

Personality and Creativity as Predictors of Psychological Well-being in College Students

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Developing and maintaining well-being is imperative for numerous aspects of cognitive and conative functioning, physical, and psychological health. The present research was conducted to find out whether psychological well-being in college students can be predicted by personality traits and creativity. We hypothesized that psychological well-being is likely to be predicted by personality traits. Low level of neuroticism, high levels of extraversion, openness, agreeableness, and conscientiousness and creativity. Multistage sampling was used; universities with fine arts department were randomly selected from a list of universities in the city of Lahore. Later ($N = 125$) students were recruited through purposive sampling technique from the fine arts departments. NEO Five Factor Inventory (Costa & McCrae, 1992), Creative Behavior Inventory (Hocevar, 1979) and Psychological Well-being Scale (Ryff, 1995) were administered along with demographic information sheet to infer the proposed hypothesis. Hierarchical multiple regression analysis revealed that Neuroticism turned out to be a negative predictor whereas Extraversion and Conscientiousness were found to be positive predictors of psychological well-being in college students. None of the control variables (i.e., age, gender, family system, birth order, monthly income, and residential status) and creativity was found to be a significant predictor of psychological well-being. The findings of this study revealed that increasing extraversion and conscientiousness among students can eventually help in enhancing psychological well-being.

Keywords. Personality, creativity, psychological well-being, fine arts, neuroticism, extroversion, conscientiousness

Psychological well-being is a state characterized by health, happiness, and prosperity. It involves feeling good and functioning efficiently in our daily lives (Elliott & Gramling, 1990). Psychological

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well-being is associated with positive and negative affect, happiness, life satisfaction, creative thinking, pro-social behavior, and good physical health (Diener & Biswas-Diener, 2008; Sheldon & Kasser, 1998). Greater psychological well-being is associated with many physical and mental health benefits, including healthier immune system, improved sleep patterns, lower blood pressure, and even longevity (Carr, 2004). Well-being is a dynamic concept that comprises personal, emotional, social, psychological, and spiritual dimensions along with health related behaviors (Snyder & Lopez, 2007). It is based on two major aspects of well-being: a) hedonistic (subjective and emotional) and b) eudaimonic (psychological and social) (Snyder & Lopez, 2006). *Hedonistic well-being* is more focused on subjective and emotional aspects of life and is also called subjective well-being. It encompasses an affective component (high positive affect and lower negative affect) and a cognitive component (satisfaction with life). *Eudaimonic well-being* focuses on psychological and social aspects of human functioning that reflect and facilitate the quest for achieving significant life goals. This is usually termed as psychological well-being (Snyder & Lopez, 2006).

Ryff (1995) has established a theory and model of psychological well-being and identified six inter-related but discrete aspects that relate to the eudaimonic aspect. These six factors include Self-acceptance, Positive relation, Environmental mastery, Personal growth, Autonomy, and Meaning of life (Snyder & Lopez, 2007). We have utilized these factors in our current study as they are the most widely used measures of positive psychological functioning (Ryff, 1995). On the basis of existent literature review, psychological well-being comprises a unified theoretical framework. The most important perspectives include life span theories, clinical theories on personal growth (Allport, 1961; Maslow, 1968; Rogers, 1961) and the principles of positive mental health highlighted by Jahoda (1958). It has long been theorized that by taking the symptoms of mental illness into consideration, mental health encompasses high levels of emotional, psychological, and social well-being as well as the absence of mental illness (Ryff & Keyes 1995).

A strong link has been established between personality traits and psychological well-being (Diener, Suh, Lucas, & Smith, 1999; Ruini et al., 2003; Vitterso & Nilsen, 2002). Personality is not merely how we feel but also how well we intend to function psychologically. Individual differences in personality influence psychological, social, and emotional well-being (Archontaki, Lewis, & Bates, 2013). Personality is, thus, a unique and organized set of characteristics which influences cognitions, motivations and behaviors in various

situations (Ryckman, 1993). Currently, researchers (see, e.g., Steel, Schmidt, & Shultz, 2008) are of the opinion that there are five core personality traits consolidated in Big Five Model of Personality. This model is based on 'neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness'; supporting an association with well-being (McCrae & Costa, 1987).

