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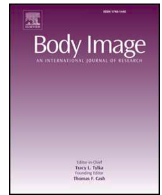
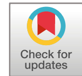


Body image in women diagnosed with breast cancer: A grounded theory study



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A B S T R A C T

Using a Straussian grounded theory methodology, we explored the meaning women attribute to *body image* and how they understand their breast cancer experience as influencing their body image to develop a grounded theory of body image for women diagnosed with breast cancer. Interviews were conducted with 27 women who had completed treatment for breast cancer in Canada. Data were analyzed through a process of open, axial, and selective coding using constant comparison techniques and memo-writing. A grounded theory of body image for women diagnosed with breast cancer was developed around the core category of *body image: what it means to women*, which was underpinned by six themes and 17 subthemes. This theory explains how women diagnosed with breast cancer define body image and illustrates intrapersonal and interpersonal factors that can undermine or support their body image, along with strategies they used to manage their body image. This theory can guide research and practice aimed at enhancing body image and minimizing its consequences for women diagnosed with breast cancer.

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1. Introduction

With more than 2.1 million new cases worldwide each year, breast cancer is the most common malignancy in women (Sung et al., 2021). The increase in breast cancer survivors resulting from improved treatment outcomes and rates of survival (Sung et al., 2021) underscores the importance of assessing and understanding post-treatment sequelae. Emphasis on body image is necessary because treatments induce appearance-related side effects (e.g., loss/visible differences in the breast(s), scarring, alopecia, weight gain/fluctuations, muscle loss/weakness), which have been invoked as an explanation for, and contributing factor in, the development of negative body image among women diagnosed with breast cancer (Boquiren et al., 2016; Brunet, Sabiston, & Burke, 2013; Collins et al., 2011; Falk Dahl, Reinertsen, Nesvold, Fosså, & Dahl, 2010; Koçan & Gürsoy, 2016; Paterson, Lengacher, Donovan, Kip, & Tofthagen, 2016). Moreover, emphasis on body image is necessary because it can impair women's quality of life after a breast cancer diagnosis by stimulating the development of unhealthy behavioral patterns and spirals of negative emotions (Brunet et al., 2013; Davis et al., 2020; Moreira & Canavarro, 2010; Paterson et al., 2016). Adequately addressing body image in women diagnosed with breast cancer may help to promote quality of life during survivorship.

Although research on body image in the field of oncology has burgeoned in recent years (Brunet & Price, 2021; Davis et al., 2020; Paterson et al., 2016), knowledge gaps exist because most studies share common shortcomings. Notably, many have failed to acknowledge the multidimensional nature of body image. Within the broader literature, body image is recognized as a multidimensional construct that consists of *perceptual* (e.g., accuracy of body size estimation relative to actual size), *attitudinal* (e.g., subjective (dis)satisfaction of the body), *affective* (e.g., feelings associated with the body), *cognitive* (e.g., investment in appearance beliefs about the body), and *behavioral* (e.g., compensatory behaviors such as dieting) dimensions (Cash & Smolak, 2011). In practice, however, most quantitative studies with women diagnosed with breast cancer have only considered a single dimension of body image (Brunet & Price,

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2021). Consequently, our understanding of body image and how breast cancer comes to influence perceptual, attitudinal, affective, cognitive, and behavioral dimensions of body image in this population remains poorly understood.

Another common shortcoming of past studies is a failure to recognize that each of the body image dimensions – perceptual, attitudinal, cognitive, affective, and behavioral – can be positive and/or negative such that coexistence can occur. For example, a woman may experience positive feelings toward her body (e.g., appreciation for how it functions), and at the same time, also negative feelings (e.g., disgust with the appearance of her scars). Positive body image infers accurate perceptions, positive thoughts and feelings about the body, and predominantly adaptive actions or health-promoting behaviors (Tylka, 2011). Moreover, it involves an understanding of what the body is able to do, its functionality, what it represents, and its unique features, coupled with low importance placed on physical appearance as central to one's self-worth (Tiggemann & McCourt, 2013; Tylka & Wood-Barcalow, 2015; Wood-Barcalow, Tylka, & Augustus-Horvath, 2010). Negative body image infers unfavorable perceptions, predominantly negative thoughts and feelings, and maladaptive actions or health-risk behaviors. It is essential to note that having low negative body image does not equal having high positive body image or vice versa (Cash & Smolak, 2011; Wood-Barcalow et al., 2010). Despite this, several authors (Brunet & Price, 2021; Davis et al., 2020; Paterson et al., 2016) have noted that researchers have largely overlooked positive body image in the oncology field. Considering that some women diagnosed with breast cancer can experience positive body image or a combination of positive and negative body image (Brunet et al., 2013; Grogan & Mechan, 2017; Grogan, Mechan, Persson, Finlay, & Hall, 2019) and that positive and negative body image may have different predictors and outcomes (Gorven & du Plessis, 2018; Hefferon, 2012), contemporary research on body image with women diagnosed with breast cancer should evolve to a more holistic conceptualization of body image and view it as a phenomenon that may encompass negative and positive experiences.

Finally, although studies have amassed data on various factors associated with body image among women diagnosed with breast cancer (Brunet & Price, 2021), explanatory theories elucidating influential factors are relatively limited (for exceptions, see Fingeret, Nipomnick, Crosby, & Reece, 2013; Hefferon, 2012; White, 2000). White (2000), for example, proposed a heuristic cognitive behavioral model of body image to guide research on this topic in the oncology field. Based on this model, cancer can activate people's appearance-related schemas, which will influence their appearance investment and self-evaluations. In turn, people may experience negative appearance-related assumptions, thoughts, beliefs, and feelings, and engage in compensatory behaviors to improve their appearance. Although White's (2000) model provides a starting point for understanding factors associated with body image among women diagnosed with breast cancer and points to factors that can be targeted for intervention, it has notable limitations. Specifically, a predominantly negative bias exists in this model that limits the understanding of factors associated with positive body image. Additionally, this model was not developed based on women's personal accounts and may consequently omit factors women see as influencing their body image. Pursuant to this logic, other theories that are not specific to the oncology field (e.g., developmental theory of embodiment; Piran, 2017) may also omit factors that are influential for women diagnosed with breast cancer. Indeed, though theories that propose a universality of experience can be a strength because they provide seemingly endless opportunities for hypothesis testing and comparisons across populations, a universal theory of body image may not be appropriate for women diagnosed with breast cancer. Data show that women's experiences during and after cancer treatment may influence their body image and that their values and priorities can change over time (Brunet et al., 2013; Davis et al., 2020; Moreira & Canavarro, 2010; Paterson et al., 2016). Thus, the development of a theory of body image for women diagnosed with breast cancer that defines what it means to them, what factors influence it, and its consequences has crucial implications for understanding body image in this population.

Undoubtedly, the absence of a theory of body image developed based on women's personal accounts, reflecting both positive and negative experiences, has posed a major challenge to understanding women's body image after being diagnosed with breast cancer. At a minimum, such a theory can inform the design, analysis, and interpretation of data in future research and support the formulation of effective interventions for enhancing body image [defined as reducing negative body image and promoting positive body image (i.e., body acceptance, appreciation, respect, and the celebration of diverse portrayals of beauty)]. In this way, a theory of body image for women diagnosed with breast cancer that embraces their accounts and mirrors their experiences can facilitate a cohesive body of theoretical and empirical research, as well as guide future well-targeted effective practice. Thus, the objective of this study was to explore the meaning of body image for women diagnosed with breast cancer and how they see their breast cancer experience as influencing their body image to develop a grounded theory of body image for women diagnosed with breast cancer. To generate such a grounded theory, this study aimed to answer the following questions: (1) how do women diagnosed with breast cancer define body image? (2) what processes do they believe undermine or support their body image? and (3) what strategies do they use to manage their body image?

2. Methods

The data analyzed and rported herein were collected as part of a larger project that aimed to provide a richer understanding of body image in women diagnosed with breast cancer and how to intervene. Supplemental File 1 presents key differences between the two studies/manuscripts emanating from this project, and results from the other study pertaining to women's preferences for body image programing are published elsewhere (Brunet, Price, & Harris, 2021).

2.1. Grounded theory

Grounded theory is a qualitative research methodology that aims to explain social phenomena. This methodology was a logical choice to pursue in this study because its purpose is to enhance the understanding of a human phenomenon involving social processes, social structures, and social interactions, and serve as a guide for future action in areas that have received little prior empirical and conceptual analysis (Corbin & Strauss, 2014). A major strength of grounded theory methodology is that it provides a systematic and rigorous set of procedures and techniques for collecting, analyzing, and interpreting data to develop a substantive theory that conceptually explains a human phenomenon. Accordingly, this methodology can be used to develop a grounded theory that encompasses a set of categories that relate to one another to form a framework that explains women's body image experiences after being diagnosed with breast cancer.

Different methods within grounded theory methodology have arisen over time in response to evolving epistemological (i.e., perspectives about the nature of knowledge produced) and ontological (i.e., beliefs about how knowledge arises) foundations (e.g., Charmaz, 2006; Corbin & Strauss, 2014; Glaser & Strauss, 1967). While an overview of different methods that fit within grounded theory methodology is beyond the scope of this manuscript, there are several key writings on the topic readers can consult to understand the differences (e.g., Birks & Mills, 2011), as well as the advantages and disadvantages of using grounded theory as a method of inquiry

Table 1
Summary of participants' characteristics.

