Soc Indic Res (2014) 118:157–172
DOI 10.1007/s11205-013-0416-6

Personality Traits and Subjective Well-Being: Moderating Role of Optimism in University Employees

Tahira Jibeen

Accepted: 29 July 2013 / Published online: 6 August 2013

Abstract The present study examined the moderating impact of optimism on the relationship between personality traits (neuroticism and conscientiousness) and subjective well-being (distress and satisfaction with life) among university employees. Participants were 251 (age 25–60) employees at COMSATS University, who completed demographic information sheet, two subscales (neuroticism and conscientiousness) of NEO Personality Inventory (Costa et al. in Br J Psychol 78:299–306, 1987), Life Orientation Test-Revised (Scheier et al. in J Pers Soc Psychol 67:1063–1078, 1994), Satisfaction with Life Scale (Dienere et al. in J Persy Assess 49:71–75, 1985), and two subscales (depression and anxiety) of Brief Symptom Inventory (Derogatis and Melisaratos in Psychol Med 13:595–605, 1983). On a final sample of 251 university employees, a series of moderated hierarchical regression analyses were performed separately for positive and negative health outcomes. Results indicated that optimism moderated between neuroticism and distress and neuroticism and satisfaction with life. Further, optimism moderated between conscientiousness and distress and conscientiousness and satisfaction with life. The current findings have implications for clinicians, researchers, and policy makers for the identification of resource factors that may help to understand the resistant power of non clinical sample to maintain positive functioning.

Keywords Neuroticism · Conscientiousness · Orientation towards life · Subjective well-being · Satisfaction with life · Psychological distress

1 Introduction

Personality variables have an extensive history of influencing health-related outcomes (DeNeve and Cooper 1998). Specifically, research has connected personality variables such as Big Five model (McCrae and Costa 1987); optimism (e.g. Scheier and Carver

T. Jibeen (✉)
COMSATS Institute of Information Technology, Lahore, Punjab, Pakistan
e-mail: tahiraimdadali@hotmail.com

1992a, b), Type A (e.g. Friedman 1991), personal or perceived control (e.g. Lefcourt 1992), repressive coping (e.g. Baggett et al. 1996), and belief in a just world (Tomaka and Blascovich 1994) to well-being. However, the question how these variables work together in accounting for variation in well-being is rarely addressed.

The most consistent model of the personality study relating to traits level is the Five Factor Model (Costa and McCrae 1994; John and Srivastava 1999; McCrae and John 1992) that describes five trait of stable personality characteristics that organize individual's differences in emotional and social life. This model of personality has steadily emerged over the past 25 years as a comprehensive taxonomy of individual differences in human personality (John and Srivastava 1999), and thus provides a standard framework within which many other specific personality constructs can be better understood. McCrae and Costa (1987) conceptualize personality along five broad dimensions including neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness.

Neuroticism (N) refers to a tendency to experience anxiety, self-pity, hostility, impulsivity, self-consciousness, irrational thinking, depression, and low self-esteem (John 1989; McCrae and Costa 1987; McCrae and John 1992). Whereas, extraversion (E) refers to a tendency to be positive, assertive, energetic, social, talkative, and warm (John 1989; Watson and Clark 1997). Openness (O) refers to a tendency to be curious, artistic, insightful, flexible, intellectual, and original (John 1989; McCrae and Costa 1987; McCrae and John 1992), whereas agreeableness (A) refers to a tendency to be forgiving, kind, generous, trusting, sympathetic, compliant, altruistic, and trustworthy (John 1989; McCrae and John 1992). Finally, conscientiousness (C) refers to a tendency to be organized, efficient, reliable, self-disciplined, achievement-oriented, rational, and deliberate (John 1989; McCrae and John 1992).

Subjective well-being (SWB) reflects the extent to which people think and feel that their life is going well (Lucas and Donnellan 2007). Life satisfaction is defined as the cognitive aspect of subjective well being and refers to people's global evaluation of the quality of their life (Peterson et al. 2005). However, life satisfaction is only one factor in the more general constructs of subjective well being. Diener et al. (1997) have proposed that subjective well-being is a multidimensional construct consisting of three separate components: (1) the presence of positive affect; (2) the relative lack of negative affect; and (3) people's cognitive evaluations of their life circumstances (Arthaud-Day et al. 2005; Diener et al. 1997). This third component is defined as life satisfaction and is distinguished from affective appraisal in that it is more cognitively than emotionally driven. Individuals' assessments of their lives involve "both a cognitive evaluation and some degree of positive and/or negative feeling, i.e., affect" (Andrews and Withey 1976).

World Health Organization (1979) defined that being mentally healthy is an important contributor to one's subjective well-being, and well-being is more than just the absence of disease. Therefore, an operational definition of SWB should be interpreted to mean experiencing a high level of positive affect, a low level of negative affect and a high degree of satisfaction with one life (Deci and Ryan 2008; Diener 2000; Diener et al. 2005). In the past decades, SWB has emerged as one of the most prevalent concepts in happiness assessment, being perceived more as a general area of scientific interest rather than a single specific construct (Diener et al. 1999). This threefold structure has been empirically confirmed by several studies that have shown some degree of empirical independence between them (Albuquerque et al. 2012; Arthaud-Day et al. 2005; Lucas et al. 1996).

It has been argued that personality traits sustain their importance since they define, even if partially, how people experience the world and understand its development (Roberts 2009). Therefore traits are critical for understanding crucial mental and social outcomes and key components of human nature. In literature review concerning the importance of personality

predictive value to various constructs, Ozer and Benet-Marti'nez (2006) highlighted that personality is a strong predictor of SWB while contextual factors only show moderate contributions. Although, personality traits represent personality predispositions for general well-being, the personality correlates of the dimensions within each broad well-being type varies. This suggests that the relationship between personality and well-being is best modeled in terms of associations between specific traits and well-being dimensions (Sharon et al. 2009). For example, extraversion, neuroticism, and conscientiousness are correlated with both positive and negative subjective well-being (Lucas 2008).

In the late 1990s, the meta-analysis by DeNeve and Cooper (1998) showed the existence of a large number of studies on the relationship between personality and the two dimensions of subjective well-being (Veenhoven 1984): affective (positive affect, negative affect and the balance between them) and cognitive (life satisfaction). In terms of the Big Five dimensions, the above mentioned study suggested neuroticism as the most important predictor of negative affect and life satisfaction, while responsibility was identified by some authors as a variable related to both positive affect and life satisfaction (Hayes and Joseph 2003). Further, neuroticism has been identified as the strongest predictor of negative affect, whereas conscientiousness predicts satisfaction with life at a lower level (Argyle 1999; Cheng and Furnham 2001; Diener and Lucas 1999; Fujita 1991; Gutierrez et al. 2005; McCrae and John 1992; Vittersø and Nilsen 2002).

