

# Designing the Cognitive Model of Survivors after Mastectomy

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## ABSTRACT

**Introduction:** The present study seeks to understand the transition from cancer to partial recovery; survivors who have recovered their emotional balance and relative health after mastectomy were selected as the studied group. Accordingly, in the current study, the survivor is someone who has completed his active treatments and at least 5 years have passed since his partial recovery.

**Methodology:** Data saturation was reached by conducting 19 interviews. Lincoln and Goba criteria were used to ensure the validity and strength of the research. In this regard, the credibility of the research was ensured by using strategies such as researcher's self-review, review by members, and experts.

**Results:** In this study, seven explanatory codes have been described with cognitive changes in the phenomenon of survival and transition from illness to recovery among the studied survivors. In this transition, organizing the survivors' cognitive experiences reveals two different cognitive systems including the perception of the stage before and after cancer.

**Conclusion:** Swimming with the experience of the survivors shows that sex, age, and class discriminations have been internalized with the family's educational strategies. The reproduction of these discriminations with the rules governing the objective positions as well as cognitive patterns affects the health of people. Accordingly, it is suggested that policymakers and researchers pay attention to the solutions to eliminate poverty and discrimination by focusing on recognizing and reconstructing the cognitive pattern of people, as well as adjusting and modifying the objective context of its formation.

**Keywords:** Breast Cancer, Mastectomy, Cognitive Model, Recovery.

## Introduction

Cancer and its survival cannot be described only as a complication with external qualities appearing in the physical body, threatening its survival,

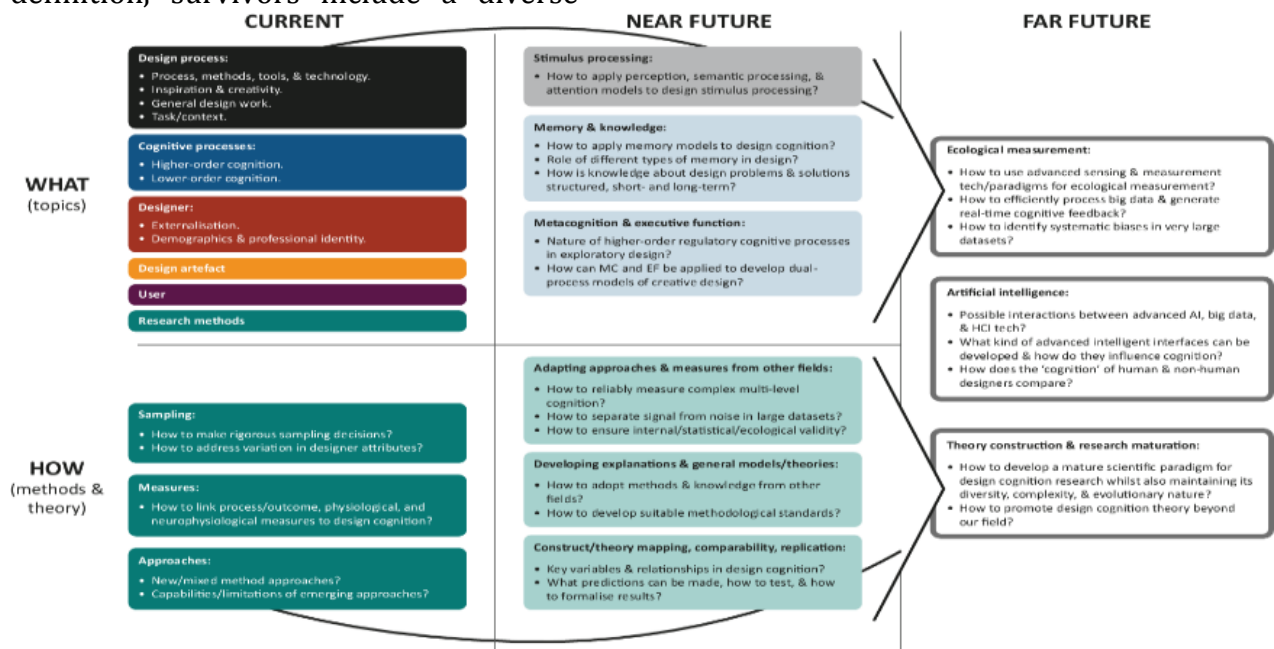
and finally stopping the threat or physical malignancy. The whole life of the patient is present in this encounter. Cancer does not only appear in the body, it also resides in oneself. In addition to severe physical

