =
Phobic anxiety, Psy = psychoticism

Table 7 indicates values of fit indices for six- factor solution of BSI. All values
of fit indices shows good fit to the data. Hence confirming six-factor solution for BSI
on present sample. Findings depicts six-dimensions i.e. Somatization, obsessive-
compulsive, depression, anxiety, phobic anxiety and psychoticism of BSI to be valid
measure of psychopathological symptoms on present non clinical sample.

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Table 8

Factor loadings of CFA for the Six factor Model of Brief Symptom Inventory (BSI)
(N=225)

Item no.	Items	Factor loadings
1.	Nervousness or shakiness inside.	.50
2.	Faintness or dizziness.	.66
3.	The idea that someone else can control your thoughts.	.54
4.	Feeling others are to blame for most of your troubles.	.57
7.	Pains in heart or chest.	.73
8.	Feeling afraid in open spaces.	.69
9.	Thoughts of ending your life.	.64
10.	Feeling that most people cannot be trusted.	.53
12.	Suddenly scared for no reason.	.76
14.	Feeling lonely even when you are with people.	.67
16.	Feeling lonely.	.80
17.	Feeling blue.	.77
18.	Feeling no interest in things.	.80
19.	Feeling fearful.	.70
23.	Nausea or upset stomach.	.72
24.	Feeling that you are watched and talked about by others.	.71
28.	Feeling afraid to travel on buses, subways, or trains.	.76
29.	Trouble getting your breath.	.77
30.	Hot or cold spells.	.80
31.	Having to avoid certain things, places, or activities because they frighten you.	.81
33.	Numbness or tingling in parts of your body.	.70
34.	The idea that you should be punished for your sins.	.57
35.	Feeling hopeless about your future.	.62
37.	Feeling weak in parts of your body.	.71
38.	Feeling tense or keyed up.	.67
43.	Feeling uneasy in crowds.	.67
44.	Never feeling close to another person	.60
45.	Spells of terror or panic.	.74
47.	Feeling nervous when you are left alone.	.73
48.	Others not giving you proper credit for your achievements.	.65
49.	Feeling or restless you could not sit still.	.60
50.	Feeling of worthlessness.	.73
51.	Feeling that people will take advantage of you if you let them.	.61
53.	The idea that something is wrong with your mind.	.66

Table 8 shows factor loadings of CFA for six -factor solution of BSI i.e., somatization, obsessive compulsion, anxiety, depression, phobic anxiety, psychoticism.

Factor loadings of all items are found to be above >.40 criteria. Hence, these factor loadings provided evidence for validity of symptom dimensions as measure of their respective factors.

   Pretesting of dual continua model of positive mental health. Dual continua model of mental health was tested by computing confirmatory factor analysis (CFA). Two continua model of positive mental health proposition states mental health and mental dysfunction are two distinctive latent factors. This proposition was tested by executing CFA of both measures Mental Health Continuum Short Form (MHC-SF) and Brief Symptom Inventory (BSI) simultaneously. This model contends that mental health represents two distinct continua i.e., mental health and mental dysfunction (Keyes, 2005). CFA help to determine factor loadings of the items i.e., whether items of MHC-SF and BSI load on their respective factors. To test these assumption three models to screen model that best fitted the present data

Table 9

Robust Maximum Likelihood Estimation of CFA Models of single, two unrelated factors and two related Latent Structures of the MHC-SF Items and Brief Symptom Inventory (N=225)

Model	χ^2 (df)	CFI	IFI	TLI	RMSEA	$\Delta\chi^2$
M1 — Single factor (mental health and mental illness)	6215.5 (2144)	.60	.61	.59	.09	-
M2 — Two unrelated factor (mental health and mental illness)	5252.0 (2120)	.68	.68	.70	.08	963.5(24)
M3 — Two related factors (mental health and mental illness)	4134.7 (2053)	.89	.95	.90	.06	1117.3(67)

Note. TLI Tucker-Lewis index, CFI comparative fit index, RMSEA root mean square error of approximation

  Table 9 displays fit indices values for uni-dimensional, two- unrelated factors and two- related factors of positive mental health (MHC-SF) and mental illness (BSI). Values of fit indices for one -factor model and two-unrelated factor model showed a poor fit, but the fit indices clearly suggests that two related factor (mental health & mental illness) model depicts good fit to data as compared to one-factor and two-unrelated factors models.

Table 10

Factor loadings of CFA for Mental Health Continuum Short Form (MHC-SF) and Brief Symptoms Inventory (BSI) (N=225)

Mental Health Continuum-Short form		Brief Symptom Inventory	
Item No.	Factor Loading	Item No.	Factor Loading
1	.74	1	.50
2	.70	2	.64
3	.72	3	.56
4	.48	4	.56
5	.52	5	.51
6	.38	6	.49
7	.42	7	.71
8	.32	8	.67
9	.62	9	.66
10	.61	10	.46
11	.76	11	.65
12	.63	12	.77
13	.70	13	.68
14	.70	14	.68
		15	.65
		16	.76
		17	.69
		18	.76
		19	.71
		20	.66
		21	.68
		22	.64
		23	.71
		24	.70
		25	.75
		26	.57
		27	.66
		28	.74
		29	.74
		30	.75
		31	.80
		32	.71
		33	.68
		34	.59
		35	.64
		36	.61

37	.70
38	.70
39	.59
40	.64
41	.64
42	.62
43	.69
44	.61
45	.74
46	.66
47	.73
48	.56
49	.60
50	.67
51	.57
52	.65
53	.65

Table 10 illustrates factor loadings of each of the items on their intended factors of MHC-SF and BSI. The findings clearly depicts factor loadings for MHC-SF items ranged from .32 to .74 .While factor loadings for BSI ranged from .49 to .80. It is evident that all the items fall within the acceptable range and met the criteria for the selection of items (.30 or above).

Discriminant Validation of MHC-SF: Exploratory factor analysis (an evidence of discriminant validity). Exploratory factor analysis (EFA) had been computed for testing proposition of Dual continua model of mental with both measures of mental health and mental dysfunction i.e., MHC-SF and BSI simultaneously on independent heterogeneous sample of professionals. This provides further evidence for independence of two continua and establish discriminant validity of MHC-SF. For instance MHC-SF and BSI measure two distinct but correlated factors of mental health, hence provide further evidence of discriminant validity of MHC-SF (Lamers. 2012). EFA had been conducted using principal component factor analysis to extract factors (Decoster, 1998). The main purpose of EFA was to check whether items measuring positive mental health (MHC-SF) and mental illness (BSI) load on their prospective distinct factors simultaneously. Kaiser-Meyer-Olkin (KMO) measures of sampling Adequacy and Bartlett Test of Sphericity were administered to check appropriateness of

data for conducting factor analysis. The KMO varies between 0 and 1, and values closer to 1 are supposed to be better (Hutcheson & Sofronion, 1999). The Bartlett test of Sphericity is another indicator to test null hypothesis. These both tests must be done before proceeding for factor analysis (Field, 2005). Generally various criteria's are employed by researchers to estimate the number of factors for set of items. Mostly extensively Eigen values were used to determine significant factors contributing maximum variance (Cattell, 1966). After ascertaining factor structure it is important to decide about items that constitute particular factor.

Factor loadings were used as an indicator of substantial importance of a given item in each factor. It is important to decide significance level for loadings which actually depends on sample size. Eigen values also help to ascertain variance contributed by a particular factor for set of items, values greater than 1 and Scree plot help determine number of factors (Kim & Muller, 1978). Factor rotations is also used as one of the important step, beside fulfilling above mentioned sophisticated checks for proceeding with factor analysis. This step helps to improve interpretability of factor
as it get most out of the loadings of each variable on one of the extracted factors. The nature of relationship between the underlying factors i.e., related or unrelated with each other determine the type of rotation to be executed for conducting factor analysis. For unrelated factors varimax rotation was suggested but direct Oblimin was used for correlated factors (Field, 2005). Mental health and psychopathology are found to be having moderate negative correlation (Keyes, 2007; Lamers, 2012). For the present study, the direct oblimin method is used on basis of association between underlying factors of positive mental health and psychopathology.

The prerequisites of running the factor analysis underlie confirmation for data to be fit. These tests include (Bartlett test of Sphericity, Kaiser-Meyer-Olkin value). For the present data, principal component analysis method was employing while opting for direct Oblimin. Moreover, scree plot was used to further confirm distinct factors mental health and mental illness, moderately negatively related.

Table 11

Kasier-Meyer-Olkin Measures of Sampling Adequacy and Bartlett Test of Sphericity for Mental Health Continuum Short-Form and Brief Symptom Inventory (N=225)

Measures	KMO Measures	Bartlett Test of Sphericity	*df*	*p*
Mental Health Continuum-Short Form and Brief Symptom Inventory	.92	11280.41	221	.000

Table 11 indicates KMO value and Bartlett Test of Sphericity for MHC-SF and BSI. Kaiser (1974) recommends KMO value close to 1 indicative of pattern of correlations are comparatively squeezed and factor analysis would yield distinct and reliable factor results. The KMO value .92 suggests that data is fit for conducting factor analysis. Moreover, Bartlett's Test of Sphericity value 11280.41 significant at *p <.001* also supports that data suitability for factor analysis.

Table 12

Exploratory Factor analysis with Two-factor Oblimin Rotation on MHC-SF and BSI (N=220)

Subscales	Mental Health	Mental Illness
MHC-SF		
Emotional well-being	.84	-.06
Social well being	.80	.08
Psychological well being	.86	-.05
BSI		
Somatization	-.03	.90
Obsessive-compulsive disorder	-.02	.90
Interpersonal sensitivity	.00	.88
Depression	-.03	.90
Anxiety	-.02	.90
Hostility	.02	.88
Phobic anxiety	.04	.93
Paranoid ideation	-.03	.82
Psychoticism	.04	.89

Note. MHC-SF=Mental Health Continuum-Short Form; BSI=Brief Symptom Inventory. Bold= Highest factor loadings for the item.

Table 12 indicates that factor loadings of 14 items of MHC-SF comprising of three subscales i.e., emotional, social and psychological wellbeing on respective factors. Correspondingly, 53 items of BSI have highest factor loadings on intended factors signifying symptom dimensions i.e., somatization, obsessive compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation and psychoticism. All items factor loadings ranged from .80 to .86 for MHC-SF and .82 to .93 for BSI. All the factor loadings are higher than.40 selection criteria, so all items would be retained.

Table 13

Eigen values and variances explained by two factors of Mental Health Continuum Short-Form (Mental health) and Brief Symptom Inventory (Mental Illness)

Factors	Eigen value	% of Variance	Cumulative %
I	22.01	32.85	32.85
II	9.04	9.04	41.89

`   Table 13 shows Factor I has an Eigen value of 22.01 with 32.85 of explained total variance. Factor II had value of 9.04 with 41.89 explained of total variance. Table 13 clearly depicts two factor solutions having Eigen value greater than 1 for MHC-SF and BSI. Kasier-Guttmann"s criterion of Eigen values (Kaiser, 1974) suggest Eigen greater than 1 should be retained.

Value of 1.0 suggest that factor explain for variance as by average original variable. Further confirmation of factors can be sorted by employing Cattell's (1966) Scree Test. This plot explicitly indicative of incremental variance contributed for by each subsequent factor to govern point at which explained variance levels out.

Scree plot. Represent a line segment that reflects portion of total variance explained by individual components in data. Figure 4 indicates two factors emerged for MHC-SF (14 items) and BSI (53 items) by employing EFA (principal component analysis using Direct Oblimin method) i.e. mental health and mental illness. The x-axis depict the amount of variance elucidated by individual constituent by decreasing fraction. The y-axis encompasses segment of total variance explicated. Samples comprising more than 200

respondents is a sufficient criterion for factor selection while employing scree plots (Stevens, 1992).
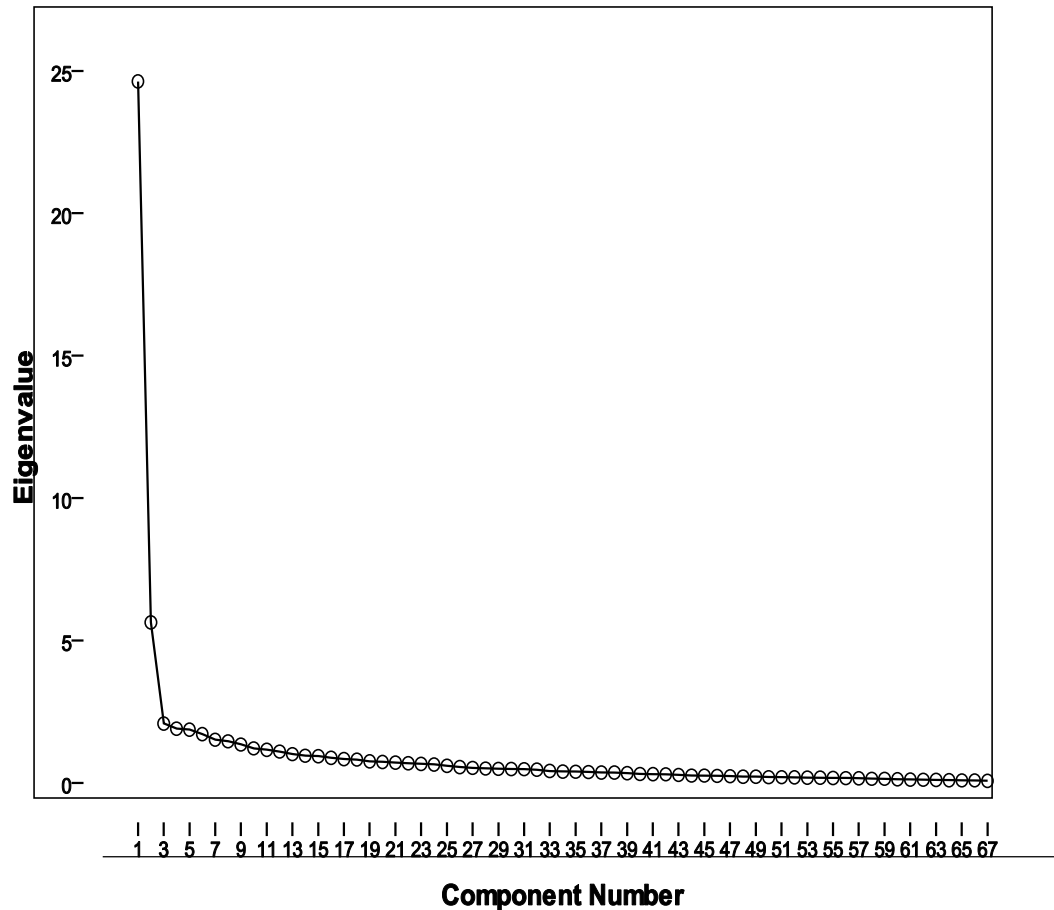
Figure 4. Scree plot depicting two factors of mental health and mental illness

The scree plot clearly depicts that the maximum variance is explained by two factors i.e., mental health and psychopathology; thereby supporting propositions that mental health and mental illness they are two distinctive factors.

Convergent validation of MHC-SF. To establish Convergent validity of Mental Health Continuum Scale (MHC-SF) Pearson Product Moment correlation was computed between MHC-SF and its subscales and Rosenberg Self-Esteem Scale (RSES). Since both instruments measure construct similar in nature (Raine et al., 2006), positive correlation between self-esteem (reflects an individual's general personal emotional appraisal of their own worth) and mental wellbeing (relates to positive affective states and individual's peak level of performance) provides convergent validity evidence.

Table 14

Correlation between Mental Health Continuum subscales (MHC-SF) and Rosenberg Self-Esteem Scale (N=225)

Variables	Rosenberg self-esteem scale
Emotional well being	.26**
Social well being	.22**
Psychological well being	.31**

*p < .05, **p< .01

Table 14 indicates that (MHC-SF) dimensions (social, psychological & emotional wellbeing) significantly positively correlate with Rosenberg Self Esteem Scale. Hence providing evidence for measure convergent validity.

Confirmatory factor analysis of DOCS. Two models of CFA had been conducted for determining construct validity of Denison Organization Culture Survey Questionnaire (DOCS) on the present data, goodness of fit indices were calculated for the original structure of DOCS constituting four traits i.e., consistency, involvement, adaptability and mission. CFA was also computed on items within the four traits of Denison Organization Culture Survey Model (DOCS). The values of the model fit indices for both the original model of Denison Organization Culture Survey Model (DOCS) and items within the four factors i.e. consistency, adaptability, involvement, and mission are displayed in tables below.

Table 15

Model fit indices of CFA on items within four factors of Denison Organization Culture Survey Model Traits (DOCS) (N=225)

Model	Consistency	Involvement	Adaptability	Mission
CFI	.96	.98	.99	.96
GFI	.94	.95	.95	.93
IFI	.96	.98	.99	.96
TLI	.98	.94	.98	.95
RMSEA	.02	.04	.02	.04

Note. TLI Tucker Lewis Index, CFI comparative fit index, RMSEA, root mean error of approximation

Table 15 shows values of fit indices for the items within four traits. These fit indices for all the four traits of Denison Organization Culture Survey Questionnaire (DOCS) have shown adequate model fit.

Table 16

Model	χ^2 (*df*)	CFI	IFI	TLI	RMSEA
Model-I	2601.92 (1637)	.81	.81	.80	.05

Note. TLI Tucker-Lewis index, CFI comparative fit index, RMSEA root mean square error of approximation

Table 16 indicates values of fit indices for Denison Organizational culture survey model show a moderate fit to the data. Though CFI, IFI, TLI are below the desired fit values.

Item total correlations

Item total correlations of MHC-SF, DOCS, BSI and NEO-FFI were computed to analyze whether all the items measure their respective constructs. This helps to determine whether each item of scale correlate with the total score of their corresponding scale.

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Table 17

Item Total Correlation of Mental health continuum-Short form (MHC-SF) (N=225)

Item No.	R
1.	.75**
2.	.72**
3.	.72**
4.	.63**
5.	.64**
6.	.58**
7.	.59**
8.	.48**
9.	.64**
10.	63**
11.	.74**
12.	.65**
13.	.71**
14.	.75**

*$p < .05$, ** $p < .01$

Table 17 depicts all the items significantly positively correlated with the total score. This suggests all items had their due contribution in the measurement of positive mental health. However, these results point towards the validity of all items measuring one construct.

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Table 18

Item-total Correlations of Neuroticism subscale of NEO-FFI (N=225)

Item. No.	r
1	.26*
2	.44**
3	.49**
4	.28**
5	.52**
6	.54**
7	.23**
8	.41**
9	.45**
10	.44**
11	.56**
12	.44**

*p < .05, ** p< .01

Table 18 indicates the item total correlation of the 12 items of neuroticism. All the items of the subscale show significant correlation with the total score. This depicts items of the neuroticism subscale are measuring one construct.

Table 19

Item total correlation of Extraversion subscale of NEO-FFI (N=225)

Item. No.	r
1	.46**
2	.64**
3	.44**
4	.39**
5	.34**
6	.38**
7	.41**
8	.52**
9	.19**
10	.31**
11	.38**
12	.33**

*p < .05, ** p< .01

Table 19 indicates that the item total correlation of Extraversion subscale. All the items show positively correlation with the total; hence establishing its internal consistency.

Table 20

Item total correlation of openness to experience subscale of NEO-FFI (N=225)

Item. #.	r
1	.47**
2	.44**
3	.46**
4	.48**
5	.35**
6	.49**
7	.47**
8	.38**
9	.47**
10	.20**
11	.44**
12	.33**

*p < .05, ** p< .01*

Table 20 indicates the item total correlation of openness to experience subscale. All the items show significant positive correlation with the total; hence establishing its internal consistency.

Table 21

Item total correlation of agreeableness subscale of NEO-FFI (N=225)

Item No	R
1	.34**
2	.56**
3	.33**
4	.49**
5	.42**
6	.33**
7	.25**
8	.32**
9	.26**
10	.26**
11	.31**
12	.41**

*p < .05, ** p< .01*

Table 21 indicates the item total correlation of agreeableness subscale. All the items are significant positive correlated with the total; hence determining its internal consistency.

Table 22

Item total correlation of conscientiousness subscale of NEO-FFI (N=225)

Item No.	r
1	.53**
2	.59**
3	.20**
4	.52**
5	.51**
6	.22**
7	.48**
8	.39**
9	.41**
10	.52**
11	.28**
12	.49**

P*<.05, P**<.01

      Table 22 indicates the item total correlation of conscientiousness subscale. All the items show significant positive correlation with total; hence determining internal consistency.

Interscale correlations of MHC-SF, DOCS, BSI and NEOFFI subscales.

Table 23

Inter-subscale correlation of Mental health continuum- short form (N=225)

Variables	EWB	SWB	PBW	MHC-SF total
EWB	-	.60**	.87**	.87**
SWB		-	.68**	.85**
PWB			-	.94**

Note. EWB=Emotional wellbeing, SWB=Social wellbeing, PWB=Psychological wellbeing.

      Table 23 shows (MHC-SF) subscales were highly correlated indicative depicted of highly internal consistent.

Table 24

Interscale correlations of subscales of NEO Five Factor Inventory (NEO-FFI) (N=225)

Variables	1	2	3	4	5
1. NEU	-	.36**	.35**	.35**	.27**
2. EXT		-	.66**	.51**	.47**
3. OEXP			-	.54**	.69**
4. AGREE				-	.40**
5. CONCI					-

Note. NEU=Neuroticism, EXT=Extraversion, OEXP=Open to experience, AGREE=Agreeableness, CONCI=Conscientiousness * P<.05, **P<.01

Table 24 indicates that all subscales of Neo Five Factor Inventory (NEO-FFI) significantly correlated with each other. This signify subscales measure different facets of personality yet are internally consistent.

Table 25

Interscale correlations of Denison Organization Culture Survey (DOCS) (N=225)

Variables	1	2	3	4
1 INVO	-	..73**	.56**	.58**
2 CON		-	.59**	.53 **
3 ADAP			-	.60**
4 MISS				-
DOCS Total				.83**

Note. INVO=Involvement, CON=Consistency, ADAP=Adaptability, MISS=Mission

Table 25 shows Denison organization culture survey (DOCS) subscales significant relate with each other. This clearly depicts involvement, consistency, adaptability, mission subscales measures are internally consistent.

Table 26

Interscale correlations of Brief Symptom Inventory (BSI) (N=225)

Variables	1	2	3	4	5	6	7	8	9	Total
1. SOM	-	.82**	.74**	.80**	.86**	.87**	.73**	.70**	.78**	.90**
2 OBCM		-	.76**	.81**	.82**	.80**	.76**	.74**	.79**	.90**
3 INSEN			-	.79**	.78**	.78**	.76**	.71**	.75**	.86**
4 DEP				-	.81**	.81**	.77**	.70**	.79**	.89**
5 ANX					-	.84**	.80**	.74**	.79**	.91**
6 PHANX						-	.75**	.58**	.79**	.91**
7 HOS							-	.70**	.75**	.85**
8 PARID								-	.67**	.79**
9 PSY									-	.86**
BSI total										-

Note. SOM=S, O.B=Obsessioncompulsion, I.S=Interpersonalsensitivity, DEP=Depression,anx=Anxiety,PHANX = Phobicanxiety,HOS= Hostility,

Para = Paranoid ideation, Psychot = Psychoticism.

Table 26 indicates interscale correlations among Brief Symptom Inventory (BSI) subscales of i.e., Somatization, Obsessive-Compulsive, Interpersonal Sensitivity, Depression, Anxiety, Phobic Anxiety, Hostility, Paranoid Ideation, and Psychoticism. These subscales show statistically significant correlation with each other at $P > .01$, hence are internally consistent.

Table 27

Reliability estimates of all scales (N=225)

Scales and Subscales	No. of items	Alpha coefficients
MHC-SF	14	.90
EWB	3	.87
SWB	5	.76
PWB	6	.85
DOCS	60	.91
INVO	15	.86
CON	15	.79
ADAP	15	.74
MISS	15	.84
NEO-FFI		
NEU	15	.45
EXT	15	.52
OPEX	15	.63
AGREE	15	.43
CONCI	15	.71
BSI	60	.97

Note. EWB=Emotional wellbeing, SWB=Social wellbeing, PWB=Psychological wellbeing, INVO=Involvement, CO*N*= Consistency, ADAP=Adaptability, MISS=Mission, NEU=Neuroticism, EXT=Extraversion, OPEX=Openness to experience, AGREE=Agreeableness, CONCI=Conscientiousness

Table 27 indicates alpha reliabilities of all measures and subscales are satisfactory except neuroticism, extraversion and agreeableness subscales. These alpha reliabilities were reestablished on a larger sample of main study.

Table 28

Correlation matrix of all study Variables (N=225)

Var	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1. EWB	-	.51**	.69**	.02	.32**	.36**	.16*	.29**	.17*	.26**	.14*	.18*	-.29**	-.26**	-19**	-21**	-.24**	-.20**	-.19**	-.10	-.18**
2 SWB		-	.52**	.15*	.22**	.33**	.10	.31**	.20**	.25**	.15*	.12	-.13	-.20*	-.01	-.10	-.08	-.05	-.09	-.17*	-.07
3 PWB			-	.00	.30**	.42**	.16*	.35**	.23**	.32**	.22**	.26**	-.26**	-.24**	-.16*	-.24**	-.27**	-.23**	-.22**	-.13	-.18**
4. NEU				-	.36**	.35**	.35*	.27**	-.16*	.13	-.00	.12	.19**	.13	.25**	.22**	.30**	.23**	.17*	.20**	.22**
5. EXT					-	.66**	.51**	.47**	.14*	.17*	.10	.20**	.01	-.01	.07	.04	.38	.07	.07	.04	-.06
6. OPEX						-	.54**	.69**	.37**	.40**	.28**	.39**	-.15*	-.19**	-.04	-.12	-.13	-.12	-.12	.04	-.06
7. AGRE							-	.40**	.18**	.19**	.10	.24**	.01	-.03	.07	-.00	.04	.00	.06	.36	.04
8 CONC								-	.29**	.38**	.21**	.37**	-.18*	-.24**	-.05	-.20**	-.27**	-.25**	-.15*	-.10	-.12
9. INVO									-	.73**	.56**	.58**	-.18*	-.30**	-.12	-22**	-.19**	-.23**	-.24**	-.19**	-.18**
10.CON										-	.59**	.53**	-.16*	-.17*	-.01	-.16	-.15	-.20	-.09	-.19**	-.11
11.ADAP											-	.60**	-.20**	-.21**	-.14*	-.22**	-.22**	-.25**	-.20	-.08	-.22**
12. MISS			.									-	-.11	-.15*	-.11	-.17*	-.11	-.21**	-.17*	-.11	-.15*
13. SOM													-	.79**	.64**	.75**	.83**	.85**	.69**	.53**	.71**
14. OBC														-	.68**	.81**	.82**	.79**	.76**	.57**	.79**
15. INSE															-	.73**	.70**	.71**	.70**	.48**	.70**
16 DEP																-	.79**	.76**	.76**	.53**	.78**
17. ANX																	-	.85**	.80**	.57**	.79**
18.PANX																		-	.73**	.54**	.77**
19. HOS																			-	.54**	.77**
20.PARI																				-	.77**
21.PSY																					-

Note. EWB = Emotional wellbeing, SWB = Social wellbeing, PWB= Psychological wellbeing, NEU = Neuroticism, EXT = Extraversion, OPEX = Openness to experience, AGREE = Agreeableness, CONC = Conscientiousness, INVO= Involvement, CON = Consistency, ADAP= Adaptability, MISS = Mission, SOM = Somatization, OBC = Obsessive-compulsive, INSE= Interpersonal sensitivity, DEP = Depression, ANX = Anxiety, PANX = Phobic anxiety, HOS = Hostility, PARI=Paranoid ideation, Psy=Psychoticism

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Table 28 indicates a distinctive nexus of relationship coefficients between study variables. The correlation matrix showed that all the subscales of mental health continuum-Short Form (MHC-SF) i.e. emotional wellbeing, social wellbeing and psychological wellbeing positively correlate with each other. The emotional wellbeing subscale is positively and significantly correlated with Big five traits excluding neuroticism. Emotional wellbeing was negatively correlated with all the subscales of BSI (Brief Symptom Inventory), while positively with involvement, consistency, adaptability and mission. Social wellbeing show positive correlation with neuroticism, extraversion, conscientiousness, positively but non significantly with agreeableness, while significant positively correlated with involvement, consistency and adaptability except mission also non significantly with BSI subscales. Psychological wellbeing positively correlate with extraversion, openness to experience, agreeableness, conscientiousness, involvement, consistency, adaptability, and mission, negative with all BSI subscales (Brief Symptom Inventory).

Prevalence of Positive Mental Health.

Table 29

Prevalence of Mental Health Diagnosis (N=225)

Mental health categories	Frequency	Percent
Flourishing	101	44.9
Moderate mental health	82	36.4
Languishing	2	0.9

Table 29 indicates the prevalence of the mental health status among the professional. Table shows that 101 (44.9%) individuals are found to be flourishing, 82 (36.4%) having moderate mental health and languishers only 2 (0 .9%) in the current sample.
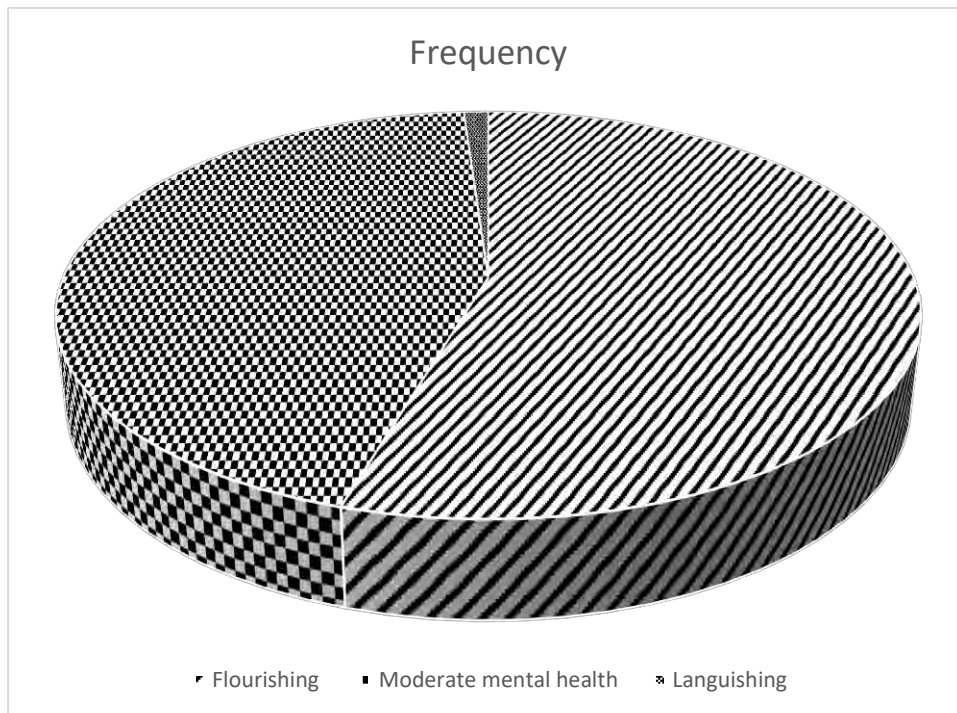
Figure 5. Prevalence of Positive Mental Health levels among professionals

The pie diagram illustrates prevalence of positive mental health categories i.e. flourishing, moderate mental health and languishing mental health among professional employees. Figure 5 clearly illustrates proportion of flourishing mental health status is the largest accompanied by moderate mental health and smallest bar represent the proportion of languishers among employees.
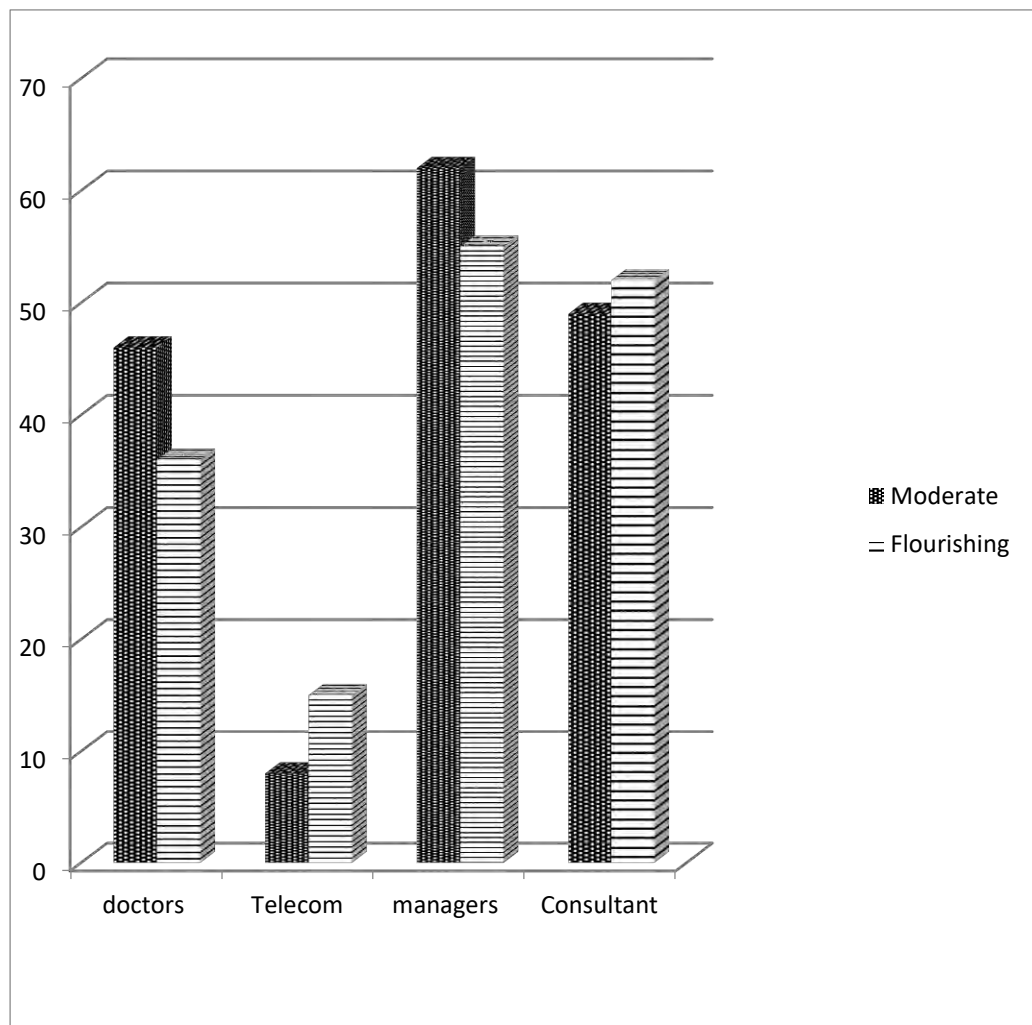
Figure 6. Bar chart showing frequency and percentage of mental health levels across professional categories

Figure 6 clearly illustrates doctors having higher levels of flourishing mental health levels followed by telecommunication personnel and bankers. However, bankers fall within moderate mental health category followed by consultants and telecommunication personnel.
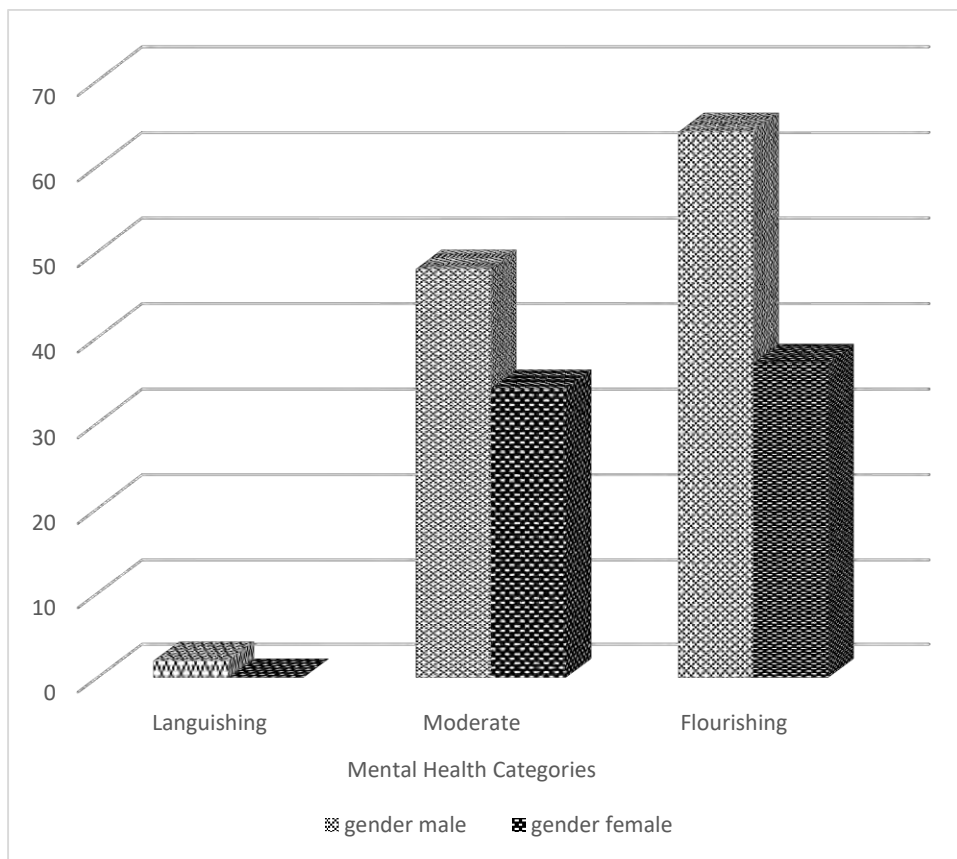
Figure 7. Depicting categories Diagnosis of Positive Mental Health across Gender

Figure 7 depicts males having higher level of flourishing and moderate mental health levels in comparison to females. Keyes (2005) argued at risk individuals could be identified by categorical diagnosis of mental health level. Moderate mental health represent less than optimal level of functioning which if not addressed leads to languishing health status. Individuals who fall in moderate mental category or languishing, are not fully functioning resultantly leads towards outcomes associated with health risks and reduced productivity e.g., higher rates of absenteeism, greater level of turnout, lower productivity and more days of missed work.

Discussion

Study I was primarily aimed at determining factor structure of instruments i.e., MHC-SF, DOCS, BSI and pretesting of Dual Continua model of Mental Health, establishing psychometric evidences. This section was further purported to see general trend of data. Study I of the present research comprised of two steps. During first step try out of measures i.e. MHC-SF, DOCS, NEO-FFI, and BSI was conducted. The prime aim of try out was to test difficulty to understand, significance and ease of comprehending the instrument items used for measuring constructs of interest. Even though measures used for present study are standardized and developed in western countries, it becomes necessary to check their comprehension and relevance in our indigenous context. Try out was conducted on sample of professionals ($N = 25$) working in banks, telecom sector and doctors. On basis of feedback of the respondents, some items of DOCS and NEO-FFI were modified and rephrased after employing committee approach. Committee consisted of one Psychology professor (faculty member), Ph.D. scholar and present researcher. After analyzing feedback comments from respondents, some items of NEO- FFI were modified. Modifications are primarily done to improve the sentence structure for improving items comprehension for the respondents. In cases of DOCS, some of the items were modified to improve relevance with respondents work environment. For instance DOCS items had been modified specifically for health care sector by adding terms such as organization/ hospital, customer/ stakeholder/patients; so that health care professionals could easily relate with survey items with respect to their work environment. Step II of the Study I dealt with confirmation of factor structure of study measures and establishing psychometric properties of measures used in the current study. Sample of the step II (study 1) consisted of professionals ($N=225$) working in diverse work settings i.e., telecommunication, healthcare sector, banking, consultancy companies and other industries.

Determination of Factor Structure of MHC-SF, BSI & DOCS. The primary aim of study I constituted ascertaining factor structure and construct validity of instruments i.e., MHC-SF, BSI and DOCS. The current study aimed to examine personality traits and organizational culture as determinants of positive mental health. Historically mental health has been considered as absence of mental dysfunction. For a

large span of time, lack of mental dysfunction has been perceived as mental health. In recent times mental health field underwent a paradigm shift towards conceptualizing mental health from positive psychology perspective. Lately, mental health is perceived to be a positive asset possessed by a person. MHC-SF is widely used instrument proposing comprehensive assessment of wellbeing dimensions i.e., emotional, psychological and social wellbeing. Previously widely used measures of wellbeing encompasses either emotional wellbeing e.g., negative and positive effect scale (Watson & Clark, 1988) or psychological wellbeing scale (e.g., Ryff, 1989). Previously, to best of our knowledge, MHC-SF has not been used for measuring positive mental health holistically in a sample of Pakistani adults; hence establishing its construct validity cross culturally is a necessary milestone. Previously MHC-SF has been employed for exploring mental health issues among Pakistani adolescents (Irfan, 2016), but factor structure has not been validated. Furthermore, determination of factor structure of instruments provides an empirical evidence whether it corresponds with the theoretical structure reported by other studies. Numerous studies established three-factor structure of MHC-SF across nationalities (e.g., Joshanloo et al., 2013; Karas et al., 2014)

Based on the theoretical perspectives elucidating mental health construct, three confirmatory models of latent structure of MHC-SF were verified i.e., uni-dimensional model considering positive mental health (absence of mental illness) uni-dimensional construct, two-factors model encompassing hedonic (emotional) and eudiamonic (psychological) and three-factor structure (emotional, social & psychological wellbeing). Fit values of single -factor, two -factors for MHC-SF indicated a poor fit, but values of fit indices for three-factor model clearly suggested to best fitted to present data. The three-factor model of MHC-SF (Table 3) confirmed theoretically based arrangement of 14 items comprising three subscales of emotional, social and psychological wellbeing. These findings were in accord with earlier studies (Keyes 2007, 2009 & Lamers, 2012). 14- items of MHC-SF loaded on intended factors (emotional, social & psychological wellbeing) with factor loadings ranged from .48 to .84, factor loadings were found to be well above criteria of .40 (Costello &Osborne, 2005;.Matsunaga, 2010). To conclude, MHC-SF has established its reliability and validity as a concise self-report instrument for the comprehensive evaluation of positive mental health.

For confirmation of factor structure of BSI in the present study, CFA was computed to verify original nine-factor structure (Table 5) and as a multidimensional measure of psychological dysfunction and BSI as general measure of psychopathology (single-factor model) (Table 6).The values of fit indices for BSI as a multidimensional measure on present nonclinical sample had not been displayed as desirable fit. Results of CFA did not confirm original nine-factor structure proposed earlier by (Derogattis, 1983). Hence model fit values for nine symptom dimensions were analyzed discretely. Of all the nine dimension, six dimension i.e., somatization, obsession compulsion, anxiety, phobic anxiety, depression and psychoticism had shown desirable values of fit indices. Finally, six-factor solution i.e., somatization, obsession compulsion, anxiety, phobic anxiety, depression, psychoticism (Table 7) had presented desirable fit to present data.

To date, numerous studies had reported variations with respect to factor structure of BSI on various sample. Derogattis (1983) suggested nine-factors while also stating that though there were definite trivial variances between experiential factor structure and theorized dimensional structure, more agreement was present than incongruity between the two. Nevertheless, the factor structures of five factors (Johnson, Murphy, & Dimond, 1996), six factors (Ruipérez, Ibañez, Lorente, Moro & Ortet, 2001), eight factors (Kellett, Beail, Newman, & Hawes, 2004), and single- factor of general distress on clinical samples (Endermann, 2005) were stated as well. Differences in the observed factor structure have been ascribed to variances in the factor analysis procedure as well as to the use of various samples (clinical and nonclinical samples).

Correspondingly CFA results did not confirm single-factor model of BSI as a general measure of psychopathology on present data. Our results were contrary to some clinical based sample studies (e.g., Ramirez, Alvarez & Galan, 2000) that suggested BSI, primarily to be uni-dimensional scale measuring general psychological distress. Model-fit values for the six- factor solution of BSI were found to be superior as compared to single-factor on present non clinical sample of Pakistani adults, keeping in view criterion of fit values (Browne & Cudeck, 1992; Fabrigar, Weigener, MacCallum, & Strahan, 1999; Hu & Bentler, 1999). Whereas the BSI appeared with original nine dimensions in EFA that was computed for discriminant of MHC-SF on

an independent sample so it was decided to continua further analysis on BSI with nine dimensions. However, it would be suggested to reevaluate BSI factor structure on various populations in future studies.

To best of our knowledge, factor structure of DOCS has not been previously explored on Pakistani adults. CFA had been computed to determine factor structure for DOCS on present sample. Two model had been analyzed, the original four-factor trait model and other model for items (15 each) within four traits i.e. Involvement, Consistency, Adaptability, Mission. First model examined original four-factor structure as proposed by Denison (1996). These findings confirmed factor structure of original four culture traits each having three management indices. The values of fit indices CFI=.81, IFI =.81 and GFI=.80 were slightly below desired fit, however RMSEA was found to be within desirable criteria i.e., .05. Suitable goodness of fit for all indices was reported by the results. The outcomes of the present research correspond with previous studies on DOCS. The four-factor structure was confirmed by CFA conducted on 35,474 employees belonging to 160 organizations from all over the world (Denison, Nieminen, & Kotrba, 2014). Second model tested fit indices for items within four factors of DOCS. Moreover, values of fit indices for items within four traits of DOCS showed good model fit for all the traits on present data. The values of fit indices for four traits i.e., Consistency CFI= .96, GFI=.94, IFI= .96, RMSEA= .04; Involvement CFI= .98, GFI=.95, IFI=.98, RMSEA=.02; Adaptability CFI= .99, GFI= .95, IFI= .99, RMSEA=.02 and Mission CFI= .96, GFI=.93, IFI= .96, RMSEA= .04 all found to show good fit. These results were in accord with the model fit investigation of items within four traits of Denison Organization Culture Survey Questionnaire (DOCS) in another study (Skarphedinsson & Gudlaugsson, 2013) on the sample of managers and personnel employed in 13 Iceland firms.

During step II construct validation of three measures i.e., MHC-SF, DOCS, and BSI had been established and these measures were all set to be used for the main study.

Pretesting of dual continua model of mental health. Second objective of the Study I (phase II-pilot study) was pretesting Dual Continua Model of Mental Health on 225 Pakistani adults. For this purpose, three CFA models having MHC-SF (measure of positive mental health) and BSI (measure of mental dysfunction) simultaneously were executed (Lamers, 2012). Furthermore CFA was also conducted to confirm theoretical

underpinning of existence of two latent distinct but moderately correlated factors in the present study. CFA is beneficial when researchers have evident (or competing) hypotheses regarding scale number of factors and its underlying items, the associations between particular items and specific factors. This internal scale configuration reflect relevance among items hence indicative of internal consistency. Correspondingly, validity is also determined by congruence between scale internal structure and its anticipated constructs. Although CFA assess scales' internal structure directly, it can also be employed to evaluate convergent and discriminant validity. (e.g., Raykov & Marcoulides, 2006).

The hypothesized assumption of two continua model of mental health was tested, which supports presence of two independent yet moderately correlated factors (mental health & mental dysfunction). For this purpose, three CFA models were tested (a) undimensional model with single-factor suggesting lack of mental dysfunction being equivalent to presence of mental health (b) model with two-orthogonal factors representing mental health and mental dysfunction as two-unrelated factors and (c) hypothesized two-continuum model with two distinct but related factors. Findings of CFA confirmed third model which considers mental health and mental dysfunction as two related but distinctive indicators of mental health. Hence evidence for proposition of two continua model of mental health had been established for Pakistani populace. This model has been confirmed across numerous countries e.g., America, South Africa, Netherland (Keyes, 2005, 2008; Lamers, 2012, Westerhof & Keyes, 2009). Recent empirical evidences generated support for dual continua model of positive mental health among U.S. adolescents (ages 12–18; Keyes 2006) Dutch (Westerhof & Keyes, 2008) and South-African adults (Keyes et al, 2008). Likewise numerous studies reported similar inferences (Greenspoon & Saklofske 2001; Suldo & Shaffer, 2008).

Results of CFA for measures i.e., MHC-SF and BSI confirmed higher factor loadings for each of items on their intended factors of MHC-SF (positive mental wellbeing) and BSI (psychological dysfunction). Factor loadings of MHC-SF were ranged from moderate .32 to higher .74. While for BSI factor loadings ranged from .49 to .80. Several authors have reported the values of the fit indices for considering the model fit (e.g., χ^2, RMSEA, CFI, GFI). Values of < .06 for RMSEA, > .90 for the CFI (Hu & Bentler, 1999), < .05 for the RSMR, and > .90 for GFI (Byrne, 1998; Satorra &

Bentler, 2001) are considered good. The values of major fit indices including GFI, CFI, TLI, IFI and RMSEA indicated good fit for two-related factors model of mental health and mental illness as compared to one-factor and two-unrelated factors models of mental health and mental illness. These findings are in accord with earlier findings in South Africa (Keyes, Wissing, Potgieter, Temane, Kruger, & Rooy, 2008), even though there were variation in methodology and sampling techniques.

However, χ^2 values of single- factor i.e. mental health and mental illness as a single factor, two- unrelated factors and two-related factors of mental health and mental illness were also computed for analyzing model fit. χ^2 value of one- factor model 6215 and two- unrelated factor, 5252 model indicated a poor fit, but fit indices clearly suggest that two distinct but related factor model was found to be comparatively best fit to present data.

Exploratory Factor Analysis of MHC-SF and BSI (An Evidence of Discriminant Validity). In addition to CFA, further confirmation of Dual continua model of mental health was extended from conducting exploratory factor analysis (EFA) of both the measures i.e. MHC-SF and BSI simultaneously on 220 adults. EFA was conducted using principal component factor analysis to extract factors. Before conducting factor analysis prerequisites for conducting factor analysis i.e., Kaiser-Meyer-Olkin (KMO) measures of sampling Adequacy and Bartlett Test of Sphericity were computed to check the suitability of the data for running factor analysis. The KMO varies between 0 and 1, and values closer to 1 were supposed to be better (Hutcheson & Sofronion, 1999).