As interest in positive psychology has grown in recent years (Seligman et al. 2005), the construct of optimism has received an increased amount of research attention (Peterson 2000). The notion that positive thinking can affect individual behavior and influence the way a person reacts to adversity has proliferated in both popular and academic contexts over the years (e.g., Peale 1956). While the outcomes of optimism have been studied quite extensively, the position of optimism in the larger web of human personality constructs is less well understood (Peterson 2000). Buss (1996, p.192) noted that personality traits "represent individual differences in the qualities or resources individuals can draw upon to solve adaptive problems." Along these lines, investigators have called for research aimed at understanding the relationship between optimism and well-established personality constructs (Boland and Cappeliez 1997; Carver and Scheier 2005; Marshall et al. 1992; Milligan 2003).

Optimism is typically defined in terms of positive expectations about future events. For research purposes, optimism is often viewed as a bipolar individual difference variable ranging from pessimistic at the low end to optimistic at the high end, although some have argued that optimism and pessimism are relatively independent (Herzberg and Brähler 2006; Zuckerman 2003). Various approaches to operational optimism have been put forth including dispositional optimism (Carver and Scheier 2005; Scheier and Carver 1985; Scheier et al. 1994), explanatory style (Buchanan and Seligman 1995; Seligman 1991), and hope (Snyder 1994). Psychometrically, the term *dispositional optimism* (Scheier and Carver 1985) is used to refer to a person's tendency to be motivated by a belief that desired outcomes are easily attainable. The theory of dispositional optimism (Scheier and Carver 1985) states that one's thoughts about one's future affect one's circumstances because by expecting to do well, one will work more effectively and persist more for the goals set, therefore being more likely to achieve those goals and consequently achieve a greater sense of well-being.

The ways in which optimists and pessimists differ in their approach to the world have substantial impact on their lives. Optimists are people who expect good things to happen to them; pessimists are people who expect bad things to happen to them. Optimism corresponds to an individual having positive expectations about the future whereas pessimism represents the negative expectations of the individual regarding his/her future (Carver and

Scheier 2005; Peterson and Vaidya 2003). Thus, although optimists and pessimists encounter similar events, the optimistic individual tends to be able to cope with negative outcomes in a more effective way (Seligman 1990). In other words, the positive affectivity increases the individuals' contentment with their lives, whereas the negative affectivity decrease life satisfaction (Anaby et al. 2010; Cohn et al. 2009; Kuppens et al. 2008; Seligman et al. 2005). Numerous studies show significant correlation between optimism and life satisfaction in research done with adolescents (Roysamb and Strype 2002), college students (Ayyash-Abdo and Alamuddin 2007; Chang 1998), adults (Chang and Sanna 2001), and elders (Isaacowitz 2005). Briefly, all of these studies indicate that inalterably with age or life cycle optimistic individuals experience more life satisfaction.

Individual differences in optimism are relevant to clinical psychology because this dimension is associated, directly or indirectly, at both individual and social levels with risk for psychopathology. At the most basic level, optimism by definition is inversely related to hopelessness, a risk factor for depressive disorders (Alloy et al. 2006). Further, optimism appears to confer resilience to stressful life events, which are associated with risk for both onset and relapse of psychopathology (e.g., Ellicott et al. 1990; Finlay-Jones and Brown 1981). In sum, the trait of optimism may provide cognitive, coping, and contextual resources that promote better mental health. Indeed, the pattern of associations that optimism has with various behavioral and cognitive tendencies may give us broader hints about the nature of optimal living.

1.1 Current Study and Hypotheses

Although there have been a number of studies conducted on optimism, pessimism and their effects on an individual's health, it is still a fairly new area of research. The purpose of this study was to investigate the associations between personality traits, optimism and subjective well-being (Halama and Dedova 2007; Wrosch and Scheier 2003). Specifically, the purpose of this study was to examine the moderating role of optimism between personality traits and subjective well being (psychological distress and satisfaction with life) among university employees.

Baron and Kenny (1986) suggested that a moderator effect can be represented as the interaction between the predictor and the moderator that influences the criterion. Given this description and the findings reported previously, it was suspected that optimism might have been altering the relationship between personality traits and positive and negative aspects of subjective well-being. This study is the first to examine the potential buffering effect of optimism in personality and well-being linkage for adults. Therefore, given the potentially prominent role of personality in the experience of psychological well-being for adults, optimism was examined as a potential moderator between neuroticism and subjective well-being (psychological distress and satisfaction with life) and between conscientiousness and subjective well-being (psychological distress and satisfaction with life). Furthermore, the role of optimism as a moderator between consciousness and subjective well-being (psychological distress and satisfaction with life) was also examined.

In this study, measuring both the cognitive (satisfaction with life) and affective (depression and anxiety symptoms) aspects of subjective well-being will provide more complete understanding of the current sample, the relationship among other variables, and their positive (satisfaction with life) and negative mental health outcomes (depression and anxiety symptoms or psychological distress).

The following hypotheses were put forward in the present study:

1. It is hypothesized that neuroticism is positively associated with negative mental health outcomes (psychological distress) and negatively associated with positive outcomes (satisfaction with life).
2. It is hypothesized that optimism serves as a moderator in the relation between neuroticism and psychological distress, and neuroticism and satisfaction with life.
3. It is hypothesized that conscientiousness is negatively associated with negative mental outcomes and positively with satisfaction with life.
4. It is hypothesized that optimism moderates in the relation between conscientiousness and positive outcomes and conscientiousness and negative mental outcomes.

2 Method

2.1 Participants

Participants were 251 adults (148 males, 99 females) aged from 25 to 56 years (mean age = 29.83 years, SD = 7.7) working at COMSATS University of Information Technology, Lahore, Pakistan. The sample was recruited on the university campus and primarily consisted of teachers (37 %), administration and information technology professionals (50 %) and research associates (10 %). In terms of profession, 44 % were involved in teaching, 42 % were in administration, and 12 % were involved in research. Twelve percent had 14 years of education, 61 % had 16 years of education, and 18 % had master of philosophy and eight percent had doctoral degrees 355.

Demographic information sheet and following three assessment tools were used in the present research. In the initial stage of data collection, many missing responses were analyzed regarding the monthly income, home address, signature, and phone number. As a direct question about the participant's income is considered as taboo in traditional Pakistani culture, therefore, this question was replaced by the perceived income comfort level of the participant. Further, the questions about the personal identification like home address, signature, and phone numbers were also omitted.

