

*Full Length Research Paper*

# Correlation between life emplacement and five personality determinants in women with breast cancer and those who are healthy

Arash Gilgamesh<sup>1</sup>, Hamid Hassan<sup>2</sup> And Bijan Ashkan<sup>3</sup>

<sup>1</sup>University of Tehran.

<sup>2</sup>University of Kurdistan

<sup>3</sup>Ferdowsi University of Mashhad.

Accepted 1 December 2016

In the present study, we aimed at comparing life orientation and five factors of personality in women with breast cancer and healthy ones, in Isfahan, according to their happiness. The study design was descriptive and it was a causal-comparative research. Moreover, the study population included all healthy women and all women with breast cancer, from Isfahan, who have referred to the oncologists of the city in summer 2013. The study sample was consisted of two groups a breast cancer and a control group (in total 50 individuals, every group was 25). The sampling method was a two-stage random sampling which was both simple and available. The tools applied in the present study were as following: Life Orientation Test (LOT), Costa and McCrae's Five Big Factors of Personality (NEO), and also Oxford Happiness Scale. The data were collected through descriptive statistics (mean and standard deviation) and inferential statistics (multivariate analysis of covariance). The results of such analyses indicated that life orientation and personality traits did not differ significantly in the two groups of healthy women and those with breast cancer, after having control on happiness. According to such results, it can be stated that: it seems having breast cancer do not affect life orientation, personality traits and happiness.

**Keywords:** Breast cancer, life orientation, five big personality factors, and happiness.

## INTRODUCTION

According to the statistics reported by Global Organization of Cancer (GLOBOCAN) in 2012, almost around 14.1 new cases of cancer and about 8.2 million deaths due to cancer have been occurred in 2012. Among these, lung cancer with 1.8 million cases that is about 13 percent was in the first position and after that,

was breast cancer with 1.7 million cases that is about 11.9 percent, as the second position. Furthermore, breast cancer is one of the main reasons for deaths due to cancer, in developing countries. This is, to some extent, because of the life style of people in developing countries (Ferlay, Soerjomataram, Ervik, Dikshit and Eser, 2013).

Moreover, individual differences play an important role in moderating the relationship between environmental events such as stress factors, immune system of the body, and chronic diseases including cancer (Segerstrom, 2003).

It seems that life orientation, five personality factors and happiness can be different in the two groups of healthy women and those with breast cancer. Life orientation is consisted of two aspects including optimism and pessimism. New psychology tries not to focus merely on psychological problems but also emphasize more the positive aspects of life. Researchers have shown a positive relation among optimism with positive constructs (e. g. Gillham, 2000; Aspinwall and Tedeschi, 2010). In total, according to life orientation, people have some internal and external sources which they can make use of, while facing unpleasant conditions (Kupplelomaki and Utriainen, 2003) such as optimism. pessimism and optimism constitute two poles of a continuum (Kubzansky, Kubzansky and Maselko, 2004). Pessimist and anxious people, in comparison with optimist ones, bear higher levels of pressure.

Five personality factors' pattern which has been considered by researchers as an important framework in understanding the structure of human behavior. This pattern is consisted of five fairly stable factors including neuroticism, extroversion, agreeableness, openness to experiences and conscientious (Korotkove and Hanah, 2004). Neuroticism refers to an individual's tendency to stress, tension, hostility, impulsiveness and low self-esteem while extroversion is an individual's tendency to be positive, assertive and energetic. Agreeableness is a term used for an individual's tendency to curiosity, flexibility, and wisdom. Openness to experiences, however, indicates an individual's tendency for forgiveness, kindness, generosity and empathy. Finally, conscientious refers to an individual's tendency to be disciplined, efficient, self-regulated, achievement-oriented and reasonable.

The other variable that has been considered in this study is happiness which seems to be effective in people's improvement in the domain of cancer. Many cross-sectional studies have been conducted, up to now, regarding happiness and physical health and longevity. Happiness includes positive emotion, life satisfaction, and lack of negative emotions such as depression and stress. Happiness does not cause disease treatment, but it can protect individuals against becoming ill. Moreover, happiness is considerably effective in increasing longevity (Veenhoven, 2008). It has often been stated that lack of happiness in a long period of time leads to consequences such as hypertension and lower immune response of the body against diseases (Pressman and Cohen, 2005). That is because people with happiness are less in danger of becoming the victims of stress and anxiety, in which one may lose the right for free choices

(Zautra, Affleck, Tennen, Reich, and Davis, 2005).