Variables	Descriptives
Age (years), M ± *SD*; range[a]	56.23 ± 15.94; 25–81
Married, *n* (%)[a]	18 (66.7)
White, *n* (%)[a]	22 (81.5)
Education level, *n* (%)[a]	
Completed high school	3 (11.1)
Some university/college	2 (7.4)
Completed university/college	20 (74)
Prefer not to answer	1 (3.7)
Annual household income (CAD $), *n* (%)[a]	
< 50,000	4 (14.8)
50,000–100,000	6 (23)
> 100,000	15 (57.69)
Prefer not to answer	1 (3.7)
Body mass index (kg/m^2), M ± *SD*; range[b]	27.84 ± 7.5; 18.95–57.24
Cancer stage, *n* (%)[a]	
0	1 (3.8)
I	9 (34.6)
II	8 (30.8)
III	4 (15.4)
IV	1 (3.8)
Do not remember	3 (11.5)
Time since diagnosis (years), M ± *SD*; range[a]	2.79 ± 1.6; 0.42–5.83
Treatments received, *n* (%)	
Surgery[a]	26 (96.3)
Chemotherapy[a]	15 (55.6)
Radiotherapy[a]	16 (59.3)
Hormonal[a]	16 (59.3)
Other[c]	9 (33.3)
Comorbid conditions, *n* (%)[a]	
Diabetes	3 (11.1)
High blood pressure	11 (40.7)
High cholesterol	5 (18.5)
Arthritis	8 (29.6)
Lung disease	2 (7.4)
Osteoporosis	7 (25.9)
Hip/joint replacement	3 (11.1)
Perceived physical health, *n* (%)[c]	
Poor-to-fair	4 (14.8)
Good-to-very good	17 (62.9)
Excellent	4 (14.8)
Perceived mental health, *n* (%)[a]	
Fair	1 (3.7)
Good-to-very good	17 (62.9)
Excellent	8 (29.6)

Notes. [a] n = 26; [b] n = 24; [c] n = 25. *SD* = standard deviation.

(e.g., Hussein, Hirst, Salyers, & Osuji, 2014). Herein, a Straussian grounded theory methodology (Corbin & Strauss, 2014) was used, and a constructivist-interpretative research paradigm (Denzin & Lincoln, 2005) was adopted because the goal was to examine how women understand and construct their experiences of body image in relation to their lived experiences. This paradigm assumes a relativist ontology (i.e., multiple realities exist) and a subjective epistemology (i.e., knowledge is subjective, co-created, and influenced by the environment people are socialized in).

2.2. Participants and sampling

The sample comprised 27 women living in Canada with wide experiences and variations in sociodemographic and medical backgrounds (see Table 1 for a summary of participants' characteristics; see Table 2 for an overview of participants' individual profiles). Women were purposefully sampled to be 'information-rich' cases as they had firsthand experiences with breast cancer and were keen to speak of their body image experiences and perspectives on programing to support body image. To ensure the resultant grounded theory did not overlook the perspectives of women with different experiences, women were identified and selected based on the following criteria: (1) ≥ 18 years of age, (2) completed treatment ≤ 5 years for non-metastatic breast cancer (with the exception of adjuvant hormonal therapy), (3) self-report no physical, mental, intellectual/developmental, or sensory disabilities, (4) able to read and provide written informed consent in English or French, and (5) able to understand and speak English. Additionally, based on the principle of theoretical sampling and the notion that sample diversity can contribute to a richer theory and a fuller understanding of the phenomenon being explored (Corbin & Strauss, 2008), women who disclosed negative and/or positive experiences of body image were intentionally selected to ensure both cases were included in this study. Accordingly, staff at The Ottawa Hospital (TOH) were asked to invite a heterogenous group of women who expressed a range of experiences during discussions. Of note, no restrictions were imposed on treatment type(s) and disease severity to help ensure the experiences of a range of women could be captured. Indeed, recruiting women receiving different treatments and with varying disease severity was done to enhance the likelihood that the grounded theory would be widely applicable across a diverse group of women diagnosed with breast cancer.

2.3. Recruitment procedures

Following approval from the Ottawa Health Science Network Research Ethics Board (No.: 20180111-01H) and the Health Sciences and Sciences Research Ethics Board at the University of Ottawa (No.: H-06-18-734), women previously diagnosed with breast cancer who were currently living in Canada were recruited via healthcare provider referral (*n* = 25) or self-referral (*n* = 2). For healthcare provider referrals, staff at TOH contacted potential participants to discuss the larger project with them and obtain permission for study staff to contact them. Women who provided permission were then contacted by study staff who provided a detailed explanation of the project, confirmed eligibility, and arranged an interview. For self-referrals, recruitment posters were placed around TOH inviting those interested to contact study staff for more information, to confirm eligibility, and to arrange an interview. All women provided written informed consent prior to data collection.

2.4. Data collection

Women took part in one semi-structured interview face-to-face (*n* = 10), by telephone (*n* = 12), or via videoconferencing (*n* = 5) with a trained interviewer who is a woman in her 20s with a Master's degree in Psychiatry. The interviewer used an interview guide developed by the first author (a researcher familiar with the literature) and the third author (a clinician experienced in the care of women diagnosed with breast cancer). The guide included introductory questions focused on collecting sociodemographic and medical information and on understanding women's breast cancer history. These were followed by main questions informed by the research aim and relevant literature that covered: (1) how women defined negative and positive body image, (2) how breast cancer has impacted their body image in negative and positive ways, (3) what or who undermines their body image, (4) what or who supports their body image, and (5) specific behaviors or actions they took to manage their body image. Last, women were asked their opinions on the attributes of the ideal program to enhance body image (for results, see Brunet et al., 2021). Women were encouraged to deviate from the interview questions and discuss experiences that had significant meaning to them. Follow-up questions and probes were used to elicit more information, ask for further reflection, depth, or context, and/or to clarify statements. Interviews ended with an opportunity for women to make final comments and add additional information. Ongoing review of the transcripts by the first author and the interviewer provided a means of quality assurance, consistent with the theoretical

Table 2
Overview of participants' individual profiles.

ID	Pseudonym	Age (years)[a]	Civil Status	Race	BMI (kg/m^2)[a]	Cancer Stage	Time Since Diagnosis (years)	Treatment (s) Received
1	Heather	25–29	Single	White	NR	II	2.8	SX, CT, RT
2	Rachel	35–39	Married	White	25–29.9	I	4.2	SX, CT, RT, HRT
3	Carolyn	35–39	Common law	White	> 30	II	3.6	SX, CT
4	Janet	65–69	Widowed	White	25–29.9	Do not remember	1.1	SX, HRT
5	Debra	50–54	Married	White	25–29.9	0	0.4	SX
6	Samantha	75–79	Married	White	18.5–24.9	I	2.3	SX, RT
7	Christine	50–54	Common law	White	25–29.9	I	2.5	SX, CT, RT, HRT
8	Catherine	60–64	Common law	Latin American	18.5–24.9	I	2.9	SX
9	Nicole	50–54	Married	White	> 30	II	2.4	SX, CT, RT
10	Pamela	50–54	Married	White	25–29.9	II	5.3	SX, RT, HRT
11	Brenda	80–84	Married	White	> 30	IV	4.5	SX, RT, HRT
12	Ruth	75–79	Married	White	25–29.9	Do not remember	5.8	SX
13	Angela	60–64	Common law	White	> 30	I	4.9	SX, CT
14	Anna	60–64	Married	White	18.5–24.9	Do not remember	1.0	SX, CT, RT, HRT
15	Shirley	80–84	Divorced	White	18.5–24.9	II	1.7	SX, CT, HRT
16	Kathleen	55–59	Married	White	NR	III	1.9	SX, CT
17	Cynthia	55–59	Married	White	18.5–24.9	II	3.0	SX, CT, RT, HRT
18	Sharon	35–39	Married	White	18.5–24.9	II	5.7	SX, CT, RT
19	Rebecca	NR	NR	NR	NR	NR	NR	NR
20	Laura	75–79	Married	White	25–29.9	I	1.0	SX, RT, HRT
21	Stephanie	55–59	Married	White	> 30	I	0.6	SX
22	Helen	80–84	Married	White	18.5–24.9	I	4.7	SX
23	Michelle	50–54	Divorced	White	18.5–24.9	III	1.0	SX, CT, RT, HRT
24	Kimberly	45–49	Married	White	18.5–24.9	II	4.6	SX, CT, RT, HRT
25	Donna	35–39	Married	South East Asian	18.5–24.9	I	2.0	SX, RT, HRT
26	Sandra	35–39	Married	Black	25–29.9	III	1.8	SX, CT, RT, HRT
27	Nancy	45–49	Married	South Asian	25–29.9	III	2.0	SX, CT, RT

Notes. [a] To protect women's identity, ranges are used. BMI = body mass index; Y = yes; N = no; SX = surgery; CT = chemotherapy; RT = radiotherapy; HRT = hormone replacement therapy; NR = not reported. Acronyms used are based on medical terminology for cancer (http://www.cancerindex.org/medterm/medtm15.htm).

sampling principle (Corbin & Strauss, 2008), and an opportunity to revise the interview guide based on topics women previously interviewed had raised (e.g., the role others played in shaping body-related experiences). Interviews ranged from 56 to 140 min (M = 95 min), were audio recorded, and transcribed verbatim. Of note, as many interviews as possible were transcribed during the data collection phase, with the remaining interviews being transcribed after the data collection phase. Women received $25 CAD for participating in the larger project.

Prior to data collection, the interviewer tested the guide with one woman diagnosed with breast cancer who was in her early 70s. The test interview was conducted to determine if the questions were neutral, clear, facilitated open-ended responses, and flowed well. Additionally, the test interview provided the interviewer an opportunity to practice developing follow-up questions and probes. Based on feedback received during the test interview, a few questions were revised, re-worded, and re-ordered. Data from the test interview were not analyzed for this study.

