The Formation of New Romantic Relationships after Breast Cancer

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Thesis Summary

While many un-partnered women consider romantic ‘dating’ to be a key priority after breast cancer, these women report significant dating-related barriers and concerns. This thesis investigates women’s experiences of romantic relationship formation after breast cancer, and presents a novel intervention to help women navigate dating during cancer survivorship.

Chapter 2 reviews the current literature regarding dating concerns among women with breast cancer or with a genetic susceptibility to developing this disease. It identifies six areas of concern: feeling unattractive due to treatment side-effects; perceiving limited dating partners available; cancer disclosure; fear of cancer recurrence; sexual intimacy anxiety; and, a sense of dating ‘urgency’.

Chapter 3 addresses significant gaps in the current literature and explores women’s dating experiences after breast cancer. It identifies an overarching theme of ‘navigating the breast cancer dating journey’, comprising seven themes: the decision to consider dating; ability/desire to start a new relationship; cancer disclosure; changes to intimacy/sexuality; body image difficulties; changing values; and trusting a new partner.

Chapter 4 examines factors associated with relationship formation difficulties (assessed via self-perceived interpersonal skills/competencies and dating-related anxiety) in breast cancer survivors. Results indicate that body image variables (self-evaluative salience and body image dissatisfaction) and attachment avoidance are associated with dating-related anxiety, whereas attachment avoidance and self-compassion are associated with self-perceived interpersonal competence scores.

Chapter 5 details the development of a novel, online intervention to support women in romantic dating after breast cancer (Dating After The Experience-Breast Cancer; DATE-BC). Participants reported moderate-to-high acceptability, and recommended some improvements for future use and implementation.

This thesis represents the first in-depth examination of romantic relationship formation after breast cancer, highlighting factors that should be targeted in survivor support interventions. Based on these findings, this thesis then presents a novel intervention to help women navigate the world of dating during cancer survivorship.

Statement of Candidate

This thesis is submitted to Macquarie University in fulfilment of the requirements for the degree of Doctor of Philosophy. The work presented in this thesis has not been submitted for a higher degree to any other university or institution.

This work is, to the best of my knowledge and belief, original and my own. Any sources of information used have been appropriately referenced and the extent to which the work of others has been used has been indicated in the Statements of Contribution by Authors.

Ethics approval for the research covered in this thesis was granted by the Macquarie University Human Research Ethics Committee on 26th May 2014 (REF: 5201400332), 7th August 2015 (REF: 5201500604), and 8th December 2016 (REF: 5201600882).

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Laura-Kate Shaw, alongside co-authors Kerry Sherman and Julie Fitness, was significantly involved in generating the research concept resulting in this publication. Laura-Kate Shaw was the primary contributor to preparing the publication manuscript by generating the first draft, editing the draft to incorporate the comments and feedback from the co-authors, and responding to journal comments and suggestions for revision.

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Laura-Kate Shaw, alongside co-authors Kerry Sherman, Julie Fitness, and Breast Cancer Network Australia, was significantly involved in generating the research concept resulting in this publication. Additionally, Laura-Kate Shaw was primarily responsible for designing the study as well as collecting and analysing the data. Laura-Kate Shaw was the primary contributor to preparing the publication manuscript by generating the first draft, editing the draft to incorporate the comments and feedback from the co-authors, and responding to journal comments and suggestions for revision.

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Objectives and Outline of Thesis

Although breast cancer is the most common cancer in women worldwide (World Health Organization, 2015), survival rates for this disease are steadily increasing; Australian women diagnosed with breast cancer currently have a 90% chance of surviving for at least five years (Australian Institute of Health and Welfare, 2017). An ongoing challenge facing breast cancer survivors is how to cope with this disease, its treatment and the myriad of treatment-related side-effects that can impact on physical and psychosocial wellbeing. One area that has received minimal research attention is how women navigate romantic relationship formation (or romantic 'dating') during breast cancer survivorship. This thesis investigates women's experiences of dating after breast cancer and factors associated with romantic formation and anxiety in this population. It also reports on the development and acceptability of a novel online intervention to support women in forming romantic partnerships during breast cancer survivorship.

This thesis consists of a general introduction, three empirical papers, a chapter detailing development and user acceptability of the Dating After The Experience-Breast Cancer (DATE-BC) online intervention, and an overall discussion of findings. In order to facilitate understanding of this topic area, Chapter 1 reports on breast cancer as a disease, detailing treatment options and physical treatment side-effects. This is followed by an overview of the psychosocial impacts of cancer treatment, including the effect of treatment on women's existing relationships. In order to understand how breast cancer affects the development of intimate relationships, general theories of romantic relationship formation are also presented.

Chapter 2 presents a published review and meta-synthesis examining dating concerns among women with a breast cancer diagnosis or a genetic susceptibility to developing this disease. This review identifies six areas of dating-related concerns: feeling unattractive due to treatment side effects; perceiving limited dating partners available; determining how, when and

what to disclose to a potential partner; fear of cancer recurrence and reduced life expectancy; apprehension about entering into a new sexual relationship; and, dating urgency and not wanting to 'waste time' on partners without long-term potential. This was the first review to collate, synthesise and conduct a quality assessment on the qualitative studies reporting on concerns that women have at different points in the dating trajectory according to Knapp's Relational Stage Model (1978) of romantic relationship formation.

Chapter 3 presents results from a published exploratory, qualitative study that addresses significant gaps in the literature as identified in the meta-synthesis; it provides an in-depth and holistic understanding of women's experiences of romantic relationship formation after breast cancer. Semi-structured interviews were conducted with 22 breast cancer survivors, as well as with a subset of the women's male partners to provide insight into factors that they believed contributed to the success of their relationships. This research identified an overarching theme of 'navigating the breast cancer dating journey', comprising seven themes including: A woman's decision to consider dating; her ability and/or desire to commence a new relationship; cancer-related disclosure; changes to intimacy and sexuality; body image difficulties; changing values; and, ability to trust a new partner.

The data derived from the meta-synthesis and qualitative study informed the survey development of the first empirical study in this area to determine factors associated with dating-related anxiety and relationship formation difficulties in women after breast cancer. Research findings from this study are presented in Chapter 4, indicating that body image variables (self-evaluative salience, body image dissatisfaction) and attachment avoidance were associated with dating anxiety, whereas attachment avoidance and self-compassion were significantly associated with perceived interpersonal competence.

Collectively, the findings from the meta-synthesis, and qualitative and quantitative studies informed the development of an innovative, interactive online intervention (DATE-BC)

to support and facilitate romantic relationship formation in women post-breast cancer. Chapter 5 presents this final stage of this research, detailing the development and user acceptability of the DATE-BC intervention in an international sample of 20 female breast cancer survivors. Participants reported moderate-to-high acceptability, and recommended some improvements for future use and implementation.

The final chapter (Chapter 6) integrates all of the thesis findings, discusses study limitations, and offers clinical implications for the results and recommendations for future research. This thesis represents the first in-depth investigation of romantic relationship formation after breast cancer, and presents a unique, tailored intervention to support women when dating during cancer survivorship.

Chapter 1. Introduction

Breast cancer refers to a malignant tumour that originates in the cells of the breast (World Health Organization, 2015). It is the most common cancer in women worldwide (World Health Organization, 2015), with more than 17,000 Australian women and 300,000 American women diagnosed with this disease each year (Breastcancer.org, 2017; Cancer Australia, 2017). Significant improvements in detection and treatment of breast cancer have led to increasing rates of survival; currently, 90% of women survive this disease five years post-diagnosis, with 83% surviving after ten years (Australian Institute of Health and Welfare, 2017).

There are a number of different types or 'stages' of breast cancer (Hunt & Meric-Bernstam, 2008). Non-invasive breast cancer occurs when the cancer is contained within the milk ducts or lobules in the breast and has not invaded the normal breast tissue, for example ductal carcinoma in-situ (DCIS) and lobular carcinoma in situ (LCIS). Early breast cancer refers to cases where cancer cells are detected in the breast tissue with or without spreading to the lymph nodes in the armpit. When the cancer has invaded areas surrounding the breast, such as the skin, muscles and bones of the chest, it is termed locally advanced breast cancer. Metastatic (or advanced) breast cancer refers to when cancer cells have spread from the breast to other areas of the body (Hunt & Meric-Bernstam, 2008).

Breast Cancer Treatments and Physical Sequelae

The type of recommended breast cancer treatment depends on various factors, such as the type and location of the cancer, breast cancer history and previous treatment received, patient's age and general health, and patient's preference (Hunt & Meric-Bernstam, 2008). Treatment usually comprises a combination of surgery and adjuvant treatments including radiation therapy, chemotherapy, and/or hormone therapy (Hunt & Meric-Bernstam, 2008).