The following standardized instruments available in the English language were used in current study

2.2 Five-Factor-Inventory (NEO-FFI)

The NEO five-factor inventory (NEO-FFI) is an abbreviated version of the Revised NEO personality inventory (NEO-PI) (Costa et al. 1987). NEO-FFI is comprised of 50 items that measures five domains of personality: neuroticism (N), extraversion (E), openness (O), agreeableness (A), and conscientiousness (C). The NEO-FFI has scales that are correlated with personality pathology (Pukrop 2002; Schroeder, Wormworth, and Livesley, 2002). Scores for each subscale are interpreted on a continuum, with higher scores indicating that the individual has a greater probability of exhibiting characteristics associated with that personality trait. Each item is scored on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). For the purpose of this study only neuroticism and conscientiousness subscales were selected. Cronbach's alphas for these subscales (neuroticism .80, and conscientiousness, .84) indicated that each subscale ranged from moderate to high internal consistency.

2.3 The Life Orientation Test-Revised (LOT-R)

Optimism and pessimism were measured using the Life Orientation Test-Revised (LOT-R; Scheier et al. 1994), consisting of ten items, which assesses trait-like optimism and pessimism via general, dispositional outcome expectancies of the respondent. Item examples include: (1) In uncertain times, I usually expect the best; and (2) If something can go wrong for me, it will. Negatively worded items are reverse scored, items are summed, and higher total scores indicate increased optimism. Cronbach's alpha for the total LOT-R score was moderate (.67). Separate Cronbach's alpha scores were also obtained for optimism (Items 1, 4, 10; $\alpha = .56$) and pessimism subscales (Items 3, 7, 9; $\alpha = .72$).

2.4 Brief Symptom Inventory (BSI)

The Brief Symptom Inventory (BSI) is the short version of the SCL-R-90 (Derogatis and Melisaratos 1983) which consists of 53 items covering nine symptom dimensions: somatization, obsession-compulsion, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation and psychoticism (Derogatis 1993). For the present study, depression (e.g., feeling blue) and anxiety (e.g., feeling nervous) subscales of the BSI-53 were used. Both the depression and anxiety subscales were composed of 12 items. Cronbach's alphas for anxiety (.87) and depression (.90) subscales indicated good internal consistency.

2.5 Satisfaction with Life Scale

The Satisfaction with Life Scale (Dienere et al. 1985) is a concise five-item measure of global life satisfaction and is suitable for all ages, from adolescents to adults. Respondents indicated their extent of agreement with each of the item (e.g., "In most ways my life is close to my ideal") on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). The reliability and validity of the SWLS has been considered adequate (Dienere et al. 1985; Neto 1993; Pavot et al. 1991).

2.6 Procedure

Participants voluntarily completed a questionnaire (duration: 15–20 min) containing two subscales (conscientiousness and neuroticism) of The NEO Five-Factor Personality Inventory, depression and anxiety subscale of Brief Symptom Inventory (53-items), and Satisfaction with Life Questionnaire (7 items). To encourage truthful responding, the participants were told their responses were anonymous and there were no right or wrong answers to any of the questions. All of them were informed that they could withdraw from the study at any time.

2.7 Preliminary Analysis

The data for this study regarding outlier, coding error and missing value points on the individual questionnaire items and all key variables were checked regarding the normal and bivariate assumption of distribution. The frequency distribution of demographic data and descriptive items, internal consistency reliabilities of research instruments and intercorrelation matrix was generated. Bivariate correlations were used to assess the degree of association between predictor variables; no relationship reached accepted cutoffs for

Table 1 Means, standard deviation and interco relation among study variables (251)

	N	C	Optimism	Distress	Satisfaction
N	1				
C	−.11	1			
Optimism	−.29**	.40**	1		
Distress	.48**	−.20*	−.15*	1	
Satisfaction	−.23**	.21**	.14*	−.35**	1
M	24.58	33.48	14.42	16.52	22.16
SD	5.93	6.61	3.14	10.05	5.81

The numbers do not always lead up to 251 due to some missing data

N = Neuroticism; C = Conscientiousness, Optimism = Total score on Orientation to Life questionnaire; Distress = Total depression and anxiety score; Satisfaction = Satisfaction with life

multicollinearity ($p > .70$; see Table 1). Separate moderated multiple regression analyses were run to examine moderating role of optimism in the relation between neuroticism and positive (subjective well-being and negative mental health outcomes (depression and anxiety total scores) and conscientiousness and positive (subjective well-being) and negative mental health outcomes (depression and anxiety total scores). Before performing the moderated hierarchical regression analyses, a univariate analysis of variance (ANOVA) was conducted to examine the group differences regarding selected demographic variables (e.g., age, gender, education, profession and income comfort level). Univariate analysis (one-way ANOVA) indicated significant differences regarding age, gender, education and income satisfaction for positive well-being and negative mental health outcomes.

Measure reliabilities and descriptive statistics are shown in Table 1. All variables were checked regarding the normality assumption and they were approximately normally distributed. Examination of normal probability plots and residual plots also confirmed that the assumption of analyses were performed to examine the moderating effects of optimism in the relationship univariate normality, linearity between pairs of variables, and homoscedasticity were generally met. There was no need for transformation of data.

The correlation matrix (Table 1) was generated to examine the bivaraite relationship among current study variables. All study variables indicated weak to moderate level correlations in the proposed direction. Among the personality factors, neuroticism correlated negatively with satisfaction with life ($r = -.29, p < .01$) and positively with distress ($r = .48, p < .01$) while conscientiousness correlated positively with satisfaction with life ($r = .21, p < .01$) and negatively with distress ($r = -.20, p < .05$). Further, optimism was negatively weakly associated with distress ($r = .-.15, p < .05$) and positively with satisfaction with life ($r = .14, p < .05$).

