

SELF-ESTEEM, PSYCHOLOGICAL WELLBEING AND LOCUS OF CONTROL AMONG BREAST CANCER PATIENTS

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Abstract

The present study aimed to explore the interrelationship among self-esteem, psychological wellbeing and locus of control; to find out the demographic differences on these variables among breast cancer patients. Rosenberg Self-Esteem Scale, Psychological Wellbeing Scale, and The Locus of Control Scale were administered on the purposive sample of 150 breast cancer women in different cities of Pakistan. Two age groups were taken (25-35 years; younger patients) and (36-50 years; older patients), with different educational levels (above F.A.) and (below F.A.), on the basis of tenure of illness (I & II; early stages) and (III & IV; advanced stages). The correlational data found significant positive correlation of self-esteem with psychological wellbeing and locus of control. Significant positive correlation of older women was found with self-esteem and internal locus of control, and of younger women with external locus of control. Significant educational differences demonstrated high self-esteem, psychological wellbeing and internal locus of control in women with high qualification. Significant negative correlation of breast cancer stages found with self-esteem, psychological wellbeing and for locus of control, early staged (I & II) women have higher level of Internal Locus of Control, and advanced staged (III & IV) women have higher level of External Locus of Control. The study will help out in mounting ways through which clinicians or therapists can educate patients to combat the stressful psychological effects of this chronic illness.

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Introduction

A malevolent harmful growing breast tissues are known as breast cancer. In recent times breast cancer is the leading type illness in the world that leads women to death, and lung cancer is the second most dangerous type (American Cancer Society, 2013). In the United States, one in eight women is affected of breast cancer and in 2018, about 266,120 new cases of invasive breast cancer are estimated to be diagnosed (Breast cancer Organization, 2018). In Asia, the highest prevalence rate of breast cancer is in Pakistan, one in nine women is diagnosed of breast cancer (Sohail & Alam, 2007).

Self-Esteem

The realistic admiration for the self is termed as self-esteem. It gives out a motivational function by which people will take care of themselves and investigate their full capacities (Oswalt, 2012; Platten, Newman, & Quayle, 2013). In breast cancer patients, the treatment, as surgery has an important role in post-operative self-esteem and sexual part of patient's lives (Markopolus, Tsaroucha, Kouskos, Mantas, Antonopoulou, & Karvelis, 2009). Helms, O'Hea, and Corso (2008) said the change occurs due to breast removal as the surgery damages self-esteem but positive body image strengthens self-esteem. Women suffering from breast cancer showed high self-esteem as had resumed working, were also married, had received no complementary treatment, and underwent breast reconstruction (Gomes & Silva, 2013).

Psychological Wellbeing

Mental wellbeing is a multi-dimensional measure of positive mental health, comprising of purpose in life, functioning and accomplishment (eudaimonic wellbeing), happiness and life satisfaction (hedonic wellbeing) (Henderson & Knight, 2012; Ryan & Deci, 2001). Persons with positive mental health can assess, utilize and enhance their potential to cope daily life stressors. The diagnosis of breast cancer mostly brings a distressing shock influencing physical health and psychological wellbeing of women (Castro, Santos, Almeida, & Fernandes, 2010).

Locus of Control

Locus of control is a cognitive category (Gierowski & Rajtar, 2003) that is never entirely internal or external, but these are supposed to define the

different ends of the continuity (Brown & Swartz, 2012). Bettencourt et al., (2008) and Pahlevan (2017) said locus of control potentially predicts better adjustment to cancer and the relationship between internal locus of control and perceived risk is mediating by breast cancer-specific control (Rowe, Montgomery, Duberstein, & Bovbjerg, 2005).

For mental health and wellbeing maintenance, an optimistic sense of self is necessary (Mann et al., 2004; Ford & Collins, 2013). Janet and Carpenter (2008) reported that the diagnosis of breast cancer can also increase and decrease the self-esteem and psychological wellbeing of woman (Janet & Carpenter, 2008), and studies founded the strong positive link between self-esteem and wellbeing (Paradise & Kernis, 2002; Dogan, Totan, & Sapmaz, 2013; Haekens, Enajat, Keymeulen, & Van der Hulst, 2011). Locus of control and self-esteem are alternative terms, the self-esteem and escorting success are the sources to internal locus of control (Opacic, 1995). Studies reported the correlation of self-esteem with internal and external locus of control in a positive direction (Pruessner, Hellhammer & Kirschbaum, 1999b; Pruessner, et al., 2005; Saadat, Ghasemzadeh, Karami, & Soleimani, 2012). Similarly, internal locus of control is the predictor of psychological wellbeing of patients and control level, the internal locus of control leads to psychological wellbeing (Barbara, 2014). The internally controlled patients for the cancerous illness showed healthier activities, got social support, encountered little anxiety, and negative feelings (Watson et al., 1990). Self-esteem, psychological wellbeing, and locus of control are strongly positively interlinked with each other as compared to other constructs so the present study aimed to explore the interrelationship of these variables among breast cancer patients.