Breast cancer is the most prevalent cancer in women and also the second reason for deaths, due to cancer, in women, after lung cancer (Bray, Ren, Masuyer, Ferlay, 2013; Ferlay, et al. 2013). In Iran, also, breast cancer is the most prevalent one and almost about 6160 new cases of breast cancer would occur in each year, of which 1063 individuals die because of the disease. Therefore, it seems that some important constituents of psychology are different in these patients compared with healthy people. These psychological constituents include: life orientation, five personality factors, and happiness. It also seems that clarifying the difference between the situations of these variables in the two groups of people who have breast cancer and healthy ones, can be effective in the formation or design of psychological treatment frameworks. Thus, it is necessary for variables, which are affected by having breast cancer, to be detected. Investigating such factors can be effective in prevention approaches in this field and the orientation of psychological treatments in such people, in addition to helping patients. Moreover, investigating these factors can be helpful for clinical therapists in the better improvement of such people.

No studies have been conducted up to now regarding the comparison between life orientation and five personality factors among women with breast cancer and healthy ones, in Iran. It seems that the variables of life orientation and five personality factors are different in two groups of women with breast cancer and healthy women because cancer affects on differ dimensions of life' person with cancer. Furthermore, happiness can moderate such a difference. Thus, the present study tends to investigate and compare life orientation with five personality factors between women with breast cancer and those who are healthy, based on their happiness, in city of Isfahan.

## METHOD

This study is a descriptive and causal-comparative research (in the research, researchers decide to study particular variables with causal-comparative research as a variable is involved that cannot be manipulated for ethical and practical reasons. For instance, there is no way that researchers can ethically assign an individual to a group in order to study the effects of grade retention or the impact of abuse). The present study chose a sample among the community of healthy women and women with breast cancer who referred to the oncologists in city of Isfahan, in summer 2013. The sample was consisted of 100 individuals (50 healthy women and 50 women with breast cancer), who were chosen through available sampling method.

## Study population

The study population was consisted of all women of Isfahan who had breast cancer and had referred to the oncologists of the city in summer 2013.

## The sample

The sample of the present study was chosen among oncologists of Isfahan, through available sampling. First, five oncologists were selected and 50 individuals were chosen from their patients in the available method. Although at least 30 individuals should be selected for each group in causal-comparative researches, the study sample was increased to 50 people in each group in order to decrease errors, type one and two, and also for the probability of imperfect tools. It should also be mentioned that the two groups, group of women with breast cancer and group of healthy women, were matched based on both age and education.

## Study tools

The present study aimed at comparing life orientation and five personality factors according to happiness, in women who had breast cancer and in healthy ones.

## Life Orientation Test (LOT)

Life Orientation Test includes 8 items. Four items of the test are indicative of the creative optimism and the other four indicate the creative pessimism. The respondents, in this study, stated their agreement or disagreement degrees by each of the sentences, in a scale of multiple degrees (Scheire and Carver, 1985). The test was appropriate in terms of most psychometric. It should be mentioned that, optimism is evaluated in this questionnaire by reversing the items of pessimism (Zenger, Finck, Zanon, Jimenez, Singer and Hinz, 2013).

## Five-Factor Questionnaire of NEOPI-R

The short version of NEOPI-R includes 60 items. However, this version was revised in 2004. In 2005, the five-factor questionnaire of NEOPI-R was updated and published. According to recent studies, there is a strong relationship between five factors of personality and a wide range of physical psychology. This questionnaire of five big personality factors is consisted of 60 items which evaluate five personality traits including neuroticism, extroversion, openness to experiences, agreeableness, and conscientious. In this test, the participants state their

opinions on a scale of five degrees ranging from completely agree to completely disagree. Previous studies have confirmed the strong psychometric properties of this questionnaire (Rammstedt and John, 2007). The internal consistency of this questionnaire was high. This value has been reported for extroversion, neuroticism, agreeableness, conscientious, and openness, to be 0.89, 0.92, 0.87, 0.90 and 0.87, respectively (Costa and McCrae, 1976).