Psychological well-being has been found to be linked with certain personality types, while ill-being is associated with other contrary personality factors. Extraversion (sociability) is strongly associated with positive well-being, while neuroticism is associated with ill-being (see, e.g., Argyle & Lu, 1990; Diener et al., 1999). Strong and significant associations between psychological well-being and extraversion as well as neuroticism have been established by many studies utilizing a cross-sectional design (DeNeve & Cooper, 1998; Ruini et al, 2003; Vitterso & Nilsen, 2002). Abbott et al. (2008) in their longitudinal study utilized the Ryff scale and found a much greater effect of extraversion in comparison to neuroticism's effect. Costa and McCrae (1980) endorsed that extraversion is strongly correlated with subjective well-being and neuroticism is associated with negative affect. Some other personality traits such as conscientiousness, openness, and agreeableness have found to predict psychological well-being among student population (Musgrave-Marquart, Bromley, & Dalley, 1997; Ridgell & Lounsbury, 2004; Tross, Harper, Osher, & Kneidinger, 2000; Wolfe & Johnson, 1995).

Three factors of psychological well-being: self-acceptance, environmental mastery, and purpose in life associate negatively with neuroticism, extraversion and conscientiousness. Personal growth has a positive association with openness to experience and extraversion; having positive relations with others is associated with agreeableness and extraversion. The trait of autonomy has a negative association with neuroticism (Schmutte & Ryff, 1997). According to Watson and Clark (1984), extraverts have a temperamental predisposition to experience positive effect, whereas people reporting higher scores on neuroticism are predisposed to experience negative effect, and consequently ill mental health. Few indigenous studies also highlight relationship between psychological well-being and facets of personality traits. Naeem (2012) found a significant relationship between extraversion and openness to experience with psychological well-being. Creative behavior influences an individual's general well-being. Different factors of personality (Neuroticism, Extraversion, Openness, Agreeableness and Conscientiousness) and creativity are interrelated and exert an influence on an individual's psychological well-being (Grant, Fox, & Anglim, 2009; Ryff & Singer, 1998).

Rezanezhadamirdehi (2011) documented that people with artistic abilities and jobs have extroverted, agreeable, and conscientious personality traits and enjoy good mental health and report higher levels of well-being than people without artistic jobs and experiences. Creativity is the process of generating something innovative, meaningful, original and un-expected; deviating from thinking in stereotypical, traditional patterns, and non-confirming attitudes (Sternberg, 1999). Listening to music, visual art therapy, expressive writing, and art-based interventions effectively reduce harmful physiological and psychological consequences (Stuckey & Noble, 2010).

Feist (1999) highlighted that creative artists and scientists differ from normal populace; a scientist is more conscientious while artists are more unconventional and emotionally unstable. King and Pope (as cited in Carr, 2004) also highlighted a significant association between creativity and various psychological traits; including autonomy, introversion, and openness to experience. Gingantesco et al. (2011) found that some creative individuals are predisposed to experience symptoms of depression and anxiety and hence are likely to report lower psychological well-being. Sternberg and Lubart (1999) gave the investment theory of creativity which reveals that intellectual abilities, adequate knowledge, ability to think uniquely, personality characteristics, intrinsic motivation, and supportive environment are facets of creativity. Pirto (1998) believes that environmental variables interrelate with cognitive variables to produce creative behavior, an opportunity for freedom of expression, accessibility of material and resources tends to facilitate creative behavior. Feist (1999) argued that few demographic characteristics are related to creativity. Children who are born later in families are usually evaluated as more creative; they also tend to be more conscientious, agreeable, and open to experiences. Last borns tend to be nonconformists and have been found to possess their independent ways. However, first born children tend to be conformists and express their creativity in traditional, cultured and intellectual manners.

