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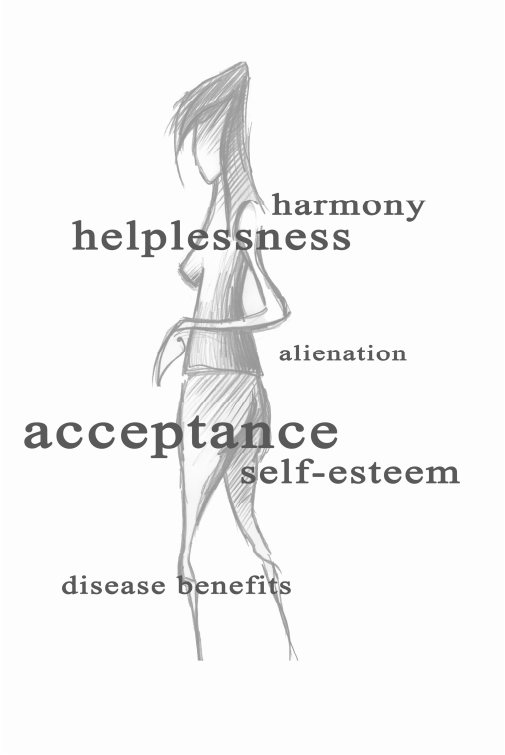
The Predictive Value of Body-Self-Unity and the Cognitive Evaluation of the Illness on Self-Esteem

Among German Female Patients with Breast Cancer



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Preface

In front of you lies the final research paper of my five months lasting bachelor thesis. In this paper, I try to give a good picture of the interaction of psychological variables and physical illness concerning self-esteem. I appreciated creating own ideas and executing them in a practical own study. I encountered an illness specific to women and I was able to examine the psychological reaction to this illness. Working autonomously was enriching to me.

In this preface, I want to take the opportunity to thank all those who made sure that this final paper could be accomplished. In the first place, I want to emphasize that the realization of this research never could have taken place without the assistance of Dr. M. Glados, who really was engaged in giving lots of support. I want to thank him very much indeed for his valuable support and energetic assistance in providing all essential conditions in carrying out this study.

In addition, I am deeply grateful to both of my supervisors Dr. Christina Bode and Dr. Erik Taal for their crucial feedback and their constant assistance in the course of this bachelor thesis. They first helped me getting along with concrete conceptions and then showed me the significance of the practical applicability of the results.

Furthermore, great thanks go to all female patients who took part voluntarily in this study and who were willing to take their time. I appreciate their willingness to take part, the interest, and the brilliant help in psychological research.

I want to finish thanking those people dear to me: My parents, for their permanently cares and love through which there always was motivation and energy and my sister, for her unconditional support, her encouragement, and her honesty.

Overall, I can say in retrospective that this research study was exciting, extremely interesting and above all, I could gain numerous worthwhile experiences important for my study and for my future life.

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Summary

Purpose: The goal of this thesis is to examine the predictive value of body-self unity (alienation and harmony) and the cognitive evaluation of the illness (helplessness, acceptance and disease benefits) on self-esteem.

Methods: The study encompassed 40 female patients, aged averaged 56.3 years, suffering from breast cancer. The study took place in the waiting room of an oncological practice in Germany. The Body-Experience Questionnaire (BEQ) has been used to assess the body-self unity. The Illness Cognition Questionnaire (ICQ) measured cognitive evaluation of the illness and with the help of the Rosenberg self-esteem scale (RSES), the patients´ self-esteem was quantified. The physical functioning is measured with the RAND36. Control variables are the demographic and illness-related variables.

Findings: All scales show good reliability. A hierarchical regression analysis reveals just one predictive variable. The illness cognition helplessness can predict 42% of the variance in self-esteem for women with breast cancer. Other regression coefficients were not found to be significant.

Conclusion: The illness cognition helplessness plays a major role in the women´s self-esteem and is of more importance than body-self unity or the other two illness cognitions acceptance and disease benefits. Preventing helplessness in this group of patients would surely predict a higher self-evaluation and thus a higher quality of life.

Samenvatting

Doel: Het doel van deze thesis is het onderzoeken van de voorspellende waarde van lichaam-Zelf eenheid (strijd en harmonie) en de betekenis die aan de ziekte wordt toegekend (hulpeloosheid, acceptatie en disease benefits) voor de zelfwaardering.

Methode: De proefpersonen in deze studie zijn 40 vrouwelijke patiënten met een gemiddelde leeftijd van 56.3 jaren. Het onderzoek is uitgevoerd in een wachtkamer van een oncologische praktijk in Duitsland. De Body-Experience Questionnaire (BEQ) is gebruikt om de lichaam-Zelf eenheid te meten. De Ziekte Cognitie Lijst (ILC) meet de betekenis die aan de ziekte wordt toegekend en met behulp van de Rosenberg self-esteem scale (RSES) wordt de zelfwaardering van de patiënten gekwantificeerd. Controle variabelen zijn de demografische en ziektevariabelen.

Resultaten: Alle schalen hebben een goede betrouwbaarheid. De hiërarchische regressieanalyse geeft één voorspellende waarde. De ziektecognitie hulpeloosheid voorspelt 42% van de variantie in zelfwaardering bij vrouwelijke patiënten met borstkanker. Andere regressiecoëfficiënten zijn niet gevonden.

Conclusie: De ziektecognitie hulpeloosheid speelt een grote rol in de zelfwaardering van deze vrouwen en is belangrijker dan lichaam-Zelf eenheid of de andere twee ziektecognities acceptatie en disease benefits. Hulpeloosheid voorkomen zou zeker een hogere zelfevaluatie en daarmee een hogere kwaliteit van leven voorspellen.

1. Introduction

The self can be seen as a cognitive construct that is expressed in diversified autobiographical and narrative accounts that are offered by the individual in self-presentation (Kelly & Field, 1996). According to Charmaz´ claim (1983), the self is arranged of certain attributes that became consistent over time and it´s organization depends on sustaining processes throughout life. The experience of the self comes from everyday occurrences in life during which individuals note and indicate their own subjectivity (Brittan, 1973). Larsen and Buss (2008) assume that there are three aspects of the self: the self-concept, identity, and self-esteem. The self-concept is the way a person sees, understands and defines himself. Identity establishes what and where the person is within society, thus linking the self to social structures (Kelly & Field, 1996). Self-esteem is the value individuals attribute to the self and it is defined as the degree of worth, value, love, and respect individuals hold for themselves as human beings in the world (Johnson, 1997). Referring to psychological theories of self-esteem, the terror management theory suggests that the function of self-esteem is to buffer people against the existential terror they might experience when facing their own death (Solomon, Greenberg & Pyszczynski, 1991). This means, self-esteem functions as a buffer people use against paralyzing anxiety that arises from awareness of their own death. Others proposed that self-esteem works as a subjective feedback about the adequacy of the self: when the individual copes well with circumstances, the evaluation of the self is positive (Bednar, Wells & Peterson, 1989). In turn, high self-esteem (positive evaluation of the self) increases the performance of adequate coping with circumstances, and low self-esteem leads to non-adaptive forms of coping (Leary, 1999). Leary (2004) demonstrated that people living with high self-esteem give meaning to death and accept a forthcoming end of life. Dahlbeck and Lightsey (2008) figured out that in regard to managing a chronic disease, lower self-esteem increased the severity of impairment among children with a chronic illness. A low self-esteem "may influence children's confidence in their ability to manage their disability". Considering these arguments, at least a moderate level of self-esteem seems to be inevitably necessary to have a positive feeling of the self and hence being able to cope with unexpected living conditions.