The Bartlett test of Sphericity is another indicator to test the null hypothesis. These two tests must be done, before proceeding for factor analysis (Field, 2005). Direct oblimin factor rotation was chosen in order to improve the interpretability of the factor as it maximizes the loadings of each variable on one of the extracted factors. KMO value is found to be .92 which suggested that data was suitable for conducting factor analysis. Result findings showed that Bartlett's test of Sphericity was also significant, which provided further evidence that data was suitable for conducting EFA. Factor loadings of 14 items of MHC-SF and 53 items of BSI had highest factor loadings on their intended factors i.e. mental health and mental illness. The factor loadings ranged from .80 to .93.Exploratory factor analysis revealed two factors with an Eigen

value greater than 1. Besides scree plot was plotted which further confirmed two factors by curve in the Scree plot. A Scree plot depicts a line segment plot explaining portion of variance in the data as elucidated by each component (Cattell, 1996). The Scree plot clearly depicts maximum variance as explained by two factors i.e., mental health and mental illness; hence supporting propositions that mental health and mental illness to be distinctive factors. These results were consistent with findings of (Keyes, 2005; Lamers, 2012). Together these factors has explained 73.1% of the variance. The two factors had a negative correlation of -1.94. This further validate discriminant validity evidence for MHC-SF.

Convergent Validity of Study Measures i.e. MHC-SF, Neo-FFI, DOCS and BSI. Since construct validation was primary aim of the Study I, it was established through gaining evidence for convergent and discriminant validity coefficients (Table 12, 14). Convergent validity of the MHC-SF, was established with Rosenberg self - esteem scale, three subscales emotional, psychological, and social well-being showed positive correlation with self-esteem measure. It was anticipated that emotional well-being would show correlation with positive affectivity and psychological well-being with measures of individual functioning states (e.g., self-esteem). Since MHC-SF comprised of several dimensions, correlations were expected to be low to moderate, of which the validity measures only represent a small part. Though self-esteem focuses on assessing positive self-judgment besides psychological wellbeing, this feeling about oneself relates with emotional wellbeing as well, that signify general feelings. (Rosenberg, 1979).

Alpha reliabilities of MHC-SF, BSI, DOCS and NEO-FFI. A pivotal aim of study I was to establish psychometric properties of the study measures. This objective was met by computing alpha reliabilities coefficients and item- total correlation for study instruments i.e., MHC-SF, BSI, NEO-FFI and DOCS.

The Alpha reliability coefficient of MHC-SF for present study was .89 (Table 2), and for its subscales, social well-being .75, psychological well-being subscale .85 emotional well-being scale .86. These findings were in accord with the prior empirical evidences (Keyes, 2008; Lamers, 2011) that reported high alpha reliabilities for MHC-SF subscales across various nationalities. Furthermore, results (Table 17) revealed that all the items showed significant positive correlation with total scores of their respective

subscales Thus proved MHC-SF subscales of to be highly internal consistent. Alpha reliabilities of total and its subscales indicates that this instrument turned to be highly reliable and suitable to use for adult populace.

Findings (Table 2) have shown high Cronbach alphas coefficients for DOCS .93 and its subscales from .74 to .86. These results indicate DOCS to be internally consistent, reliable measure to be employed for measuring organizational culture traits of employees. Afterward, positive significant item correlations further validated internal consistency of its subscales (DOCS). The present findings are similar with results attained for original questionnaire (Denison, 2000) and by succeeding researches (Franck & Jacobus, 2005) reporting high alpha coefficients for subscales of DOCS.

Moreover high alpha coefficient estimates and good internal consistencies added to psychometric strength of BSI. Values of alpha coefficients for the total scale (.97) and its subscales; somatization .88, obsessive compulsive .78, interpersonal sensitivity.76, depression .86, anxiety .82, phobic anxiety .95, hostility .89, paranoid ideation .75, psychoticism .78 of BSI are reported in (Table 2) indicating that BSI is statistically sound and reliable measure to be employed with adults for measuring psychopathology. Results of item-total correlations indicated significant closely related internally consistent BSI subscales. Further studies (Ladd, Panayiotou, & Kokkinos, 2008) have also reported high reliabilities of BSI and its subscales.

Table 2 also provides Cronbach alpha coefficients for NEO-FFI sub-domains. Reliability coefficients of Big five traits ranged from .43 to 71 for the current research. Cronbach alphas of all the scales were found to be satisfactory to good, except for the agreeableness and neuroticism subscales of NEO-FFI, which are found low. Further, each of the personality dimension showed satisfactory item-total correlations for all dimensions (Table 18, 19, 20, 21 & 22). This further added psychometric strength and validated internal consistency and reliability of the scale. Current studies (Hirschi & Hermann, 2013) provide support for the present findings by providing good reliability estimate for NEO-FFI. Altogether, results of the current study indicated that respective measures are statistically reliable and internally consistent to be employed.

Interscale Correlation between Study Variables. One of the major goal of study I was to analyze the general trends of data by exploring the pattern of magnitude and direction of relationship between the study variables. Table 28 displays results of correlation matrix between study variables. The correlation matrix showed that three subscales of MHC-SF i.e. emotional, social and psychological well-being were significantly positively correlated with each other. The emotional well-being subscale was positively and significantly correlated with personality traits i.e., extraversion, openness to experience, agreeableness and conscientiousness except neuroticism as has shown non-significant correlation. These results are in accordance with earlier work (Ladd, Panayiotou, & Kokkinos, 2008). Neuroticism displayed positive correlations with BSI subscales i.e., somatization, interpersonal sensitivity, depression, anxiety, phobic anxiety, paranoid ideation, psychoticism except obsessive compulsive. In line with anticipation, conscientiousness was negatively correlated with somatization, obsessive compulsive, depression, anxiety, phobic anxiety, paranoid ideation, hostility subscales. Extraversion also displayed negative correlations with BSI dimensions. Specifically, there were positive correlations with Neuroticism and Openness and negative correlations with Agreeableness Extraversion and Conscientiousness. Similarly interpersonal sensitivity correlated with all NEO-FFI scales. Previous empirical studies elucidated the similar pattern of relationship between neuroticism and BSI subscales (Panayiotou, Kokkinos & Spanoudis, 2004). Since BSI did not measure personality traits, it was anticipated that it will show positive correlation with personality dimension that measures the negative pathological aspect of personality. This assumption was ascertained in earlier studies indicating relationship between BSI and the Eysenck Personality Questionnaire (EPQ-R) by conducting multiple regression analysis that yielded substantial contributions of the personality dimensions to each of the BSI scales (Ruiperez, Ibanez, Lorente, Moro, & Ortet., 2001). Conversely positive aspects of personality show negative correlation with neuroticism e.g., agreeableness and extraversion would also correlate negatively with all BSI dimensions (Panayiotou Feldt & Kokko, 2004)

Emotional well-being had significant negative correlation with nine subscales of BSI indicative of the measure discriminant validity. Similar pattern was confirmed

by further empirical research, e.g., higher levels of emotional well-being were related with extraversion and lower levels with neuroticism (e.g., Pavot et al., 1990). The Big five personality traits (i.e., agreeableness, conscientiousness & openness to experience had exhibited smaller though positive correlations with emotional well-being (Steel et al., 2008). Moreover, emotional well-being was positively significantly correlated with involvement, consistency, adaptability and mission. Similarly, Darsana (2013) found organizational culture traits (i.e. involvement, consistency, adaptability & mission) showed positive correlation with extraversion, openness to experience, agreeableness and conscientiousness except for neuroticism. Findings depicted significant positive correlation between mental health dimensions i.e., social and psychological well-being subscales. Social well-being also positively correlated with extraversion, conscientiousness, but non-significantly with agreeableness. It had significant positive correlations with involvement, consistency and adaptability except for non-significant correlation with mission. It had negative non-significant correlation with somatization, obsession compulsion, depression, anxiety, phobic anxiety, and psychoticism. Psychological well-being had non-significant positive correlation with neuroticism, while positive with other traits (extraversion, openness to experience, agreeableness, and conscientiousness, involvement, consistency, adaptability & mission). It had negative significant correlation with BSI subscales, which again provides an evidence for the discriminate validity of MHC-SF. Neuroticism had non-significant negative correlation with involvement, adaptability, positive non- significant with consistency and mission. Results of the present study were partly in accord with aforementioned empirical evidence (Lamers, 2012).

Prevalence of positive mental health across professional categories. Prevalence of mental health levels among heterogeneous professional categories were explored through exploratory analyses. Findings were presented graphically from figure 4 to 6.

The results depicted that higher proportion of flourishing mental health levels in comparison to moderate and languishing mental health levels among employees (Figure 4). Among 225 professionals 101 (44.9%) individuals were flourishing, 82 (36.4%) having moderate mental health and languishers only 2 (0 .9%) in the current

sample. These findings were different to the previous studies (Keyes, 2002; Keyes 2008) on American adolescent sample where only 17 % individuals were found to have flourishing mental health levels followed by higher proportion of moderate and languishing mental health levels. These findings might indicate that prevalent collectivistic culture had high level of social wellbeing due to higher social connectivity alongwith high level of psychological well being. another reason may be the criteria of sample selection for present research. the sample comprised of educated professionals from major cities of Pakistan.

Further exploration of mental health levels across professional groups revealed (Figure 5) higher proportion of doctors experiencing flourishing mental health levels followed by telecom officers and bakers. Moreover findings also depicts higher proportion of bankers experience moderate level of mental health. Figure 6 illustrates higher proportion of male employees having flourishing and moderate mental health in comparison to their female counterparts. This might be indicative of the professional discrimination, harassment and inequality experienced by females in male dominant workplace and existing social fabric prevalent in Pakistani society that offers more advantage to males like Pakistan.

In nutshell, Study I results illustrated satisfactory psychometric properties including validity coefficients, reliabilities, item-total correlations and inter-scale correlations for all the respective measures. These results convey ample evidence for restive measures to be employed in the next phase (main study) for hypotheses testing. Nevertheless, reliability of NEO-FFI subscales i.e., neuroticism and agreeableness were found low, it was decided to re-estimate reliabilities of these subscales on a comparatively larger sample of main study. Moreover pattern of correlation between study variables reflected anticipated direction suggesting proceeding for the (time point I) main study.

Chapter IV

STUDY II: TIME POINT I

Study II leads to a longitudinal design. Study II was carried out in three phases. Data was collected in three time points (Phases) with approximately time gap of 6 to 7 months. Time point 1 of the study II primarily focused on hypotheses testing. This phase intended to meet objectives given below.

Keeping in view objectives, time point I (phase-I) was conducted.

Objectives

1. To test Dual Continua Model of mental health on professionals working in diverse fields.

2. To assess prevalence of mental health levels among professionals.

3. To find out the relationship between personality traits, organizational culture traits, positive mental health and psychopathology.

4. To probe the distinctive differential predictive relationships between personality traits and three components of positive mental health i.e. psychological, social, emotional well-being.

5. To investigate moderating role of organizational culture traits i.e., involvement, consistency, adaptability and mission in relationship between personality traits and positive mental health.

6. To study differential impact of socio-demographic variables i.e., age, gender, education, marital status and work organization on the positive mental health of employees.

Hypotheses

Following hypotheses were formulated for the current study.

1. Agreeableness positively predicts positive mental health among professionals.

2. Extraversion positively predicts positive mental health among employed male and female professionals.

3. Openness to experience positively predicts positive mental health among professionals.

4. Conscientiousness positively predicts positive mental health among professionals.

5. Conscientiousness negatively predicts positive mental health among employees.

6. Neuroticism negatively predicts positive mental health.

7. Neuroticism positively predicts psychopathology among employees.

8. Extraversion, openness to experience, agreeableness, and conscientiousness negatively predicts psychopathology among employees.

9. Organizational culture traits i.e. consistency, involvement, adaptability and mission moderates relationship between personality traits and positive mental health.

10. Involvement trait significantly moderates personality traits relationship with positive mental health.

11. Consistency trait significantly moderates personality traits and positive mental health relationship.

12. Adaptability trait significantly moderates personality traits and positive mental health relationship.

13. Mission trait significantly moderates personality traits relationship with positive mental health.

Study II of the present research was undertaken to test Dual continua model on a larger sample. This phase intended to explore pattern of predictive relationships among study variables.

Operational Definitions of Variables

Positive mental health. The fundamental components of mental health specified by WHO (2004) includes realizing one's talents, the ability to manage regular life stresses and community aid. Keyes (2002) operationalized positive mental health as constituting three components social, emotional and Psychological wellbeing. Emotional wellbeing refers to insights of self-confessed pleasure and life satisfaction and along with harmonizing affectivity both positive and negative.

Higher scores on emotional wellbeing reflect higher level of life satisfaction and higher incidence of positive cognitive appraisals of life circumstances. Social wellbeing represents individual contribution and perceptions of societal structures as flourishing. Five dimensions of social wellbeing reflect individual social functioning (Keyes, 1998).

The higher score on five items of social wellbeing determine high level of social wellbeing experienced by individual.

Social integration. Assesses the quality of belongingness and connectivity with their society. The higher the score on this dimension, the more individual feel positive relation to their social environment.

Social contribution. Evaluates individual's belief of his/her contribution to society. The higher score on this dimension indicates higher level of perceiving oneself as positively contributing to his/her society.

Social coherence. Is equivalent to high level of association with society as promoting individual towards enhancing meaningfulness in their life.

Social actualization. Relates to belief that individuals have in the positive evolution of the society. The higher score on this dimension indicates an individual perception of viewing its institutions in positive direction.

Social acceptance. Represent having encouraging opinions of human nature along with feeling comfortable with others company (Keyes, 2005). Individuals high on social acceptance are trusting and kind towards others.

Psychological wellbeing. Assesses individual feelings about the quality with regard to their level of functioning in their lives. There are six dimensions of psychological wellbeing illustrating individual potential towards fully functioning (Ryff, 1989).

These six aspects incorporate a extensiveness of wellbeing; positive evaluation of past life experiences, a sense of continued personal growth, purposeful and meaningfulness, enjoying quality relations with others, ability to effectively cope life challenges, and a sense of autonomy (Ryff, 1989)

The high score on Psychological wellbeing scale (Ryff, 1989.) and on its six dimensions show higher level of psychological wellbeing or its dimensions.

Organizational culture. Represent collection of beliefs, tenets and norms prevalent in organization. These can be expressed in symbols, traditions, rites, languages, histories, that directly affect organizational member behavior (Schein, 1992). Denison (1990) has proposed four culture traits involvement, consistency, adaptability and mission that directly links organizational culture with performance.

Involvement. Involvement refers to cultivating human potential at all levels by

empowering organizational members and building organizations around teams (Lawler, 1996). People feel autonomous to assert themselves while taking decisions related with their work also having impact on accomplishing organizational objectives.

Consistency. Consistency reflects one of the Organizational traits that tend to create highly dependable, integrated and coordinated "strong" cultures (Saffold, 1988). Core values are adhered for seeking agreement on diverse points of view. Consistency trait inculcate constancy and internal integration that marks a shared outlook and a high level of traditionalism (Senge, 1990).

Adaptability. Adaptability refers to competency at creating change and transforming in response to the needs and demands of market and customers. Adaptable organizations are more inclined towards taking risks, absorb changes easily, having capability to learn from past failures and are customer driven (Nadler, 1998; Senge, 1990).

Mission. Mission refers to a clarity of the direction and purpose relevant to achieving organizational goal and objectives, while taking in to account the future vision where it should stand (Hamel & Prahalad, 1994).

High scores on traits i.e., involvement, consistency, adaptability and mission indicate higher level of these traits.

Personality traits. Represent stable pattern of thoughts, feelings and actions (McCrea & Costa, 1992). Personality traits determine consistent behavior patterns and intrapersonal processes and distinguishing qualities of individual (Burger, 2010). Personality traits are stable characteristic. The present study employed five factor model of personality i.e., neuroticism, extraversion, and openness to experience, agreeableness, and conscientiousness. Higher scores on each facet indicate higher levels of these traits and vice versa.

Neuroticism. Represent negative emotional affectivity, an inclination towards experiencing unpleasant emotions e.g., anger, anxiety, depression. Neuroticism also stated by its low pole "emotional stability".

Extraversion. Relates to inclination towards seeking pleasure by connecting with others and chattiness. Extroverts are prone to experience more positive emotions, have high level of activity level, high level of assertiveness, sociability and seek pleasure from excitement oriented activities.

Openness to experience. Refers to receptivity towards appreciating adventure,

unusual ideas, curiosity, and openness to diverse experiences. It also reflects urge for intellectual curiosity, creativity and a fondness for uniqueness.

Agreeableness. Refers to a tendency to be compassionate and cooperative rather than distrustful and unfriendly towards others. It is also measures level of an individual helpfulness and trust towards others.

Conscientiousness. Refers to tendency to be highly responsible, organized, self-disciplined with a preference for executing planned activities to achieve goals rather than showing abrupt spontaneous behavior.

Psychopathology. For general assessment of psychological dysfunction symptoms, BSI was used. BSI is a multidimensional instrument which measures nine primary symptom dimensions: Somatization (SOM), Obsessive Compulsiveness (OBS), Interpersonal Sensitivity (INS), Depression (DEP), Anxiety (ANX), Hostility (HOS), Phobic Anxiety (PHOB), Paranoid Ideation (PAR), and Psychoticism (PSY) (Derogattis, 1993)

Somatization. This aspect captures psychological dysfunction arising from perceiving physical dysfunction complaints (Derogattis & Melisaratos, 1983) mostly related to cardiovascular, respirational with strong autonomic facilitation. These discomforts are mostly manifested in the form of aches localized in the gross musculature.

Obsessive compulsive. This dimension reflects a pattern of incessant and appealing thoughts processing by the patient that are not healthy e.g., having ta tendency to be unsure, check and double-check activities, poor decision making abilities and reduce concentration and trouble concentrating.

Interpersonal sensitivity. This facet centers on inadequacies, inferiorities, and discomfort an individual experiences during interpersonal interactions.

Depression. Depression reflects a broad range of symptoms such as mood changes, lack of interest in life activities and depleted energy levels leading to feelings of desperateness and ineffectiveness.

Anxiety. The facet refers to experiencing symptoms such as Impatience, nervousness and tension indicative of free-floating anxiety and panic.

Hostility. The hostility dimension encompasses intimidating behavior; thoughts, feelings, and actions e.g., feeling of irritation and bad temper, impulses to disruption, recurrent urgings and overwhelming outbreaks of annoyance.

Phobic anxiety. Phobic anxiety states or agoraphobia relates to frights concerned with travel, open spaces, crowds, public places.

Paranoid ideation. This dimension represent a syndrome a peculiar way of thinking. The major features of paranoid thought are projection, antagonism, crookedness criticality, and fright of losing independence.

Psychoticism. Characterizes a range with progression from a mild estranged life style at one extreme to extravagantly psychotic states e.g., alienation from one's surroundings at the other. In non- clinical population, it measures social isolation.

Sample

Sample of main study (time point I) comprised of 622 full time employed professionals males ($n= 376$) and women ($n= 234$) working in diverse sectors i.e., telecom, bank, hospitals, multinational organizations, consultancy companies and educational sector. Their average age ($M= 30.72$ years & $SD= 7.02$). Of 622 participants (57.1%) were married and (39.5 %) were unmarried. The inclusion criteria entailed minimum six months of experience in respective organization. Their work experience ranged from 1 -40 Years. The employees having less than 1 year experience were not involved in the study. Details of demographic characteristics are displayed in Table 30.

Table 30

Frequency and percentages of the study demographics of Time Point 1(N=622)

Variables	*f*	%
Gender		
Male	376	60.5
Female	234	37.6
Missing System	12	1.9
Marital Status		
Married	355	57.1
Unmarried	246	39.5
Missing System	21	3.4
Education		
PhD/FCPS/FRCP	33	5.3
Ms/M-Phil	63	10.1
Masters/M.Sc./MA/MBA	276	44.4
Bachelors/MBBS/B.Sc./BHons/BA/B.com/BDS	216	34.7
F.A/F.sc/I.com	26	4.2
Missing system	8	1.3
Years of experience		
1-2 years	133	21.4
3-6 years	105	16.9
6-10 years	150	24.1
>10	24	10.7
Missing System	36	5.8
Monthly income		
Rs.15-25000	73	11.7
Rs 25-35000	160	25.7
Rs 35-50000	150	24.1
>50,000	129	20.7
Above 1 lac	79	12.7
Missing system	31	5.0
Work Organization		
Bankers	129	20.7
Telecommunication	29	4.7
Doctors	95	15.3
Consultants	110	17.1
Teachers	256	40.3
Missing System	3	.5

  Table 30 shows percentages and frequency distribution of socio-demographics variables of the sample of Time point 1.

Instruments

Measures used in the main study were as follows (time point I)

1. Demographic sheet (See *Appendix* A)
2. Consent form (See *Appendix* B)
3. Mental Health Continuum Short Form (MHC-SF; See *Appendix* C)
4. Brief Symptom Inventory (BSI; See *Appendix* D)
5. Denison Organization Culture Survey Questionnaire (DOCS; See *Appendix* E)
6. NEO Five Factor Inventory (NEO-FFI; See *Appendix* F)

Procedure

The branches heads of various organizations were approached located in Islamabad, Lahore and Karachi. They were debriefed regarding the purpose of conducting present research. Permission was taken from respective authorities. Informed consent was obtained from participants before participation. They were made comfortable regarding provided information would be used only for research purpose. The questionnaire booklets comprised of i.e., consent form, Demographic sheet, (MHC-SF), (BSI), (DOCS) and (NEO-FFI) were handed over to respondents. During this phase, sometimes it became quite hard to convince organizational heads for approaching employees in person. They were cautious to reveal their personal information specifically information about their current designation, organization and monthly income. However, overall there was a good cooperative attitude. They were instructed to read carefully and give honest responses to scales items. The written instructions were communicated verbally. They were openly informed that these statements just reflect their feeling in respective areas, hence there is had no right or wrong answers; they had to endorse a response option that depicts their attitudes, beliefs and behaviors. There was no prescribed time constraint for completing the questionnaire, they were asked to mark the question response option that first came to their mind, after reading the statement. More than 1000 questionnaire booklet were distributed, out of which 702 returned. All the booklets were carefully scrutinized to eliminate questionnaires that missing information, response set and general non serious attitude of the respondents. Hence, 80 forms were discarded. We were finally left with 622 respondents**.**

Results

This segment holds results of main study (time point I) regarding hypotheses testing. The major objective of study II was primarily testing of Dual Continua Model of mental health in adults through Structural Equation Model (SEM) AMOS (Analysis of Moment Structures). This section further extends exploration of prevalence of positive mental health levels exploring the predictive relationship between personality traits, positive mental health and psychopathology. Before computing regression analysis diagnostic tests of multicolinearity were conducted and VIF values were examined. It revealed that predictors were not highly correlated. Furthermore, the current study also aimed to examine the moderating role of organization culture traits as predictor of personality traits and outcome variable i.e. positive mental health relationship through Process Macro (Preacher & Hayes, 2008). Principally univariate normality were run followed by hierarchical regression analyses and moderation analyses to meet the above-mentioned objectives and hypotheses testing. Supplementary analyses were executed to explore group variances on demographic variables. This was accomplished by conducting multivariate analysis followed by series of univariate analysis Missing data was handled by nearby points method.

Table 31

Descriptive statistics and univariate normality for the main study variables (N=622)

Variables	No. of items	A	M	SD	Kurtosis	Skewness	Minimum	Maximum
MHC-SF total	14	.86	57.06	11.13	-.17	-.34	14	84
Emotional well being	3	.84	12.59	3.49	-.69	-.43	3	18
Social well being	5	.76	18.20	5.13	-.68	-.03	5	30
Psychological well being	6	.82	26.43	5.51	-.15	-.55	6	36
DOCS	60	.94	201.86	50.78	.38	-.48	60	300
Involvement	15	.86	50.56	9.25	.27	-.45	15	75
Consistency	15	.84	50.25	8.50	.30	-.29	15	75
Adaptability	15	.78	50.44	7.78	-.04	-.31	15	75
Mission	15	.83	51.51	8.03	-.48	.36	15	75
NEO-FFI								
Neuroticism	12	.70	36.89	6.50	-.024	.28	12	60
Extraversion	12	.62	40.70	5.44	-.39	.18	12	60
Openness to Experience	12	.52	40.63	4.99	.23	-.02	12	60
Agreeableness	12	.64	40.22	5.58	-.17	-.18	12	60
Conscientiousness	12	.60	41.82	5.34	.17	-.22	21	60
BSI	53	.97	129.75	50.78	.23	.45	53	318
Somatization	7	.88	16.74	8.00	-.74	.54	7	42
Obsession-Compulsion	6	.82	15.56	6.04	-.83	.33	6	36
Interpersonal Sensitivity	4	.79	10.17	4.44	-.12	.61	7	42
Depression	6	.84	14.81	6.90	-.67	.49	6	30
Anxiety	6	.84	15.01	6.60	-.81	.47	5	30
Hostility	5	.89	12.45	5.19	-.50	.55	5	30
Phobic Anxiety	5	.95	11.55	5.81	-.73	.57	5	30
Paranoid Ideation	5	.77	13.46	5.18	-.50	.29	6	30
Psychoticism	5	.77	12.54	5.48	.19	.48	7	35

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Table 32

Correlation matrix of all the study Variables (N=622)

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Age	-10*	.01	.08*	-.11**	-.08	-.05	.19**	.05	-.03	.04	.04	.01	-.02	-.06	-.01	.03	.11*	-.07	-.03	.03	-.05
1.ewb	-	.31**	.48**	-.28**	.26**	-.11**	.26*	.26**	.18**	.05	.08*	.14**	-.17**	-.17**	-.24**	-.19**	-.22**	.20**	-.21**	-.16**	-.04
2.swb		-	.45**	-.08	.31**	.20**	.22**	.19**	.33**	.38**	.32**	.22**	-.15**	-.23**	-.05	-.18	-.10**	-.26**	.06	-.11*	-.33**
3.pwb			-	-.25**	.36**	.26**	.11**	.49**	.31**	.38**	.32**	.31**	-.26**	-.31**	-.27**	-.31**	-.29**	-.26**	-.00	-.28**	-.03
4.neu				-	-.37**	-.06	-.39**	-.32**	.04	.003	-.13*	.02	.38**	.35**	.00	.11**	.23**	.29**	.53**	.02	-.10**
5.ext					-	.58**	.68**	.65**	.35**	.53**	47**	.39**	-.33**	-.22**	-.49**	-.21**	-.24**	-.26**	-.05	.28**	-.36**
6.opex						-	.64**	.61**	.35**	.45**	.47**	.48**	-.13*	-.16**	-.12**	-.09*	-.13	-.13**	-.18**	.17**	-.21**
7.agree							-	.64**	.37*	.50**	.51*	.43**	-.18**	-.12**	-.17**	-.37**	-.49**	-.13**	-.27**	.28**	-.46**
8.conci								-	.39**	.49**	.55**	.52**	-37**	-.34**	-.44**	-.25**	-.36**	-.34**	.05*	-.42**	-.01
9.involv									-	.72**	.65**	.61**	-..04	-.08	.12**	.05	-.13	-.06	-..17*	-.21**	-.01
10.con										-	.65**	.64**	-.17**	-.20**	-.08	-.05	-.13	-.23**	-.23**	-.21**	-.19**
11.adap											-	.73**	-.01	-.05	.16**	-.20**	-.10**	-.04	.21`**	-.17**	.01
12.miss												-	-.10*	-.13**	-.25**	-.18*	-.09*	-.11**	.20**	.13**	-.04
13.somt													-	.79**	.68**	.82*	.26**	.82**	..01	-.14**	-.04
14.obss														-	..69*	.80*	.79**	.80**	.72**	.75**	.79**
15.intps															-	.76**	.84**	.71**	.71**	.73**	.68**
16.dep																-	.84**	.82**	.76**	.13**	.80**
17.anxi																	-	.81**	.75**	.72**	.79**
18.panx																		-	.75**	.71**	.79**
19.host																			-	.68**	.73**
20.parid																				-	.75**
21.psy																					-

Note. Ewb = emotional wellbeing, swb = social wellbeing, pwb = psychological wellbeing, neu = neuroticism, extra = extraversion, opentex = openness to experience, agree = agreeableness, concie = conscientiousness, invol = involvement, con = consistency, adap = adaptability, miss = mission, somat = somatization, obss = obsessive-compulsive, inters = interpersonal sensitivity, dep = depression, anxi = anxiety, phanx = phobic anxiety, hos = hostility, paraide=paranoid ideation, psych=psychoticism.

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Table 31 exhibits descriptive statistics and Cronbach Alpha of variables. Values of Cronbach alpha coefficient indicative of subscales lie within reasonable range replicating respectable consistency of the scales. Values of Cronbach alpha coefficients for Neuroticism and Agreeableness subscales has improved in main study which were previously found to be low in study I. the present data was normally distributed since of kurtosis and skewness values are within acceptable range providing the evidence that the data was normally distributed.

Table 32 depicts direction of association between all the study variables. The correlation matrix reflects a broad distinctive array of significant positive as well as significant negative associations among the study variables. These pattern of associations describes extent and direction of the relationship between the constructs. Moreover variations among the strength of the relationships variables are also evident. Table 32 indicates that emotional, psychological and social wellbeing positively associated with each other negatively with nine sub dimensions of BSI i.e. Somatization, Obsessive-compulsive, interpersonal sensitivity, depression, anxiety, phobic anxiety, paranoid ideation, hostility and psychoticism.

Taking into account pattern of association between personality traits and organizational culture traits, big five have shown significant moderate correlations with involvement, consistency, adaptability and mission traits. Neuroticism negatively correlates with extraversion, agreeableness and conscientiousness, non-significantly with openness to experience. Extraversion positively correlates with agreeableness, openness to experience and conscientiousness while Openness to experience positively correlated with agreeableness. Agreeableness is significantly positively associated with extraversion, openness to experience and conscientiousness. DOCS subscales i.e., involvement, consistency, adaptability, and mission are positively correlated with each other and with big five traits except for neuroticism. Age was significantly correlated with emotional, social and psychological wellbeing, significantly negatively with neuroticism and with anxiety. Overall age has shown significant negative correlation with positive mental health.

Model testing of dual continua model of positive mental health. Two–continuum model of positive mental health had been tested by analyzing pattern of

significant paths from personality dimensions i.e., neuroticism, extraversion, openness to experience, agreeableness and conscientiousness towards positive mental health and psychopathology in AMOS 21. Moreover, model testing will also help to further analyze the differential predictive relationship of personality traits with mental health and mental illness. Two continua model asserts the presence of two distinctive yet interrelated continua i.e., psychopathology and positive mental health. The current study assessed two continuum model by exploring distinctive relationship of Big Five personality traits with positive mental health and psychopathology. The presence of differential relationship between Personality traits and psychopathology, personality traits and positive mental health supports the independence of both continua. Earlier empirical evidences (Keyes, 2005, 2007; Lamers & Westerhof, 2011) have shown that distinct association of neuroticism with psychopathology, while personality traits such as extraversion and agreeableness distinctively relate with positive mental health.
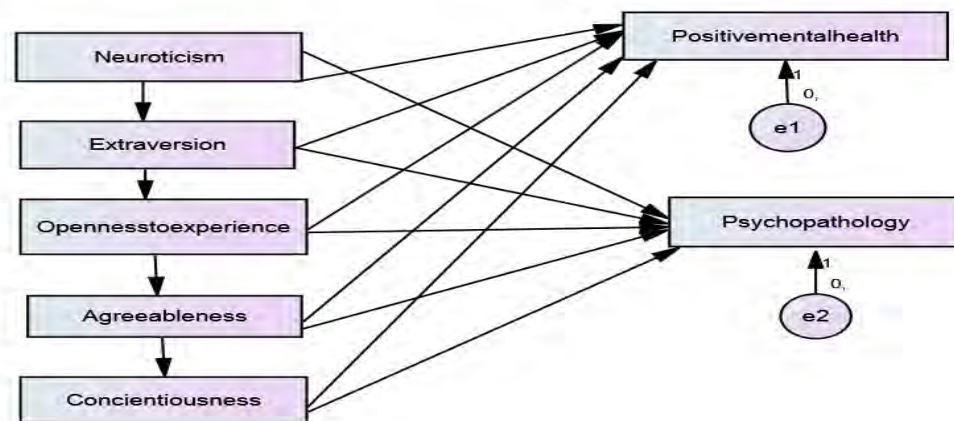
Figure 8. Dual continua model of positive mental health

Table 33

Model fit indices for Dual Continua Model of mental health (N=622)

Models	χ^2 *(df)*	CFI	IFI	TLI	RMSEA
M-1	377.43(11)	.50	.51	.05	.23
M-2	10.13 (5)	.99	.99	.97	.04

Note. TLI = Tucker-Lewis index, CFI = comparative fit index, RMSEA = root mean square error of approximation

Table 33 presents values of model fit indices for two-continuum model of mental health. Values of fit indices i.e., IFI=.51, TLI=.05, RMSEA=.23 are poor. The path analytical estimates of personality traits with positive mental health and mental dysfunction shows that neuroticism significantly negatively predicts positive mental health. However, neuroticism significantly positively predicts psychopathology. Moreover extraversion and conscientiousness significantly positively correlate with positive mental health. To achieve the model fit for two- continua model of mental health, modification indices are added to improve the model fit. After adding covariance between extraversion and agreeableness, extraversion and conscientiousness, neuroticism and conscientiousness, neuroticism and agreeableness, model fit improved and fit achieved. The values of the model fit indices of model 2, (CFI= .99, IFI= .99, TLI= .97, and RMSEA= .04) indicate good fit for two-continuum model of mental health on present data.
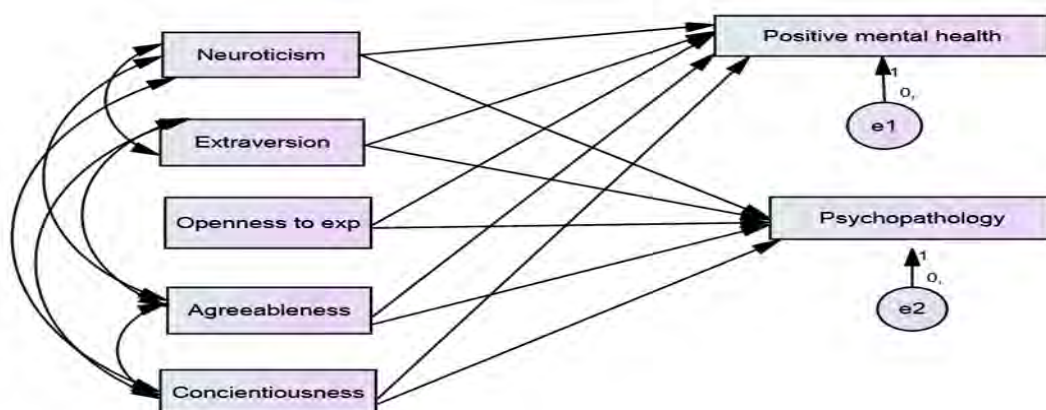
Figure 9. Model testing of dual continua model of positive mental health.

Table 34

Summary of the standardized paths from Personality traits to positive mental health and psychopathology (N=622)

Variables			Estimate	*S.E.*	C.R.	*P*
Positive mental health	<--	Neuroticism	-.249	.092	-2.70	.007
Positive mental health	<--	Extraversion	.316	.086	3.68	***
Positive mental health	<--	Openness to experience	.164	.104	1.57	.115
Positive mental health	<--	Agreeableness	-.153	.108	-1.41	.157
Positive mental health	<--	Conscientiousness	.542	.076	7.16	***
Psychopathology	<--	Neuroticism	1.90	.446	4.28	***
Psychopathology	<--	Extraversion	-1.40	.428	-3.27	.001
Psychopathology	<--	Openness to experience	-1.00	.513	-1.94	.051
Psychopathology	<--	Agreeableness	-.064	.541	-.118	.906
Psychopathology	<--	Conscientiousness	-2.12	.379	-5.60	***

Table 34 illustrates the standardized significant paths from personality traits i.e., neuroticism, extraversion, openness to experience, agreeableness and conscientiousness. Extraversion, conscientiousness significantly predicts positive mental health. Conversely, neuroticism appears to be significant predictor of psychopathology. Furthermore, conscientiousness significantly negatively predicts psychopathology.
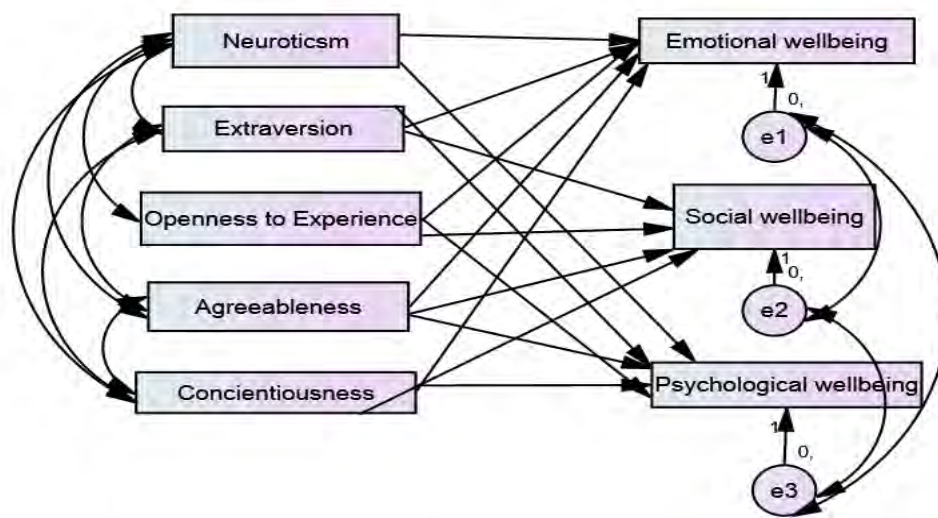
Figure 10. Personality traits with emotional, psychological and social wellbeing

Table 35

Model fit indices for differential associations of personality traits with Emotional, Psychological and Social Wellbeing (N=622)

Models	χ^2	*Df*	χ^2/df	CFI	IFI	TLI	RMSEA
M1-Default model	6.54	4	1.63	.99	.99	.97	.03

Note. TLI = Tucker-Lewis index, CFI = comparative fit index, RMSEA = root mean square error of approximation,

Table 35 indicates the values of model fit indices for differential associations of personality traits i.e., neuroticism, extraversion, openness to experience, agreeableness and conscientiousness with psychological, emotional and social wellbeing.

Table 36

Standardized regression paths from Personality traits to Emotional, Psychological and Social wellbeing (N=622)

Variables			Estimate	*S.E.*	C.R.	*P*
Emotional well being	<---	Neuroticism	-.090	.027	-3.28	.001
Emotional well being	<---	Extraversion	.086	.032	2.70	.007
Emotional well being	<---	Openness to experience	-.098	.032	-3.05	.002
Emotional well being	<---	Agreeableness	.109	.033	3.27	.001
Emotional well being	<---	Conscientiousness	.061	.026	2.37	.017
Social wellbeing	<---	Extraversion	.075	.048	1.57	.115
Social wellbeing	<---	Openness to experience	.144	.050	2.90	.004
Social wellbeing	<---	Agreeableness	-.144	.049	-2.92	.003
Social wellbeing	<---	Conscientiousness	.114	.040	2.86	.004
Psychological well being	<---	Neuroticism	-.061	.038	-1.60	.109
Psychological well being	<---	Extraversion	.162	.046	3.51	***
Psychological well being	<---	Openness to experience	.083	.047	1.76	.078
Psychological well being	<---	Agreeableness	-.105	.048	-2.17	.029
Psychological well being	<---	Conscientiousness	.376	.038	10.0	***

Table 36 illustrates the standardized regression paths from personality traits to emotional, psychological and social wellbeing. Findings indicated that path from neuroticism to emotional wellbeing was significant, however paths from openness to experience, agreeableness to emotional wellbeing were also found significant. However, paths from extraversion, conscientiousness to psychological wellbeing were also found significant. Standardized paths from agreeableness, openness to experience, and conscientiousness to social wellbeing were significant.

Exploratory analyses for Prevalence of Mental Health Categories among Employees. To see general trends on prevalence of mental health levels i.e., flourishing, moderate and languishing mental health among professionals, data was analyzed using SPSS 21. As being illustrated in pie diagram (see figure 17) half of the

employees fall in to moderate mental health category and other half in flourishing mental health. Languishing mental health levels were not found on the present data.

Prevalence of Mental health Categories

Moderate   Flourishing
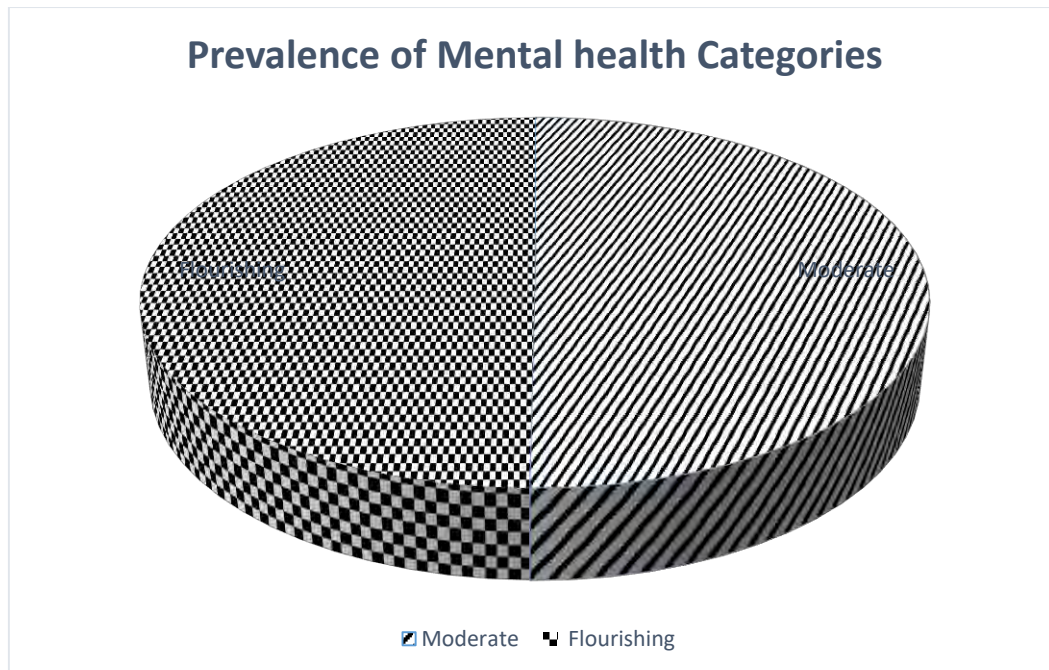
Figure 11. Depicting Prevalence of Mental Health Categories among Professionals

Prevalence of Mental Health Levels. Prevalence of mental health across demographic categories i.e., age, marital status, educational qualification, job experience and work organization were assessed. A statistically non-significant chi square value came for all the demographic categories. However, chi-square differences on gender for mental health categories among professionals were found statistically significant.

Table 37

Frequency and percentages of mental health states on gender across professionals (N=622)

Gender	Moderate Mental Health	Flourishing Mental Health	Total
	(n= 266)	(n=262)	
Male	156 (46.7)	178 (53.3)	334
Female	112(55.7)	89 (44.3)	201
χ^2 (1)= 4.07, P=.04			

Note. Percentages are in parentheses

Table 37 shows gender wise significant differences on mental health categories across professionals. Moderate mental health was reported by higher proportion of females while flourishing mental health was higher among male employees at $P < .01$.

Predictive Role of Personality Traits for positive mental health. Furthermore scrutinized exploration of predictive relationship between positive mental health, personality traits and psychopathology were executed through hierarchical regression analysis by keeping other mental health dimension and demographics constant. Preliminary statistical test (e.g., multicollinearity, Variance Inflation Factor (VIF) was run to analyze the present data. The values for all variables were found below 10, indicating no multicollinearity among study variables. Three hierarchical regression analysis were carried out in sequence to see differential impact of personality traits on positive mental health by testing different models, firstly by keeping psychopathology constant (model I) and demographics (model II) Secondly, relationship between five Factors of personality traits and psychopathology was explored by keeping positive mental health and demographics constant. Moreover, pattern of unique associations between personality traits and three components of positive mental health i.e., psychological, emotional, social wellbeing was investigated by controlling psychopathology and demographics.

Table 38

Hierarchical Multiple Regression Analysis of Personality Traits in relation to psychopathology and positive mental health (N=622)

Predictors	Psychopathology						Positive mental health					
	Model 1		Model 2		Model 3		Model 1		Model 2		Model 3	
	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β
Step 1												
Constant Mental health	.09**	-.30**					.00	-.09				
Step 2												
Constant Mental health			.13*	-.03**	.15**	-.16**			.04	-.09	.11**	.05**
Age				.02		.00				.03		.06
Gender				-.00		-.03				-.02		.00
Education				-.02		-.03				-.20**		-.18**
Marital status				-.10		-.08				.02		-.00
Designation				-.07		.07				.01		02
Years of experience				-.21**		-.12				.02		-.03
Monthly income				.05		.04				.01		.02
Step 3												
Personality traits												
Neuroticism				.24**		.24**						-.10
Extraversion				-.05		-.05						.13*
Openness to experience				-.07		-.07						.00
Agreeableness				.06		.06						.05
Conscientiousness				-.26**		-.26**						.26**

Note. Psychopathology : R^2 = .09 for Model 1 F(1, 292)= 29.57 **; R^2= .13 for Model2 (F change7, 285)= 1.76** ; R^2= 28 for Model 3 (F change (5, 280)= 12.19**. Positive mental health: R^2= .00 for Model 1 (F (1,292) = 2.62; R^2 = .05 for Model 2 (F change (7, 285) = 1.90; R^2 = .16 for Model 3 (F change (13, 280) = 4.18**. ***p < .00, **p <.001, *p <.0001

Table 38 indicates that psychopathology explicate 15 % of variability in the personality traits with significant F (5, 280) =12.19**, $p < .01$), while mental health and demographics were kept constant. Psychopathology significantly positively predicts neuroticism and significantly negatively conscientiousness. However, personality traits contributed 11 % of variance with significant F (13, 28) = 4.18**), $p <.01$) in positive mental health, while psychopathology and demographics were held constant. Positive mental health significantly positively predicts extraversion and conscientiousness. Personality traits shows differentially pattern of variability in positive mental health and psychopathology

Table 39

Hierarchical regression analysis of personality Traits in relation to Emotional Psychological, and Social Well-being (N=622)

Predictors	Emotional well being		Psychological well being		Social well being	
	ΔR^2	β	ΔR^2	β	ΔR^2	β
Step 1						.
Constant Psychopathology	.00	-.03**	.02*	-.16**	22**	.47**
Step 2						
Constant	.08**	-.04**	.02	-.15	.06**	.50**
Demographics						
Age		-.05		-.02		.01
Gender		.02		.05		.02
Education		-.21**		-.14		-.19**
Marital status		-.13		.03		-.09
Designation		.03		-.01		.00
Years of experience		.04		.00		-.09
Monthly income				.02		.04
Step 3						
Constant	.03**		.15*	-.02	.05**	.52**
	.01**					
Personality traits						
Neuroticism		-.22**		-.35**		-.08
Extraversion		.06		.17		.02
Openness to experience		.08		.21*		.19**
Agreeableness		-.05		-.01		.05
Conscientiousness		-.01		.23**		.06

Note. Emotional wellbeing : R^2 = .00 for Model 1 F(1, 292)= .36; $R^{2=}$ .08for Model2 (F change (8, 285)=3.36**; R^2 = .12 for Model 3 (F change (13, 280)= 3.03**. Psychological wellbeing: $R^{2=}$ .02** for Model 1(F (1,292) = 8.30**; R^2 = .04 for Model 2 (F change (8, 285) = 1.78**; R^2 = .20**for Model 3 (F change (13, 280) = 5.42**. Social wellbeing R^2 = .22 for Model 1 F(1, 288)= 81.83**; $R^{2=}$ .28 for Model2 (F change (8, 281)= 14.25** ; R^2 = .34 for Model 3 (F change (13, 276)= 11.03**
***$p < .00$, **$p <.001$, *$p <.0001$

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Table 39 displays that emotional wellbeing explicate 3 % of variance, psychological well- being 15 %, and social wellbeing 5 % of the variance in personality traits. Emotional well- being significantly negatively predicts neuroticism $F_{(13, 280)}$ =3.03**, $P < .001$), psychological wellbeing significantly positively predicts openness to experience and conscientiousness and significantly negatively neuroticism. Social wellbeing is significantly positively predicting openness to experience. Psychological wellbeing has explained larger variance 15% than social wellbeing 5% followed by emotional wellbeing 3 %.

Moderating role of organizational culture in personality traits and positive mental health relationship. Moderating role of organizational culture traits i.e. involvement, consistency, adaptability and mission traits in association between personality traits i.e., neuroticism, extraversion, openness to experience, agreeableness, conscientiousness and positive mental health has been explored to elucidate the impact of organizational culture in Big five and positive mental health relationship through (Preacher & Hayes, 2008) process macro. Process macro is an efficient software for executing complex and simple path models, mediation, moderation. For moderation analysis, in addition to the computation of interaction term without manually centering independent variables to mean (Aiken &West, 1991) it offers rich understanding of the relationships among the study variables by generating conditional effect of X on Y. Additionally computation of the significance of slopes yield a deeper understanding of effect of the levels of the moderator i.e. Low, medium and high on predictor and outcome variables relationship.