2.8 Interaction Effects

A series of moderated regression analyses were performed to examine the moderating effects of optimism in the relationship between neuroticism and subjective well-being (psychological distress and satisfaction with life). Moreover, the role of optimism as a moderator between consciousness and subjective well-being (psychological distress and satisfaction with life) was also examined. Results of regression analyses are summarized in Tables 2 and 3. Given that moderated multiple regression is a conservative procedure (Young 2001), separate regression analyses were performed to maximize the power of the

Table 2 Optimism as moderator between neuroticism and psychological distress and between conscientiousness and psychological distress

	Dependent variable: psychological distress		
	B	SE	β
Neuroticism	.80	.09	.48**
Optimism	−.04	.20	−.01
Neuroticism × optimism	−.07	.03	−.70*
Conscientiousness	−.30	.10	−.19*
Optimism	−.19	.23	−.06
Conscientiousness × optimism	−.07	.03	−1.98*

Table 3 Optimism as moderator between conscientiousness and satisfaction with life and between conscientiousness and satisfaction with life

	Dependent variable: satisfaction with life		
	B	SE	β
Neuroticism	−.22	.06	−.22**
Optimism	.15	.12	.08
Neuroticism × optimism	.06	.02	1.08**
Conscientiousness	.17	.05	.20**
Optimism	.18	.13	.09
Conscientiousness × optimism	−.05	.02	1.47**

B = unstandardized coefficients; β = standardized coefficients; SE = standard error

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

analyses. All scale scores were centered to reduce multicollinearity between the main effect and interaction terms. In these multiple regression analyses, neuroticism variable was entered first, followed by optimism, and then the cross product term (neuroticism × optimism). Further, conscientiousness was entered first, followed by resource variable, and then the cross product term (conscientiousness × optimism). Semi-partial correlations were calculated after the addition of each variable. A significant increase in accounted variance by a predictor variable represents a main effect for that variable, and a significant increase in accounted variance by the product of two variables represents an interaction.

Results indicated that optimism emerged to be a significant moderator in the relationship between neuroticism and psychological distress. When neuroticism was entered individually in step 1, it did indicate main effects in negative health outcomes ($\beta = .47$, $p < .001$). It explained a significant amount of variance (23 %) in psychological distress scores, $R^2 = .23$, $F = (1, 221) = 65.76$, $p < .001$. At step 2, optimism did not indicate main effects ($\beta = -.041$, $p > .05$). In the final step, the cross-product term (neuroticism and optimism) was entered in and it indicated significant interaction effects in negative health outcomes ($\beta = -.70$, $p < .001$. The moderating effects added 2 % of the variance in negative health outcome scores as the R^2 value reached to 25 from 23 % ($R^2 = .25$, $F = (3, 219) = 23.53$, $p < .001$). The neuroticism and optimism interaction was significant (partial correlation = −.13, $t(219) = -.70$, $p < .05$). It suggested that optimism moderated the relations between neuroticism and negative health outcomes in terms of decreasing the negative health outcomes (see Tables 2, 3).

The main effect of neuroticism was significant ($\beta = -.22$, $p < .001$) on positive health outcomes accounting for 5 % of the variance in positive health outcomes ($R^2 = .05$,

$F = (1, 232) = 12.87, p < .001$). It suggested that neuroticism was decreasing the satisfaction with life in terms of increasing the psychological distress symptoms. The main effects of optimism were not significant $F < 1$. The moderating effect of optimism was significant for positive health outcomes ($\beta = 1.07, p < .01$). It added for a significant amount of variance (3 %) in positive health outcome scores as the R^2 value reached to 8 from 5 % ($R^2 = .08, F = (3, 230) = 7.25, p < .001$). It suggested that it was increasing the positive mental health outcomes in terms of increasing satisfaction with life. The neuroticism and optimism interaction was significant (partial correlation = 2.63, $t(229) = .17, p < .05$).

The main effect of conscientiousness was significant on positive well-being (satisfaction with life) suggesting that it were increasing the psychological well-being. When conscientiousness was entered individually in step 1, it indicated significant main effects in positive well being model ($\beta = .19, p < .001$). It did account for a significant amount of variance ($R^2 = .04, F = (1, 228) = 9.18, p < .001$. At step 2, optimism did not indicate main effects ($\beta = .09, p > .05$). The hypothesis regarding the moderating role of optimism in the relationship between conscientiousness and positive well-being (satisfaction with life) was supported ($\beta = -1.47, p < .01$). The interaction effects added 2 % of the variance as the R^2 value reached to 6 from 4 % ($R^2 = .06, F = (3, 226) = 5.74, p < .001$). It suggested that optimism increased satisfaction with life in terms of positive psychological functioning. The main effect of conscientiousness was significant ($\beta = -.19, p < .001$) in negative health outcomes as it accounted for 4 % of the variance in this model ($R^2 = .04$, $F = (1, 218) = 8.57, p < .01$). It suggested that it was decreasing psychological stress symptoms. The hypothesis regarding the moderating role of optimism was significant ($\beta = -1.24, p < .05$), indicating that it was effecting psychological distress symptoms in terms of decreasing negative health outcomes. The interaction effects added 2 % of the variance in negative health outcomes as the R^2 value reached to 6 from 4 % ($R^2 = .06$, $F = (3, 216) = 4.43, p < .01$. The conscientiousness and optimism interaction was significant (partial correlation = $-.13$, $t(216) = -1.98, p < .01$).

3 Discussion

The purpose of this study was to investigate the associations between personality traits, optimism and subjective well-being among Pakistani university employees (Halama and Dedova 2007; Wrosch and Scheier 2003). Specifically, it was examined how optimism was playing role between personality traits (neuroticism and conscientiousness) as well as cognitive and affective aspects of subjective well-being.

Once more, these results show that personality is an important correlate of subjective well-being. The cognitive and affective aspects of SWB (psychological distress and satisfaction with life) emerge persistently related to neuroticism and conscientiousness (Gutierrez et al. 2005; McCrae and John 1992; Hayes and Joseph 2003). It indicated that neuroticism is positively related to psychological distress and negatively to satisfaction with life. The current results validated the assumption that neuroticism is a significant risk factor for positive functioning as participants perceiving higher level of neuroticism had less satisfaction with life and they were more likely to be psychological distressed. Overall, the current results supported the previous findings (Diener and Lucas 1999; Hayes and Joseph 2003; Schimmack et al. 2002) about the critical role of neuroticism in diminishing subjective well-being of university employees.

The present findings suggest that conscientiousness may be conceived as primary link between personality and SWB. It is positively associated with satisfaction with life and

negatively with psychological distress. Current results suggested that people indicating higher level of conscientiousness were more satisfied with life while those who scored low in conscientiousness indicated higher level of psychological distress. The current findings were in line with previous findings (DeNeve and Cooper 1998; Gutierrez et al. 2005; Hayes and Joseph 2003) about the critical and stable role of conscientiousness in relating with subjective well-being of university employees. DeNeve and Cooper (1998) found conscientiousness to be positively and strongly associated with life satisfaction. Further, Blatny et al. (2004)concluded that life satisfaction relates significantly with conscientiousness. It has been suggested that conscientiousness increases the probability of positive experiences in social and achievement situations, respectively, and this, in turn, is directly related to subjective well-being (McCrae and Costa 1991). This trait describes task behavior and impulse control and people set high goals for themselves and achieve more, they are more likely to feel satisfied with their lives. It is related to subjective well-being in that "it helps to smooth the progress of more positive experiences in achievement situations" (McCrae and Costa 1991).