As is widely believed, the self is intrinsically tied to the physical body. The experience of a body-self unity is the assumed connection between body and self (Gadow, 1980). Gross motor development starts in the first weeks of life and bit-by-bit fine motor skills are acquired until one gets used to the movements of the body as automatic processes. Getting older means getting more control of the body (Berk, 2006). However, when new demands are requested,

one gets aware of one's own body, assuming that learning new things is a never-ending process for body and self. Experiencing the body as uncomplicated and trouble free is a result of taking the body for granted. This emphasizes that there is no distinction between the body and the self (Gadow, 1980). Contributory to optimal human functioning is control of the body and its capacities. This control provides a sense of stability of the self and hence the ability to plan and predict future actions (Kelly & Field, 1996). The self is linked to the body, but when bodily capacities do not correspond to the expectations of the desired self-presentation, the individual becomes aware of the divergence between body and self (Kelly & Field, 1996). The body is then objectively experienced and comes to the foreground of consciousness (Gadow, 1980).

There are some theoretical approaches about the divergence between body and self. One of them is the crisis approach. This theory stresses that body alterations lead to identity change that in turn can lead to internalization and changes in the self (Williams, 1963). The question whether chronically ill people go through a process of loss of the self or whether chronic illness causes changes of the self is still discussed. In fact, the occurrence of a disease can result in tension or distinction between body and self (Hudak, McKeever & Wright, 2007). According to Charmaz (1983), chronically ill persons suffer losses, like reduced control over life and future, as well as losses in self-esteem and self-identity resulting in a diminished self. Individuals challenge their own self-worth and their ongoing restrictions of physiology as losses, resulting in the assumption that suffering from a long-term illness can gradually debilitate preserving of the self. Referring to Charmaz, (1983), the most significant source of suffering from loss of self is the inability to control one´s self and one´s life.

Cancer is one of these chronic diseases that can go along with prolonged suffering. The word cancer is a collective term for a large group of diseases sharing a common basis characterized by uncontrolled division of cells that result in the development of a tumor. Malignant tumors do not underlie normal growth control. The modified cells multiply unhindered. These grow into surrounding tissue, destroy it, invade into the bloodstream and lymphatic vessels. They can metastasize to the liver, the lung, the bones and also to the brain (DKFZ, 2006). Breast cancer is a specific form of cancer. In Germany, as well as in the rest of Europe, it is the most frequently diagnosed form of cancer in women. About 27.8 percent of all cases of cancer among women are attributed to breast cancer. Around 57.000 women are diagnosed with breast cancer every year and approximately 17.500 women die annually because of breast cancer (Breast Cancer Action Germany, 2009). The average age of incidence is about 63 years of age (DKF, 2006). Men can also be affected by breast cancer,

but it is occurring rarely: 1 out of 100 patients is a man who is affected by the illness. The diagnosis and treatment is the same as in women (DKF, 2006). There are two types of breast cancer: The first one is the non-infiltrating (non-invasive) tumor, the carcinoma “in situ” and the second one is the infiltrating (invasive) tumor. “In situ” carcinomas pertain to the preliminary phase of breast cancer, which grow non-invasively in the lactiferous ducts (ductal carcinoma in situ, DCIS) and in the glandular lobules (lobular carcinoma in situ, LCIS). Without treatment or in cases of relapse, these non-invasive tumors can develop into invasive ones that can in turn be subdivided into several types. Then, tumor cells will have pervaded the membrane of the lactiferous duct or the glandular lobules and grow into the surrounding tissue (Deutsche Krebshilfe, 2006). Many cancers can become largely manageable chronic diseases with ongoing surveillance and treatment. Complete tumor excision from the breast, the so-called lumpectomy, is the most important therapy in case of limited disease. Mastectomy is the removal of one or both breasts, completely or partially. Having had an ablatio simplex means removal of the breast, while having a modified radical mastectomy means the excision of breast and axillary lymph nodes (Shanta & Krishnamurthi, 2006). For most patients this is followed by further treatment, such as radiotherapy, hormonal therapy, immunotherapy or chemotherapy. Radiotherapy is the local treatment of the breast that allows for destruction of malignant cells. Hormonal therapy is a systemic treatment aimed at tumor cells that are hormone-sensitive; these cancer cells can bind estrogen and/or progesterone. The effectiveness of immunotherapy is gained through recognition of malignant cells and deactivation. Using immunotherapy, the substance given recognizes specific types of cancer cells, adheres to it and deactivates it. It is often used in combination with chemotherapy to intensify the impact. Chemotherapy is also a systemic treatment using cytostatics that operate on both malignant and benign cells. Treatments have many undesirable side effects (DKFZ, 2006). Furthermore, psychological treatments are offered to patients affected by breast cancer. Cognitive behavioural therapy, for example, prevents patients from suffering from anxiety and depression and contributes to an improved quality of life (Moorey & Greer, 2007). Women diagnosed with breast cancer can undergo physical changes, like loss of body parts, scarring or limitations in functional abilities during treatment (Anders & Johnson, 1994). Functional limitations are the consequence of health problems that represent an inability to meet a physical or psychological standard. This reduction in ability is linked to a deficit in performing life activities (Ahmed, Smith et al., 2008). One significant and enduring complication of breast cancer treatments is a reduced function of the upper body. Studies reveal high prevalences of limitations: impairments in shoulder function, swelling, pain,

reduced strength and flexibility. A smaller number of women with breast cancer suffer from a more problematic complication of lymphoedema. This condition leads to feelings of numbness, arm heaviness, discomfort and impairments in function. The risk of a reduced mobility of the shoulders increases steadily (Hayes, Battistutta & Newman, 2005). However, optimal functioning of the upper body is essential for maintaining independent living, performing daily routine activities and for general quality of life. Changes in upper body functioning can therefore produce "physical and psychosocial burdens" (Hayes, Battistutta & Newman, 2005). Moreover, women with breast cancer experience greater levels of psychological distress and a worsened quality of life (Cohen, Hack, de Moor, Katz, & Goss, 2000). Additionally, a lowered self-esteem is a common consequence of cancer and its treatment (Curbow, Somerfield, Legro & Sonnega, 1990), which in turn is associated with a lowered life-satisfaction (Rosenberg, 1983). Manos, Sebastián, Bueno, Mateos and de la Torre (2005) found out that self-esteem correlates negatively with the global impairment of quality of life: the lower the women's self-esteem after the diagnosis of a serious illness, the greater the deterioration of quality of life. These findings ponder the assumption that having at least a moderate level of self-esteem makes life worth living. Therefore, it is necessary to improve quality of life in those who are ill. This requires a minimization of physical problems and an enhancement of other aspects of life, for example self-esteem (Calman, 1984).

Illness can affect the physical body, but the individual can grow and develop in other ways, psychologically, emotionally, and socially. How can someone suffering from physical limitations and bodily difficulties handle such dilemmas to maintain positive evaluations of the self? It is supposed that an upcoming tension between consistency and alteration of the body leads to a change in the self and identity (Kelly & Field, 1996) and individuals have to find a new self as a chronically ill person (Charmaz, 1983). A redefinition of the self is the adjustment of living with a long-term disease (Hayden, 1993). Replacing the struggle against the body by acceptance of the restrictions the disease forces, the acceptance can be combined with the attribution of meaning to signify the onset to reunite body and self (Hudak et al., 2007). Individuals constantly have to face an ongoing adaptation process (Kleinman, 1988 as cited in Gordon, 1998), because bodily changes are unpredictable and unreliable. If individuals accept failures and daily frustrations, they may gain 'strength' to handle misfortunes, losses, and failures in life (Chan et al., 2006). Adapting is thus one mode of living with impairment, which means altering life and self to accommodate bodily limitations. Moreover, the creation of a new body-self unity is possible when finding harmony between body and self (Charmaz, 1995). Patients can get in harmony with themselves due to