Surgery. The first stage of breast cancer treatment is typically surgery, which aims to remove the cancer cells from the breast (Hunt & Meric-Bernstam, 2008). There are two main

types of breast cancer surgery: Breast conserving surgery (i.e., lumpectomy, partial mastectomy or wide local excision) entails the removal of the part of the breast affected by cancer, whereas mastectomy involves the removal of one (single mastectomy) or both (double mastectomy) breasts (Blichert-Toft et al., 2008). Mastectomy is usually recommended when the breast cancer is large or if there are multiple cancers in the breast (Hunt & Meric-Bernstam, 2008). Women who are found to be at hereditary risk of developing breast cancer may also elect to undergo preventive mastectomy as a means of reducing their risk of developing breast cancer in the future (Howard & Bland, 2012). Breast cancer surgery may additionally entail the removal of one or more lymph nodes from the armpit to determine whether cancer has invaded this area (Hunt & Meric-Bernstam, 2008). Women who undergo mastectomy (or less commonly, breast conserving surgery) may decide to undergo breast reconstruction (Serletti et al., 2011; Sherman, Woon, French, & Elder, 2017), which can either be completed at the same time as the woman's mastectomy (termed 'immediate reconstruction') or during a different procedure at a later date (termed 'delayed reconstruction'). Reconstruction procedures vary, and may also include reconstruction (or retention) of the nipple and/or areola (Serletti et al., 2011; Sherman et al., 2017). A systematic review of breast reconstruction following breast cancer indicated 17% of mastectomy cases undergo breast reconstruction (Brennan & Spillane, 2013).

Radiation therapy. Radiation therapy (or radiotherapy) is a localised treatment used to destroy cancer cells. It is typically recommended after breast conserving surgery or mastectomy to reduce cancer recurrence in the breast or lymph nodes, and may also be used to treat metastatic breast cancer (Buchholz, 2011; National Collaborating Centre for Cancer (UK), 2009). Most patients undergo radiation therapy over a five-to-seven week period, and one of the most common short-term side-effects of radiation therapy (experienced by between 74% and 100% of patients) is changes to the skin, such as blistering, peeling, dryness, itching, or

even necrosis (death of skin cells) at the targeted site (Hymes, Strom, & Fife, 2006; Porock & Kristjanson, 1999; Schnur, Ouellette, DiLorenzo, Green, & Montgomery, 2011). Hand-foot syndrome or Palmar-Plantar Erythrodysesthesia is another side-effect related to skin-toxicity, and is a skin reaction that occurs when small amounts of medication leaks out of the capillaries and damages surrounding tissue, typically on the palms of the hands or soles or the feet. Symptoms include numbness, tingling, burning, redness, swelling, tenderness or a prominent rash (Azuma et al., 2012).

Radiation therapy can also produce long-term treatment side-effects, such as breast cancer-related lymphoedema. This occurs when cancer or cancer treatment renders the lymphatic system unable to transport lymph fluid out of the interstitial tissues, leading to an accumulation of fluid and swelling in the arm, hand, shoulder, breast, or chest wall (Ahmed, Prizment, Lazovich, Schmitz, & Folsom, 2008; Taghian, Miller, Jammallo, O'Toole, & Skolny, 2014). Women who have undergone surgery to the lymph nodes and/or radiation treatment to the axilla for breast cancer are at lifetime risk for developing lymphoedema (Taghian et al., 2014). Importantly, there is currently no cure for lymphedema, and this side-effect requires ongoing daily self-management. A systematic review of 72 studies demonstrated that the overall risk of lymphoedema is 17%, with risk factors being obesity, more extensive surgery, and the number of lymph nodes removed (DiSipio, Rye, Newman, & Hayes, 2013; Fallowfield & Jenkins, 2015). Lymphoedema can cause significant physical impairment, including limited mobility, pain, heaviness and numbness in the affected area (O'Toole et al., 2013; Ridner, 2005; Vassard et al., 2010).

Chemotherapy. Chemotherapy refers to the use of a chemical substance to destroy cancer cells (American Cancer Society, 2015). It is a systemic treatment approach administered orally or intravenously to reach cancer cells throughout the body (American Cancer Society, 2015), and is typically given in cycles lasting for three to six months. Chemotherapy has been

associated with a reduction in the risk of cancer recurrence and death in women with early stage breast cancer (National Collaborating Centre for Cancer (UK), 2009).

Similar to radiotherapy, chemotherapy is also associated with a number of short-and long-term side-effects. In the short-term, chemotherapy can lead to alopecia (i.e., hair loss), often resulting in headache and pain on the scalp (Choi et al., 2014). The extent of alopecia can vary between patients, ranging from complete hair loss to thinning hair or patches of baldness, and may also include loss of eyelashes and eyebrows. Although hair regrowth rates usually returns to pre-chemotherapy levels within months following cessation of treatment, hair texture, form and/or colour may change compared to pre-treatment (Kanti et al., 2014; Roe, 2011).

In the longer-term, approximately 80% of chemotherapy patients will experience significant weight gain, with around 20% of women gaining over 10kg (Goodwin et al., 1999). Women who receive chemotherapy are 65% more likely to gain weight compared to patients who do not undergo this treatment. Additionally, the more weight a woman gains the less likely she is to return to her pre-diagnosis weight (Saquib et al., 2007). Results from a review and meta-analysis suggest significant difficulty for breast cancer patients in returning to their pre-cancer weight, even when participating in moderate aerobic exercise and/or resistance training (Kim, Kang, & Park, 2009; Saquib et al., 2007).

Chemotherapy (and/or radiation therapy) treatment can also lead to cancer-related fatigue, defined as a "persistent feeling of emotional, physical, and cognitive exhaustion associated with cancer diagnosis or treatment, out of proportion to recent activity and not relieved by rest" (Stan, Loprinzi, & Ruddy, 2013, p. 8). Cancer-related fatigue is reported by approximately one third of women diagnosed with breast cancer, with similar prevalence rates observed up to 10 years post-diagnosis (Bower et al., 2006; Garabeli Cavalli Kluthcovsky et al., 2012). Similarly, mild cognitive impairment affects between 16% and 83% of women

undergoing breast cancer chemotherapy, and is characterised by difficulties with attention, concentration, executive function and working memory (Kanaskie & Loeb, 2015; Myers, 2012; Stan et al., 2013). There is some evidence that cognitive impairment can endure for years following completion of chemotherapy treatment (Bender et al., 2006) and can interfere with everyday activities and work performance, due to difficulty multi-tasking and reduced processing speed (Matsuda et al., 2005; Selamat, Loh, Mackenzie, & Vardy, 2014).

Hormone therapy. This therapy is used for women who have hormone-sensitive tumours, and aims to reduce the level of female hormones in the body or modify the body's response to these hormones. It can be used to reduce the risk of cancer recurrence and prevent or slow the growth of metastatic cancers. Anti-oestrogens (i.e., tamoxifen, fulvestrant) aim to prevent breast cancer cells from receiving oestrogen. Aromatase inhibitors (i.e., anastrozole, letrozole, letrozole) function by preventing androgens from changing to oestrogen and are only efficacious for women who have undergone menopause permanently (Jones & Buzdar, 2004). Breast cancer patients who undergo hormone therapy typically continue treatment for five years, with some patients continuing for up to 10 years (Cella & Fallowfield, 2008).

Hormone therapy (and less commonly chemotherapy) treatment can lead to the onset of premature menopause, comprising vasomotor symptoms such as hot flushes (experienced as episodes of feeling intense heat with sweating and rapid heartbeat), and cold-or-night sweats (Fallowfield & Jenkins, 2015). As hormone treatment is typically continued for a number of years after initial cancer treatment, menopausal symptoms may also endure for many years. Vasomotor symptoms affect up to 85% of breast cancer survivors, but are more severe in young women (Knobf, 2006). Furthermore, while some women continue to have regular menstrual cycles following chemotherapy treatment, their fertility may be reduced or else they may experience premature menopause at a later date (Partridge et al., 2004). Although hormonal

therapies do not necessarily cause permanent infertility, treatment may continue over several years during which time pregnancy is contraindicated (Partridge et al., 2004).