Current results confirmed optimism as a dispositional coping resource that shows promise for distinguishing between adults who surrender or succumb to distress, and those who manage life's stressors more effectively (Boland and Cappeliez 1997; Lai 2009). Research has demonstrated that optimists are psychologically well-adjusted and satisfied with life, engaged in adaptive behaviors, and tend to have better physical health (Rasmussen, Scheier and Greenhouse 2009; Scheier and Carver 1992a; Scheier et al. 2001). It has been argued (Scheier and Carver 1985) that one's thoughts about one's future affect one's circumstances because by expecting to do well, one will work more effectively and persist more for the goals set; therefore, being more likely to achieve those goals and consequently achieve a greater sense of subjective well-being or satisfaction. Achat et al. (2000) found that optimism was associated with higher levels of mental health, general health perceptions, vitality, and lower levels of bodily pain in a cohort of healthy middle-aged and older men. The findings for optimism and depression were statistically significant after mutual adjustment in multivariate regression models (Achat et al. (2000)). The optimism construct has most often been linked to low neuroticism and high extraversion or positive emotionality (Boland and Cappeliez 1997; Marshall et al. 1992; Williams 1992). In the context of stressors including chronic illness, optimism is associated with reduced depression, and better psychological adjustment and well-being, whereas pessimism is related to greater anxiety and depression, anger, guilt, despair, and increased physical dysfunction (Scheier and Carver 1992a).

Although, current findings confirm that neuroticism and conscientiousness influence the components of SWB (satisfaction with life and psychological distress); however, there are considerable differences in the magnitude of the variance explained by each set. Neuroticism facets are those that better explained negative affect (Argyle 1999; Cheng and Furnham 2001; Diener and Lucas 1999; Gutierrez et al. 2005; McCrae and John 1992; Vittersø and Nilsen 2002) and life satisfaction (Diener and Lucas 1999; Schimmack et al. 2002), while conscientiousness facets explained positive and negative affect almost low to moderate level. The present findings are in line with previous findings indicating that neuroticism influences negative affect strongly while conscientiousness influences positive affect and satisfaction with life at low level (Costa and McCrae 1980; McCrae and Costa 1991; DeNeve and Cooper 1998; Hayes and Joseph 2003).

Unexpectedly, the present research findings indicated that optimism had no main effect on the level of satisfaction with life or psychological distress and these findings were in line with previous studies suggesting the low predictability of optimism construct (Adler

1994). One possible explanation for this unique finding is the importance of cultural influences on optimism as in some studies (Rajandram et al. 2011; Achat et al. 2000) optimism has not been found to be significant predictor of anxiety, physical functioning, or social functioning in healthy and physically ill cohort. It is important to note that most of the studies that examined the role of optimism on psychological adjustment have used Western samples which only provide a narrow understanding of optimism. Further, optimism as coping resource that is effective under optimal conditions can be less effective in the context of severe and chronic stress. Other factors accounting for this weak or unexpected finding include individual differences, personal resources, and cultural or social contexts. The differences in findings also may account sampling error or different measuring tools that measure the same construct.

Although, optimism had no direct effect on psychological distress or satisfaction with life but it did play as a moderator between neuroticism and satisfaction with life and neuroticism and distress. The present results suggested that optimism buffers neurotic tendencies in terms of decreasing psychological distress and enhancing the satisfaction with life. The present findings concur with previous studies (Boland and Cappeliez 1997; Lai 2009). For example, Chang (1998) showed that dispositional optimism was a moderator of the influence of perceived stress on the psychological wellbeing of undergraduate college students. Literature (Scheier and Carver 1987, 1993; Scheier et al. 1994, 2001) described dispositional optimism as beneficial for physical and psychological well-being as well as protecting from the negative effects of physical and psychological problems. In a recent study (Lai 2009) it has been found that the amount of optimism or pessimism an individual has can influence aspects of their mental health, daily hassles, coping, and life satisfaction. The moderating effect of dispositional optimism on the relationship between negative life experiences and suicide ideation and attempts has been examined in a college student sample (Hirsch et al. 2007). They also found that individuals with greater optimism had reduced risk for suicide ideation and attempts in the face of low to moderate negative life events; however, this association is changed at the highest levels of negative life events.

A study carried out by Lai (2009) tested the buffering hypothesis and reported that the more optimistic a person is, the less he/she will be affected by negative health consequences relating to stress. One finding showed that an increased score in hassles predicted a higher distress score, whereas higher optimism scores predicted lower distress or better mental health. Overall, optimists did better with increasing levels of stress. Similarly, another study conducted by Boland and Cappeliez in 1997 looked at how optimism in older women affects emotional distress, life satisfaction, perceived daily hassles, and coping. The study controlled for influences of related variables, specifically neuroticism, to see if they would reduce the effects of optimism. Results of the study found that participants who scored higher on the optimism scale scored lower on measures of neuroticism, daily stress, and psychological stress, and higher on measures of social support, perceived health, and life satisfaction.

The role of optimism was also studied as a moderator between conscientiousness and psychological distress and conscientiousness and satisfaction with life. It suggested that optimism interacted with conscientiousness buffering the deleterious effects of psychological distress. On the other hand, optimism was interacting with conscientiousness and was enhancing the level of satisfaction with life in terms of positive well-being or outcomes. Patrick et al. (2011) found the strong positive relationships between optimism and four of the Big Five factors including conscientiousness and emotional stability. It was found that conscientiousness explained additional variance in dispositional optimism over

and above neuroticism and extraversion, providing evidence for the complexity of optimism.

3.1 Limitations and Implications

It is important for reader to be careful about the findings of the present study that has inherent some methodological problems. These limitations include: generalizability, sampling biases, problems related to cross-sectional study, and use of instruments. One of the major limitations is related to generalizability as the sample was taken from COMSATS Institute of Information Technology, Lahore, the findings cannot be generalized to larger populations of Pakistan. The other limitation of this study is non-random purposive sampling. Although efforts were made to select the sample that might mirror the actual population, participants in the study might not have been representative of the larger Pakistani adult non-clinical population.

Further, generalizability of the present results is limited to the groups falling under specific age, marital status, and duration of residence criteria. In addition, some of the findings and methodological implications of this study may only be applicable to recent immigrant groups who share similar background and cultural values. One of the limitations of this study concerns participants' attrition or refusal to participate in the study. Some respondents refused to participate in the study, and therefore, the researcher cannot say for sure whether any systematic differences existed between respondents and non-respondents. Cross-sectional survey design is another limitation as the findings of the study are limited in terms of establishing causal relationships among variables. A longitudinal study will be more useful in establishing causal relationship between personality variables and psychological health outcomes.