acceptance of the chronic suffering and disease. Difficulties of accepting living with a disease for the rest of one´s life can increase the experience of a disharmony. Instead of moving towards acceptance, patients can have doubts and thus drift towards hopelessness and desperation (Delmar, Bøje, Dylmer, Forup, Jakobsen, Møller, Sønder & Pederson, 2005). In addition, confronting someone with death, loss, and failure evokes the tendency to fall into a state of helplessness and hopelessness (Chan et al., 2006). Feelings of hopelessness and helplessness have been associated with poorer survival chances among patients with the enduring suffering of breast cancer (Watson, Haviland, Greer et al., 1999). Developing an attitude of admitting the disease as a part of oneself belongs to this process. In addition, being in harmony with oneself concerns learning to adjust and to deal with one´s new situation (Delmar et al., 2005). A study by Petrie, Buick, Weinman & Booth (1999) showed that some personal gains and specific positive effects of illness crystallize while dealing with the disease. Gaining these benefits is influenced by personal and social resources and supplementary by coping responses. Having recognized that the body has its own values and meaning, its signs and symptoms are not any longer viewed as problematic, which facilitates modulation of the changed body-self relationship. In this state, the individual is capable of learning from the interaction of the body and the self and benefit from the distinction (Gadow, 1983), concluding that individuals have recovered a sense of unity in a new state. All these representations (acceptance, helplessness, and disease benefits) reflect the patient´s cognitive response to symptoms and disease and this cognitive evaluation contributes in different amount to the psychological and physiological functioning of chronically ill people (Evers, Kraaimaat, van Lankveld, Jacobs & Bijlsma, 1998).

The existing literature provides an array of studies that have examined all of these factors in various combinations. The objective of this study is to examine female patients´ self-esteem resulting from the influence of the disease on body-self unity and the cognitive evaluation of this disease. This research will be conducted with female patients that suffer from the long-term disease breast cancer. This study examines, to what extent women´s self esteem is determined by the existence of body-self-unity and their cognitive evaluation of the disease breast cancer. It is interesting to see in how far self-esteem in women with breast cancer can be predicted if their sense of attractiveness, in cases of surgery, is at risk. The expectations are that physical functioning correlates positively with the psychological variables body-self unity, self-esteem and acceptance and disease benefits. Furthermore, it is assumed that physical functioning negatively correlates with helplessness (hypotheses 1 – 5). Additionally, it is assumed that acceptance, and disease benefits correlate positively with

women´s self-esteem, while helplessness correlates negatively with self-esteem (hypotheses 6, 7 & 8). Another expectation is that a greater body-self-unity is associated with a higher level of self-esteem (hypothesis 9). Concerning the interaction of body-self-unity and the cognitive evaluation of the illness, it is hypothesized that a greater body-self-unity correlates positively with acceptance and disease benefits, and that body-self-unity correlates negatively with helplessness (hypotheses 10, 11 &12). It is hypothesized that the psychological variables predict self-esteem if controlled for self-esteem. Body-self unity has a predictive value for self-esteem; it is assumed that the illness cognitions (acceptance, helplessness and disease benefits) also have a predictive value for self-esteem (hypotheses 13, 14 & 15). Figure 1 shows the considered concept of this thesis.

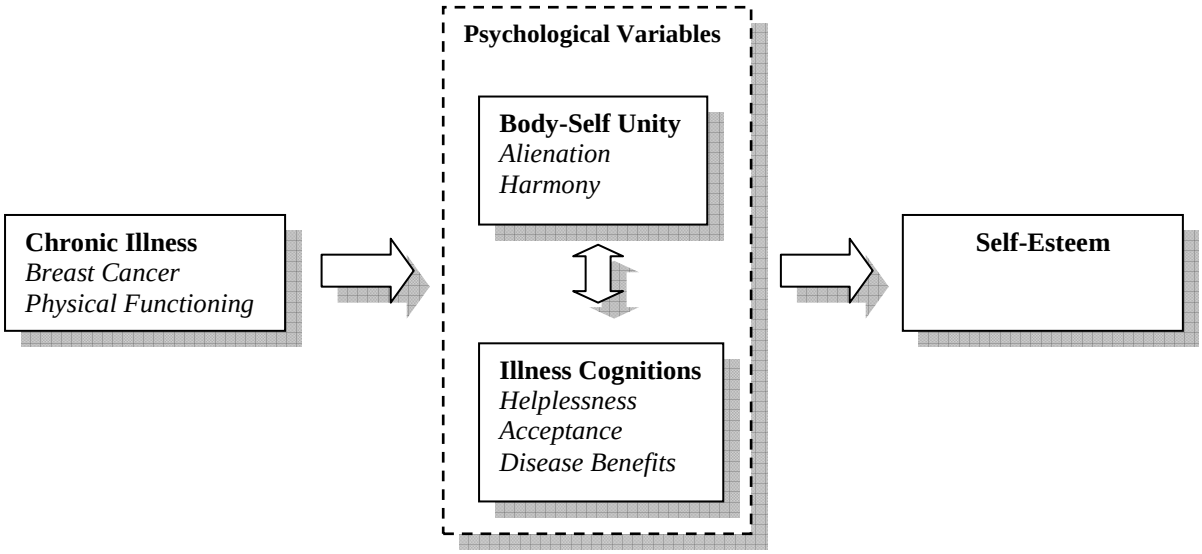

Figure 1. The Conceptual Model of Body-Self Unity and Illness Cognitions as predictors of Self-Esteem by Female Patients with Breast Cancer

1.1 The Hypotheses

Hypothesis 1:	Physical functioning correlates positively with body-self unity
Hypothesis 2:	Physical functioning correlates positively with self-esteem
Hypothesis 3:	Physical functioning correlates negatively with helplessness
Hypothesis 4:	Physical functioning correlates positively with acceptance
Hypothesis 5:	Physical functioning correlates positively with disease benefits
Hypothesis 6:	Helplessness correlates negatively with self-esteem
Hypothesis 7:	Acceptance correlates positively with self-esteem
Hypothesis 8:	Disease benefits correlate positively with self-esteem
Hypothesis 9:	Body-self-unity correlates positively with self-esteem
Hypothesis 10:	Body-self-unity correlates negatively with helplessness
Hypothesis 11:	Body-self-unity correlates positively with acceptance
Hypothesis 12:	Body-self- unity correlates positively with disease benefits
Hypothesis 13:	The psychological variables predict self-esteem when it is controlled for physical functioning
Hypothesis 14:	Body-self-unity predicts self-esteem when it is controlled for physical functioning
Hypothesis 15:	Illness Cognitions predict self-esteem when it is controlled for physical functioning

2. Method

2.1 Sample and Selection

The population under study included all female patients diagnosed as having breast cancer longer than four weeks from the oncological practices in Dülmen and Coesfeld in Germany. The patients were informed about the study via telephone by the doctor and were concurrently asked if they would like to participate. All patients were considered during a time period from 4th May 2009 – 19th May 2009. In total, 45 patients were asked but finally 40 patients completed the questionnaires (88% response rate) (see Appendix A).

2.2 Procedure

The patients' data were collected by questionnaires. This self-report questionnaire uses the following instruments: The Rand36, the Illness Cognition Questionnaire (ILC), the Body Experience Questionnaire (BEQ) and Rosenberg´s self-esteem scale (RSES) (see Appendix B). The Body Experience Questionnaire has been translated from Dutch into German; with a reverse translation, the original questionnaire is checked. The patients´ anonymity is ensured, and the questionnaires were handled with confidentiality. All patients came to the practice and completed the questionnaires in the waiting room. The investigator was present all the time during the completion of the questionnaires to provide help in case of questions or difficulties.

2.3 Measuring Instruments

In total, three groups of variables were measured: demographic variables, illness-related variables, and psychological variables. In the following, these measurements are described.

2.3.1 Demographics

The patients were asked about their age, their partnership status, whether they have children or not, their educational level and what their current labour occupation is with 6 answer alternatives ranging from 'I am out of work' (0), 'I am certified unfit for work' (1), 'I am studying' (2), 'I am working' (3), 'I am retired' (4) to 'other' (5) . The educational level is divided into a range of 8 categories, varying from 'no education' (0) to 'university degree' (8). The questions about living in a partnership and whether the patients have children can be answered with 'yes' or 'no'.