Literature Review and Hypotheses Development

Self-esteem, psychological wellbeing, and locus of control all are strongly associated with each other. Researchers reported psychological wellbeing promotes the self-esteem of patients (Du, Chi, Li, Zhao, & Zhao, 2014). In depth analysis reported that wellbeing, self-esteem, emotional self-efficacy, and affect balance are significantly positively correlated. Psychological wellbeing and affect balance positively impact happiness. Positive and negative experiences are the ingredients of the daily life. And the ability and guts matter to deal with these and that has healthy effect on happiness (Dogan, Totan, & Sapmaz, 2013).

Women who went under surgery showed significant association with self-esteem and psychological wellbeing. Losing one's body part is not easy to deal with, which further disturbed the body image and negatively impact the self-esteem of the patients. Self-esteem is the main block of personal values which contains skills, talents and guts. Mastectomy weakens the self-esteem

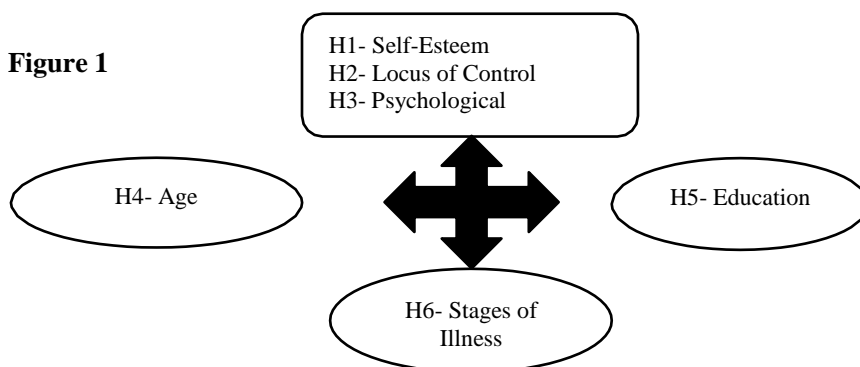
and quality of life but the breast reconstruction improves the quality of life (Haekens, Enajat, Keymeulen, & Hulst, 2011).

Pruessener et al., (2005) examined the regulation of cortisol and hippocampal volume in response to self-esteem and psychological wellbeing. The value we are giving to ourselves is linked with life expectancy and life satisfaction. The way one accept himself or herself is important, low self-esteem is the leading factor of different psychological disorders and high self-esteem leads to accomplishments in life. Locus of control and self-esteem are positively related. Results showed that low self-esteem and internal locus of control heavy cortisol stress reactions.

Saadat et al., (2012) studied the university students in Iran, and examined the self-esteem with locus of control, reported noticeable relationship of these variables. Social activities and social relationships shape the self-esteem of the youngsters. People with high locus of control consider the world processes on chance and believe on luck and fortune. Students' self-esteem is important for making them to think, research and compete.

Watson et al., (1990) studied locus of control in adjustment to cancer along with depression and anxiety on cancer patients. Locus of control is regarded as the factor to adoption of stress. The attribution style to severe illness mediates the influences of the stress. Highly internal controlled patients over the tenured illness showed less loss of control, and got more moral and social support, minor anxiety and aversive feelings. Keeping in mind the literature review the following context is observed related to the present study. The research gap in the theory will be addressed.

Figure 1



Operational Definitions

Self-Esteem

Rosenberg Self-Esteem Scale is used for the data collection with Urdu Version of Sardar (1998) (SES; Rosenberg, 1965). It is a ten-item scale with scoring on 4-point Likert scale (strongly agree = 4, agree = 3, disagree = 2,

strongly disagree = 1). Five of the items are positively stated and five are negatively. The reliability of self-esteem ranges from .79 to .86 (Sardar, 1998).

Psychological Wellbeing

A subscale Psychological Wellbeing of California personality inventory (Gough, 1956) is used for the data collection with Urdu Version of Ahmad (1986), this subscale is consisted of 32 items with dichotomous (true–false) response format; 6 true items (6, 9, 10, 12, 19, & 33) and 26 false items. True item was scored as 1 and false was as 0. Cut of score for this subscale was 10, higher scores indicate higher psychological wellbeing and vice versa. The scale had the reliability from .82 to .88 (Zebb & Mayers, 1993).