It is important to note most of the studies that examined the role of optimism on psychological adjustment have used Western samples which only provide a narrow understanding of optimism. Therefore, more research is needed to provide evidence of the unity of human psychosocial functioning (Piedmont and Chae 1997) psychological universals (i.e., *etic* approach, Lopez et al. 1989). Furthermore, there is need for the identification of culturally specific constructs which are useful for explaining cultural differences (i.e., *emic* approach, Lonner 1980); and integration of the *etic* and *emic* approaches to clarify conceptual differences and build a more comprehensive knowledge base in psychology (Berry et al. 1999).

Bolstering positive and reducing negative future expectancies may aid in the prevention of psychological distress in clinical and non-clinical population. Moreover, therapeutic strategies to enhance optimism and reduce pessimism may be well-suited to primary care and other medical settings that may contribute to reduced health-related anxiety and depression.

References

Achat, H., Kawachi, I., Spiro, A., DeMolles, A., & Sparrow, D. (2000). Optimism and depression as predictors of physical and mental health functioning: The normative aging study. *Annals of Behavioral Medicine, 22*(2), 127–130.

Adler, N. (1994). Health psychology: Why do some people get sick and some stay well? *Annual Review of Psychology, 45*, 229–259.

Albuquerque, I., Lima, M. P., Figueiredo, C., & Matos, M. (2012). Subjective well-being structure: Confirmatory factor analysis in a Portuguese teacher sample. *Social Indicators Research, 105*(3), 569–580.

Anaby, D., Jarus, T., & Zumbo, B. D. (2010). Psychometric evaluation of the Hebrew language version of the satisfaction with life scale. *Social Indicators Research, 96*(2), 267–274.

Andrews, F. M., & Withey, S. B. (1976). *Social indicators of wellbeing*. New York: Plenum.

Argyle, M. (1999). Causes and correlates of happiness. In D. Kahneman, E. Diener, & N. Schwarz (Eds.), *Well-being: The foundations of hedonic psychology* (pp. 213–229). New York: Russell Sage Foundation.

Arthaud-Day, M. L., Rode, J. C., Mooney, C. H., & Near, J. P. (2005). The subjective well-being construct: A test of its convergent, discriminate, and factorial validity. *Social Indicators Research, 74*, 445–476.

Ayyash-Abdo, H., & Alamuddin, R. (2007). Predictors of subjective well-being among college youth in Lebanon. *The Journal of Social Psychology, 147*(3), 265–284.

Baggett, H. L., Saab, P. G., & Carver, C. S. (1996). Appraisal, coping, task performance, and cardiovascular responses during the evaluated speaking task. *Personality and Social Psychology Bulletin, 22*, 483–494.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173–1182.

Berry, J. W., Poortinga, Y. H., Segall, M. H., & Dasen, P. R. (1999). *Cross-cultural psychology: Research and applications*. Cambridge, MA: Cambridge University Press.

Blatny, M., Jelinek, M., Blizkovska, J., & Klimusova, H. (2004). Personality correlates of self esteem and life satisfaction. *Studia Psychologica, 46*(2), 97–104.

Boland, A., & Cappeliez, P. (1997). Optimism and neuroticism as predictors of coping and adaptation in older women. *Journal of Personal Individual Difference, 22*(6), 909–919.

Brissetie, I., Scheier, M. F., & Carver, C. S. (2002). The role of optimism in social network development, coping, and psychological adjustment during a life transition. *Journal of Personality and Social Psychology, 82*, 102–111.

Buss, D. M. (1996). Social adaptation and five major factors of personality. In J. S. Wiggins (Ed.), *The five-factor model of personality: Theoretical perspectives* (pp. 192–207). New York: Guilford.

Carver, C. S., & Scheier, M. F. (2005). Optimism. In C. R. Snyder & S. J. Lopez (Eds.), *Handbook of positive psychology* (pp. 182–204). NC: Oxford University Press.

Chang, E. C. (1998). Dispositional optimism and primary and secondary appraisal of a stressor: Controlling for confounding influences and relations to coping and psychological and physical adjustment. *Journal of Personality and Social Psychology, 74*, 1109–1120.

Chang, E. C., & Farrehi, A. S. (2001). Optimism/pessimism and information-processing styles: Can their influences be distinguished in predicting psychological adjustment? *Personality and Individual Differences, 31*, 555–563.

Chang, E. C., & Sanna, L. J. (2001). Optimism, pessimism, and positive and negative affectivity in middle aged adults: A test of a cognitive-affective model of psychological adjustment. *Psychology and Aging, 16*(3), 524–531.

Cheng, H., & Furnham, A. (2001). Attributional style and personality as predictors oh happiness and mental health. *Journal of Happiness Studies, 2*, 307–327.

Cohn, M. A., Fredrickson, B. L., Brown, S. L., Mikels, J. A., & Conway, A. M. (2009). Happiness unpacked: Positive emotions increase life satisfaction by building resilience. *Emotion, 9*(3), 361–368.

Costa, P. T, Jr, & McCrae, R. R. (1980). Still stable after all these years: Personality as a key to some issues in adulthood and old age. In P. B. Baltes & O. G. Brim (Eds.), *Life span development and behavior* (pp. 65–102). New York: Academic Press.

Costa, P. T, Jr, & McCrae, R. R. (1994). Set like plaster? Evidence for the stability of adult personality. In T. F. Heatherton & J. L. Weinberger (Eds.), *Can personality change?* (pp. 21–40). Washington, DC: American Psychological Association.

Costa, P. T., McCrae, R. R., & Zonderman, A. (1987). Environmental and dispositional influences on well-being: Longitudinal follow-up of an American national sample. *British Journal of Psychology, 78*, 299–306.

Deci, E. L., & Ryan, R. M. (2008). Hedonia, eudaimonia, and well-being: An introduction. *Journal of Happiness Studies, 9*, 1–11.

DeNeve, K. M., & Cooper, H. (1998). The happy personality: A meta analysis of 137 personality traits and subjective well-being. *Psychological Bulletin, 124*, 197–229.

Derogatis, L. R. (1993). *BSI brief symptom inventory: Administration, scoring and procedures manual* (4th ed.). Minneapolis, MN: National Computer System.