2.3.2 Illness-related variables

To get a better insight into the actual impact of breast cancer on self-esteem, it was asked for the date of diagnosis, the actual disease status and other serious diseases. In addition, it was asked for the type of surgery, whether the patients got a breast reconstruction, the type of therapy, whether the patients lost hair while therapy, the pain experienced during the last week and the perceived functional limitations. The time duration since diagnosis and whether the patients have other serious illnesses are open questions. Possible answer categories for the actual disease status were 'first disease', 'relapse', 'second tumor', 'remission' and 'currently not to estimate'. The type of surgery is subdivided into 4 response choices, ranging from 'no surgery', 'breast-preserving surgery', 'operation with removal of one breast' to 'operation with removal of both breasts'. Four types of therapy (radio-, chemo-, immune- and hormone therapy) are listed and it was asked whether the patients have hair loss while undergoing chemotherapy (yes/no). The experienced pain during the last week is a single-item on a scale from 0 with 'absolutely no pain' to 10 with 'unbearable pain'. The perceived functional limitations are measured with 10 items from the Rand 36 and additionally, it was asked for the patients´ general health evaluation (1 item), health change (1 item), vitality (4 items), mental health status (5 items) and social functioning (1 item). The *RAND 36*-item Health Survey (RAND-36) is a shortened version of the "RAND Health Insurance Study Questionnaire" (Brook, Ware, Davies-Avery, Stewart, Donald, Rogers, Williams & Johnston, 1979). This questionnaire measures the average health status of a specific population group and contains scales for functional status, for wellbeing and for the average evaluation of health status. The time of health evaluation was four weeks as in the standard version. The questions are of different response formats: the answering possibilities of the physical functioning items are presented in a Likert-scale of 3 from 1 ('yes, very limited') to 3 ('no, not at all limited) with a good reliability of .82. The answering possibilities of the vitality and mental health status items are presented in a Likert-scale of 6 ranging from 1 ('all the time') to 6 ('never') and have a good reliability of .75 to .87. Finally, social functioning, general health awareness and health change are single-items ranging from 1 ('best') to 5 ('worst') (van der Zee & Sanderman, 1993). The negatively stated items are reverse counted and summed up with the positively stated items to form the scale scores that are then transformed to a 100-point scale with a higher total score representing a better health status.

2.3.3 Psychological variables

To test psychological variables, three different scales are used that are described in the following.

2.3.3.1 Cognitive Evaluation of Illness

To measure cognitive evaluation of the disease, the Illness Cognition Questionnaire (Evers, Kraaimaat, van Lankveld, Jacobs & Bijlsma, 1998) was used. This questionnaire was developed to evaluate cognitions across different chronic diseases and seems to be a valid instrument giving an indication of favorable and unfavorable ways of adjusting to long-term suffering (Evers et al, 1998). The questionnaire is subdivided into three subscales (three cognitions) with each consisting of six items: 'helplessness' ("My illness frequently makes me feel helpless"), 'acceptance' ("I can accept my illness well") and 'disease-benefits' ("My illness has helped me realize what´s important in life"). The patients could specify on a Likert-scale from 1 (not at all) to 4 (completely) their level of agreement to these statements. The items are scored from one to four; the total score is the sum of the scores of the individual scores. The internal consistency of the three subscales was good with alpha coefficients of .83 for helplessness, .68 for acceptance and .80 for perceived benefits.

2.3.3.2 Body-Self Unity

Van der Heij (2007) developed the Body Experience Questionnaire to measure body-self unity in patients suffering from a long-term illness. The questionnaire consists of 10 statements, 4 statements representing the body as a partner ('harmony': "My body lets me know what is good for me"), and 6 statements representing the body as an opponent ('alienation': "My body is a burden to me"). On a Likert-scale from 1 (totally disagree) to 4 (totally agree) the patients could indicate to what extent they agree with these statements. The items of alienation express a divergence of body and self and can be seen as the degree to which the body is experienced as an opponent. Likewise, the items of harmony express body-self unity and can be seen as the degree to which the body is experienced as a partner. Cronbach´s Alpha was .78 for alienation and .65 for harmony, and is therefore a qualified instrument to measure body-self unity. The 4 'harmony' items are positively stated with a higher score indicating a higher harmony with the body. The 6 negatively stated 'alienation' items indicate a higher alienation with the body the higher the patient scores.

2.3.3.3 Self-Esteem

The Rosenberg Self Esteem Scale (RSES; Rosenberg, 1965) is the most frequently used scale to measure global self-esteem ("On the whole I am satisfied with myself") (Hall & Hatcher, 2009). Each of the ten items is rated on a 4-point Likert scale ranging from 1 ('strongly agree') to 4 ('strongly disagree'). The items are stated half positively and half negatively and the latter ones reverse scored. The responses to the 10 items are combined to form a total score with a possible range from 10 to 40, with higher scores representing more positive attitudes towards the self and thus higher self-esteem. In this study, the RSE scale showed adequate internal consistency with an alpha coefficient of .86.

2.4 Analysis of Data

The response and dropout during the study, the demographic and illness-related variables describe the sample. A correlation analysis (Pearson´s correlation) is done to assess the relation of the demographic variables and the psychological variables with self-esteem. With the help of a hierarchical regression analysis one can differentiate the relative contributions of each group of variables to self-esteem. To analyze separately the unique contributions of the illness-cognitions and the body-self-unity, an extra analysis is carried out. The data are analyzed with SPSS 16.0, statistical analysis software for Windows. All hypotheses stated in chapter 1 are tested and the results are discussed. With the help of the Kolmogorov-Smirnov test it is tested whether the psychological variables and physical functioning are distributed normally. The p-value is greater than 0.05; therefore the analyses are tested with parametric tests.

3. Results

3.1 Sample

Table 3.1 lists the descriptives of the demographics and the illness-related variables. All female patients were German; most of them lived with a partner and had children. The mean age is 56.3 years; they have a lower to middle high education while most of them were still working closely followed by the group retirees. The mean disease duration is 4.17 years. Three-fourths of the patients had breast cancer for the first time and 10.0% had a relapse. More than half of the patients have no other diseases. The breast-preserving operation was carried out most often. This is the reason why almost none of the patients had breast reconstruction. The type of therapy given most often is hormone therapy; most of them had hair loss while being under chemotherapy. The mean level of pain experienced during the last week is low. Compared to a cancer norm group (RIVM, 2009), the high number of 81.13 indicated a good physical functioning. The nearer the score to 100 the more favorable is the health state. General health status indicates an average health state, whereas health change showed a better health enlivenment than one year before. Concerning social functioning, the patients showed almost no reduction in social activities. The mean self-esteem of these 40 women is averaged compared with a matchable group of breast cancer survivors (Carpenter, Brockopp & Andrykowski, 1999)[1] and high compared with a westernized healthy sample (Borzumato-Gainey, Kennedy, McCabe & Degges-White, 2009)[2]. In summary, except of being diagnosed with breast cancer, the women in this sample can be characterized as relatively healthy with regard to pain, physical functioning, health change, vitality, mental health and social functioning.

[1] The self-esteem score of 35.43 in this study was averaged to the self-esteem score of 36.7 in the comparable group of breast cancer survivors.
[2] The percentage of self-esteem in this study was high with 88.58 comparative to the westernized healthy sample where the percentage of self-esteem was 68.67.