The Locus of Control

Locus of Control Scale (Rotter, 1966) is used with Urdu Version of Ahmed (1989) It has dichotomic scoring (a= internal locus of control, b=external locus of control) on 29 items scale, 6 are filtered items (1, 8, 14, 19, 24, & 27), and 23 are scored items. In this scale, scores greater than 9 indicate an external locus of control with score range (0-23) on 9 cut point. The scale had the reliability range from .75 to .84 (Rotter, 1966).

Hypotheses

Based on past research and theory, the following hypotheses were formulated:

- H1:** Psychological wellbeing has positive relationship with self-esteem.
- H2:** Locus of control has positive relationship with self-esteem.
- H3:** Psychological well-being has positive relationship with locus of control.
- H4:** Younger patients have low self-esteem, high external locus of control, while older patients have high internal locus of control.
- H5:** Highly qualified patients have high self-esteem, psychological wellbeing and internal locus of control as compared to less qualified women.
- H6:** Early staged (I-II) women of breast cancer have higher self- esteem, psychological Wellbeing and internal locus of control as compared to advanced staged (III-IV) women.

Methodology

The current research consisted of a purposive sample of 150 breast cancer patients, approached from the hospitals of Pakistan (Mansehra, Abbottabad, Muzafarabad, Islamabad, and Peshawar) participated in the study. The aging

data were taken from two groups (25-35 years; younger patients) and (36-50 years; older patients), qualification: patients with higher education (above F.A.) and with lower education (below F.A.) and on the basis of illness tenure: early stages (I & II) and advance stages (III & IV). Urdu translated versions of the scales (SES, PWB, and LOC) were administered to the participants individually. The consent of the participants and permission from the hospitals authorities were taken before administration. For the assurance and maintenance of accurate data collection the researchers approached each participant individually. The sample was well informed regarding procedure before the data collection and the surety was also provided for the uses of data only for research purposes.

Results

The study has quantitative nature and aimed to explore the interrelationships of variables. In order to test the hypotheses and to check reliability coefficients and correlations the different statistical analyses were done on data. The statistical package of SPSS was used to analyze the data. The present study analyzed the reliability for the scales and found .81 for Rosenberg Self-Esteem Scale, .86 for Psychological Wellbeing Scale and .79 Locus of Control Scale respectively and analysis showed satisfactory level of internal consistencies.

Table-1: Correlation Matrix among Rosenberg Self-Esteem Scale (SES), Locus of Control Scale (LOC), and Psychological Wellbeing Scale (PWB) on Women Breast Cancer Patients. (N=150)

S.N	Scale	<i>I</i>	<i>II</i>	<i>III</i>
<i>I</i>	Rosenberg Self-Esteem Scale	-	.350**	.289*
<i>II</i>	Locus of Control Scale	-	-	.201
<i>III</i>	Psychological Wellbeing Scale	-	-	-

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

The Table 1 results directed the significant positive correlation of Self-Esteem with Psychological Wellbeing and Locus of Control, and non-significant positive correlation of Psychological Wellbeing with Locus of Control among women breast cancer patients.

Table-2: Mean, Standard Deviation, and t-Values of Age on Rosenberg Self-Esteem Scale (SES) and Psychological Wellbeing Scale (PWB) among Women Breast Cancer Patients. (N=150)

Scale	Younger (n=63)		Older (n=87)		t	p	D	CI 95%	
	M	SD	M	SD				LL	UL
SES	24.76	2.81	25.92	3.12	2.34	.021	0.38	-2.14	-.18
PWB	21.56	2.36	21.68	3.68	0.23	.821	0.04	-1.16	.92

df = 148; Note: SES = Self-Esteem Scale, PWB = Psychological Wellbeing Scale

The results of Table 2 showing significant age differences on Self-Esteem, which indicated that older women with breast cancer have high scores on Self-Esteem. Results also indicated non-significant age differences on Psychological Wellbeing.

Table-3: Mean, Standard Deviation, and t-Values of Age on Internal and External Locus of Control (ILOC, ELOC) among Women with Breast Cancer. (N=150)

Scale		N	M	SD	T	p	d	CI 95%	
								LL	UL
ILOC	Younger	20	6.62	2.07	2.05	.045	.55	-	-
	Older	38	7.86	2.25				2.45	.028
ELOC	Younger	51	14.95	1.98	2.57	.012	.54	0.27	2.13
	Older	41	13.75	2.50					

ILOC df = 56; ELOC df = 90; Note: ILOC = Internal Locus of Control; ELOC = External Locus of Control

Table 3 results showed significant age differences on Internal and External Locus of Control which means older women with breast cancer have more Locus Control Internally, while the younger women have more Locus Control Externally.