Hormonal breast cancer treatment can also lead to genitourinary atrophy, which impacts on vaginal (e.g. dryness, discharge, bleeding) and sexual functioning (Banning, 2012). Sexual morbidity and/or dysfunction tends to be most prevalent in women who have undergone hormone (Panjari, Bell, & Davis, 2011) or chemotherapy (Gilbert, Ussher, & Perz, 2010; Raggio, Butryn, Arigo, Mikorski, & Palmer, 2014) treatment, and/or who have suffered significant post-treatment weight gain (Raggio et al., 2014). Most women (70-83%) experience difficulties with sexual functioning following breast cancer treatment, which can persist for many years into survivorship (Bartula & Sherman, 2013; Boquiren et al., 2015; Panjari et al., 2011; Raggio et al., 2014). For example, one study found that 70% of 1684 women diagnosed with invasive breast cancer experienced sexual functioning problems one year post-diagnosis (Panjari et al., 2011). Common sexual functioning problems include: reduced sexual interest or desire, decreased arousal, dyspareunia (i.e., difficult or painful intercourse), vaginal dryness, numbness in the breasts, difficulty achieving orgasm and reduced sexual pleasure (Gilbert et al., 2010; McClelland, Holland, & Griggs, 2015).

The Psychosocial Impact of Breast Cancer Treatment

Psychological impacts. Understandably, the physical side-effects of cancer treatment can significantly impact on women's psychosocial well-being long into cancer survivorship (Turner, Kelly, Swanson, Allison & Wetzig, 2005). Disfigurement and radical changes to appearance can instigate body image disturbance, that is, a perceived discrepancy between a woman's perception of her idealised body shape, size and function, and her actual body (Higgins, 1987). Compared to pre-cancer treatment or surgery, up to 58% of breast cancer survivors consider themselves to be less attractive, report greater dissatisfaction with their bodies, and experience significant difficulty looking at their bodies naked (Male, Fergus, &

Cullen, 2016; Ussher, Perz, & Gilbert, 2012). While there is some research suggesting that breast reconstruction can enhance satisfaction with the breast and improve body image concerns after breast cancer (Fingeret, Teo, & Epner, 2014), these findings are somewhat inconsistent across the literature (Falk Dahl, Reinertsen, Nesvold, Fossa, & Dahl, 2010; Sherman et al., 2017); emerging research suggests that women who undergo breast reconstructive surgery may be more concerned about their appearance beforehand and possibly hold higher expectations of the surgical outcomes, leading to greater dissatisfaction with their appearance post-surgery (Sherman et al., 2017). Body image concerns among breast cancer patients are typically most prominent in the immediate post-treatment period, although approximately one in three women experience ongoing body image concerns long after treatment is completed (Falk Dahl et al., 2010). Negative attitudes and perceptions of one's body can also lead to increased anxiety, depression, and emotional distress, that is, unpleasant emotions that interfere with one's ability to cope effectively with cancer, its physical symptoms, and its treatment (Howell & Olsen, 2011).

Perhaps one of the most traumatic and impactful of cancer treatment side-effects that influence a woman's body image is hair loss (alopecia). This can be particularly confronting for breast cancer patients, especially when it involves loss of eyelashes and/or eyebrows which is difficult to disguise, and many patients report feeling 'unattractive' upon losing their hair (Choi et al., 2014). Women who experience greater levels of distress from chemotherapy-induced alopecia are more likely to report poorer emotional and social functioning and are at greater risk of developing depression, compared to those who report lower distress levels (Choi et al., 2014). Skin toxicity following radiotherapy has also been shown to exacerbate negative attitudes and feelings about one's body, especially in younger women and women who do not have a supportive romantic partner (Schnur et al., 2011). Moreover, the highly visible and disfiguring nature of lymphoedema means that this side-effect can have a profound effect on

women's body image and psychological wellbeing, with affected patients describing their changed body as damaged and ugly (Burckhardt, Belzner, Berg, & Fleischer, 2014; O'Toole et al., 2013; Ridner, 2005; Ridner, Bonner, Deng, & Sinclair, 2012; Taghian et al., 2014). Significant weight gain following treatment is associated with increased psychological distress, embarrassment about one's appearance, and body image disturbance (Helms, O'Hea, & Corso, 2008).

Changes to sexual functioning and interest following breast cancer treatment can further impact on women's psychological wellbeing during survivorship, and is closely tied to a woman's attitudes and feelings about her changed body. Women who are less satisfied with their body image are up to two and a half times more likely to experience sexual problems following breast cancer (Panjari et al., 2011), perhaps because treatment affects parts of the body that signify a woman's sexuality and femininity (i.e., women's breasts and reproductive system). Breast cancer patients report a range of psychological difficulties as a result of changes to their sexual functioning, including anxiety and depression, and have described their changes to sexuality as "devastating", "depressing", "confusing", "shocking and unexpected," and "traumatic" (Ussher et al., 2012, p. 459).

The impact of breast cancer on relationships. An important consideration when investigating breast cancer survivorship is that this disease affects not only the individual, but also their broader social network including friends, family and intimate partners (Manne & Badr, 2008). Women sometimes withdraw socially following their diagnosis, and positive and supportive relationships that are present early in the illness have been shown to dissipate over time in response to the patient's prolonged levels of distress (Bolger, Foster, Vinokur, & Ng, 1996). Further, breast cancer can impact on family relationships, with qualitative studies reporting increased stress within the family unit. Concerns have also been reported among patients regarding the potential genetic implications of the diagnosis; family members may

question the need to undergo genetic testing to determine their own future breast cancer risk (Holmberg, Scott, Alexy, & Fife, 2001).

The preferred source of emotional and practical support during cancer survivorship is typically from a woman's romantic partner (Figueiredo, Fries, & Ingram, 2004). Indeed, the benefits of having a supportive partner when coping with breast cancer-related outcomes are well documented (Koczwara & Clark, 2003). Partner support can help to minimise psychological stress and depression (Giese-Davis, Hermanson, Koopman, Weibel, & Spiegel, 2000; Zimmermann, Scott, & Heinrichs, 2010) and enhance positive mood (Boeding et al., 2014) after breast cancer. In one study of 162 breast cancer patients and their partners, partner support was associated with greater positive change (i.e., post-traumatic growth) in patients, characterised by developing closer interpersonal relationships, having a greater appreciation of their lives, recognising their positive qualities and strengths, and developing a better understanding of spiritual matters (Kausar & Saghir, 2010). Moreover, a woman's perception of her partner's provision of emotional (i.e., listening, providing empathy and comfort), instrumental (i.e., providing physical aid, such as assistance with household chores, transportation) and informational (i.e., providing advice, guidance and feedback about a problem) support has been shown to facilitate adjustment after cancer. In a study of 130 women with breast cancer, perceptions of greater emotional and informational partner support at baseline were associated with fewer sexual difficulties and greater relationship satisfaction concurrently and six months following cancer surgery (Kinsinger, Laurenceau, Carver, & Antoni, 2011). Positive partner support can even lead to better physical health and protect against breast cancer mortality (Badr, 2016; Osborne, Ostir, Du, Peek, & Goodwin, 2005; Weihs, Enright, & Simmens, 2008). Of note, poor partner support and marital distress has been implicated in difficulties with adjustment to breast cancer, in terms of delayed recovery trajectories, poorer health outcomes, and higher levels of distress (Fang, Chang, & Shu, 2015;

Yang & Schuler, 2009; Yu & Sherman, 2015). Collectively, these findings indicate that romantic relationships have the potential to be beneficial for breast cancer patients, enhancing physical and psychological outcomes, assuming sufficient partner support is provided.

Unfortunately, for patients in a marital or long-term relationship a breast cancer diagnosis entails many stressors for both the woman and her partner (Badr, Carmack, Kashy, Cristofanilli, & Revenson, 2010). From the patient's perspective, she must cope with the emotional consequences of being diagnosed with a life-threatening illness, manage the physical and psychological side-effects of treatment, and transition back to "normal life" during survivorship (Badr et al., 2010). In turn, partners must assist and support patients in managing treatment challenges, cope with their own concerns and anxieties about the cancer and its potential recurrence, and navigate new roles within the family unit including managing household and childcare responsibilities (Manne, Siegel, Kashy, & Heckman, 2014). Many couples also experience sexual difficulties and reduced intimacy due to treatment side effects; this can cause confusion and conflict within the relationship, and negatively affect relationship satisfaction (Lagana, Fobair, & Spiegel, 2014; Ziaee et al., 2014). These changes and experiences can take an emotional toll on the marital relationship (Andrzejczak, Markocka-Maczka, & Lewandowski, 2013), and can be the catalyst for relationship breakdown or divorce in marriages where there are existing long-term difficulties (Holmberg et al., 2001).