effects, the question of the meaning of life and existence is an important and continuous part of the states that one experiences when suffering from cancer. Today, compared to the past, more people survive despite being diagnosed with cancer. The number of survivors of this disease shows a growing trend since the mid-1980s. With the increasing number of cancer survivors, many people now experience cancer as a chronic illness along with adjusting to a new reality of what is normal in their lives. A reflection on the survival concept shows that there is no consensus in the definition of this concept. However, a survivor is someone who survives and continues to work during the illness and after overcoming it. In the most common definition, cancer survivors are people who have had a direct and unique experience of cancer. As a result, a person is considered a survivor from the moment of diagnosis of this disease until the end of life. Likewise, this time span includes treatment and post-treatment stages. Based on such a definition, survivors include a diverse

range of people who have experienced cancer. Among those whose disease has been recently diagnosed:

- ❖ Patients who are in the treatment phase.
- ❖ Patients who have completed their active treatments and their condition have not improved.
- ❖ Survivors who have been in a stable condition for years without a serious threat of cancer, and with a little indulgence, they are considered among recovered survivors.

Focusing on the last group, the phenomenon of surviving cancer, survival, and life after cancer is defined, which is a phenomenon beyond physical survival in the lived experience of survivors. For these people, the transition from the disease to the post-cancer stage is a period of re-socialization due to cancer and the emergence of a different balance in life, which is characterized by a different type of being, that is, living on the edge of death and under the shadow of cancer (Figure 1).



**Figure 1** The future of design cognition analysis.

The malignancy has now disappeared, but it is possible for its return. Re-thinking

and re-defining the disease has been further proposed in the treatment

methods, so that the biological philosophy has given its place to the holistic philosophy in defining health and disease and dealing with humans. In this philosophy, attention has been paid to look at man in biological, mental, social, spiritual-religious dimensions, and man's interactions with the world of creation as his living environment. Accepting the definition of disease as automatic bodily processes has caused the disconnection and meaningless of the relationship between sociology and disease. Therefore, this re-thinking is important because it recognizes the disease as a phenomenon with socio-cognitive dimensions formed in the relationship between individual and society. This re-definition has placed sociological studies on the topic of disease in a prominent point and time section and has opened a wide field for social studies. A review of previous studies shows that the interest in the social roots of the disease is increasing recently, but still in prior sources about cancer, there are very few social explanations compared to psychological and psychological explanations. In domestic studies, due to the old division of work that has made the disease and the medicine monopoly, it has been difficult to pay attention to such issues in the field of sociology, and the study of diseases such as cancer from a sociological approach is still a problem.

It is notable that the present study tries to understand how to transition from cancer to partial recovery. The survivors who were in the stage of diagnosis or treatment and their perceptual-cognitive state indicated the experience of strong emotions and fluctuations such as anger, fear, and anxiety were not very suitable for the purpose of the present study, and the survivors who recovered their emotional balance and relative health were selected as the studied group. Accordingly, in the present study, the survivor is someone who has completed

his/her active treatments and at least 5 years have passed since his/her partial recovery.

## Method

The main question of the present study stems from the lack of knowledge about how to transition from illness to recovery in the first person's lived experience, which has caused partial recovery. In this study, it should be noted that the purpose and question of the present study is to explore the meaning and nature of the mentioned experience, the method of interpretive phenomenology is used. Because in phenomenology, the mental and subjective aspects of human thought are emphasized. Phenomenology is the study of the primary, lived, pre-reflective, and predictive meaning of an experience. Phenomenological study is basically a study done with the method of phenomenological reduction.