A paradigm shift has occurred in the current psychological research (Kahneman, 1999) and now the emphasis has shifted from disorder and dysfunction towards positive mental health and well-being. Well-being is more than absence of ill-being and needs to be researched separately. The focus is towards prevention of disorders as well as towards enhancing well-being. With this approach the possibility increases that we can tackle and prevent mental health problems effectively, rather than just focusing on treatment of these problems.

The purpose of our research was to explore the predictors of well-being, so that the outcomes of this study may be utilized to improve well-being in students. We selected a sample of students, as college is a stressful time due to multiple psychosocial and educational pressures, and mental health concerns can get in the way of academic achievement. Moreover, extensive research reveals that enhanced subjective well-being is associated with goals being intrinsic, for example, self-generated (Deci & Ryan, 1985; Kasser & Ryan, 1996) progress towards a valued goal (Sheldon & Kasser, 1998); the pursuit of approach goals rather than avoidance goals (Elliot, Sheldon, & Church, 1997); and the pursuit of goals congruent with personal values (Brunstein, Schultheiss, & Grassman, 1998). Creation of intrinsic goals and their pursuit is important for college students' short term as well as long term survival.

Moreover, research highlights that social activities and involvement in one's community is associated with higher psychological well-being (Helliwell, 2003; Helliwell & Putnam, 2005). Considering the benefits associated with well-being appraised through existing literature, we recruited a sample of students to infer the predictors of psychological well-being. Research evidence suggests (Grant et al, 2009) that personality traits and creativity relate to psychological well-being. In the past, researchers (see, e.g., Carr, 2004) have investigated the predictors of psychological well-being in different samples, such as HIV positive patients, cancer patients, and immigrants. No doubt attainment of university education involves a lot of stress on the youth entering colleges because of the onslaught of advance knowledge, information technology, and increased level of competition among students and sudden shift of examination structure from annual to semester system. Students' psychological well-being is a vital factor of health status and definitely requires research consideration. Till date, little research has been undertaken on a sample of arts students that has focused on investigating psychological well-being.

However, to the best of researcher's knowledge no research evidence exists on a sample of arts students in Pakistan. Research endorses that art students have different personality traits and are more creative (Ludwig, 1995), so we aimed to investigate the predictors of psychological well-being among fine arts students. It was hypothesized that psychological well-being is likely to be predicted by the following personality traits: low level of neuroticism, high level of extraversion, more openness, greater agreeableness and higher conscientiousness and creativity.

Method

Research Design

Correlational research design was used to find whether psychological well-being in college students can be predicted by personality traits and creativity.

Sample

The sample comprised of 125 students recruited from different universities' fine arts departments, including National College of Arts and Science ($n = 52$), College of Fine Arts University of the Punjab, Lahore ($n = 51$), and Samanabad College Fine Arts Department ($n = 22$). One hundred and one young (101) women and 24 young men volunteered to take part in the study. The age range of participants was 18 to 25 years. Multistage sampling was used to select the sample. Universities with fine arts departments were randomly selected from the city of Lahore. Afterwards from the selected fine arts departments, ($n = 125$) students were recruited through purposive sampling technique. Fine arts students of bachelors and masters programs and living in intact families were included. Students with any physical disability and those currently on any medication for a medical or psychological problem were not included in the study.

Table 1

Descriptive Statistics of Demographic Variables of the Sample ($n = 125$)

Variables	<i>M(SD)</i>	<i>f(%)</i>	Variables	<i>f(%)</i>
Age	20.83(1.68)		Monthly Income (PKR)	
Gender			60,000 and above	28(22.4)
Young men	-	24(19.2)	50,000 - 60,000	26(20.8)
Young women	-	101(80.8)	40,000 - 50,000	67(53.6)
Family system			30,000 - 40,000	4(3.2)
Joint	-	40(32.0)	Education	
Nuclear	-	85(68.0)	Graphic design	27(21.6)
Birth order	2.51(1.311)		Painting	28(22.4)
1 st	-	31(24.8)	Textile design	18(14.4)

Continued...