Emerging research suggests that breast cancer not only affects women in stable, long-term relationships, but also un-partnered women seeking to form new relationships during cancer survivorship. This includes women who are un-partnered when diagnosed with cancer and when receiving treatment, and women who experience the breakdown of an existing relationship during this process. Estimates on the number of un-partnered women with breast cancer are unknown; a report released by Breast Cancer Network Australia stated that 15% of 2181 women surveyed were un-partnered (Ussher, Perz, & Gilbert, 2011), while a more recent

study of more than 145,000 Californian women found that 43% identified as un-partnered (Martinez et al., 2017). While there is currently a dearth of research investigating this topic area, what we do know is that many un-partnered breast cancer survivors consider romantic 'dating' (i.e., meeting with someone with whom they have a romantic interest) to be a key priority after treatment (Gluhoski, Siegel, & Gorey, 1998; Kurowecki & Fergus, 2014); yet these women report more concerns about dating than un-partnered women without breast cancer (Canada & Schover, 2012). Physical and psychological treatment side effects appear to weigh substantially in these concerns, with previous studies reporting that approximately 80% of women with breast cancer believe that body image and attractiveness concerns impact on their ability to enter into a new relationship, in addition to low confidence (67%), feeling undesirable (65%), and fearing rejection (47%) (Ussher, Perz, & Gilbert, 2014). In one qualitative study of 15 breast cancer survivors in new romantic partnerships, participants expressed intense disapproval towards their changed bodies, using words such as "deformed", "ugly", and "mutilated", and voiced fear they may "repulse" or evoke "pity" in potential partners (Kurowecki & Fergus, 2014, p. 56). In another study, almost 50% of women reported dating concerns pertaining to difficulty in initiating contact and meeting with potential partners, and being afraid to initiate a sexual relationship due to treatment side-effects impacting on sexual functioning and desirability (Canada & Schover, 2012). Dating difficulties may affect younger and older women alike; approximately 17,586 women are diagnosed with breast cancer annually, of whom approximately 841 are between the ages of 20 and 39 years old (Australian Institute of Health and Welfare, 2017). Prior research indicates significant marriage deficits in older women (aged 45-80 years) with cancer versus same-aged women without a cancer diagnosis, particularly among breast cancer survivors (Syse & Aas, 2009). Together, these findings suggest there are a number of un-partnered women who emerge from breast

cancer treatment facing barriers to forming new romantic relationships. Given the limited research conducted on this topic to date, further exploration is clearly warranted.

Romantic Dating: An Overview

An understanding of the landscape of modern-day romantic dating is necessary in order to contextualise this research project and understand women's experiences of dating after breast cancer. Traditionally dating methods in Westernised cultures have included meeting potential partners 'by chance' or as pre-arranged by a friend or family member, or in matchmaking services such as human matchmakers, newspaper advertisements and video-dating (Finkel et al., 2012). With increasing availability of the internet, more and more individuals are now utilising online dating as a means of connecting with a romantic partner; in a study of more than 4,000 American adults, 22% of participants had met their partners via the internet (Rosenfeld, 2010). While the number of Australians utilising online dating services is difficult to determine, research indicates this method of seeking relationships is becoming increasing popular (Couch & Liamputtong, 2008). Internet dating offers several advantages over traditional dating in that it affords access to a wider network of potential dating partners, irrespective of physical proximity, and allows users to communicate with potential partners via multiple channels (i.e., voice, text, video) prior to a face-to-face meeting. Internet dating additionally promises a matching service, that is, using a mathematical algorithm to identify potential partners with whom the user will allegedly be most likely to experience positive romantic outcomes; this eliminates the necessity of relying on the user's own intuitions, and fast-tracks weeks or months of 'getting to know' a partner in order to assess their suitability (Finkel et al., 2012).

Online dating websites have been created specifically for individuals with cancer and other physical illness (e.g., CancerMatch.com). A qualitative study of 108 participants with physical disabilities revealed that while the body and physical impairment was not present in

the online space, it continued to play an important role in how individuals with disabilities presented themselves online (Saltes, 2013). In particular, participants noted the quandary around what information to include in an online dating profile, and how to navigate illness disclosure (Saltes, 2013). While no research has yet examined the use of dating websites in the cancer context specifically, an understanding of how physical illness impacts on modern-day dating is important in exploring women's dating experiences post-breast cancer.

Theories of Romantic Relationship Formation

In order to understand how breast cancer affects the formation of intimate relationships during survivorship, an understanding of general theories of how romantic relationships progress and develop over time is needed. There are two main perspectives that have been used to understand romantic relationship formation, stage models and process models, as outlined below.

Stage models. Stage models (Lewis, 1972; Reiss, 1960; Scanzoni, 1979) assume that relationships must satisfy successive sets of criteria in order to continue and progress through a sequential series of stages. Once a couple masters the criteria in the first stage, they move to the second stage where they face a different set of criteria, and so on. Some form of commitment (e.g., marriage) is typically considered to be the final endpoint, signifying a close relationship (Berscheid & Regan, 2016).

One of the most renowned stage theories is Knapp's Relational Stage Model (Knapp, 1978; Knapp & Vangelisti, 2008), which asserts that romantic relationships progress through five distinct stages. The *Initiating* stage occurs when two individuals meet for the first time and form their initial impressions of one another. This stage is often dictated by social norms (that is, socially defined standards for greeting another person), and usually includes handshakes, introductions, and superficial conversations (i.e., 'small talk'). Physical factors, such as appearance, play an important role in this stage. The next stage, *Experimenting*, entails seeking in-depth information to determine commonalities and compatibility and to decipher whether

the potential romantic partner will be a good fit. In the *Intensifying* stage, partners become emotionally connected and engage in reciprocal self-disclosure (i.e., the reciprocal exchange of self-relevant information). The *Integrating* stage of relationship development involves the formation of a shared, public relational identity and possible initiation of intimacy (Knapp & Vangelisti, 2008). The couple moves away from reliance on social norms, and instead focuses on connectedness within the relationship. The final *Bonding* stage entails the solidification of the relationship (i.e., through marriage or civil union) (Knapp & Vangelisti, 2008). This model has been widely used and empirically evaluated across a number of studies (Dunleavy & Booth-Butterfield, 2009; Shea & Pearson, 1986; Welch & Rubin, 2002), including in the context of romantic relationship formation in lesbian, gay, bisexual, and transgender couples (Macapagal, Greene, Rivera, & Mustanski, 2015), and via social media (Fox, Warber, & Makstaller, 2013). The Relational Stage Model has been used in the meta-synthesis and review (Chapter 2) as an explanatory framework for identifying breast cancer survivor's concerns as they move along the dating trajectory.

Process models. Rather than viewing relationships as moving through a distinct set of stages, process models assert that interpersonal processes (e.g., intimacy and closeness, trust, self-disclosure, commitment) function as important mechanisms to propel relationships in different directions (Rusbult, 1980; Taylor, 1968; Wieselquist, Rusbult, Foster, & Agnew, 1999). As an example, one model proposes that progression through relationship events or 'turning points' (i.e., any event or occurrence that is associated with change in a relationship') varies depending on interpersonal processes such as perceived relationship satisfaction and commitment (Baxter & Bullis, 1986). In the context of romantic relationship formation, romantic 'dates' or meetings are a major turning point providing the opportunity for micro-level turning points such as self-disclosure (Baxter & Bullis, 1986). Supporting research among college students has found the turning point of '*getting to know one another*' was associated

with increased relationship commitment, whereas '*the emergence of romantic rivals'* was linked with reduced commitment (Baxter & Bullis, 1986).

Along similar lines, Social Penetration Theory specifically views self-disclosure as the fuel that propels romantic relationships towards long-term commitment; couples are theorised to become more committed to one another as they increase the breadth (i.e., number of areas about which information is revealed) and depth (i.e., extent to which information is intimate, personal, emotional and detailed) of self-disclosure (Altman & Taylor, 1973). This theory has since been expanded to also incorporate partner's *responsiveness* to self-disclosure. In particular, Intimacy Theory posits that the interpersonal process of responding to one's partner in a way that results in them feeling validated, understood, cared for and accepted, promotes intimacy within the relationship and encourages subsequent growth and progression within the relationship (Regan, 2008; Reis & Shaver, 1988). A number of studies support the notion that self-disclosure and partner responsiveness are important milestones in romantic relationships. For example, among dating and married couples, those individuals who share personal information with their partners, who perceive their partners as engaging in similar self-disclosure, and who believe their disclosures are understood and accepted by their partners report greater relationship satisfaction and commitment (Regan, 2008; Sprecher & Hendrick, 2004). Importantly, both stage and process models recognise the importance of key interpersonal processes (i.e., initially getting to know one another, self-disclosure, and intimacy) in the development of romantic relationships and the progression of relationships towards long-term commitment.