2.5. Sample size

Experts contend that there is no definitive numerical recommendation for determining sample size for a grounded theory study. Accordingly, there was no predetermined sample size; rather, the decision to discontinue recruiting women was based on the criterion of theoretical saturation, coined by Glaser and Strauss (1999) as a specific element of constant comparison in grounded theory studies. Following this criterion, recruitment and interviewing continued until new data did not indicate the need for further themes, when each theme was well-developed, and when sequential comparison of new data to previous analyzed data failed to generate information that added to the theory being developed. Saturation was reached within the first 24 interviews based on this criterion, although three additional interviews were conducted with women who had already expressed interest in the larger project prior to data collection and analysis.

2.6. Data analysis

Data analysis commenced after the first interview and continued throughout and after data collection. Immediately following each interview, the interviewer and the first author made notes about the concepts reported by women and of possible relations between concepts. This reflection helped guide the line of questioning in subsequent interviews whereby the interview guide was constantly updated to ensure coverage of emerging concepts and thus maximize the richness of the data generated.

2.6.1. Data analysis methods

Transcribed data were analyzed using an open, axial, and selective coding approach (Corbin & Strauss, 2014) and involved constant comparison (Strauss & Corbin, 1997). The goal was to identify, develop, and relate the concepts that would form the building blocks of the theory. Initially, through open coding, provisional codes (i.e., descriptive words or short phrases) were created within each transcript that captured small units of data (i.e., words, phrases, or paragraphs) that described a thought, perspective, feeling, or experience reported by women. At this stage, an open frame of mind was maintained by the researchers and no preconceived codes were used to ensure codes reflected women's reality and assist in keeping the emerging theory grounded in the data. Codes were continuously compared across transcripts to explore and discuss commonalities and irregularities in women's experiences. In some instances, the coding was revised based on new interview data to ensure that codes matched the data. During this step, a constant search for 'negative cases' that would refute the emerging theory took place. Open coding analysis (and data collection) continued until no new information was added from individual transcripts. Next, through axial coding, relations between codes were noted, overlapping codes were grouped together, and preliminary themes and subthemes capturing codes were identified to bring meaning and identity to recurrent experiences. Themes were created when they appeared to represent significant concepts that linked substantial portions of the data together. When needed, subthemes were created to organize

concepts related to a single theme. Afterwards, through selective coding, the core category, which stands as the central phenomenon around which all other codes are integrated in grounded theory (Corbin & Strauss, 1990), was defined, along with themes and subthemes. Last, diagraming was used to map out relations between the core concept, themes, and subthemes, resulting in a grounded theory of body image for women diagnosed with breast cancer.

Throughout the data analysis, memos were written wherein thoughts about codes and concepts, theoretical understandings, and relationships between codes were noted. Accordingly, memos served both as an analytical tool and as a record of ideas, insights, and questions as the theory evolved. Additionally, Microsoft Excel and Power Point were used to facilitate data analysis and diagraming to the extent that these software provided an efficient means to manage the data and keep an audit trail.

2.7. Methodological rigor

Strauss and Corbin (1998) suggest eight conceptual questions to ask when assessing a generated grounded theory. It is believed that the theory presented in this manuscript responds in the affirmative to seven of these questions, namely: (1) are concepts generated, (2) are the concepts systematically related, (3) are there many conceptual linkages and are the categories well-developed, do categories have conceptual density, (4) is variation within the phenomena built into the theory, (5) are the conditions under which variation can be found built into the study and explained, (6) has process been taken into account, and (7) do the theoretical findings seem significant and to what extent? The eighth question (i.e., does the theory stand the test of time and become part of the discussions and ideas exchanged among relevant social and professional groups?) can only be answered with time. Additionally, a theory is only considered valid if the researchers reached the point of saturation (Strauss & Corbin, 1998). As previously stated, theoretical saturation was realized as new data did not provide more information or insights for the developing themes, the themes were sufficient to cover variations and processes, and the relationships between themes were adequately delineated.

Furthermore, various strategies vital to enhancing methodological rigor while undertaking the larger project were employed. First, the interview guide was comprised of open-ended questions that allowed women to enunciate what was important for them, and in turn, women were willing to communicate their experiences in an articulate, expressive, and reflective manner. Second, theoretical sampling was used. Third, an iterative process of data collection and analysis was followed. Fourth, the authors engaged in an exhaustive, systematic, and reflective analysis of women's accounts, and the data were subjected to constant comparison. Relatedly, memos were written to record impressions and elaborate on ideas about the data. Fifth, quotes were embedded in the results to give women a voice, support main points, and allow readers to judge the merit of the data analysis. Last, in keeping with grounded theory methodology (Strauss & Corbin, 1998), conscious efforts were made to step back from the data, ensuring that women's accounts guided the analysis given the authors' knowledge of the literature and their experiences working with women diagnosed with breast cancer.

2.8. Reflexivity

The authors and the interviewer spent significant time reflecting on their positions. They acknowledge that none had been diagnosed with breast cancer at the time of this study. As such, they were keenly aware of the differences between themselves and the interviewed women, both in terms of their physiques and ages. Nonetheless, they had empathy for the interviewed women and the challenges they had faced because of being diagnosed with breast cancer. Moreover, the interviewer felt compelled at times to reassure women and struggled to curb her urge to offer support in a matter that would take her beyond her role. To protect against doing so, she spent time debriefing with the first author after interviews. Finally, the researchers' epistemological position acknowledges that their previous knowledge of and involvement in body image and cancer research impacts their interpretations of the data.

3. Results

Breast cancer was experienced as an assault on women's bodies, affecting how they defined themselves and who they perceived themselves to be. Data analysis led to the development of a grounded theory of body image for women diagnosed with breast cancer. The theory is constructed around the core category *body image: what it means to women*, which met criteria for choosing a central category (Strauss & Corbin, 1998). It was underpinned by six themes: (1) *treatment-related events can undermine or support body image*, (2) *psychosocial factors can undermine or support body image*, (3) *sociocultural factors can undermine body image*, (4) *repertoire of strategies to manage body image*, (5) *passage of time*, and (6) *consequences of body image*. These themes are the "causal conditions, strategies, contextual conditions, and consequences" (Creswell, 2002) related to body image. Most of the themes contain several subthemes (see Fig. 1), yielding a total of 17 subthemes. In the following sections, the core category, themes, and subthemes are presented with quotes from women. To maintain anonymity, pseudonyms were assigned to women. This is followed by a presentation of the proposed grounded theory illustrating the relations between the core category, themes, and subthemes. As noted previously, women's opinions for the *where*, *when*, *how*, *what*, and *who* of the ideal program to enhance body image are published elsewhere (Brunet et al., 2021).

3.1. Core category – body image: what it means to women

According to women, body image encompasses their thoughts, attitudes, and perceptions vis-à-vis their bodies' appearance (primarily) and functionality. The defining characteristics are that it is multidimensional and originates from oneself and others. An additional defining characteristic is that it may vacillate between positive or negative, especially when considering both appearance and functionality. This was evident for Cynthia who stated: "I would say both, but one is stronger than the other. My positive view of my body is still stronger than the negative view that I have." Much of women's positive body image emanated from redirecting their attention from their shortcomings to their strengths. By taking stock of their personal strengths, a sense of body "acceptance" and "appreciation" emerged to counteract the negative body image they had. As Nicole and Debra said, respectively: "Once you go through cancer, you kind of give yourself permission to be who you are and to just try and be strong" and "I kind of learned to just love myself the way I was." The subthemes that reflect these characteristics within this category are *perceptions*, *attitudes*, and *feelings*.

The *perceptions* subtheme reflects that body image encompasses women's view of themselves and that breast cancer can affect this view and how they relate to others. Cynthia discussed that "body image has two components. There's body image that reflects what I think about myself, meaning how do I see my body. And there's a second component, how I think other people see my body image." The *attitudes* subtheme reflects the attitudes women held toward themselves based on their perceptions. Sandra described it as whether "you like the person that you see when you look in the mirror and you are comfortable within your own skin." Positive attitudes (or self-acceptance) usually ensued from positive perceptions, whereas negative attitudes (or body dissatisfaction) usually

Core Category: *Body image: what it means to women reflecting their perceptions, attitudes, and feelings*					
Theme I	**Theme II**	**Theme III**	**Theme IV**	**Theme V**	**Theme VI**
Treatment-related events can undermine or support body image	**Psychosocial factors can undermine or support body image**	**Sociocultural factors can undermine body image**	**Repertoire of strategies to manage body image**	**Passage of time**	**Consequences of body image**
• Losing a breast • Discrepancies between actual and desired body weight, weight gain, and physical deconditioning • Scarring • Reconstructive surgery	• Life stage • Subjective wellbeing • Life outlook • Early life body-related experiences • Compassion from others	• Internalization of beauty ideals, weight bias, and stigma • Weight talk and teasing • Public self-consciousness	• Behavioral strategies ➢ *Engage in physical activity* ➢ *Self-monitor caloric intake and focus on nutrient-rich foods, but allow occasional indulgences* ➢ *Conceal appearance changes* • Psychosocial strategies ➢ *Move beyond physical appearance* ➢ *Be self-compassionate* ➢ *Reject sociocultural appearance pressures* ➢ *Be around non-judgmental and accepting people*		• Sexual health and intimacy • Social withdrawal • Negativity (or positivity) spiral

Fig. 1. Themes and subthemes associated with the core category of *body image: what it means to women.*

ensued from negative perceptions. A positive attitude was characterized as "kind of like being confident and comfortable in the skin that you're in" (Heather). In contrast, a negative attitude was characterized as believing "that your body is unacceptable to the world at large" (Carolyn). The *feelings* subtheme reflects the feelings women had based on their perceptions (whether originating from oneself or others) and the attitudes they held toward their bodies. Anna explained that "body image is how you feel when you look at yourself in the mirror and how you feel when you take yourself out in public." Similarly, Michelle said that "body image, to me, is how I feel about myself, my physical appearance, my presentation to the world."