Table-4: Mean, Standard Deviation, and t-Values of Education on Rosenberg Self-Esteem Scale and Psychological Wellbeing Scale among Women with Breast Cancer. (N=150)

LE (Below F.A) n=89			HE (Above F.A) n=6					CI 95%	
Scale	M	SD	M	SD	t	p	D	LL	UL
SES	24.32	2.68	25.33	2.75	2.24	0.026	0.37	-1.90	-.12
PWB	19.49	2.35	20.71	2.56	3.01	0.003	0.49	-2.02	-.42

df = 148; Note: SES = Self-Esteem Scale; PWB = Psychological Wellbeing Scale; LE = Lower Education; HE = Higher Education

Table 4 demonstrates significant educational differences of Breast cancer women on Self-Esteem and Psychological Wellbeing, revealed that highly educated women have higher scores on Self-Esteem and Psychological Wellbeing.

Table-5: Mean, Standard Deviation, and t-Values of Education on Internal and External Locus of Control (ILOC, ELOC) among Women with Breast Cancer. (N=150)

Scale		N	M	SD	T	P	d	CI 95%	
								LL	UL
ILOC	LE (below F.A)	18	5.92	1.87	2.22	.031	0.59	-	2.40
	HE (above F.A)	40	7.18	2.06					
ELOC	LE (below F.A)	71	14.95	1.98	0.38	.703	0.08	-	0.84
	HE (above F.A)	21	14.75	2.50					

ILOC df = 56; ELOC df = 90; Note: ILOC = Internal Locus of Control; ELOC = External Locus of Control; LE = Lower Education; HE = Higher Education

Table 5 demonstrates significant educational differences on Internal Locus of Control which reveals highly educated women with breast cancer showed high Internal Locus of Control and results also revealed non-significant differences on External Locus of Control.

Table 6: Mean, Standard Deviation, and t-Values of Stages of Illness on Rosenberg Self-Esteem Scale (SES) and Psychological Wellbeing Scale (PWB) among Women with Breast Cancer. (N=150)

ES (I & II) n=86			AS (III & IV) n=64			CI 95%			
Scale	M	SD	M	SD	t	p	D	LL	UL
SES	27.86	2.93	26.96	2.03	2.11	0.037	0.35	0.06	1.74
PWB	22.14	3.32	20.93	2.98	2.31	0.023	0.38	0.17	2.25

df = 148; Note: SES = Self-Esteem Scale; PWB = Psychological Wellbeing Scale; ES=Early Stages; AS =Advanced Stages

In table 6 results indicated significant differences of stages of illness on Self-Esteem, Psychological wellbeing, which shows early staged (I & II) women have higher level of Self-esteem and Psychological Wellbeing.

Table-7: Mean, Standard Deviation, and t-Values of Stages of Illness on Internal and External Locus of Control (ILOC, ELOC) among Women with Breast Cancer. (N=150)

						CI 95%			
Scale		N	M	SD	T	P	D	LL	UL
ILOC	ES (I & II)	36	6.38	1.36	2.47	0.016	0.66	0.20	1.88
	AS (III & IV)	22	5.32	1.83					
ELOC	ES (I & II)	50	13.96	2.01	2.15	0.04	0.45	-1.79	-.069
	AS (III & IV)	42	14.89	2.14					

ILOC df = 56; ELOC df = 90; Note: ILOC = Internal Locus of Control; ELOC = External Locus of Control; ES=Early Stages; AS =Advanced Stages

Table 7 represents significant differences of stages of illness on Internal and External Locus of Control, which shows early staged (I & II) women have higher level of Internal Locus of Control, and advanced stage (III & IV) women have higher level of External Locus of Control.

According to results the hypotheses testation is under below:

- H1: Psychological wellbeing has positive relationship with self-esteem. (Accepted)
- H2: Locus of control has positive relationship with self-esteem. (Accepted)

- H3: Psychological well-being has positive relationship with locus of control. (Rejected)
- H4: Younger patients have low self-esteem, high external locus of control, while older patients have high internal locus of control. (Accepted, Accepted, Accepted)
- H5: Highly qualified patients have high self-esteem, psychological wellbeing and internal locus of control as compared to less qualified women. (Accepted, Accepted, Accepted, Accepted)
- H6: Early staged women of breast cancer have high self-esteem, psychological wellbeing, and internal locus of control. (Accepted, Accepted, Accepted)

Discussion

The current study was designed to study the interlinks of self-esteem, psychological wellbeing and locus of control, the study was intended to check breast cancer women's score on demographics (age, education, and stages of illness). The detailed discussion of results is given below:

The results given by correlation analysis that self-esteem is significantly positively correlated with psychological wellbeing and locus of control are in line with other studies (Dogan, Totan, & Sapmaz, 2013; Pruessner, Hellhammer, & Kirschbaum, 1999b; Pruessner, 2005), that revealed the high levels of self-esteem are linked with wellbeing. Whereas non-significant relationship of psychological wellbeing with Locus of control was found that is inconsistent with previous findings (Barbara, 2014; Iskandarsyah, Klerk, Suardi, Sadarjoen, & Passchier, 2014). An additional research is required to get a clearer picture of the relationship between these variables among breast cancer patients.