Table 3.1

Demographics and illness-related variables of 40 breast cancer patients

	n	%	M *(SD)*	Range
Demographics				
Age			56.28 *(10.76)*	35-81
Living with a partner				
Yes	36	90.0		
No	4	10.0		
Having Children				
Yes	33	82.5		
No	7	17.5		
Education Level[1]				
Lower	19	47.5		
Middle	18	45.0		
Higher	3	7.5		
Current labor occupation				
Out of work	2	5.0		
Certified unfit for work	3	7.5		
Working	15	37.5		
Retired	13	32.5		
Others	7	17.5		
Illness-related variables				
Disease duration *(in months)*			48.98 *(73.20)*	0-331
Actual disease status				
First Disease	31	75.5		
Relapse	4	40.0		
Second Tumor	1	2.5		
Remission	2	5.0		
Not able to estimate	2	5.0		
Other diseases				
Yes	13	32.5		
No	27	67.5		
Type of surgery				
No surgery	2	5.0		
BPO[2]	26	65.0		
No BPO of 1 Breast	11	27.5		
No BPO of 2 Breasts	1	2.5		
Breast Reconstruction				
Yes	4	10.0		
No	36	90.0		
Type of Therapy				
Radiotherapy	2	5.0		
Chemotherapy	5	12.5		
Immunotherapy	1	2.5		
Hormone therapy	15	37.5		
Combinations	5	12.5		
No	11	27.5		

(table continues)

Table 3.1 *(continued)*

	n	%	M *(SD)*	Range
Having hair loss				
Yes	34	85.0		
No	6	15.0		
Pain			1.32 *(2.13)*	0 – 10
Physical Functioning	40	100	81.13 *(16.74)*	0 – 100
General Health Evaluation	40	100	47.50 *(21.78)*	0 – 100
Health Change	40	100	60.63 *(29.90)*	0 – 100
Vitality	40	100	65.63 *(17.10)*	0 – 100
Mental Health	40	100	67.70 *(18.94)*	0 – 100
Social Functioning	40	100	83.75 *(25.67)*	0 – 100
Self-Esteem	40	100	35.43 *(4.34)*	0 – 100

Note. [1] Highest educational level: Lower = No education, elementary school or secondary modern school; Middle = Intermediate secondary school, vocational diploma, A-levels; Higher = University of applied science, university degree; [2] BPO = Breast-preserving operation

To check the correlation between individual variables and self-esteem, Pearson´s correlation analysis is used. Table 3.2 shows the correlation coefficients of the demographic variables and the illness-related variables with the psychological variables.

Table 3.2

Correlations (Pearson´s correlation) between the psychological variables and the demographic and illness-related variables in 40 breast cancer patients

	A	PS	HC	EL	TD	BR	HL
Illness Cognition							
Helplessness	.11	-.01	-.11	-.13	.06	-.16	.16
Acceptance	.36*	.14	-.13	-.28	.27	-.31*	-.17
Disease benefits	-.32*	.18	-.10	.20	.04	.08	-.22
Body-Self Unity							
Alienation	-.34*	.01	.16	.45**	-.11	-.03	.18
Harmony	.17	-.05	-.20	-.24	.11	-.07	-.19
Self-Esteem	.16	-.24	-.18	-.09	.00	.06	-.04

Note. A = age; PS = partnership; HC = having children; EL = education level; TD = time since diagnosis; BR = breast reconstruction; HL = hair loss.

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

Table 3.2 shows that there are five significant correlations between psychological variables and demographic and illness-related variables. The illness cognition acceptance correlated positively with age and negatively with breast reconstruction. Thus, the older the patient is the more she accepted her illness. Breast reconstruction led to less acceptance of the disease. The other illness cognition disease benefits showed a significant negative correlation with age. This means the older the patient is, the less disease benefits she has. Illness cognition helplessness showed no significant correlation with any of the demographic and illness-related variables. The subscale alienation of the body-self unity shows two significant correlations. The correlation is negative with age and positive with educational level. The older the patient is, the less alienation she experience; thus a higher body-self unity is found. The other body-self unity subscale, harmony, reveals no significant correlations. It is remarkable that self-esteem denotes any significant relationship with the individual variables, thus no individually listed variable has a striking relationship with self-esteem.

3.2 Hypothesis Testing

To test the 15 hypotheses stated in chapter 1, Pearson's correlation analysis and a regression analysis is done. Table 3.4 shows the correlations between the psychological variables and physical functioning.

Table 3.3

Pearson´s correlations between the psychological variables and physical functioning in 40 breast cancer patients

	PF
Illness Cognitions	
Helplessness	-.57**
Acceptance	-.03
Disease benefits	.40*
Body-Self Unity	
Alienation	-.01
Harmony	-.21
Self-Esteem	.01

Note. PF= physical functioning

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

Table 3.3 points out two significant correlations. The illness cognition helplessness correlated highly significant with physical functioning, showing the less the patients can physically function, the more helpless they feel. The illness cognition disease benefits showed a significant correlation with physical functioning, which indicated the better the physical functioning, the higher the disease benefits and vice versa. Illness cognition acceptance showed no significant correlation as well as body-self unity variables and self-esteem.

Concerning the first five hypotheses, hypotheses three and five are supported. Physical functioning has a strong negative correlation with illness cognition helplessness and a positive moderate correlation with disease benefits. Thus, it is demonstrated that the more limited in physical action the person is, the more helpless a person feels regarding the disease, and vice versa. The better physical functioning, the more disease benefits a person has. Physical functioning did not correlate significantly with body-self unity and thus hypothesis one is not supported. With illness cognition acceptance and self-esteem, physical functioning had no significant correlation and as a result, hypotheses two and four are not confirmed.

Hypothesis 1:	Physical functioning correlates positively with body-self unity:	not supported
Hypothesis 2:	Physical functioning correlates positively with self-esteem:	not supported
Hypothesis 3:	Physical functioning correlates negatively with helplessness:	supported
Hypothesis 4:	Physical functioning correlates positively with acceptance:	not supported
Hypothesis 5:	Physical functioning correlates positively with disease benefits:	supported

The following table (Table 3.4) provides descriptive statistics and correlations for illness cognitions, body-self unity and self-esteem.

Table 3.4

Means, standard deviations and intercorrelations (Pearson´s correlation) of the psychological variables of 40 breast cancer patients

Subscale	M *(SD)*	2	3	4	5	6
1. Helplessness	8.63 *(2.91)*	-.08	.02	.20	.08	-.44**
2. Acceptance	19.48 *(2.94)*	--	.20	-.39*	.36*	.23
3. Disease Benefits	18.68 *(3.60)*		--	-.12	.18	-.08
4. Alienation	9.60 *(3.50)*			--	-.25	-.39*
5. Harmony	13.43 *(2.10)*				--	.33*
6. Self-Esteem	35.43 *(4.34)*					--

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

Of the seven following hypotheses, hypotheses 6-12, three hypotheses can be supported. The results showed a significant negative correlation between helplessness and self-esteem. The more a person feels helpless the less the person values itself. As a result hypothesis six is supported. The other two illness cognitions acceptance and disease benefits gave no significant correlation and therefore hypotheses seven and eight cannot be confirmed.

Hypothesis 6: Helplessness correlates negatively with self-esteem:	supported
Hypothesis 7: Acceptance correlates positively with self-esteem:	not supported
Hypothesis 8: Disease benefits correlate positively with self-esteem:	not supported

The relationship between body-self unity and self-esteem was found in so far that the subscale alienation (a lower body-self unity) and self-esteem correlated significantly negative and the subscale harmony (a higher body-self unity) correlated significantly positive with self-esteem, showing the higher body-self unity the higher patients´ self-esteem and the opposite way around. Therefore, hypothesis nine is supported. Hypothesis ten is not supported because the subscales harmony and alienation showed non-significant correlations with illness cognition helplessness. Acceptance showed a significant correlation with the two body-self unity subscales. Acceptance correlated negatively with alienation and positively with harmony. Hence, hypothesis eleven is supported. It was hypothesized that the higher body-

self unity is, the more acceptance patients have of their illness. Two non-significant correlations are found between the two body-self unity subscales and disease benefits and thus hypothesis 12 is not confirmed.