3.2. Theme I – treatment-related events can undermine or support body image

The treatments women underwent for cancer had important implications for their body image, and in most cases, gave rise to negative self-judgment. This theme captures that treatment-related events affected the perceptions, attitudes, and feelings women held toward their bodies (henceforth referred to as their body image). Women explained that certain physical changes resulting from treatment for cancer shattered who they were and left them seeing themselves as flawed, insecure, inferior, lopsided, or otherwise unattractive to others. The changes acted as a constant reminder to women and others of their causative event, which often held uncomfortable or intrusive memories. Broadly speaking, the treatment-related events women discussed as being influential are divided into four subthemes: (1) *losing a breast*, (2) *discrepancies between actual and desired body weight, weight gain, and physical deconditioning*, (3) *scarring*, and (4) *reconstructive surgery*.

The *losing a breast* subtheme captures how losing a breast can remain a source of distress over time and generally undermines women's body image. Whilst a few women felt it was "just one breast, so what" (Helen), it made others "feel very lopsided" (Kathleen). As Catherine explained: "even if it is just a small part, it is an important part for women." Women experienced a painful sense of loss because their breasts "are so much a part of my life as a woman" (Ruth). One woman explained that "losing my breast… I'm still coming to terms with that. It's a big event. It's a big deal" (Anna). Further, it was an inescapable reminder of breast cancer that left women feeling exposed in the eyes of others, evoking negative emotions as illustrated by Pamela: "My breasts are not proportional. There's a visible difference… It makes me sad because it kind of magnifies the fact that I went through the illness."

The *discrepancies between actual and desired body weight, weight gain, and physical deconditioning* subtheme captures how weight concerns (e.g., 'excess' weight, weight gain, body weight dissatisfaction, weight status) or losing strength/stamina due to treatment for cancer led to negative self-judgment and perceived failures to live up to ideals or previously held standards for oneself. In turn, women discussed feeling self-conscious, sad, and uncomfortable in their bodies. This was evidenced by Kathleen who explained: "I was always conscious about being skinny and now I'm always conscious about being overweight. I don't feel really comfortable in my skin. So, I do beat myself up a lot about it." Others were also impacted by their weight gain, stating "what bothers me, is the weight I put on. I put on 33 lbs" (Rachel) and "now, I'm overweight. It feels sad and it's a reminder of the illness" (Pamela). Additionally, women's belief that treatment for cancer further reduced their functionality due to losing muscle strength, range of mobility, and endurance undermined the extent to which they valued themselves, as in Nicole's

case when she explained: “For me, it was just that loss of strength. That loss of stamina, that was the biggest piece.”

Unlike the above two subthemes, women expressed a range of responses to treatment-related scarring captured within the *scarring* subtheme. On the one hand, scarring was seen as an assault on the self, which never entirely disappeared and served as a reminder of their illness. Sharon recounted: “I have a million scars and that affects me negatively and it’s a constant reminder every time I look in the mirror or get dressed, and it does hold me back from things.” Moreover, scarring gave rise to fear of judgment, pity, and rejection from others, as in Rachel’s case: “I just don’t want people to see them because I don’t like the looks of pity that you get.” However, scarring was not a problem for all women, as Rebecca explained: “It’s a nice tidy scar. I don’t know if it even had much of an impact on me.” Indeed, for some women, scarring helped create meaning as they framed their scars in terms of positive value, seeing them as “battle scars” or “warrior marks,” and thus a symbol of what they had overcome. For example, Christine recalled: “I know I’m going to get looks and I’m going to wear them as battle scars. Those are my warrior scars. I earned them. I’m here because of them and I’m proud of them.”

The *reconstructive surgery* subtheme captures that surgery to rebuild the shape and look of the breast(s) can either undermine or support women’s body image. Some women explained that they were convinced that breast reconstructive surgery would help them restore their body image, but that it did not. Rather, their unmet expectations in terms of breast(s) appearance (e.g., symmetry, shape) and feel were accompanied with disappointment. Recalling her experience, Angela remarked: “The dream of having breasts again. That’s not what you end up with. You don’t end up with breasts. You end up with something that looks good in clothes.” Whereas other women described how undergoing reconstructive surgery provided a sense of normalcy, as Ruth explained it made her feel “more like a woman. I feel more like a whole person. I feel as if it never happened.” For these women who were more satisfied with their breast(s) appearance and feel after reconstructive surgery, they experienced increased self-confidence and a sense of femininity. This can be seen in the case of Christine who said: “Now that I’ve had my reconstruction, I feel certainly more confident, and I feel like my femininity is back.” Over time, it helped some women rebuild their sense of self, as Cynthia stated: “I’m happy that it helped me overcome this obstacle. I know the first part is to survive and it’s not how we look. This is trivial, its secondary, but still, we can have our positive image and it’s important for women to keep it if possible so I’m very happy that I had the surgery and that it was reconstructed.”

3.3. Theme II – psychosocial factors can undermine or support body image

Numerous elements that were salient in women’s lives prior to their diagnosis still had sway over their body image. This theme captures the psychosocial factors that can influence women’s body image after their breast cancer diagnosis. These factors are reflected within five subthemes: (1) *life stage*, (2) *subjective wellbeing*, (3) *life outlook*, (4) *early life body-related experiences*, and (5) *compassion from others*.

The *life stage* subtheme captures how life stage can affect women’s body image. Whilst Sharon felt a sense of betrayal as she “should have been in my prime” at 36 years of age and thus had “a different perspective of how you should look,” women generally spoke of how their age helped them come to terms with the physical changes resulting from treatment-related events. Christine described: “I think if it had happened in my 30s, it would have been more devastating because now that I’m in my 50s, I’m more confident about who I am and what my worth is.” Women who considered themselves older felt better equipped to manage treatment-related events because they had stopped connecting their self-worth to their appearance. Indeed, they had come to realize that their self-worth is an entity separate from their appearance. Nicole explained: “Because of my age, I don’t relate my confidence to my looks anymore. I stopped that a long time ago because I realized I was more than the amount of makeup I could apply artfully or the skinny jeans that just looked like me in a sausage roll.” Being older, they also felt better equipped to handle treatment-related events because they had learned self-acceptance and self-compassion toward their bodies as they transitioned through various life stages. This is not to say that they were impervious to body dissatisfaction, but they had developed a greater understanding and tolerance for their perceived imperfections. Janet elucidated this: “At any age, you’re never satisfied. You always think this could be better or that could be better. But as you get older, you just realize that this is life. So, you just accept it.” She further explained that external validation was less important to her now and that judgment from others came to matter less, saying: “As you get older, you just don’t care what people think the same as you do when you’re younger.”

Women felt their mood had a symbiotic relationship with their body image. The *subjective wellbeing* subtheme captures that women identified mood as contributing to their body image whereby negative mood was accompanied by negative body image. However, the reverse also happened such that “when your inner self is happy, content, and positive, then it seems that you have a positive appearance and a positive body image as well. But when your inner self is not very happy, content, low, depressed, and negative, then you have a negative body image” (Nancy). This was also highlighted by Samantha who stated: “If I’m not feeling up about myself, about something, the whole thing goes down. It’s your psychological state that influences body image. If I feel good, I have good body image.” She further explained that a positive mood helps resist attempted put-downs of others: “When I’m feeling great, I can modify situations. I can answer positively to a negative comment, or I can cope well and I feel good in my body.”

The *life outlook* subtheme captures how women’s positive ways of thinking in general supported their body image. Specifically, seeing life as “everything is what it is” or understanding that life has “ups and downs” reduced women's self-destructive thoughts. This was acknowledged by Helen who offered that losing a breast “wasn’t bad because of the way that I look at it… You just don’t let that get you down.” Similarly, Angela explained that “keeping myself in a positive frame of mind makes a big difference.” Reflecting on the importance of positivity, spirituality helped women gain perspective on their physical changes and realize that they may not be as tragic as they appeared. Michelle developed a perspective that she would only have to do without one of her breasts for a period of time. She stated: “I had become aware that I was missing it [breast]. So, every day I thought thank you, you’ve got one [breast] up there. Keep it up there for me! So, every day I’d mention it to God.”

The *early life body-related experiences* subtheme captures how formative experiences, especially during childhood, can continue to undermine women’s body image. Women described how put-downs from family members, receiving insulting remarks about their appearance, and attributing importance to sociocultural beliefs, norms, and practices undermined their body image and made them vulnerable to self-criticism. Angela explained: “I was raised by a mother who thought everything was about what other people thought of you and appearance.” Similarly, Kathleen described: “In our family, it was like how you looked and how much you weighed.” However, while the remnants of others’ beliefs, attitudes, and actions early in life remained years later, the impact on women’s body image was generally diminished even though it “took a long time to get over” (Anna).

The *compassion from others* subtheme highlights that women rely on empathy and compassion from those within their existing social

network and that receiving unconditional acceptance (especially from their partner in some cases) can support their body image. Carolyn recounted: “It made a difference for me knowing that my partner would communicate that he loved my body regardless of whether I had a chest or not.” Debra also felt supported and explained that “the only person right now who’s going to see me with those scars is my husband, and he’s been very understanding of the whole thing.” Additionally, women noted that compassion from others (e.g., friends, children, other women diagnosed with breast cancer) was beneficial. For instance, Nicole discussed that having an online group with other women who had previously been diagnosed with breast cancer was integral for engaging in open conversations about body image. She stated: “being able to be real and talk about your fears and your frustrations with people who have been there and who know what you’re going through, and who can say the right things to you without offending you.”