Variables	<i>M(SD)</i>	<i>f(%)</i>	Variables	<i>f(%)</i>
2 nd	-	37(29.6)	Interior design	3(2.4)
3 rd	-	34(27.2)	Visual arts	1(.8)
4 th	-	14(11.2)	Fine arts	15(12)
5 th	-	4(3.2)	Film and TV	6(4.8)
6 th	-	4(3.2)	Musicology	5(4.0)
7 th	-	1(.8)	Architecture	17(13.6)
Marital status			Multimedia Arts	1(.8)
Single	-	120(96.0)	Communication design	2(1.6)
Engaged	-	4(3.2)	Sculptor	2(1.6)
Divorced	-	1(.8)	Residential area	
			Urban	110(88.0)
			Rural	15(12.0)

Instruments

Psychological Well-being Scale (PWS). Ryff (1995) has conceptualized psychological well-being as consisting of six dimensions: (Autonomy, Environmental Mastery, Personal growth, Positive relations with Others, Purpose in life and Self-Acceptance). There are 7 items per sub scale. Participants respond using a six-point Likert format from *strongly disagree* (1), *strongly agree* (6). Items 3, 5, 10, 13, 14, 15, 16, 17, 18, 19, 23, 26, 27, 30, 31, 32, 34, 36, 39, 41 were reverse scored. Responses to negatively worded items were reversed in the final scoring procedure so that high scores indicate higher self-ratings on the dimension assessed. There are no specific scores or cutoff-points for defining high or low well-being. High score indicates greater well-being. The internal consistency as reported by the authors is satisfactory i.e., Autonomy = .83, Environmental Mastery = .86, Personal Growth = .85, Positive Relations with Others = .88, Purpose in Life = .88, and Self-acceptance = .91. Its sample items are: item no. 2: "In general, I feel I am in charge of the situation in which I live". Item 3: "I am not interested in activities that will expand my horizons (Reverse scored)".

NEO Five Factor Inventory (NEO-FFI). The NEO-FFI (Costa & McCrae, 1992) is the short version of NEO-PI-R having 60 items (12 items per domain) and was used in our study. Participants respond using a five-point Likert format ranging from "Strongly Disagree (0) to Strongly Agree (4)". Negatively phrased items were items 1, 3, 8, 9, 12, 14, 16, 18, 23, 24, 27, 29, 30, 31, 38, 39, 42, 44, 45, 46, 48, 54, 55,

57, 59. Higher score means higher trait/ factor. It takes approximately 15 minutes to administer. For the NEO FFI internal consistencies reported in the manual are: Neuroticism = .79, Extraversion = .79, Openness = .80, Agreeableness = .75, and Conscientiousness = .83. The NEO-FFI can be administered to men and women of all ages but most suitably between 16 and 65 years with sixth grade reading skills. Its sample items are: Neuroticism: "I am not a worrier". (Reverse scored), Extroversion: "I like to have a lot of people around me", Openness to experience: "Once I find the right way to do something, I stick to it". (Reverse scored); Agreeableness: "I try to be courteous to everyone I meet"; Conscientiousness: "I'm pretty good about pacing myself so as to get things done on time".

Creative Behavior Inventory (CBI). Hocevar (1979) designed a self-report inventory consisting of 90 items regarding activities and accomplishments generally considered to be creative and grouped it into seven categories: (Literature = 14 items, Music = 12 items, Crafts = 19 items, Art = 8 items, Math and science = 10 items, Performing arts = 12 items and Non-scalable = 15 items). Participants respond using a four-point format ranging from *never* (1), to *more than five times* (4). Higher score reflect higher creativity. It has a reliability coefficient of α .89. It can be administered in about 20-30 minutes. There are no reverse scored items. Its sample items are: Item 1: "Received an award for acting". Item 2: "Worked as an editor for a school or university literary publication".