Overview of the Current Thesis

This thesis contributes to the existing body of literature by conducting the first in-depth investigation of romantic relationship formation after breast cancer, and presenting a unique, tailored intervention to support women when navigating 'dating' during cancer survivorship.

This topic area has received minimal attention in the literature, yet is an exceptionally important aspect of psychosocial adjustment in breast cancer survivorship. The aim of this thesis is to provide a holistic understanding of romantic relationship in this population, taking into account the challenges that women face as part of the breast cancer journey (i.e., treatment side effects), and also considering the key interpersonal processes that define romantic relationship development in general. To this end, the first paper presented in Chapter 2, presents results from a review and meta-synthesis, collating the current qualitative literature on romantic dating in women with breast cancer and a genetic breast cancer susceptibility. The aim of the second paper, presented in Chapter 3, is to address critical gaps identified in the review paper and provide a more holistic and parsimonious understanding of romantic relationship formation in breast cancer survivors. The paper presented in Chapter 4 details findings from the first large-scale, quantitative study into romantic relationship formation after breast cancer. Chapter 5 draws together the findings from previous studies to develop an innovative, online, evidence-based intervention to support and facilitate romantic relationship formation in women post-breast cancer. The final chapter, Chapter 6, presents an overview of findings outlined in this thesis, in addition to clinical implications, study limitations, and suggestions for future research.

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Chapter 2. Dating Concerns among Women with Breast Cancer or with Genetic Breast Cancer Susceptibility: A Review and Meta-Synthesis

As discussed in Chapter 1, partner support can be beneficial for women during breast cancer survivorship. However, not all women have this partner support available, and research suggests some barriers to forming new relationships post-breast cancer. For women wanting to form a relationship, romantic dating is an obvious start-point. However, while many un-partnered women consider romantic dating to be a key priority after breast cancer (Gluhoski, Siegel, & Gorey, 1998), these women report more concerns about dating than women without a breast cancer diagnosis (Canada & Schover, 2012).

Currently, limited research has investigated women's concerns about dating after breast cancer. The few qualitative studies that have been conducted have focused on specific aspects of dating concerns (i.e., infertility, disclosure, fear of rejection and support needs) or on particular populations (i.e., young or unmarried women and positive mutation status) and have therefore tended to be narrowly focused with a diverse range of findings. The review and meta-synthesis presented in this chapter was conducted to provide a broader and more holistic understanding of the dating concerns and barriers that women face within the breast cancer context. The final part of this chapter provides an update to this review between 2015 (date of last systematic literature search) and 2017.

This review and meta-synthesis was published in *Health Psychology Review*:

Shaw, L-K., Sherman, K., & Fitness, J. (2015). Dating concerns among women with breast cancer or with genetic breast cancer susceptibility: A review and meta-synthesis. *Health Psychology Review, 9,* 491-505. doi: 10.1080/17437199.2015.1084891.

Additionally, material from this review was presented at the APS 2nd Health Psychology conference in April 2015 (see Appendix F for presentation).

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Dating concerns among women with breast cancer or with genetic breast cancer susceptibility: a review and meta-synthesis

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ABSTRACT

Objective. While dating is critical in the formation of a lifelong romantic relationship, women with breast cancer or a genetic susceptibility to developing this disease report a myriad of dating concerns. This review synthesises and discusses the perceived dating barriers and concerns in this population. *Method*. A systematic search of CINAHL, Embase, MEDLINE, PsycINFO and PubMed was undertaken and yielded 19 published qualitative studies. Papers were subjected to critical appraisal to ensure the integrity of findings. *Results*. Six areas of concern were identified: Feeling unattractive due to treatment side effects; perceiving limited dating partners available; determining how, when and what to disclose; fear of cancer recurrence and reduced life expectancy; apprehension about entering into a new sexual relationship; and dating urgency and not wanting to 'waste time' on partners without long-term potential. *Conclusions*. This paper provides a valuable synthesis of the complex issues, concerns and decisions that single women face at different stages of relationship formation following their breast cancer experience. Future research is warranted to explore the perceptions, appraisals and beliefs underlying these concerns, to help guide the future design and development of appropriate informational and supportive care offered to breast cancer patients.

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Breast cancer is the second most common cancer among women, with more than 230,000 American women diagnosed with this disease each year (Breastcancer.org). As treatment outcomes for breast cancer continue to improve, and survival rates increase, research has turned its focus to addressing patients' quality of life after treatment is completed (Lee, Gray, Han, & Plosker, 2010). In addition to coping with the loss of a breast due to surgery, women are often faced with a plethora of negative physical, psychological and psychosocial side effects, ranging from significant scarring, weight loss or gain and chemotherapy-induced alopecia, to reduced sexual satisfaction and functioning, poor body image and depression (Breast Cancer Network Australia, 2010; Kurowecki & Fergus, 2014). Women identified as having a genetic susceptibility to developing breast cancer face additional challenges. While at-risk women with cancer must undergo treatment for this disease and manage associated side effects, those without a diagnosis must choose to either undergo prophylactic surgery or contend with their significantly greater risk of developing breast cancer in the future (Werner-Lin, 2008b). In addition, many of these women must come to terms with the heightened possibility of passing the deleterious *BRCA1/2* mutation onto their

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future children, which in turn can lead to cancer-related distress including worry and anxiety (Hoskins, Roy, Peters, Loud, & Greene, 2008).

The benefits of having a supportive partner when coping with breast-cancer-related outcomes are well documented (Kinsinger, Laurenceau, Carver, & Antoni, 2011). However, not all women have this support available when they are diagnosed with breast cancer or when receiving genetic testing results. Moreover, for some women, the stresses of coping with a breast cancer diagnosis are too great, and contribute to the dissolution of an existing romantic relationship (Dorval, Maunsell, Taylor-Brown, & Kilpatrick, 1999). Consequently, a significant number of women emerge from the active treatment phase of breast cancer into survivorship without being in a relationship (Holmberg, Scott, Alexy, & Fife, 2001; Kurowecki & Fergus, 2014). This is unfortunate, given the importance of supportive interpersonal relationships, and particularly intimate partner support, to a woman's long-term adjustment to this disease (van Oostrom et al., 2007; Rodin et al., 2007).

Dating (i.e., going out with someone with whom one has a romantic interest) is critical to the formation of a new romantic relationship; it is the first step to establishing a lifelong supportive partnership with another individual, with the possibility of starting a family (Klitzman & Sweeney, 2011). While many non-partnered breast cancer survivors consider dating to be a key priority (Gluhoski, Siegel, & Gorey, 1998; Kurowecki & Fergus, 2014), they report more concerns about dating than non-symptomatic, non-partnered women (Canada & Schover, 2012). Research indicates that approximately 80% of women with breast cancer believe that 'body image/attractiveness concerns' impact on their ability to enter into a new relationship, in addition to 'lack of confidence' (67%), 'not feeling desirable' (65%) and 'fear of rejection' (47%) (Ussher, Perz, & Gilbert, 2014). Moreover, almost 50% of them report dating concerns pertaining to difficulty in initiating contact and meeting with potential dates, and being afraid to initiate a sexual relationship (Canada & Schover, 2012; Hordern, 2000). Treatment side effects (such as fatigue, weight gain and effects on sexual functioning), along with future cancer risk, can also make forming new relationships challenging for women with breast cancer or a genetic susceptibility to developing this disease (Avis, Crawford, & Manuel, 2004; Hamilton & Hurley, 2010; Kurowecki & Fergus, 2014). Importantly, difficulties with dating may be experienced by younger and older women alike. Although 75% of breast cancer cases occur in women aged 50 years and over, a substantial proportion of women (i.e., more than 700 Australian women, 1300 UK women and 13,000 US women per year) are younger than 40 years old when diagnosed (American Cancer Society, 2011; Australian Institute of Health and Welfare & Cancer Australia, 2012; Cancer Research UK, 2014).