Hypothesis 9: Body-self-unity correlates positively with self-esteem:	supported
Hypothesis 10: Body-self-unity correlates negatively with helplessness:	not supported
Hypothesis 11: Body-self-unity correlates positively with acceptance:	supported
Hypothesis 12: Body-self unity correlates positively with disease benefits:	not supported

To test the predictive value of the individual psychological variables and physical functioning for self-esteem (hypotheses 13-15), a hierarchical regression analysis is done. Table 3.5 shows the results of this analysis. In the first model, the predictor is the illness-related variable physical functioning. The second model represents the psychological variables added to physical functioning (helplessness, acceptance, disease benefits, alienation and harmony). The demographic variables do not correlate significantly with self-esteem; therefore, these variables are left out in this model.

Table 3.5

Summary of Hierarchical Regression Analysis for Variables Predicting Breast Cancer Patients´ Self-Esteem (N=40)

Variable	Model 1 *β*	Model 2 *β*
Physical Functioning	.01	-.20
Helplessness		-.53**
Acceptance		.01
Disease Benefits		-.01
Alienation		-.22
Harmony		.30
R	.01	.64
R^2	.00	.42
F (df)	.01 (1)	3.90 (6)
P	.93	.01
R^2 Change	.00	.41
F-change	.01	4.67
P-change		.00

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

Physical functioning showed no significant coefficients in both models. In the second model, illness cognition helplessness had the highest predictive value for self-esteem with 42% of variance explained. Helplessness is the only significant predictive value for the dependent variable self-esteem. The other psychological variables showed no predictive value for self-esteem.

There is no need to further analyze the individual predictive value of the diverse psychological variables on self-esteem, because helplessness is the only predictor for self-esteem. There is no support for the last three hypotheses, hypotheses 13 – 15. No psychological variable, neither body-self unity nor illness cognitions, except from helplessness did predict self-esteem significantly.

Hypothesis 13:	The psychological variables predict self-esteem when it is controlled for physical functioning:	not supported
Hypothesis 14:	Body-self-unity predicts self-esteem when it is controlled for physical functioning:	not supported
Hypothesis 15:	Illness Cognitions predict self-esteem when it is controlled for physical functioning:	not supported

4. Discussion

This study examined whether physical functioning, illness cognitions or body-self unity have a predictive value for women's self-esteem. The only predictive value found in the last analysis is illness cognition helplessness. Therefore, it can be agreed that experiencing the feeling of helplessness predicts a greater deterioration of self-esteem. This can also be found in the correlation analysis (see Table 3.4), where the expectation of a negative correlation between helplessness and self-esteem was confirmed. The assumption therefore is that the more helpless the patients feel, the less the patients value themselves. This sample has a relatively high value of self-esteem and a connectedly low feeling of helplessness (see Table 3.4). Helplessness is found to be the only illness cognition that has a predictive value for self-esteem unlike acceptance and disease benefits that turned out to be of no predictive value for self-esteem in this sample. There has been the assumption that through acceptance of the illness and its gains self-esteem would be positively affected, but due to the non-correlation between these two illness cognitions and self-esteem and the non-predictive value, this assumption cannot be confirmed.

Both body-self unity variables showed a high regression coefficient in the last analysis and in case of a greater sample size, these coefficients would probably also predict breast cancer patients' self-esteem. Referring to a comparable study with rheumatic patients (van der Heij, 2007), all psychological variables, except for disease benefits, predict self-esteem with body-self unity as the highest predictor. This differs from the findings of the present study. Since rheumatic patients suffer from higher levels of pain and higher physical limitations, body-self unity is therefore probably more affected and of more importance for self-esteem than in case of breast cancer, where body-self unity did not predict self-worth. In addition, these breast cancer patients showed less alienation and more harmony with their body compared to rheumatic patients, concluding that breast cancer patients had a higher body-self unity than rheumatic patients did. Besides, the mean level of self-esteem is slightly lower in the rheumatic sample than in this sample. The reason for this might be the affected, respectively the non-affected body-self unity in the samples. Another reason for this might be physical functioning. The rheumatic patients are physically more limited than the breast cancer patients are. In the rheumatic sample, physical limitation correlated negatively with self-esteem, while in this sample no correlation was found. Thus, in the rheumatic sample it could have been possible that physical functioning had effect on self-esteem. In this sample, the patients did not show physical limitations and thus the deduction could be made that this did not have had effect on self-esteem.

As expected, body-self unity correlated positively with both self-esteem and acceptance, but there was no correlation found between acceptance and self-esteem (see Table 3.4). Moreover, acceptance had the lowest regression coefficient, thus predicting self-esteem in no way (see Table 3.5). Charmaz (1995) stated that by acceptance of one's illness, patients are able to find harmony between body and self. A significant correlation is found between these two psychological variables (see Table 3.4) which supported this argument. Nevertheless, it is demonstrated that neither acceptance is a predictor for self-esteem, nor harmony.

The illness cognition disease benefits, as predicted, correlated significantly with physical functioning, but there was no support found for the expectation that it could have correlated positively with self-esteem or with body-self unity. If the sample had been higher, the correlation with body-self unity would probably have been significant. The larger the sample size, the greater will be the ability to detect any significant effects (Kutner, Nachtsheim, Neter & Li, 2005). In the rheumatic sample, disease benefits correlated neither with physical functioning/limitation nor with self-esteem, but with body-self unity. The results of both samples match with regard to the non-predictive value of disease benefits. Van der Heij (2007) assumed that the absence of confirmation of the hypothesis is based on a possible variable, the growth of the self, which was not measured. She stated that disease benefits are a sign of growth of the self that causes a higher self-esteem. It would be possible to measure this growth if another measurement instrument had been used. Future studies should consider this argument, since this is the second time that disease benefits are non-predictive for self-esteem. There is a significant negative correlation between disease benefits and age, resulting that the older the patient, the less disease benefits she conceives. This could also possibly be related to the missing variable stated above. This illness cognition is not important for psychological variables but physical variables. These women do not have benefits of this illness psychologically but rather physically (see Table 3.3).

There is neither a significant correlation between physical functioning and self-esteem nor a significant predictive value of physical functioning on self-esteem. The reason for this might be that these patients were not physically disabled. The Rand36 is used as a measure for the general population (van der Zee & Sanderman, 1993). There are also questions concerning the lower parts of the body, which is not the actually affected region, when someone suffers from breast cancer. This could be the reason, why these women scored very well on physical functioning. Having a look at Table 3.1, it is noticeable that this group of patients is relatively healthy.

These patients are not limited in social activities; this can bring about positive aspects of feeling comfortable. All in all, at this moment quality of life in this sample is just lightly affected by the illness. Based on this, there is no influence of physical functioning on self-esteem. The bodily side has no influence on self-esteem.

Results show a positive relationship between body-self unity and self-esteem (the higher body-self unity the higher self-esteem and vice versa). This outcome was expected and is probably a result of either the acceptance of the illness (Charmaz, 1995) or a redefinition of body and self (Hayden, 1993).

Most women underwent a breast-preserving operation. Thus, they were not hampered with regard to body-image or physical attractiveness which could have had effect on self-esteem (Rowland et al., 2000). Mastectomy could have a negative effect on women's self-esteem (Markopoulos, Tsaroucha, Kouskos, Mantas, Antonpoulou & Karvelis, 2009). Likewise, hair loss had no significant correlation with self-esteem, because all patients recovered from hair loss. It was based on the assumption that hair loss could have been another possible variable effecting self-esteem, because it diminishes the self-worth in women (Munstedt, Manthey, Sachsse & Vahrson, 1997 as cited in Berterö, 2002). It is also possible that the women have a high level of self-esteem because of their age, as Robins, Trzesniewski, Tracy, Gosling and Potter (2002) already stated. Women in the late adulthood (55-65 years) represent a peak in self-esteem across the life course. The average age in this study was 56 years. Self-esteem was also found to be independent of educational level and of the patients having had surgery (see Table 3.2).