Moderation analyses revealed seven significant moderations among the organizational culture traits interactions with personality traits and positive mental health. These moderations have been plotted in Figures for categorical interpretations. The interaction term of involvement trait in neuroticism, extraversion and positive mental health relationship indicated that involvement moderated between extraversion and positive mental health. Moreover, consistency trait interactively impact agreeableness and positive mental health relationship. Adaptability trait significantly moderated relationship between neuroticism, extraversion, agreeableness and positive mental health. Furthermore, mission trait significantly moderated relationship between

agreeableness and positive mental health. A graphical representation of these significant interaction effect are presented in Figures 3 to 9. Thus, hypothesis no. 10, 11, 12 and 16 of the present study are partially supported.

Table 40

Moderating effect of involvement trait in neuroticism, extraversion, agreeableness, conscientiousness and positive mental health (N=622)

| | | | | Positive mental health | |
Variables	B	SE B	t	p	95% CI
Constant	107.2	16.13	6.64	.000	[75.51,138.9]
INVOL	-.80	.30	-2.67	.007	[-1.39,-2.12]
NEU	-1.98	.45	-4.40	.000	[-2.87,-1.10]
INVOL x NEU	.033	.008	.4.08	000	[.017,.050]
R^2	.14				
F	25.04	.		000	
Constant	57.31	18.23	-3.14	.001	[21.4, 93.15]
INVOL	1.81	.361	5.01	. 000	[1.10, 2.52]
EXTRA	2.48	.465	5.33	.000	[1.56, 3.39]
INVOL x EXTRA	-.037	.009	-4.08	.000	[-.055, -.019]
R^2	.21				
F	42.06			.000	
Constant	38.37	24.22	1.58	.113	[19.24, 85.98]
INVOL	.2185	.466	.468	.646	[-.699, 1.13]
OPENESS	-.059	..665	-.079	.936	[-1.36, 1.25]
INVOL x OPENESS	.005	.012	.423	.672	[-.019, .0306]
R^2	.11				
F	20.00			.000	
Constant	49.71	20.05	2.47	.013	[10.31, 89.12]
INVOL	.054	.385	.140	.888	[-7035, .8121]
AGREE	-.301	.506	-.594	*.552*	[-1.297, .694]
INVOL x AGREE	.008	.009	.839	.401	[-.010, .026]
R^2	.11				
F	20.50			.000	
Constant	15.80	22.59	.259	.795	[38.20, 49.81]
INVOL	.780	.440	1.77	-.077	[-.0860, -1.64]
CONCI	.826	.541	1.52	-.127	[-.237, 1.88]
INVOLx CONCI	-.010	-0.10	-1.02	.304	[-.031, -.00]
R^2	.13				
F	22.36			.000	

p> .05= Non-significant, ***p<.001

Note. INVOL=involvement,NEU=neuroticism, EXTRA= extraversion, OPENESS=openness to experience, CONCI=conscientiousness

Table 40 displays the moderating role of involvement trait in association between neuroticism, extraversion, and openness to experience, agreeableness and conscientiousness among professionals. Findings show that the involvement trait interactively contributed 14 % (F (3, 450) = 25.04, $R^{2=}$ $\cdot$14, $p < .001$) to positive mental health. The interaction term for model 1 ($B = .033$, $p < .001$) indicates that involvement trait significantly moderates the relationship between neuroticism and positive mental health. The follow-up line graph further illustrates the interactive effect of involvement trait at different levels (i.e., high, medium and low) in neuroticism and positive mental health relationship. The line graph shows that employees having low level of neuroticism (reversed emotional stability) are more inclined to show higher involvement in term of engagement (own organizational direction) and experience positive emotional, social and psychological wellbeing in contrast to employees experiencing higher level of neuroticism, interactive effect of involvement did not show moderation at higher level of neuroticism.

Model 2 of the Table 40 indicates the significant interactive effect of involvement trait in extraversion and positive mental health relationship. Results depicts 21%of variance (F (1,453) =16.67, R^2=.21, $p<.001$). The interaction term B=.03, $p < .001$ illustrates significant moderating effect of involvement trait in extraversion and positive mental health relationship. Computation of the significance of slopes further illuminate the effect of the moderator i.e., involvement at low, medium and high level. The line graph clearly displays significant interactive effects at low and medium level of the moderator. This shows that employees having low and medium level of extraversion are more inclined in terms of work engagements, develop capability development and team orientation to accomplish organizational goals and objectives.

Values of model 3, 4 and 5 did not depict significant interactive effects of involvement trait in relationship between openness to experience, agreeableness and conscientiousness and positive mental health.

Moderating effect of Involvement Trait
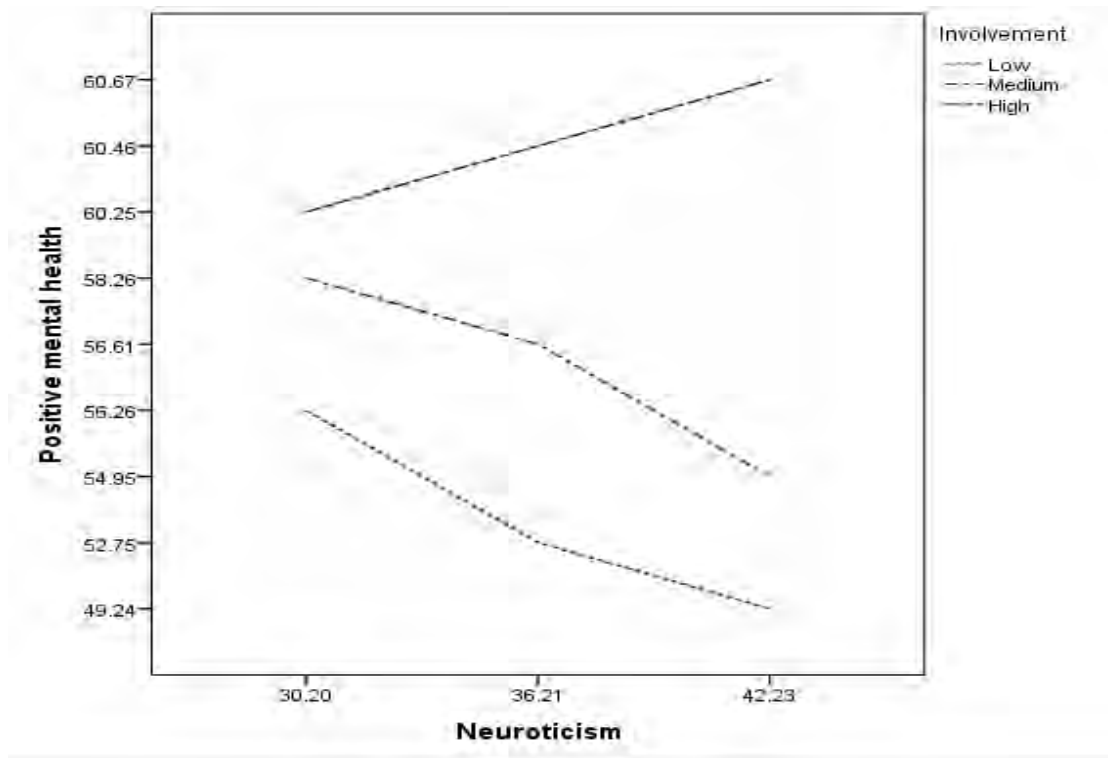
Figure 12. Involvement trait in relationship between neuroticism and positive mental health relationship

Moderating effect of Involvement Trait
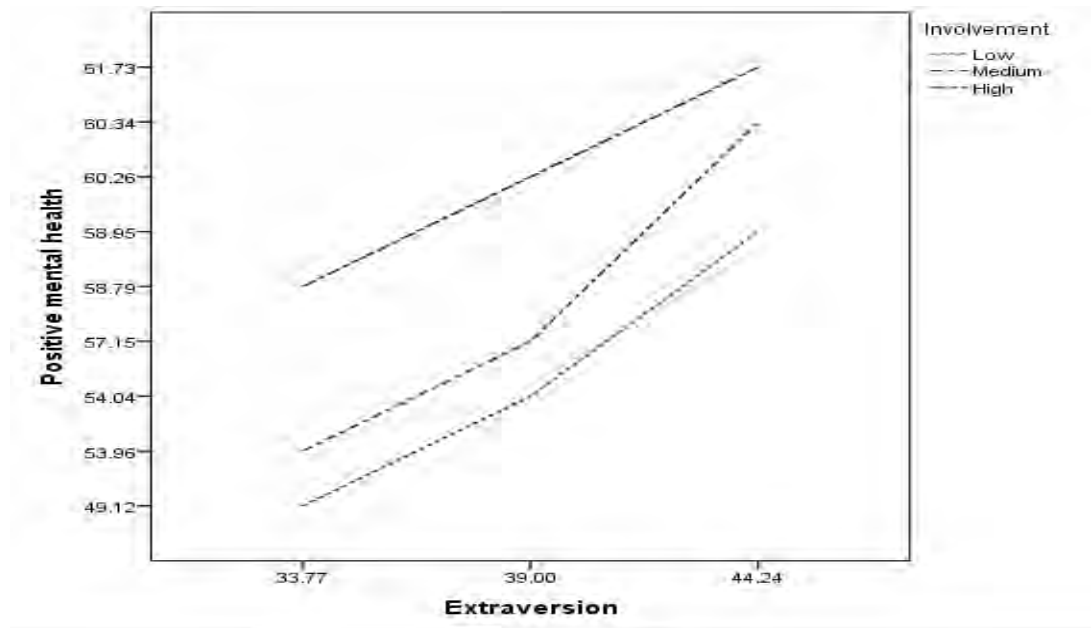
Figure 13. Involvement as moderator in extraversion and positive mental health relationship

Table 41

Moderating effect of consistency trait in neuroticism, extraversion, agreeableness,

conscientiousness and positive mental health (N=622)

Variables		B	SE B	T	Positive mental health	
					p	95% CI
Constant		77.56	15.65	4.95	.000	[46.81,108.3]
CON		.255	.290	-.864	.388	[.837,-.326]
NEU		-1.12	.426	-2.65	.008	[-1.96,.-.292]
CON x NEU		.018	.007	2.33	.019	[.002,.-033]
R^2	.10					
F	18.74		.		000	
Constant		19.11	19.12	.476	.633	[28.45,46.68]
CON		.655	.378	1.73	. 083	[-.087, 1.39]
EXTRA		.848	.461	1.83	.066	[.058, 1.75]
CON x EXTRA		-.009	.008	-1.05	.291	[-.026, .008]
R^2	.11					
F	21.38				.000	
Constant		23.60	20.71	1.13	.255	[17.10, 64.30]
CON		.433	.415	1.04	.296	[-.38,.2, -1.25]
OPENESS		.451	.513	.879	.379	[-.557, -1.46]
CON x OPENESS		-.003	.010	-.301	.762	[-.022, -.016]
R^2	.10					
F	19.66				.000	
Constant		37.31	20.82	-1.79	.073	[78.22, 83.4]
CON		1.63	.408	4.00	.001	[.832, 2.43]
AGREE		1.96	.557	3.52	.000	[.871, .284]
CON x AGREE		-.032	.011	-2.94	.003	[-.054, .010]
R^2	.09					
F	18.14				.000	
Constant		16.84	20.78	.329	.742	[33.98, 47.67]
CON		.733	.418	1.75	-.079	[.087, 1.55]
CONCI		.858	.495	1.73	.083	[-.115, -1.83]
CON x CONCI		-.010	.009	-1.08	.278	[-.029, .008]
R^2	.12					
F	22.27				.000	

Moderation by Consistency Trait
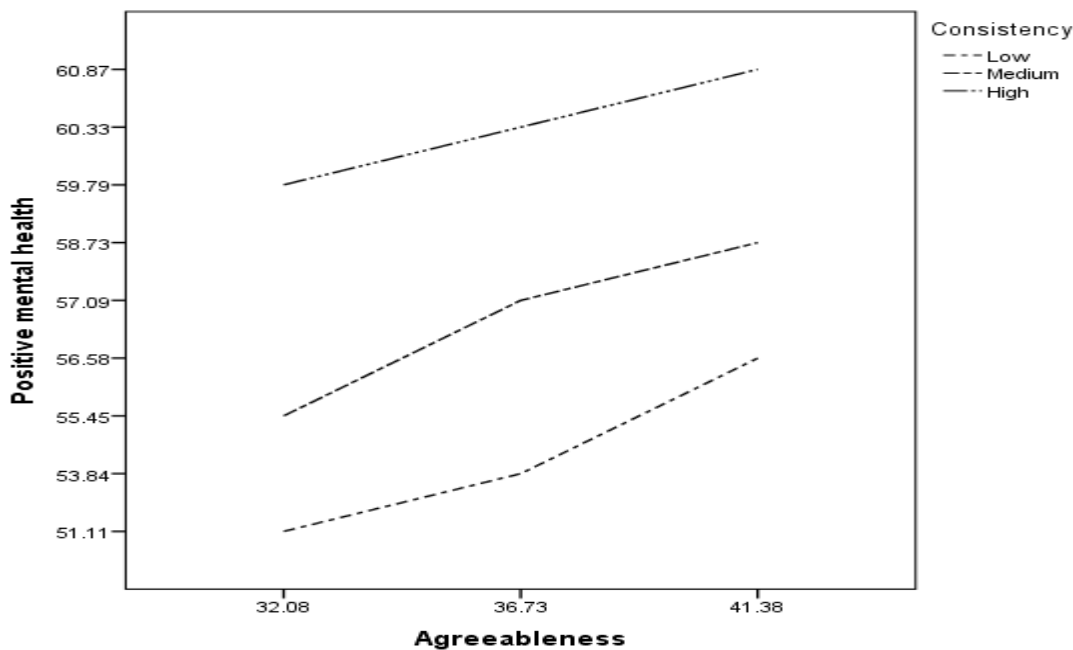
Figure 14. Interactive effects of consistency traits in agreeableness and positive mental health relationship

Table 41 shows the interactive effect of consistency trait in agreeableness and positive mental health relationship. Model 4 of the Table 41 depicts the significant interaction of consistency trait and agreeableness contributing 11% of the variance, (F (3,496) = 22.27, $R^2 =$ .09, $p <$ .001) to positive mental health. The interaction term ($B=$ -.032, $P <$ .05) indicates significant moderation by consistency trait in agreeableness and positive mental health relationship. Moreover, Computation of significance of slope illustrates significant interaction at low ($B=$ .589, $P <$ .001), level of the moderator i.e., consistency trait. This further explicates that employees who are less agreeable are more prone to   consistency i.e. they take steps towards enhancing the core values and are in complete agreement with the organizational goals and objectives.

Values of the model 1, 2, 3 and 5 did not show significant interactive effects in neuroticism, extraversion, and openness to experience, conscientiousness and positive mental health relationship. The interaction term for neuroticism and consistency (B = .018, $P =$.019), extraversion and consistency trait (B= -.009, $P=$.291), openness to experience and consistency trait B= -.003, $p =$.762, conscientiousness and consistency trait B= -.010, $p =$ .278.

Table 42

Moderating effect of adaptability trait in neuroticism, extraversion, agreeableness, conscientiousness and positive mental health (N=622)

Variables		*B*	*SE B*	*t*	Positive mental health	
					p	*95% CI*
Constant		104.2	17.38	5.99	.000	[70.11,138.4]
ADAP		.737	.329	-2.23	.025	[-1.38,-.089]
NEU		-1.89	.482	-3.93	.000	[-2.84,-.950]
ADAP x NEU		.031	.008	3.58	.000	[.014,.-049]
R^2	.09					
F	17.43		.		000	
Constant		88.06	21.47	-4.10	.000	[45.87, 130.2]
ADAP		2.53	.451	5.60	. 000	[1.64, 3.42]
EXTRA		3.28	.524	6.27	.000	[2.25, 4.31]
ADAP x EXTRA		-.055	.011	-5.09	.000	[-.077, -.034]
R^2	.17					
F	33.98				.000	
Constant		13.45	26.98	-.128	.898	[49.55, 56.47]
ADAP		.989	.536	1.84	.065	[.065, 2.04]
OPENESS		1.15	.717	1.75	.080	[.1319, 2.45]
ADAPxOPENESS	-.019		.014	-.1.33	.173	[-.042, .007]
R^2	.07					
F	13.01				.000	
Constant		68.61		-2.95	.003	[23.01, 114.2]
			23.20			
ADAP		-2.36	.474	4.97	.000	[1.43, 3.29]
AGREE		2.86	.599	4.77	.000	[1.68, 4.03]
ADAP x AGREE		-.05	.012	-4.30	.000	[-.077, -.028]
R^2	.08					
F	16.46				.000	
Constant		5.71		.245	.806	[40.03, 51.45]
			23.28			
ADAP		.768	.469	1.63	.102	[.154, 1.69]
CONCI		.891	.555	1.60	.109	[-.200, -1.96]
ADAP x CONCI		-.011	.010	-1.06	.288	[-.033, .009]
R^2	.09					
F	18.20				.000	

Table 42 illustrates the moderating effect of adaptability trait in relationship between the personality traits i.e., neuroticism, extraversion, openness to experience, agreeableness, conscientiousness and positive mental health. Findings indicate the adaptability trait interactively 9 % (F (3, 490) = 17.43, R^2= .09, $P < .001$) contributed to the positive mental health (Model 1). This shows that adaptability trait significantly moderates the relationship between neuroticism and positive mental health, interaction term (b=-.031 at $p< .000$) level clearly shows that there is significant moderation. The subsequent line graph further illuminates moderating effect of the adaptability trait in neuroticism and positive mental health relationship. On computing the significance of slopes, the conditional effect depicts significant moderation at the low and medium level of the moderator. Since this explicates that employees having low level of neuroticism also experience low level of positive mental health and are less likely to adapt to changing demands. This results in the weak orientation of the employees to be flexible and constantly adaptive towards organizational demands and challenges.

Model 2 depicts that adaptability trait has interactively contributed 17 % of the variance to positive mental health (F (3,486) = 33.98, $R^2 = .17$, $P < .001$). Findings clearly illuminates the significant moderation effect of adaptability trait in extraversion and positive mental health relationship, interaction term (*B=-.05, P<.001*). Furthermore, the computation of slope significance provides a clear picture of the interaction effect of levels of the moderator i.e., low, medium and high adaptability trait in extraversion and positive mental health relationship. The conditional effect depicts significant interaction at low (B= .946, P < .001), and medium levels (B= .570, $P < .001$) of the adaptability trait. This shows that employees having low level of extraversion are also have low level of positive mental health and are less prone to adapt to the challenges they encounter in their professional fields. However, employees having higher level of extraversion experience higher level of positive mental health and keep themselves connected to the open market and organizational demands boosting their professional excellence and horizon to deal innovatively with demanding situation.

Model 4 shows another interactive contribution of the adaptability trait in agreeableness and positive mental health relationship, thereby contributing 8 %, (F (3, 501) =16.46, R^2=.08, $P < .001$). The significant interaction term (B= -.05, $P < .001$).

The conditional effect depicts significant interaction at low B= .946, *P* < .001, and medium levels (*B*= .570, *P* < .001) of the adaptability trait. When computed for significance of slope, conditional effect depicts significant interaction at low (*B*= .635, *P* < .001), and medium levels (*B*= .283, *P* < .05) of the adaptability trait. This shows that employees who are having low and medium level of agreeableness a more inclined to be adaptable to new skills and learning technologies to support organizational success as compared to individuals having higher agreeable orientations.

Model 3 and 5 depicts interaction effect not showing significant moderating effect for adaptability trait in openness to experience, conscientiousness trait and positive mental health relationship. The interaction term for openness to experience and adaptability trait was found to be (*B*=-.019, *p* =.173) and (*B*=.01, *P*=.288) for conscientiousness and adaptability trait.

Moderation by adaptability trait
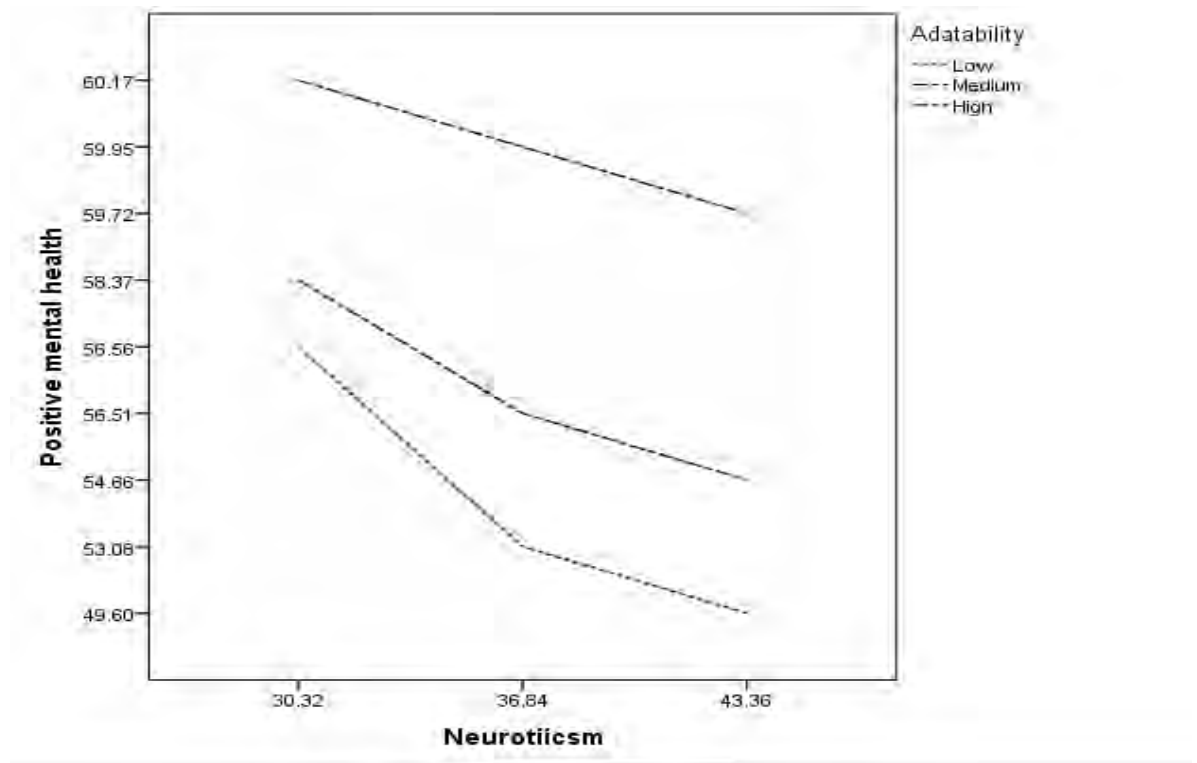
Figure 15. Depicting the interacting effect of adaptability trait in neuroticism and positive
mental health relationship

Moderation by adaptability trait
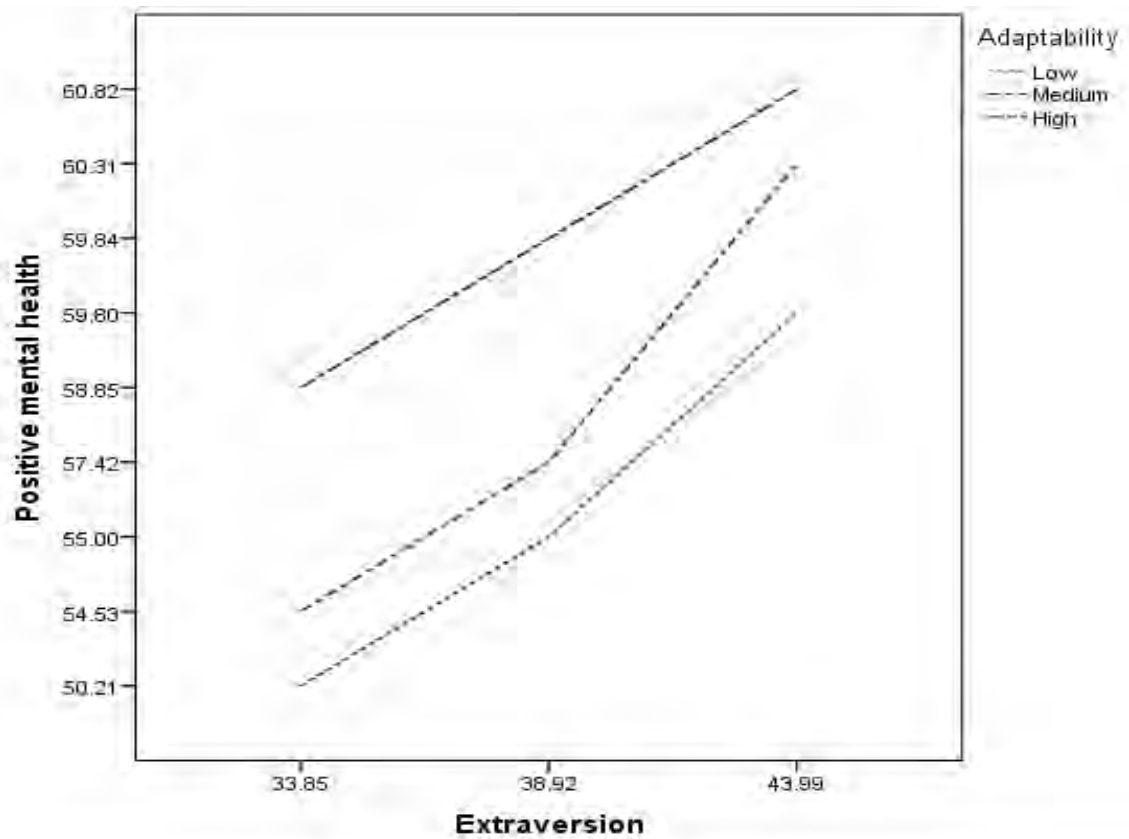
Figure 16. Depicting moderation by adaptability trait in extraversion and positive mental health relationship

Moderation by adaptability trait
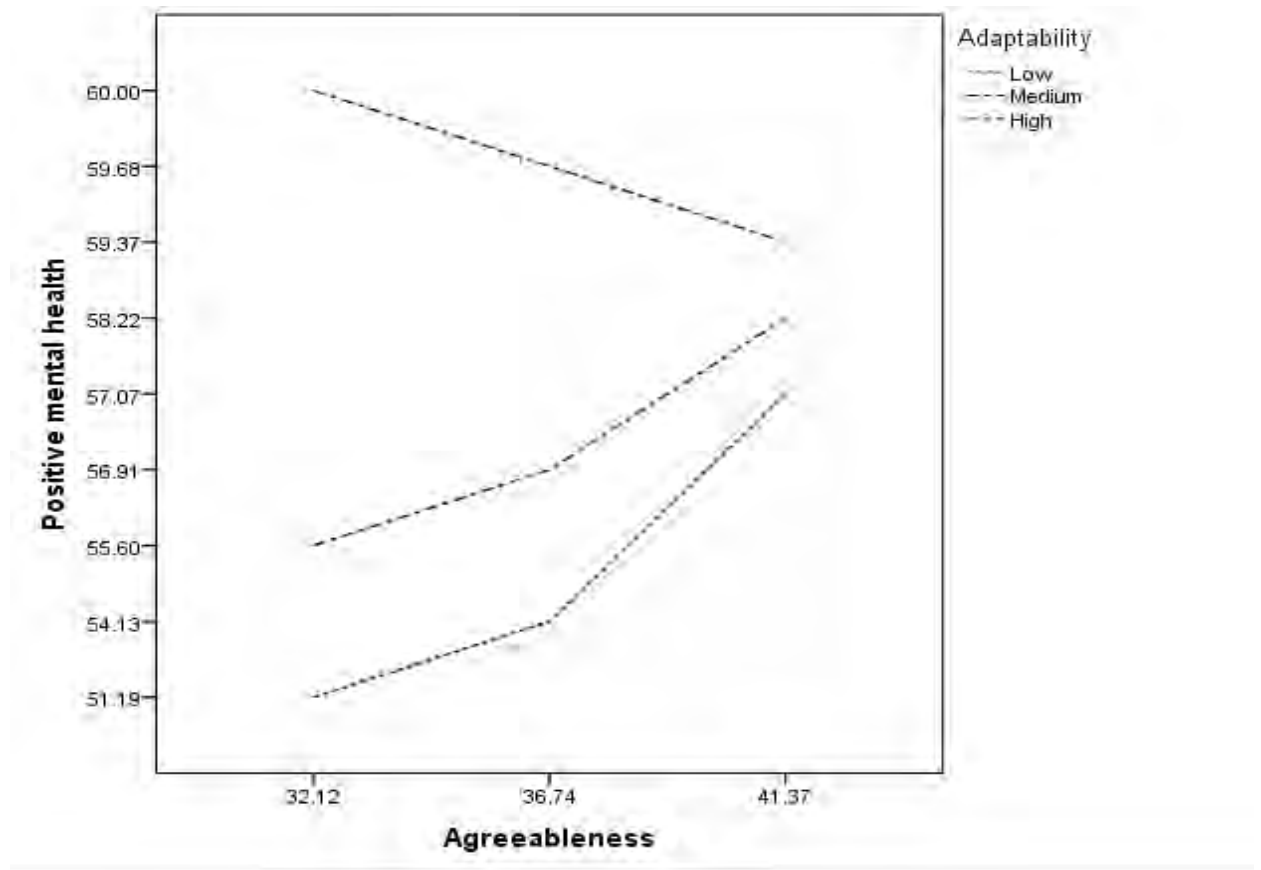
Figure 17. Adatability trait as Moderator in agreeableness and positive mental health relationship

Table 43

Moderating effect of mission trait in neuroticism, extraversion, agreeableness, conscientiousness and positive mental health (N=622)

Variables	B	SE B	t	Positive mental health	
				P	*95% CI*
Constant	77.98	14.94	5.21	.000	[48.62, 107.3]
MISS	-.019	.291	-.066	.946	[-5.92,-.553]
NEU	-1.08	.422	-2.57	.010	[-1.91,-.259]
MISS x NEU	.01	.008	1.30	.192	[-.005,-026]
R²	.14				
F	25.44		.	.000	
Constant	17.35	22.09	.341	.733	[35,8,50.9]
MISS	.658	.428	1.53	. 124	[-.183, -1.49]
EXTRA	.936	.548	1.70	.088	[-.141, -2.01]
MISS x EXTRA	-.01	.010	-1.00	.316	[-.031, -.010]
R²	.09				
F	16.50			.000	
Constant	32.88	25.01	-1.24	.213	[17.37, 77.46]
MISS	1.55	.473	3.28	.001	[.623, 2.48]
OPENESS	1.90	.602	2.87	.004	[.602, 3.02]
MISS x OPENESS	-.032	.013	-2.51	.012	[-.058, -.007]
R²	.09				
F	15.12			.000	
Constant	73.34	22.31	3.28	.001	[29.50, .117.1]
MISS	1.51	.420	3.60	.000	[.668, 2.34]
AGREE	1.86	.569	3.26	.001	[.742, 2.97]
MISS x AGREE	-.031	.011	-2.79	.005	[-.052, -.009]
R²	.06				
F	11.72			.000	
Constant	10.26	16.78	.611	.541	[22.71, 43.23]
MISS	.487	.348	1.39	.162	[.197, 1.17]
CONCI	.85	.382	2.13	.033	[.063, 1.56]
MISS x CONCI	.003	.010	.352	.724	[.017, .024]
R²	.15				
F	28.52			.000	

Table 43 displays the moderating effect of mission trait in Big five personality traits i.e., neuroticism, extraversion, openness to experience and conscientiousness and positive

mental health relationship. Model 4 illustrates the involvement trait interactively contributed 6 % of variance (F (3, 469) = 11.72, $R^{2=}$ ·06, P < .001) to positive mental health. Mission trait significantly moderates the relationship between agreeableness and positive mental health (B = -.03, p < .001). The follow up line graph further depicts the significance of the interaction at the low, medium and high level of the moderator i.e., mission trait in agreeableness and positive mental health relationship. Computation of the significance of slopes depicts the significant conditional effect at the low level of the mission trait (B = .522, SE = .13, t= 4.01, P < .001). This significant interaction effect at low level of mission trait explicate that employees having low level of agreeableness experience lower positive mental health; having weak orientation for achieving the major organizational goal and objectives that demand flexibility and greater adaptability to the varying challenges.

Model 1, 2, 3 and 5 indicates that mission trait did not moderate neuroticism, extraversion, openness to experience and conscientiousness traits and positive mental health relationship. The interaction term for mission trait and neuroticism (B= .01, p =.192), mission trait and extraversion (B= -.01, p=.316) mission trait and openness to experience (B= -.03, P=.012) did not show significant moderation.

Moderation by mission trait
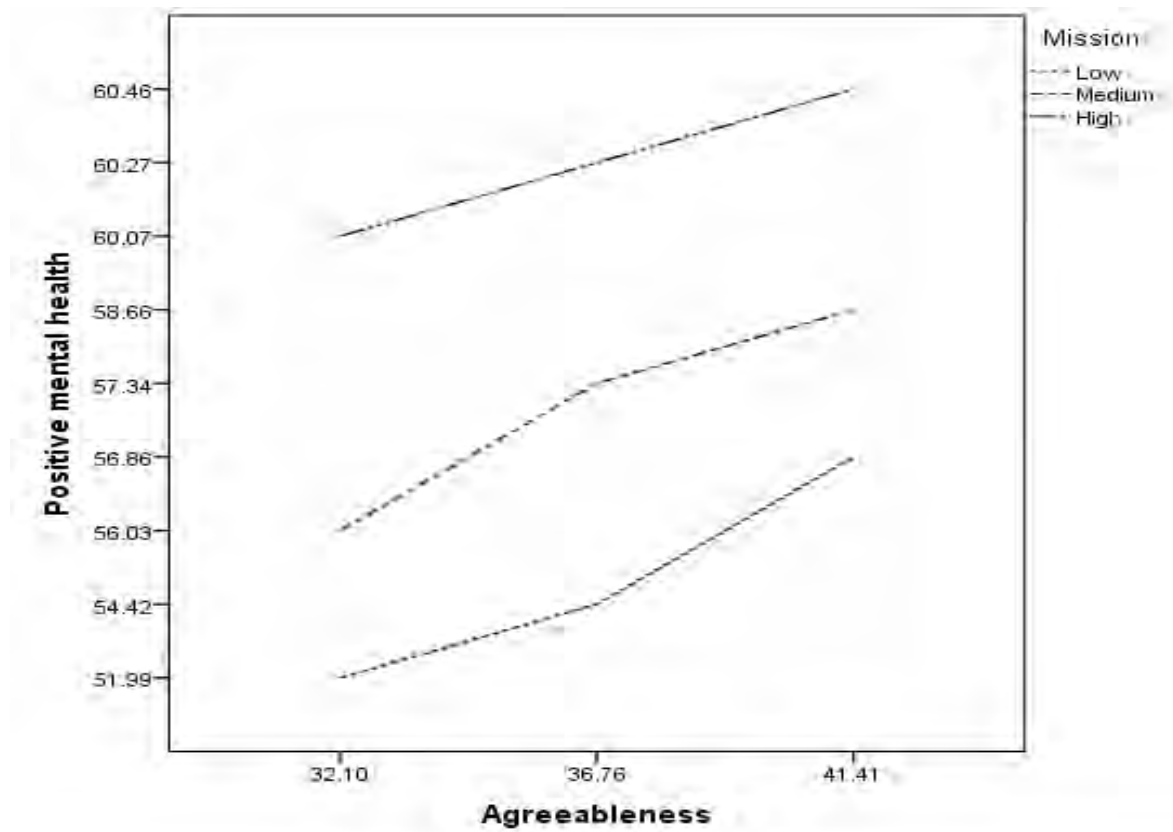
Figure 18. Displaying mission as moderator in agreeableness and positive mental health relationship

Examining Impact of Socio-Demographics Variables on Study Variables.
Socio demographic variables impact on study variables i.e., positive mental health, psychopathology, personality traits and organization culture traits. The current study has explored numerous demographics e.g., gender (men vs women); age (with three categories early adulthood (21-35),middle (35-45),late adulthood (45-60 years) academic qualification with five categories (F.Sc/ICOM/ technical diploma, Bachelors, postgraduate (masters), MS/M.Phil., and Ph.D./FRCS/FRCP), work organization (banks, telecom, healthcare, educational institutions & consultancy companies), job experience (with five categories—up to 2 years, 3-6 yrs. , 6-10yrs, >10yrs) in relation to work organizations among professionals. The effect of demographics was scrutinized through Multivariate analysis of variance on each of study variable. These were afterwards followed by post hoc univariate analysis for all variable categories. Among all demographic categories, results of one-way analyses of MANOVA found statistically significant mean differences across age categories, educational qualification, work organization, job experience except monthly income which were found non-significant. Post Hoc analysis were accompanied for those study variables that yielded significant multivariate effects to further explore significant mean differences among professional groups across various demographic categories.

Table 44

Means and Standard Deviations and Statistics for Multivariate analysis of Educational qualification for Study Variables (N=622)

Variables	Ph.D/Frcps/Fcps (*n*= 31)		MS/M-Phil (*n*= 60)		Masters/Mcom/MBA (*n*= 208)		MBBS/B.Com/BS (*n*= 299)		FA/F.SC/ICOM (*n*= 24)		η²	λ	F
	M	*SD*	M	*SD*	*M*	*SD*	M	*SD*	M	*SD*			
MHC-SF												.96*	
EWB	13.74	3.55	12.55	3.39	12.85	3.27	12.09	3.65	11.70	3.86	.01		2.64*
SWB	19.67	5.82	18.35	4.91	18.02	5.07	18.13	5.15	16.29	4.60	.01		1.54
PWB	26.22	6.23	25.72	4.97	26.86	5.64	26.06	5.40	24.70	6.79	.01		1.41
NEO-FFI												.90**	
NEU	34.25	4.86	35.14	5.97	35.32	5.68	36.70	5.16	40.21	4.28	.04		5.22***
EXT	37.25	5.25	38.55	4.88	39.54	5.30	38.68	4.88	36.84	2.38	.02		2.44*
OPEN	35.44	4.37	36.61	4.09	35.95	4.25	36.38	4.57	35.10	3.55	.00		.732
AGREE	38.44	5.67	36.75	5.40	37.22	4.61	36.01	4.14	36.26	2.80	.02		2.63**
CONS	40.37	9.01	42.12	5.73	43.70	5.69	42.31	6.36	42.68	3.84	.02		2.55*
DOCS												.90**	
INVOV	44.17	10.80	40.82	8.50	51.08	8.39	49.73	8.64	52.73	6.75	.00		4.48**
CON	45.55	8.66	48.66	7.75	50.52	7.24	49.19	6.93	47.33	5.08	.00		3.65
ADAP	44.34	8.40	46.88	7.43	49.36	6.48	48.57	6.84	50.60	4.93	.00		4.52**
MISS	45.86	8.53	49.26	9.17	52.19	7.13	50.40	7.83	53.00	6.68	.00		5.42***
BSI												.79***	
SOM	15.76	6.22	17.66	8.20	16.16	7.79	15.72	7.21	23.54	8.96	.04		5.46**

,

Variables	Ph.D/Frcps/Fcps (n= 31)		MS/M-Phil (n= 60)		Masters/Mcom/MBA (n= 208)		MBBS/B.Com/BS (n= 299)		FA/F.SC/ICOM (n= 24)		η^2	λ	F
	M	SD	M	SD	M	SD	M	SD	M	SD			
OCOM	15.65	4.82	16.12	6.05	15.11	6.26	15.38	5.71	16.00	4.34	.00		.362
I.S	12.92	2.74	13.20	1.90	13.78	2.01	13.63	2.25	14.90	1.99	.02		.95
DEP	19.42	2.41	18.22	2.73	18.63	2.72	18.54	2.50	18.81	2.38	.00		3.35**
ANX	19.15	2.94	18.04	2.40	18.61	2.64	18.33	2.58	17.59	1.62	.01		1.66
PHANX	11.57	5.29	11.83	5.92	11.07	6.05	11.05	5.42	13.36	5.49	.00		
HOS	15.15	2.55	15.50	2.68	16.31	2.39	16.54	2.40	17.86	2.33	.04		5.38***
PAR	15.76	3.33	16.50	2.07	16.82	1.81	16.32	2.02	17.59	1.76	.03		3.71*
PSY	15.53	2.19	15.04	1.94	15.15	2.03	14.80	2.27	15.68	1.98	.01		1.47

** $p < .01$, nonsig= $P > .5$

Note. EWB=Emotional wellbeing, SWB=Social wellbeing, PWB=Psychological wellbeing, Neu= Neuroticism, EXT= Extraversion, AGREE= Agreeableness, CONS= Conscientiousness, INOV=Involvement, CO*N*= Consistency, ADAP=Adaptability, MISS=Mission, SOM=Somatization, OCOM=Obsession compulsion, I.S=Interpersonal sensitivity, DEP= Depression, ANX=Anxiety, PHANX=Phobic anxiety, HOS=Hostility, PAR=Paranoid ideation, PSY=Psychoticism

,

Table 44 displays mean differences (One-Way multivariate analyses of variance) between professional shaving different qualifications (Ph.D./Frcps/ Fcps,M.S/Mphil,Masters/M.Com/MBA,MBBS/BCOM/Bachelors/F.SC/I Com). On study variables of positive mental health, psychopathology, personality traits and organizational culture. Table 44 depicts Model 1 that depicts significant qualification differences on positive mental health (MHC-SF) Wilks λ= .90*, F (3, 12) = 1.81***; P < .001, (partial η^2=.01). These are followed by Separate univariate analyses that further confirmed these significant differences (p < .01) between emotional wellbeing F (4, 245) = 2.50 *; P < .05, η2=.*03 social wellbeing* F= (4,245) =2.93*; P< .05, η2=.04, psychological wellbeing F= (4,245) =1.55; P.>05, η2=.02.

Model 2 shows significant multivariate effect of education qualification on NEO-FFI, Wilks λ= .90**, F (4, 16) = 2.25; P < .001, (partial η^2=.02). These are followed by Separate univariate analyses that further show significant differences between neuroticism F (4, 445) = .5.25; P > .001, η2=.01, extraversion F (4, 245) = .2.44; P > .04, η2=.01, openness to experience F (4, 445) = .74; P > .05, η2=.01, agreeableness F (4, 445) = 2.63; P > .03, η2=.01 and conscientiousness F (4, 445) = 2.55; P > .03, η2=.01.

Model 3 shows significant multivariate effect of educational categories on DOCS scale Wilks λ= .90**, F (5, 20) = 2.26; P < .001, partial η^2=.02. Separate univariate analyses further endorse significant differences on involvement F (4, 412) = 4.48; P > .001, η2=.01, consistency F (4, 412) = 3.65 P > .05, η2=.01, adaptability F (4, 412) = 4.52; P < .001, η2=.01, missio*n*= F (4, 412) = 5.42; P > .000, η2=.01.

Model 4 illustrates the significant multivariate effect of educational qualification on BSI scale, Wilks λ= .90**, F (5, 20) = 2.26; P < .001, partial η^2=.02. Separate univariate analyses further confirm the significant differences on somatization F (4, 245) = 5.46**; P > .05, η2=.01, obsession compulsion F (4, 245) = .362; P > .05, η2=.01, interpersonal sensitivity F (4, 245) = .95; P > .05, η2=.01, depression F (4, 245) = 3.35; P > .05, η2=.01,anxiety F (4, 245) = 1.66; P > .05, η2=.01, phobic anxiety F (4, 245) = 1.62; P > .05, η2=.01, hostility F (4, 245) = 5.38***; P > .05, η2=.01, paranoid ideation F (4, 245) = 3.71*; P > .05, η2=.01 and psychoticism F (4, 245) = 1.47; P > .05, η2=.01.

Table 45

Post Hoc analysis of mean difference in MHC-SF subscales across different educational qualifications (N=622)

Variables	(I) Education	(J) Education	Mean Difference (I-J)	*S.E*	*P*	95% CI LL	95% CI UL
EWB	Ph.D./FCPS/FRCP	MS/M.Phil	1.18	.768	.124	-.326	2.69
		MASTERS/M.SC/MA/MBA	.882	.659	.182	-.413	2.17
		MBBS/BACHELORS/BHONS	1.65*	.668	.014	.337	2.96
		FA/F.SC/I.COM	2.03*	.941	.031	.183	3.88
	MS/M.Phil	Ph.D./Fcps/Frcp	-1.18	.768	.124	-2.69	.326
		MASTERS/M.SC/MA/MBA	-.30	.501	.550	-1.28	.684
		MBBS/BACHELORS/BHONS	.468	.513	.362	-.539	1.47
		FA/F.SC/I.COM	.851	.838	.311	-.796	2.49
	MASTERS/M.SC/MA/MBA	Ph.D./Fcps/Frcp	-.882	.659	.182	-2.17	.413
		MS/M.Phil	.300	.501	.550	-.684	1.28
		MBBS/BACHELORS/BHONS	.769*	.329	.020	.122	1.41
		FA/F.SC/I.COM	1.15	.740	.121	-.303	2.60
	MBBS/BACHELORS/BHONS/B.SC/B.A/B.COM/BDS	Ph.D./Fcps/Frcp	-1.65*	.668	.014	-2.96	-.337
		MS/M.Phil	-.468	.513	.362	-1.47	.539
		MASTERS/M.SC/MA/MBA	-.769*	.329	.020	-1.41	-.122
		FA/F.SC/I.COM	.382	.748	.610	-1.08	1.85
	FA/F.SC/I.COM	PhD/Fcps/Frcp	-2.03*	.941	.031	-3.88	-.183
		MS/M.Phil	-.851	.838	.311	-2.49	.796
		MASTERS/M.SC/MA/MBA	-1.15	.740	.121	-2.60	.303
		MBBS/BACHELORS/BHONS	-.382	.748	.610	-1.85	1.08

Table 45 displays results of Post Hoc using LSD test by showing statistically different mean scores between Ph.D. qualified and Bachelor qualification level and I.Com degree level on emotional wellbeing. However, individual having master level degree also showed statistically significant mean scores from Bachelors group. Over all mean scores of Ph.D. and higher level qualification group reported higher mean as compared to Masters, Bachelors and I.COM qualified employees. It shows support for assumption that highly qualified employees exhibit higher levels of positive mental health in comparison to less qualified personnel.

Table 46

Posthoc Analysis of mean differences in NEO-FFI subscales across different educational qualifications (N=622)

Variable	Education (I)	Education (J)	Mean Difference (I-J)	*S. E*	*P*	95% Confidence Interval LL	UL
Neuroticism	Ph.D./FCPS/ FRCP	MS/M.Phil.	-.883	1.30	.498	-3.44	1.67
		MASTERS/M.SC/MA/MBA	-1.06	1.11	.339	-3.26	1.12
		MBBS/BACHELORS/BA	-2.45*	1.13	.031	-4.68	-.227
		FA/F.SC/I.COM	-5.95*	1.62	.000	-9.15	-2.75
	MS/M.Phil	Ph.D./FCPS/FRCP	.883	1.30	.498	-1.67	3.44
		MASTERS/M.SC/MA/MBA	-.185	.867	.831	-1.89	1.52
		MBBS/BACHELORS/BA	-1.57	.889	.078	-3.31	.178
		FA/F.SC/I.COM	-5.06*	1.46	.001	-7.95	-2.17
	MASTERS/MA MSC/MA/MBA	Ph.D./FCPS/FRCP	1.06	1.11	.339	-1.12	3.26
		MS/M.Phil	.185	.867	.831	-1.52	1.89
		MBBS/BACHELORS/	-1.38*	.581	.018	-2.52	-.242
		FA/F.SC/I.COM	-4.88*	1.30	.000	-7.44	-2.31
	MBBS/BACHEL ORS/BHONS/B. SC/B.A/B.COM/ BDS	Ph.D./FCPS/FRCP	2.45*	1.13	.031	.227	4.68
		MS/M.Phil	1.57	.889	.078	-.178	3.31
		MASTERS/M.SC/MBA	1.38*	.581	.018	.242	2.52
		F.A/F.SC/I.COM	-3.49*	1.32	.008	-6.09	-.900
	F.SC/I.COM	Ph.D/ FRCP/ FRCS	5.95*	1.62	.000	2.75	9.15
		MS/Phil		1.46	.001	2.17	7.95
		MASTERS/M.SCMBA	4.88*	1.30	.000	2.31	7.44
		MBBS/BACHELOR	3.49*	1.32	.008	.900	6.09

Table 46 demonstrates the results of Post Hoc using LSD for analyzing mean differences in personality traits across different qualification groups. The findings

indicated significant mean differences between highly qualified employees (PH.D, FRCP, FCPS) and employees having Bachelor level degree. Moreover, significant mean differences also depicted between high qualified employees and low qualified employees having technical diplomas. In addition significant mean differences were reported between MS/MPhil qualified and MBBS/bachelors level, Bachelor's degree holder and less qualified ICOM/ and between Master and Bachelors levels. Higher mean score of less qualified was reported in Table 46 on neuroticism trait as compared to employees having Masters and Bachelor level degrees.