3.4. Theme III – sociocultural factors can undermine body image

This theme captures the sociocultural factors that women were cognizant of as undermining their body image. Women were acutely aware of the ideals espoused for women in Westernized societies, feared others’ judgments (real or imagined), and felt exposed in the eyes of others as breast cancer drew attention to their shortcomings. These factors are organized into three subthemes: (1) *internalization of beauty ideals, weight bias, and stigma*, (2) *weight talk and teasing*, and (3) *public self-consciousness*.

The *internalization of beauty ideals, weight bias, and stigma* subtheme captures how women’s personal beliefs, norms, and practices can undermine their body image. They acknowledged that they still valued beauty ideals represented in the media, which would then lead them to feel body shame and fear negative judgment. They also had “internalized fat phobia” because they received “that kind of messaging all the time whether that’s from public discourse or from marketing or from the media or from my family” (Carolyn). As a result, women came to fear being judged by others because, in many cases, judgments were accompanied with blame, namely the belief that women are at least partially responsible for their excess weight. Kathleen said: “It’s feeling overweight in a society that looks at being overweight as either being lazy or not having control.” Similarly, Sharon worried that others would judge her as she had judged others in the past, stating that she had “always associated heavier weights and disproportion with not being healthy or taking care of yourself, and I don’t want anybody to think of that of me. That does bother me.”

The *weight talk and teasing* subtheme describes that women would receive remarks about their weight from family members, friends, and strangers, which could undermine their body image. Brenda recalled: “People on the buses making comments about your size, and that was a bit uncomfortable.” Donna commented that her family is “pretty brutally honest. If you gained weight or if you lose weight, they’ll say it to your face. You have to have strong self-worth I guess in order to overcome that. Otherwise, you’ll go down that hole.” Sharon explained that even friendly teasing can emphasize shortcomings: “He [brother] likes to pick on anybody who has gained a little weight. It’s just a friendly teasing thing, but those friendly teasing things can get to your head.”

The *public self-consciousness* subtheme reflects that women had increased concerns about what others’ thought of them because of their changed physique. Cynthia explained: “Now I’m giving importance to other people’s opinion, and I didn’t before.” Preoccupation with others was triggered in places or situations where women had to “be exposed in a public setting” (Angela), such as at the beach or the change room at the gym. Sharon described: “If I were in a public place wearing a bathing suit where you can see scars on my back or the radiation tattoos, I’m always self-conscious that somebody that doesn’t understand or doesn’t know what I went through may be thinking like ‘Oh wow, those are crazy scars. I wonder what she went through.’” Moreover, women worried about drawing attention and did not “want to look so bizarre that it’s upsetting for other people or that they have to do a triple glance to see what’s going on there. I don’t want that. I don’t want that kind of attention” (Anna). Thus, women exhibited greater appearance investment and spent more time thinking about their public appearance; indeed, they “stressed worrying about what to wear” (Sharon) to look “normal.” Cynthia mentioned that every time she dressed, she would ask herself: “How is it [her breast] looking? Is it looking normal? Does it look too bad if someone looks at me?”.

3.5. Theme IV – repertoire of strategies to manage body image

Women shared numerous strategies they used to support their body image, which are captured in this theme. Although negative perceptions, attitudes, and feelings women had toward their bodies did not entirely or always disappear, they explained that certain strategies helped them become more confident, less self-critical, more self-compassionate, and more self-accepting, as well as become better able to resist external influences (e.g., judgments by others, sociocultural pressures), and in some instances, strategies helped buffer the degree to which their body image was fractured as a result of their breast cancer experiences. Not every strategy was exercised by all women; the extent to which women exercised the strategies depended on their preferences. Furthermore, the strategies are not hierarchical, in that no one strategy appeared to be more potent than another. The strategies, sorted into two subthemes (i.e., behavioral strategies and psychosocial strategies), are outlined below.

3.6. Behavioral strategies

The behavioral strategies subtheme refers to the variety of behaviors and actions women undertook to bolster their body image and/or manage others’ perceptions of them. Three approaches were identified: engage in physical activity, self-monitor caloric intake and focus on nutrient-rich foods, but allow occasional indulgences, and conceal appearance changes.

3.6.1. Engage in physical activity

Women offered that physical activity promoted more positive perceptions, attitudes, and feelings vis-à-vis their bodies. Samantha said: “If I get out and do some sports that I do, it’s automatic, my body image improves.” They expressed gratitude at the opportunity to be able to move and be active. Rebecca explained: “After I go cross-country skiing or something like that, I’ll come home and I’ll think that was great, I’m so glad that my body is functioning and that I can have this great power of skiing.” For some, physical activity was not focused on changing their “outer” bodies or resolving issues that influenced their body image (e.g., weight, scars, disfigurements); rather, it was focused on improving the functionality of their bodies, which helped them feel better about their bodies. However, for others, physical activity was focused on managing specific physical changes resulting from treatment for cancer. They explained that physical activity directly contributed to their body image by helping them tackle a major issue – their weight. Rachel mentioned: “If I don’t go to the gym, I literally picture just me kind of just blowing up.” Despite engaging in physical activity, some offered that it was not something they liked to do, but made themselves do. Laura said: “I go to the gym four times a week. What I haven’t mentioned is that this is not something that I enjoy doing. This is pure willpower.” Additionally, women acknowledged that physical activity could exacerbate their perceived shortcomings, particularly if they had unmet weight loss goals. Rachel recounted feeling frustrated: “I

actually find myself getting more frustrated because it [excess weight] won't go away." Pamela also explained: "I find that like despite trying and trying and trying, I cannot shake it [excess weight] off. It feels like rolling a rock up a hill and it goes back."

3.6.2. Self-monitor caloric intake and focus on nutrient-rich foods, but allow occasional indulgences

Women discussed keeping track of daily caloric intake because they believed it helped to prevent weight gain and promoted weight loss, which served to support their body image. Rachel stated: "Now, I'm very conscious about calories and before I wouldn't really care." They also noted the relevance of eating foods that are naturally nutrient-rich (e.g., fruits, vegetables) and limiting "unhealthy" foods (e.g., red meats and foods high in calories, sugar, salt, or fats). Debra explained trying to "have a balanced diet that will include all of the elements of the food guide. Eating reasonable portions so that your body gets the energy it needs with the nutrients." This said, women highlighted the importance of giving themselves permission to eat foods that provide pleasure. They explained that indulging in "unhealthy foods" was key to "allow yourself some treats once in a while" (Debra). Janet expressed: "I try to eat a lot of vegetables, but I eat what I want. I figure that's what you get pleasure from."

3.6.3. Conceal appearance changes

Women mentioned that wearing makeup and being selective with clothing helped them emphasize their positive attributes and hide their perceived imperfections. Debra said that makeup "kind of brings the whole ensemble together and gives kind of a mental positive feeling that everything is good and kind of helps." When discussing clothing, women spoke of wearing clothing that hid their shape or "cover my stomach" (Ruth). Pamela explained: "When I'm in public, I will not wear shirts that will show my imperfections or things like that. I'm definitely wearing more baggy clothes and just trying to hide my body." Generally, certain clothing helped women feel more attractive and confident. Heather explained: "If I feel kind of like 'blehhh' or if I've had a hard day, I'll put on one of my power outfits. I have some heels. I have some suit jackets. I have some really sweet pants that I like to wear. And I'll just put those on because it helps me feel more confident. Helps me rock it. And those are the things that I do to help shift my attitude toward my body image." Motivation to conceal appearance changes also stemmed from a desire to manage others' impressions. Sharon said: "I do feel that need to cover it [mastectomy] up so they don't see." Similarly, Kathleen explained: "When I come to work, I do mask it [mastectomy] a little bit with a scarf or whatever. I wish I didn't have to do that, but there is a part of me that worries about other people too much and that they might feel uncomfortable, or they might stare, or be looking down and then feel uncomfortable."

3.7. Psychosocial strategies

As women considered the factors that supported or undermined their body image, they explained that engaging in various cognitive strategies provided protection against external influences and allowed them to become less judgmental and more compassionate toward their bodies. Although the earlier theme of **Psychosocial factors can undermine or support body image** appears similar, the ***Psychosocial strategies*** subtheme was described differently and involved direct actions and attitudes women took. Whereas the former reflects factors that preceded women's body image, here it refers to what women described doing to support their body image. It consists of four strategies: (1) *move beyond physical appearance*, (2) *be self-compassionate*, (3) *reject sociocultural appearance pressures*, and (4) *be around non-judgmental and accepting people*.

3.7.1. Move beyond physical appearance

Women described how placing less emphasis and importance on their physical appearance allowed them to shift toward more positive ways of thinking of their bodies. By shaking women's worldview, breast cancer could reduce appearance investment, such that over time the thoughts that had dominated women's attention (e.g., "I need to have the ideal body") diminished as they refocused on other priorities and relationships. Kimberly recounted: "I look at life easier and I say why sweat the small stuff… I enjoy my family, enjoy my husband, let's just get out and enjoy." For Catherine, appearance remained important, but was less central to her self-worth: "I think it's important, but I think it is not more important than other things that define myself. Like sharing with the people that I love, making designs, working with people in things that I find are important."