Currently, most research investigating romantic relationships within the breast cancer context has focused on women in stable, long-term relationships, rather than single women who are seeking a new partner or unmarried women who are dating. Many studies that have examined dating in the latter population have focused on specific aspects of dating concerns (i.e., infertility, disclosure, fear of rejection and support needs; Corney & Swinglehurst, 2014; Hoskins et al., 2008; Klitzman & Sweeney, 2011; Werner-Lin, 2008b) or on particular populations (i.e., young or unmarried women and positive mutation status; Gluhoski et al., 1998; Hamilton, 2012; Hamilton & Hurley, 2010; Ruddy et al., 2013; Werner-Lin, 2008b), and have therefore tended to be narrowly focused with a diverse range of findings. Moreover, few of these papers have presented a coherent theoretical underpinning, thus limiting our understanding of relationship formation in this population. A synthesis of qualitative findings is therefore warranted to provide a broader and more holistic understanding of the dating concerns and barriers that women face within the breast cancer context.

The aim of the present paper is to adopt a meta-synthesis approach to examine the dating concerns among women with a breast cancer diagnosis or a genetic susceptibility to developing this disease. A meta-synthesis approach is defined as a 'systematic and comprehensive scientific inquiry, which takes and integrates all the findings across a set of reports, resulting in a complete description of the experience' (Reidy & Denieffe, 2014). Findings from this review will be interpreted in the context of current theoretical models of relationship formation, in order to enhance understanding of dating concerns as they arise at different stages of relationship formation. This methodology is considered appropriate for three key reasons. First, most research that has examined dating

in this population has used qualitative methodologies. Second, this approach allows for the generalisability of findings to broader contexts, which in turn addresses the limitations of individual, qualitative studies (Lang, France, Williams, Humphris, & Wells, 2013). Finally, this approach provides a new, secondary interpretation of existing research rather than simple re-analysis or aggregation (Adams et al., 2011). Drawing together these findings will help to improve the provision of clinical care to patients with breast cancer and breast cancer susceptibility, by delineating the complex issues, concerns and decisions that these women must face when considering the formation of a new romantic relationship.

Methods

Search strategy

A systematic literature search of CINAHL, Embase, MEDLINE, PsycINFO and PubMed was undertaken in February 2015 to identify all qualitative studies on the topic of dating with breast cancer and/or breast cancer susceptibility. The following search terms were used to identify all relevant publications: 'dating', 'new relationship', 'relationship formation', 'courting', 'romance', 'intimate relationship', 'romantic relationship', 'unmarried women', 'young* women', 'single women', 'sexuality', 'sexual wellbeing', 'breast cancer' and 'BRCA', 'qualitative' and 'interview*'.

Selection strategy and quality appraisal

Eligible studies comprised those that: (1) used a qualitative methodology; (2) included women diagnosed with breast cancer, or women with a mutation in the breast cancer susceptibility genes *BRCA1/2*; (3) reported on some concern from women regarding dating and/or the formation of a new relationship; (4) published in the English language (articles published in languages other than English were excluded due to the difficulties in translating meaning across languages) (Lang et al., 2013). Discussions, dissertations, reviews, editorials and commentaries were excluded from this review. Quantitative studies were also excluded, for the following reasons. First, the few quantitative studies available have focused on the *content* of women's concerns, rather than exploring the reasoning behind them, thus neglecting the lived experiences of relationship formation in these women (Williams, Smith, & Papathomas, 2014). Synthesising qualitative evidence provides the opportunity to supplement what has already been identified in the quantitative literature, and enrich our understanding of dating concerns that have 'emerged from people's lived experience' with breast cancer and genetic breast cancer susceptibility (Williams et al., 2014). Second, the chosen method of meta-synthesis, by definition, entails analysis of qualitative data only. Adoption of this method is critical in allowing outcomes from qualitative studies to be collated and reinterpreted with a view to developing new theoretical insights (Walji, Simpson, & Weatherhead, 2013). Where the title and abstract indicated that the study was overtly unrelated to the research question, or fulfilled exclusion criteria, the study was discarded. Full-text articles were accessed when the paper's abstract suggested potential relevance to the research area and/or the abstract did not fulfil exclusion criteria for this review. As studies with poor designs and methodologies would weaken the secondary interpretation of the data (Lang et al., 2013), all papers that fulfilled inclusion criteria were subjected to critical appraisal using accepted guidelines from previous studies (see Figure 1) (Adams et al., 2011; Dixon-Woods et al., 2006). All papers received a sufficient appraisal score and therefore none were rejected on the grounds of quality in this review. Results from the quality appraisal for each study are shown in Table 1.

Data synthesis

Noblit and Hare's (1988) approach to literature synthesis was utilised to compare, reinterpret and synthesise the individual qualitative studies, in order to gain a more in-depth understanding of dating

1. Are the aims and objectives of the research clearly stated?
2. Is the research approach (i.e., qualitative data analysis)
   a. Clearly specified
   b. Appropriate/suitable for the research question?
3. Do the researchers provide a clear account of the process by which their findings were produced (i.e., the method)?
4. Do the researchers display enough data to support their interpretation and conclusions?
5. Is the method of analysis
   a. Appropriate (i.e., does it answer the original research question)?
   b. Adequately explained
6. Was the recruitment (and resulting sample) specific to the study reported?
7. Does the interview enable the interviewee to raise experiences, issues and concerns (i.e., semi-structured/open-ended), or were they raised, and thus introduced, by the researcher (i.e., structured)?
8. Did the authors make it explicit
   a. How they interpreted the data?
   b. What theoretical framework (e.g., phenomenology, grounded theory) they used?
9. Did the authors acknowledge social and cultural factors (e.g., social class, ethnicity) in their analysis, conclusions or study limitations?
10. Are strategies employed to verify the coherence of the interpretation and analysis of data (i.e., were strategies such as triangulation used or was the analysis discussed with user representatives to verify ecological validity)?

Documents were rated 10 if all questions were answered in the affirmative, 9 if only 9 questions were answered in the affirmative, and so on, with 0 indicating the weakest quality of paper based on these appraisals.

Figure 1. Quality appraisal criteria.

concerns and barriers in the breast cancer context. This method has the ability to offer a higher level of analysis, create new research questions and minimise the need to duplicate research (Atkins et al., 2008), and its use is well documented and accepted in the health literature (Atkins et al., 2008; Campbell et al., 2003; Pound et al., 2005). In the context of the present study, the literature synthesis approach entailed three key stages (Lang et al., 2013). The first involved identifying the themes and concepts within each study. This was achieved by creating a table (Appendix A), and listing

Table 1. Study quality appraisal.

Study	Aims/ objectives	Research approach	Clear account of process	Sufficient data	Method of analysis	Recruit. specific	Interview open	Theoretical framework	Socio-cultural factors	Verification of analysis	Score
Corney et al. (2014)	1	1	1	1	1	0	1	0.5	0	0	6.5
Corney and Swinglehurst (2014)	1	1	1	1	1	1	1	0.5	0	1	8.5
Elmir et al. (2010)	1	1	1	1	1	1	0.5	1	1	1	9.5
Gluhoski et al. (1998)	1	1	1	1	0.5	0	1	0	0	0	5.5
Gould et al. (2006)	1	1	1	1	1	1	1	0.5	0.5	0	8
Hamilton (2012)	1	1	1	1	1	0	1	1	0	0	7
Hamilton and Hurley (2010)	1	1	1	1	1	0	1	1	1	0.5	8.5
Holmberg et al. (2001)	1	1	1	0	1	1	0.5	0.5	1	1	8
Hoskins et al. (2008)	1	1	1	1	1	0	1	1	0.5	1	8.5
Klitzman and Sweeney (2011)	1	1	1	1	1	0	1	1	1	1	9
Kurowecki and Fergus (2014)	1	1	1	1	1	1	1	1	1	1	10
Lewis, Sheng, Rhodes, Jackson, and Schover (2012)	1	0.5	0.5	1	0.5	0	1	0	1	1	6.5
Lewis et al. (1996)	1	1	1	1	1	0	0	0.5	0	1	6.5
Ruddy et al. (2013)	1	0.5	1	1	1	0	1	0.5	1	0.5	7.5
Thewes et al. (2004)	1	1	1	1	1	1	1	0.5	1	1	9.5
Ussher et al. (2014)	1	1	1	0.5	1	0.5	1	1	0.5	0	7.5
Vilhauer (2008)	1	1	1	1	1	0	1	0.5	1	1	8.5
Werner-Lin (2008a)	1	1	1	1	1	1	1	0.5	1	1	9.5
Werner-Lin (2008b)	1	1	1	1	1	1	1	0.5	0	1	8.5

the studies alphabetically, according to breast cancer status (i.e., breast cancer diagnosis, breast cancer genetic risk or both). We then completed the table by detailing the title of each paper, sample population, recruitment approach, theoretical framework, type of qualitative analysis undertaken, methods of verifying data (i.e., determining data 'trustworthiness'), dating concerns and themes/concepts originally identified by the authors. The second stage entailed 'translating the studies into one another', that is, examining relations between themes within a study, and between studies (Noblit & Hare, 1988). In practice, this entailed identifying the themes within each study in Appendix A, and then comparing those from the first study with those identified in Study 2. We then compared the synthesis of these two studies with Study 3, and so on. Methodological rigour was ensured by discussing the categorisation with author KS, which allowed for validation and further understanding of concepts. The third and final stage involved 'synthesising the translations'. This entailed determining whether the common themes and concepts identified could be encompassed by others, hence translating them into each other (Adams et al., 2011; Lang et al., 2013; Noblit & Hare, 1988).