## Oxford Happiness Inventory (OHI)

The Oxford Happiness Inventory is a test for reporting happiness evaluation by the individual him or herself. This questionnaire has been designed after Beck Depression Inventory, in order to provide an overall criterion for individual welfare and happiness (Scheire and Carver, 1985). Moreover, OHI was made by reversing several items of Beck Depression Inventory (BDI) and also by items including additional supplementary measurement from psychological well-being. This questionnaire includes 29 items. Generally, the total score of happiness in this questionnaire is counted as the highest score, which is indicative of more happiness. The Cronbach's alpha has been reported to be high and valid, for this questionnaire, ranging between 0.84 and 0.90. In addition to happiness, this questionnaire also evaluates life satisfaction, personal effect: socialization and empathy, a physical, positive vision of happiness and self-confidence. This questionnaire has been used widely in England and United States of America (Valiant, 1993). Furthermore, OHI has been applied in order to compare students of different cultures in Australia and Canada (Francis, Brown, Lester and Philip chalk.1998). Also, there are many translated versions of this questionnaire. Moreover, a high correlation has been reported between Oxford Happiness Inventory (OHI) and life satisfaction, and depression.

## RESULTS

The multivariate analysis of covariance test was used in order to investigate the hypothesis of the present study. Also, for investigating the assumption of data normality and the equality of variances and covariances, the tests of Shapiro-veic, Levin and Box were used. The results of these tests indicated that the multivariate analysis of covariance test could be used here in this study. Generally, it can be said that there was a difference in neuroticism and agreeableness, between healthy women and those who have breast cancer, however, the existing difference was not significant statistically. Therefore, the hypothesis was not confirmed.

**Table1.** Mean and standard deviation of life orientation and five big personality factors based on groups

<b>Variables</b>	<b>Group</b>	<b>Mean</b>	<b>Standard deviation</b>
Life orientation	Women with breast cancer	34.41	4.08
	Healthy women	33.64	5.36
Neuroticism	Women with breast cancer	34.38	5.75
	Healthy women	34.80	5.41
Extroversion	Women with breast cancer	37.12	4.07
	Healthy women	36.45	4.37
Openness to experiences	Women with breast cancer	34.76	3.48
	Healthy women	35.78	3.15
Agreeableness	Women with breast cancer	42.71	5.47
	Healthy women	43.77	4.58
Conscientious	Women with breast cancer	46.15	6.25
	Healthy women	47.25	4.38
Happiness	Women with breast cancer	74.53	14.19
	Healthy women	73.64	14.68

Table 1, indicates the mean and standard deviation of life orientation and five big personality factors, based on groups.

Table 2 indicates the results of multivariate analysis of covariance.

As it was shown in Table 2, the difference in life orientation, extroversion, neuroticism, openness to experiences, agreeableness, conscientious was insignificant after controlling happiness in healthy women and those with breast cancer.

## DISCUSSION

The present study was conducted with the purpose of comparing life orientation and five personality factors in women with breast cancer and healthy ones, in city of Isfahan, according to their happiness. Investigating the results indicated that there was no difference between healthy women and those with breast cancer, in five

factors personality. Therefore, the research hypothesis was not confirmed.

Although the results were not expected as they were obtained, in the explanation of these results, it can be said that it seems that life orientation, neuroticism, extroversion, openness to experiences, agreeableness and conscientious are stable personality traits which are not changed by having breast cancer.

Optimist people have traits such as positive and mental expectations which affect their confronting behaviors against problem facing so that they can describe and interpret life events positively. For explaining the achieved results, it can be stated that according to such fact, such traits were expected to decrease among women with breast cancer and to exist more in healthy women; however, the results were all the opposite of our expectations. It seems that having breast cancer can not affect this personality trait and it has not any role in decreasing or increasing optimism. Therefore, it seems that perhaps these traits are so stable to change with the