Derogatis, L. R., & Melisaratos, N. (1983). The brief symptom inventory: An introductory report. *Psychological Medicine, 13*, 595–605.
Diener, E. (2000). Subjective well-being. The science of happiness and a proposal for a national index. *American Psychologist, 55*, 34–43.
Diener, E., & Lucas, R. E. (1999). Personality and subjective well-being. In D. Kahneman, E. Diener, & N. Schwarz (Eds.), *Well-being: The foundations of hedonic psychology* (pp. 213–229). New York: Russell Sage Foundation.
Diener, E., Lucas, R. E., & Oishi, S. (2005). Subjective well-being: The science of happiness and life satisfaction. In C. R. Snyder & S. J. Lopez (Eds.), *Handbook of positive psychology* (pp. 63–73). New York: Oxford University Press.
Diener, E., Suh, E., & Oishi, S. (1997). Recent findings on subjective well-being (invited article). *Indian Journal of Clinical Psychology*, *24*, 25–41.
Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective well-being: Tree decades of progress. *Psychological Bulletin, 125*, 276–302.
Dienere, E. D., Emmons, A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale: A measurement of life satisfaction. *Journal of Personality Assessment, 49*, 71–75.
Ellicott, A., Hammen, C., Gitlin, M., Brown, G., & Jamison, K. (1990). Life events and the course of bipolar disorder. *American Journal of Psychiatry, 147*, 1194–1198.
Finlay-Jones, R. A., & Brown, G. W. (1981). Types of stressful life event and the onset of anxiety and depressive disorders. *Psychological Medicine, 11*, 803–815.
Friedman, E. H. (1991). Letter to the editor. *Social Science and Medicine, 32*, 1317–1318.
Fujita, F. (1991). *An investigation of the relation between extroversion, neuroticism, positive affect, and negative affect*. Master's thesis, University of Illinois.
Gutierrez, J. L. G., Jime′nez, B. M., Hernandez, E. G., & Puente, C. P. (2005). Personality and subjective well-being: Big five correlates and demographic variables. *Personality and Individual Differences, 38*, 1561–1769.
Halama, P., & Dedova, M. (2007). Meaning in life and hope as predictors of positive mental health: Do they explain residual variance not predicted by personality traits? *Studia Psychologica*, *49*, 191–200.
Hayes, N., & Joseph, S. (2003). Big 5 correlates of tree measures of subjective well-being. *Personality and Individual Differences, 34*, 723–727.
Herzberg, P. Y., & Brähler, E. (2006). Assessing the big-five personality domains via short forms. A cautionary note and a proposal. *European Journal of Psychological Assessment, 22*, 139–148.
Hirsch, J., Wolford, K., LaLonde, S. T., Brunk, L., & Parker, M. A. (2007). Dispositional optimism as a moderator of the relationship between negative life events and suicide ideation and attempts. *Cognitive Therapy & Research, 31*(4), 533–546.
Isaacowitz, D. M. (2005). Correlates of well-being in adulthood and old age: A tale of two optimisms. *Journal of Research in Personality, 39*, 224–244.
John, O. P. (1989). Towards a taxonomy of personality descriptors. In D. M. Buss & N. Cantor (Eds.), *Personality psychology: Recent trends and emerging directions* (pp. 261–271). New York: Springer.
John, O. P., & Srivastava, S. (1999). The big five traits taxonomy: History measurement, and theoretical perspectives. In L. Pervin & O. P. John (Eds.), *Handbook of personality: Theory and research* (2nd ed., pp. 102–138). New York: Guilford Press.
Kuppens, S. P., Realo, A., & Diener, E. (2008). The role of positive and negative emotions in life satisfaction judgments across nations. *Journal of Personality and Social Psychology, 95*(1), 66–75.
Lai, J. C. L. (2009). Dispositional optimism buffers the impact of daily hassles on mental health in Chinese adolescents. *Personality and Individual Differences, 47*, 247–249. doi:10.1016/j.paid.2009.03.007.
Lefcourt, H. M. (1992). Perceived control, personal effectiveness, and emotional states. In B. N. Carpenter (Ed.), *Personal coping: theory, research, and application*, pp. 111–131.
Lonner, W. J. (1980). The search for psychological universals. In H. C. Triandis & W. W. Lambert (Eds.), *Handbook of cross-cultural psychology* (pp. 143–204). Boston: Allyn & Bacon.
Lopez, S. R., Grover, K. E., Holland, D., Johnson, M. J., Kain, C. D., & Kanel, K. (1989). Development of culturally sensitive psychotherapists. *Professional Psychology and Practice*, *20*, 369–376.
Lucas, R. E. (2008). Personality and subjective well-being. In M. Eid & R. J. Larsen (Eds.), *The science of subjective well-being* (pp. 171–194). New York: The Guilford Press.
Lucas, R. E., & Donnellan, M. B. (2007). How stable is happiness? Using the STARTS model to estimate the stability of life satisfaction. *Journal of Research in Personality*, *41*, 1091–1098.
Lucas, R. E., Diener, E., & Suh, E. (1996). Discriminant validity of well-being measures. *Journal of Personality and Social Psychology, 71*, 616–628.
Marshall, G. N., Wortman, C. B., Kusulas, J. W., Hervig, L. K., & Vickers, R. R. (1992). Distinguishing optimism from pessimism: Relations to fundamental dimensions of mood and personality. *Journal of Personality and Social Psychology, 62*, 1067–1074.