Procedure

Assessment measures congruent to study variables were selected after extensive research and psychometric information regarding the scales such as reliability, validity, and scoring procedures were collected. Permission for use of questionnaires in our study was sought from the authors of the measures. The Institution of Applied Psychology issued an authority letter for data collection from the identified colleges. The letter delineated the researcher's identity and topic of research. The authority letters were presented and approved by the head of the departments of all the colleges. A consent form was given to the participants before conducting the study. The researcher assured them about the confidentiality of all the information and that they were free to leave the study if they wished so without any penalty or prejudice. The purpose of the research was explained to them. All the measures were administered in English language as the sample comprised of students who could easily comprehend the language. The participants were given demographic information sheets along

with the questionnaires booklet which took approximately 30 to 40 minutes for the participants to complete. After completion, the questionnaires were taken back and participants were thanked for their cooperation. Later, questionnaires were scored according to the scoring procedures recommended by the authors. The quantitative analysis and interpretation was done by using SPSS software. The results were divided into two major sections; the first section represents descriptive analysis and the second section covers inferential statistics.

Results

Descriptive analysis was presented in the form of mean, standard deviation and frequency percentages. The second section of the results represented inferential statistics. Inter-scale correlations between subscales of personality, psychological well-being, and creativity were analyzed. In addition, predicting role of various personality factors and creativity on psychological well-being was determined through multiple regression analysis.

Table 2

Psychometric Properties of the Study Variables (N = 125)

Variables	No. of items	α	M	SD
Neuroticism	12	.66	37.2	6.6
Extraversion	12	.54	40	5.4
Openness	12	.57	41.3	5.9
Agreeableness	12	.57	41.3	5.8
Conscientiousness	12	.58	41.9	5.0
Creativity	90	.93	153.7	30.8
Well-being	42	.81	166.2	21.6
Autonomy	7	.57	26.7	5.3
Environmental Mastery	7	.53	25.3	5.5
Personal Growth	7	.62	28.9	5.7
Positive Relation	7	.57	29.2	5.7
Purpose of Life	7	.53	27.5	5.8
Self-acceptance	7	.65	28.4	5.9

The findings in Table 2 reveal that all scales and subscales have the alpha coefficients in acceptable ranges.

Table 3

Correlations between Subscales of Personality, Creativity, and Psychological Well-being (N = 125)

Variables	1	2	3	4	5	6	7
1. Neuroticism	-	-.19*	.04	.05	-.21**	.23	-.35***
2. Extraversion		-	.04	.13	.48***	.12	.42***
3. Openness			-	-.10	-.02	.27**	.12
4. Agreeableness				-	.07	-.06	.12
5. Conscientiousness					-	-.05	.54***
6. Creativity						-	-.03
7. PWB							-

Note. PWB = Psychological well-being.

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

There is a significant positive correlation of psychological well-being with extraversion and conscientiousness whereas a significant negative correlation is established between neuroticism and psychological well-being. Table 3 also shows that creativity is significantly and positively related to openness. Moreover, a significant negative correlation between neuroticism and extraversion as well as between neuroticism and conscientiousness is present.

Hierarchical Regression Analysis

Hierarchical multiple regression analysis was carried out to find out the significant predictors of psychological well-being while controlling the effect of demographic variables including age, gender, family system, birth order, monthly incomes and residential status. Variables that were to be controlled were entered in the first step and predictor variables including personality traits and creativity were entered in the second step. Results have been shown in Table 4.