The significant age differences emerged on self-esteem scale, the result corroborated previous finding (Gomes & Silva, 2013) that self-esteem tends to increase with age. While non-significant age differences emerged on psychological wellbeing scales, the finding is inconsistent of the previous findings (Robb et al., 2007). In Pakistani culture psychological wellbeing is not considered as important as physical wellbeing, people are more conscious about their physical health than mental health. A study (Chandra et al., 1998) reported not only lower wellbeing scores in elder breast cancer women but also some improvements as coping, positive feelings and social support. And it is also empirically proved that high self-esteem has significant positive relationship with high psychological wellbeing, so a question is open for future research to have a deep study in this perspective.

Internal and external locus of control significantly differed by age that are consistent with previous studies (Bailis, Segall, & Chipperfield, 2010; Stocks, April, & Lynton, 2012) that the age and locus of control have solid links. Self-esteem and psychological wellbeing got significant differences of education,

also supported by previous findings (Pinar, Salepci, & Afsar, 2003; National Breast Cancer Centre, 2004) that unqualified patients have showed low quality of life and psychological wellbeing. Education significantly internally differed on locus of control and result is consistent with previous findings that highly educated patients have high internal locus of control (Bettencourt, Talley, Molix, Schlegel, & Westgate, 2008; Gomes & Silva, 2013).

Self-esteem and psychological wellbeing significantly differed on stages of illness that are consistent with other studies (Seow et al., 2011; Epplein et al., 2011; Barbara, 2014; Moreira, Sousa, Poveda, & Turrini, 2015). Internal and external locus of control significantly differed on stages of illness that is consistent with previous studies (Bourjolly, Kerson, & Nuamah, 1999; Bremer et al., 1997) that reported high external sources of control in breast cancer patients and better emotional status and adaptation of diseases are linked with internal locus of control (Neipp, Lopez-Roig, & Pastor, 2007).

Conclusion

The conclusion is drawn from the study that both locus of control and psychological wellbeing have positive correlation with self-esteem. Psychological wellbeing is insignificantly positively correlated with locus of control. Study founded significant age differences on these variables, which shows older women have high level of self-esteem and internal locus of control, means age enhance self-esteem of individuals; with the experiences of life individual learns to value himself. Younger women reported high level of internal locus of control. Age found non-significant differences on psychological wellbeing, which means age does not influence the psychological wellbeing. Significant educational differences explain high scores of women on internal locus of control, self-esteem and psychological wellbeing, education produces positive constructs such as self-efficacy, self-achievement and self-concept. Women found insignificant score of education on external locus of control, so education and external locus of control have no obvious relationship. Early staged women (I & II) have higher level of internal locus of control, self-esteem and psychological wellbeing, as compared to advanced staged women (III & IV).

Overall, the present study has demonstrated significant positive relationship between self-esteem and psychological wellbeing, whereas non-significant positive relationship between psychological wellbeing and locus of control among breast cancer patients. Significant findings across demographic variables provide beneficial addition for related practical fields and literature whereas non-significant findings open a question for future researchers.

Implications

The findings will be useful for the practitioners to help the patients to reduce the stress and anxiety level and provide the understandings of the psychological impacts of the said illness. The research will also help out the government officials and clinicians, psychotherapists and counselors to motivate the patients, care takers, and families and social workers to learn the coping strategies to deal with the negative impacts of the disease and to boost the psycho-social functioning. Researchers can get the empirical knowledge from the current findings regarding the levels and impact of these positive constructs in response to major illness. NGO's are supposed to play their part in order to enhance the self-esteem and psychological wellbeing of the patients so they can deal better with their illness and continue to play their productive role, occupationally and socially. Findings are the clear guidelines for the society that mental health is equally important to physical health, in fact better psychological response to severe medical conditions will lessen the negative impacts and will increase the mindfulness to combat the adverse sides.

Some potential limitations to this study needed to mention. First, all variables were measured by self-reports thus for future researches to minimizing the influence of impression management, inspiration bias, nearly other methods must be used by researchers. Future researches need to be conducted on both gender and the question regarding the cause and effect relationship among these variables is open to explore.