According to the inclusion criteria for the present study, the purposeful sampling method was used in the selection of samples including the experience of total or partial recovery from cancer, passing at least five years since recovery, and being over twenty years old. Passivity in treatment and unwillingness to continue participating in the study were the criteria for withdrawal from the study. It was tried to use different demographic subgroups in the study considering age, gender, and occupational and educational status. Sampling continued until reaching data saturation, in the sense that interview continuation did not acquire new data or content. Data saturation was reached by conducting 19 interviews. Lincoln and Goba criteria were used to ensure the validity and strength of the research. For this purpose, the credibility of the research was ensured using strategies such as researcher's self-review, review by members and experts. For data transferability, a comprehensive

description of the participants' situation including age, marital status, education and employment status was provided. For reliability, reference adequacy method was used. In this way, direct quotes from the participants were presented about the obtained concepts.

**Results**

The aim of the current study is to understand the cognitive perceptions of survivors before cancer and its possible changes during the recovery process. The data collection of the present research aims to answer the following questions:

What are the perceptual-cognitive habits of survivors before getting cancer? Also, what effect has the experience of living with cancer and its transition to recovery had on the survivors' previous knowledge? A total of 18 survivors were studied, 9 of whom were women and 9 were men. The age range of the participants is between 30 and 82 years old and their education vary from illiterate to doctorate level. In this study, 7 explanatory codes and 23 interpretative codes were extracted from the data analysis, which are explained in the continuation of each of the explanatory codes of this research and the comments of participants (Table 1).

**Table 1** Interpretive and explanatory codes resulting from the interpretation of results

Explanatory code	Interpretation code
The first steps of socialization in chaotic setting	Hard work in childhood Tolerance of violence and oppression in childhood
Living in the struggle between error and perfection	The paradox of the desire to deny and reveal the error Immorality and obsession with perfection Feeling guilty and tormenting yourself
Favoritism	Impenetrability Easy access Prejudice to one's own thoughts
Emotional strategies	Hiding anger Letting go of anger The suffering of friendship Citing luck
Perception of Qadha-Qadi	Knowing God's will and entrusting matters to God Withdrawal and feeling powerless An invitation to surrender Normalization of bad luck
Compliance	Being pressured to obey another Encouraging men to seek authority Altruistic family upbringing Coolness and logic in behavior Saying no and modifying compliance
New cognitive perception	Understanding and adjusting the rules of the game Receiving the message of illness and strengthening spirituality

In this study, seven explanatory codes have been described with cognitive changes in the phenomenon of survival and transition from illness to recovery

among the studied survivors. In this transition, organizing the survivors' cognitive experiences reveals two different cognitive systems including the

perception of the stage before and after cancer. The themes of desire to deny and reveal the error, biased perceptions, emotional strategies, judgmental perception, and compliance embodied by socialization in the survivor's turbulent life transition are characteristic of early or pre-cancer cognitive order. This cognitive perception shows the survivor's explanatory system and order of action against the phenomena as well as cancer. The survivors' comments show direct and indirect references to the applications and consequences of this cognitive system. Survivors used this system to explain their life routines and the reasons for their illness. Thus, the participants' perception of cancer and survival is inextricably linked with this cognitive system and at the same time has challenged it. Understanding these continuous cognitive-emotional processes with the objective situation of the survivor's life helps us to understand how perceptions and desires play a role in illness and recovery.

Emotional experiences are evoked simultaneously with important events, contact with people, as well as details of daily life and affect their desires and decisions. Unfavorable perceptual-emotional experiences have a direct effect on physical performance by causing cognitive impairment and incorrect decisions, and have a direct effect on their physical and mental health. Considering the threat to his life, the patient has no choice, but to live with confusion or adjust his previous beliefs and habits by re-learning. This study basically shows the experience of the survivors who tried to reflect on their habits and thoughts and replace them with new reserves for their survival.

The result of this shift is a new cognitive order. In other words, the transition from the threat of cancer to survival and continuity of life in the survivors' experience, in addition to the

treatment of malignancy, is a kind of cognitive transition made possible by being an agent and changing cognitive habits and plans by detailing the mentioned two cognitive systems, the cognitive pattern resulting from the transition process from illness to survival is presented in the description of the structure of the survival phenomenon. The primary and secondary cognitive model, while explaining the structure of the survival phenomenon, places the main concepts of this study with theoretical background of habituation, which has been paid attention to the thoughts of phenomenologists and Bourdieu's viewpoint.