Table 4 shows that 44 % of the variance in psychological well-being is explained by neuroticism, extraversion, and conscientiousness (subscales of personality). However, none of the control variables (age, gender, family system, birth order, monthly income, and residence) as well as creativity (independent variable) came out to be significant determinants of psychological well-being for students. The findings reveal that extraversion and conscientiousness are positively associated, where neuroticism is negatively associated with psychological well-being.

Table 4
Hierarchical Multiple Regression Analysis for Psychological Well-being

Predictor	Psychological well-being ΔR^2	β
Step 1		
Control variables	.08	-
Step 2	.35	
Neuroticism		-.25**
Extraversion		.17*
Openness		.14
Agreeableness		.09
Conscientiousness		.39***
Creativity		-.06
Total R^2	.44	
$N = 125$		

Note. Control variables included age, gender, family system, birth order, monthly income, and residence.

** $p < .01$, *** $p < .001$.

Further analysis was conducted to evaluate whether creativity is related to any dimensions of well-being if not to overall well-being. The analysis was performed by taking six dimensions of well-being including autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance. The results were found nonsignificant hence they are not reported here.

Discussion

The aim of the present study was to find out whether psychological well-being can be predicted by personality traits and creativity in a sample of college students. The findings of our study revealed that psychological well-being is predicted by high level of extraversion and conscientiousness and low level of neuroticism after controlling for the demographic variables (i.e., age, gender, family system, birth order, monthly income, and residential status). The findings of our study are quite similar to the results of (Grant et al., 2009) who investigated whether big five personality traits are determinants of subjective and psychological well-being. The researchers found a significant association between extraversion, neuroticism, and conscientiousness with subjective and psychological well-being among 211 men and women. Their findings showed that the association between personality factors and psychological well-being was stronger than the relationship between personality factors

and subjective well-being. Results of the present study highlight a significant positive correlation of psychological well-being with extraversion and conscientiousness.

High level of extraversion and conscientiousness among college students is an indicator of sociability and possibility of higher social support from family and friends. Students who are more extraverts tend to form friendships and if they are conscientious, they are more likely to maintain these friendships (Grant et al., 2009). Having friends denotes that they have larger social networks and social support. Social support characterizes predispositions for well-being among college students (Dollete, Steese, Phillips, & Matthews, 2004). Social support helps the college students to lessen depression, anxiety, and stress and also reduce other psychological concerns and thus, improve psychological well-being (Elliot & Gramling, 1990).

We found a significant negative correlation between neuroticism and psychological well-being among college students. Our findings are in line with the work of Landa, Martos, Pulido, Zafra, and Esther (2010). These researchers endorsed that low scores on neuroticism and high scores on extraversion are the best predictors of psychological well-being. Neuroticism tends to precipitate negative emotions and mental illnesses, while extraversion leads to positive feelings and emotional characteristics and hence associates with psychological well-being. However, our study results are not consistent with the results of (Grant et al., 2009). These researchers did not find a correlation between neuroticism and psychological well-being. Reasons for disparity in the results of our study with that of (Grant et al., 2009) could be the difference in the study population, as well as the research design. It is not clear to what extent traits as well as a person's present state explain the variance of variables like neuroticism. To elucidate an affirmative association between neuroticism and psychological well-being among college students we may need to conduct a longitudinal study.

A number of researchers have highlighted that neuroticism has found to be linked with negative emotional style whereby extraversion leads towards a more positive emotional style (Argyle & Lu, 1990; Diener et al., 1999). Therefore, it seems to signify a negative correlation with well-being in students recruited for our study. Findings from a 10-year longitudinal study by Costa and McCrae (1980) established an association between neuroticism in adolescent period and psychological distress later in life (Kendler, Gatz, Gardner, & Pedersen, 2006; van Os, Park, & Jones, 2001). On the contrary, extraversion is associated with more positivity and hence, is not linked with psychological ill-being (Neeleman, Ormel, & Bijl, 2001; van Os