Table 47

Post hoc analysis of mean differences in DOCS subscales across different educational qualifications (N=622)

Variable	Education (I)	Education (J)	Mean Difference (I-J)	S.E.	P	95% Confidence Interval	
						LL	UL
Involvement	Ph.D./FCPS//FRCP	MS/M.Phil	-5.64*	2.01	.005	-9.60	-1.69
		MASTERS/M.SC/MA	-6.91*	1.71	.000	-10.2	-3.53
		MBBS/BACHELORS/	-5.56*	1.76	.002	-9.03	-2.08
		FA/F.SC/I.COM	-8.56*	2.74	.002	-13.9	-3.17
	MS/M.Phil	Ph.D/FCPS/FRCP	5.64*	2.01	.005	1.69	9.60
		MASTERS/M.SC/MA	-1.26	1.368	.355	-3.95	1.42
		MBBS/BACHELORS	.087	1.43	.952	-2.73	2.90
		FA/F.SC/I.COM	-2.91	2.53	.252	-7.90	2.07
	MASTERS/MA	Ph.D/Fcps/Frcp	6.91*	1.71	.000	3.53	10.2
		MS/M.Phil	1.26	1.36	.355	-1.42	3.95
		MBBS/BACHELORS/	1.35	.977	.166	-.564	3.27
		FA/F.SC/I.COM	-1.64	2.31	.477	-6.18	2.89
	MBBS/BACHELORS/BHONS/	Ph.D/FCPS/FRCP	5.56*	1.76	.002	2.08	9.03
		MS/M.Phil	-.087	1.43	.952	-2.90	2.73
		MASTERS/M.SC/MA/	-1.35	.977	.166	-3.27	.564
		FA/F.SC/I.COM	-3.00	2.35	.202	-7.62	1.61
	FA/F.SC/I.COM	Ph.D/FCPS/FRCP	8.56*	2.74	.002	3.17	13.9
		MS/M.Phil	2.91	2.53	.252	-2.07	7.90
		MASTERS/M.SC/MA	1.64	2.31	.477	-2.89	6.18
		MBBS/BACHELORS	3.00	2.35	.202	-1.61	7.62
Adaptability	Ph.D./FCPS/ FRCP	MS/M.Phil	-2.53	1.59	.112	-5.66	.592
		MASTERS/M.S	-5.01*	1.35	.000	-7.68	-2.35
		FA/F.SC/I.COM	-6.25*	2.16	.004	-10.51	-1.99

Continued…

Variable	Education (I)	Education (J)	Mean Difference (I-J)	S.E.	P	95% Confidence Interval	
						LL	UL
	MS/M.Phil	PhD/FCPS/FRCP	2.53	1.59	.112	-.592	5.66
		MASTERS/M.SC	-2.48*	1.08	.022	-4.61	-.357
		MBBS/BACHELOR	-1.63	1.13	.149	-3.86	.588
		FA/F.SC/I.COM	-3.72	2.00	.065	-7.66	.225
	MASTERS/M.S	PhD/FCPS/FRCP	5.01*	1.35	.000	2.35	7.68
		MS/M.Phil	2.48*	1.08	.022	.357	4.61
		MBBS/BACHELOR	.845	.772	.274	-.673	2.36
		FA/F.SC/I.COM	-1.23	1.82	.499	-4.82	2.35
	MBBS//B.SC	PhD/FCPS/FRCP	4.17*	1.39	.003	1.42	6.92
		MS/M.Phil	1.63	1.13	.149	-.588	3.86
		MASTERS/M.SC/	-.845	.772	.274	-2.36	.673
		FA/F.SC/I.COM	-2.08	1.85	.263	-5.73	1.57
	FA/F.SC/	PhD/FCPSFRCP	6.25*	2.16	.004	1.99	10.5
		MS/M.Phil	3.72	2.00	.065	-.225	7.66
		MASTERS/M.SC	1.23	1.82	.499	-2.35	4.82
		MBBS/BACHELOR	2.08	1.85	.263	-1.57	5.73
Mission	Ph.D./FCPS/ FRCP	MS/M.Phil	-3.39	1.79	.060	-6.93	.139
		MASTERS/M.SC	-6.33*	1.53	.000	-9.34	-3.31
		MBBS/BACHELOR	-4.54*	1.58	.004	-7.65	-1.43
		FA/F.SC/I.COM	-7.13*	2.45	.004	-11.9	-2.31
	MS/M.Phil	Ph.D./FCPS/FRCP	3.39	1.79	.060	-.139	6.93
		MASTERS/M.SC	-2.93*	1.22	.017	-5.33	-.526
		MBBS/BACHELOR	-1.14	1.28	.372	-3.66	1.37
		FA/F.SC/I.COM	-3.74	2.26	.100	-8.20	.721
	MASTERS/ MBA	Ph.D./FCPS/ FRCP	6.33*	1.53	.000	3.31	9.34
		MS/M.Phil	2.93*	1.22	.017	.526	5.33
		MBBS/BACHELOR	1.78*	.873	.041	.070	3.50
		FA/F.SC/I.COM	-.807	2.06	.696	-4.87	3.25
	MBBS/B.SC/	Ph.D./FCPS/FRCP	4.54*	1.58	.004	1.43	7.65
		MS/M.Phil	1.14	1.28	.372	-1.37	3.66
		MASTERS/M.SC/	-1.78*	.873	.041	-3.50	-.070
		FA/F.SC/I.COM	-2.59	2.10	.218	-6.72	1.53
	F.SC/I.COM	Ph.D./FCPS/FRCP	7.13*	2.45	.004	2.31	11.9
		MS/M.Phil	3.74	2.26	.100	-.721	8.20
		MASTERS/M.SC/	.807	2.06	.696	-3.25	4.87
		MBBS/BA	2.59	2.10	.218	-1.53	6.72

Table 47 shows the Post Hoc analysis results using LSD for mean differences across qualification groups in organization culture traits. Organization culture traits having significant univariate F values were subjected to Post hoc analysis. On involvement trait, highly qualified employees had shown statistically significantly mean scores different from employees having MS/Masters/ BS/ qualifications. On adaptability trait, highly qualified had significantly different mean scores from employees having Masters/ Bachelors/ ICOM level of qualification. While employees having MS qualification reported significant mean differences from the master degree

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holders. On the domain of mission trait, highly qualified employees scored statistically different mean scores from the employees having Masters/ Bachelors/ ICOM qualification. However, employees having MS degrees significantly differed from employees having Master Degree qualification. Employees having Master degree differed significantly from the bachelor's degree holders. Overall, higher mean scores were found for less qualified employees as compared to highly qualified and employees having masters/ bachelor's degrees on all the three traits i.e., involvement, adaptability and mission.

Table 48

Post hoc analysis of mean differences in BSI subscales across different educational qualifications (N=622)

Variables	Education (I)	Education (J)	Mean Difference (I-J)	S. E	*P*	95% CI LL	UL
SOM	Ph.D./FCPS/FRCP	MS/M.Phil.	-1.89	1.87	.313	-5.58	1.79
		MASTERS/M.SC/	-.394	1.61	.806	-3.55	2.76
		MBBS/BACHELOR	.046	1.63	.978	-3.16	3.25
		FA/F.SC/I.COM	-7.77*	2.23	.001	-12.1	-3.3
	MS/M.Phil.	Ph.D./FCPS/FRCP	1.89	1.87	.313	-1.79	5.5
		MASTERS/M.SC/	1.50	1.24	.227	-.939	3.94
		MBBS/BACHELOR	1.94	1.27	.127	-.552	4.43
		FA/F.SC/I.COM	-5.87*	1.98	.003	-9.78	-1.97
	MASTERS/M.SC	Ph.D./FCPS/FRCP	.394	1.61	.806	-2.76	3.5
		MS/M.Phil.	-1.50	1.24	.227	-3.9	.939
		MBBS/BACHELOR	.440	.824	.593	-1.17	2.06
		FA/F.SC/I.COM	-7.38*	1.73	.000	-10.7	-3.9
	MBBS/BHONS/ B.SC/	Ph.D./FCPS/FRCP	-.046	1.63	.978	-3.25	3.16
		MS/M.Phil.	-1.94	1.27	.127	-4.43	.552
		MASTERS/M.S/MA	-.440	.824	.593	-2.06	1.17
		FA/F.SC/I.COM	-7.82*	1.75	.000	-11.2	-4.37
	FA/F.SC/I.COM	Ph.D./FCPS/FRCP	7.77*	2.23	.001	3.38	12.16
		MS/M.Phil.	5.87*	1.98	.003	1.97	9.78
		MASTERS/M.SC	7.38*	1.73	.000	3.97	10.79
		MBBS/BACHELOR	7.82*	1.75	.000	4.37	11.26
INPS	Ph.D./FCPS/FRCP	MS/M.Phil.	-.285	.520	.584	-1.30	.737
		MASTERS/M.SC/	-.861	.446	.054	-1.73	.015
		MBBS/BACHELOR	-.712	.452	.116	-1.60	.176
		FA/F.SC/I.COM	-1.98*	.619	.001	-3.20	-.769
	MS/M.Phil.	Ph.D./FCPS/FRCP	.285	.520	.584	-.737	1.30
		MASTERS/M.SC/M	-.576	.344	.095	-1.25	.100
		MBBS/BACHELOR	-.426	.352	.226	-1.11	.265
		FA/F.SC/I.COM	-1.70*	.550	.002	-2.78	-.619

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ariables	Education (I)	Education (J)	Mean Difference (I-J)	S. E	P	95% CI LL	UL
	MASTERS/M.SC/	Ph.D./FCPS/FRCP	.861	.446	.054	-.015	1.73
		MS/M.Phil.	.576	.344	.095	-.100	1.25
		MBBS/BACHELOR	.149	.22	.513	-.299	.598
		FA/F.SC/I.COM	-1.12*	.480	.020	-2.06	-.179
	MBBS/BACHELORS/BHONS/B.SC/	Ph.D./FCPS/FRCP	.712	.452	.116	-.176	1.60
		MS/M.Phil	.426	.352	.226	-.265	1.11
		MASTERS/M.SC/	-.149	.228	.513	-.598	.299
		FA/F.SC/I.COM	-1.27*	.486	.009	-2.22	-.318
	FA/F.SC/I.COM	Ph.D./FCPS/FRCP	1.98*	.619	.001	.769	3.20
		MS/M.Phil.	1.70*	.550	.002	.619	2.78
		MASTERS/M.SC/	1.12*	.480	.020	.179	2.06
		MBBS/BACHELOR	1.27*	.486	.009	.318	2.22
HOS	Ph.D./FCPS/FRCP	MS/M.Phil.	-.346	.593	.560	-1.51	.819
		MASTERS/M.SC/	-1.15*	.508	.023	-2.15	-.159
		MBBS/BACHELORS	-1.38*	.515	.007	-2.39	-.374
		FA/F.SC/I.COM	-2.70*	.705	.000	-4.09	-1.32
	MS/M.Phil.	Ph.D./FCPS/FRCP	.3462	.593	.560	-.819	1.51
		MASTERS/M.SC/MA	-.812*	.392	.039	-1.58	-.041
		MBBS/BACHELORS	-1.04*	.401	.010	-1.82	-.252
		FA/F.SC/I.COM	-2.36*	.627	.000	-3.59	-1.13
	MASTERS/M.SC/	Ph.D./FCPS/FRCP	1.15*	.508	.023	.159	2.15
		MS/M.Phil.	.812*	.392	.039	.041	1.58
		MBBS/BACHELORS	-.228	.260	.381	-.739	.283
		FA/F.SC/I.COM	-1.55*	.547	.005	-2.62	-.473
	MBBS/BACHELORS/BHONS/B.SC/	Ph.D./FCPS/FRCP	1.38*	.515	.007	.374	2.39
		MS/M.Phil	1.04*	.401	.010	.252	1.82
		MASTERS/M.SC/	.228	.260	.381	-.283	.739
		FA/F.SC/I.COM	-1.32*	.554	.017	-2.41	-.233
	FA/F.SC/I.COM	Ph.D./FCPS/FRCP	2.70*	.705	.000	1.32	4.09
		MS/M.Phil	2.36*	.627	.000	1.13	3.59
		MASTERS/M.SC/	1.55*	.547	.005	.473	2.62
		MBBS/BACHELOR	1.32*	.554	.017	.233	2.41
Par Id	Ph.D./FCPS/FRCP	MS/M.Phil	-.730	.494	.140	-1.70	.241
		MASTERS/M.SC/M	-1.05*	.424	.014	-1.88	-.217
		MBBS/BACHELOR	-.557	.429	.195	-1.40	.286
		FA/F.SC/I.COM	-1.82*	.588	.002	-2.97	-.665
	MS/M.Phil	Ph.D./FCPS/FRCP	.730	.494	.140	-.241	1.70
		MASTERS/M.SC/	-.320	.327	.328	-.963	.322
		MBBS/BACHELOR	.173	.334	.605	-.484	.830
		FA/F.SC/I.COM	-1.09*	.522	.038	-2.11	-.063
	MASTERS/M.SC/	Ph.D./FCPS/FRCP	1.05*	.424	.014	.217	1.88
		MS/M.Phil	.320	.327	.328	-.322	.963
		MBBS/BACHELOR	.493*	.217	.023	.067	.920
		FA/F.SC/I.COM	-.770	.456	.092	-1.66	.127
	MBBS/BACHELORS/BHONS/B.SC/	Ph.D./FCPS/FRCP	.557	.429	.195	-.286	1.40
		MS/M.Phil	-.173	.334	.605	-.830	.484
		MASTERS/M.SC	-.493*	.217	.023	-.920	-.067
		FA/F.SC/I.COM	-1.26*	.462	.006	-2.17	-.355

Variables	Education (I)	Education (J)	Mean Difference (I-J)	S. E	*P*	95% CI LL	UL
	FA/F.SC/I.COM	Ph.D./FCPS/FRCP	1.82*	.588	.002	.665	2.97
		MS/M.Phil	1.09*	.522	.038	.063	2.11
		MASTERS/M.SC	.770	.456	.092	-.127	1.66
		MBBS/BACHELOR	1.26*	.462	.006	.355	2.17

Note. SOM=Somatization, INPS=Interpersonal sensitivity, HOS=hostility, PARID=Paranoid Ideation

Table 48 displays the Post Hoc using LSD analysis of mean differences across educational categories on BSI subscales i.e., somatization, interpersonal sensitivity, hostility and paranoid ideation. On somatization, highly qualified employees (Ph.D., MS/MPhil, Masters, and Bachelors) had shown significant mean differences from ICOM qualified. For the other dimension i.e., interpersonal sensitivity significant mean differences were reported across high qualification groups (Ph.D / MS/ Masters/ Bachelors) and the lowest qualified employees having ICOM/ technical diplomas. On paranoid dimension significant mean differences were found between highly qualified and masters, MS and I COM qualified, Masters and Ph.D/ Bachelors, bachelors and ICOM. On the hostility dimension, highly qualified employees (Ph.D./MS/Masters/ Bachelors) showed statistically significant mean differences from masters, bachelors and ICOM qualified.

Table 49

Means and Standard Deviations and Statistics for Multivariate analysis of work organization for Study Variables (N=622)

Variables	Bankers (*n*= 129)		Telecom (*n*= 29)		Doctors (*n*= 95)		Consultants (*n*= 256)		Educational (*n*= 113)		η²	Λ	F
	M	SD	M	SD	M	SD	M	SD	M	SD			
MHC-SF												.92**	
EWB	12.77	3.19	12.96	3.15	12.37	4.60	12.60	3.61	12.56	3.36	.00		1.20
SWB	17.42	4.90	15.96	3.22	19.07	5.18	19.46	5.17	17.96	5.17	.03		3.82*
PWB	26.21	5.73	25.89	6.77	25.41	5.78	27.20	5.44	26.54	4.99	.01		1.17
NEO-FFI												.92*	
NEU	35.31	5.19	38.36	6.51	36.67	5.12	35.09	5.59	35.92	5.53	.01		1.65
EXT	39.30	5.08	37.63	3.56	37.74	4.77	38.71	5.09	39.40	5.22	.02		2.37*
OPEN	36.35	4.34	34.40	3.51	36.60	4.03	36.76	5.01	35.89	4.10	.01		1.43
AGREE	37.36	3.79	37.09	1.77	36.52	4.82	36.82	4.54	36.62	5.09	.01		1.00
CON	43.77	5.90	43.68	5.18	40.67	6.58	43.08	5.75	43.10	6.24	.03		3.03*
DOCS												.85***	
INOV	47.90	9.29	53.25	6.13	47.02	8.37	50.65	8.44	51.86	8.51	.06		5.38***
CON	48.36	7.17	48.45	4.80	47.54	6.29	49.85	8.06	50.70	7.54	.05		4.70***
ADAP	47.27	7.58	51.55	5.15	40.42	6.06	48.23	6.85	49.76	6.80	.06		5.56***
MISS	50.05	9.14	54.15	5.82	47.57	6.85	50.60	7.47	52.38	7.45	.06		5.55***
BSI												.75***	
SOM	16.19	8.51	24.52	8.44	15.87	7.26	14.96	7.00	16.57	7.73	.06		5.80***
OCOM	15.44	6.63	17.17	3.17	15.62	5.69	14.06	5.83	15.63	6.02	.007		.654
I.S	14.06	1.80	15.26	1.78	13.24	2.65	13.24	1.97	13.75	2.14	.04		4.26**
DEP	18.77	2.53	19.60	2.18	18.52	2.58	18.10	2.43	18.73	2.76	.02		1.82
ANX	18.78	2.59	18.08	2.29	18.51	2.78	18.48	2.45	18.31	2.60	.009		.827
PHANX	10.85	5.84	13.52	4.78	11.86	5.66	10.14	5.64	11.46	5.86	.01		1.56
HOS	16.10	2.20	17.04	2.60	15.83	2.78	16.14	2.42	16.57	2.44	.01		1.59
PAR	16.41	1.94	17.39	1.80	16.05	2.34	16.72	1.76	16.70	2.10	.02		1.83
PSY	14.98	2.24	16.30	1.69	15.14	2.21	15.12	2.08	14.85	2.03	.02		1.47

** *p* <.01, nonsig= *P*>.5

Note. EWB=Emotional wellbeing, SWB=Social wellbeing, PWB=Psychological wellbeing, Neu= Neuroticism, EXT= Extraversion, AGREE= Agreeableness, CONS= Conscientiousness, INOV=Involvement, CO*N*= Consistency, ADAP=Adaptability, MISS=Mission, SOM=Somatization, OCOM=Obsession compulsion, I.S=Interpersonal sensitivity, DEP= Depression, ANX=Anxiety, PHANX=Phobic anxiety, HOS=Hostility, PAR=Paranoid ideation, PSY=Psychoticism

Table 49 indicates mean differences between professionals groups working in different professional settings (Banking ,Telecom , Health care sector, consultancy firms, educational institutes) on study variables i.e., positive mental health, psychopathology, personality traits and organizational culture through multivariate analyses of variance. Model 1 of the table shows statistically significant qualification differences on positive mental health (MHC-SF) Wilks λ= .92**, F (3, 15) = 2.84***; P < .001, partial η^2=.01. Separate univariate analyses further confirmed these significant differences for emotional wellbeing, psychological and social wellbeing. On emotional wellbeing, univariate analysis yielded non-significant F (5, 563) = 1.20; P > .05, $\eta2$=.01 social wellbeing F= (5, 563) =3.82*; P< .05, $\eta2$=.03, psychological wellbeing F= (5,563) =1.17; $P.$>05, $\eta2$=.01.

Model 2 shows significant multivariate effect of work organization on NEO-FFI, Wilks λ= .91**, F (5, 25) = 1.70; P < .01, partial η^2=.01. Separate univariate analyses further shown non significant differences between neuroticism F (5, 447) = 1.65; P > .05, $\eta2$=.01, significant differences between extraversion F (5, 447) = 2.37*; P <.05, $\eta2$=.02, openness to experience F (5, 447) = 1.43; P > .05, $\eta2$=.01, agreeableness F (4, 447) = 1.00; P > .05, $\eta2$=.01 and conscientiousness F (4, 447) = 3.03*; P < .05, $\eta2$=.03.

Model 3 shows significant multivariate effect of work organization on DOCS scale Wilks λ= .85**, F (4, 20) = 3.31; P < .001, partial η^2=.03. Separate univariate analyses further endorse significant differences on involvement F (5, 419) = 5.38; P > .000, $\eta2$=.06, consistency F (5, 419) = 4.70 P < .000, $\eta2$=.05, adaptability F (5, 419) =5.56; P < .000, $\eta2$=.06, missio$n$= F (5, 419) = 5.55; P > .000, $\eta2$=.06.

Model 4 illustrates the significant multivariate effect of work organization on BSI scale, Wilks λ= .745***, F (9, 45) = 2.90; P < .000, partial η^2=.05. Separate univariate analyses further confirm the significant differences on somatization F (5,449) = 5.80; P< .000, $\eta2$=.06, obsession compulsion F (5,449) = .654; P > .05, $\eta2$=.007, interpersonal sensitivity F (5,449) = 4.26; P < .01, $\eta2$=.04, depression F (5,449) = 1.82; P > .05, $\eta2$=.02,anxiety F (5,449) = .827; P > .05, $\eta2$=.009, phobic anxiety F (5,449) = 1.56; P > .05, $\eta2$=.01, hostility F (5, 449) = 1.59; P > .05, $\eta2$=.01, paranoid ideation F (5,449) = 1.83; P > .05, $\eta2$=.02 and psychoticism F (5,449) = 1.97; P > .05, $\eta2$=.02.

Table 50

Post Hoc Analyses for mean differences in social wellbeing subscale across different work organizations (N=622)

Dependent Variable	Work organization (I)	Work organization (J)	Mean Difference (I-J)	S. E	*P*	95% Confidence Interval LL	UL
		Consultants	-2.20	1.33	.098	-4.82	.410
		Telecommunication	1.46	1.04	.163	-.595	3.52
	Banking/ managers	Doctors	-1.64*	.711	.021	-3.04	-.251
		Consultants	-2.03*	.698	.004	-3.41	-.667
		/lecturer/Principal	-.536	.574	.351	-1.66	.591
		Banking /Managers	-1.46	1.04	.163	-3.52	.595
	Telecommunication	Doctors	-3.11*	1.07	.004	-5.22	-.997
		Consultants	-3.50*	1.06	.001	-5.60	-1.40
		/lecturer/principal	-2.00*	.991	.044	-3.94	-.052
		Banking /Managers	1.64*	.711	.021	.251	3.04
SWB	Doctors	Telecommunication	3.11*	1.07	.004	.997	5.22
		Consultants	-.391	.739	.597	-1.84	1.06
		lecturer/Principal	1.11	.623	.075	-.114	2.33
		Banking/ Managers	2.03*	.698	.004	.667	3.41
	Consultants	Telecommunication	3.50*	1.068	.001	1.40	5.60
		Doctors	.391	.739	.597	-1.06	1.84
		/lecturer/Principal	1.50*	.609	.014	.304	2.69
		Banking/ Managers	.536	.574	.351	-.591	1.66
	/lecturer/principal	Telecommunication	2.00*	.991	.044	.052	3.94
		Doctors	-1.11	.623	.075	-2.33	.114
		Consultants	-1.50*	.609	.014	-2.69	-.304

Note. SWB=Social well being

Table 50 indicates the results of Post Hoc analysis using LSD for group differences on social wellbeing dimension. Findings indicated statistically significant mean differences between managers and doctors, managers and consultants. However, telecom employees had shown statistically significant mean differences from health care professionals, consultants and educational staff.

Table 51

Post hoc analysis of mean differences in NEO-FFI subscales across the different work organizations (N=622)

Dependent Variable	(I) work organization	(J) work organization	Mean Difference (I-J)	S. E	P	95% Confidence Interval LL	UL
CONCIEN	Banking/Managers	Telecommunication	.089	1.44	.951	-2.75	2.93
		Doctors	3.09*	.939	.001	1.24	4.93
		Consultants	.686	.927	.459	-1.13	2.50
		/lecturer/principal	.664	.784	.398	-.877	2.20
	Telecom	Banking	-.089	1.44	.951	-2.93	2.75
		Doctors	3.00*	1.47	.042	.106	5.89
		Consultants	.596	1.46	.684	-2.28	3.47
		/lecturer/principal	.574	1.38	.677	-2.13	3.28
	Doctors	Banking	-3.09*	.939	.001	-4.93	-1.24
		Telecommunication	-3.00*	1.47	.042	-5.89	-.106
		Consultants	-2.40*	.965	.013	-4.30	-.508
		/lecturer/principal	-2.42*	.829	.004	-4.05	-.797
	Consultants	Banking	-.686	.927	.459	-2.50	1.13
		Telecommunication	-.596	1.46	.684	-3.47	2.28
		Doctors	2.45*	.965	.013	.508	4.30
		/lecturer/principal	-.022	.815	.979	-1.62	1.58
	Teacher /lecturer/principal	Banking /Managers	-.664	.784	.398	-2.20	.877
		Telecommunication	-.574	1.38	.677	-3.28	2.13
		Doctors	2.42*	.829	.004	.797	4.05
		Consultants	.022	.815	.979	-1.58	1.62

Note. CONCIE*N*=Conscientiousness

Table 51 illustrates the Post Hoc analysis Using LSD for mean differences on conscientiousness trait across professional work groups. Findings supported significant mean differences between managers and doctors, telecom employees and doctors, teachers and doctors. Table 51 displays mean values endorsing these differences as mangers had higher mean on conscientiousness followed by telecom, consultants, educational sector and doctors.

Table 52

Post hoc analysis of Mean differences in Denison Organization Culture Survey Questionnaire Subscales across various work organizations (N=622)

Variables	Designation (I)	Designation (J)	Mean Difference (I-J)	S. E	P	95% CI LL	UL
INVOLV	Managers	Telecommunication	-5.34[*]	2.12	.012	-9.51	-1.17
		Doctors	.878	1.38	.526	-1.84	3.60
		Consultants	-2.74[*]	1.34	.041	-5.39	-.108
		Teacher/lecturer/principal	-3.96[*]	1.13	.001	-6.18	-1.73
	Telecom	Banking/ Managers	5.34[*]	2.12	.012	1.17	9.51
		Doctors	6.22[*]	2.17	.004	1.94	10.4
		Consultants	2.59	2.15	.229	-1.63	6.81
		Teacher/lecturer/principal	1.38	2.02	.495	-2.59	5.36
	Doctors	Banking/ Managers	-.878	1.38	.526	-3.60	1.84
		Telecommunication	-6.22[*]	2.17	.004	-10.49	-1.94
		Consultants	-3.62[*]	1.42	.011	-6.43	-.820
		Teacher/lecturer/principal	-4.83[*]	1.23	.000	-7.25	-2.41
	Consultants	Banking/ Managers	2.74[*]	1.34	.041	.108	5.39
		Telecommunication	-2.59	2.15	.229	-6.81	1.63
		Doctors	3.62[*]	1.42	.011	.820	6.43
		Teacher/lecturer/principal	-1.21	1.18	.307	-3.53	1.11
	Teacher/lecturer	Banking/ Managers	3.96[*]	1.13	.001	1.73	6.18
		Telecommunication	-1.38	2.02	.495	-5.36	2.59
		Doctors	4.83[*]	1.23	.000	2.41	7.25
		Consultants	1.21	1.18	.307	-1.11	3.53
ADAPT	Banking/ managers	Telecommunication	-4.27[*]	1.68	.012	-7.59	-.955
		Doctors	.849	1.10	.441	-1.31	3.01
		Consultants	-.961	1.06	.369	-3.06	1.14
		Teacher/lecturer/principal	-2.48[*]	.900	.006	-4.25	-.715
	Telecom	Banking / Managers	4.27[*]	1.68	.012	.955	7.59
		Doctors	5.12[*]	1.73	.003	1.71	8.52
		Consultants	3.31	1.71	.053	-.049	6.67
		Teacher /lecturer/	1.78	1.61	.267	-1.37	4.95

Continued…

Variables	Designation (I)	Designation (J)	Mean Difference (I-J)	S. E	*P*	95% CI LL	95% CI UL
	Doctors	Banking/ Managers	-.849	1.10	.441	-3.01	1.31
		Telecommunication	-5.12*	1.73	.003	-8.52	-1.71
		Consultants	-1.81	1.13	.112	-4.04	.423
		Teacher/lecturer/principal	-3.33*	.979	.001	-5.25	-1.40
	Consultants	Banking/ Managers	.961	1.06	.369	-1.14	3.06
		Telecommunication	-3.31	1.71	.053	-6.67	.049
		Doctors	1.81	1.13	.112	-.423	4.04
		Teacher/lecturer/principal	-1.52	.941	.107	-3.37	.328
	Teacher/lecturer /principal	Banking/ Managers	2.48*	.900	.006	.715	4.25
		Telecommunication	-1.78	1.61	.267	-4.95	1.37
		Doctors	3.33*	.979	.001	1.40	5.25
		Consultants	1.52	.941	.107	-.328	3.37
MISS	Managers	Telecommunication	-4.09*	1.90	.032	-7.83	-.345
		Doctors	2.48*	1.24	.047	.038	4.92
		Consultants	-.547	1.20	.650	-2.92	1.82
		Teacher /lecturer/	-2.33*	1.01	.022	-4.32	-.333
	Telecom officers	Banking/ managers	4.09*	1.90	.032	.345	7.83
		Doctors	6.57*	1.95	.001	2.73	10.4
		Consultants	3.54	1.93	.067	-.252	7.34
		Teacher/lecturer/principal	1.76	1.81	.334	-1.81	5.33
	Doctors	Banking / managers	-2.48*	1.24	.047	-4.92	-.038
		Telecommunication	-6.57*	1.95	.001	-10.4	-2.73
		Consultants	-3.03*	1.28	.019	-5.55	-.509
		Teacher/lecturer/principal	-4.81*	1.10	.000	-6.98	-2.64
	Consultants	Banking / managers	.547	1.20	.650	-1.82	2.92
		Telecommunication	-3.54	1.93	.067	-7.34	.255
		Doctors	3.03*	1.28	.019	.509	5.55
		Teacher /lecturer/	-1.78	1.06	.094	-3.87	.306
	Teacher/lecturer /principal	Banking / managers	2.33*	1.01	.022	.333	4.32
		Telecommunication	-1.76	1.81	.334	-5.33	1.81
		Doctors	4.81*	1.10	.000	2.64	6.98
		Consultants	1.78	1.06	.094	-.306	3.87

Note. INVOLV=Involvement, ADAP=Adaptability, MISS=Mission

Table 52 displays Post Hoc using LSD results for mean differences on involvement, adaptability, mission across different work organizations. Result endorse univariate effects of involvement trait by showing significant mean differences between bankers and telecom personnel, consultants and educational sector employees.

While doctors had significant mean differences from telecom personnel on involvement. On adaptability trait, bankers had scored different from telecom personnel and educational sector employees. However, doctors also diverged significantly from telecom employees on adaptability trait. On mission dimension, managers exhibited significant mean differences from telecom, educational sector employees and doctors. Doctors had revealed significant mean differences from all the professional categories.

Table 53

Post Hoc Analysis of mean differences in BSI subscales across various work organizations (N=622)

Variables	(I) Designation	(J) Designation	Mean Difference (I-J)	S. E	P	95% CI LL	UL
SOM	Managers	Telecommunication	-8.33*	1.80	.000	-11.8	-4.78
		Doctors	.312	1.21	.797	-2.07	2.70
		Consultants	1.22	1.16	.293	-1.06	3.51
		Teacher /Lecturer/Principal	-.381	1.00	.703	-2.34	1.58
	Telecom	Banking / managers	8.33*	1.80	.000	4.78	11.8
		Doctors	8.64*	1.84	.000	5.01	12.2
		Consultants	9.55*	1.81	.000	5.99	13.1
		Teacher /Lecturer/Principal	7.94*	1.71	.000	4.58	11.3
	Doctors	Banking / Managers	-.312	1.21	.797	-2.70	2.07
		Telecommunication	-8.64*	1.84	.000	-12.26	-5.01
		Consultants	.912	1.22	.455	-1.48	3.31
		Teacher /Lecturer/Principal	-.693	1.06	.516	-2.79	1.40

Continued…

Variables	(I) Designation	(J) Designation	Mean Difference (I-J)	S. E	*P*	95% CI LL	UL
	Consultants	Banking / Managers	-1.22	1.16	.293	-3.51	1.06
		Telecommunication	-9.55*	1.81	.000	-13.11	-5.99
		Doctors	-.912	1.22	.455	-3.31	1.48
		Teacher /Lecturer/Principal	-1.60	1.00	.112	-3.58	.375
	Teacher/Lecturer/Principal	Banking / managers	.381	1.00	.703	-1.58	2.34
		Telecommunication	-7.94*	1.7	.000	-11.31	-4.58
		Doctors	.693	1.06	.516	-1.40	2.79
		Consultants	1.60	1.00	.112	-.375	3.58
INTERPSEN	Banking/ Managers	Telecommunication	-1.19*	.498	.017	-2.17	-.214
		Doctors	.824*	.334	.014	.165	1.48
		Consultants	.826*	.321	.010	.195	1.45
		Teacher/lecturer/principal	.317	.275	.251	-.224	.859
	Telecom	Banking /Managers	1.19*	.498	.017	.214	2.17
		Doctors	2.01*	.508	.000	1.01	3.01
		Consultants	2.01*	.499	.000	1.03	3.00
		Teacher /Lecturer/Principal	1.51*	.471	.001	.584	2.43
	Doctors	Banking /Managers	-.824*	.334	.014	-1.48	-.165
		Telecommunication	-2.01*	.508	.000	-3.01	-1.01
		Consultants	.001	.336	.996	-.659	.663
		Teacher/Lecturer/Principal	-.506	.294	.086	-1.08	.071
	Consultants	Banking/ Managers	-.826*	.321	.010	-1.45	-.195
		Telecommunication	-2.01*	.499	.000	-3.00	-1.03
		Doctors	-.001	.336	.996	-.663	.659
		Teacher/lecturer/principal	-.508	.278	.068	-1.05	.037
	Teacher /Lecturer/ Principal	Banking /Managers	-.317	.275	.251	-.859	.224
		Telecommunication	-1.51*	.471	.001	-2.43	-.584
		Doctors	.506	.294	.086	-.071	1.08
		Consultants	.508	.278	.068	-.037	1.05

Note. SOM= Somatization, INTPSE*N*=Interpersonal sensitivity,

Table 53 display Post hoc comparisons using LSD for mean differences on somatization, interpersonal sensitivity across different work organizations. On somatization significant mean differences were found between telecom and all other professional categories. On the domain of interpersonal sensitivity significant mean differences were found between telecom, bankers, doctors, consultants and educationalists.

Table 54

Means and Standard Deviations and Statistics for Multivariate analysis of job experience for Study Variables (N=622)

Variables	1-2years (*n*= 117)		3-6 years (*n*= 96)		6-10 years (*n*= 135)		>10 years (*n*= 186)		η^2	λ	F
	M	*SD*	M	*SD*	M	*SD*	M	*SD*			
MHC-SF										.93***	
EWB	11.97	3.40	11.72	3.68	12.75	3.46	13.40	3.14	.03		6.97***
SWB	18.89	5.55	17.36	4.62	18.02	5.16	18.20	5.08	.00		1.60
PWB	27.33	5.26	25.68	5.62	25.55	5.60	26.92	5.32	.01		3.34**
NEO-FFI										.88***	
NEU	37.75	4.66	36.39	5.16	35.46	5.28	34.50	6.14	.05		7.66***
EXT	39.56	4.44	38.27	5.56	38.82	4.64	39.52	5.44	.00		1.09
OPEN	36.17	4.20	36.42	4.64	35.90	4.10	35.82	4.38	.00		.38
AGREE	35.66	4.38	36.38	4.64	36.92	4.00	37.78	4.89	.03		4.61**
CONS	43.12	5.22	41.47	6.57	41.79	5.96	44.59	6.19	.04		6.48**
DOCS										.94**	
INVOV	53.25	8.55	48.70	8.15	48.30	7.69	50.88	9.41	.04		6.32***
CON	51.15	6.70	48.43	7.03	48.56	6.67	50.06	8.21	.02		2.81*
ADAP	50.47	5.48	47.75	6.60	47.80	6.34	48.57	8.26	.02		2.92*
MISS	52.74	6.70	49.39	7.84	49.87	7.65	51.78	8.58	.02		3.65*
BSI										.87**	
SOM	15.22	7.87	18.50	8.02	17.03	7.19	15.47	4.89	.02		3.42*
OCOM	14.84	6.37	16.50	5.93	16.18	5.94	14.17	5.15	.02		3.92
I.S	13.91	2.01	13.48	2.49	13.38	2.05	13.88	2.10	.01		1,74
DEP	18.46	2.54	18.60	2.61	18.69	2.55	18.64	2.73	.00		.15
ANX	18.03	2.48	18.18	2.48	18.42	2.60	18.91	2.69	.01		2.65*
PHANX	10.81	5.76	12.65	5.92	11.73	5.41	10.81	5.61	.02		3.62*

Continued…

Variables	1-2years (*n*= 117)		3-6 years (*n*= 96)		6-10 years (*n*= 135)		>10 years (*n*= 186)		η^2	Λ	F
HOS	17.18	2.33	16.25	2.23	15.86	2.53	16.10	2.56	.04		5.90**
PAR	16.75	1.82	16.37	2.49	16.34	1.82	16.86	2.10	.01		1.85
PSY	14.65	2.16	14.91	2.17	15.01	2.04	15.47	2.13	.02		3.27*

** *p* <.01, nonsig= *P*>.5

Note. EWB=Emotional wellbeing, SWB=Social wellbeing, PWB=Psychological wellbeing, Neu= Neuroticism, EXT= Extraversion, AGREE= Agreeableness, CONS= Conscientiousness, INOV=Involvement, CO*N*= Consistency, ADAP=Adaptability, MISS=Mission, SOM=Somatization, OCOM=Obsession compulsion, I.S=Interpersonal sensitivity, DEP= Depression, ANX=Anxiety, PHANX=Phobic anxiety, HOS=Hostility, PAR=Paranoid ideation, PSY=Psychoticism

Table 54 depicts results of multivariate analyses of variance for mean differences across professional groups having different qualifications (Ph.D/Frcps/Fcps, M.S/M-Phil, Masters/ M.Com/MBA, MBBS/BCOM/Bachelors/ F.SC/I Com). On study variables of positive mental health, psychopathology, personality traits and organizational culture. Table 54 displays Model 1 that shows statistically significant qualification differences on positive mental health (MHC-SF) Wilks λ= .90*, F (3, 12) = 1.81***; p < .001, partial η^2=.01. Separate univariate analyses further confirmed these significant differences (p < .01) between emotional wellbeing F (4, 245) = 2.50 *; P < .05, $\eta2$=.03 social wellbeing F= (4,245) =2.93*; P< .05, $\eta2$=.04, psychological wellbeing F= (4,245) =1.55; $P.>05$, $\eta2$=.02.

Model 2 shows significant multivariate effect of education qualification on NEO-FFI, Wilks λ= .90**, F (4, 16) = 2.25; P < .001, partial η^2=.02. Separate univariate analyses further shown significant differences between neuroticism F (4, 445) = .5.25; P > .001, $\eta2$=.01, extraversion F (4, 245) = .2.44; P > .04, $\eta2$=.01, openness to experience F (4, 445) = .74; P > .05, $\eta2$=.01, agreeableness F (4, 445) = 2.63; P > .03, $\eta2$=.01 and conscientiousness F (4, 445) = 2.55; P > .03, $\eta2$=.01.

Model 3 shows significant multivariate effect of educational categories on DOCS scale Wilks λ= .90**, F (5, 20) = 2.26; P < .001, partial η^2=.02. Separate univariate analyses further endorse significant differences on involvement F (4, 412) = 4.48; p > .001, $\eta2$=.01, consistency F (4, 412) = 3.65 P > .05, $\eta2$=.01, adaptability F (4, 412) = 4.52; p < .001, $\eta2$=.01, mission= F (4, 412) = 5.42; P > .000, $\eta2$=.01.

Model 4 illustrates the significant multivariate effect of educational qualification on BSI scale, Wilks λ= .90**, F (5, 20) = 2.26; P < .001, partial η^2=.02. Separate univariate analyses further confirm the significant differences on somatization F (4, 245) = 3.42; P > .05, $\eta2$=.01, obsession compulsion F (4, 245) = 3.92; P > .05, $\eta2$=.01, interpersonal sensitivity F (4, 245) = 1.74; P > .05, $\eta2$=.01, depression F (4, 245) = .15; P > .05, $\eta2$=.01,anxiety F (4, 245) = 2.65*; P > .05, $\eta2$=.01, phobic anxiety F (4, 245) = 3.62*; P > .05, $\eta2$=.01, hostility F (4, 245) = 5.90**; P > .05, $\eta2$=.01, paranoid ideation F (4, 245) = 1.85; P > .05, $\eta2$=.01 and psychoticism F (4, 245) = 3.27; P > .05, $\eta2$=.01.

Table 55

Post Hoc analysis of mean difference in MHC-SF subscales across various job experience categories (N=622)

Variable	Yrsofexp (I)	Yrsofexp (J)	Mean Difference (I-J)	S. E	*p*	95% Confidence Interval LL	UL
EWB	2years	3-6years	.245	.467	.600	-.673	1.16
		6-10	-.781	.429	.069	-1.62	.061
		>10years	-1.42*	.400	.000	-2.21	-.641
	3-6years	2years	-.245	.467	.600	-1.16	.673
		6-10	-1.02*	.453	.024	-1.91	-.135
		>10years	-1.67*	.426	.000	-2.51	-.835
	6-10	2years	.781	.429	.069	-.061	1.62
		3-6years	1.02*	.453	.024	.135	1.91
		>10years	-.647	.384	.092	-1.40	.106
	>10years	2years	1.42*	.400	.000	.641	2.21
		3-6years	1.67*	.426	.000	.835	2.51
		6-10	.647	.3841	.092	-.106	1.40
PWB	2years	3-6years	1.64*	.748	.028	.174	3.11
		6-10	1.77*	.686	.010	.428	3.12
		>10years	.408	.641	.525	-.852	1.66
	3-6years	2years	-1.64*	.748	.028	-3.11	-.174
		6-10	.131	.726	.856	-1.29	1.55
		>10years	-1.23	.683	.071	-2.57	.105
	6-10	2years	-1.77*	.686	.010	-3.12	-.428
		3-6years	-.131	.726	.856	-1.55	1.29
		>10years	-1.36*	.614	.026	-2.57	-.161
	>10years	2years	-.408	.641	.525	-1.66	.852
		3-6years	1.23	.683	.071	-.105	2.57
		6-10	1.36*	.614	.026	.161	2.57

Note. EWB=Emotional wellbeing, PWB= Psychological well being

Table 55 displays mean differences between less experienced, middle level experience and experienced employees on positive mental health dimensions. Findings show statistically significant mean differences between less experienced and experienced employees on emotional wellbeing. Overall the mean values of experienced personnel was higher than less experienced employees on emotional

wellbeing. On psychological wellbeing dimension, results revealed significant group differences between less experienced and middle level experienced and middle level experienced and experienced employees. Overall the mean scores of the less experienced were found higher than the experienced employees.

Table 56

Post hoc analysis of mean differences in NEO-FFI subscales across the job experience categories (N=622)

Variables	Yrs of exp (I)	Yrs of exp (J)	Mean Difference (I-J)	S. E	*P*	95% Confidence Interval LL	UL
NEU	2years	3-6years	1.35	.824	.100	-.262	2.97
		6-10	2.28*	.741	.002	.829	3.74
		>10years	3.25*	.708	.000	1.85	4.64
	3-6years	2years	-1.35	.824	.100	-2.97	.262
		6-10	.929	.804	.248	-.650	2.51
		>10years	1.89*	.773	.015	.374	3.41
	6-10	2years	-2.28*	.741	.002	-3.74	-.829
		3-6years	-.929	.804	.248	-2.51	.650
		>10years	.964	.684	.160	-.381	2.31
	>10years	2years	-3.25*	.708	.000	-4.64	-1.85
		3-6years	-1.89*	.773	.015	-3.41	-.374
		6-10	-.964	.684	.160	-2.31	.381
AGREE	2years	3-6years	-.718	.685	.295	-2.06	.628
		6-10	-1.26*	.616	.041	-2.47	-.054
		>10years	-2.12*	.588	.000	-3.27	-.964
	3-6years	2years	.718	.685	.295	-.628	2.06
		6-10	-.548	.668	.412	-1.86	.764
		>10years	-1.40*	.642	.029	-2.66	-.140
	6-10	2years	1.26*	.616	.041	.054	2.47
		3-6years	.548	.668	.412	-.764	1.86
		>10years	-.855	.569	.133	-1.97	.262
	>10years	2years	2.12*	.588	.000	.964	3.27
		3-6years	1.40*	.642	.029	.140	2.66
		6-10	.855	.569	.133	-.262	1.97

Variables	Yrs of exp (I)	Yrs of exp (J)	Mean Difference (I-J)	S. E	*P*	95% Confidence Interval LL	UL
	2years	3-6years	1.66	.909	.068	-.123	3.45
		6-10	1.34	.818	.102	-.268	2.94
		>10years	-1.45	.782	.064	-2.99	.083
	3-6years	2years	-1.66	.909	.068	-3.45	.123
		6-10	-.324	.887	.715	-2.06	1.41
		>10years	-3.11*	.853	.000	-4.79	-1.44
	6-10	2years	-1.34	.818	.102	-2.94	.268
		3-6years	.324	.887	.715	-1.41	2.06
		>10years	-2.79*	.755	.000	-4.28	-1.30
	>10years	2years	1.45	.782	.064	-.083	2.99
		3-6years	3.11*	.853	.000	1.44	4.79
		6-10	2.79*	.755	.000	1.30	4.28

Note. Neu=Neuroticism, Agree= Agreeableness, Concie*n*=Conscientiousness.

Table 56 illustrates the mean differences between less experienced, middle level experience and experienced personnel on neuroticism, agreeableness and conscientiousness. On neuroticism significant group differences were found between less experienced and middle level experienced and between middle level experienced and experienced personnel. Mean scores of neuroticism were found higher for less experienced as compared to more experienced employees. While on agreeableness and conscientiousness higher mean scores were reported for experienced employees. On conscientiousness, significant group differences were found between middle level experience and experienced personnel.

Table 57

Post hoc mean differences in DOCS subscales across job experience categories (N=622)

Dependent Variable	(I) yrsofexp	(J) Yrsofexp	Mean Difference (I-J)	*S. E*	*p*	95% Confidence Interval	
						LL	UL
INOLV	2years	3-6years	4.55*	1.34	.001	1.91	7.18
		6-10	4.95*	1.26	.000	2.47	7.43
		>10years	2.36*	1.18	.047	.034	4.70
	3-6years	2years	-4.55*	1.34	.001	-7.18	-1.91
		6-10	.405	1.29	.755	-2.14	2.95
		>10years	-2.18	1.22	.076	-4.58	.225
	6-10	2years	-4.95*	1.26	.000	-7.43	-2.47
		3-6years	-.405	1.29	.755	-2.95	2.14
		>10years	-2.58*	1.13	.023	-4.82	-.352
	>10years	2years	-2.36*	1.18	.047	-4.70	-.034
		3-6years	2.18	1.22	.076	-.225	4.58
		6-10	2.58*	1.13	.023	.352	4.82
CON	2years	3-6years	2.71*	1.14	.018	.471	4.95
		6-10	2.59*	1.07	.016	.481	4.70
		>10years	1.08	1.01	.285	-.905	3.07
	3-6years	2years	-2.71*	1.14	.018	-4.95	-.471
		6-10	-.124	1.10	.910	-2.29	2.04
		>10years	-1.63	1.04	.118	-3.68	.416
	6-10	2years	-2.59*	1.073	.016	-4.70	-.481
		3-6years	.124	1.102	.910	-2.04	2.29
		>10years	-1.50	.967	.120	-3.41	.394
	>10years	2years	-1.08	1.01	.285	-3.07	.905
		3-6years	1.63	1.04	.118	-.416	3.68
		6-10	1.50	.967	.120	-.394	3.41
ADAP	2years	3-6years	2.72*	1.08	.012	.589	4.85
		6-10	2.67*	1.01	.009	.672	4.68
		>10years	1.90*	.960	.049	.012	3.79
	3-6years	2years	-2.72*	1.08	.012	-4.85	-.589
		6-10	-.043	1.04	.967	-2.10	2.01
		>10years	-.819	.990	.408	-2.76	1.12

Continued...

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Dependent Variable	(I) yrsofexp	(J) Yrsofexp	Mean Difference (I-J)	S. E	p	95% Confidence Interval	
						LL	UL
	6-10	2years	-2.67*	1.01	.009	-4.68	-.672
		3-6years	.043	1.04	.967	-2.01	2.10
		>10years	-.775	.919	.399	-2.58	1.03
	>10years	2years	-1.90*	.960	.049	-3.79	-.012
		3-6years	.819	.990	.408	-1.12	2.76
		6-10	.775	.919	.399	-1.03	2.58
MISS	2years	3-6years	3.34*	1.22	.007	.941	5.75
		6-10	2.87*	1.15	.013	.611	5.13
		>10years	.956	1.08	.378	-1.17	3.08
	3-6years	2years	-3.34*	1.22	.007	-5.75	-.941
		6-10	-.472	1.18	.690	-2.79	1.85
		>10years	-2.39*	1.11	.033	-4.58	-.193
	6-10	2years	-2.87*	1.15	.013	-5.13	-.611
		3-6years	.472	1.18	.690	-1.85	2.79
		>10years	-1.91	1.03	.065	-3.95	.121
	>10years	2years	-.956	1.08	.378	-3.08	1.17
		3-6years	2.39*	1.11	.033	.193	4.58
		6-10	1.91	1.03	.065	-.121	3.95

Note. INOV=Involvement, CONS=Consistency, ADAPT=Adaptability, MISS=Mission

Table 57 demonstrates results of Post hoc comparisons using LSD on organization culture traits, positive mental health across less experienced, middle level experienced and more experienced personnel. Findings shows significant mean differences between less experienced and more experienced on involvement and adaptability. While on the other two dimension i.e., consistency and mission significant mean differences were established between less experienced and middle level experienced.