Recovery from this disease is possible with permanent surveillance. This could be another reason why self-esteem is not affected. Breast cancer could be seen by this sample as an acute disease that scientists get under control in the majority of cases (Deutsche Krebshilfe, 2008). Breast cancer could deteriorate patients in their perceptions of attractiveness (Rowland et al., 2000), but did not deteriorate them in the physical sense. It is possible that the concept of physical functioning is ill-defined and therefore chosen by mistake. Another possible reason could be that the patients had already been affected more than four years. Although disease duration correlated non-significant with acceptance, it could be concluded that the longer the patients suffer from breast cancer, the more they accepted the illness and assumable would be that their self-esteem is not affected any longer. Within these four years, the patients could have had much time to adapt to this illness and develop a redefinition of the self (Hayden, 1993). No correlation was found between partnership and having children with self-esteem

(see Table 3.2). In Manos et al.´s study (2005), these variables yielded no significant effect in relation to self-esteem, neither.

The relatively high value of self-esteem indicated that these women live a worthy life and show a relatively good quality of life. Although cancer is categorized as a chronic disease (DKFZ, 2006), breast cancer in this sample seemed to be an acute illness which has no longer psychological effects on self-esteem and quality of life after recovery. These findings provide new incentives to reconsider the categorization of breast cancer as chronic.

4.1 Limitations

At this point, a discussion of several critical issues in the present research would be appropriate. A limitation of this study could be the questionnaire in respect to physical functioning. Although it is common that the RAND36 subscales are used in studies concerning breast cancer (Buettner et al., 2006; Paskett et al., 2008; Viehoff, van Genderen & Wittink, 2008), a questionnaire tailored to the target group would possibly be better suited to measure the physical limitations resulting from this specific disease. Another constraint of this study could be the translation of the Body-Experience Questionnaire.

Considering this cross-sectional study, one has to notice that the characteristics and its profound psychological effects of breast cancer in this population are measured at a particular point in time. It is not known which other confounding variables are influencing these variables. However, since psychological variables and illness cognitions are measured at the same point in time, it may not always be possible to differentiate whether confounding variables preceded or followed the study. If a longitudinal study would have been done, one could have examined the level of self-esteem from right after the diagnosis until now.

Due to the small sample size, few correlation coefficients and regression coefficients were significant. Mostly, these coefficients point in the right direction, but had the sample size been larger, theses values would surely be identified as significant. The small sample size might threaten the external validity of the present study. Extensive generalization should not be done.

A very important fact, which should also be taken into account, is that this study is based on the patients' self-report and is thus be a review of their subjective sensations. Since subjective conditions differ from objective ones, the persuasive power of these findings shrinks. How these patients really feel is difficult to assess.

4.2 Future

Future research should try to examine the characteristics predicting self-esteem. This study suggests that there may well be a role for psychological variables, such as the body-self unity and illness cognitions, but other concepts should also be taken into account. These women reported high self-esteem, thus there have to be other predicting variables.

There can still be doubts about the definition of chronic illnesses that take into account a prolonged suffering throughout life. Breast cancer did not seem to be an illness of long-term suffering but more as an abruptly appearing illness that disappears after therapy. Although it could objectively be assumed that affected women would have a state of non-well-being, the results of this study showed that these women have a feeling of well-being.

In conclusion, the results of the present study suggest that the body-self unity and illness cognitions are complex processes influencing women's self-esteem partially. Illness cognition helplessness seemed to be the only predictive value for self-esteem, concluding that if breast cancer patients feel helpless it predicts a lower self-esteem in these women. This finding could be instrumental to make life with a long-term disease worth living, because there the cause of struggle between body and self will always be present. To maintain a positive self-esteem, psychosocial support that means optimization of disease-coping processes and strategies preventing feelings of helplessness could be a new integral component of psycho-oncological care for the patients to resolve the lost unity between body and self.

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6. Appendixes

Appendix A

Response and Dropout

		N	%
Response			
	Number of patients	45	100
	Reason no participation	1	2.22
	Not interested	3	6.67
	No time		
	Total no participation	4	8.89
	Total response	41	91.11
Dropout			
	Number of patients	41	100
	Reason not completing	1	2.44
	Rejected questions		
	Total dropout	1	2.44
	Final Sample Size	40	97.56

Appendix B

The Questionnaire

Fragenbogen

Universiteit Twente
de ondernemende universiteit

Nummer Patientin: _____

Guten Tag,

Dieser Fragebogen dauert ungefähr 10- 15 Minuten zum Ausfüllen und ist von besonderem Wert für meine Bachelorarbeit in Psychologie. Sie nehmen auf freiwilliger Basis an dieser Untersuchung teil und können deshalb jederzeit aufhören, wenn es Ihnen zu unangenehm wird. Diese Fragebögen garantieren Anonymität und werden vertraulich behandelt.
Bei eventuell aufkommenden Fragen oder Schwierigkeiten stehe ich Ihnen gerne zur Verfügung.
Ich möchte mich im Voraus bei Ihnen recht herzlichen bedanken, dass Sie teilnehmen.
Im Folgenden werden Ihnen zuerst Fragen zur Person gestellt, des weiteren Fragen zur Krankheit und zum Schluss kommen Fragen zur physischen und psychologischen Gesundheit. Bedenken Sie bitte, dass der Fragenbogen beidseitig bedruckt ist.
Ich möchte Sie bitten genau anzugeben, inwieweit Sie mit den Aussagen übereinstimmen. Dafür können Sie einfach das zugehörige Kästchen ankreuzen oder Ihre Antwort hinter die Frage auf das freie Feld schreiben.

Hier ist ein Beispiel zu finden, wie Sie die Aussagen beantworten können.
Beispiel:
Wenn Sie *ziemlich* übereinstimmen mit der nächsten Aussage, kreuzen Sie das dritte Kästchen an.

	nicht	ein bisschen	ziemlich	vollkommen
Ich habe gelernt mit meiner Krankheit zu leben.	o	o	X	o

Auf diese Weise arbeiten Sie die ganze Liste durch, Aussage für Aussage.
Es gibt keine „richtigen“ und keine „falschen“ Antworten. Denken Sie nicht lange über eine Frage nach, sondern geben Sie Ihren ersten Eindruck wieder.

1. Wie alt sind Sie? _____ Jahre

2. Sind Sie in einer festen Partnerschaft? o Ja o Nein

3. Haben Sie Kinder? o Ja o Nein

4. Was ist Ihre höchste abgeschlossene Schulausbildung?
o Keinen Schulabschluss
o Volksschulabschluss
o Hauptschulabschluss
o Realschulabschluss
o Fachabitur
o Abitur
o Fachhochschulabschluss
o Universitätsabschluss

5. Wie ist Ihre derzeitige Arbeitssituation?
o Ich bin arbeitslos
o Ich arbeite aufgrund meiner Krankheit nicht mehr
o Ich studiere
o Ich bin berufstätig
o Ich beziehe Rente
o Sonstiges: _____

6. Wann wurde die Krankheit bei Ihnen festgestellt? (Monat/Jahr) _____

7. Was ist Ihr aktueller Krankheitsstatus?
o Ersterkrankung
o Rezidiv (Wiederauftreten der Erkrankung)
o Zweittumor
o Remission (Abschwächung der Symptome)
o Derzeit nicht zu beurteilen

8. Haben Sie neben des Brustkrebs noch eine andere ernsthafte Krankheit(en), mit der (-nen) Sie in Behandlung sind?
_____
_____
_____

9. Wurden Sie bisher operiert?

o Nein, bisher noch nicht
o Ja, es war eine brusterhaltende Operation (BET)
o Ja, es war eine nicht-brusterhaltende Operation wobei 1 Brust entfernt wurde
o Ja, es war eine nicht-brusterhaltende Operation wobei beide Brüste entfernt wurden