References

- Ahmad, I. (1986). Initial psychometric evaluation of Urdu version of California Psychological Inventory. *Pakistan Journal of Psychological Research*, 1, 3-16. Retrieved from <http://www.pjprnip.edu.pk/pjpr/index.php/pjpr/article/view/283>
- American Cancer Society (2013). *Cancer Facts and Figures*. Retrieved from <http://www.cancer.org/acs/groups/content/@epidemiologysurveillance/documents/document/acspc-036845.pdf><http://www.cancerquest.org/breast-cancer-introduction.html?gclid=CNPVrNfnrMQCFdMatAodp2QALQ>
- Bailis, D.S., Segall, A., & Chipperfield, J.G. (2010). Age, relative autonomy and change in health locus of control beliefs: a longitudinal study of members of a health-promotion facility. *Journal of Health Psychology*, 15(3), 326-338. doi:10.1177/1359105309342296
- Barbara, P.K. (2014). *The role of cancer locus of control, hope and coping in cancer patients' subjective wellbeing (Unpublished M.Sc Research Report)*. Department of Psychology, The University of Hong Kong.

- Bettencourt, B.A., Talley, A.E., Molix, L., Schlegel, R., & Westgate, S.J. (2008). Rural and urban breast cancer patients: Health locus of control and psychological adjustment. *Psychosocial Oncology*, *17*(9), 932–939. doi:10.1002/pon.1315. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/18098346>
- Bourjolly, J., Kerson, T., & Nuamah, I. (1999). A comparison of social functioning among black and white women with breast cancer. *Social Work in Health Care*, *28*(3), 1-20. doi:10.1300/J010v28n03_01
- Breast Cancer Organization (2018). U.S. *Breast Cancer Statistics*. Retrieved from https://www.breastcancer.org/symptoms/understand_bc/statistics?gclid=Cj0KCQjw6rXeBRD3ARIsAD9ni9CacFU41pE-l_ruCm18zGFe0GSR4IYYGqnQhTPe-7VU22MckNJJ3hAaAqISEALw_wcB
- Bremer, B.A., Moore, C.T., Bourbon, B.M., Hess, D.R., & Bremer, K.L. (1997). Perceptions of control, physical exercise, and psychological adjustment to breast cancer in South African women. *Annual of Behavioral Medicine*, *19*(1), 51-60. doi:10.1007/BF02883427
- Brown, O. & Swartz, E. (2012). Emotional intelligence and locus of control of adult patients with breast cancer receiving treatment. *South African Family Practice*, *54*(2), 139-144. doi:10.1080/20786204.2012.10874193
- Castro, S., Santos, M., Almeida, A., & Fernandes, A. (2010). Perception of the spouses of mastectomized women in relation to the coexistence after surgery. *Revista da Escola de Enfermagem da USP*, *44*(1), 113-119. doi.org/10.1590/S0080-62342010000100016. Retrieved from http://www.scielo.br/scielo.php?pid=S0080-62342010000100016&script=sci_abstract&tlng=pt
- Chandra, P.S., Chaturvedi, S.K., Channabasavanna, S.M., Anantha, N., Reddy, B.K.M., Sharma, S., & Rao, S. (1998). *Quality of Life Research*, *7*(6), 495-500. Retrieved from <https://www.jstor.org/stable/4034803>
- Chi, P., Li, X., Zhao, J., & Zhao, G. (2014). Vicious circle of perceived stigma, enacted stigma and depressive symptoms among children affected by HIV/AIDS in China. *AIDS and Behavior*, *18*(6), 1054-1062. doi: 10.1007/s10461-013-0649-z
- Dogan, T., Totan, T., & Sapmaz, F. (2013). The role of self-esteem, psychological well - being, emotional self - efficacy and affect balance on happiness: A path model. *European Scientific Journal*, *9*(20), 31-42. doi:http://dx.doi.org/10.19044/esi.2013.v9n20p%25p
- Epplein, M., Zheng, Y., Zheng, W., Chen, Z., Gu, K., Penson, D., Lu, W., & Shu, X. (2011). Quality of life after breast cancer diagnosis and survival. *Journal of Oncology*, *29*(4), 406-412. doi:10.1200/JCO.2010.30.6951
- Ford, B.M., & Collins, L.N. (2013). Self-esteem Moderates the Effects of Daily Rejection on Health and Wellbeing. *Journal of Self and Identity*. *12*(1), 16-38. doi:<https://doi.org/10.1080/15298868.2011.625647>.