3.7.2. Be self-compassionate

Women described the importance of developing a self-compassionate attitude for promoting positive perceptions, attitudes, and feelings toward their bodies. They described adopting such an attitude as an internal process of re-centering themselves and reframing their experiences to give it positive meaning. As part of the process, they allowed themselves to appreciate that their bodies had overcome many physical feats, which filled them with pride. Cynthia explained: "I consider that I've been through a lot and my body has been through a lot. So I give praise to myself." Similarly, Carolyn said: "I think that's been the theme throughout, going through this, a sense that 'Gosh, bodies are quite incredible. And they're very strong. And they go through a lot.' There's something positive, I guess, in that sense. An idea of strength, of resilience, of getting through something despite all of the stuff." Self-compassion also developed by realizing that one is not alone and that others may be worse off. For example, Donna compared herself to others "who are far worse" and realized that she was "not that bad." Additionally, redirecting their attention away from their perceived shortcomings, clearing away thoughts that perpetuate unrealistic ideals, focusing on self-improvements, and approving of themselves right here and now helped women come to terms with their bodies. Sandra illustrated how she grew to care for her body: "I mean nothing is perfect, but finding a way to 'live' with the body that you have and doing what you can to improve upon it without having an ultimatum with yourself and without being like 'I'm only going to love the way I look when I'm a size 4.' Instead, you should be like 'I'm going to wear a bikini because I like the sun on my body and if I'm a size 4 great, but if I'm not, too bad.'" Finally, self-compassion was developed by practicing self-kindness instead of harsh self-judgment, "trying to stay away from the negative" (Michelle) and giving "yourself permission to be who you are and to just try and be strong" (Nicole).

3.8. Reject sociocultural appearance pressures

Women proposed sociocultural appearance pressures as a poignant driver of negative body image because "you see all these beautiful people, flawless models, flawless skin, so you kind of want to be like that" (Shirley). Accordingly, they discussed that recognizing and rejecting sociocultural appearance pressures helped promote self-acceptance, comfort, and self-compassion. Carolyn explained: "My body is acceptable regardless of what I decide to do with it. I don't have to listen. I don't have to internalize what I'm told. That it's okay. That it's more than okay. That it can be beautiful." In explaining how this can be done, women expressed that adopting a carefree attitude toward others' impressions helped. Brenda stated: "I just don't think about it. I don't worry about it. I do my thing. I go places and it doesn't matter to me what people might think."

3.8.1. Be around non-judgmental and accepting people

Women highlighted that being around others, especially their partners in some cases, who are supportive and provide

unconditional acceptance can make a difference. They found solace in knowing that others would not judge them. Carolyn noted the importance of having "people around you who accept you and think that you're beautiful no matter what is going on with your body, and that you're not up for constant commentary about it." Stephanie said it helped to "know that my husband thinks that I'm absolutely gorgeous and he loves me, and my children love me, and I'm okay." Furthermore, women emphasized the need to distance themselves from others who talk too much about body image and are "appearance obsessed." Heather explained: "I've removed myself from toxic relationships and conversations, and the people I know who are going to be toxic to how I see myself and how I view myself."

3.9. Theme V – passage of time

This theme captures a waning impact of breast cancer, and in particular treatment-related events, on body image as women moved further away from treatment completion. Several aspects related to their body image were difficult for women to accept (e.g., physical changes) initially because of the profound alteration these changes brought to their sense of self. Anna explained: "Going through treatment, there were times where when my hair fell out, I had no eyebrows, no eyelashes, my face was puffy. And at one point during the second half of chemo, I had a lovely rash all around my face. I felt like a freak. I felt like a freak. I really did. Initially, I felt really sorry for myself. But now it's okay. We're now 6 or 7 months out, and I'm okay with that." Nicole also explained that "at the beginning, I was angry and I was sad that I had kind of gotten so far down the rabbit hole and I sort of started to reclaim or reengage with it, my body." The further away women were from treatment completion, the easier self-acceptance became. Cynthia and Anna stated, respectively: "I think with time, it is improving" and "I think it's just time and acceptance." Among those who still struggled, hopefulness derived from witnessing other women display positive adaptations despite experiencing adversity because of their breast cancer diagnosis was important as they endeavored to overcome body image concerns. For instance, Donna expressed: "With time, I know it will get better because I've seen other women and I've heard stories that it does get better. So I know there's hope and I know that there's a light at the end of the tunnel so to speak, but I'm not there yet."

3.10. Theme VI – consequences of body image

This theme captures how women's body image is connected to other aspects of their lives and denotes the extent to which they were affected by their body image. The defining characteristic of this theme is that body image can have negative and/or positive consequences. For instance, treatment-related events that directly undermined body image acted as a constant reminder of their causative event and resulted in decreased sexual intimacy and avoidance of social situations. Women also acknowledged that their body image could either thwart or enhance their wellbeing and functioning. The consequences of body image are associated with three subthemes: (1) *sexual health and intimacy*, (2) *social withdrawal*, and (3) *negativity (or positivity) spiral*. Additionally, women implied that there was a bidirectional relationship between their body image and these consequences, wherein the latter could further undermine or support their body image over time.

The *sexual health and intimacy* subtheme captures how body image can impair women's sexual health and intimacy. Women felt their intimate relationships suffered because of the physical changes resulting from treatment. Some encountered difficulties acquiring or maintaining sexual partners, either because they saw themselves as flawed, insecure, inferior, lopsided, or otherwise unattractive to others and/or because their partners had adverse responses to their scars. Shirley indicated: "I've just recently broke off something… He didn't want to deal with somebody who'd had cancer. So that has a negative effect on me." Similarly, Pamela explained that body image "does affect your relationships. Well not relationships but your sex life because you don't feel that attractive so you're not as sexual as before." Cynthia explained that sexual health and intimacy was an ongoing issue within her marriage that did not have a solution for improvement: "It's not easy to ignore the look on your partner when he looks at you and when he avoids looking at or even touching that part as if it is contagious or something. It does affect me when it comes to intimacy and I'm still trying to find ways to overcome that."

The *social withdrawal* subtheme captures how experiencing negative body image can promote social withdrawal to escape from public view and minimize judgments from others. Rachel stated: "I'm also still very self-conscious about it [weight gain]. We have a high school reunion coming up next summer and I'm at the point where I don't want to go because I'm chunky." Indeed, negative body-related thoughts and feelings could lead women to retreat from social situations or groups, as in Sharon's case who said: "It definitely holds me back socially with certain things. A lot of my girlfriends go to the Nordic Spa or whatever, and I won't go because I don't feel comfortable in a swimsuit." Similarly, Michelle explained: "It [weight gain] made me not participate as much with people because I would have felt that I would embarrass myself or that my body image held me back."

The *negativity (or positivity) spiral* subtheme captures how women's body image can influence all aspects of their lives. Indeed, women's body image was not only at the core of how they felt, but it could damage their connection to the outside world. Women described a negative body image spiral whereby "if you're unhappy with the way that you look, it spills over into other aspects of your life. You might not be able to enjoy very basic things in life because you're basically just insecure. […] In very subtle ways, it can just stem your growth because if you're not confident in the way that you look, you might not be confident in your jobs or in the relationships that you're in. It spills over into all kinds of aspects of your life" (Sharon). They also explained that body image "eroded my self-confidence" (Michelle). In turn, thwarted self-confidence was accompanied by compromised overall wellbeing. Sharon described: "When you have a lack of confidence because of how you look and feel on the outside, it affects how you feel on the inside. So I think if you're not happy on the outside then your inside is negative." Alternatively, women felt the "reverse would be true for a positive body image" (Sandra). Donna explained: "If you have a positive view on your body image or view on life, that trickles down on everything, on every aspect of your life."

3.11. Proposed grounded theory of body image for women diagnosed with breast cancer

The results of this study provide the basis for a grounded theory of body image for women diagnosed with breast cancer (see Fig. 2), comprised of one core category, six themes, and 17 subthemes (see Fig. 1). It is centered around the core category of *body image: what it means to women*, with several factors believed to undermine or support women's body image that are captured within the following themes: treatment-related events can undermine or support body image, psychosocial factors can undermine or support body image, and sociocultural factors can undermine body image. These factors are, in a sense, reflective of intrapersonal and interpersonal factors. Further, this theory illustrates a bidirectional relationship between body image and women's overall wellbeing and functioning, such that experiencing negative body image can have a detrimental effect on women, whereas positive body image can have a positive effect on women, as captured within the consequences of body image theme. Finally, women's perceptions of their overall wellbeing and