## Discussion

Society does not just need models that explain illness, it actually needs models that show the transition from illness to recovery, and it is very valuable. Recovery from cancer is formed in the survivor's lived experience and access is further possible by studying the experiences of this group. In the current research, due to the fact that the survival phenomenon is unknown, the issue of survival from cancer has been paid attention to, along with it; two basic questions have been raised.

**First question:** Is survival and transition from illness to relative recovery associated with cognitive changes among survivors? In this case, what is the cognitive pattern before the cancer experience? In response to this question, the six main axes of the first steps of socialization in the chaotic situation, living in the conflict between error and perfection, partiality, emotional strategies, perception of destiny, and obedience were obtained, and the basic cognitive model in organizing these six themes related to reserves basic knowledge was presented in the model.

**Second question:** What are the learning and cognitive patterns in the

experience of living with cancer and survival? In response to this question, the main theme of new cognitive perception was obtained, which expresses a kind of secondary cognitive pattern and was formed under the influence of re-socialization due to cancer. The new cognitive content is reflective and re-thinking compared to the original model, which was more suggestive and unconscious. As the experiences of the survivors show, this early cognitive pattern was acquired with the initial socialization experiences during the distant years.

Therefore, to understand this cognitive pattern, one should understand the path of socialization of the survivors during their life and social actions resulting from the historical combination of past and present. The difficult objective situation in which the survivor's cognitive model was formed shaped his view of himself and phenomena. In addition to have a direct effect on health, this difficult situation is the context and platform for the development of people's action and cognitive patterns.

From Husserl's viewpoint, the perceptual experience is structured by the biography of people and specifically by the habits acquired by the history of life. Husserl and Merleau-Ponty emphasize the pre-reflective aspect of the formation of habits by agents. Therefore, they do not pay much attention to its context and background, but Heidegger considers space and time as the habits background. From Bourdieu's perspective, mental patterns come from an individual history of life. The family plays an active role in creating these patterns in the next generations by applying economic, educational strategies, etc. exploring the place of the disease in the history of the patient's life shows that the disease is not accidental and based on the person's life before the disease, he/ or she is susceptible to it has been done, but

Khaleghi's study has differences with the current study because it tried to challenge the constructivist approaches and focus on the mental experience of the patient in the study of chronic disease. The present study, based on the interpretive phenomenological method, seeks to understand the dialectical relationship between habits and the cognitive system with the survivors' situation, and thus it is different from the existing empirical background because the creative study seeks to understand the mental meanings outside the context and the objective-cultural situation of the patient's life.

Reflecting on the objective situation of the survivors in this study shows that they currently either belong to the lower classes or are middle class who moved from the lower class to the middle class and have spent a significant period of their lives in poverty in terms of their class background. It shows the contents of the listed subjects as the primary cognitive model. Mentally, this group also belongs to the lower class. Adapting and getting used to fate and destitution, being satisfied with the bare minimum under the influence of the experience of constant tensions and unrest in the lives of survivors in this class, and also the sexual class has been interpreted. In this situation, inductive and non-argumentative cognition has the necessary potential to cause social, psychological and physical harm in the sense that poverty and deprivation directly affect people's health and indirectly with a cognitive pattern associated with poverty. This finding is consistent with the results of health report because it shows that class poverty has determined health distribution and exposes people to the risk of disease, but the findings of this study are different since they are focused on the perceptual-cognitive dimension of the class with the emphasized class of the report.

## Conclusion

Swimming with the experience of the survivors shows that sex, age, and class discriminations are internalized with the educational strategies of the families. The reproduction of these discriminations with the rules governing the objective positions as well as cognitive patterns affects the health of people. Accordingly, it is suggested that policy makers and researchers pay attention to solutions to eliminate poverty and discrimination by focusing on recognizing and reconstructing the cognitive pattern of people, as well as adjusting and modifying the objective context of its formation.

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