et al., 2001). Like the results of our correlational study, few cross-sectional studies also provide a strong empirical evidence that psychological well-being is associated with extraversion. However, neuroticism was not found to be associated with psychological well-being (DeNeve & Cooper, 1998; Ruini et al., 2003; Vitterso & Nilsen, 2002). Disparity in the results of this study from that of our research can be attributed to difference in the research design, measures, and sample utilized in both these studies. Evidence exists in favor of the results of our study. A longitudinal study in which the researchers measured personality with the Ryff's scale, established a larger effect of extraversion compared to neuroticism on psychological well-being (Abbott et al., 2008).

The findings of our research are also consistent with the research done by Joushanlou and Parviz (2007). These researchers examined how much the Big Five Personality traits and self-esteem could predict eudaimonic well-being. The sample consisted of students of University of Tehran (89 young men and 151 young women). These researchers found that the eudaimonic well-being was significantly predicted by conscientiousness in both male and female students.

One of the reasons why high extraversion, conscientiousness, and low neuroticism turned out to be significant predictor of psychological well-being in our study is due to the fact that Self-acceptance, Environmental Mastery, and Purpose in Life are linked negatively with Neuroticism, and positively with Extraversion and Conscientiousness. Personal Growth is positively linked with Openness to Experience and Extraversion; positive relations with others are positively linked with Agreeableness and Extraversion and Autonomy is linked negatively with Neuroticism (Schmutte & Ryff, 1997). These researchers found that Extraversion, Conscientiousness, Agreeableness, and Autonomy were significant predictors of psychological well-being. A significant negative association was found between Neuroticism and psychological well-being and a significant positive relationship between Extraversion and psychological well-being in our study sample.

Age, gender, family system, birth order, monthly income, and residential status did not turn out to be significant predictors of psychological well-being in our study. Past literature endorses that well-being improves with advancing age on two of the Ryff's (Ryff & Singer, 1998) scales that is Autonomy and Environmental Mastery. However, none of these scales significantly predicted psychological well-being in our research. Studies have found that younger and older people as compared to middle aged persons tend to have greater well-being scores (Blanchflower & Oswald, 2008). In this study, college

students were recruited within the age range of 18 to 25 years. This might be a reason why age did not turn out to be a significant predictor of well-being. Our findings are in contrast to certain earlier findings. Studies have established that gender, family system, birth order and income are significantly associated with psychological well-being (Baker, 2004; Hansen & Mastekaasa, 2006; Tong & Song, 2004). However, these studies did not recruit a sample of student population as well as the scales used to measure psychological well-being were different from the ones we had used.

In our study 44% of the variation in psychological well-being was attributed to personality factors, and none of the variation occurred due to demographic variables. However, past research endorses that demographic and socioeconomic factors determine 11% of the variation in psychological well-being (Andrew & Withey, 1976; Argyle, 1999). Personality factors including Extraversion and Neuroticism contributed more than 20% of the variation (Abbott et al., 2008; Gutierrez, Jimenez, Hernandez, & Puente, 2005). Disparity in the results of our study with that of available literature points in favor of conducting a longitudinal research on a sample of student population.

Furthermore, in our study creativity was not found to be a significant predictor of psychological well-being. A potential reason could be that people with artistic abilities are found to suffer more from mood disorders and tend to have poor psychological well-being (Sheldon & Lyubomirsky, 2006). Pakistani culture is generally conformist and young people are made to follow standard rules as determined by the collectivistic society and creative ideas are not supported and encouraged. Adherence to cultural norms and traditions is encouraged. Regarding new ideas and creativity, society becomes skeptical and critical. This could be a reason why creativity did not turn out to be a significant predictor of psychological well-being. Another reason could be that many creative individuals tend to suffer from depression and mood disorder as a result of living in unsupportive environments that do not facilitate creativity. Studies (e.g., Sumaira, 2011) have shown that young girls' creative and novel ideas are frequently refuted by family and teachers; as a result they stifle their creativity which can lead to neurotic, psychotic, or addictive behaviors, unhealthy relationships, feelings of hopelessness, and low level of psychological well-being (Ealy, 1996). Writers and artists usually live in solitude and they intend to lose social support, resulting in increased stress, isolation, and low psychological well-being (Andreasen, 2005).