Table 58

Post hoc analysis of mean difference in BSI subscales across various job experience categories (N=622)

Variables	Yrsofexp (I)	Yrsofexp (J)	Mean Difference (I-J)	S.E	*P*	95% Confidence Interval LL	95% Confidence Interval UL
SOM	2years	3-6years	-3.27*	1.20	.007	-5.63	-.907
		6-10	-1.80	1.06	.089	-3.89	.278
		>10years	-.252	.998	.801	-2.21	1.71
	3-6years	2years	3.27*	1.20	.007	.907	5.63
		6-10	1.46	1.17	.215	-.852	3.78
		>10years	3.02*	1.12	.007	.814	5.22
	6-10	2years	1.80	1.06	.089	-.278	3.89
		3-6years	-1.46	1.17	.215	-3.78	.852
		>10years	1.55	.968	.109	-.348	3.46
	>10years	2years	.252	.998	.801	-1.71	2.21
		3-6years	-3.02*	1.12	.007	-5.22	-.814
		6-10	-1.55	.968	.109	-3.46	.348
ANX	2years	3-6years	-.146	.403	.717	-.938	.646
		6-10	-.389	.355	.275	-1.08	.310
		>10years	-.872*	.334	.009	-1.53	-.215
	3-6years	2years	.146	.403	.717	-.646	.938
		6-10	-.242	.394	.539	-1.01	.533
		>10years	-.726	.375	.054	-1.46	.012
	6-10	2years	.389	.355	.275	-.310	1.08
		3-6years	.242	.394	.539	-.533	1.01
		>10years	-.483	.324	.137	-1.12	.154
	>10years	2years	.872*	.334	.009	.215	1.53
		3-6years	.726	.375	.054	-.012	1.46
		6-10	.483	.324	.137	-.154	1.12
HOS	2years	3-6years	.931*	.381	.015	.181	1.68
		6-10	1.32*	.336	.000	.660	1.98
		>10years	1.08*	.316	.001	.464	1.70
	3-6years	2years	-.931*	.3814	.015	-1.68	-.181
		6-10	.391	.373	.296	-.343	1.12
		>10years	.155	.355	.662	-.543	.855
	6-10	2years	-1.32*	.336	.000	-1.98	-.660
		3-6years	-.391	.373	.296	-1.12	.343
		>10years	-.235	.307	.444	-.839	.368

Variables	Yrsofexp (I)	Yrsofexp (J)	Mean Difference (I-J)	S.E	P	95% Confidence Interval LL	UL
	>10years	2years	-1.08*	.316	.001	-1.70	-.464
		3-6years	-.155	.355	.662	-.855	.543
		6-10	.235	.307	.444	-.368	.839
PSY	2years	3-6years	-.260	.330	.431	-.910	.388
		6-10	-.364	.291	.212	-.937	.208
		>10years	-.826*	.274	.003	-1.36	-.287
	3-6years	2years	.260	.330	.431	-.388	.910
		6-10	-.103	.323	.749	-.740	.533
		>10years	-.565	.308	.067	-1.17	.040
	6-10	2years	.364	.291	.212	-.208	.937
		3-6years	.103	.323	.749	-.533	.740
		>10years	-.461	.266	.083	-.985	.061
	>10years	2years	.826*	.274	.003	.287	1.36
		3-6years	.565	.308	.067	-.040	1.17
		6-10	.461	.266	.083	-.061	.985

Note. SOM= Somatization, ANX=Anxiety, HOS=Hostility, PSY=Psychoticism

Table 58 depicts post hoc comparisons using LSD for statistically significant mean differences on BSI subscales i.e., somatization, anxiety, hostility, psychoticism across the job experience categories among employees. On somatization, significant mean differences are found between employees having 2 years job experience and 3-6 yrs, between 3-6 years and employees having job experience > 10 years. Similarly on anxiety subscale, significant mean differences were found between 2 years and employees having >10 years of job experience. On hostility subscale, significant mean differences are found across all the job experience categories i.e., 2 years, 3-6 years, 6-10 years and > 10 years. On psychoticism significant mean differences exists between the young employees having less job experience i.e.1-2 years and experienced personnel having job experience of greater than 10 years.

Table 59

Mean, Standard deviation of Multivariate Analysis of MHC-SF, DOCS, NEO-FFI and BSI across Age categories (N=622)

Variables	Early adulthood (*n*= 412)		Middle adulthood (*n*= 131)		Late adulthood (*n*= 68)		η²	λ	F
	M	*SD*	*M*	*SD*	*M*	*SD*			
MHC-SF								.91***	
EWB	12.47	3.51	13.87	3.16	12.72	3.20	.02		5.62*
SWB	18.04	5.12	17.21	4.87	19.45	4.44	.01		2.65
PWB	26.18	5.66	25.95	5.31	27.62	5.68	.00		1.25
NEO-FFI								.93**	
NEU	36.20	5.24	35.22	6.09	35.09	6.23	.007		1.61
EXT	38.87	5.13	39.08	5.03	38.47	4.86	.001		.214
OPEN	36.04	4.38	35.47	4.03	37.11	4.37	.010		2.14
AGREE	36.40	4.38	36.26	4.82	36.93	4.89	.026		5.98*
CONS	42.48	6.26	42.84	5.73	45.13	5.73	.016		3.63
BSI								.91**	
SOM	16.86	7.85	17.0	8.36	13.12	5.90	.022		4.93
OCOM	15.87	6.08	15.26	5.29	12.53	4.72	.03		.77**
I.S	13.70	2.10	13.57	2.45	13.72	1.93	.001		.141
DEP	18.44	2.57	19.15	2.63	18.55	2.80	.012		2.71
ANX	18.36	2.41	18.44	3.00	18.85	2.65	.003		.736
PHANX	11.59	5.75	11.57	5.97	8.63	4.71	.025		5.62*
HOS	16.33	2.43	15.97	2.54	16.80	2.61	.008		1.84
PAR	16.48	2.08	16.62	2.08	17.34	1.63	.016		3.60
PSY	14.82	2.12	15.66	2.16	15.51	1.58	.031		7.18

Note. EWB=Emotional wellbeing, SWB=Social wellbeing, PWB=Psychological wellbeing, NEU=Neuroticism, EXT=Extraversion, OPE*N*=Openness to experience, AGREE=Agreeableness, CONS=Conscientiousness, SOM=Somatization, OCOM=Obsessive Compulsive, I.S=Interpersonal Sensitivity, DEP= Depression, ANX=Anxiety, PHANX=Phobic anxiety, HOS=Hostility, PAR=Paranoid Ideation, PSY=Psychoticism

Table 59 displays the findings of the group differences on positive mental health, personality traits and psychopathology. For organization culture traits the multivariate effects F (8,816) = 1.44, P= ns, η^2=.01, were non-significant. Table 59 displays results of Model 1, statistically significant multivariate effect of age categories on positive mental health (MHC-SF), Wilks λ= .91***, F (8, 788) = 4.32***; P < .001, partial η^2=.04. Followed by Separate univariate analyses further confirmed these significant differences (p < .01) between emotional wellbeing F (3, 397) = 5.62 *; P < .05, $\eta2$=.02 social wellbeing F= (3,397) =2.65; P=.071, $\eta2$=.01, psychological wellbeing F= (3,397) =1.25; P=.287, $\eta2$=.00.

Model 2 displays the significant multivariate effects of NEO-FFI, Wilks λ= .93**, F (10, 880) = 2.89; P < .01, partial η^2=.03. Separate univariate analyses further shown significant differences between neuroticism F (2, 447) =1.61; P =ns, $\eta2$=.007, extraversion F (2, 447) = .214; P =.807, $\eta2$=.001, openness to experience F (2, 447) = 2.14; P =ns, $\eta2$=.01, agreeableness F (2, 447) = 5.98*; P< .05, $\eta2$=.02 and conscientiousness F (2, 447) = 3.63*; P < .05, $\eta2$=.01.

Model 3 illustrates the significant multivariate effect of age categories on BSI scale, Wilks λ= .91**, F (9, 18) = 2.32; P < .01, partial η^2=.04. Separate univariate analyses further confirm the significant differences on somatization F (2, 443) = 4.93; P > .05, $\eta2$=.02, obsession compulsion F (2, 443) = 6.77; P < .01, $\eta2$=.03, interpersonal sensitivity F (2, 443) = .141; P > .05, $\eta2$=.00, depression F (2, 443) = 2.71; P > .05, $\eta2$=.01, anxiety F (2, 443) = .736; P > .05, $\eta2$=.003, phobic anxiety F (2, 443) = 5.62*; P <.05, $\eta2$=.02, hostility F (2, 443) = 1.84; P > .05, $\eta2$=.008, paranoid ideation F (2, 443) = 3.60*; P < .05, $\eta2$=.01 and psychoticism F (2, 443) = 7.18**; P< .01, $\eta2$=.03.

Table 60

Post hoc analysis for mean differences in Emotional wellbeing across different age categories (N=622)

Variable	Age (I)	Age (J)	Mean Difference (I-J)	S. E	*P*	95% Confidence Interval LL	UL
EWB	Early adulthood	Middle adulthood	-1.40*	.418	.001	-2.22	-.579
		Late adulthood	-.25	.598	.668	-1.43	.919
	Middle adulthood	Early adulthood	1.40*	.418	.001	.579	2.22
		Late adulthood	1.14	.669	.088	-.171	2.46
	Late adulthood	Early adulthood	.257	.598	.668	-.919	1.43
		Middle adulthood	-1.14	.669	.088	-2.46	.171

Note. EWB=Emotional Well Being

Table 60 displays results of LSD Post hoc in regard to mean differences in emotional wellbeing across early, middle and late adulthood. Findings show statistically significant difference on emotional wellbeing across early and middle adulthood at *P* < .05. There are no statistically significant group differences across early and late and middle and late adulthood. Overall mean scores of middle adulthood were higher than early and late adulthood groups.

Table 61

Post hoc analysis for mean differences in Agreeableness across different age categories (N=622)

Variable	Age (I)	Age (J)	Mean Difference (I-J)	S. E	*P*	95% Confidence Interval LL	UL
AGREE	Early adulthood	Middle Adulthood	-1.85*	.537	.001	-2.91	-.801
		Late adulthood	-.529	.729	.468	-1.96	.904
	Middle adulthood	Early adulthood	1.85*	.537	.001	.801	2.91
		Late adulthood	1.32	.830	.110	-.303	2.96
	Late adulthood	Early adulthood	.529	.729	.468	-.904	1.96
		Middle adulthood	-1.32	.830	.110	-2.96	.303

Note. AGREE=Agreeableness

Table 61 demonstrates results of Post Hoc LSD test for examining mean differences across early, middle and late adulthood. Results of Post hoc analysis indicates statistically significant mean difference across early and middle adulthood in agreeableness trait. There are no significant mean difference found across early, middle and late adulthood.

Table 62

Post hoc analysis for mean difference in Obsession Compulsion, Phobic anxiety, psychoticism (BSI subscales) across different age categories (N=622)

Variables	Age (I)	Age (J)	Mean Difference (I-J)	S. E	P	LL	UL
OBSSCOM		Middle adulthood	.607	.671	.366	-.712	1.92
	Early adulthood	Late adulthood	3.33*	.908	.000	1.55	5.12
		Early adulthood	-.607	.671	.366	-1.92	.712
	Middle adulthood	Late adulthood	2.73*	1.02	.008	.714	4.74
		Early adulthood	-3.33*	.908	.000	-5.12	-1.55
	Late adulthood	Middle adulthood	-2.73*	1.02	.008	-4.74	-.714
PHOBANX		Middle adulthood	.017	.661	.979	-1.28	1.31
	Early adulthood	Late adulthood	2.95*	.895	.001	1.19	4.71
		Early adulthood	-.017	.661	.979	-1.31	1.28
	Middle adulthood	Late adulthood	2.93*	1.01	.004	.951	4.92
		Early adulthood	-2.95*	.895	.001	-4.71	-1.19
	Late adulthood	Middle adulthood	-2.93*	1.01	.004	-4.92	-.951
PSY		Middle adulthood	-.843*	.241	.001	-1.31	-.367
	Early adulthood	Late adulthood	-.687*	.327	.036	-1.33	-.043
		Early adulthood	.843*	.241	.001	.367	1.31
	Middle adulthood	Late adulthood	.156	.369	.673	-.570	.882
		Early adulthood	.687*	.327	.036	.043	1.33
	Late adulthood	Middle adulthood	-.156	.369	.673	-.882	.570

Note. OBSSCOM=Obsesson compulsion, PHBANX=Phobic anxiety, PSY=Psychoticism

Table 62 displays results of Post Hoc LSD for analyzing group differences across early, middle and late adulthood in obsession Compulsion, Phobic anxiety and Psychoticism. For Obsession Compulsion mean scores of early adulthood were significantly different from late adulthood and middle from late adulthood. On the phobic anxiety subscale significant group differences were found across early, middle and late adulthood at $P < .05$. For psychoticism, significant group differences were found across early and middle adulthood, and early and late adulthood. Overall mean values displayed in Table 62 indicates early adulthood group reported higher mean value on obsession compulsion while middle adulthood were more prone to experience phobic anxiety and late adulthood higher inclination towards psychoticism.

Table 63

Gender differences on MHC-SF, NEO-FFI, BSI and DOCS subscales at Time Point 1 (N=622)

Variables	Men (*n*=376)		Women (*n*=234)				95% CI		Cohen's
	M	*SD*	*M*	*SD*	*t(608)*	*p*	LL	UL	*d*
EWB	12.8	3.32	12.40	3.63	1.41	.15	-.157	.969	-
SWB	17.9	5.04	18.55	5.17	-1.38	.16	-1.42	.244	-
PWB	26.6	5.26	26.32	5.69	.651	.51	-.593	1.18	-
PMH	57.2	10.5	57.08	11.8	.209	.83	-1.69	2.10	·
INOLV	49.8	8.61	49.85	9.45	.005	.99	-1.57	1.58	·
CON	50.1	7.23	49.20	7.64	1.50	.13	-2.93	2.24	·
ADAP	48.7	6.81	48.75	6.32	-.062	.95	-.167	1.09	·
MISS	51.1	7.90	50.81	7.60	.422	.67	-.07	1.65	·
NEU	35.7	6.07	36.15	4.55	-.776	.38	-1.33	.577	·
EXTRA	39.2	5.10	38.60	5.14	1.41	.15	-.248	1.52	·
OPENE	35.8	4.24	35.90	4.39	-.249	.80	-.831	.644	·
AGREE	36.7	4.43	36.69	4.82	.239	.81	-.686	.876	·
CONS	42.9	6.11	42.28	6.54	1.20	.22	-.412	1.73	·
PSYC	15.0	2.23	14.92	2.20	-.88	.37	-14.2	5.42	·

Note. CI=Confidence Interval. EWB=Emotional wellbeing, SWB=Social wellbeing, PWB=Psychological wellbeing, PMH=Positive Mental Health, INVOLV=Involvement, CO*N*=Consistency, ADAP=Adaptability, MISS=Mission, NEU=Neuroticism, EXTRA=Extraversion, OPENE=Openness to experience, AGREE=Agreeableness, Conscientiousness, PSYC= Psychopathology.

Table 63 depicts gender wise differences for study variables. Table 63 indicates non-significant difference at P<.05 on positive mental health dimensions, psychopathology, organization culture traits and personality traits i.e., neuroticism, extraversion, openness to experience, agreeableness and conscientiousness.

Table 64

Differences on positive mental health, personality traits, organization culture traits and psychopathology among Married and Unmarried individuals (N=622)

Variables	Married (*n*=355)		Unmarried (*n*= 246)				95% CI		Cohen's
	M	*SD*	*M*	*SD*	*t(599)*	*p*	LL	UL	*d*
EWB	13.13	3.25	11.96	3.55	4.17	.000	.618	1.72	0.35
SWB	18.06	4.99	18.32	5.26	-.602	.547	-1.08	.576	-
PWB	26.38	5.38	26.51	5.50	.286	.775	-1.01	.756	-
INVOL	49.25	9.09	50.73	8.76	-1.83	..06 6	-3.05	.100	-
CON	49.64	7.56	49.99	7.24	-.536	.592	-1.60	.917	-
ADAP	48.31	6.94	49.34	6.21	-1.79	.073	-2.15	.097	-
MISS	50.49	7.90	51.67	7.60	-.1.70	.088	-2.54	.177	-
NEU	35.05	5.62	37.10	5.25	-.4.32	.000	-2.97	-1.11	0.38
EXTRA	39.08	5.29	38.82	4.94	.573	.567	-.622	1.13	-
OPENEX	35.71	4.21	36.04	4.40	-.896	.371	-1.06	.398	-
AGREE	37.44	4.59	35.68	4.44	4.51	.000	.996	2.53	0.39
CONCIEN	42.81	6.64	42.44	5.70	.683	.495	-.706	1.42	-
PSYC	127.19	48.63	131.19	51.25	-.808	.420	-13.7	5.73	-

Note. CI=ConfidenceInterval. EWB=Emotionalwellbeing, SWB=Socialwellbeing, PWB=Psychological wellbeing, PMH=Positivementalhealth, INVOLV=Involvement, CO*N*=Consistency, ADAP=Adaptability, MISS=Mission, NEU=Neuroticism, EXTRA=Extraversion, OPENE=Openness to experience, AGREE=Agreeableness, Conscientiousness, PSYC= Psychopathology

Table 64 displays the differences on study variables i.e., positive mental health, personality traits, organization culture traits and psychopathology among married and unmarried employees. Findings showed that married employees scored high on emotional wellbeing as compared to unmarried employees. While unmarried employees scored high than married employees on neuroticism. On the contrary, married employees scored high on agreeableness trait as compared to their unmarried counterparts.

Discussion

Study II (Phase I) was aimed to collect data at time point I. The major objective of time point I was to examine personality traits and organizational culture as determinants of positive mental health among professional groups. Primarily model testing of two continua model of mental health has been done on the present data. The nature and direction of the emerging predictive associations between the study variables i.e., organization culture traits (involvement, consistency, adaptability & mission) and personality traits with positive mental health among various professional group was also sought. Furthermore, it was directed to identify and explore the nature and direction of relationships among study variables through hypotheses testing. The impact of various sociodemographic variables i.e., gender, age, educational qualification, work organization and job experience were also explored on positive mental health and its determinants.

To accomplish these objectives, sample comprised of 622 professionals (males=356, females=288) working in diverse work settings located at Rawalpindi, Islamabad and Karachi i.e., banking sector, telecom companies, health care sector, consultancy companies, educational institutes. Data collection from such a diverse population turned out to be a very perplexing stage of the current research, since the study was planned to be executed longitudinally, the demographic sheet along with the detailed consent form was attached with the questionnaire booklet. All the contact details of the time point I respondents were kept in record and were properly organized for future reference. Data was subjected to preliminary screening for missing data, normality and multicollinearity by running the primary analysis. Moreover after primary scrutinizing of the time point I data, multiple analysis were run for exploring the nexus of associations among study variables. Cronbach Alpha reliabilities for all study measures yielded satisfactory reliabilities. Model testing of Dual continua Model of mental health through Structural equation Modeling (SEM) was done by using Analysis of Moment Structures (Amos19).Furthermore the prevalence of mental health states (languishing, moderate mental health & flourishing mental health) were also explored at Time point I. The pattern of predictive relationships among personality traits and positive mental health were explored through Hierarchical regression

analysis. The impact of organization culture traits were analyzed by executing moderation analysis through Process Macro (Preacher & Hayes, 2008). The impact of Socio-demographic variables on the determinants of positive mental health were examined by conducting one way multivariate analysis of variance.

Confirmation of dual continua model of mental health. Pretesting of two-continuum model had been done during study-I. CFA had been conducted to test the assumptions of two unrelated factors; two correlated factors and both mental health and psychopathology as a single one-dimensional factor. Of the three models tested to confirm two-continuum model, model with two related factors of mental health and psychopathology yielded support on the data of pilot study. Thereby endorsing assumption that mental health and mental illness represent two discrete continua that are distinct yet correlated. Moreover absence of mental illness does not guarantee the presence of positive indicators of mental health. Previous literature highlights association of personality traits to be differential with these two indicators of mental health and mental illness. Earlier empirical evidences (Keyes, 2007; Lamers & westerhof, 2011) showed neuroticism to be the central associate of psychopathology, whereas interactive traits extraversion and agreeableness distinctively associated with positive mental health.

For further confirmation of two-continuum model was done by exploring differential association's between the personality traits and positive mental health, personality traits and psychopathology through Structural Equation modelling (AMOS 19). Results of the model testing generated support for differential relationship of personality traits with mental health and mental illness. Extraversion and conscientiousness trait significantly predicted positive mental health while neuroticism and conscientiousness has significantly predicted psychopathology.

Prevalence of mental health states among professional workforce. Prevalence of mental health states across professional groups was examined. Frequency and percentage of employees falling within the three mental health levels were explored by computing chi square statistics across indigenous professional groups. Findings of the current study indicated fifty percentage of the respondents fall in to moderate mental health level while the other half of the employed adults came within the flourishing

mental health category. This indicated a positive trend with regard to the mental health levels of the workforce employed in Pakistani organizations. This might be due to nature of the sample since it comprised of autonomous, educated employed male and females.

Of the 622 employees, mental health categories of moderate mental health and flourishing mental health level emerged, languishing mental health level was not screened which relates to emptiness and lack of motivation to fully function. Nevertheless adults having moderate mental health represent at risk population neither fall into flourishing nor languishing mental health level. A slight decrease in their positive affectivity and optimal functioning leads towards becoming languishers. There is dire need to invest in improving the employee's mental health by eliminating barriers in the way of their job satisfaction, job involvement, job commitment and control in decision making. Our findings showed an opposing trend with respect to exploration of mental health levels of US MIDUS data (Keyes, 2005) where only 17 % of the adolescences fall into flourishing mental health category and 52% of the population into moderate mental health. Prevalence rates were quite encouraging on present data in collectivistic cultures like Pakistan. Keyes (2002) reasoned that there is lack of social networking and close social bonding in individualistic societies where a culture of personal independence and personal growth is prevalent, this indicates an alarming condition regarding the prevalence of moderate mental states and existence of languishers as well. Keyes (2002) contended that individuals who fall into moderate mental health are not optimally functioning, are considered at risk population if not properly monitored will increase global economic burden. Individuals having less than flourishing metal states need to be protected to avoid increasing economic pressures. This points towards practicing mental health promotion and protection since investing on mental illness and psychopathology did not result in increasing positive indicators of mental health. While on the contrary focus on enhancing the positive indicators of mental health would yield beneficial outcomes in this regard.

Further exploration of mental health categories with regard to gender differences, age categories, marital status, educational qualification, job experience and work organization revealed gender to be significantly predicting mental health levels. While on other demographic variables, results showed non-significant differences across

marital status, work organizations, age categories, job experience, and educational qualifications

Exploring the pattern of predictive relationship between the personality traits and positive mental health. The pattern of predictive associations was explored by conducting a series of hierarchical regression analysis. Firstly, hierarchical regression analysis were executed to analyze the differential relationship of personality traits with positive mental health while keeping demographics and psychopathology constant. Findings showed that Psychopathology significantly positively predicted neuroticism and significantly negatively conscientiousness (Table 32). Psychopathology explained 15 % of the variance in the personality traits while keeping demographics and mental health constant. While, positive mental health explained 11 % of the variance in the personality traits, controlling for demographics and psychopathology. Extraversion and conscientiousness significantly positively predicted positive mental health. Regression model is significant as F (13, 280 = 4.18**, p <.01).On evaluating the unique pattern of associations between three components of positive mental health and personality traits, results endorse the significant negative association between neuroticism and emotional wellbeing. Conscientiousness significantly positively while neuroticism significantly negatively predicted psychological wellbeing. Openness to experience significantly positively predicted social wellbeing. These findings had been partially supported by earlier work carried out in this domain on Dutch population (Lamers & Westerhof, 2010). These findings supported hypothesis no. 2, 4 and 7 as both extraversion and conscientiousness positively predicted positive mental health, while neuroticism positively predicted psychopathology and negatively positive mental health.

To date, findings of numerous meta-analysis illustrated significance of personality traits with respect to variations in psychological dysfunction (Kotov, Gamez, Schmidt, & Watson, 2010) and well-being among individuals (Steel, Schmidt & Schultz, 2008). Nevertheless, question emerges in regard to distinctive relationship of Big Five traits with psychopathology and positive mental health as two distinct aspects of mental health. The differential pattern of association of personality traits to psychopathology and positive mental health depicting individual differences is intriguing? These findings

lead to the emergence of the Two- Continuum Model of mental health illustrating paradigm shift from the initial conceptualization of the mental health construct (Keyes, 2002). During study II (Time point I), two continua model has been examined by directly comparing Big Five traits unique association with psychopathology, i.e., while positive mental health was kept constant. Furthermore pattern of unique relationship between personality traits and mental health dimensions had been sought while psychopathology and demographics were kept constant.

The findings of the present study supported previous empirical work (Lamer & Westerhof, 2010) that established emotional stability to be major correlate of psychopathology while openness to experience to be uniquely associated with psychological wellbeing. On the Similar trend association between neuroticism and hedonic aspect was found to be stronger than with eudiamonic well-being, whereas extraversion showed strong association with eudiamonic rather than with hedonic dimension (Lamers, 2012). The results of the current study revealed neuroticism to be significantly negatively predicting emotional wellbeing, conscientiousness predicting psychological wellbeing and openness to experience was predicted by social wellbeing. Though partly in line with the previous findings, the slight differences might be due to the cultural differences. In collectivistic cultures like Pakistan psychological wellbeing has predicted organized, determined pattern of adults i.e., conscientiousness and openness to experience whereas recent western literature (Lamers & Westerhof, 2010) reported openness to experience to be the major correlate of psychological wellbeing. Since openness to experience relates to more creative solutions at workplace (George, & Zhou, 2001). Empirical evidences generated mixed findings with regard to openness to experience (Joshanloo & Nosratabadi, 2009) individuals having high level of openness to experience were found to be more open, embrace unusual notions to commence new behaviors, or to alter habits altogether. Openness to experience has significantly predicted social wellbeing (is directly linked to positive fulfilling social interactions, social acceptance, and social actualization) which leads towards more exploration, innovation and creative approaches at the workplace.

Given proportion of explicated variance by personality traits in current study were rather lower in comparison to explained variance of 20 to 33% by personality traits in well-being (DeNeve & Cooper, 1998). A higher variance explained of 39% to

63% was reported from another meta-analysis (Steel & colleagues, 2008). However, there were measurement differences across studies. These differences in explained variance between earlier studies (Steel et al., 2008) and Lamers (2012) indicates the exploration of direct relation between psychopathology and positive mental health needs to be taken into account. Moreover, Differences in reported variance across studies might also be due to the use of the different personality tests used for measuring personality traits. IPIP personality inventory was used in Lamers (2012) study but was not included in either of the previous meta-analysis exploring relationship between personality traits and hedonic and eudiamonic well-being.

Examining the moderating role of organization culture traits on personality traits and positive mental health relationship. The findings of present study highlighted the existing gap in indigenous literature with regard to exploring organization culture traits as moderator in positive mental health and personality traits relationship (Figure 2). Existing literature has measured these predictor and outcome variables separately. Hence execution of moderation analysis was not based on previously developed or explored model. The moderating effect of organization culture traits i.e., involvement, consistency, adaptability, and mission in relationship between personality traits and positive mental health were analyzed through Process Macro (Hayes, 1976). . Findings of moderation analysis showed significant interaction for involvement trait as a moderator between neuroticism, extraversion and positive mental health relationship. Consistency trait significantly moderated agreeableness and positive mental health relationship, whereas adaptability trait had shown significant interactions between neuroticism, extraversion, agreeableness and positive mental health relationship. Moreover mission trait has significantly moderated the relationship between agreeableness and positive mental health. The present study bridges exiting gap in indigenous literature with respect to exploration of organization culture traits as moderators in personality and positive mental health relationship. Some of the indigenous empirical evidences (Ahmed 2012; Mansur1, Ahmed, Ishaq, Ahmad, Ali, 2011; Hussain, Seemab & Chaman, 2016) which analyzed the crucial impact of organization culture within Pakistani work context have contributed to the organizational psychology literature. Studies directly examining the moderating role of organization culture traits in personality traits and positive mental health are scant

within indigenous context. Results of the current study showed involvement trait moderated the relationship between low level of neuroticism and positive mental health. While consistency trait moderated relationship between agreeableness (at low and medium level) and positive mental health. This suggests that employees who were less agreeable are more prone to be consistent i.e. inclined towards sticking with core values and in complete agreement with the organizational goals and objectives. Conversely adaptability moderated at low level of neuroticism, extraversion, agreeableness and positive mental health relationship. This might suggest individual's having low level of fear, anxiety and moodiness, tendency to extend warmth and care along with susceptibility to agree with others point of view are more inclined to adapt to changes within organizations enhancing greater customer satisfaction. Moreover mission trait had shown significant interaction at low level of agreeableness, thereby elucidating the nature of relationship between the employees having low level of agreeableness are more inclined to keep focus and strive for accomplishing the short and long term organizational objectives. These Findings showed that hypothesis 9, 10, 11, 12 and 13 were partially supported.

Empirical evidences has long established pivotal role of personality traits in ascertaining organizational outcomes and positively relates to work performance (Erdheim, Wang & Zickar, 2006). Moreover the type of environment an individual strive for is impacted by his/her personality traits (Barrick, Mount, & Gupta, 2003) and plays a critical role in shaping types of environments one pursues and nature of people he/she interact with (Barrick & Mount, 2005). The person organization fit is directly influenced by these interests and values (Kristof-Brown, Zimmerman, & Johnson, 2005). An organization does not characterize a steady establishment and it evolves, develops and grows within prevailing organizational culture (Silverthorne, 2004). This fit determine adjustment of an individual within specific organization (O' Reilly, 1989). There exist a close link between the established norms within organization, employee's behavior and P-O fit. P-O fit directly affect organization outcomes (Silverthorne, 2004). An enriched synchrony between organization culture values and individual personality leads to positive organization outcomes. Organization outcomes are heavily determined by collaboration between individual personality traits and prevalent organization

culture. The impact of culture on performance has been acknowledged by numerous researchers (Silverthorne, 2004). There exist a need to explore in-depth how organization culture impact relationship between personality traits and organizational outcomes. The objective of the present study was met by examining the moderating role of organizational culture in the association between big five personality traits and organization outcomes. This study aimed to fill the exiting gap in indigenous literature by highlighting the need from implications perspective for a deeper and richer understanding of the dynamic interface between the personality traits and organization culture and its direct effect on the wellbeing and organization productivity.

Examining the role of Socio-Demographic variables on Positive Mental health. The current study aimed to analyze the effect of various socio-demographic variables on positive mental health among professionals. Gender, age, educational qualification, work organization and job experience were explored on the present data by computing One Way Multivariate Analysis. Demographic variables had been explored independently due to nonsignificant findings of various variables being executed jointly.

Findings of the bivariate correlation has shown that overall age has negative relationship with positive mental health and psychopathology. The Impact of age on mental health encompassing both indicators i.e., positive mental health and psychopathology across time point I was examined. On analyzing mental health as absence of psychological dysfunction, varied age differences were found. Typically lowest prevalence rates has been noted among older folks (Kessler, Mickelson, Walters, Zhao, & Hamilton, 2004). However empirical evidence reflected a curvilinear relationship between age and psychopathology for oldest old while highlighting an increase of the incidence of psychopathology during the last life stage (Mirowski & Ross, 1999). Subsequently complete mental health is reflected by both continua (positive mental health & psychopathology) assessment of psychopathology solely has been regarded as an incomplete mental health indicator (WHO, 2004). Till date empirical studies explored few facets of positive mental health for examining age differences across professional groups. These depict variations in regards to wellbeing aspects under investigation. With regard to emotional wellbeing, life satisfaction is

estimated to be higher among older folks, while pronounced age differences are not reported among females (Diner & Suh, 1998). However few studies showed low level of positive affect across older age groups, though that might be a result of cohort effect. Others indicated no prominent unique effects of age on positive affect after keeping constant i.e., demographics, personality traits, health, and cognitive functioning (Isaacowitz & Smith, 2003).

Given on psychological and social wellbeing dimensions, older adults in comparison to their younger counterparts ensure enhanced functioning on some aspects. Specifically with respect to psychological wellbeing, high level of environmental mastery and autonomy were experienced by older adults. On the other hand, older adults experience low level of personal growth and purpose in life in comparison with younger adults. However, on dimensions of self-acceptance and positive relations to others, there is no observable difference (Pinquart, 2002). Empirical evidences (Keyes, 1998; Keyes & Shapiro, 2004) reflected a higher level of social acceptance and a sense of belonging to a community among older folks but less involvement to make contributions towards societal growth in comparison to younger adults. Moreover, a prevalent tendency to view society as less foreseeable, functional and intelligible. There appears no relation between perceiving society as progressing in a positive direction and age.

Furthermore exploration of impact of age categories (young adulthood, middle adulthood and late adulthood) with respect to the study variables i.e., personality traits and organization culture were also explored. On domain of organizational culture traits, significant multivariate effect was not found across various age categories. On emotional wellbeing statistically significant difference were found across early and middle adulthood at $P < .05$. Multivariate effects yielded significant group difference for positive mental health across age categories. Of the three subscales of MHC-SF, significant univariate effects were found for the emotional wellbeing. Although there are no statistically significant group differences across early and late, middle and late adulthood. Overall mean scores of middle adulthood were higher than early and of late adulthood group. Similarly, significant multivariate effects ($\lambda= .93^{***}$, $P < .000$) were found for personality traits, univariate effects for agreeableness among the five traits were found significant. Results of Post hoc analysis indicates statistically significant

mean difference between early and middle adulthood on agreeableness trait. There are no significant mean difference found between early and late adulthood, middle and late adulthood category. On psychopathology, significant mean differences were found for obsession compulsion, mean scores of early adulthood were significantly different from late adulthood, and between middle and late adulthood. While On phobic anxiety subscale, statistically significant mean differences were found between early and late and middle, late adulthood category at $P < .05$. For psychoticism, significant mean differences were found between early and middle adulthood, and between early and late adulthood. Overall mean values displayed in Table 59 indicated group differences as early adulthood group reported higher value on obsession compulsion, middle adulthood were more prone to experience phobic anxiety and late adulthood experience higher inclination towards psychoticism (social alienation).These findings are partly in line with the previous literature (Mirowski & Ross, 1999). These findings might reflect high level of spirituality being experienced by older individuals leads to low level of psychopathology. These finding of present study are consistent with other studies (Tornstam, 1999; Wink & Dillon, 2003). A number of possible explanations have been proposed. One explanation entail individual move from heightened desire for achieving materialistic gains towards a broader and less materialistic one with age (Tronstam, 1999). With increasing age individuals acquire higher stages of faith characterized by sense of tranquility, unity, divine existence and wisdom (Wink & Dillon, 2002). While one of opposing explanation relate this higher spirituality with increase in physical strains and deterioration among older individuals as a coping mechanism. (Wink & Dillon, 2002). There exist few survey studies examining both indicators of mental health and psychopathology across life span in single study. Findings of two studies (Keyes & Westerhof, 2011; Lamers, 2012) indicated that individuals inclined to experience lower level of mental illness in later life did not necessarily have higher level of mental health. These findings further validated assumptions of two continua model. These slight variations in findings from individualistic culture might indicate the prevalent socialization practices (collectivistic culture) in Pakistan alongwith differences in religious beliefs.

Findings of independent sample *t*-test indicated non-significant gender differences for all the study variables. Findings showed statistically significant mean differences between married and unmarried employees on emotional wellbeing which was found higher in married as compared to unmarried employees. Whereas on neuroticism unmarried employees scored higher than married employees. On the contrary, married employees scored high on agreeableness trait as compared to their unmarried counterparts. The important role of demographic variables such as marital status, education, employment depict variations in PMH that illustrate an exciting leads to prospect hypotheses testing. Findings showed that married respondents experience higher level of positive affectivity in comparison to their unmarried counterparts. With regard to education, conflicting findings exist, it is probable to enrich greater meaning in knowledge through acquiring education while on the other hand having weakening in faith and spiritual doctrines (Wright, 2000). Similarly contradictory reports about the influence of higher education on a person's well-being exist, generally believed education expands psychological and subjective well-being (Keyes, Shmotkin, Ryff, 2002) by enlightening knowledge, wisdom, self-esteem and socio-economic conditions of a person, (Michalo,2008;Schieman,2002). However numerous evidences steadily reported individuals having higher education to experience lower levels of wellbeing and satisfaction (Gardner & Oswald, 2002) The underneath reasons for this reduced wellbeing might reflect greater predisposition towards gaining and expanding material means, complex work tasks and work pressures to attain excellence in professional task accomplishment (Gardner & Oswald, 2002; Kashdan & Breen, 2007)

Moreover, multivariate effects across educational categories were found significant for all the domains i.e. positive mental health, personality traits, organization culture traits and psychopathology. On positive mental health dimensions i.e., emotional, psychological and social wellbeing, higher means were reported for highly qualified employees as compared less qualified employees. For personality traits, neuroticism means score were found higher for low qualified as compared to highly qualified, on agreeableness, conscientiousness traits, highly qualified scored higher mean than low qualified employees. However, on involvement and consistency dimensions of organization culture traits, highly qualified reported higher mean than low

qualified employees. While on the other two domains i.e. adaptability and mission, low qualified were found to have higher means than the highly qualified. This showed that young less qualified employees kept themselves more flexible and adaptable to transform themselves according to the organizational demands and also to identify with the organization objectives at large. On psychopathology dimensions, among all nine dimensions highly qualified scored higher means on anxiety and depression than less qualified counterparts. It is believed that education uplift individual wellbeing levels by enhancing personal and economic conditions (Michalos, 2008; Schieman, 2002). As previous explained highly educated showed low level of emotional wellbeing (Gardner, Oswald, 2002)

Across various work organizations significant multivariate effects were yielded for positive mental health (λ= .92**, P < .01), personality traits (λ= .75***, P < .01), organization culture (λ= .85***, P < .01) and psychopathology (λ= .91**, P < .01) which are followed by univariate analysis. On positive mental health results indicated statistically significant mean differences between managers and doctors, managers and consultants on social wellbeing dimension. However, telecom employees had shown statistically significant mean differences from health care professionals, consultants and educational staff. Extraversion and conscientiousness dimension of NEO-FFI showed significant univariate effects, statistically significant mean differences were found between managers and doctors, telecom employees and doctors, teachers and doctors on conscientiousness trait. Overall mean values reported in Table 48 endorse these differences as mangers had higher mean on conscientiousness followed by telecom, consultants, educational sector and doctors as compared to health care. On DOCS, Result endorse the significant univariate effects of involvement trait by showing significant mean differences between bankers and telecom personnel, consultants and educational sector employees. While doctors had significant mean differences from telecom personnel on involvement. On adaptability trait, bankers had scored different from the telecom personnel and educational sector employees. However mean differences of doctors also differed significantly from telecom employees on adaptability trait. On mission dimension, managers showed significant mean differences from telecom, educational sector employees and doctors. Doctors had shown significant mean

differences from all the professional categories. When computed for psychopathology, significant mean differences were found between telecom and all the other professional categories on somatization. On the domain of interpersonal sensitivity significant mean differences were found between telecom, bankers, doctors, consultants and educationalists. Moreover, significant multivariate effects were found for various categories of educational qualification and job experiences on the dimensions of positive mental health, personality traits, organizational culture and psychopathology. Significant mean differences were found for job experience between less experienced and experienced employees on emotional wellbeing. Mean values of the experienced personnel was found higher than the less experienced employees on emotional wellbeing.

These findings suggest that experienced aged employees yielded higher level of life satisfaction and positive reappraisal of life circumstances while coping with all the life challenges over the years. On psychological wellbeing dimension, mean differences were found significant across less experienced, middle level experienced and middle level experienced and experienced employees. Overall the mean scores of the less experienced were found higher than the experienced employees. This might suggest the greater autonomy, personal growth and higher inclination for developing positive relations with others as the young professional breed is full of energy, passion and willingness to face challenges that they encounter while doing their work assignments. On neuroticism mean differences were found significant between less experienced and middle level experienced and between middle level experienced and experienced personnel. However, mean differences were found significant between less experienced employees and between middle level experience and experienced employees. Mean scores of neuroticism were found higher for less experienced as compared to more experienced employees. While on agreeableness and conscientiousness higher mean scores were reported for experienced employees. The dimensions of organizational culture traits i.e. involvement, consistency, adaptability, and mission reported significant mean differences. Findings shows significant mean differences between less experienced and more experienced on involvement and adaptability.

Involvement refers to level of empowerment that employees feel in regard to accomplishment of organizational task (Macleod & Brady, 2008). Empirical evidences have shown that effective organizations focus on manpower by empowering and

discerning skills and capability development at all the levels (Denison et al, 2006). Highly effective organization ensure decisions autonomy to their employees that affect their work straight linked to the organization goals (Kurstedt & Mallak, 1996). This illustrate reliance of organizations having high involvement on unceremonious, intentional and in-built governing systems rather than official, overt, administrative governing systems. While on the other two dimension i.e., consistency and mission significant mean differences between less experienced and middle level experienced were reported. These findings might reflect an inclination of less experienced employees to adapt to core values for pursuing long term and short term objectives. Moreover, effective organization tend to inculcate norms that foster harmony between the overt and covert values. While senior management do exert control over functioning within the framework of dominant values and norms to enforce the organization culture that needs to be adhered by its members. Organizations high on adaptability trait transform their plan of action in response to the external demands to attain higher customer satisfaction. There exists a slight overlap with adaptability and mission dimension. It has been reported (Yang & McLean, 2010) that the organizations tend to respond to external environment challenges, evolving prospects and threats in accord with organization's vision, mission, objectives and core strategies.

Limitations and Recommendations

The current study endeavored to fill existing gap in indigenous literature on exploring determinants i.e., personality traits and organizational culture impact on employee positive mental health. Mental wellbeing of employees has been neglected area of inquiry with respect to indigenous organization context, yet directly affects organizational outcomes. However, purposive convenient sampling technique was used for approaching personnel in various organizations. This might again point towards carefully generalizing the results to the national professional groups. Besides data on various other demographic variables such as recent personal or professional setback/loss or advancement/ gains and growth was not collected which might confound the results.

The present study has some methodological and theoretical considerations for benefiting future research endeavors. Study II (time point I) employed several statistical analysis, initial descriptive showed data lie within normal range (kurtosis & skewness).

The time point 1 of the present study could not include equally representative data from all the professional categories, had unequal sample size among the heterogeneous work groups. This raises questions regarding the generalizability of the current findings across various occupational groups. These findings relate to cross-sectional observations that cannot be generalized to the overall population and also cannot be used to establish causal relationships. This issue can be resolved by increasing sample representativeness across professional groups, by conducting multilevel analysis across professional groups and among groups across designations for generating a clearer picture of the impact of determinants on employee's positive mental health.

Multiple informant method of data collection enhances statistical validity of the findings. Future studies should focus on gathering data by utilizing data collection method other than self-reports. The present study used self-report for evaluating the variables of interest. This mode of data collection increases the respondent's inclination for social desirability and response set bias. One of the major factor is length of the questionnaires which leads to boredom and tendency towards reduced urge to respond to all the instrument items. Several steps were ensured to control problems associated with common method variance in cross-sectional studies. Firstly, it was ensured that participants took part in the study voluntary and their shared information was kept confidential. Secondly, questionnaires were randomly arranged before delivering, this allows for changing the order effect of the self-report measures (a method of inter-construct randomization). Thirdly, several methods were employed to evaluate the construct validity and factor structure of the respective measures (Podsakoff et al, 2012). Moreover, convenient sampling was used as participants were approached in various organizations and debriefed about the study, those who volunteered, became part of the study. However, generalizability of the findings would be more enhanced with the random sampling. It would also be useful to research whether the findings apply to other health and social areas.

The measures of present study variables were based on assessing retrospective ratings were gathered from study instruments which may lead to response bias due to inability of the respondents to recall accurate information. The time point 1 was executed as cross sectional study, hence findings of this phase could not lead to inferences generated upon inquiring the causative associations among study variables. The pattern of relationship among study variables that emerged at time point 1 might purse the same pattern in terms of direction and strength of the magnitude when followed for longitudinal analysis, moreover more valuable information regarding the causal explanation among variables would be generated. The more in-depth longitudinal analysis will help in elucidating a deeper and clear understanding of the role of the personality traits and organizational culture on positive mental health of the professionals serving in diverse work settings. Nevertheless, these shortcomings the present study has a number of assets in terms of enriching the indigenous literature with exploring the latest advancements within the field of mental health i.e., testing two-continua model of positive mental health across three time points. The finding of present study will open new avenues for future research for exploring mental wellbeing with other organizational variables and more representative sample categories.

Conclusion

Findings of main study has confirmed two-continua model of positive mental health on the current sample. Furthermore, pattern of unique predictive relations of personality traits with positive mental health and its aspects further confirmed existence of two distinct continua i.e., mental health and psychopathology. Moreover moderating role of orgizational culture highlighted impact of organizational environment on relationship between personality dispositions and level of wellbeing experienced by employees within indigenous organization contexts. Moreover exploration of socio-demographic variables reflected differential associations with metal wellbeing and psychological dysfunction.

Chapter V

STUDY II: TIME POINT II

The broad objectives time point II entailed exploring stability and changes within positive mental health, psychopathology and its determinants.

Objectives

1. To explore the pattern of relationship of positive mental health, personality traits, organizational culture traits and psychopathology course over time (approximately after six months).

2. To assess mean differences in positive mental health, personality traits, organization culture traits and psychopathology between the time point 1 and time point II.

Sample

A Sample of time point II consisted of ($N=225$) professionals serving in diverse work settings, telecom ($n=23$), health sector ($n=61$), consultancy companies ($n=41$), bankers ($n=59$), teachers ($n=40$). Their age ranged from (26-60) mean age range (M=29.05, SD=19.9), male ($n=$ 119), females ($n=$ 105), monthly income ranged from Rs. 15-18000/- to above one lac. The sample participants were working on different designations and inclusion criteria was minimum work experience of at least six months, their work experience ranged from 1 year to 40 years. Purposive sampling technique was used for approaching professionals who initially responded during the time point I from various work organizations located at Rawalpindi, Islamabad and Lahore. The attrition rate was quite high from 622 employees during time point I to 225 employees (time point 2). Nevertheless the differential drop out analysis of the Time point 1 and Time point II analysis showed that drop out sample was not significantly different from the engaged sample. Additionally findings of t-test at time point I and time point 2 also indicated that there is no marked changes among the study variables.

Table 65

Frequency and percentages of the study demographics of Time Point II (N=225)

Variables	*f*	%
Gender		
Male	119	52.9
Female	105	46.7
Missing System	1	4
Marital Status		
Married	143	63.6
Unmarried	78	34.7
Missing System	4	1.8
Education		
PhD/FCPS/FRCP	21	9.3
MS/M-Phil	20	8.9
Masters/M.Sc/MA/MBA	79	35.1
Bachelors/MBBS/B.Sc/BHons/BA/B.com/BDS	88	39.1
F.A/F.sc/I.com	17	7.6
Missing system	0	
Years of experience		
1-2 years	30	13.3
3-6 years	43	19.1
6-10 years	68	30.2
>10	70	31.1
Missing System	13	5.8
Monthly income		
Rs.15-25000	23	10.2
Rs 25-35000	62	27.6
Rs 35-50000	63	28.0
>50,000	44	19.6
Above 1 lac	19	8.4
Missing system	14	6.2
Work Organization		
Bankers	59	26.2
Telecommunication	23	10.2
Doctors	61	27.1
Consultants	41	18.2
Teachers	40	17.8
Missing System	1	4

Measures

Instruments used in time point II are as under:

1.   Demographic sheet (See *Appendix* A)

2.   Mental Health Continuum Short Form (MHC-SF; See *Appendix* B)

3.   Brief Symptom Inventory (BSI; See *Appendix* C)

4.   Denison Organization Culture Survey Questionnaire (DOCS; See *Appendix* D)

5.   NEO Five Factor Inventory (NEO-FFI; See *Appendix* E)

Note. The details of instruments has been reported in phase-I.

Procedure

Data was collected through the permission of organization heads. The same practice was opted as was done in previous phase. The heads of organizations were approached and briefed about longitudinal study design. There were informed about need for responding the same measures once again. Informed consent was sought from all the prospective study respondents. They were assured that their provided information would be kept personal and only be used for research purpose. Informed consent in written was taken before handing over the booklets to the respondents. This phase was challenging due to difficulties in convincing authorities and participants to become part of the study. They were doubtful to disclose their personal information specifically information about their current designation, organization and monthly income. They were instructed to respond to all items of measures honestly after reading each statement carefully. However, overall there was a good response.

Results

Descriptive statistics and bivariate correlation was computed to analyze pattern of relationship among study variables. Mean differences among study variables were computed through Paired sample t test across time point I and time point II. Furthermore, ANOVA was computed to analyze differences across various groups. For hierarchical regression analysis, to predict pattern of change and stability on positive mental health from study variables of time point II. Assumptions of univariate and multivariate normality were tested. Multicollinearity among the study variables was also checked.