**Table 2.** The results of multivariate analysis of covariance

Source of changes	Variables	Total of squares	Df	Average of squares	F	Significance	Square of Eta	Test power
Happiness	Life orientation	333.630	1	333.630	19.189	0.000	0.223	0.991
	Neuroticism	435.204	1	435.204	17.143	0.000	0.204	0.983
	Extroversion	438.398	1	438.398	38.264	0.000	0.364	1.00
	Openness to experiences	0.788	1	0.788	0.069	0.793	0.001	0.058
	Agreeableness	488.819	1	488.819	257.577	0.000	0.276	0.999
	Conscientious	270.904	1	270.904	9.463	0.003	0.124	0.585
	Life orientation	4.370	1	4.370	0.251	0.618	0.004	0.078
Group	Neuroticism	0.263	1	0.263	0.010	0.919	0.000	0.051
	Extroversion	2.449	1	2.449	0.214	0.645	0.003	0.074
	Openness to experiences	20.412	1	20.412	1.800	0.184	0.026	0.262
	Agreeableness	32.415	1	32.415	1.696	0.197	0.025	0.250
	Conscientious	30.883	1	30.883	1.079	0.303	0.016	0.176
	Life orientation	1164.903	67	17.2387				
	Neuroticism	1700.866	67	25.386				
Error	Extroversion	767.638	67	11.457				
	Openness to experiences	759.619	67	11.338				
	Agreeableness	1280.498	67	19.112				
	Conscientious	1918.108	67	28.628				

variable of having breast cancer. On the other hand, women with breast cancer probably try to increase such traits in themselves in order to be able to face this disease better. Moreover, another explanation is the fact that perhaps families and people around women with breast cancer, will provide them with good, supportive sources so that it causes them to be hopeful in their lives.

In another explanation it can be referred to the cultural constituent in this regard. This is according to Iranian culture which is greatly affected by Islam that people believe there is ease at the end of any difficulty or there is ease besides any difficulty. Also, they believe that having diseases or problems makes them closer to God. Thus, it is possible that the optimism in such women was not different with that of ordinary ones due to such beliefs and despite the disease of cancer.

For explaining the lack of difference in personality traits between women with breast cancer and healthy ones, it can be stated that: it seems that having breast cancer can not affect personality traits and cannot have any role in decreasing and increasing these traits. Therefore, it seems that perhaps these traits are so stable to change with the variable of having breast cancer. On the other hand, women with breast cancer probably try to increase

the trait of neuroticism in themselves in order to be able to face this disease better.

In another explanation it can be referred to the cultural constituent in this regard. Based on Iranian culture in which family and stability of the Family have a special position, the support of family members to create a peaceful atmosphere, without any tension, is probably effective in decreasing such personality trait in women with breast cancer and thereof it causes this trait to decrease when facing such disease. On the other hand, women with breast cancer may try to increase extroversion in themselves so that they can encounter this disease much better. Therefore, they can distract themselves from the signs of this disease through socializing with others. Furthermore, a cultural explanation also can be considered in this regard. Actually, in Iranian-Islamic culture, people visit patients and comfort them. Thus, this fact can protect the trait of extroversion and/or increase this trait in people with cancer.

In explaining lack of openness difference in the two groups of women with breast cancer and healthy ones, it can be stated that: this trait was expected to decrease among women with breast cancer and to be more in

healthy ones; however, the results obtained were just opposite our expectations. It seems that having breast cancer cannot be effective in this personality trait. Also, this disease does not have any role in decreasing and increasing openness to experiences. Therefore, it seems that perhaps this trait is so stable that cannot be changed by the variable of having breast cancer and also it cannot play any basic role in that disease.

For explaining the lack of agreeableness difference in the two groups of women with breast cancer and healthy ones, it can be stated that: due to experiencing difficult and severe physical signs, patients with breast cancer may become indifferent to some marginal issues of life and to focus on more important issues of life such as ontological and deep questions of life. Moreover, this fact prevents the agreeableness in these people to decrease or it causes them to cope with others much better.

In explaining the lack of conscientious difference between the two groups of women with breast cancer and those who were healthy, it can be said that: these patients may be more sensitive to their duties because they have figured out the limitation of time and they see death much closer to themselves. Therefore, their conscientious has not decreased.

Finally an interesting result and opposite of exception was the indifference role of happiness in five factors personality and life orientations between two groups. For explaining the results, it can be stated: it seems that having breast cancer can not affect happiness. We did not examine happiness in different stages of cancer. Perhaps if we could examine happiness as regard to stages of cancer we would confront with other results.

## LIMITATIONS OF THE STUDY

Breast cancer has different types and stages, but in this study the types and stages of the cancer were not considered.

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