Richards (2007) endorses that creative burnout can manifest itself in headaches or stomachaches, and even loss of interest in things that they normally enjoy and hence, report poor quality of life and psychological well-being. Ludwig (1995) analyzed the biographies of famous people belonging to a number of creative professions and concluded that his sample is about twice as likely to experience some mental disorders in life in comparison to noncreative individuals. It might be due to burn out, social rejection, feeling of isolation, and cultural expectations.

However, some contrary evidence exists that reveals that people with artistic experiences and jobs are more extraverted, agreeable, and conscientiousness in personality traits and low in components of mental illness than people devoid of artistic experiences (Rezanezhaddamirdehi, 2011). Most of the studies reported in relevant literature have utilized a sample of people doing artistic jobs and having creative experiences. On the contrary, we recruited a sample of students studying in departments where art subjects are taught and measured creativity. We need to expand our research by recruiting a larger sample and using a prospective research design to confirm whether creativity is a predictor of psychological well-being among general population as well as among college students.

Moreover, we did not conduct a gender wise analysis to infer the predictors of psychological well-being in our study. A major limitation of our research is that we were only able to recruit 24 male students against a sample of 101 females. Further studies involving a larger and proportionate sample size can help infer whether gender differences exist in predictors of psychological well-being. Our study sample only comprised of college students. Future research endeavors can be designed to recruit a sample of adolescents from general population, belonging to different family systems and having diverse socioeconomic backgrounds.

The findings of our study should be interpreted while keeping the above mentioned limitations in consideration. As the present study was conducted on a small group of students recruited only from the universities situated in the city of Lahore, caution must be exercised in interpreting and generalizing the results. Further research is required involving a population of university students residing in other geographical locations and on students studying other subjects. However, despite certain limitations, the authors conducted this study examining the relationship between creativity, the Big Five Personality Traits and psychological well-being. The relationships between these constructs have been examined by other researchers as

well. Our research endeavor is a replication comprising participants belonging to a different culture and this increases its value.

Research Implications

The findings of this study provide a framework for future researches involving a well-designed methodology. Other factors that have found to play a significant role in predicting psychological well-being need to be addressed. Sumaira (2011) endorsed that a positive correlation was found between perceived social support, self-efficacy, and psychological well-being. Results of her study revealed that support from friends and family along with emotional self-efficacy are strong predictors of psychological well-being. Significantly, support from family and friends among male adolescents were stronger predictors of psychological well-being. While among females, support from friends and emotional self-efficacy were found out to be stronger predictors of psychological well-being.

Self-image has been found to be a strong determinant of psychological well-being (Chow, 2002; Harter, 1999). Research has highlighted that university students who are physically more active have high levels of robustness and psychological well-being (Bray & Kwan, 2006). Literature validates that other determinants of psychological well-being among students include gender (Cook, Bewick, Barkham, Bradley, & Audin, 2006), family stability (Dyson-Washington, 2006), academic workload (Monk & Mahmood 1999), physical exercise (Lee & Loke, 2005) motivation (Tomiki, 2000), socio-economic status (Tong & Song, 2004), and support from family and friends (Gencoz & Ozlale, 2004). However, these variables were not addressed in the present study. In forthcoming researches, this study can be replicated and other relevant predictors can be explored to provide a holistic picture of determinants of psychological well-being in students.

Clinical Implications

The findings of our study showcase a need to enhance extraversion and conscientiousness and reduce neuroticism through application of psychological interventions and positive parenting techniques. These can ultimately help in enhancing psychological well-being among student population.

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