McCrae, R. R., & Costa, P. T. (1987). Validation of the five-factor model of personality across instruments and observers. *Journal of Personality and Social Psychology, 52*, 81–90.
McCrae, R., & Costa, P. T. (1991). Adding Liebe und Arbeit: The full five-factor model and well-being. *Personality and Social Psychology Bulletin, 17*(2), 227–232.
McCrae, R. R., & John, O. P. (1992). An introduction to the five-factor model and its applications. Special issue: The five-factor model: Issues and applications. *Journal of the Personality, 60*, 175–215.
Milligan, M. (2003). Optimism and the five-factor model of personality, coping, and health behavior. *Dissertation Abstracts International*, *64*(11-B), 5830. (UMI No. 3112405)
Neto, F. (1993). The satisfaction with life scale: Psychometrics properties in an adolescent. *Journal of Youth and Adolescence, 22*, 125–134.
Ozer, D. J., & Benet-Martı′nez, V. (2006). Personality and prediction of consequential outcomes. *Annual Review of Psychology, 57*, 401–421.
Parkinson, J. (2004, Oct). *Indicators of mental health and well-being*. *Background NHS Health Scotland*. Retrieved Jan 10, 2005, from http://www.phis.orguk/doc.pl?file=pdf/Mental%20Health%20background%20pavised2.do.
Patrick, S. J., Nicholas, M. R., & Kelly, A. R. (2011). Optimism and the Big Five factors of personality: Beyond neuroticism and extraversion. *Personality and Individual Differences*, *51*(8), 946–951.
Pavot, W., Diener, E. D., Colvin, C. R., & Sandvik, E. D. (1991). Further validation satisfaction with life scale: Evidence for the cross-method convergence of well-being measures. *Journal of Personality Assessment, 57*, 149–161.
Peale, N. (1956). *The power of positive thinking*. Englewood Cliffs, NJ: Prentice-Hall.
Peterson, C. (2000). The future of optimism. *American Psychologist, 55*, 44–55.
Peterson, C., & Vaidya, R. S. (2003). Optimism as virtue and vice. In E. C. Chang & L. J. Sanna (Eds.), *Virtue, vice, and personality: The complexity of behavior* (pp. 23–37). Washington, DC: American Psychological Association.
Peterson, C., Park, N., & Seligman, M. E. P. (2005). Assessment of character strengths. In G. P. Koocher, J. C. Norcross & S. S. Hill III (Eds.), *Psychologists' desk reference* (2nd ed., pp. 93–98). New York: Oxford University Press.
Piedmont, R. L., & Chae, J. H. (1997). Cross-cultural generalizability of the five-factor model of personality: Development and validation of the NEO PI-R for Koreans. *Journal Cross-Cultural Psychology, 28*, 131–155.
Rajandram, R, K., Ho, S.M., Samman, N., Chan, N., McGrath, C., & Zwahlen, R.A. (2011). Interaction of hope and optimism with anxiety and depression in a specific group of cancer survivors: a preliminary study. *BMC Research Notes.* Retrieved from http://www.biomedcentral.com/1756-0500/4/519.
Roberts, B. W. (2009). Back to the future: Personality and assessment and personality development. *Journal of Research in Personality, 43*, 137–145.
Roysamb, E., & Strype, J. (2002). Optimism and pessimism: Underlying structure and dimensionality. *Journal of Social and Clinical Psychology, 21*(1), 1–19.
Scheier, M. E., & Carver, C. S. (1985). Optimism, coping, and health: Assessment and implications of generalized outcome expectancies. *Health Psychology, 4*, 219–247.
Scheier, M. F., & Carver, C. S. (1992a). Effects of optimism on psychological and physical well- being: Theoretical overview and empirical update. Special issue: Cognitive perspectives in health psychology. *Cognitive Therapy & Research, 16*, 201–228.
Scheier, M. F., & Carver, C. S. (1992b). Effects of optimism on psychological and physical well- being: Theoretical overview and empirical update. *Cognitive Therapy and Research, 16*, 201–228.
Scheier, M. F., & Carver, C. S. (1993). On the power of positive thinking: The benefits of being optimistic. *Current Directions in Psychological Science, 2*, 26–30.
Scheier, M. F., Carver, C. S., & Bridges, M. W. (1994). Distinguishing optimism from neuroticism (and trait anxiety, self-mastery, and self-esteem): A reevaluation of the life orientation test. *Journal of Personality and Social Psychology, 67*, 1063–1078.
Scheier, M. F., Carver, C. S., & Bridges, M. W. (2001). Optimism, pessimism and psychological well-being. In E. C. Chang (Ed.), *Optimism and pessimism. Implications for theory, research, and practice* (pp. 189–216). Washington, DC: American Psychological Association.
Scheier, M. F., Weintraub, J. K., & Carver, C. S. (1986). Coping with stress: Divergent strategies of optimists and pessimists. *Journal of Personality and Social Psychology, 51*, 1257–1264.
Schimmack, U., Diener, E., & Oishi, S. (2002). Life-satisfaction is a momentary judgment and a stable personality characteristic: The use of chronically accessible and stable sources. *Journal of Personality, 70*, 345–384.
Seligman, M. E. P. (1990). *Learned optimism.* Ankara: HYB.
Seligman, M. E. P. (1991). *Learned optimism: How to change your mind and your life*. New York: Knopf.

Seligman, M. E. P., Steen, T. A., Park, N., & Peterson, C. (2005). Positive psychology progress: Empirical validation of interventions. *American Psychologist, 60*, 410–421.

Sharon, G. L., Janice, Langan-Fox, & Jeromy, A. (2009). The Big five traits as predictors of subjective and psychological well-being. *Psychological Reports, 105*(1), 205–231.

Sharpe, J., Patrick, S. J., Nicholas, M. R., & Kelly, R. A. (2011). Optimism and the Big five factors of personality: Beyond neuroticism and extraversion. *Personality and Individual Differences, 51*(8), 946–951.

Snyder, C. R. (1994). *The psychology of hope: You can get there from here*. New York: Free Press.

Tomaka, J., & Blascovich, J. (1994). Effects of justice beliefs on cognitive appraisals of and subjective, physiological, and behavioral responses to potential stress. *Journal of Personality and Social Psychology, 67*, 732–740.

Veenhoven, R. (1984). *Conditions of happiness*. Dordrecht: Reidel.

Vittersø, J., & Nilsen, F. (2002). The conceptual and relational structure of subjective well-being, neuroticism, and extraversion: Once again, neuroticism is the important predictor of happiness. *Social Indicators Research, 57*, 89–118.

Watson, D., & Clark, L. A. (1997). Extraversion and its positive emotional core. In R. Hogan, J. A. Johnson, & S. R. Briggs (Eds.), *Handbook of personality psychology* (pp. 767–793). San Diego: Academic Press.

Westport, C. T., & Praeger Lonner, W. J. (1980). The search for psychological universals. In H. C. Triandis & W. W. Lambert (Eds.), *Handbook of cross-cultural psychology* (p. 143204). Boston: Allyn & Bacon.

Williams, D. G. (1992). Dispositional optimism, neuroticism, and extraversion. *Personality and Individual Differences*, *13*, 475–477.

World Health Organization. (1979). Psychosocial factors and health: New program directions. In P. Ahmed & G. Coelho (Eds.), *Towards a new definition of Health*. New York: Plenum.

Wrosch, C., & Scheier, M. F. (2003). Personality and quality of life: The importance of optimism and goal adjustment. *Quality of Life Research*, *12*, 59–72.

Young, M. Y. (2001). Moderators of stress in Salvadoran refugees: The role of personal and social resources. *International Migration Review*, *35*(3), 840–869.

Zuckerman, M. (2003). Optimism and pessimism: Biological foundations. In E. C. Chang & L. J. Sanna (Eds.), *Virtue, vice, and personality: The complexity of behavior* (pp. 169–188). Washington, DC: American Psychological Association.