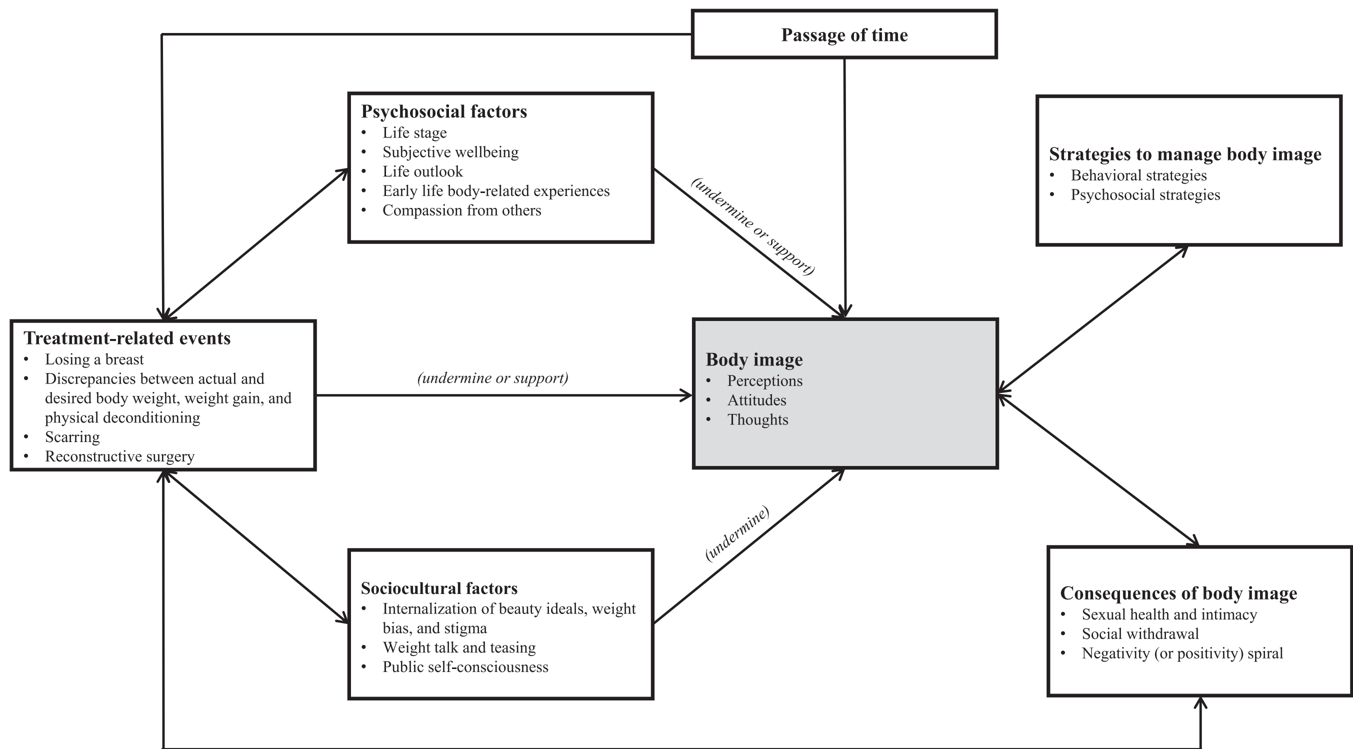

Fig. 2. A grounded theory of body image for women diagnosed with breast cancer.

functioning can inform how they view their treatment-related events (e.g., decreased sexual intimacy because of scars reinforces women's perceptions that their scars make them unattractive leading to increased negative body image). However, this theory indicates that the negative effects of treatment and the psychosocial and sociocultural factors that can undermine their body image might potentially be buffered using various behavioral and psychosocial strategies, and that women's body image can evolve over time. Indeed, this theory suggests that the further women are from treatment completion, the easier it can be for them to manage the impact of breast cancer on their body image.

4. Discussion

The number of women diagnosed with breast cancer continues to grow worldwide (Sung et al., 2021). Many will experience changes to their bodies in terms of its appearance and functionality, which can have an enduring negative impact, though instances of positive reactions have been noted herein and previously (Grogan & Mechan, 2017; Grogan et al., 2019; Tylka, 2011; Tylka & Wood-Barcalow, 2015; Wood-Barcalow et al., 2010). However, to our knowledge, no qualitative study has focused expressly on developing a theory of body image formulated based on women's personal accounts to guide research and practice. Hence, the objective of this study was to explore the meaning of body image for women diagnosed with breast cancer and how they see their breast cancer experience as influencing their body image to develop a grounded theory of body image for women diagnosed with breast cancer. The theory derived in this study, entitled a grounded theory of body image for women diagnosed with breast cancer, illustrates that body image is a central issue that can affect women and one that warrants continued attention. This theory also explains how women diagnosed with breast cancer define body image and illustrates intrapersonal and interpersonal factors they believe undermine or support their body image, along with strategies they use to manage their body image.

4.1. Comparison of results to the literature

In the oncology field, the term body image has often been applied in an ambiguous manner, resulting in a broad range of measures being used in studies with women diagnosed with breast cancer (Brunet & Price, 2021). As well, researchers have often focused on negative body image, whereby they have conceptualized it narrowly as body dissatisfaction (i.e., negative evaluations of one's appearance, either overall or with regards to specific body parts). Yet, women in this study adopted a broader understanding of body image to include their subjective experiences and evaluations of their bodies' look, feel, and function. The term body image encompassed how (dis)satisfied women were with their bodies, how invested they were in their bodies, how valuable their bodies were to their overall self-worth, and how they saw and felt toward their bodies. To this end, at the core of the theory proposed herein is the view of body image as a multidimensional construct consisting of positive and negative perceptual, attitudinal, and affective dimensions. To a large extent, this conceptualization of body image is consistent with the position taken by Cash and Smolak (2011) who view body image as a multidimensional construct encompassing four dimensions: perceptual, cognitive, affective, and behavioral. Moreover, this conceptualization of body image is in line with the shift in psychology of moving away from an exclusive focus on negative body image to also consider positive aspects such as feelings of respect, appreciation, and acceptance of one's body in terms of its appearance and functionality, regardless of how it conforms to societal body standards (Tylka, 2011; Tylka & Wood-Barcalow, 2015). Importantly, it was possible for women in this study to simultaneously experience aspects of negative and positive body image – which has previously been suggested (Gorven & du Plessis, 2018; Hefferon, 2012). Accordingly, comprehensive assessment of the different dimensions of body image and consideration of both positive and negative aspects of body image in future studies with women diagnosed with breast cancer is imperative to advance future research in this area and contribute to interventions.

Additionally, whilst the term body image in this theory refers to women's internal states of mind, it adopts a broader understanding of body image to include subjective experiences women have as they enter into contact with their social environment. Specifically, it presents a case for the importance of considering body image as a socially based construct because women's body image reflects concern about their bodies being evaluated by others and is informed (partly) by their interactions with others. This fits with Hart, Leary, and Rejeski (1989) conceptualization of social physique anxiety – an affective dimension of body image – which occurs as a response to fear of negative judgment of one's physique. Accordingly, it is critical to recognize that body image is a dynamic and continually changing experience that is defined not only through self-reflection, but also elicited in response to social interactions or events that threaten women's social image. Although many theories of body image do acknowledge the importance of immediate and broader social/cultural environmental influential factors such as the objectification theory (Fredrickson & Roberts, 1997), the developmental theory of embodiment (Piran, 2017), the social comparison theory (Festinger, 1954), and the tripartite influence model (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999), questions arise as to whether measures widely used in the oncology field truly capture women's experiences of body image through both interpersonal interactions and third-person views of their bodies. Indeed, most measures used to assess body image in women diagnosed with breast cancer (for a review of measures, see Brunet & Price, 2021) do not make any reference to broader social/cultural environmental influential factors. Other measures may, but further research is required to ensure they do address what is important to women in determining their body image after being diagnosed with breast cancer. Moreover, in the same way that it may be valuable to score each body image dimension separately (rather than to compute a composite score), more meaningful interpretation of the results may come from scoring perspectives separately (i.e., self and others) because the importance attached to each will likely be influenced by women's expectations and aspirations, as well as by their personal beliefs, sociocultural beliefs, and sociodemographic and medical factors.

The current theory posits that treatment-related events, psychosocial factors, and sociocultural factors can support or undermine women's body image following a breast cancer diagnosis. An increasing body of research also provides evidence that treatment-related events, including losing a breast, physical deconditioning and decreased physical fitness, scarring, and reconstructive surgery, can have a direct impact on women's body image (Boquiren et al., 2016; Brunet et al., 2013; Collins et al., 2011; Falk Dahl et al., 2010; Koçan & Gürsoy, 2016; Paterson et al., 2016). Additionally, the Encyclopedia of Body Image and Appearance, an anthology of scholarly articles by leading researchers in the field, suggests that body image results from a variety of psychosocial and sociocultural factors, including cultural socializations (Tiggemann, 2012), interpersonal influences (Frederick, Reynolds, Fales, & Garcia, 2012; Wiederman, 2012), family influences (Rodgers, 2012), peer influences (Carlson Jones, 2012), physical characteristics and changes (Clarke, 2012), and personality (Dionne & Davis, 2012). Moreover, Cash (2012) stipulates that body image is influenced by perceptions and attitudes (e.g., evaluation and investment in the body), proximal events and processes, emotions, and coping and self-regulatory processes. As well, the tripartite influence model (Thompson et al., 1999) posits that appearance pressures from three social influences (i.e., peers, parents, media) have a direct impact on body image, as well as an indirect impact through internalizations (i.e., the extent to which a person adopts ideals related to appearance as a personal standard) and comparison (i.e., the tendency to compare one's physical appearance with others to evaluate one's own attractiveness). Collectively, these findings indicate that there are a multitude of factors that may influence women's body image after a breast cancer diagnosis and suggest that targeting multiple factors may produce better outcomes in future interventions. It is important to note that whilst some factors presented in the current theory can be modified, meaning it is possible to take action to change them, others are non-modifiable. For example, some women may not have the option of breast reconstructive surgery, and some may forgo reconstruction for varied reasons ranging from not wanting additional surgery, to being fearful of the implants, to costs. In such cases, it remains important to understand their needs and encourage partner support (when appropriate).

Nevertheless, the current theory invites researchers and clinicians to consider a broader range of intervention targets, based on an understanding of factors that may support or undermine women's body image after a breast cancer diagnosis. Each theme may provide direction about how to intervene in a way that is most likely to bolster or preserve body image. For example, the treatment-related events theme dictates the need for attentive management of visible and non-visible physical changes resulting from treatment. Physical changes in general have been shown to contribute to negative body image (Boquiren et al., 2016; Brunet et al., 2013; Collins et al., 2011; Falk Dahl et al., 2010; Koçan & Gürsoy, 2016; Paterson et al., 2016), and research supports the tenet that physical changes are also a central concern to many women diagnosed with breast cancer. Within this theory, a range of strategies could be conceived of as part of supportive cancer care, which are discussed in the **Practical implications** section.

One of the most compelling reasons for addressing body image lies in the fact that prior studies have linked body image to various mental health problems (Begovic-Juhant, Chmielewski, Iwuagwu, & Chapman, 2012; Davis et al., 2020; Helms, O'Hea, & Corso, 2008; Paterson et al., 2016). Furthermore, negative body image appears to elicit relationship difficulties and impair quality of life (Begovic-Juhant et al., 2012; Fobair et al., 2006). The findings from the current study support these data, suggesting that body image may be part of a common pathway through which breast cancer threatens women's ability to overcome or recover from the disease. Thus, further empirical research is needed to develop and evaluate interventions aimed at enhancing body image and assess whether this offers an opportunity to minimize the impact of breast cancer on women over time. On the basis of previous studies and the current findings, helping women overcome negative body image by working with them to develop or maintain positive body-related perceptions, attitudes, and feelings may help to alleviate other negative effects of breast cancer.