10. Haben Sie sich einer Brustrekonstruktion unterzogen? o Ja o Nein

11. Können Sie angeben, welcher Art von Therapie Sie sich derzeit unterziehen?

o Radiotherapie (Bestrahlung)
o Chemotherapie
o Immuntherapie
o Immuntherapie in Kombination mit Chemotherapie
o Hormontherapie
o Keine

12. Haben Sie während der Therapie die Haare verloren? o Ja o Nein

13. Können Sie Ihre wahrgenommenen Schmerzen in der vergangen Woche wiedergeben?

überhaupt	o	o	o	o	o	o	o	o	o	o	o	unerträgliche
keine Schmerzen	0										10	Schmerzen

14. Im Allgemeinen, wie bewerten Sie Ihre Gesundheit?

hervorragend	o
sehr gut	o
gut	o
mäßig	o
schlecht	o

15. Im Vergleich zum vorigen Jahr, wie würden Sie *momentan* Ihre Gesundheit im Allgemeinen beurteilen?

viel besser als vor einem Jahr	o
etwas besser als vor einem Jahr	o
ungefähr genauso wie vor einem Jahr	o
etwas schlechter als vor einem Jahr	o
viel schlechter als vor einem Jahr	o

16. Die folgenden Fragen betreffen Ihre täglichen Tätigkeiten. Werden Sie *momentan* eingeschränkt durch Ihre Gesundheit bei diesen Tätigkeiten? Wenn ja, in welchem Maß?

	ja, sehr eingeschränkt	ja, ein wenig eingeschränkt	nein, über-haupt nicht eingeschränkt
a) *Starke Anstrengung* sowie rennen, schwere Gegenstände heben, anstrengenden Sport treiben	o	o	o
b) *Gemäßigte Anstrengung* sowie das Verschieben eines Tisches, staubsaugen, Fahrrad fahren	o	o	o
c) Gegenstände hochheben oder Einkäufe tragen	o	o	o
d) *Ein paar* Stufen hinaufgehen	o	o	o
e) *Eine* Stufe hinaufgehen	o	o	o
f) Beugen, knien oder bücken	o	o	o
g) *Mehr als einen Kilometer* laufen	o	o	o
h) *Einen halben Kilometer* laufen	o	o	o
i) *Hundert Meter* laufen	o	o	o
j) Sich selbst waschen oder ankleiden	o	o	o

17. Diese Fragen gehen darüber, wie Sie sich in den vergangen 4 Wochen gefühlt haben. Kreuzen Sie bei jeder Frage die Antwort an, die am besten wiedergibt wie Sie sich gefühlt haben.

Wie oft während der vergangenen 4 Wochen:

	ständig	meistens	oft	manchmal	selten	nie
a) Fühlten Sie sich lebens-lustig?	o	o	o	o	o	o
b) Fühlten Sie sich sehr nervös?	o	o	o	o	o	o
c) Waren Sie so nieder-geschlagen, dass Sie nichts aufmuntern konnte?	o	o	o	o	o	o
d) Fühlten Sie sich gelassen und ruhig?	o	o	o	o	o	o
e) Fühlten Sie sich sehr tatkräftig?	o	o	o	o	o	o
f) Fühlten Sie sich nieder-geschlagen und trübselig?	o	o	o	o	o	o
g) Fühlten Sie sich am Ende?	o	o	o	o	o	o
h) Fühlten Sie sich glücklich?	o	o	o	o	o	o
i) Fühlten Sie sich müde?	o	o	o	o	o	o

18. *Wie oft* haben Ihre körperliche Gesundheit oder emotionale Probleme Sie während *der vergangenen 4 Wochen* Ihre sozialen Aktivitäten (so wie Besuch bei Freunden oder engen Familienmitglieder) gehindert?

ständig	o
meistens	o
manchmal	o
selten	o
nie	o

19. Inwieweit stimmen Sie hiermit überein?

	nicht	ein bisschen	ziem-lich	voll-ständig
a) Aufgrund der Krankheit kann ich die Dinge nicht mehr tun, die ich am liebsten mache.	o	o	o	o
b) Ich bin den Problemen, die die Krankheit mit sich bringt, gewachsen.	o	o	o	o
c) Ich habe gelernt, mit der Krankheit zu leben	o	o	o	o
d) Der Umgang mit meiner Krankheit hat mich stärker gemacht.	o	o	o	o
e) Meine Krankheit beherrscht mein Leben.	o	o	o	o
f) Ich habe eine ganze Menge gelernt durch meine Krankheit.	o	o	o	o
g) Meine Krankheit gibt mir manchmal das Gefühl nutzlos zu sein.	o	o	o	o
h) Durch meine Krankheit habe ich das Leben mehr zu schätzen gelernt.	o	o	o	o
i) Meine Krankheit hält mich davon ab zu tun, was ich gerne machen würde.	o	o	o	o
j) Ich habe gelernt, die Einschränkungen von meiner Krankheit zu akzeptieren.	o	o	o	o
k) Im Nachhinein betrachtet hat meine Krankheit auch positive Veränderungen in meinem Leben bewirkt.	o	o	o	o
l) Meine Krankheit schränkt mich in allem ein was für mich wichtig ist.	o	o	o	o
m) Ich kann meine Krankheit gut akzeptieren.	o	o	o	o
n) Ich denke, dass ich den Problemen meiner Krankheit gewachsen bin, auch wenn die Krankheit schlimmer wird.	o	o	o	o
o) Durch meine Krankheit fühle ich mich oft hilflos	o	o	o	o
p) Meine Krankheit hat mir geholfen zu erkennen, was im Leben wichtig ist.	o	o	o	o
q) Ich kann gut mit meiner Krankheit umgehen.	o	o	o	o
r) Durch meine Krankheit habe ich gelernt, den Augenblick mehr zu genießen.	o	o	o	o

20. Inwiefern stimmen Sie hiermit überein?

	Stimme überhaupt nicht zu	Stimme eher nicht zu	Stimme eher zu	Stimme ganz & gar zu
a) Ich denke darüber nach was gut für meinen Körper ist.	o	o	o	o
b) Mein Körper fällt mir zur Last.	o	o	o	
c) Es fühlt sich so an, als ob mein Körper nicht zu mir gehört.	o	o	o	o
d) Ich fühle mich nicht ganz.	o	o	o	
e) Mein Körper lässt mich wissen was gut für mich ist.	o	o	o	o
f) Mein Körper ist unberechenbar.	o	o	o	o
g) Ich fühle mich durch meinen Körper verraten.	o	o	o	o
h) Ich würde gerne einen anderen Körper haben wollen.	o	o	o	o
i) Ich spüre meinen Körper gut.	o	o	o	o
j) Mein Körper fühlt sich vertraut an.	o	o	o	o

21. Inwiefern stimmen Sie hiermit überein?

	Stimme überhaupt nicht zu	Stimme eher nicht zu	Stimme eher zu	Stimme ganz & gar zu
a) Im Großen und Ganzen bin ich zufrieden mit mir selbst.	o	o	o	o
b) Manchmal denke ich, dass ich für überhaupt nichts gut bin.	o	o	o	o
c) Ich glaube, ich habe eine Menge guter Eigenschaften.	o	o	o	o
d) Ich kann Dinge genau so gut machen, wie die meisten anderen Leute auch.	o	o	o	o
e) Ich glaube, es gibt nicht viel, worauf ich ich stolz sein kann.	o	o	o	o
f) Sicherlich fühle ich mich auch manchmal nutzlos.	o	o	o	o
g) Ich glaube, dass ich eine geschätzte Person bin, mindestens auf dem selben Niveau wie die anderen.	o	o	o	o
h) Ich wünschte, ich hätte mehr Achtung vor mir selbst.	o	o	o	o
i) Alles in allem neige ich zu dem Gefühl, dass ich ein Versager bin.	o	o	o	o
j) Ich habe eine positive Einstellung zu mir selbst.	o	o	o	o

Vielen herzlichen Dank für Ihre Mitarbeit!

Mit freundlichen Grüßen,

Janina Freitag

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