Table 66

Descriptive statistics and univariate normality for the main study variables Time II (N=225)

Variables	No. of items	α	M	SD	Minimum	Maximum	Skewness	kurtosis
MHC-SF	14	.85	58.06	10.7	23.00	83.00	-.391	-.192
EWB	3	.82	12.52	3.55	3.00	18.00	-.562	-.374
SWB	5	.72	19.17	.83	7.00	30.00	-.259	-.579
PWB	6	.78	26.16	.32	9.00	35.00	-.620	-.086
DOCS	60	.89	197.4	28.3	92.00	258.00	-.253	.271
INVOL	15	.80	49.24	9.20	18.00	93.00	.331	1.90
CON	15	.61	48.25	7.92	22.00	69.00	-.321	.461
ADAP	15	.61	49.83	7.97	23.00	75.00	-.061	.937
MISS	15	.74	50.17	8.08	26.00	67.00	-.333	.024
NEO-FFI								
NEU	12	.58	36.29	6.43	19.00	60.00	-.075	.508
EXTRA	12	.66	38.81	6.15	23.00	52.00	-.348	-.136
OPNEX	12	68	9.09	6.19	21.00	60.00	-.121	.651
AGREE	12	.55	38.81	5.44	23.00	53.00	.037	.243
CONS	12	.67	39.65	6.11	24.00	53.00	-.196	-.335
BSI	53	.97	151.3	53.0	53.00	270.00	-.186	-.833
SOM	7	.86	18.99	7.92	7.00	36.00	.074	-1.06
OBSSC	6	.82	17.57	6.27	6.00	32.00	-.001	-.677
INTRPS	4	.79	11.52	4.68	4.00	22.00	.123	-.958
DEP	6	.85	16.69	7.12	6.00	33.00	.106	-1.01
ANX	6	.79	17.09	6.33	6.00	33.00	-.086	-.719
HOS	5	.92	14.42	5.92	5.00	27.00	-.016	-1.14
PHANX	5	.95	14.50	6.05	5.00	29.00	-.034	-.932
PARID	5	.74	14.87	5.07	5.00	28.00	-.076	-.616
PSY	5	.76	14.14	5.38	5.00	27.00	.102	-.756

Note. EWB = Emotional wellbeing, SWB = Social wellbeing, PWB = Psychological wellbeing, INVOLV = Involvement, =Consistency, ADAPT=Adaptability, MISS=Mission, NEU=Neuroticism, EXTRA=Extraversion, OPNEX=Openness to experience, AGREE=Agreeableness, CONSCI = Conscientiousness, SOM=Somatization, OBSSC=Obsessive Compulsive, INTRPS = Interpersonal Sensitivity, DEP=Depression, ANX=Anxiety, HOS=Hostility, PHANX=Phobic anxiety, PARID = Paranoid Ideation, PSY=Psychoticism

Table 66 shows alpha reliability coefficient, mean, standard deviations, and skeweness and kurtosis for all the measures. Results indicate good alpha reliabilities for study measures. The values of skewness and kurtosis are satisfactory. The values of skewness and kurtosis in the table given below reveals normal distribution of the data.

Correlational analysis between the Time point 1 and Time point II study variables. Bivariate correlation were computed for exploring relationship patterns between study variables across time point 1 and time point II. Correlational analysis would help in analysing emerging trends among study variables across time points I and II.

Table 67

Correlation matrix of positive mental health subscales and psychopathology across time point 1 and time point II (N=225)

Variables	1	2	3	4	5	6	7	8
1. EWB 1	-	.15*	.45**	.11	.52*	.22	-.28**	-.09
2. EWB 2		-	.07	.41**	.04	.46**	-.02	-.25**
3. SWB 1			-	.23**	.37**	.15*	-.10	.07
4. SWB 2				-	.03	.42**	.06	.06
5. PWB 1					-	.22**	-.31**	-.13
6. PWB 2						-	-.02	-.23**
7. PSYC 1							-	.21**
8. PSYC 2								-

Note. EWB= Emotional wellbeing, SWB= Social well Being, PWB=Psychological Well Being, PSYC=Psychopathology

p* <.05, p** < .01.

Table 67 displays the relationship between T1 and T2 emotional wellbeing, social, psychological wellbeing and psychopathology. Table 65 reveals significant positive associations between emotional wellbeing T1 T2, with psychological wellbeing T2 and significantly negatively with psychopathology T2. Similarly social wellbeing T1 showed positive association with social wellbeing T2 and Psychological wellbeing T2. Psychological wellbeing T1 significantly positively associated with psychological wellbeing T2 and significantly negatively with psychopathology T2. Moreover, psychopathology T1 and psychopathology T2 were also significantly positively associated.

Table 68

Correlation matrix between the NEOFFI subscales across time point 1 and Time point II (N=225)

Variables	1	2	3	4	5	6	7	8	9	10
1. NEU I	-	.14	-.42**	-.18**	.01	.02	-.29**	-.09	-.35**	-.20**
2 NEU 2		-	-.12	-.38**	-.09	.03	-.16**	-.33**	-.19**	-.25**
3 EXT I			-	.31**	.02	.04	.09	.18*	.47**	.25**
4 EXT 2				-	.23**	.07	.18*	.33**	.30**	.41**
5 OPEXP I					-	.12	.02	.21**	.04	.04
6 OPEXP 2						-	.05	.03	.09	.12
7 AGREE I							-	.18*	.14	.17*
8 AGREE 2								-	.14	.48**
9 CONCI 1									-	.39**
10 CONCI 2										-

Note. NEU=Neuroticism I 2 EXT I=Extraversion, OPEXP=Opentoexperience 12, AGREE=Agreeableness I, 2, CONCI=Conscientiousness I 2. *p< .05*, p < .01***

Table 68 indicates the correlational matrix among the T1 and T2 personality traits. Neuroticism 1 significantly negatively associate with Extraversion T2, AgreeablenessT1, conscientiousness T1 and T2. Neuroticism II is significantly negatively linked with extraversion T2, agreeableness T1, agreeableness T2, and conscientiousness T1, T2. Openness to experience1 significantly positively associated with agreeableness T2. Agreeableness T1 was significantly positively associated with conscientiousness T2. Both conscientiousness T1 and T2 significantly positively associated.

Table 69

Bivariate correlation between DOCS subscales across time point 1 and time point II (N=225)

Variables	1	2	3	4	5	6	7	8
1 INVO 1	-	.35**	.65**	.31**	.65**	.34**	.63**	.27**
2 INVO 2		-	.20**	.60**	.24**	.59**	.26**	.59**
3 CON I			-	.24**	.67**	.14*	.65**	.16*
4 CON 2				-	.24**	.54**	.31**	.58**
5 ADAP I					-	.23**	.73**	.23**
6 ADAP 2						-	.13**	.67**
7 MISS 1							-	.28**
8 MISS 2								-

Note. INVO=Involvement I, 2, CO*N*=Consistency I 2, ADAP=Adaptability I 2, MISS= Mission I 2

p < .05*, p < .01**.

Table 69 reveals pattern of relationship between T1 and T2 organization culture traits. Table 69 indicates that Involvement T1 has significant positive association with

both T1 and T2 consistency, adaptability, mission. Correspondingly, consistency 1 has positive association with T1 and T2 adaptability, consistency and mission. Adaptability T1 and Mission T1 were also significantly positively associated with adaptability 2 and mission 2.

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Table 70

Correlation matrix between the time I study variables and Neo-FFI and DOCS subscales at time point II (N=225)

Variables	EWB 1	SWB 1	PWB 1	INVO 2	CON 2	ADAP 2	MISS 2	NEU.2	EXT2	OPEX2	AGREE2	CONC 2	PSYC 2
EWB 1	-	.45**	.52**	0.1	.04	.09	.04	-.05	.08	-.01	.02	.18*	-.09
SWB 1		-	.37**	.01	.02	.13	-.01	.03	.04	-.07	-.03	.10	.07
PWB 1			-	.14	.17*	.15*	.13	-.08	.25**	.002	.09	.30**	-.13
INVO 2				-	.60**	.59**	.59**	-.15*	.08	-.05	-.03	.09	.01
CON 2					-	.54**	.58**	.03	.31**	-.05	.14	.34**	-.18*
ADAP 2						-	.67**	.03	.20**	-.07	.04	.13	-.07
MISS 2							-	.03	.21**	.02	.13	.23**	-.19**
NEU 2								-	-.38**	.03	-.33**	-.25**	.27**
EXT 2									-	-.07	.33**	.41**	-.32**
OPEX 2										-	.03	-.12	.01
AGREE 2											-	.48**	-.42**
CONC 2											.	-	-.44**
PSYC 2													-

Note. EWB 1=Emotional wellbeing 1, SWB= Social wellbeing 1, PWB= Psychological wellbeing, INVO 2= Involvement 2, CON 2= Consistency 2, ADAP 2= Adaptability 2, MISS 2= Mission 2, NEU 2= Neuroticism 2, EXT 2= Extraversion 2, OPEX 2= Openness to experience 2, AGREE 2= Agreeableness 2, CONC 2= conscientiousness 2, PSYC 2= Psychopathology 2.

Table 70 indicates pattern of association among time 1 and time 2 study variables. All the subscales of MHC-SF have shown significant positive correlation with each other at time point 1. Emotional wellbeing T1 significantly positively correlated with conscientiousness T2. Social wellbeing T1 has shown non-significant relationship with all the subscales of NEO-FFI, DOCS subscales and psychopathology at time point 2. However, Psychological wellbeing TI has significant positive correlation with consistency, adaptability, extraversion and conscientiousness T2. Involvement, consistency, adaptability and mission are significantly positively correlated with each other at T2. Consistency T2 has shown significant positive correlation with conscientiousness T2 and negative with psychopathology T2. Adaptability T2 has significant positive correlation with extraversion T2. Mission T2 has significant positive correlation with conscientiousness T2 and negative with psychopathology T2. Neuroticism T2 has significant negative correlation with extraversion, agreeableness, conscientiousness and significant positive with psychopathology at Time point 2. Extraversion, agreeableness and consciousness are significantly positively correlated with each other and negatively with psychopathology at T2.

Predicting positive mental health T2 from Time 1 study variables. To see predicting role of personality traits T1 for the positive mental health T2, Hierarchical Regression Analysis was conducted. Aforementioned, relevant assumptions of this statistical analysis were established before running hierarchical multiple regression. The values of Durbin-Watson was used to check for the residuals in the model are liberated to ascertain collinearity within the data. Firstly, data was considered adequate for conducting analysis (Tabachnick & Fidell, 2001). The necessary prerequisites such as collinearity statistics (Tolerance & VIF) were within acceptable limits. No multivariate outliers were indicated upon screening Mahalanobis distance scores. The residual and scatter plots indicated assumption of normality, linearity and homoscedasticity were satisfied (Field, 2009).

Table 71

Summary of Hierarchical Regression Analysis for Variables Predicting Positive mental health in Time 2 controlling the effect of Personality traits in Time 2 (N=225)

Variables	Model 1B	Model 2B	Model 3 B	95 % CI
			Self-reported Positive mental health Time 2	
(Constant)	57.67**	54.71**	49.26**	[11.34, 87.19]
Age	-1.07	-1.52	-1.17	[3.96, 1.62]
Education	-.57	-.65	-.43	[-1.88,1.01]
Marital status	-2.87	-2.68	-1.87	[-5.81,2.07]
Job experience	.80	.86	.82	[-1.08,2.73]
Job Designation	1.95**	1.86**	2.06**	[1.02,3.11]
Neuroticism 2		-.19	-.20	[-57,.17]
Extraversion 2		.19	.23	[-.15,.62]
Openness to experience 2		.04	-.02	[-.40, .37]
Agreeableness 2		-.10	-.12	[-.52, .67]
Conscientiousness 2		.17	.27	[-.02, .585]
Neuroticism 1			-.04	[-.37, .28]
Extraversion 1			-.01	[.36, .33]
Openness to experience 1			.25	[-.15, .65]
Agreeableness 1			.18	[-.19, .56]
Conscientiousness 1			-.35*	[-.63, -.08]
R^2	.09	.12	.16	
F	4.13**	3.01*	2.60**	
ΔR^2		.02	.04	
ΔF		1.56	2.21	

Note. Positive mental health (PMH)*p <.05, ***p<.001. CI= confidence interval.

Table 71 shows results of three stage hierarchical multiple regression while taking personality traits at time point I as predictor, positive mental health Time 2 as the dependent variable. The demographic variables (i.e., age, education, marital status, work organization & job experience) were entered at stage one of the regression to control for their effect. To see the predicting role of the Time 1 variables neuroticism Time 2, extraversion Time 2, openness to experience Time 2, agreeableness Time 2 and conscientiousness Time 2 were controlled and were entered at stage two for controlling their effect and predictors of positive mental health Time 2 (neuroticism Time 1, extraversion 1, openness to experience Time 1, agreeableness Time 1, conscientiousness Time 1 at stage three. Intercorrelations between the multiple regression variables and the regression statistics are reported in Table 71.

Results of hierarchical multiple regression indicated demographic variables significantly contributed to the regression model, F (5,203) = 4.1**). While Controlling for neuroticism 2, extraversion 2, openness to experience 2, agreeableness 2, and conscientiousness 2, neuroticism 2 negatively predicted Positive mental health (β = -.19) and conscientiousness T2 predicted (β = .17, p<.05) explained 12 % of variation in Positive mental health 2 and this change in R^2 was significant, F (9, 199) = 3.01, p < .05. Adding the predictors to the regression model explained an additional .04 % of the variation in Positive mental health 2. Conscientiousness Time 1 significantly predicts (β =.35, p <.05) the Time 2 positive mental health. This change in R^2 was significant, F (15, 193) = 2.60, p < .01. From Time variables, together the independent variables accounted for 37% of the variance in Positive mental health 2.

Table 72

Descriptive Statistics and t-test Results for MHC-SF, NEO-FFI, BSI and DOCS subscales over Time (N=225)

	Time 1		Time 2			95% CI			
Variables	*M*	*SD*	*M*	*SD*	*r*	*LL*	*UL*	*t*	*p*
EWB	12.69	3.53	12.54	3.52	.12*	-.461	.765	.49	.62
SWB	17.63	4.77	19.15	4.84	.22**	2.30	-.731	-3.80	.00
PWB	25.57	6.05	26.27	5.28	.16**	-1.66	268	-1.42	.15
INVOL	48.53	8.78	48.27	8.19	.33**	-1.02	1.54	.40	.68
CON	47.49	6.22	48.14	6.12	.24**	-1.64	.348	1.28	.20
ADAP	47.52	6.44	48.46	6.30	.23**	-1.97	.099	-1.78	.07
MISS	49.23	7.80	49.47	7.23	.29**	-1.41	.930	-.409	.68
NEU	36.25	5.05	36.07	4.32	.12*	-.641	.993	.424	.67
EXT	38.05	5.10	37.45	4.61	.31**	-.145	1.35	1.58	.11
AGREE	36.88	4.17	36.21	4.23	.12*	-.064	1.39	1.79	.07
CONCI	41.45	6.43	40.56	5.71	.38**	-.00	1.78	1.97	.05
PSYC	13.57	5.36	13.95	5.28	.15*	-1.29	.527	-.83	.40
Men									
EWB	12.69	3.32	13.02	3.35	.01	-1.16	.523	-.756	.45
SWB	16.61	4.62	19.01	4.73	.19*	-3.48	-1.32	-4.42	.00
PWB	25.20	6.15	26.18	5.77	.10	-2.42	.457	-1.35	.17
INVO	48.03	8.79	48.39	8.35	.21**	-2.29	1.57	-.367	.71
CON	47.06	6.12	48.00	6.32	.23	-2.32	.449	-1.33	.18
ADAP	47.03	6.75	48.55	6.55	.17*	-3.06	.021	-1.95	.05
MISS	48.91	8.29	49.32	7.77	.20*	-2.23	142	-.437	.66
NEU	36.36	5.83	35.62	3.93	.18*	-.411	1.89	1.27	.20
EXT	38.04	4.82	37.52	4.36	.29**	-.467	1.50	1.04	.29
OPEXP	35.38	3.82	35.60	4.03	.10	-1.17	.731	-.461	.64
AGREE	36.93	3.94	36.19	4.06	.09	-.230	1.72	1.51	.13
CONCI	41.50	6.58	40.48	5.87	.33**	-.275	2.32	1.36	.12
PSYC	13.31	5.45	14.24	5.53	.20*	-2.18	.320	-1.47	.14

	Time 1		Time 2			95% CI			
Variables	*M*	*SD*	*M*	*SD*	*r*	*LL*	*UL*	*t*	*p*
Women									
EWB	12.68	3.78	11.99	3.65	.23*	-.197	1.58	1.54	.12
SWB	18.80	4.70	19.30	4.97	.26	-1.63	.632	-.88	.38
PWB	25.99	5.94	26.36	4.69	.24*	-1.64	.907	-.575	.56
INVO	49.11	8.79	48.14	8.04	.48**	-.690	2.62	1.15	.24
CON	47.98	6.33	48.30	5.91	.25	-1.76	1.13	-.429	.66
ADAP	48.09	6.05	48.36	6.04	.31**	-1.63	1.09	-.39	.69
MISS	49.59	7.22	49.65	6.60	.42**	-1.50	1.37	-.08	.93
NEU	36.12	4.00	36.59	4.70	.06	-1.63	.681	-.80	.42
EXT	38.06	5.43	37.36	4.90	.32*	-.462	1.86	1.19	.23
OPEX	34.86	3.96	36.24	3.70	.13	-2.35	-.407	-2.81	.00
AGREE	36.81	4.44	36.24	4.42	.16	-.538	1.68	1.02	.31
CONCI	41.39	6.29	40.65	5.55	.43**	-.484	1.96	1.19	.23
PSYC	13.86	5.27	13.62	4.98	.08	-1.10	1.58	.358	.72

Note. CI=Confidence Interval.

Table 72 displays results of Paired samples t-test indicating statistically significant increase in social wellbeing scores from Time 1 to Time 2. Social wellbeing mean values were increased to 1.52 with a 95% confidence interval ranging from 2.30 to -.73. As displayed in the same Table, there are statistically significant decrease in conscientiousness mean values from time 1 to time2, and significant slight increase in openness to experience. However, there was no significant decline in mean values for emotional, psychological wellbeing, neuroticism, agreeableness, extraversion, involvement, consistency, adaptability and mission. Findings reflects gender difference in study variables across T1and T2, for men the significant increase in mean values are in the social wellbeing domain and adaptability. Mean values of emotional wellbeing and psychological wellbeing increased in Time 2 (i.e., 0.3 and 0.9) points respectively. Moreover, for emotional wellbeing mean scores among women decline, mean scores of psychological and social wellbeing increased from T1 to T2. However, Women has shown statistically significant increase in scores i.e. 1.38 on openness to experience from T 1 to T 2.

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Table 73

Difference of MHC-SF subscales, DOCS subscales, NEO-FFI subscales and Psychopathology over Time point 1 and Time point II (N=225)

	Time Point I				Time point II						
	Men		Women		Men		Women				
Variables	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F*	*P*	η^2
EWB	13.02	2.97	12.20	3.74	12.92	3.42	11.50	3.81	.437	.647	-
SWB	16.92	4.58	18.02	4.36	18.87	4.76	8.27	4.89	6.42	.002	.02
PWB	25.00	5.71	25.71	6.14	26.38	5.79	26.25	4.97	.798	.451	-
INVOL	48.11	9.12	49.60	9.56	48.78	8.38	49.15	7.59	.948	.389	-
CON	47.39	6.18	48.43	6.85	48.68	6.43	48.82	6.15	.926	.398	-
ADAP	47.01	6.76	48.75	6.48	48.88	6.70	48.83	6.35	1.20	.303	-
MISS	49.16	8.52	50.44	7.75	49.57	7.48	50.23	6.99	.892	.411	-
NEU	35.97	6.01	36.13	4.22	35.31	4.03	36.43	5.18	.690	.502	-
EXT	38.46	4.99	38.69	5.21	37.98	4.34	37.98	4.97	1.25	.286	-
OPEX	35.29	3.98	34.87	3.85	35.36	4.12	36.36	3.65	.936	.394	.-
AGREE	37.14	3.84	36.79	4.48	36.41	4.30	36.75	4.34	5.98	.003	.03
CONCI	42.11	6.60	42.34	6.26	41.40	5.70	41.66	5.56	1.10	.332	-
PSYC	137.66	51.11	145.13	52.5	146.9	56.1	146.36	58.2	1.96	.143	-

*Note.*EWB=Emotionalwellbeing,SWB=Socialwellbeing,PWB=psychologicalwellbeing,INVOL=Involvement,C O*N*=Consistency,ADAP=Adaptability,MISS=Mission,NEU=Neurotiicsm,EXT=extravesion,OPEX=Opennesst oexperience, AGREE=Agreeableness, CONCI=Conscientiousness, PSYC=Psychopathology

Table 73 shows that social wellbeing is greater for men in time point 2 as compared to women while social wellbeing was found higher for females in time point 1. For both males and females agreeableness scores has shown decline from T1 1 to T2. Detail description of Posthoc are illustrated in Table 73. Analysis of Variance showed a statistically significant difference at $P < .05$ level in social wellbeing for four groups $F(2, 222) = 6.42$, $P <.05$, $\eta^2 =.02$. Post hoc comparisons using LSD indicated that the mean scores for men T1 significantly different from men T2. Furthermore, there exist a statistically significant mean score differences at $P < .05$ in agreeableness for men from time point 1 to time point II.

Discussion

The broad objective of time point II was to analyze the pattern of changes or stability of positive mental health, personality traits, organization culture traits and psychopathology among employees across time point 1 and time point II. Moreover, keeping in view the previous empirical literature it was assumed that positive mental health and psychopathology would rather stay stable at time point II (approx. gap of six months). Since personality traits are also relatively stable characteristics of an individual, hence pronounced effects in terms of gains and decline in these traits were less likely to be expected. Generally it was expected the study variables specially mental health dimensions i.e., , social, psychological and emotional wellbeing would show the same pattern of relationship with psychopathology, personality traits and organization culture traits among employees followed during time point 1.

The sample of time point II consisted of professionals who were serving in different organizational setup for instance, health care institutes, consultancy companies, telecom companies, educational institutes and banking sector. Those employees were approached who earlier became the part of the time point 1 study. This phase of data collection raises serious challenges as approaching the old respondents was quite challenging due to lack of response, job rotation, loss of interest in again becoming part of research. Besides all these obstacles, 500 questionnaire booklets were distributed at time point II data collection, attrition rate was high almost half of the completed booklets were collected. The contact information of the respondents who completed the questionnaire booklet at time point II was organized and maintained for future reference. Details of the sample description can be seen under (Table 65). The same questionnaire booklet was used at time point II which was initially administered at time point 1. The same pattern of taking Consent and undertaking from the participants was followed at time point II and demographic details were kept intact and updated for time point III data collection.

During time point II, bivariate correlation was computed among the study variables to examine association between the main variables of interest across T 1 and T 2. It was found that no independent variables were highly correlated. Before executing the hierarchical regression analysis, assumptions of univariate and multivariate normality

were tested. Multicollenarity check was also conducted for examining the magnitude of relationship among the independent variables of interest. Paired sample t-test was computed to analyze the mean differences among variables in Time point 1 and time point II. One Way ANOVA was also computed to examine emerging differences across the groups.

Correlation between study variables across time point 1 and time point II. To analyse associations between study variables at both time points, results indicated that T1 emotional wellbeing was positively associated with emotional wellbeing T2 and psychological wellbeing T2 and significantly negatively with psychopathology T2. Similarly social wellbeing T1was found to have positive association with social wellbeing T2 and Psychological wellbeing T2.Psychological wellbeing T1 was non significantly associated with emotional and social wellbeing but significantly positively associated with psychological wellbeing T2 and significantly negatively with psychopathology T2. Moreover, psychopathology T1 and psychopathology T2 were also significantly positively associated. Prior research (Joshanloo, 2018) had found synchronous correlation between PWB 1 and SWB 1were significant. Similarly, more longitudinal stability has been found for PWB as autoregressive paths were found robust for PWB than for SWB. Equated with PWB, SWB levels are more intensely determined by affective experiences (Diener, 2014) that vary excessively across time and context. In contrast to affectivity, PWB relates to harnessing skills and abilities ostensibly towards higher levels of stability (Steger, 2016). These findings indicates that PWB more strongly predict increase or decrease in values in comparison to SWB. It has also been found that overall boost up in psychological functioning after dwelling eudiamonic activities both instantaneously and 3 months later while hedonic activities enhanced wellbeing only instantly (Huta & Ryan, 2010).

To see the pattern of association between personality traits T1 and T2, findings indicated that neuroticism 1 significantly negatively associated with Extraversion T2, AgreeablenessT1, conscientiousness T1 and T2. Neuroticism II significantly negatively related with extraversion T2, agreeableness T1, agreeableness T2, and conscientiousness T1, T2. Openness to experience 1 was positively associated with agreeableness T2. While Agreeableness T1 was significantly positively associated with

conscientiousness T2. Both conscientiousness T1 and T2 were significantly positively associated.

Among organizational culture traits T1 and T2, Involvement T1 was significantly positively associated with both T1 and T2 consistency, adaptability, mission. Similarly, consistency 1 was positively related to T1 and T2 adaptability, consistency and mission. Adaptability T1 and Mission T1 were also significantly positively associated with adaptability 2 and mission 2.

Predictive relationship between Time point 1 and Time point II study variables. To see predictive role of personality traits T1 on positive mental health 2, neuroticism Time 2, extraversion Time 2, openness to experience Time 2, agreeableness Time 2 and conscientiousness, Time 2 demographics were controlled and were entered at step 1. Findings revealed of hierarchical multiple regression revealed that at stage one, demographic variables significantly contributed to the regression model, $F_{(5,203)} = 4.1**$). Controlling for neuroticism 2, extraversion 2, openness to experience 2, agreeableness 2, and conscientiousness 2, the neuroticism 2 negatively predicted Positive mental health ($\beta = -.19$) and conscientiousness T2 predicted ($\beta = .17, p<.05$) which explained 12 % of variation in Positive mental health 2 and this change in R^2 was significant, $F_{(9, 199)} = 3.01, p < .05$. Adding the predictors to the regression model explained an additional .04 % of the variation in Positive mental health 2. Conscientiousness Time 1 significantly predicts ($\beta =.35, p <.05$) the Time 2 positive mental health. This change in R^2 was significant, $F_{(15, 193)} = 2.60, p < .01$. From Time variables, together the independent variables accounted for 37% of the variance in Positive mental health 2.

In line with the two-continuum model assumption of mental health and mental illness on two distinct continua, positive mental health predicts not only levels of psychopathology but also physical health. Longitudinal studies (Keyes, Dhingra, & Simoes, 2010) explored relationship between positive mental health and psychopathology over period of time and found positive mental health levels predict psychopathology later in time. The absence or low level of psychological well-being appeared to be a considerable risk factor for depression (Wood & Joseph, 2009). Moreover it has been anticipated that prevalence and incidence of major depressive

disorders, panic disorders, and generalized anxiety disorders ten years later are directly linked variation in positive mental health levels (Keyes et al., 2010). Despite of the extensive empirical evidences on predictors and outcomes of social and psychological wellbeing, there remain uncertainty with regard to the magnitude and direction of the causal relationship between these constructs (Joshanloo, 2018). Findings established large autoregressive effects demonstrating high degree of stability in social and psychological wellbeing over time. Nevertheless, level of stability came out to be higher for psychological than social wellbeing. Though psychological wellbeing irrefutably predicted increases in social wellbeing over time, the prospective effects of social on psychological wellbeing were inconsistent (i.e., positive, negative, or non-significant) across time points. Empirical evidence has suggested psychological wellbeing to be more vigorous and reliable precursor of future well-being than SWB.

Comparison of positive mental health, personality traits, organization culture traits, psychopathology across time point 1 and time point II. Results of paired sample t test showed statistically significant increase in social wellbeing, openness to experience from time point 1 to time point II. However, statistically significant decline was observed in conscientiousness from time point 1 to time point II. Though, no statistically significant decline for emotional, psychological wellbeing, neuroticism, agreeableness, extraversion, involvement, consistency, adaptability and mission had been found. To see the gender difference in study variables across time points 1 and 2, significant increase in social wellbeing and adaptability has been found for men. Emotional wellbeing and psychological wellbeing increased in Time 2. Moreover, in women the decline was on emotional wellbeing, both social and psychological wellbeing increased on time2. While, women has shown statistically significant increase in openness to experience scores from time 1 to time 2.

Moreover, results of analysis of Variance indicated that men scored higher on social wellbeing at time point 2 as compared to women though women social wellbeing was found higher for females at time point 1. On agreeableness both males and females values declined from time point 1 to time point 2. Analysis of Variance showed a statistically significant difference at $P < .05$ level in social wellbeing for four groups $(F (2, 222) = 6.42, P <.05, \eta^2 =.02)$. Post hoc comparisons using LSD indicated that

the mean scores for men T1 was significantly different from men T2.Furthermore, statistically significant mean score differences at $P < .05$ in agreeableness for men from time point 1 to time point II.

Limitations and Suggestions

There are some of the limitations of the time point II of the present study. At time point II, attrition rate of the respondents was quite high. Since longitudinal research designs are prone to attrition, high dropout rate might affect the findings. Nevertheless the differential drop out analysis of the Time point 1 and Time point II analysis showed that drop out sample was not significantly different from the engaged sample. Secondly only self-report measures were utilized for measuring variables of interest, a single method reliance might not be able to collect unbiased information. For the present study retrospective accounts of respondents on positive mental health, psychopathology were gathered which might be susceptible to recall biases and reporting of the distorted information. Another factor that might mitigate the findings was the element of boredom and practice effect as same respondents completed the previously administered instruments booklet. Since present study lacked financial assistance multiple sources of data collection could not be employed. One important factor was timings between the data collection phases (Time points), longitudinal studies usually employ ample time distancing in measuring variables of interest to draw sustainable causal inferences and also to determine pattern of stability and change among the study variables. The Time point II of the present study was executed approximately with a gap of six months, such small interval difference may not yield a concrete effects in terms of stability and change in the study variables.

Nonetheless, future indigenous research should focus on employing a random sampling approach to increase generalizability of research findings. Similarly in-depth analysis of psychosocial correlates that impact levels of positive mental health and psychological distress would initiate a foundation for devising interventions for enhancing positive mental health. Additional information such as important life events, individual gains and losses during these time points should also be analysed for gaining

a deeper and richer knowledge of the factors that affect employee's wellbeing and psychological distress. Since psychological wellbeing and other wellbeing indicators act as protective factor for coping with the life challenges. The present study set the base for future research in terms of exploring and illuminating the indigenous literature on sharing the current scenario regarding the dynamic interactive effects of the personality traits and organizational environment on positive mental health of employees.

Conclusion

Findings of Time point 2 had indicated pattern of association between study variables over a period of time. Overall there was decline in mean values of conscientiousness among employees from time point 1 to time point 2. However, level of social wellbeing and adaptability has increased among males while females experienced enhanced involvement in intellectual creative endeavors, satisfaction of curiosity from time point 1 to time point 2. Finding also indicated a considerable amount of variance contributed by personality traits T1 on positive mental health levels of employees at T2 while keeping personality traits T2 constant.

STUDY II: TIME POINT III

Objectives

The broad objective of this phase were as follows

1. To analyze pattern of growth i.e., stability or change within study variables by latent growth curve modeling over period of time (i.e., Time point III).
2. To assess decline or stability within positive mental health levels.
3. To explore pattern of change or stability within psychopathology over time.
4. To examine stability or change within Personality traits and organizational culture traits across three time points.
5. To explore group differences on study variables across three time points.

Sample

Sample of time point 3 consisted of ($N=178$) professionals serving in diverse work settings, telecommunication ($n=12$), health sector ($n=31$), consultancy companies ($n=36$), bankers ($n=59$), teachers ($n=38$). Their age range (24-60) mean age (M=34.28, $SD=7.02$), male ($n=95$), females ($n=81$). Their monthly income ranged from Rs. 15-18000/- to above one lac. The research participants that responded during time point 2 were contacted again. Participants included in time point 3 met inclusion criteria of minimum work experience of at least six months, with work experience ranged from 1 to 40 years. Purposive sampling technique was used for approaching personnel from different work organizations located at Rawalpindi, Islamabad and Lahore. (Organizations names were listed in Appendix (H)

Table 74

Frequency and percentages of the study demographics of Time Point III (N=178)

Variables	*F*	%
Gender		
Male	95	53.4
Female	81	45.5
Missing System	1	.6
Marital Status		
Married	106	59.6
Unmarried	63	37.6
Missing System	5	2.8
Education		
PhD/FCPS/FRCP	6	3.4
MS/M-Phil	17	9.6
Masters/M.Sc./MA/MBA	76	42.7
Bachelors/MBBS/B.Sc./BHons/BA/B.com/BDS	68	38.2
F.A/F.sc/I.com	10	5.6
Missing system	1	.6
Years of experience		
1-2 years	27	15.2
3-6 years	27	15.2
6-10 years	52	29.2
>10	57	32.0
Missing System	14	7.9
Monthly income		
Rs.15-25000	23	12.9
Rs 25-35000	49	27.5
Rs 35-50000	45	25.3
>50,000	29	16.3
Above 1 lac	18	10.1
Missing system	14	7.9
Work Organization		
Bankers	59	33.1
Telecommunication	12	6.7
Doctors	31	17.4
Consultants	36	20.2
Teachers	38	21.3
Missing System	2	1.1

Instruments

Measures which were administered at time point 2 were used for time point 3

1.   Demographic sheet
2.   Mental Health Continuum-Short Form (MHC-SF; Keyes 2005)
3.   Denison Organization Culture Survey Questionnaire (DOCS; Denison,2000)
4.   NEO-FFI Personality Inventory (NEO-FFI; McCrea & Costa, 1992)
5.   Brief Symptom Inventory (BSI; Derogattis, 1983)

Note. The details of instruments has been reported in phase-I.

Procedure

Procedure followed during time point 3 was quite similar with time point 2. All the respondents who endorsed their willingness for participation and returned questionnaire booklets at time point 2 were contacted again. They were finally briefed about nature of longitudinal design and repetitive need for answering same questionnaire items over three time points. This time same procedure was followed to instruct respondents regarding the need to thoroughly read each statement of the given booklet, and provide genuine and honest responses to all the items of instruments. They were assured about confidentiality of information shared by them. Their participation in research endeavor was greatly appreciated and letter of thanks were handed over to the respondents for continued cooperation and patience over an extended period of time.

Results

Descriptive statistics were calculated to determine normality of variables scores. Moreover, bivariate correlation coefficients were determined to find out pattern of relationship between study variables across three time points. Paired sample t-test was computed for analyzing mean differences between times point 2 and time point 3 variables. Moreover, longitudinal analysis (repeated multivariate analysis, growth curve modeling, and autoregressive cross lagged analysis was done using Analysis of Moment Structures (AMOS 19). Repeated multivariate analysis were done on SPSS 21.

Table 75

Descriptive statistics and univariate normality for the main study variables time III (N=178)

Variables	Items No.	α	*M*	*SD*	Minimum	Maximum	Skewness	kurtosis
MHC-SF	14	.81	57.76	10.68	24	84	-.326	-.319
EWB	3	.89	12.62	3.57	3.00	18.00	-.612	-.319
SWB	5	.72	18.65	4.51	7.00	30.00	-.094	-.409
PWB	6	.78	26.16	5.32	9.00	36.00	-.560	-.461
BSI	53	.98	142.15	56.54	53.00	270.00	-.159	-.963
SOM	7	.89	18.10	8.01	7.00	36.00	.272	-1.01
OBC	6	.86	17.09	6.39	6.00	32.00	-.105	-.817
INSEN	4	.82	11.04	4.75	4.00	22.00	294	-.875
DEP	6	.86	15.05	6.93	6.00	33.00	.403	-.753
ANX	6	.84	16.08	6.52	6.00	33.00	.115	-.952
HOS	5	.85	13.68	5.96	5.00	26.00	.158	-1.197
PHANX	5	.87	13.47	6.34	5.00	28.00	.204	-.995
PARID	5	.80	14.96	5.50	5.00	28.00	.033	-.752
PSY	5	.80	13.68	5.71	5.00	28.00	.246	-.732

Note. EWB=Emotional wellbeing, PWB=Psychological wellbeing, SWB=Social wellbeing, SOM=Somatization, OBC=Obsessive Compulsive, INSE*N*=Interpersonal sensitivity, DEP=Depression, ANX=Anxiety, HOS=Hostility, PHANX=Phobic anxiety, PARID=Paranoid Ideation, PSY=Psychoticism

Table 75 shows alpha coefficient, mean, standard deviations, and skewness and kurtosis details. Table 53 indicates alpha reliability for the scales range from .72 to .98. All the scales have shown good alpha reliabilities above .70. The study variables shows normal distribution having skewness values in acceptable range. The values of skewness and kurtosis reveal the normal distribution of the data. These statistics are clearly indicates instruments are measuring their respective constructs reliably.

Table 76

Correlation matrix among the subscales of Mental Health continuum and psychopathology for time point 1, 2 and 3 (N=178)

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.Ewb 1	-	.45**	.52**	.15*	.11**	.22**	.12	.14	.18**	.-28**	-.09	-.07	.77**	.21**	.19**
2.Swb 1		-	.37**	-.07	.23**	.15*	-.10	.23*	.11	.10	.07	.10	.75**	.15*	.12
3.Pwb 1			-	.04	.10	.22**	.04	.08	.20**	-.31**	-.13	-.10	.85**	.13	14
4.Ewb 2				-	.41**	.46**	.96**	.45**	.48**	-.02	-.25**	-.22**	.04	.74**	.75**
5.Swb 2					-	.42**	.38**	.96**	.44**	.06	.06	.08	.15*	.78**	.75**
6.Pwb 2						-	.47**	.43**	.98**	.02	-.23**	-.22**	.24**	.83**	.82**
7.Ewb 3							-	.42*	.50**	-.04	-.27**	-.25**	.02	.72**	.76**
8.Swb 3								-	.44**	.04	.02	.05	.18*	.78**	.78**
9.Pwb 3									-	.01	-.22**	-.22**	.21**	.84**	.84**
10.Psy 1										-	.21**	.18*	-.37**	.009	-.004
11. Psyc2											-	.99**	-.07	-.17*	-.20**
12. Psy 3												-	-.03	-.14	-.18**
13. Pmh 1													-	.20**	.19**
14.Pmh 2														-	.98**
15.Pmh 3															-

Note. Ewb = Emotional wellbeing time point 1 2 3, Swb = Social wellbeing time point 1 2 3, Pwb= Psychological wellbeing time point 1 2 3, Pmh =positive mental health time point 1 2 3, Psycho =psychopathology time point 1 2 3. *P> .01**, P> .05**

Table 77

Correlation matrix among the subscales of Mental Health continuum and Neo-FFI subscales for time point 1,time point 2,time point 3 (N=178)

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1. EWB 1	-	.06	.01	41**	.17	.17	.48**	.17	.15	-.34**	-.26*	-.08	.26**	.12	.05	-.005	.13	-.02	.21*	-.004	.06	.27**	.06	-.04
2 EWB 2		-	.88**	.004	49**	.49**	-.02	.49**	.50**	-.09	-.19	-.06	.07	.15	.05	-.01	-.03	.05	.20*	.22*	-.02	.002	.19	.12
3 EWB 3			-	-.01	.45**	.46**	-.01	.47**	.55**	-.07	-.20*	-.13	.09	.17	.04	.001	.01	.04	.14	.31**	-.04	.06	.25*	.10
4 SWB 1				-		.21*	.32**	.09	.09	-.13	-.09	.05	.14	.06	.14	.16	-.06	.19	.03	-.13	.24*	.15	.06	-.03
5 SWB 2					-	.88**	.01	.44**	.45**	-.10	-.07	.16	.02	-.04	.12	.01	.10	.26*	.25*	.01	.29**	-.09	-.02	.03
6 SBW 3						-	.08	.42**	.45**	-.13	-.08	.16	-.004	-.01	.17	.02	.10	.27**	.24*	-.03	.28**	-.04	-.02	.05
7 PWB 1							-		.18	-.27**	-.12	.09	.38**	.27**	.37**	.02	-.04	.14	.04	.03	.14	.51**	.24*	.25*
8 PBW 2								-	.96**	-.21*	-.26**	.01	.10	.22*	.27**	.09	-.18	.28**	.05	.25*	.15	.14	.31**	.35**
9 PWB 3									-	-.21*	-.28**	-.02	.12	.21*	.28**	.11	-.13	.26*	.05	.24*	.15	.15	.30**	.30**
10 NEU 1										-	.21*	.07	-.52**	-.31**	-.08	-.03	.009	-.044	-.28**	-.07	.02	-.35**	-.24*	-.03
11 NEU 2											-	.35**	-.26**	-.41**	-.03	-.04	.14	-.10	-.16	-.39**	.09	-.23*	-.38**	-.13
12 NEU 3												-	-.08	.008	-.61**	.009	-.03	-.57**	.007	-.20	.56**	-.02	-.26**	.44**
13 EXT 1													-	.30**	.12	.01	-.06	.06	.13	.22*	.01	.48**	.29**	.07
14 EXT 2														-	.48**	.27**	-.04	.32**	.12	.48**	.21*	.33**	.45**	.46**
15 EXT3															-	.19	-.08	.69**	.06	.11	.59**	.34**	.16	.72**
16 OPEX 1																-		.06	.03	.21*	.02	-.05	-.003	.04
17 OPEX 2																	-	-.23*	.07	-.02	.001	-.22*	-.21*	-.19
18 OPEX 3																		-	-.08	.04	.71**	.18	.14	.62**
19 AGREE 1																			-	.11	-.06	.08	.17	.13
20 AGREE 2																				-	-.12	.12	.51**	.32**
21 AGREE 3																					-	.06	.01	.51**
22 CONCI 1																						-	.40**	.25*
23 CONCI2																							-	.42**
24 CONCI 3																								-

Note. Ewb= Emotional wellbeing 1 2 3, Swb= Social wellbeing 1 2 3, Pwb = psychological wellbeing 1 2 3, NEU = Neuroticism 1 2 3, EXT = Extraversion 1 2 3, OPEX = Openness to experience 1 2 3, AGREE = Agreeableness 1 2 3, CONCI=conscientiousness 1 2 3.

Table 76 shows the trend of magnitude and direction of relationship among the subscales of positive mental health i.e., (emotional wellbeing, social wellbeing and psychological wellbeing) at time point 1, 2 and 3 with the psychopathology 1, 2 and 3. All the subscales MHC-SF are significantly correlated across time point 1, 2 and 3 except for social wellbeing 1 and psychological wellbeing 1 which are non-significantly correlated with emotional wellbeing 2. All subscales of MHC-SF i.e., emotional wellbeing 1, 2, 3 social wellbeing 1, 2, 3 and psychological wellbeing 1, 2, 3 show weak negative correlation with psychopathology 1, 2 and 3 across time.

Table 77 displays the correlation matrix between MHC-SF subscales i.e. emotional, social, psychological wellbeing and neuroticism, extraversion, openness to experience, agreeableness and conscientiousness. Emotional wellbeing 1 is statistically negatively significantly associated with neuroticism and neuroticism T1 T2, significantly positively with extraversion and conscientiousness T1. Emotional wellbeing 2 is significantly positively associated with social well, psychological wellbeing T2 T3, agreeableness T1 T2. Emotional wellbeing T3 is significantly associated with social wellbeing psychological wellbeing T2 T3, agreeableness and conscientiousness T2. Social wellbeing 1 is significantly positively correlated with social wellbeing, agreeableness T3, psychological well l being T1. Social wellbeing T2 is significantly positively correlated with psychological wellbeing T2 T3, openness to experience T3, and agreeableness T1.Social wellbeing T3 is significantly positively correlated with psychological wellbeing T2 T3, openness to experience T3, agreeableness T1 T3. Psychological wellbeing T1 has shown significant positive correlation with neuroticism T1, extraversion, and conscientiousness T1 T2 T3. Psychological wellbeing 2 is significantly positively correlated with extraversion T2 T3, openness to experience T3, agreeableness T2, conscientiousness T2 T3 and significantly negatively with neuroticism T1 T2. Psychological wellbeing T3 is significantly positively associated with extraversion, conscientiousness and agreeableness T2 T3 and openness to experience 3. Neuroticism T1 is significantly positively correlated with neuroticism T2 and significantly negatively with extraversion and conscientiousness T1T2, and agreeableness T1. Neuroticism T2 has significant association with neuroticism T3, significant negative with extraversion and conscientiousness T1 T2. Neuroticism T3 has significant negative correlation with

openness to experience, agreeableness T3, and conscientiousness 2. Extraversion 1 has significant positive association to extraversion agreeableness T2 and conscientiousness T2 T3. Extraversion T2 has significant association with extraversion T3, openness to experience T1 T3, agreeableness T2 T3 and conscientiousness T1 T2. Extraversion T3 has positive correlation with openness to experience, agreeableness T3, conscientiousness T1 T3.Openness to experience T1 has significant positive correlation with agreeableness T2. While Openness to experience 2 has significant positive correlation with openness to experience T 3 and conscientiousness T1 T2. Openness to experience T3 has shown significant positive correlation with agreeableness T3 and conscientiousness T3. Agreeableness T2 T3 has significant positive correlation with conscientiousness T2 T3.

Table 78

Correlation among MHC-SF subscales and DOCS subscales at Time point 1, 2 and 3 (N=178)

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1EWB1	-	.06	.01	.41**	.01	.17	.48**	.17	.15	.15	-.05	-.03	.02	-.072	.06	.08	.03	.11	.14	-.08	.05
2EWB.2		-	.88**	.004	.49**	.49**	-.02	.49**	.50**	-.16	.10	.14	-.09	.25**	.28**	.006	.15	.11	-.03	.17**	.15
3EWb3			-	-.01	.45**	.46**	-.01	.47	.55	-.18	.12	.14	-.05	.29	.29	.02	.17	.065	.03	.20	.14
4SWB1				-	.32**	.21**	.32**	.09	.09	.33**	-.14	-.10	.21**	-.104	-.019	.17	.15	.22**	.24**	-.08	.03
5SWB2					-	.88**	.01	.44**	.45**	.02	.03	.08	.01	.13	23	-.03	.14	.24**	-.041	.07	.11
6SWB3						-	.08	.42**	.45**	.01	.02	.05	.02	.12	.25**	-.04	.10	.23**	-.07	.08	.11
7PWB1							-	.19	.18	.22**	.084	.11	.06	.10	.14	.16	.14	.21**	.27**	.14	.19
8PWB2								-	.96**	.04	.05	.05	-.002	.29**	.29**	.07	.17	.078	.02	.18	.17
9PWB3									-	.044	.05	.05	-.006	.31**	.30**	0.08	.15	.06	.03	.19	.14
10INVO 1										-	.17	.13	.63**	.23**	.19	.66**	.23**	.15	.58**	.16	.19
11 INVO 2											-	.92**	.089	.62**	.62**	.18	.59**	.56**	.12	.62**	.61**
12 INVO 3												-	.083	.57**	.62**	.20	.59**	.59**	.17	.62**	.61**
13 CONCI 1													-	.22	.18	.65**	.12	.04	.61**	.08	.12
14 CONCI 2														-	.85**	.21**	.50**	.41**	.25**	.56**	.49**
15CON3															-	.23**	.53**	.59**	.26**	.54**	.55**
16ADAP1																-	.19	.07	.71**	.07	.14
17ADAP.2																	-	.79**	.22**	.67**	.62**
18ADAP3																		-	.12	.58**	.59**
19MISS1																			-	.14	.15**
20MISS 2																				-	.77
21MISS3																					-

Note. EWB =Emotional wellbeing 1 2 3, SWB = Social wellbeing 1 2 3, PWB= Psychological wellbeing 1 2 3, INVO= Involvement 1 2 3 , CO*N*= Consistency 1 2 3, ADAP= Adaptability 1 2 3, MISS = Mission 1 2 3

Table 78 presents the correlation matric between Mental Health Continuum subscales and organizational culture traits across the three time points. Emotional wellbeing was positively correlated with social wellbeing and psychological wellbeing at three measurement points. Emotional wellbeing 2 is significantly positively correlated with consistency mission at time point 2 measurements. Social wellbeing was significantly positively correlated with psychological wellbeing, involvement, consistency, and mission at time point 1 while with adaptability T3. Social wellbeing was positively correlated with adaptability at T2 while with consistency and adaptability at T3. Psychological wellbeing was significantly positively with involvement T2 mission at T1, positively correlated with, consistency 2 3 at T2. However, Psychological wellbeing has shown significant positive correlation with consistency T1 T2. While Involvement has yielded significant positive correlation with consistency 1 2, adaptability 1 2 and mission1 at time point 1, whereas significantly positively correlated with involvement 3, consistency 2 3, adaptability 2 3 and mission 2 3 at T2. Consistency, mission and adaptability were positively correlated with each other at T1, T2 and T3.