Another finding worth noting is the influence of passage of time on women's acceptance of body-related changes resulting from treatment, which aligns with White's (2000) heuristic model of body image and research with older women diagnosed with breast cancer (Davis et al., 2020). Women diagnosed with breast cancer generally start treatment within a couple of weeks of diagnosis. This may not provide women with enough time to process and have necessary discussions that would enable them to fully consider the extent to which their bodies' appearance and functioning might be affected. Early on during their cancer journey, some women may be primarily focused on cure and symptom management that they consider changes in their bodies' appearance and functioning as less significant – only to later be overwhelmed by the reality of these changes. However, as this theory illustrates, women may become accustomed to the body-related changes and use strategies to support their body image so that treatment-related events have less influence on their body image over time.

4.2. Practical implications

In addition to the antecedents and consequences of body image among women diagnosed with breast cancer, this theory contributes

to an understanding of how women manage their body image. The **Repertoire of strategies to manage body image** theme in the proposed theory offers insight into the numerous strategies that women may use to become more confident, less self-critical, more self-compassionate, and more accepting of their bodies, as well as become better able to resist external influences, which in turn can help to support their body image. The identified strategies fall into behavioral and psychosocial strategies.

In terms of the behavioral strategies (e.g., engage in physical activity, self-monitor caloric intake and focus on nutrient-rich foods, but allow occasional indulgences, and conceal appearance changes), whilst they have received some support in the literature (Fingeret, Teo, & Epner, 2014; Lewis-Smith, Diedrichs, Rumsey, & Harcourt, 2018; Park et al., 2015; Sebri, Durosini, Triberti, & Pravettoni, 2021), they need further targeted research to empirically establish when they may be appropriate strategies to recommend to women diagnosed with breast cancer. For instance, the behavioral strategies identified in this study may help women focus on different aspects of their bodies (e.g., body functionality) and feel a sense of control over their bodies, while promoting self-confidence and self-acceptance. Yet, these practices may further reinforce sociocultural expectations (Prichard & Tiggemann, 2008), such as the thin-youth ideal, which may inadvertently undermine women's body image. Indeed, whilst engaging in physical activity and restricting calories can support weight loss among women diagnosed with breast cancer, maintaining a physically active lifestyle and eating healthy (e.g., focusing on nutrient-rich foods) during and after treatment can be challenging (Browall, Mijwel, Rundqvist, & Wengström, 2018), making it more difficult for women to achieve their weight loss goals. Therefore, it is essential to provide women with information in a realistic way about the possibilities and the limitations of healthy lifestyle behaviors, as well as offer them support and advice about how to initiate and/or maintain healthy lifestyle behaviors to aid with weight management. Prior research on positive body image supports the importance of *joyful* physical activity (rather than physical activity that is motivated by appearance-based motives such as the desire to control one's weight or shape) and of *intuitive* eating (i.e., eating that is guided by attuning to one's body's needs and signals like hunger, fullness, and satisfaction, rather than in response to diet rules; Tylka & Wood-Barcalow, 2015). To optimize the development of positive body image, women diagnosed with breast cancer could be supported in identifying physical activity that brings them joy and in developing intuitive eating habits. Although follow-up of women diagnosed with breast cancer is consistent, there is much less consistency in programs and services focused on lifestyle behaviors within and outside of Canada. Moving forward, a key priority is to identify currently available programs and services at the healthcare and community level (e.g., via environmental scans), and in turn increase collaboration between the healthcare system and the community to develop and implement appropriate programs and services where lacking or when of low quality.

The current theory also offers insight into psychosocial strategies women may use to counteract treatment-related, psychosocial, and sociocultural factors that undermine their body image, which may be potential intervention targets. Indeed, the four strategies identified, namely moving beyond physical appearance, being self-compassionate, rejecting sociocultural appearance pressures, and being around non-judgmental and accepting people, have support in the literature (Esplen & Trachtenberg, 2020; Esplen, Wong, Warner, & Toner, 2018; Fingeret et al., 2014; Lewis-Smith et al., 2018; Park et al., 2015; Sebri et al., 2021). For instance, several interventions using techniques that promote cognitive dissonance to reduce internalization of appearance ideals, build self-compassion, and offer social support have yielded promising results in promoting body image among women. For example, Sherman et al. (2018) reported that a self-compassionate writing exercise resulted in lower negative affect and greater self-compassionate attitudes among women diagnosed with breast cancer who reflected on difficult memories related to body image. Moreover, interventions promoting a focus on body functionality rather than body appearance have shown significant improvements in body appreciation in women (Alleva, Martijn, Van Breukelen, Jansen, & Karos, 2015). As well, interventions focused on shifting one's attention away from breast cancer and onto new priorities and pursuits, and/or promoting social support from significant others in their lives have promoted body image (Guest et al., 2019). However, despite the compelling findings within the extant literature, it is not clear whether these psychosocial strategies adequately lessen the consequences of body image, as identified in this theory. As well, though the research evaluating the effects of interventions aiming to improve body image is encouraging, many are delivered face-to-face (for exceptions, see Esplen & Trachtenberg, 2020). Face-to-face interventions are often limited by issues of scalability and sustainability due to finite resources, and thus can have restricted reach and impact. Accordingly, attention to developments that may help to overcome obstacles pertaining to face-to-face interventions (e.g., train-the-trainer models, community partnerships, digital innovation) is needed.

4.3. Study limitations

The limitations of this study should be kept in mind when interpreting the results. First, the sample was composed largely of middle-aged and older women. Whilst it is true that middle-aged and older women represent a greater overall proportion of the studied population, data show that breast cancer is prevalent among younger women (Sung et al., 2021). It is unclear whether the meaning of body image would have been different amongst younger women or if there are age specific factors that influence body-related experiences that were not accounted for in this study/theory. Second, women may have been reluctant to disclose certain experiences because they were interviewed by a younger woman. Third, this study was conducted in an economically developed country with English-speaking women who mostly self-reported being employed and having a post-secondary education; these women do not represent all women diagnosed with breast cancer. Fourth, the use of the telephone and videoconferencing as a medium for conducting data collection when face-to-face encounters were not possible (e.g., due to distance or constrictive schedules) could have influenced the content of women's responses, though there were no notable differences in the breadth and depth of the data collected face-to-face when compared with telephone and videoconferencing, and offering such options may have increased the rate of response from women who would not otherwise have had their experiences represented (e.g., those living rurally). Fifth, though the interviewer asked women about change over time, the theory generated in this study was arrived at through cross-sectional data. Relatedly, whislt this study attempted to cover a wide time span, all women were interviewed retrospectively about their experiences, and they had all completed treatment for breast cancer within 5 years of being interviewed. As such, their ability to recall after the experience may have affected some of the data generated and the theme **Passage of time** may not be fully developed based on the relatively limited passage of time. This theme may become further refined by exploring the experiences of women who are further away from treatment completion. Similarly, researchers should consider how women awaiting or undergoing treatment for breast cancer feel this theme fits with their experiences. Examining the extent to which the proposed theory would explain body image immediately post-diagnosis, during treatment, and beyond 5 years post-treatment would be beneficial because body image may be conceptualized differently, and certain aspects might be more/less important at different times. As well, it may be important to explore

the impact of different surgical approaches (e.g., lumpectomy, single/double mastectomy, modified radical mastectomy, radical mastectomy, partial mastectomy, nipple-sparing mastectomy), and breast reconstruction surgery on women's interpretations of treatment-related events. Last, though the research team disputed different interpretations of the data and brought different viewpoints to the analysis through their diverse backgrounds, the data analysis was inevitably shaped by their perceptions and experiences. With these limitations in mind, the proposed theory is offered as one that requires further testing and refinements within the context of future empirical research and practice.

5. Conclusion

This study, along with others, has made it clear that breast cancer can give rise to negative body-related perceptions, attitudes, thoughts, and behaviors, and in some cases positive reactions. This study provides insights on: (1) how women diagnosed with breast cancer define the concept of body image, (2) factors they believe undermine or support their body image, and (3) strategies they use to manage their body image. Its key contribution is the development of an integrated and empirically-derived theory that expands the focus of body image as a dynamic and multidimensional phenomenon that requires attention to the multiple interpersonal and intrapersonal factors that can support or undermine body image in the aftermath of breast cancer. Additionally, this theory documents consequences that describe women's experiences of body image. This theory, entitled a grounded theory of body image for women diagnosed with breast cancer, may be utilized alongside a second manuscript stemming from these data focused on women's perceptions of the *where*, *when*, *how*, *what*, and *who* of the ideal program to enhance body image (Brunet et al., 2021) as a guide for future research and can provide a theoretical foundation for studies aiming to develop, implement, and evaluate interventions that can prevent or reduce the adverse effects of breast cancer on women's body image.

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CRediT authorship contribution statement

JB conceptualized and designed the study, oversaw the acquisition of the data, contributed to the interpretation of the data, and drafted the manuscript. **JP** led the analysis and interpretation of the data, helped draft sections of the manuscript, and critically revised the manuscript. **CH** assisted with the conceptualization of the study, participant recruitment, and revised the manuscript. All authors gave final approval of the version to be published and agree to be accountable for all aspects of the work.

Conflict of interest statement

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix A. Supporting information

Supplementary data associated with this article can be found in the online version at doi:10.1016/j.bodyim.2022.04.012.

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