- Retrieved from <https://www.tandfonline.com/doi/abs/10.1080/15298868.2011.625647>
- Gierowski, K., & Rajtar, T. (2003). Chosen factors influencing the locus of control in perpetrators of criminal acts. *Problems of Forensic Science, LIII*, 129-138. Retrieved from <https://studylib.net/doc/8440620/pdf---problems-of-forensic-sciences>
- Gomes, S.N., & Silva, D.R.S. (2013). Evaluation of the self-esteem of women who had undergone breast cancer surgery. *Texto & Contexto-Enfermagem*, 22(2), 509-116. Retrieved from <http://dx.doi.org/10.1590/S0104-07072013000200029>
- Gough, H.G. (1956). *California Psychological Inventory*. Palo Alto, CA: Consulting Psychologists Press.
- Haekens, C.M., Enajat, M., Keymeulen, K., & Van der Hulst, R.R. (2011). Self-Esteem and patients' satisfaction after deep inferior epigastric perforator flap breast reconstruction. *Plastic Surgical Nursing*, 31(4), 160-166. doi:10.1097/PSN.0b013e318231ad8a
- Helms, R.L., O'Hea, E.L., & Corso, M. (2008). Body image issues in women with breast cancer. *Psychology, Health & Medicine*, 13(3), 313-325. doi:10.1080/13548500701405509. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/18569899>
- Henderson, L.W., & Knight, T. (2012). Integrating the hedonic and eudaimonic Perspectives to move comprehensively understand wellbeing and pathways to wellbeing. *International Journal of wellbeing*, 2(3), 196-221. Retrieved from <https://www.internationaljournalofwellbeing.org/index.php/ijow/article/view/80>
- Iskandarsyah, A., Klerk, C., Suardi, D.R., Sadarjoen, S.S., & Passchier, J. (2014). Health locus of control in Indonesian women with breast cancer: a comparison with healthy women. *Asian Pacific Journal of Cancer Preview*, 15(21), 9191-9197. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/25422200>.
- Janet, S., & Carpenter, R.N. (2008). Self-esteem and wellbeing among women with breast cancer and women in an age-matched comparison group. *Journal of Psychosocial Oncology*, 15(3-4), 59-80. doi:10.1300/J077v15n03_03. Retrieved from http://www.tandfonline.com/doi/abs/10.1300/J077v15n03_03
- Mann, M.M., Hosman, M.H.C., Schaalma, P.H., & de Vries, K.N. (2004). Self-esteem in a broad-spectrum approach for mental health promotion. *Health Education Research*, 19(4), 357-372. doi:10.1093/her/cyg041. Retrieved from <https://academic.oup.com/her/article-abstract/19/4/357/560320>
- Markopolus, C., Tsaroucha, A.K., Kouskos, E., Mantas, D., Antonopoulou, Z., & Karvelis, S. (2009). Impact of breast cancer surgery on the self-esteem and sexual life of female patients. *Journal of International*

- Medical Research*, 37, 182–188. doi:10.1177/147323000903700122. Retrieved from <http://journals.sagepub.com/doi/10.1177/147323000903700122>
- Min, S.H., Park, S.Y., & Kim, J.I. (2011). Effects of cancer-overcome BeHaS exercise program on shoulder joint function, stress, body image and self-esteem in breast cancer patients after surgery. *Journal of Korean Academy Fundamentals of Nursing*, 18(3), 328-336. Retrieved from <https://koreamed.org/SearchBasic.php?RID=0091JKAFN/2011.18.3.328&DT=1>
- Moreira, N.S., Sousa, C.S., Poveda, V.B., & Turrini, R.N.T. (2015). Self-esteem of cancer patients' caregivers with reduced functional capacity. *Escola Anna Nery*, 19(2). Retrieved from <http://dx.doi.org/10.5935/1414-8145.20150043>.
- National Breast Cancer Center (2004). *The Identification of Psychological Distress in Women with Breast Cancer*. Australian Government Department of Health and Ageing, Australia. Retrieved from http://canceraustralia.gov.au/.../ipd-identification-of-psychological-distress_50.
- Neipp, M.C., Lopez-Roig, S., & Pastor, M.A. (2007). Control beliefs in cancer: A literature review. *Anuario de Psicologia/The UB Journal of Psychology*, 38(3), 333-355. Retrieved from <http://revistes.ub.edu/index.php/Anuario-psicologia/article/view/8405>
- Opacic, G. (1995). *Personality in Social Mirror*. Belgrade: The Institute for Educational Research.
- Oswalt, A. (2012). *Benefits of Healthy High Self-esteem Community Counseling Services, Inc.* Retrieved from http://www.communitycounselingservices.org/poc/view_doc.php?type=doc&id=37615&cn=96
- Pahlevan, S.S. (2017). Locus of control, quality of life, anxiety, and depression among Malaysian breast cancer patients: The mediating role of uncertainty. *European Journal of Oncology Nursing*, 28-35. doi:10.1016/j.ejon.2017.01.005. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/28279393>
- Paradise, A.W., & Kernis, M.H. (2002). Self-esteem and psychological wellbeing: Implications of fragile self-esteem. *Journal of Social and Clinical Psychology*, 21(4), 345-361. doi: 10.1521/jscp.21.4.345.22598.
- Pinar, R., Salepci, T., & Afsar, F. (2003). Assessment of quality of life in Turkish patients with cancer. *Turkish Journal of Cancer*, 33(2), 96-101. Retrieved from www.turkjcancer.org/pdf.php?id=340
- Platten, M.J., Newman, E., & Quayle, E. (2013). Self-esteem and its relationship to mental health and quality of life in adults with cystic fibrosis. *Journal of Clinical Psychology in Medical Settings*, 20(3), 392-9. doi:10.1007/s10880-012-9346-8. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/23264083>