Growth curve model and autoregressive cross lagged models. The pattern of emerging change and stability in positive mental health levels and psychopathology across three time points was estimated through growth curve model and autoregressive cross lagged models. The reciprocal relationship between positive mental health and psychopathology was assessed through autoregressive cross lagged model (AMOS 21). The major strength of cross lagged panel analysis entails estimation of autoregressive effects (by associating a variable at former time points to itself at late time points) (Little, 2013). Cross lagged panel analysis allows looking at autoregressive effects (associating) and cross lagged effects (connecting two different variables across time points). Values of autogressive estimate effects provide insights regarding the long term stability of the concepts. The cross lagged component of the model provides information about direction of relationship between the two concepts (Newson, 2015)
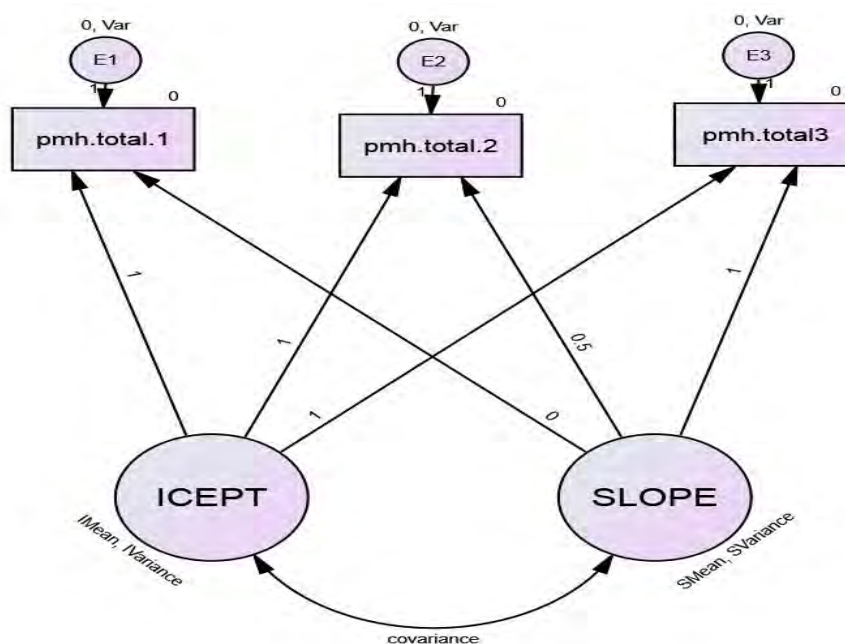
Figure 19. Growth curve model of positive mental health

Table 79

Model Fit Indices of Growth curve model and cross lagged model of positive mental health and psychopathology (N=178)

Models	χ^2 *(df)*	CFI	TLI	IFI	RMSEA
Growth Curve Model –PMH					
Default model	462.95 (3)	.25	.25	.25	.25
Model –I	46.19 (2)	.92	.89	.92	.35
Growth Curve Model –PSYC					
(Default model)	2479.35 (3)	.40	.40	.40	.68
Model-I	34.37 (2)	.99	.99	.99	.10
Model –II	21.01 (1)	.99	.99	.99	.09
Cross lagged model	6.142(5)	.99	.99	.99	.03

Note. TLI = Tucker-Lewis index, CFI = comparative fit index, RMSEA = root mean square error of approximation

Table 79 indicates model fit indices of growth curve model of positive mental health (MHC-SF), the fit indices for the default model are poor. After adding error variances between e1 and e2, model improved but RMSEA=.35 is quite above the required range. In model 3, error variances are added only between e2 and e3, model fit improved drastically indicating the perfect values for all the model fit indices including RMSEA=.00. Fit indices for the default model of psychopathology are poor, after adding covariance's fit indices are

well in range except for RMSEA=.10, which is not within the recommended .05. In model, error variances are added between e1 and e2, e2 and e3. After adding error variances between e2 and e3, model fit (Model-II) improved. Moreover, cross lagged model provided the good model fit indices except RMSEA value which is .09. Thus the association between positive mental health and psychopathology can be interpreted as bidirectional as one increases the other decreases.
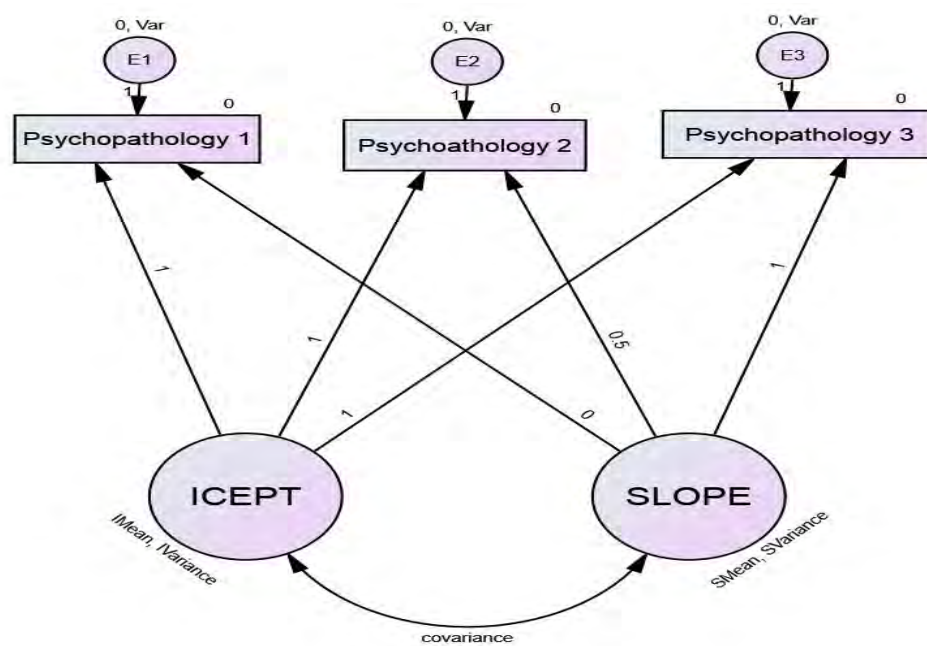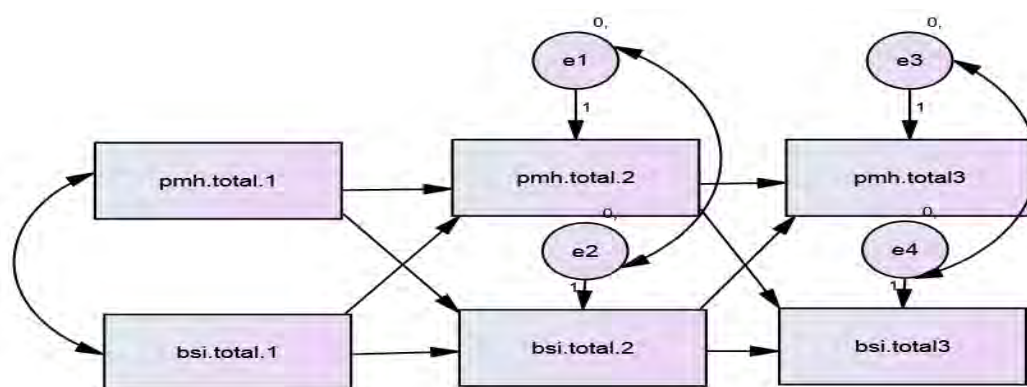

Figure 20. Growth curve model of psychopathology

Cross lagged panel model of PMH and BSI

Figure 21. Cross lagged model of positive mental health and psychopathology

Table 80

Standardized estimated of cross lagged model (N=178)

Parameter			Estimate	S.E.	C.R.
PMH 2	<--	PMH 1	.230**	.023	9.95
PSYC 2	<--	PSYC 1	.228**	.025	9.04
PSYC 2	<--	**PMH 1**	**-.048**	.120	-.404
PMH 2	<--	PSYC 1	.016	.005	3.18
PMH 3	<--	**PSYC 2**	**.952****	.004	235.7
PSYC 3	<--	PSYC 2	.959**	.008	125.5
PSYC 3	<--	**PMH 2**	**.068**	.039	1.73
PMH 3	<--	**PSYC 2**	**-.004****	.001	-4.7

Note. PMH=Positive Mental Health, PSYCS= Psychopathology, S .E= standard error, C.R= critical ratio, cross lagged effects are shown in bold.

Table 80 depicts the significant and non-significant paths between positive mental health time 2 and psychopathology 3. The two autoregressive paths are significant between positive mental 1 and positive mental health 2, and between psychopathology 1 and 2. The cross lagged paths from psychopathology 2 to positive mental health 3 indicating that higher the level of psychopathology at time 2, higher the level of positive mental health at time.

Table 81

Standardized estimates of Positive mental health and psychopathology across time points (N=178)

Variables	Estimate	*S.E.*	C.R.
PMH 1	55.96***	.822	68.056
PSYC I	141.68***	3.911	36.225
PMH 2	41.97***	5.501	7.629
PSYC 2	117.79***	28.583	4.121
PMH 3	4.06***	.833	4.876
PSYC 3	-.855	3.046	-.281

Note. PMH=Positive mental health, PSYC=Psychopathology

Table 81 shows intercept estimates of positive mental health at time point 1, 2 and 3 are statistically significant, this indicates that these variables have changed over the time period ranging from time point 1 till time point 3. Similarly, intercept of psychopathology 1, and psychopathology 2 represent changes in the level of psychopathology at time point 1 and time point 2 measurement points while no changes has been detected in psychopathology at time point 3. Overall psychopathology has decreased from time point 1 to time point 3.

Table 82

Mean of intercept and slope for positive mental health, personality traits, organizational culture traits and psychopathology (N=178)

Parameters	Estimate	S.E.	C.R.
ICEP PMH	56.28***	.742	75.8
SLOPE PMH	1.56***	.282	5.5
ICEPT PSYC	144.8***	1.03	140.5
SLOPE PSYC	-4.65***	.820	-5.6
ICEP NEU	36.11***	.3555	101.5
SLOPE NEU	-.630	.562	-1.12
ICEP EXT	38.10***	.367	103.7
SLOPE EXT	1.44	.599	2.41
ICEP OPEXP	34.66***	.286	121.0
SLOPE OPEXP	4.45***	.511	8.72
ICEP AGREE	36.62***	.32	112.8
SLOPE AGREE	1.59*	.543	2.93
ICEP CONCI	42.20***	.462	91.2
SLOPE CONCI	-1.51*	.567	-2.6
ICEP INVOL	48.62***	.630	77.2
SLOPE INVOL	1.58*	.765	2.07
ICEP CON	48.05***	.433	111.0
SLOPE CON	.751	.675	1.11
ICEP ADAP	47.93***	.451	106.3
SLOPE ADAP	1.61	.724	2.22
ICEP MISS	49.72***	.549	90.6
SLOPE MISS	.768	.760	1.01

Note. PMH = Positive Mental Health, PSYC=psychopathology, NEU=Neuroticism, EXT = Extraversion OPEXP=Openness to experience, AGREE=agreeableness, CONCI=conscientiousness, INVOl=Involvement, CO*N*= Consistency, ADAP=Adaptability, MISS=Mission

Table 82 indicates significant mean intercept and slope for positive mental health and psychopathology which indicates that there is change in level of positive mental health from time point 1 till time point 3. Similarly level of psychopathology has also shown changed from time point 1 till time point 3. Mean Intercepts of neuroticism, extraversion, openness to experience, agreeableness, conscientiousness, involvement, consistency, adaptability and mission are found significant indicating a changes in the initial level of these traits. Similarly slope values of openness to experience,

agreeableness, conscientiousness, and involvement traits are found to be statistically significant difference across time points.

Table 83

Descriptive Statistics and t-test Results for MHC-SF subscales and BSI over Time 2 & Time point 3 (N=178)

Variables	Time 2		Time 3				95 % CL		
	M	*SD*	*M*	*SD*	*r*	*T*	*LL*	*UL*	*p*
EWB	2.21	3.65	12.60	3.57	.96*	-.532	-.253	-5.57	.00
SWB	18.59	4.77	18.65	4.51	.96**	.244	.127	-.667	.50
PWB	26.20	5.39	26.55	5.23	.98**	.509	-.185	-4.23	.00
PMH	57.24	10.99	57.84	10.6	.98**	-1.09	-.515	-5.49	.00
PSYC	146.4	56.84	141.8	56.6	.95***	1.23	3.36	4.27	.00
INVOL	49.00	8.09	50.46	8.23	.94***	-6.75	-1.68	-1.03	.00
CON	48.83	6.28	48.71	7.78	.85***	.375	-.498	.732	.70
ADAP	48.75	6.58	49.39	8.07	.80***	-1.73	-1.37	.090	.08
MISS	50.11	7.23	50.66	8.33	.82***	-1.50	-1.26	.170	.13
NEU	35.79	4.62	35.38	5.83	.38***	.896	-.482	1.28	.37
EXT	37.98	4.62	39.97	6.23	.46***	-4.43	-2.87	-1.10	.00
OPEXP	35.78	3.99	39.59	5.80	.21*	-6.40	-4.97	-2.63	.00
AGREE	36.63	4.30	38.64	5.30	.22*	-3.48	-3.15	-.873	.00
CONCI	41.63	5.68	40.68	5.50	.37***	1.96	-.004	1.89	.05
Men									
EWB	12.81	3.40	13.13	3.40	.95**	-.537	-.098	-2.87	.00
SWB	18.78	4.77	18.94	4.68	.96*	-.430	.113	-1.15	.25
PWB	26.25	5.77	26.60	5.58	.97**	.590	-.103	-2.83	.00
PMH	58.18	11.30	58.59	11.2	.92	-1.25	-.399	-3.83	.00
PSYC	146.90	56.15	142.5	57.2	.85	.890	2.87	3.77	.00
INVOL	48.85	8.39	50.05	8.46	92***	-3.64	-1.84	-.544	.00
CON	48.85	6.36	48.52	8.19	85***	.722	-.568	-1.21	.47
ADAP	48.77	6.77	48.57	9.01	.79***	.350	-.937	1.33	.72
MISS	49.76	7.28	50.19	9.09	.77***	-.728	-1.62	.751	.46
NEU	35.23	4.03	34.98	6.03	.35***	.390	.989	1.47	.69
EXT	37.96	4.40	39.50	5.44	.48***	-2.88	-2.61	-.479	.00
OPEX	35.32	4.16	39.28	6.01	.23*	-4.67	-5.63	-2.27	.00
AGREE	36.45	4.30	38.54	5.03	.12	-2.84	-3.55	-.633	.00
CONCI	41.53	5.74	40.54	5.43	.42***	1.58	-.253	2.23	.11
Women									
EWB	11.52	3.85	11.91	3.69	.96***	-.323	-.323	-5.83	.00
SWB	18.46	4.81	18.42	4.33	.97***	-.220	.270	.205	.83
PWB	26.21	4.97	26.43	4.81	.94***	-.576	-.139	-3.25	.00
PMH	56.20	10.66	56.76	10.1	96***	-1.21	-.429	-4.16	.00

Continued…

Variables	Time 2		Time 3				95 % CL		
	M	*SD*	*M*	*SD*	*r*	*t*	*LL*	*UL*	*p*
PSYC	146.36	58.23	141.5	56.5	72	.673	4.79	2.64	.01
INVOL	49.09	7.78	50.86	7.97	.95***	-6.63	-2.30	-1.24	.00
CON	48.87	6.26	48.98	7.35	.85***	-.384	-1.02	.693	.70
ADAP	48.72	6.44	50.38	6.78	.83***	-3.86	-2.51	-.804	.00
MISS	50.34	7.04	51.10	7.33	.90***	-2.06	-1.48	-.028	.04
NEU	36.40	5.20	35.81	5.62	.41***	.899	-.719	1.90	.37
EXT	37.97	5.03	40.53	7.06	.45***	-3.46	-4.04	-1.09	.00
OPEX	36.39	3.69	39.90	5.59	.20	-4.20	-5.17	-1.84	.00
AGREE	36.88	4.32	38.74	5.66	.33	-2.00	-3.71	-.013	.04
CONCI	41.69	5.67	40.80	5.63	.30	1.17	-.621	2.40	.24

Note. CI=Confidence Interval. EWB=Emotional wellbeing, SWB=Social wellbeing, PWB=Psychological wellbeing, PMH=Positive mental health, PSYC=Psychopathology, INVOL=Involvement, CO*N*=Consistency, ADAP=Adaptability, MISS=Mission, NEU=Neuroticism, EXT=Extraversion, OPEX=Opennesstoexperience, AGREE=Agreeableness, CONCI=Conscientiousness

In Table 83 Paired samples t-test showed a statistically significant decrease in Psychopathology scores from Time 2 to Time 3. Psychopathology scores were lower to 1.95 with a 95% confidence interval ranging from 1.23 to 3.36. The eta-squared statistic (.50) indicated a large effect size. As displayed in the same Table 77, there are statistically significant increase in social and psychological wellbeing at time 3 while for emotional, there was no significant decline from time point 1 till time point 3. Gender differences across time point 2 and 3 indicates statistically significant increase in all the three domains of positive mental health of males i.e., emotional, social and psychological wellbeing. However, emotional wellbeing of females declined from time point 1 to time point 2 and slight increased at time point 3.On the other hand, psychopathology scores decreased from time 2 to time 3. These findings supports hypotheses no 6 and 7. For males statistically significant differences are found on emotionally wellbeing, psychological wellbeing, involvement, extraversion, openness to experience and agreeableness, which has shown an increase in mean score from time 2 to time point 3 at p < .05. On the contrary significant mean differences are found for males on psychopathology as well but it decline over time from time 2 to time 3. For females, statistically significant mean differences are found on emotional wellbeing, psychological wellbeing, involvement, adaptability, mission, extraversion, openness to experience and agreeableness. As in men, females also have shown a declining trend in psychological distress from time 2 to time 3.

Table 84

Comparison and follow up Post Hoc analysis of Positive mental health, personality traits, organizational culture and psychopathology across Three Time Points (N =178)

Variables	Time point I (n= 622) M	SD	Time point II (n=225) M	SD	Time point III (n=178) M	SD	F	i-j	Mean Difference. (i-j)	S.E	95% CI LL	UL
											-.475	.605
EWB	12.59	3.49	12.52	5.53	12.60	3.57	.034	ns	ns	ns	-.610	.582
								T1<T2	-.942*	.3877	-170	-.182
SWB	18.20	5.13	19.15	4.84	18.65	4.51	3.06*	T2 >T3	-.446	.427	-1.28	.391
											-.653	1.00
PWB	2.17	1.11	2.30	1.09	2.90	0.98	27.05***	ns	ns	ns	-1.03	.793
											-.987	.662
NEU	35.89	5.53	36.05	4.31	35.42	5.84	.735	ns	ns	ns	-.440	1.37
								T1>T2	1.50*	.412	.697	2.31
EXT	38.94	5.13	37.44	4.62	39.97	6.21	12.07***	T3>T2	-1.02	.458	-1.92	-.127
								T2>T1	-.083	.354	-.771	.613
OPEX	35.82	4.27	35.91	3.88	39.60	5.79	48.70***	T3>T2	-3.77*	.393	-4.55	-3.00
								T1>T2	.491	.365	-.225	1.20
AGREE	36.72	4.59	36.23	4.22	38.66	5.29	14.98***	T3 >T2	-1.93*	.404	-2.73	-1.14
CONCI	42.62	6.29	40.57	5.70	40.68	5.48	12.97***	T1>T2	2.05*	.474	1.12	2.98
								T3>T2	1.94*	.525	.912	2.97

Variables	Time point I		Time point II		Time point III		F	i-j	Mean Difference. (i-j)	S.E	95% CI	
	M	SD	M	SD	M	SD					LL	UL
INVO	49.83	8.92	48.28	8.19	50.45	8.21	3.65*	T1> T2	1.54*	.686	.199	2.89
								T3>T2	.627	.756	-2.11	.858
CON	49.78	7.37	48.13	6.12	48.72	7.76	4.75	ns	ns	ns	.543	2.76
											-.169	2.29
ADAP	48.68	6.61	48.47	6.30	49.40	8.05	.980	ns	ns	ns	-.841	1.26
											-1.88	.454
MISS	50.96	7.76	49.47	7.23	50.69	8.31	2.93	ns	ns	ns	.274	2.68
											-1.06	1.60
PSYC	129.7	50.75	150.3	52.34	142.1	56.54	12.00***	T1<T2	-20.5*	4.30	-28.96	-12.06
								T3<T2	-12.36	4.85	-21.90	-2.82

Note. EWB=Emotional wellbeing, PWB=Psychological wellbeing SWB=social wellbeing, INVOLV= Involvement, Extra=Extraversion, OPEN EXP=Openness to experience, AGREE=Agreeableness, CONCIE=Conscientiousness, INVO=Involvement, CO*N*=Consistency, ADAP=Adaptability, MISS=Mission, PSYC=Psychopathology

Table 84 displays the results of Analysis of variance for MHC-SF subscales, DOCS, Neo-FFI, and BSI subscales. Of MHC-SF subscales, statistically significant difference are found for social wellbeing. Social wellbeing has increased from time point 1 to time point 2 but again decreased in time point 3. Among DOCS subscales significant difference across time points are found for involvement subscale, involvement mean deceased in time 2 but again shown an increase in time point 3. For Neo-FFI subscales, significant differences across time are found for extraversion, openness to experience, agreeableness and conscientiousness. Extraversion, openness to experience, agreeableness are found to decrease in time 2 but improved shows an upsurge in time point 3. On the contrary, conscientiousness mean has decreased over time, from time point 2 to time point 3, has shown slight increase of 11 points. Psychopathology mean increase from time 1 to time point 2 but shows a sudden decline in time 3. For viewing the in-depth differences on study variables across time points (see Table 84).

Table 85
Posthoc comparison of MHC-SF, NEO-FFI, DOCS and BSI subscales across Time Points (N=178)

Dependent Variable	(I) Time	(J) Time	Mean Difference (I-J)	S. E	95% Confidence Interval LL	UL
SWB	1	2	-.9428*	.3877	-1.703	-.1820
		3	-.4469	.4271	-1.285	.3913
	2	1	.9428*	.3877	.1820	1.703
		3	.4959	.5012	-.4877	1.479
	3	1	.4469	.4271	-.3913	1.285
		2	-.4959	.5012	-1.479	.4877
INVO	1	2	1.546*	.6862	.1997	2.893
		3	-.6272	.7568	-2.112	.8581
	2	1	-1.546*	.6862	-2.893	-.199
		3	-2.173*	.8735	-3.888	-.4594
	3	1	.6272	.7568	-.8581	2.112
		2	2.173*	.8735	.4594	3.888

Dependent Variable	(I) Time	(J) Time	Mean Difference (I-J)	S. E	95% Confidence Interval LL	UL
EXTRA	1	2	1.506*	.4122	.6975	2.315
		3	-1.027*	.4584	-1.927	-.1279
	2	1	-1.50*	.4122	-2.315	-.6975
		3	-2.534*	.5322	-3.578	-1.48
	3	1	1.027*	.4584	.1279	1.927
		2	2.53*	.5322	1.489	3.578
OPEEXP	1	2	-.0831	.3548	-.7794	.6132
		3	-3.77*	.3937	-4.550	-3.005
	2	1	.0831	.3548	-.6132	.7794
		3	-3.694*	.4572	-4.592	-2.797
	3	1	3.77*	.3937	3.005	4.550
		2	3.694*	.4572	2.797	4.592
AGREE	1	2	.491	.3653	-.2254	1.208
		3	-1.938*	.4046	-2.732	-1.144
	2	1	-.4915	.3653	-1.208	.2254
		3	-2.430*	.4712	-3.354	-1.505
	3	1	1.938*	.4046	1.144	2.732
		2	2.43*	.4712	1.505	3.354
CONCIE	1	2	2.05*	.4745	1.124	2.987
		3	1.94*	.5255	.9125	2.975
	2	1	-2.05*	.4745	-2.987	-1.124
		3	-.111	.6115	-1.312	1.088
	3	1	-1.943*	.5255	-2.975	-.9125
		2	.1119	.61151	-1.088	1.312
PSYCHO	1	2	-20.514*	4.306	-28.96	-12.06
		3	-12.364*	4.858	-21.90	-2.827
	2	1	20.514*	4.306	12.06	28.96
		3	8.150	5.425	-2.49	18.79
	3	1	12.36*	4.85	2.82	21.90
		2	-8.15	5.42	-18.79	2.49

Note. SWB=social wellbeing, INVOLV= Involvement, Extra=Extraversion, OPEN EXP=Openness to experience, AGREE=Agreeableness, CONCIE=Conscientiousness, CL= confidence Interval, LL=Lower Limit, UL=Upper Limit, S.E=Standard Error ***p<.001, **P<.01, *p<.05, p>.5= ns

Table 85 post hoc comparisons using LSD displays statistically significant mean differences for social wellbeing, extraversion, openness to experience, agreeableness, conscientiousness, involvement and psychopathology. On social wellbeing dimension, significant mean differences were found from time 1 to time 2. While on extraversion, significant mean differences were found from time 1 to time 2,

and also time 2 and time 3. For openness to experience significant difference between time 1 and time 2, between time 2 and time 3. For agreeableness, significant mean differences were found from time point 1 to time 3, time 2 to time 3 at $p < .05$. On conscientiousness, significant mean differences were reported from time 1 and 2 and from time 2 to time 3. On involvement trait, significant mean differences were ascertained from time 1 to time 2 and from time 2 to time 3. For psychopathology, significant mean differences were found from time 1 to time 2 and time 2 and time 3 at $P < .05$.

Graphical Presentation of Growth patterns of Study Variables across three Time Points
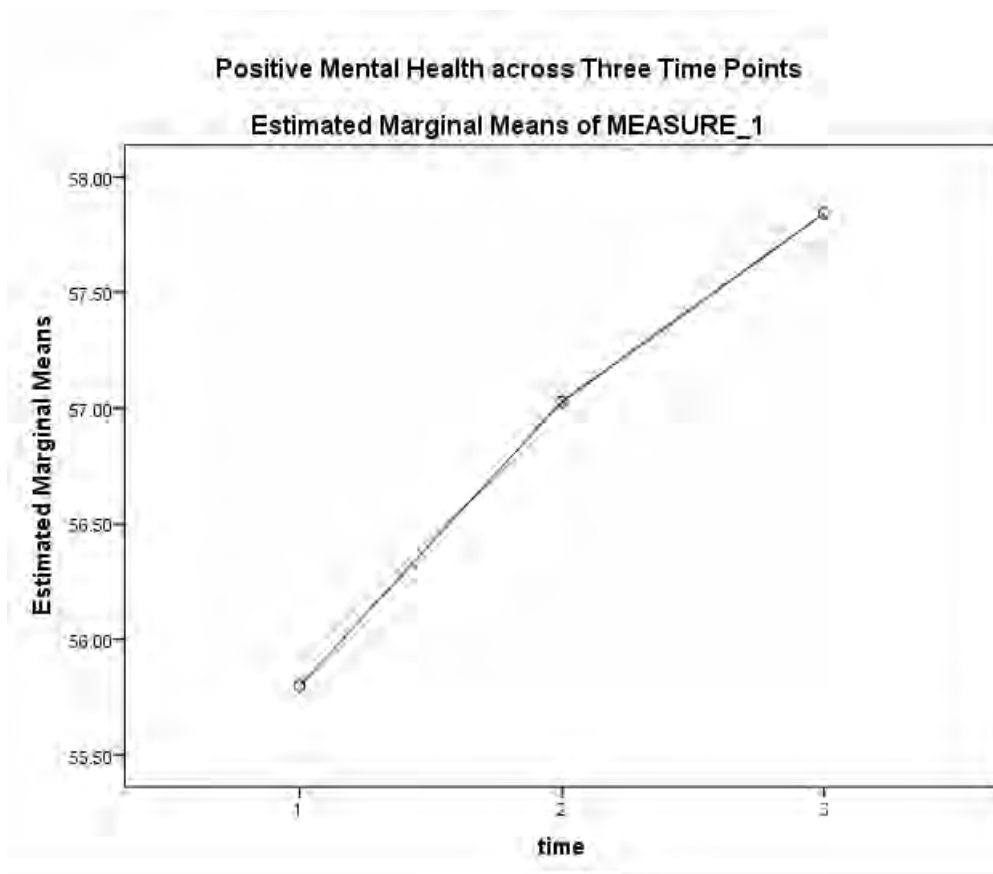
Figure 22. Depicting pattern of growth in positive mental health across three time points

Figure 22 depicts a gradual increase in the positive mental health among employees over a period of time. There was marked growth in positive mental health from time point 2 to time point 3.
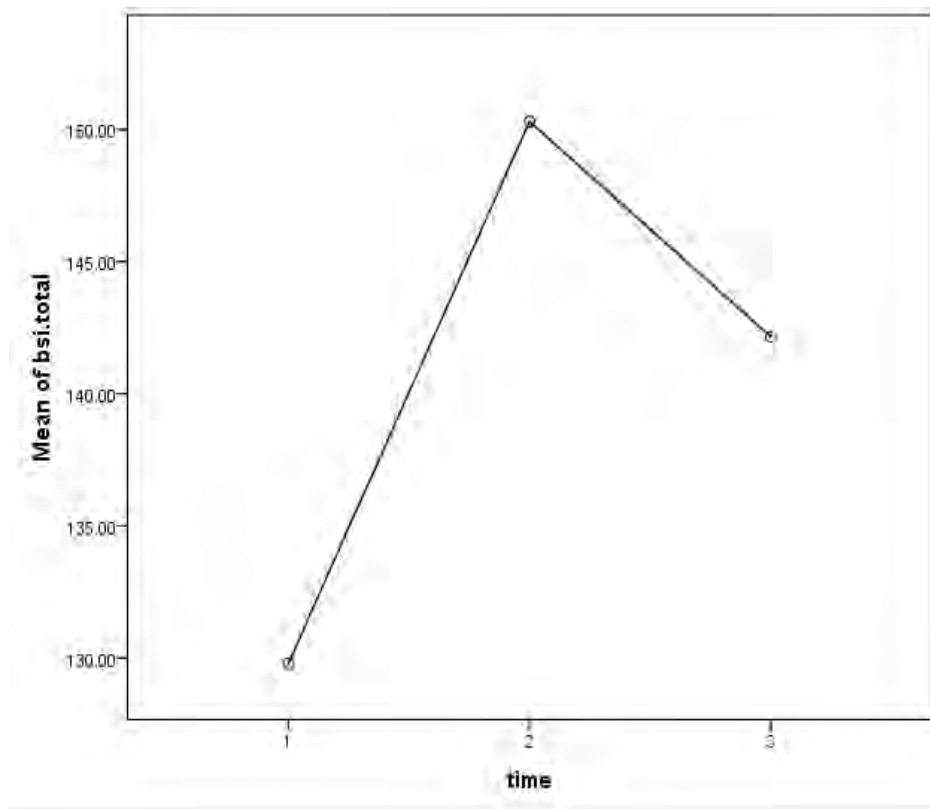
Figure 23. Change in level of psychological distress across time

Figure 23 depicts a marked decrease in psychological dysfunction among employees across time points. Initially rise in psychopathology was dominant which was later curtailed from time point 2 to time point 3.
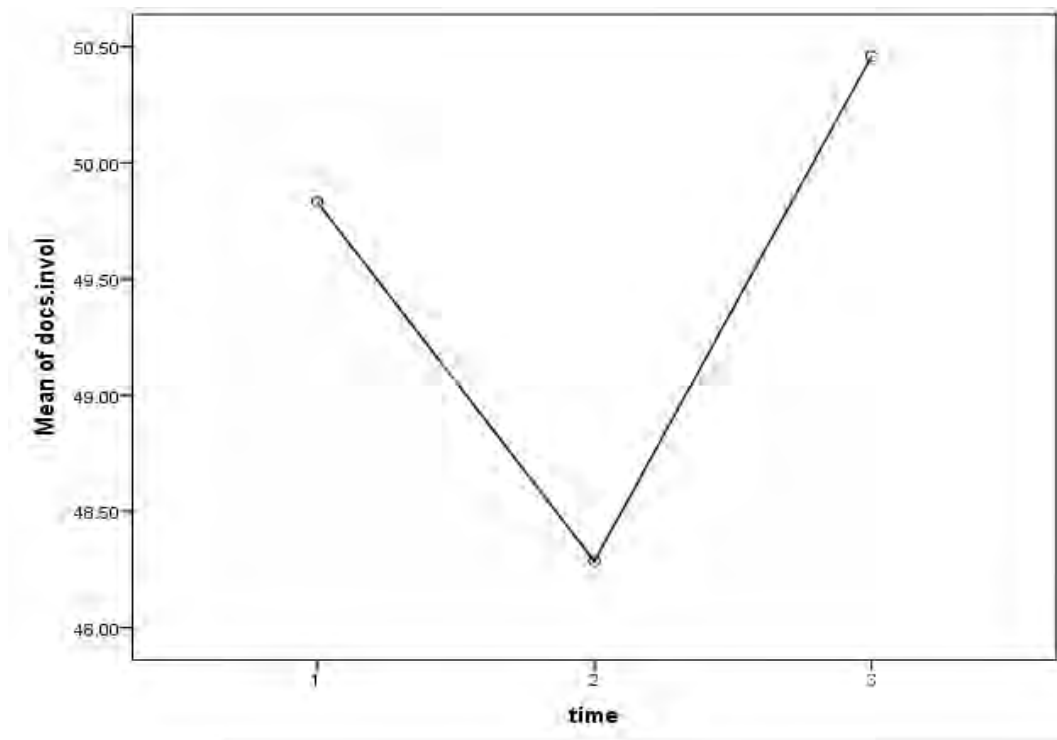
Figure 24. Comparison of Involvement trait across three time points

Figure 24 depicts high level of involvement among employees at time point 1, which transcends down at low level at time point 2, with a sharp rise within involvement level of employees at time point 3.
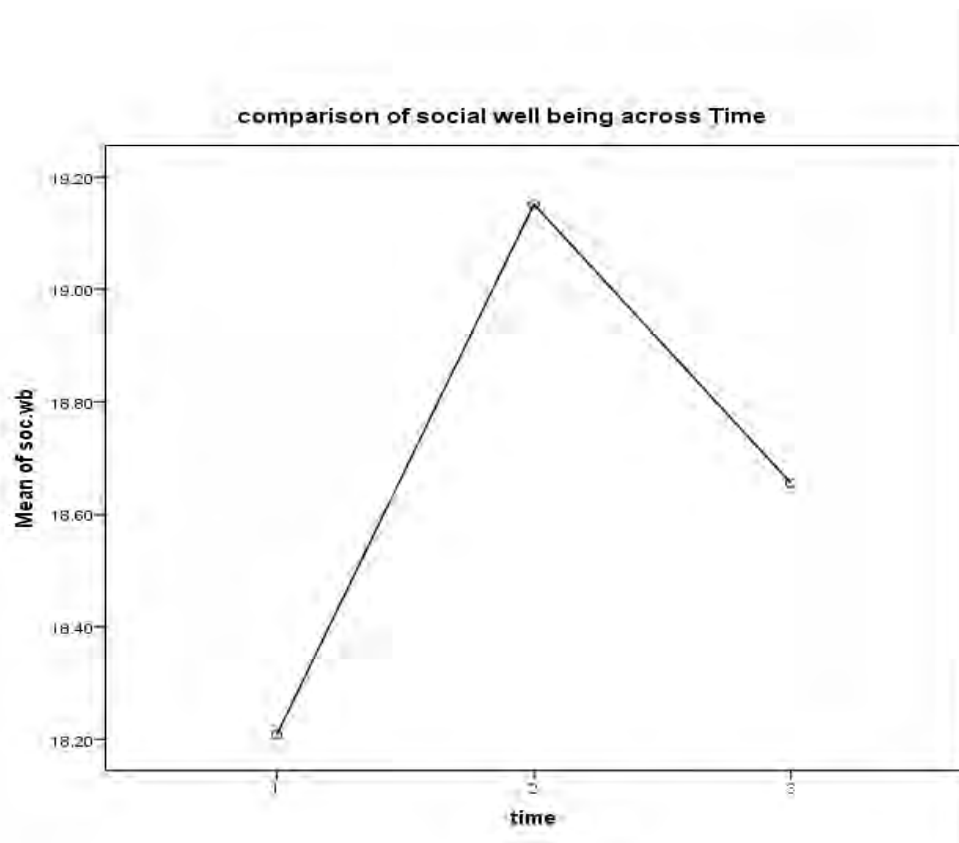
Figure 25. Comparison of Social Wellbeing across three Time points

Figure 25 illustrates the growth pattern of social wellbeing across three time points. Social wellbeing among employees depicts a sharp improvement from time point 1to time point 2
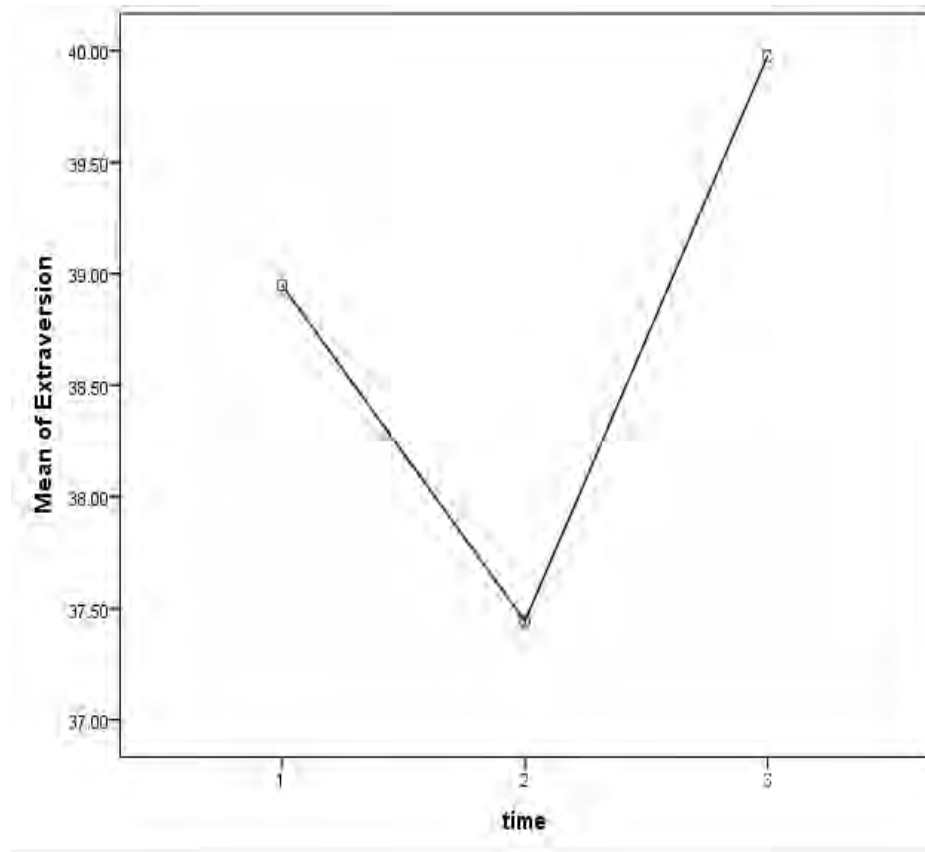
Figure 26. Comparison of Extraversion across three time points

Figure 26 illustrates extraversion levels of employees across time points. There is a sharp decline in extraversion level from time point 1 to time point 2, leading towards increase in extraversion levels of employees.
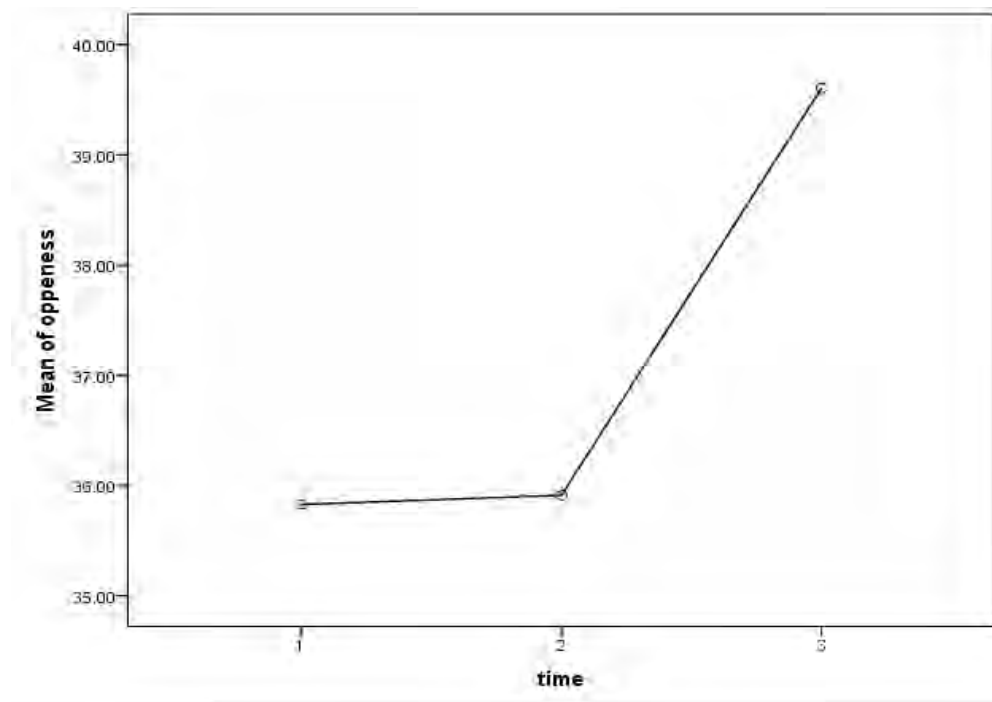
Figure 27. Comparison of Openness to experience across three time points

Figure 27 elucidates the pattern of growth of opennness to experience trait of employees over a period of time. There appears no difference in extraversion level across time point 1 and time point 2. However, a sharpe growth is observed at time point 3.
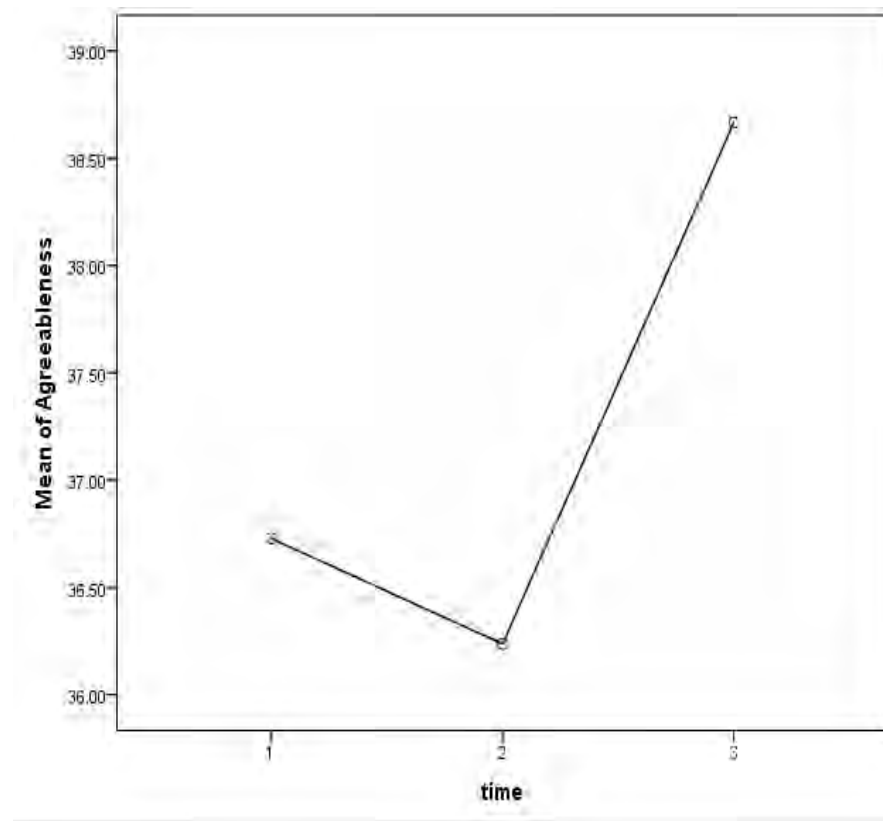
Figure 28. Comparison of Agreeableness trait across time points

Figure 28 depicts pattern of growth and changes within agreeableness trait across three time points. There is no sharp variation in agreeableness trait across time point 1 and time point 2. However a visible pattern of growth occurs at time point 3.
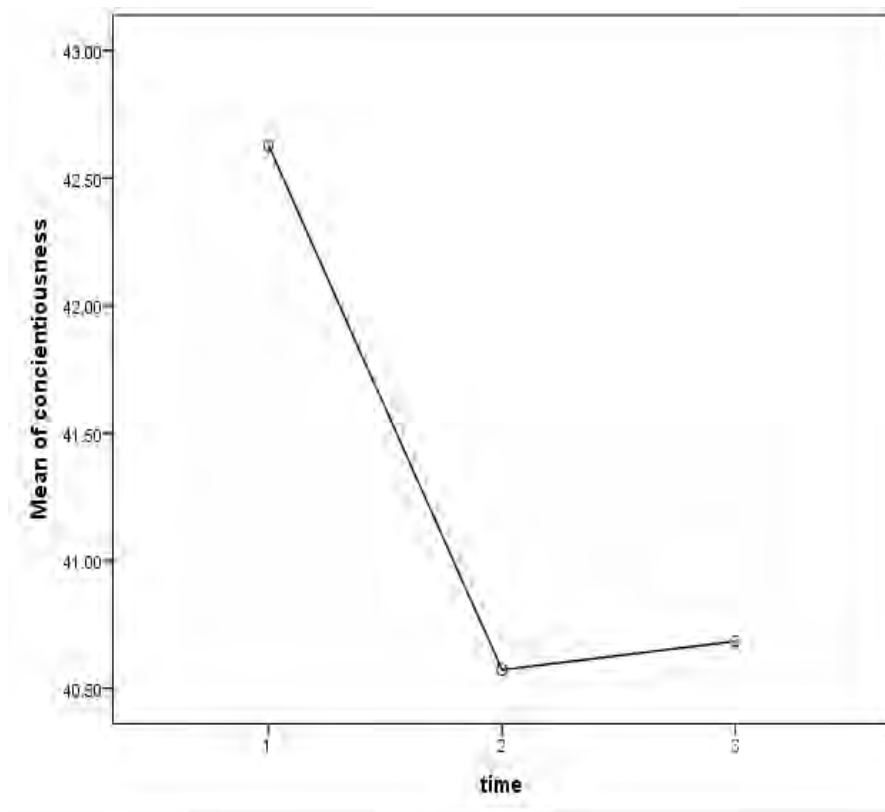
*Figure 29.*Comparison of Conscientiousness trait across three time points

Figure 29 depicts the pattern of growth in conscientiousness trait across three time points. It clearly depicts a decline in conscientiousness trait among employees from time point 1 to time point 2. While no marked difference is observable between time point 2 and time point 3.

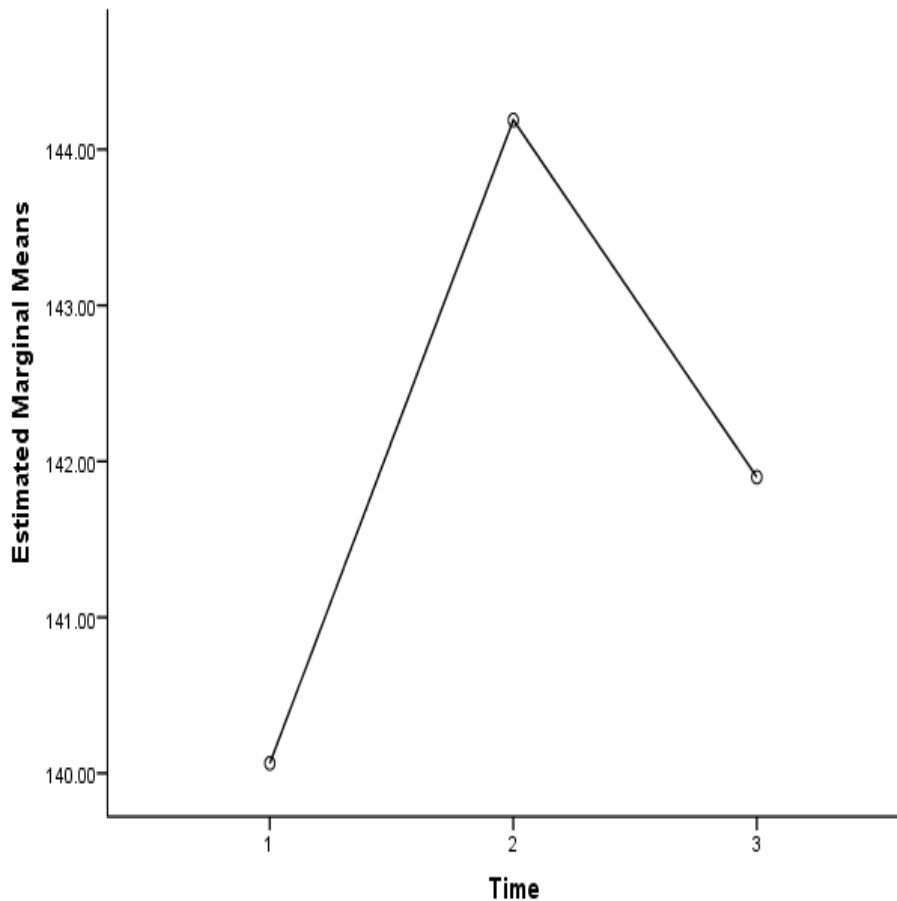**Change in Psychopathology level across Three Time Points**

Figure 30. Growth Patterns in Psychopathology across three time points

Overall Figures 15 to 26 shows the growth pattern of the social wellbeing, extraversion, openness to experience, agreeableness, and conscientiousness traits across three time points. Figures clearly depicts the distinctive pattern of growth in positive mental health and decline in psychological distress over time. On the contrary social wellbeing has shown declining effect from time 1 till time 3. Involvement trait shows a sharp rise from time 1 till time 3. Extraversion and openness to experience traits shows a sharp rise from time 1 to time 3, while conscientiousness has shown sharp decline from time 1 to time 2 and time 3.These growth patterns might be beneficial for future investigations in terms of probing factors that might affect their growth over a period of time.

Repeated measures analysis of variance. The RM-ANOVA was executed conjointly with multivariate test through statistical software package SPSS 21. Assumption of sphericity (a distinctive circularity hypothesis) provides variance/covariance matrix of the observed data charts a specific pattern. This pattern is typically acknowledged with equal variances in the diagonal, equal covariance's in the off-diagonal elements

Generally, this assumption is highly unlikely to hold due to the nature of longitudinal data. Nevertheless, when sphericity is observed for RM-ANOVA, it's a potent test for analyzing repeated measures. For testing the equality of the theorized and the observed variance/covariance patterns, Mauchly's Test of sphericity was executed. When test turns out to be highly significant it suggests that observed matrix does not have equal variances and covariance. In this regard, use of uncorrected RM-ANOVA F-test would result in a probable inflation of Type I Errors, by rejecting the null hypothesis while it was true more often that generally accepted. Most prominent corrections entail Greenhouse-Geisser and Huynh-Feldt epsilon corrections. Both of these corrections do not affect the computed F-statistic, but instead elevate the critical F value required to reject the null hypothesis.

For present data Mauchly's test of sphericity is found highly significant, W = .05, χ^2 (2) = 486.85, p < .001. The corresponding corrective coefficients were; Greenhouse-Geisser ε = .51 and Huynh-Feldt ε = .51. The multivariate effect of positive mental health across time was found to be λ= .83***, F (2,170) = 17.40, η^2=.17. Table 80 summarizes the pairwise comparison results of the RM-ANOVA analysis. It indicates that there is a significant change in the positive mental health across time, F (1, 171) = 3.84, p < .05. Univariate ANOVA was carried out to examine positive mental health across three time points. Results indicates significant effect of time on positive mental health F (1,171) =3.84, p< .05, η^2= .02). Pairwise comparisons revealed that for MHC-SF positive mental health, significant mean difference found for time point 1 and time point 2 levels of positive mental health, it has increased from time point 2 to time point 3.