Results

The systematic search yielded 1137 studies. Of these, 983 were excluded on the basis of their title and abstract, as they were either overtly unrelated to the research question or fulfilled exclusion criteria for this review (e.g., inappropriate sample or article type). In total, 154 studies were retrieved for a more thorough evaluation, as their abstracts suggested potential relevance to the research area and/or the abstract did not offer sufficient information to apply exclusion criteria. Of the full-text articles accessed, an additional 99 studies were excluded for not meeting review eligibility criteria, and a further 36 were removed due to duplication. A final total of 19 papers were included in this review (see Table 1 and Appendix A). Six areas of concern were identified across the 19 papers, including feeling unattractive, having limited dating partners available, issues of how and when to disclose, cancer recurrence and reduced life expectancy, entering into a sexual relationship, and a sense of dating urgency.

The concerns voiced by women with breast cancer and those with a genetic risk of developing this disease were combined in the results section below. The merging of sample populations was considered appropriate for two reasons. First, three studies did not differentiate between populations, making it difficult to determine which concerns belonged to each sample. More important, however, is that our results indicate that women with breast cancer and those with breast cancer susceptibility share similar concerns with regard to dating. That is, four out of six concerns identified in this review were voiced by both groups, with only anxieties regarding feeling unattractive and entering into a sexual relationship specific to the breast cancer samples.

Feeling unattractive

A key concern expressed by many women with breast cancer was the expectation or fear of rejection from potential partners due to changes in appearance (Corney, Puthussery, & Swinglehurst, 2014; Corney & Swinglehurst, 2014; Elmir, Jackson, Beale, & Schmied, 2010; Kurowecki & Fergus, 2014; Lewis, Zahlis, Shands, Sinsheimer, & Hammond, 1996; Ruddy et al., 2013; Ussher et al., 2014; Vilhauer, 2008). Unwanted physical side effects are a common occurrence following treatment for breast cancer. In addition to the loss of a breast, women often experience significant scarring, dramatic changes to body weight, lymphoedema (i.e., swelling of soft tissues) and chemotherapy-induced alopecia (including loss of head and pubic hair, eyebrows and eyelashes). This can impact a woman's self-esteem by creating new bodily insecurities and exacerbating old ones (Kurowecki & Fergus, 2014; Ruddy et al., 2013). Moreover, some women equate the loss of their breast(s) to a critical loss of womanhood and femininity (Kurowecki & Fergus, 2014). As a result of these physical changes, women can feel unattractive and undesirable to

potential partners (Corney et al., 2014; Corney & Swinglehurst, 2014; Kurowecki & Fergus, 2014; Lewis et al., 1996).

> I was like, ready to be single for the rest of my life. Because I was thinking 'who would love me? Who would love my body like this?'. No one would feel attracted to me in any way. (Kurowecki & Fergus, 2014, p. 57)

Concern regarding physical appearance may be further perpetuated by upward comparison to female friends or others of a similar age who are not affected by breast cancer. This can lead to increased feelings of dejection, and reduced self-esteem. In effect, women may reinforce their belief that they are not 'good enough' as a partner, and continuously fall short in their own estimation (Corney & Swinglehurst, 2014; Kurowecki & Fergus, 2014).

> I've got friends who are gorgeous and they struggle to find people, so let alone if they've got a wonky boob that you are still waiting to have stuff done, an arm you can't carry, it will only carry half the stuff from the shops … who is going to want to? (Corney & Swinglehurst, 2014, p. 24)

None of the papers studied here had investigated whether the concern around feeling unattractive to potential partners is affected by factors such as age, type of treatment undergone or breast reconstruction history. Only one paper had explored the regaining of women's bodily esteem within the dating context, reporting that this entails coming to terms with the psychological and emotional impact of the cancer diagnosis and the need to incorporate this into their sense of self (Kurowecki & Fergus, 2014). Women tended to speak of this as a gradual and individualised process, centring on self-acceptance (Kurowecki & Fergus, 2014).

Limited dating pool

Many women who were considering dating following their diagnosis or confirmation of breast cancer susceptibility expressed concern regarding limitations on potential partners that may be available. They reported two limiting factors, the first being the belief that potential partners would find them 'less appealing' due to the ramifications of their diagnosis.

> I can't have kids so say you meet someone who wants kids? Well that takes out a whole group of people who want to have children. (Gould, Grassau, Manthorne, Gray, & Fitch, 2006, p. 164)

The second limiting factor concerned the tendency of some women to become more selective, seeking someone who would be able to cope with cancer, breast loss or bodily changes and the general 'heaviness' of these issues (Gluhoski et al., 1998; Gould et al., 2006; Kurowecki & Fergus, 2014; Werner-Lin, 2008b). This hypothetical partner may have had past experience with cancer, or may struggle with his own feelings of inferiority due to medical difficulties or not having a conventionally attractive appearance. Several women also reported becoming more discerning regarding their potential partner's personality, and desired someone who would treat them well and 'stick around' (Kurowecki & Fergus, 2014).

> I need somebody who can understand where I'm coming from and where I'm going to end up and support me. Above anything else is I need somebody who is not going to get terrified and run. (Werner-Lin, 2008b, p. 121)

Some women with a genetic mutation also sought a partner who would strike the right balance between providing support and not showing too much concern. This was considered necessary so that women did not incur further stress or anxiety in relation to the cancer (Hoskins et al., 2008).

> I don't need someone stressing me out, making me feel like I should be more worried than I am. (Hoskins et al., 2008, p. 305)

Importantly, women's perceived diminished possibilities may fuel apprehension that they may never find an acceptable partner (Gluhoski et al., 1998).

Disclosing to potential partners

A major concern for many women with breast cancer or genetic susceptibility was how to reveal this information to potential partners (Corney et al., 2014; Gluhoski et al., 1998; Gould et al., 2006; Hamilton, 2012; Hamilton & Hurley, 2010; Holmberg et al., 2001; Hoskins et al., 2008; Klitzman & Sweeney, 2011; Kurowecki & Fergus, 2014; Lewis et al., 2012; Ruddy et al., 2013; Werner-Lin, 2008b). This is important, as mutual disclosure plays a critical role in the development of intimate relationships (Sprecher, Treger, & Wondra, 2013), with higher levels of self-disclosure and quality communication leading to greater liking and closeness (Sprecher et al., 2013).While many women expressed a desire to find a partner, they reported being unsure how to navigate communication within the relationship, particularly in its early stages (Hamilton & Hurley, 2010).

> Relationships are hard enough to start this day and age under normal circumstances, but how do you explain to a whole new person that there's a big chunk of me that's not here anymore? That scares me. So I think that's the hardest part of being a young person with cancer … to be a single woman and be in that position and have had breast cancer with the results I did … the thought of starting a new relationship … is overwhelmingly frightening. (Gluhoski et al., 1998, p. 178)

Women who are considering, or involved in, dating face a series of dilemmas, each of which presents unique concerns. They must first decipher whether or not to share their cancer history or status, which entails weighing competing pros (e.g., ethical obligations, effect on future children, bodily changes that cannot be hidden) versus cons (e.g., fear of rejection). These women must then decide exactly how much detail to provide to new partners, as well as how and when they should communicate this information (Klitzman & Sweeney, 2011).

> When you start a relationship, you think, 'Now I'm gonna have to tell this person. Is it worth it?' If it's a relationship where I need to tell, then I will. If not, I won't. (Klitzman & Sweeney, 2011, p. 103)

Many individuals with a positive mutation status also reported being apprehensive about disclosing this information, as they believed that it would 'scare away' potential partners (Hoskins et al., 2008). In addition to revealing their test results, these women may choose to discuss their vision of the future, including plans for cancer prevention (e.g., prophylactic surgery) and the need to consider alternative methods for starting a family (Hamilton & Hurley, 2010; Werner-Lin, 2008b).