- Pruessner, J.C., Baldwin, M.W., Dedovic, K., Renwick, R., Mahani, N. K., Lord, C., Meaney, M., & Lupien, S. (2005). Self-esteem, locus of control, hippocampal volume, and cortisol regulation in young and old adulthood. *Neuroimage*, 28(4), 815-26. doi: 10.1016/j.neuroimage.2005.06.014. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/16023372>
- Pruessner, J.C., Hellhammer, D.H., & Kirschbaum, C. (1999b). Low self-esteem, induced failure and the adrenocortical stress response. *Personality and Individual Differences*, 27, 477-489. doi:10.1016/S0191-8869(98)00256-6
- Robb, C., Haley, W.E., Balducci, L., Extermann, M., Perkins, E.A., Small, B. J., & Mortimer, J. (2007). Impact of breast cancer survivorship on quality of life in older women. *Critical Reviews in Oncology/hematology*, 62(1), 84-91. doi:10.1016/j.critrevonc.2006.11.003.
- Rosenberg, M. (1965). *Society and the Adolescent Self-image*. Princeton, NJ: Princeton University Press. Retrieved from http://www.fetzer.org/sites/default/files/images/stories/pdf/selfmeasures/Self_Measures_for_Self-esteem_ROSENBERG_SELF-ESTEEM.pdf
- Rotter, J.B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs: General and Applied*, 80(1), 1-28. doi:10.1037/h0092976. Retrieved from <http://psycnet.apa.org/record/2011-19211-001>
- Rowe, J.L., Montgomery, G.H., Duberstein, P.R., & Bovbjerg, D.H. (2005). Health locus of control and perceived risk for breast cancer in healthy women. *Behavioral Medicine*, 31(1), 33-40. doi:10.3200/BMED.31.1.33-42
- Ryan, R.M., & Deci, E.L. (2001). On happiness and human potentials: A review research on hedonic and eudaimonic well-being. In S. Fiske (Ed), *Annual Review of Psychology*, 52, 141-166. Palo Alto, CA: Annual Reviews, Inc.
- Saadat, M., Ghasemzadeh, A., Karami, S., & Soleimani, M. (2012). Relationship between self-esteem and locus of control in Iranian university students. *Procedia – Social and Behavioral Sciences*, 31, 530-535. doi:10.1016/j.sbspro.2011.12.099
- Sardar, S. (1998). *Study of Relationships Among Childhood Paternal Loss, Sex-role Orientation, Self-esteem and Locus of Control in Male and Female Students*. Unpublished PhD Dissertation. University of Karachi-Karachi, Pakistan.
- Seow, H., Barbera, L., Sutradhar, R., Howell, D., Dudgeon, D., Atzema, C., Liu, Y., Husain, A., Sussman, J., & Earie, C. (2011). Trajectory of performance status and symptom scores for patients with cancer during the last six months of life. *Journal of Clinical Oncology*, 29(9), 1151-1158. doi:10.1200/JCO.2010.30.7173.

- Sohail, S., & Alam, S.N. (2007). Breast cancer in Pakistan - awareness and early detection. *Journal of the College of Physicians and Surgeons, Pakistan*, 17, 11-12. doi: 12.2007/JCPSP.711712. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/18182132>
- Stocks, A., April, K.A., & Lynton, N. (2012). Locus of control and subjective wellbeing: A cross cultural study. *Problems and Perspectives in Management*, 10(1), 17-25. Retrieved from https://www.researchgate.net/.../285640551_Locus_of_control_and_subjective_wellbeing_A_cross-cultural_study
- Watson, M., Greer, S., Pruyn, J., & Van den Borne, B. (1990). Locus of control and adjustment to cancer. *Psychological Reports*, 66(1), 39-48. doi:10.2466/PRO.66.1.39-48. Retrieved from <http://psycnet.apa.org/record/1990-23163-001>
- Zebb, B.J., & Mayers, L.S. (1993). Reliability and validity of the revised California Psychological Inventory's vector 1 scale. *Educational and Psychological Measurement*, 53(1), 271-280. doi: 10.1177/0013164493053001030