Table 86

Repeated measure ANOVA for Positive mental health and Psychopathology across Time points (N=178)

Variables	Time point 1		Time point 2		Time point 3		F	P	η^2
	M	SD	M	SD	M	SD			
PMH	55.79	10.81	57.02	10.95	57.84	10.67	8.90	.000	.10
PSY	140.06	52.16	144.18	58.10	141.89	56.63	.830	.000	.17

Note. Pmh=Positive mental health, Psy= Psychopathology

Table 86 displays the descriptive statistics for the repeated analysis of Variance on positive mental health and psychopathology across three time points. It depicts a slight increase in the mean scores of positive mental health levels across three time points. Conversely, there is a significant decrease in psychopathology level across three time points. Moreover, repeated measure was carried out to examine the mean differences in psychopathology across time points (Table 86). The levels of psychological distress was found to be statistically significant across time (λ=.89, F (2,156) =8.90***, p<.001). Mauchly's test of sphericity assumption was not met w=.02, χ^2 (2) = 562.16, p < .001, the corresponding corrective coefficients are; Greenhouse-Geisser ε = .50 and Huynh-Feldt ε = .52. A separate ANOVA was carried out to study the effect of time interval on psychopathology at three time points i.e. time point 1, time point 2 and time point 3. Results indicates significant mean differences effect of time on psychopathology (wilks λ=.114, F (2,156) =8.90, p < .001). Mauchly's test of sphericity showed that the assumption of sphericity was not met, w= .027, χ^2 (2) = 562.16, p <.001. The corresponding corrective coefficients are; Greenhouse-Geisser ε = .50 and Huynh-Feldt ε=.50. Post hoc analysis using Tukey HSD shows that psychopathology level significantly decreases from time 2 to time 3 at P < .05.

Table 87

Pairwise comparison for positive mental health and psychopathology across time (N=178)

Variables	Time (I)	Time (J)	*(i-J)*	Mean Difference (I-J)	*S.E*	*p*	95% CL	
							LL	UL
	Time point 1	Time 2	T1< T2	-4.12	5.62	1.00	-17.73	9.48
		Time 3		-1.83	5.54	1.00	-15.24	11.57
	Time point 2	Time 1	T2 > T3	4.12	5.62	1.00	-9.48	17.73
		Time 3		2.29*	.541	.000	.980	3.59
PSYC	Time point 3	Time 1	T3 >T1	1.83	5.54	1.00	-11.57	15.24
		Time 2		-2.29*	.541	.000	-3.59	.980
	Time point 1	Time 2	T1< T2	-1.229	1.05	.738	-3.78	1.32
		Time 3		-2.044	1.03	.155	-4.56	.476
	Time point 2	Time 1	T2 < T3	1.229	1.05	.738	-1.32	3.78
PMH		Time 3		-.815*	.147	.000	-1.17	-.460
	Time point 3	Time 1	T3> T2	2.04	1.04	.155	-.476	4.56
		Time 2		.815*	.147	.000	.460	1.17

Note. PSYC= Psychopathology, PMH=Positive mental health

Table 87 depicts post hoc comparisons using LSD for mean differences in positive mental health and psychopathology across three time points. Results indicated significant mean differences in Psychopathology from Time 2 to time 3. Post hoc comparisons indicated that mean differences for time 2 are different from time 3.

Repeated Measure Analysis of Variance on Demographic Variables. Repeated Measure analysis of variance was conducted to explore the impact of demographic variables across the three time points. Of all variables categories i.e. age, marital status, job experience, work organization, education was found to have statistically significant differences across the three time points. Repeated Measure ANOVA with a greenhouse-Gessier correction determined that mean of education categories differed statistically significantly across time points for educational qualifications F (4, 167) =2.62, P <.03. Post hoc test using Tukey HSD correction revealed that the interaction term for education* time has shown significant mean difference between highly qualified category (Ph.D., FRCP, FRCS) and MS/MPhil, BS/BCOM level, *F (2, 332) =1.94, P< .05*. Moreover, among other demographic variables such as gender, marital status, designation, and monthly income, statistically significant was found only for educational levels with positive mental health across three time points. Of all the demographic variables, on educational qualification, statistically significant differences were found.

Table 88

Descriptive of Repeated measure analysis of variance on Educational categories across Three time points (N=178)

	Ph.D/FRCP/FRCS (*n* = 6)						MS/M.Phil (*n* = 17)						MBA/M.Com/M.Sc (*n* = 74)						MBBS/BBA/B.Com/BA (*n* =65)					
	Time I		Time 2		Time 3		Time 1		Time 2		Time 3		Time 1		Time 2		Time 3		Time I		Time 2		Time 3	
Var	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
PMH	61.8	5.88	66.3	9.3	66.3	8.8	56.1	9.1	59.6	11.0	60.4	11.3	55.1	11.5	54.4	10.6	55.7	10.3	55.9	11.0	57.7	11.1	57.9	10.8

Table 88 depicts descriptive of repeated measure analysis of variance on educational categories across three time points. Mean values for higher qualified is increased from time I to time 3. While similar pattern is found for MS/MPhil category, mean values increased at time 3 as compared to T2 and T1. For Masters Category there is slight difference in mean values from time 1 to time 3.

Table 89

Pairwise comparison of Educational categories across Three Time Points (N=178)

(I) Education	(J) Education	Mean Difference (I-J)	*S. E*	95% Confidence Interval LL	UL
PhD/FRCPS/FRCP	MS/M.Phil.	6.11	4.02	-1.82	14.05
	MASTERS/M.SC/MA	9.68*	3.59	2.58	16.78
	MBBS/BACHELORS/	7.62*	3.61	.490	14.76
	FA/F.SC/I.COM	5.00	4.37	-3.62	13.64
MS/M.Phil	Ph.D/Fcps/Frcp	-6.11	4.02	-14.05	1.82
	MASTERS/M.SC/MA	3.56	2.27	-.931	8.06
	MBBS/BACHELORS/	1.50	2.30	-3.046	6.06
	FA/F.SC/I.COM	-1.11	3.37	-7.77	5.55
MASTERS/M.SC/MA/MBA	PhD/FCPS/FRCP	-9.68*	3.59	-16.78	-2.58
	MS/M.Phil	-3.56	2.27	-8.06	.931
	MBBS/BACHELORS/	-2.05	1.43	-4.90	.785
	FA/F.SC/I.COM	-4.67	2.85	-10.31	.957
MBBS/BACHELORS/BHONS/B.SC/	PhD/FCPS/FRCP	-7.62*	3.614	-14.76	-.490
	MS/M.Phil	-1.50	2.307	-6.06	3.04
	MASTERS/M.SC/MA	2.05	1.439	-.785	4.90
	FA/F.SC/I.COM	-2.61	2.87	-8.29	3.06
FA/F.SC/I.COM	PhD/FCPS/FRCP	-5.00	4.37	-13.64	3.62
	MS/M.Phil	1.11	3.37	-5.55	7.77
	MASTERS/M.SC/MA	4.67	2.85	-.957	10.31
	MBBS/BACHELORS/	2.61	2.87	-3.06	8.29

Table 89 displays post hoc comparisons of educational categories across three time points. Results shows statistically significant mean differences between highly qualified (Ph.D./FRCP/FCPS) and masters level, and between highly qualified and employees having Bachelors level of qualification.
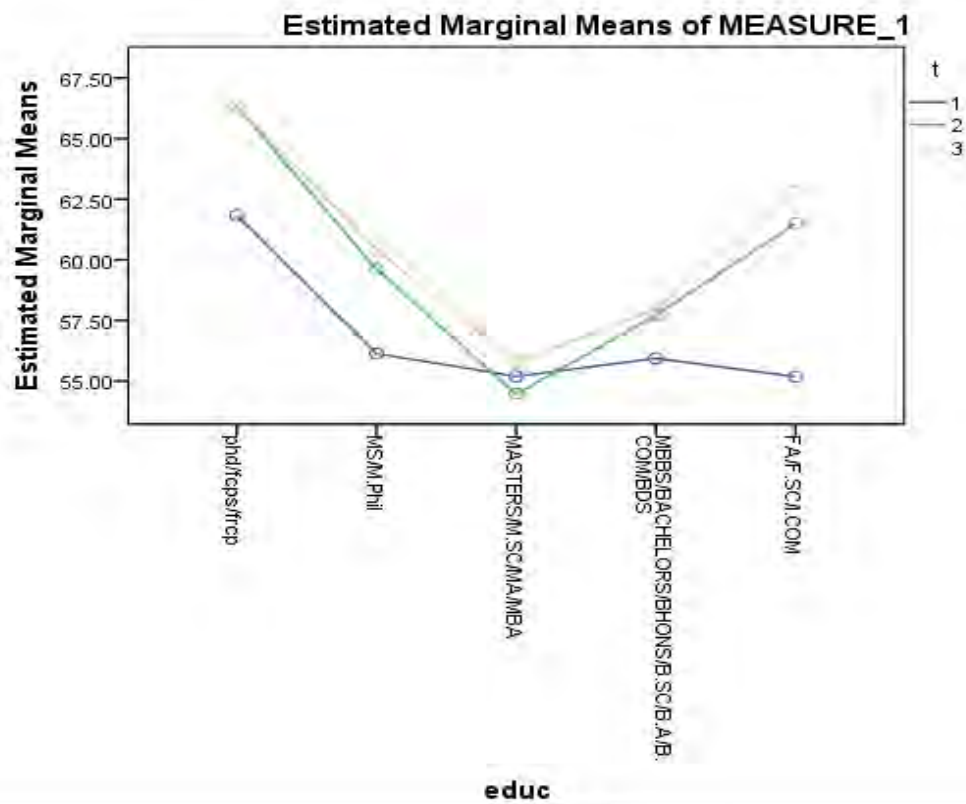
Figure 31. Depicting mean differences of educational categories across time

Discussion

Broad objectives of time points 3 encompasses analyzing progressive growth patterns i.e., stability and change within positive mental health, personality traits, organizational culture and psychopathology over a period of time. The present study has set base in indigenous literature by exploring latest paradigm shift within positive mental health field along with its determinants longitudinally. The sample of time point 3 comprised of (*N*=178) professionals (Me*n*= 53.4%, wome*n*= 45.5%) who earlier participated at time point 2. The attrition rate was not huge enough to impact findings of time point 3, as at time point 2 (Me*n*=52.9%) and (wome*n*=46.7%) responded. However, differential dropout analysis showed that drop out across the three time points on demographic variables is not different. The drop out on study variable is less than one standard deviation that shows that drop out among the samples was not significant. For women, the turn out percentage improved at time point 3 as compared to time point 2. During this phase of study, after computing assumption testing for parametric statistics, descriptive and psychometrics of the study measures were determined. Preliminary analysis were followed by computing bivariate correlation among study variables across the three points. Furthermore, growth curve models and cross lagged and autogressive effects for positive mental health and psychopathology were computed for analyzing the pattern of growth in key study variables.

Bivariate correlation between time point 3 study variables. To further trace the pattern of relationship between time point 2 and time point 3 study variables, bivariate correlation was computed. Findings of the bivariate correlation among study variables establish more or less similar patterns of associations as was found at T2. Correlational analysis clearly depicts stronger associations between time point 2 and time point 3 study variables as compared to the magnitude of relationship with time 1 and time 2 variables. The findings are in line with the previous literature (Lamers, 2012; Lucas, 2018; Joshanloo, 2018). All the three dimensions of positive mental health i.e.., social, psychological and emotional wellbeing positively correlated across time points. These results were in accord with the earlier empirical literature (Lamers & Westerhof, 2010). Neuroticism 3 was found significantly negatively correlated with openness to experience 3, agreeableness 3, and conscientiousness 2.Extraversion

significantly positively associated to extraversion 2, agreeableness 2, and conscientiousness 2 and 3.

Previously empirical evidences indicated positive correlation between Big Five personality traits i.e., agreeableness, conscientiousness and openness to experience and emotional well-being, though smaller in magnitude (Steel et al., 2008). So far longitudinal studies that explored variations in positive mental health over a period of time focused generally only on emotional well-being neglecting the other two domains i.e. psychological and social wellbeing. Previous studies steadily pointed that emotional well-being levels for individuals are levelheadedly constant over a period of time ranging from weeks to years (Fujita & Diener, 2005) and tend to relapse to a fixed level (i.e., set point) (Diener, Lucas, & Scollon, 2006). However, changes in emotional being levels follow a significant happening in realtion to life events (Diener et al., 2006). With regard to psychopathology such as depression alike trends indicate to be relative stable, primarily in presence of comorbidity (Rhebergen et al., 2011). Previous studies pointed emotional wellbeing and psychopathology to be stable, nevertheless amenable for change. There exist a large gap in indigenous literature with regard to longitudinal investigation of positive mental health and psychopathology among adults across time points. The current study aimed to bridge this gap by directly exploring and comparing positive mental health and psychopathology across three time points.

Growth patterns of the Study variables across Time Points. To explore the emerging pattern of growth and stability on the positive mental health, psychopathology and their determinants i.e., personality traits and organizational culture, growth curve model were tested. However, cross lagged model were also analyzed for exploring the nature of directionality between positive mental health and psychopathology across three time points. Results of Growth curve modeling showed significant changes in the initial levels of positive mental health from T1 to T3. The levels of positive mental health raised from T1 to T3. On the contrary, an initial increase in psychopathology level from T1 to T3, followed by decline from T2 to T3 was observed. Findings of the cross Lagged models indicated a reciprocal relationship between positive mental health and psychopathology. As positive mental health

increases, psychopathology declines. Autogressive paths between positive mental health T1 and T2 and psychopathology T1 and T2 were found significant indicting an increase from T1 to T2. Moreover the cross lagged paths between psychopathology 2 and positive mental health 3 and positive mental health and psychopathology were found significant. Empirical research (Hasin, Goodwin, Stinson, 2005; Jager, 2011) has shown that symptoms of psychological distress track particular age-linked trajectories, with the start of symptoms most commonly stirring during adolescence (Hasin, Goodwin, Stinson, 2005), heightened levels of psychological distress throughout the adolescent and early adult periods (Jager, 2011), and lower yet varying levels of symptoms afterward.

As previously mentioned most evidence has been generated with regard to the extensive exploration of emotional wellbeing longitudinally which confirmed stability in emotional wellbeing levels over time. (Fujita & Diener, 2005).Similar trends had been observed with regard to psychopathology (Rhebergen et al, 2011). Findings of study directly comparing positive mental health and psychopathology on Dutch sample during the courses of nine months period found positive mental health and psychopathology were feebly associated. Furthermore, changes in positive mental health predicted psychopathology levels later in time, and vice versa. This reciprocal relationship between changes in positive mental health and psychopathological symptoms reflect both mental health continua are complementary. Studies exploring longitudinal course of positive mental health (holistic wellbeing encompassing emotional, social &psychological wellbeing) longitudinally along with psychopathology are currently scarce in our indigenous context.

Comparing the study Variables at Three Time Points. For analyzing the emerging pattern of stability and changes among the study variables, paired sample t-test, Analysis of Variance and Repeated measure ANOVA had been executed. Findings of the t test indicated an increase in emotional wellbeing, psychological wellbeing scores from T1 to T3. However T1 T2 paired sample t test showed statistically significant differences on social wellbeing and adaptability trait from T1 to T2. Females experienced more openness to experience from time 1 to time 2. However Emotional wellbeing among females decline from T1 to T2, yet similar trends were not observed for the other two dimensions of positive wellbeing i.e.,

psychological and social wellbeing. Psychological wellbeing increased from T2 to T3 among both males and females. Among the organization culture traits involvement, adaptability, mission increased from T1 to T2 and also from T2 to T3 among both male and females. Similarly an increase in personality traits i.e., extraversion, openness to experience, agreeableness has been observed form T1 to T3.

Moreover findings of analysis of variance across time points documented an upsurge in mean scores of extraversion, openness to experience, agreeableness, conscientiousness, involvement and positive mental health. This might suggest those individuals who were committed had high level of positive mental health. On the Contrary, psychopathology scores had shown an increase from T1 to T2 and later on Decline from T2 to T3. While these changes wouldn't allow for causal interpretation since intervention were not employed during the study span.

With respect to Big Five traits, it was assumed to be increasingly consistent combined with continued capacity for growth during adulthood (Roberts, Wood, & Caspi, 2008). Indeed, trait levels evidence stronger test–retest stabilities after emerging adult years (e.g., Roberts & DelVecchio, 2000). During the lifespan some changes do occur due to the overall developmental pattern discerned. Individuals may show high level of agreeableness, conscientiousness, and emotion al stability during adulthood while openness to experience may decline at least during late adulthood (Roberts, Walton, & Viechtbauer, 2006). All of dynamics of personality development fail to capture while continuity and normative change in personality traits are important. In contrast to the generalized belief, personality trait change happen in regard to inert-individual differences, suggestive of individual variations more or less in comparison to the normative trends tendencies demonstrated at the population level (e.g., Mroczek & Spiro, 2003).

Empirical evidence has shown that in response to changes in adaption and wellbeing in adulthood, personality traits corresponds to changes. Numerous longitudinal models have examined the age-linked interplay between personality traits and wellbeing, given personality traits are both continuous and changing (e.g., Lehnart & Neyer, 2006; Lüdtke, Roberts, Trautwein, & Nagy, 2011). At one point, personality traits envisage experiences down the road or in the years following the assessment of personality traits. For instance individual high on neuroticism during teenage tend to

experience more negative life experiences in successive years (Lu¨dtke et al., 2011). Instead life experiences and variables that signify their evaluations are often correlated with personality trait changes. As mentioned above pre-event generalized levels of neuroticism predicted negative life events which were linked with upsurge in neuroticism levels over time.

Earlier research evidence and theoretical underpinning on social wellbeing expected relationship between social wellbeing and traits over time. For instance, trait change might be associated to social asset, or obligation to and know-how of social roles suggestive of adulthood, such as family, occupational, and community engagement (e.g., Lehnart, Neyer, & Eccles, 2010; Roberts & Wood, 2006). Their findings reflect that these commitments relates with increases on those traits that assist social stock, such as agreeableness, conscientiousness, and emotional stability. In other words, individuals may respond to changes in social roles by adjusting their personalities to better suit these roles.

Numerous longitudinal studies have sustained this claim by displaying associations between changes in relationship outcomes and changes in the Big Five traits (e.g., Neyer & Lehnart, 2007; Scollon & Diener, 2006). For instance, with regard to relationship to peer and family neuroticism was reported to increase during young adulthood (Neyer & Lehnart, 2007). However, extraversion and neuroticism levels increase or decrease in regard to variations in romantic relationship satisfaction (Scollon & Diener, 2006). Nonetheless, majority of longitudinal studies examined specific relationship milieus (e.g., romantic, peer, family), rather than analyzing social well-being from individual perspective.

Gender differences on study variables across Three Time Points. To explore the gender differences on emotional wellbeing, psychological wellbeing, social wellbeing, neuroticism, extraversion, openness to experience, agreeableness and contentiousness, organizational culture traits i.e., involvement, consistency, adaptability, and consistency at time point 3, paired sample t-test was computed. Findings showed statistically significant difference on emotional wellbeing, psychological wellbeing, psychopathology, involvement, extraversion, openness to experience, agreeableness, conscientiousness. For men significant mean differences were found on emotional, psychological, involvement, extraversion, openness to

experience and agreeableness. Emotional wellbeing, psychological wellbeing, psychopathology, involvement, was higher among men as compared to women while extraversion, openness to experience and agreeableness was found higher in females from across time 2 3. From these results it is inferred that gender emotional wellbeing, psychological wellbeing reverts back to the set point. Long-established evidence has found emotional wellbeing to be stable over period of time though if slight changes occur, it tend to return to a set point. As previously mentioned sometimes changes do occur in response to overwhelming life events (Diener, Lucas & Scollon, 2006). Initially females have shown higher level of emotional, psychological wellbeing but with passage of time, difference is minimized .These findings are partly in line with the previous literature. These findings might be effected by the considerable top-down as well as bottom-up influences on current well-being and distress in males and females alike. Genetically-based homeostatic dispositions seem to strongly regulate emotional tone over time, whether it is feelings of well-being, happiness and satisfaction or sadness and tension. The results therefore provide considerable support for models assuming individual, affective set-points or equilibrium levels essentially due to stable additive genetic influences. Nevertheless, at any given moment in time, environmental circumstances are as dominant in determining our affective valence as genetically based dispositions. In as much as life consists of ongoing change; the non-shared environment constitutes the main source of such change (Nes, Roysamb, Tambs, Harris & Reichborn, 2006).

Limitations

There are some limitations in-built in longitudinal studies such as high attrition rate of the respondents over a period of time. For the present study initially in time point 622 employees responded, 225 at time point 2, which got reduced to 178 at time point 3. Despite the causal precedence advantage that longitudinal designs offers over cross sectional designs, it should be acknowledged that growth curve models, cross lagged models of passive correlational data are in fact flawed tools for determining causal directionality "with certainty" (Newsom, 2015). Specifically designed experimental method can lead to more confidence about the directionality and causal precedence due to their efficiency in minimizing the potential confounding effects. Thus present results should be considered preliminary until replicated in

supplementary research with various methodological approaches, samples, and lag lengths.

Another limitations relates to the reliance on self-report measures which are subject to confounding and practice effects. Retrospective studies have higher inclination towards recall and confounding variables as compared to prospective studies. The present study analyzed three time points' assessments that may limit the complexity of the growth curve, as at least four measurement points are recommended for in depth exploration of the longitudinal data (Orcutt, Erickson, & Wolfe, 2004). The present study has employed demographic analysis of the study variables, but psychosocial factor that may have an impact on positive mental health and psychopathology are not included. Exploration of the psychosocial factors that might effects levels of positive mental health and psychopathology is potential area for future research endeavors. Job rotation could have been used as significant predictor of stability and change but resulted in high attrition in present study during subsequent follow up studies. Yet another limitation is the close time lag between the prospective data collection time points i.e. approx. six months, keeping in view the longitudinal exploration of the construct dynamics and its determinants.

Despite these limitations the present study set the indigenous base for exploring positive mental health construct in varied context and with different variables. The present study has confirmed dual continua model of positive mental health in our indigenous culture along with exploring personality traits and organizational culture as its determinants.

Largely, discussion of these findings revealed significant contributions of the current study in the indigenous empirical literature. This research provided support for the confirmation of the two- continua model of mental health in our indigenous context which has been previously been confirmed in numerous western countries predominantly individualistic cultures. Finally, the exploration of socio-demographic variables in relation to the major study variables delineated an interesting pattern of relationships, illustrating interactions between certain demographic characteristics of employees such as their job experience, work organization, monthly income, gender, marital status relate to their sense of well-being and levels of involvement, consistency, adaptability and engagement to organization objectives in the work settings.

CHAPTER VII

GENERAL DISCUSSION

The current research aimed to analyze determinants of positive mental health in a longitudinal trend with the time lag of approximately six months among professionals working in diverse fields of life i.e., banking, telecom sector, health care, consultancy companies and educational institutions. Longitudinal studies with at least three measurement times, is considered as a requirement for an adequate longitudinal study (Kelloway & Francis, 2013). The present study is based on longitudinal research design as they offer a more comprehensive approach to research, that allows an understanding of the degree and direction of change over time in study variables. Representative panel's data was collected over a period of three years; where data is regularly collected for a random sample of a diverse heterogeneous population. Longitudinal studies use continuous or repeated measures to track specific individuals over prolonged periods of time—often years or decades. Studies employing longitudinal data are largely focused on change over time in one or more outcome variables or timing of events triggering change (Singer & Willett, 2003). One of the major strength of longitudinal data entails likelihood for a systematic analysis of stability and change over time. Hence are powerful tool to analyze processes underlying social phenomena and the causal relation between different constructs. For exploring these underlying relationship between the construct, latent growth curve models (LGM) is being extensively employed as one variant of structural equation modeling due to its astringent power. With LGM it is probable to investigate individual trajectories and inter-individual differences in these individual trajectories. LGM can also easily be long-drawn-out by using multiple indicator latent factors to model measurement error, assimilating predictors of change as well as mediators, and analyzing moderating influences of measures.

The present study aimed to explore pattern of change and stability in positive mental health and psychopathology across three time points by employing Autoregressive Cross-Lagged and Latent Growth Curve Models to a Three-Wave

Panel Study. This model comprises of the stability coefficients for positive mental health and psychopathology and mutual cross-lagged coefficients from positive mental health to psychopathology and from psychopathology to positive mental health. Earlier evidences have employed both autogressive and cross lagged panel models to explore simultaneously reciprocal influences on positive mental health and psychopathology across time points (Lamers et al, 2011). Based on these two empirical models, pattern of reciprocal relationship between positive mental health and psychopathology more specifically has been explored. Findings of current study by employing cross lagged and autoregressive estimates showed that positive mental health increased and psychopathology declined across three time points. In nutshell, findings provided mixed support for the competing causal models. On the one hand, assumption that increase in positive mental health levels caused decrease in psychopathology was supported and found significant and positive cross-lagged effects for each time interval. On the other hand, a significant cross-lagged effect was found from positive mental health at T1 to psychopathology T2. However, the cross-lagged path from psychopathology time 2 to psychopathology at time 3 turned out to be not significant.

Given while employing latent growth models for examining dynamics of positive mental health and psychopathology, present study set out to inspect if the respondent's initial values for these constructs as measured by a latent intercept would affect possible growth processes as measured by a latent slope. The latent intercepts of positive mental health and psychopathology showed positive and significant correlation indicative of higher initial values in positive mental health levels correspond with initial changes in the level of psychopathology. A decline in psychopathology has been observed from T2 to T3 with an increase in positive mental health levels form T2 to T3. These results are in accord with earlier work (Lamers & Westerhof, 2011) that supported reciprocal effect between positive mental health and psychopathology. For instance increases in positive mental health levels leads to decline in psychopathology in a sample of Pakistani adults.

The assumptions of two- continua model of mental health (Keyes, 2005) has been supported on the present data while exploring cross-sectional and longitudinal

through cross lagged effects and growth curve models on positive mental health and psychopathology. Longitudinal analysis growth curve modeling and cross lagged analysis had established the reciprocal relationship between positive mental health and psychopathology; as gains in levels of positive mental health resulted in decline of psychopathology on the present adult sample. There is growing evidence that supports positive mental health to be not merely absence of psychopathology, but functions as an additional indicator of mental health. Positive mental health and psychopathology represent two distinct but correlated factors (Westerhof & Keyes, 2010). The genetic propensity for positive mental health is partly independent of the genetic propensity for mental illness (Kendler, Myers, Maes, & Keyes, 2011). Numerous studies generated support for two-continuum model of mental health by employing cross-sectional design (Suldo & Shaffer, 2008; Westerhof & Keyes, 2010). With positive mental health and psychopathology reflecting two aspects of mental health, the courses over time may also be altered. Meanwhile high positive mental health levels does not guarantee lack of psychopathology. On the other hand, increase in positive mental health may not necessarily be accompanied by a decline in psychopathology over time. To conclude, there exist scarce empirical literature investigating two-continuum model by using longitudinal designs within our indigenous context.

On the similar footing, studies utilizing psychopathology has generated support for its stability (Rhebergen et al., 2011). Lamers (2012) explored the stability or change psychopathological symptoms in positive mental health, using four measurement occasions in nine months. Findings of Lamers study (2012) provided information on the probable association between positive mental health and psychopathology. However, the relevance of investing in positive mental health has hardly been corroborated at all by epidemiological, longitudinal studies. Does change in positive mental health level influence psychopathological symptoms later? Moreover, interventions aimed at improving psychopathological symptoms impact on positive mental health are largely unknown. Does change in psychopathology levels influence positive mental health later? Previously Keyes and colleagues (2010) provided support for change in positive mental health levels predict prevalence and incidence of major depressive disorders, panic disorders, and generalized anxiety disorders ten

years later. These studies were pioneering to examine the prospective association of positive mental health with psychopathology by using a ten-year follow-up.

Since the present study employed standardized original measures (English version) that might lead to erroneous results because of its susceptibility of the weak comprehension effects on part of the respondents. Future researches should employ either measures which are made indigenously or translated versions should be used for rectifying this effect that might affect findings. Moreover, use of retrospective data might also confound the present findings as this leads to recall and practice effects bias. Use of prospective studies might enrich a deeper and less biased knowledge about the determinants, demographic variables that directly and indirectly effect level of positive mental health and psychopathology. The utilization of the longitudinal designs and inferences drawn based on longitudinal study are the major strength of the present study. Attrition is longitudinal studies is common. However, differential dropout analysis showed that drop out across the three time points on demographic variables is not different. The drop out on study variable is less than one standard deviation that shows that drop out among the samples was not significant.

To the best of our knowledge indigenous empirical literature lacks behind in investigating longitudinal course of positive mental health holistically encompassing dimensions emotional, psychological, as well as social well-being while also directly comparing longitudinal association positive mental health and psychopathology across three time points.

Implications and future directions

Well-being emerged as a significant domain within organizational literature indicating overarching influence on organizational outcomes. Wellbeing of an individual is a valuable resource ascertaining invaluable personal and work domain gains. An enrich understanding of the significance of the factors both dispositional and contextual would yield accomplishing milestone towards improving mental wellbeing on larger scale i.e., public health perspective. Apart from the wider social context individuals wellbeing is heavily influenced by peculiar work context, continual interaction with positive experiences leads towards desirable outcomes, while negative

emotional states may result in undesirable outcomes. The present indigenous contribution is an effort to highlight the significance of mental health domain by creating an awareness of impact of dispositional and contextual factors, instilling responsibility among adults for maintaining and enhancing their mental health.

Longitudinal studies highlights importance of genetic factors in generating stability, and significance of the environment in generating change. The incidental boosts in wellbeing refers to limited stability of most environmental influences that might not stay for longer duration. Most people cease to derive positive experiences by adapting to new circumstances. However, affective states are continuously altered by new environmental influences resulting in temporary displacement from affective baselines. Recent research underlines the role of intentional activities in producing varied experiences and new opportunities for continued positive effects which directly thwart genetic dispositions. An integration of these findings, render more optimistic stance as compared to previous theories declaring rigid genetic set points. Although not everything is possible, some changes are in regard to ontogenetic development. There is considerable evidence for positive gains by using interventions to enhance well-being such as practicing certain virtues (e.g. gratitude, mindfulness, self-reflection) and choosing particular goals, as well as cognitive factors amenable to volitional control (Sheldon & Lyubomirsky, 2006). Kahneman has underscored the importance of time use in generating positive mental health. Time is a scare resource, and the allocation of time and attention present difficult choices that greatly influence the content and quality of our lives. By spending more time doing pleasurable and varied activities, higher levels of well-being may be possible. Given that research has evidenced that continual efforts and engagements in intentional processes provides longer lasting boosts in well-being than circumstantial changes, intentional activity may provide a useful means to countering leaning towards affective adaptation (Sheldon & Lyubomirsky, 2006).

To conclude, an in-depth understanding of interplay of dynamic mechanisms that may have a strong bearing on mental wellbeing and psychological distress can lead us towards building protective factors and assist in devising effective interventions for promoting positive mental health. Psychological distress may be reduced by improving levels of well-being and satisfaction. Well-being and psychological distress are

effected by common genetic, environmental risk and protective factors, indicating that particular factors exist in the environment that instantaneously activate to foster positive mental health and protect against negative health, may be targeted for intervention and prevention purposes. Many environmental factors are also specific to well-being and distress.   The refined understanding of commonality as well as heterogeneity and specificity in individual responses to environmental factors are important for our understanding of how specific influences are associated to mental health, well-being and distress. This would assist for future efforts aiming to design intervention, promotion, and treatment programs. The results highlight a need for methodologically advanced studies which optimize the opportunities for causal inferences. Moreover, future research should incorporate impact of psychosocial factors on positive mental health and psychopathology levels of employees in work contexts.

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APPENDICES

Demographic Information Sheet   **Appendix A**

Kindly fill all the given spaces honestly. Do not leave any of the options given below unanswered.

Name --------------------------

Age (in years) ---------------------   **Gender:**
Male/Female

Education-------------------------
------   **Marital status**----------

Designation ------------------------   **Years of Experience--**

Monthly income (Rs) _____ **per month**

Work Organization--------------------------

Email/ Contact no. ---

Permanent address---

Kindly share any one/ or all the three of the contact information, with which you would be comfortable for follow up. Please provide the authentic information, so that the researcher could approach you after six months. All the information provided by respondents will be kept confidential. For data analysis, data will be coded to assure anonymity.

'

Informed consent **Appendix B**

The present research is being carried out at National Institute of Psychology, Quaid-I-Azam University, Islamabad to fulfill degree requirements of the doctoral degree of psychology. The purpose of the present research is to explore determinants of positive mental health specifically the impact of personality traits and organizational culture on employee wellbeing. For this purpose you are requested to fill out following questionnaires as honestly as you can. There is no right and wrong answers. Please take care that no question is left unmarked. Your contribution to this research is highly appreciated.

Rest assured that all the information provided by you will be kept in strict confidentiality and will be used for research purpose only. You have the right to refuse to participate in this research. You may also withdraw your data at any stage of the research. However, there is no physical, psychological, or social risk in participating in this study. Your cooperation is highly valuable and will assist to advance scientific knowledge.

Thanking you.

I hereby agree to participate in this research.

_____

Signature of respondent

Mental Health Continuum Short Form (MHC-SF)   **Appendix C**

Kindly read the following statements carefully. This questionnaire measures the mental health status. You are required to select the response option honestly that best describes your feeling. Kindly do not leave any statement unmarked. Response option given below corresponds to Never = 1, Once or twice = 2, About once a week = 3, About two or three times a week = 4, Almost every day = 5, Every day = 6.

S.No	During the past month, how did you………	1	2	3	4	5	6
1	feel happy with life	1	2	3	4	5	6
2	feel Interested in life	1	2	3	4	5	6
3	satisfied with life	1	2	3	4	5	6
4	That you had something important to contribute to society	1	2	3	4	5	6
5	That you belonged to a community (like a social group, or your neighborhood)	1	2	3	4	5	6
6	that our society is a good place, or is becoming a better place, for all people	1	2	3	4	5	6
7	that people are basically good	1	2	3	4	5	6
8	that the way our society works makes sense to you	1	2	3	4	5	6
9	You like your personality	1	2	3	4	5	6
10	good at managing the responsibilities of your daily life	1	2	3	4	5	6
11	that you had warm and trusting relationships with others	1	2	3	4	5	6
12	that you had experiences that challenged you to grow and become a better person	1	2	3	4	5	6
13	confident to think or express your own ideas and opinions	1	2	3	4	5	6
14	that your life has a sense of direction or meaning to it	1	2	3	4	5	6

Denison Organizational Cultural Traits Survey Questionnaire   Appendix D

This questionnaire studies the cultural and leadership aspects of the organization. Read the statements carefully. There are no rights or wrong answers. Response options given below are being rated as strongly disagree = 1,   disagree = 2, Undecided = 3, Agree = 4, strongly agree = 5.

S. No.	Statements	1	2	3	4	5
1	Most employees are highly involved in their work	1	2	3	4	5
2	Decisions are usually made at the level where best the information is available	1	2	3	4	5
3	Information is widely shared so that everyone can get the information whenever it is needed	1	2	3	4	5
4	Everyone believes that he or she can have a positive impact on the organization	1	2	3	4	5
5	Career planning is ongoing process and to some extent involves everyone in this process	1	2	3	4	5
6	Cooperation across different parts of the organization is actively encouraged	1	2	3	4	5
7	People work as they are part of a team.	1	2	3	4	5
8	Mostly work is getting done through teamwork rather than hierarchy	1	2	3	4	5
9	Teams are our primary building blocks	1	2	3	4	5
10	Work is organized so that each individual can see the relationship between his or her job and the goals of the organization.	1	2	3	4	5
11	Authority is delegated so that people can act on their own/ according to their style of work	1	2	3	4	5
12	The 'bench strength' (capability of people) is constantly improving in terms of their output/performance	1	2	3	4	5
13	There is continuous investment in skills of employees	1	2	3	4	5
14	The capabilities of people are viewed as an important source of competitive advantage.	1	2	3	4	5
15	Problems often arise because we do not have the right skills for the job	1	2	3	4	5
16	The leaders and managers 'practice what they preach'	1	2	3	4	5
17	There is a characteristic management/ style and a distinct set of management practices.	1	2	3	4	5
18	There is a clear and consistent set of values that governs the way we do business/ the way we do things.	1	2	3	4	5
19	Ignoring core values will get you in trouble.	1	2	3	4	5
20	There is an ethical code that guides our behavior and distinguishes right from wrong.	1	2	3	4	5
21	When disagreements occur, we work hard to achieve "win-win" solutions.	1	2	3	4	5
22	There is a "strong" culture in our organization/hospital	1	2	3	4	5
23	It is easy to reach consensus, even on difficult issues.	1	2	3	4	5
24	We often have trouble reaching agreement on key issues.	1	2	3	4	5
25	There is a agreement about the right way and the wrong way to do things	1	2	3	4	5
26	Our approach to do business/ things is very consistent and predictable.	1	2	3	4	5
27	People from different parts of the organizations share a common perspective.	1	2	3	4	5
28	It is easy to coordinate projects across different parts of the organization/ hospital.	1	2	3	4	5
29	Working with some colleague from another department of organization is similar to working with someone from a different organization	1	2	3	4	5

30	There is a good alignment of goals across all levels.	1	2	3	4	5
31	The way things are done is very flexible and easy to change.	1	2	3	4	5
32	We respond well to competitors and other changes in the business/work environment.	1	2	3	4	5
33	New and improved ways to do work are continually adopted.	1	2	3	4	5
34	Attempts to create change usually meet with resistance	1	2	3	4	5
35	Different parts of the organization often cooperate to create change	1	2	3	4	5
36	Customer/ stakeholder comments and recommendations often lead to changes.	1	2	3	4	5
37	Customer/ stakeholder input directly influence our decisions.	1	2	3	4	5
38	All members have a deep understanding of customer/ stakeholder wants and requirements.	1	2	3	4	5
39	The interests of customer are often getting ignored in our decisions.	1	2	3	4	5
40	We encourage direct contact with customers/ stakeholder by our people.	1	2	3	4	5
41	Failures are viewed as an opportunity for learning and improvement.	1	2	3	4	5
42	Innovation and risk taking are encouraged and rewarded in our organization/ work context.	1	2	3	4	5
43	Lots of things (information) get lost or not noticed with especially within a system.	1	2	3	4	5
44	Learning is an important objective in our day-to-day work.	1	2	3	4	5
45	We make certain that the " right hand knows what the left hand is doing"	1	2	3	4	5
46	There is long term purpose and direction in professional life.	1	2	3	4	5
47	Our strategy leads other organizations to change the way they compete in their respective fields	1	2	3	4	5
48	There is a clear mission that gives meaning and direction to our work.	1	2	3	4	5
49	There is a clear strategy for future.	1	2	3	4	5
50	Our strategic direction is unclear to me.	1	2	3	4	5
51	There is widespread agreement about goals.	1	2	3	4	5
52	Leaders set goals that are ambitious, but realistic.	1	2	3	4	5
53	The leadership has "gone on record" about the objectives we are trying to meet.	1	2	3	4	5
54	We continuously track our progress against our stated goals.	1	2	3	4	5
55	Professionals have the understanding for running successful programs	1	2	3	4	5
56	We have the shared vision of what the organization will be like in the future.	1	2	3	4	5
57	Leaders have a long-term view point.	1	2	3	4	5
58	Short term thinking often comprises our long term vision.	1	2	3	4	5
59	Our vision creates excitement and motivation for our employees.	1	2	3	4	5
60	We are able to meet short-term demands without compromising our long-term vision.	1	2	3	4	5

Neo-Five Factor Inventory (NEO-FFI) **Appendix E**

Instructions: This questionnaire contains 60 statements about your general behavior. Please read each item carefully and encircle one answer that best corresponds to your agreement or disagreement. Response options; 1 = strongly disagree, 2 = Disagree, Neither agree nor disagree = 3, Agree = 4, strongly agree = 5.

S. No.	Statements	1	2	3	4	5
1	I am not a worrier.	1	2	3	4	5
2	I like to have lot of people around me.	1	2	3	4	5
3	I do not like to waste my time in day dreaming.	1	2	3	4	5
4	I try to be courteous to everyone I meet.	1	2	3	4	5
5	I keep my belongings neat and clean.	1	2	3	4	5
6	I often feel inferior to others.	1	2	3	4	5
7	I laugh easily.	1	2	3	4	5
8	Once I find the right way to do something, I stick to it.	1	2	3	4	5
9	I often get in to arguments with my family and co- workers.	1	2	3	4	5
10	I am pretty good about pacing myself so as to get things done on time.	1	2	3	4	5
11	When I am under a great deal of stress, sometimes I feel like I am going to pieces.	1	2	3	4	5
12	I do not consider myself light-hearted as compared to others.	1	2	3	4	5
13	I am intrigued by the patterns I find in art and nature.	1	2	3	4	5
14	Some people think I am selfish and egoistic.	1	2	3	4	5
15	I am not very disciplined person.	1	2	3	4	5
16	I rarely feel lonely	1	2	3	4	5
17	I really enjoy talking to other people.	1	2	3	4	5
18	I believe, letting students hear controversial speakers can only confuse and mislead them.	1	2	3	4	5
19	I would rather cooperate with others than compare with them.	1	2	3	4	5
20	I try to perform all the tasks assigned to me conscientiously.	1	2	3	4	5
21	I often feel tense.	1	2	3	4	5
22	I like to be where the action is.	1	2	3	4	5
23	Poetry has little or no effect on me.	1	2	3	4	5
24	I tend to be cynical and skeptical of others' intentions.	1	2	3	4	5
25	I have a clear set of goals and work toward them in an orderly fashion.	1	2	3	4	5
26	Sometimes I feel completely worthless.	1	2	3	4	5
27	I usually prefer to do things alone.	1	2	3	4	5
28	I often try new and foreign foods.	1	2	3	4	5
29	I believe most people will take advantage of you if you let them.	1	2	3	4	5

30	I waste a lot of time before settling down to work.	1	2	3	4	5
31	I rarely feel fearful or anxious.	1	2	3	4	5
32	I often feel as if I am bursting with energy.	1	2	3	4	5
33	I seldom notice the moods or feelings that different environments produce.	1	2	3	4	5
34	Most people I know are like me.	1	2	3	4	5
35	I work hard to accomplish my goals.	1	2	3	4	5
36	I often get angry at the way people treat me.	1	2	3	4	5
37	I am a cheerful, high-spirited person.	1	2	3	4	5
38	I believe we would look to our religious authorities for decisions on moral issues.	1	2	3	4	5
39	Some people think of me as cold and calculating.	1	2	3	4	5
40	When I make a commitment, I can always be counted on to follow through.	1	2	3	4	5
41	Too often, when things go wrong, I get discouraged and feel like giving up.	1	2	3	4	5
42	I am not a cheerful optimist.	1	2	3	4	5
43	Sometimes when I am reading poetry or looking at a work of art, I feel a chill or wave of excitement.	1	2	3	4	5
44	I am hard –headed and tough-minded in my attitudes.	1	2	3	4	5
45	Sometimes I am not as dependable or reliable, as I should be.	1	2	3	4	5
46	I am seldom sad or depressed.	1	2	3	4	5
47	My life is fast-paced.	1	2	3	4	5
48	I have little interest in speculating on the nature of the universe or the human condition.	1	2	3	4	5
49	I generally try to be thoughtful and considerate.	1	2	3	4	5
50	I am productive person who always gets the job done.	1	2	3	4	5
51	I often feel helpless and want someone else to solve my problems.	1	2	3	4	5
52	I am a very active person.	1	2	3	4	5
53	I have a lot of intellectual curiosity.	1	2	3	4	5
54	If I do not like people, I let them know it.	1	2	3	4	5
55	I never seem to be able to get organized.	1	2	3	4	5
56	At times I have been so ashamed I just wanted to hide.	1	2	3	4	5
57	I would rather go my own way than be a leader of others.	1	2	3	4	5
58	I often enjoy playing with theories of abstract ideas.	1	2	3	4	5
59	If necessary, I am willing to manipulate people to get what I want.	1	2	3	4	5
60	I strive for excellence in everything I do.	1	2	3	4	5

Brief Symptom Inventory (BSI)   **Appendix F**

Instructions: Below are presented a list of problems and complaints that people sometimes have. For each one, tell me how much that problem has bothered or distressed you during the past week, including today by selecting the one of the response option given below i.e. not at all =1, a little bit = 2, moderately = 3, quite a bit =4, extremely = 5, Refuse to answer = 6.

S. No	Statements	1	2	3	4	5	6
1	Nervousness or shakiness inside.	1	2	3	4	5	6
2	Faintness or dizziness.	1	2	3	4	5	6
3	The idea that someone else can control your thoughts.	1	2	3	4	5	6
4	Feeling others are to blame for most of your troubles.	1	2	3	4	5	6
5	Trouble remembering things.	1	2	3	4	5	6
6	Feeling easily annoyed or irritated.	1	2	3	4	5	6
7	Pains in heart or chest.	1	2	3	4	5	6
8	Feeling afraid in open spaces.	1	2	3	4	5	6
9	Thoughts of ending your life.	1	2	3	4	5	6
10	Feeling that most people cannot be trusted.	1	2	3	4	5	6
11	Poor appetite.	1	2	3	4	5	6
12	Suddenly scared for no reason.	1	2	3	4	5	6
13	Temper outbursts that you could not control.	1	2	3	4	5	6
14	Feeling lonely even when you are with people.	1	2	3	4	5	6
15	Feeling blocked in getting things done.	1	2	3	4	5	6
16	Feeling lonely.	1	2	3	4	5	6
17	Feeling blue.	1	2	3	4	5	6
18	Feeling no interest in things.	1	2	3	4	5	6
19	Feeling fearful.	1	2	3	4	5	6
20	Your feeling being easily hurt.	1	2	3	4	5	6
21	Feeling that people are unfriendly or dislike you.	1	2	3	4	5	6
22	Feeling inferior to others.	1	2	3	4	5	6
23	Nausea or upset stomach.	1	2	3	4	5	6
24	Feeling that you are watched and talked about by others.	1	2	3	4	5	6
25	Trouble falling asleep.	1	2	3	4	5	6
26	Having to check or double check what you do.	1	2	3	4	5	6
27	Difficulty in making decisions.	1	2	3	4	5	6
28	Feeling afraid to travel on buses, subways, or trains.	1	2	3	4	5	6
29	Trouble getting your breath.	1	2	3	4	5	6
30	Hot or cold spells.	1	2	3	4	5	6

31	Having to avoid certain things, places, or activities because they frighten you.	1	2	3	4	5	6
32	Your mind going blank.	1	2	3	4	5	6
33	Numbness or tingling in parts of your body.	1	2	3	4	5	6
34	The idea that you should be punished for your sins.	1	2	3	4	5	6
35	Feeling hopeless about your future.	1	2	3	4	5	6
36	Trouble concentrating.	1	2	3	4	5	6
37	Feeling weak in parts of your body.	1	2	3	4	5	6
38	Feeling tense or keyed up.	1	2	3	4	5	6
39	Thoughts of death or dying.	1	2	3	4	5	6
40	Having urges to beat, injure, or harm someone.	1	2	3	4	5	6
41	Having urges to break or smash things.	1	2	3	4	5	6
42	Feeling very self-conscious with others.	1	2	3	4	5	6
43	Feeling uneasy in crowds.	1	2	3	4	5	6
44	Never feeling close to another person	1	2	3	4	5	6
45	Spells of terror or panic.	1	2	3	4	5	6
46	Getting into frequent arguments.	1	2	3	4	5	6
47	Feeling nervous when you are left alone.	1	2	3	4	5	6
48	Others not giving you proper credit for your achievements.	1	2	3	4	5	6
49	Feeling or restless you could not sit still.	1	2	3	4	5	6
50	Feeling of worthlessness.	1	2	3	4	5	6
51	Feeling that people will take advantage of you if you let them.	1	2	3	4	5	6
52	Feeling of guilt.	1	2	3	4	5	6
53	The idea that something is wrong with your mind.	1	2	3	4	5	6

Rosenberg Self Esteem Scale **Appendix G**

Instructions: This questionnaire contains 10 statements about your general behavior. Please read each item carefully and encircle one answer that best corresponds to your agreement or disagreement. Response options; 1 = strongly disagree, 2 = Disagree, Agree = 3, strongly agree = 4.

S.No	Statements	1	2	3	4
1	On the whole, I am satisfied with myself	1	2	3	4
2	At times I perceive myself as not good at all	1	2	3	4
3	I feel that I have a number of good qualities.	1	2	3	4
4	I am able to do things as good as most other people	1	2	3	4
5	I feel I do not have much to be proud of.	1	2	3	4
6	I certainly feel useless at times.	1	2	3	4
7	I feel that I'm a person of worth, at least on an equal plane with others.	1	2	3	4
8	I wish I could have more respect for myself.	1	2	3	4
9	All in all, I am inclined to feel that I am a failure.	1	2	3	4
10	I take a positive attitude toward myself.	1	2	3	4

List of Organizations   **Appendix H**

1. Askari bank
2. Muslim Commercial bank (Rawalpindi, Lahore)
3. Habib Metropolitan Bank
4. Standard chartered bank
5. Habib bank
6. Summit Bank (Lahore)
7. Benazir Bhutto hospital
8. Jinnah hospital Lahore
9. Combined Military hospital, Rawalpindi, Lahore
10. Lahore General Hospital
11. Shifa Hospital, Islamabad
12. PTCL. Pakistan Telecommunication Company (Lahore)
13. Mobilink (telecommunication company) Islamabad, Lahore
14. Warid (Telecommunication Company) Islamabad, Lahore
15. Telenor (Telecommunication Company) Lahore.
16. Consultancy companies (located in Lahore, Rawalpindi & Karachi)
17. Educational institutes (Grammar school, Federal Public school) (Rawalpindi, Lahore)