> Do I tell him on the first date? Do I wait? Do I hide this from him now or not? I don't know; it's kind of a tricky issue … How much information do you divulge? (Hamilton, 2012, p. 28)

> This is definitely something I think about a lot. I am not dating anyone, but I constantly ask myself, at what point of the dating (should anyone ever want to date me!) do I bring up something like this? I mean, do I tell someone I 'might' get breast cancer, or I 'might' have a prophylactic mastectomy when I'm 35? (Hamilton & Hurley, 2010, p .630)

These women also admitted assuming responsibility for their partner's reaction, and voiced concern that they must find the 'right way' to break the news about their cancer risk (Hoskins et al., 2008).

> I think it [partner's response] will be positive, and I think if I can convey that it's not definite, and that I'm doing what I can to … work with it, and get screening. (Hoskins et al., 2008, p. 305)

Moreover, for some individuals, fear of rejection due to cancer-related disclosure was so overwhelming that they hesitated or chose to avoid dating altogether.

> My response is cowards: I shy away from the whole situation. I'm totally terrified of dating … Do I tell guys? Should I not date? I really don't know. (Klitzman & Sweeney, 2011, p. 108)

Cancer recurrence and reduced life expectancy

Following breast cancer diagnosis and treatment, cancer may recur or spread beyond the breast to other organs. While women with a *BRCA1/2* gene mutation may have no cancer history, their genetic

status confers an estimated 40–60% lifetime risk of developing invasive breast cancer, and a 20–40% lifetime risk for invasive ovarian cancer (Adams et al., 2011; Werner-Lin, 2008a). Therefore, fear of cancer recurrence/occurrence is not uncommon within these populations (Tewari & Chagpar, 2014). In the context of relationship formation, many women were concerned that a partner would not want to become romantically involved with them, due to their potential for developing cancer in the future and, relatedly, their reduced life expectancy (Corney et al., 2014; Corney & Swinglehurst, 2014; Hoskins et al., 2008; Lewis et al., 1996; Thewes, Butow, Girgis, & Pendlebury, 2004).

> I think if a man really thought about it, he wouldn't want to get involved with someone who has a possibility of having cancer recur. (Lewis et al., 1996, p. 21)

Of note, while these studies offer a superficial explanation of women's concerns about cancer recurrence/occurrence in the dating context, little is known about the factors underlying these concerns. For example, a woman's anxiety could be related to her perceptions that a partner would not be able to emotionally cope with the possibility of her developing cancer or practically manage the multiple hospital appointments and significant financial strain. Alternatively, anxiety may stem from her belief that their ability to experience typical milestones as a couple (e.g., having children, retirement) will be compromised. Two studies in this review suggested that women's concerns are exacerbated by previous dating experiences or conversations with others, which leads to them feeling like a 'liability' and a 'less viable mate' for future partners (Corney et al., 2014; Hoskins et al., 2008; Thewes et al., 2004). In some cases, these fears are so intense that they deter or postpone future dating attempts (Corney et al., 2014).

> I remember him (an ex-boyfriend from before the illness) meeting me and he said to me 'Don't ever tell a man you have had cancer' and I was like 'Why?'. He said 'Because they'll run a mile. You will never meet a partner'. And I said 'Well that's awful'. He said 'Look Anthea, if you have 10 women lined up and the one on the end has had cancer, why would you go for the one that could die? (Corney et al., 2014, p. 19)

For some individuals, anxiety about cancer recurrence and its perceived impact on dating desirability is temporary. One woman with a positive mutation status described how she adapted to this by focusing on positive, self-affirming cognitions and accepting that she could do little to prevent cancer occurrence in the future (Hoskins et al., 2008). More research is warranted to further explore how women can overcome feelings of hopelessness regarding their ability to find a partner despite the potential for cancer recurrence/occurrence.

Entering into a sexual relationship

Many women with breast cancer voiced apprehension about entering into a physical relationship with a new partner due to the impact of treatment side effects on sexual satisfaction and functioning (Gluhoski et al., 1998; Holmberg et al., 2001). These side effects impact on the physical aspects of sexuality, by causing a loss of libido, menopausal symptoms and discomfort or pain during intercourse (Holmberg et al., 2001; Kurowecki & Fergus, 2014; Lewis et al., 1996).

> With the chemo, I was pushed into instant menopause … I don't know how to be sexual and menopausal. (Lewis et al., 1996, p. 21)

However, side effects can also influence the psychological aspects of a woman's sexuality by exerting a negative effect on women's view of themselves as sexually desirable. Importantly, women's concerns were sometimes exacerbated by negative responses from former partners about their lack of sexual desirability. Comments regarding changes to physical appearance, (e.g., surgical scars and differences between the natural and reconstructed breast) can sow the first seeds of insecurity and deter women from dating, as they fear the potential for a similar response from future partners (Holmberg et al., 2001).

> Now I would never meet somebody and have a physical relationship after three dates with them … maybe before I would [have], but now I wouldn't do that … that person would have to be really special for me to share that kind

> of intimacy because it's hard enough to date as it is … I have had eight operations. I do have scars, you can tell that. (Gluhoski et al., 1998, p. 179)

Essentially, the physical and psychological outcomes of treatment can alter women's view of themselves as being sexually desirable, leading them to feel insecure about their body and hesitant about initiating a physical relationship due to fear of rejection.

Dating urgency

Many women viewed the time between one's late twenties and early thirties as typical for meeting a lifelong partner and starting a family. A concern expressed by some younger women with breast cancer was that their diagnosis delayed these milestones, and put pressure on any new or potential relationship (Corney & Swinglehurst, 2014; Ruddy et al., 2013).

> Because it delays everything by at least a year, if not two years, and which I feel like you're on the cusp of child bearing age and getting to the later end of that, you don't want to have a new relationship being affected by me thinking 'oh, I've got to get into this relationship and it's got to be the one'. (Corney et al., 2014, p. 19)

This apprehension regarding dating urgency differs slightly for women with a *BRCA1/2* genetic mutation. Many high-risk women expressed the hope to have children early in life so that they could undergo prophylactic surgery if desired, and have the necessary treatments should cancer occur. In the context of relationship formation, this perceived urgency can influence the pace of new relationships, and the timing of disclosure regarding genetic status (Hamilton & Hurley, 2010; Werner-Lin, 2008b).

> But now I don't even have a boyfriend. I am going to be 25 in July, so I am assuming unless I meet someone in the next year I am probably not going to be married until I am in my late 20s, which means it will really affect it. (Hamilton & Hurley, 2010, p. 630)

Given the limited time available to meet a partner and have children, many women are keen to find a suitable partner quickly, and not have time 'wasted' on relationships without long-term potential (Werner-Lin, 2008b).

Discussion

Taken together, the findings from these studies indicate that many women with breast cancer or a genetic risk of developing this disease have specific concerns regarding dating, and that the intensity of these fears can preclude relationship formation in this population. These concerns include: feeling unattractive due to drastic physical changes that occur as result of breast cancer treatment; perceived limitations or diminished possibilities with respect to the number of eligible dating partners available; issues of how and when to disclose breast cancer history or risk to a partner; anticipated rejection due to potential cancer recurrence/occurrence and reduced life expectancy; apprehension about entering into a new physical relationship due to changes in intimacy and sexuality; and a sense of dating urgency, with pressure mounting to meet key relationship milestones.

These concerns are best understood within the context of theoretical approaches to romantic relationship formation. In particular, Knapp's Relational Stage Model offers one explanatory framework for identifying women's concerns as they move along the dating trajectory (Knapp & Vangelisti, 2008). This model has been tested and applied across many contexts in order to explicate the stages of romantic relationship formation and development (Fox, Warber, & Makstaller, 2013). According to this model, romantic relationships progress through five distinct stages. Four of these align with the concerns identified in this review, excluding the final *Bonding* stage, entailing the solidification of a relationship (e.g., through marriage) which is not directly related to the dating experience (Knapp & Vangelisti, 2008).

The *Initiating* stage occurs when two individuals meet for the first time and form their initial impressions of one another (Knapp & Vangelisti, 2008). Here, introductions and superficial topic

discussion are central, and physical factors such as appearance play an important role. In the context of the present findings, this is the time during which concerns regarding appearance and attractiveness are most prominent. Women with breast cancer may fear judgement and anticipate rejection on the basis of significant physical changes, and begin to view themselves as undesirable to the opposite sex. The next stage, *Experimenting*, entails seeking commonalities and compatibility, to determine whether the potential romantic partner will be a good fit (Knapp & Vangelisti, 2008). This stage reflects the concerns of the women in these studies regarding perceived limitations in available partners. More specifically, women may seek a mate who can truly understand their cancer experience and concerns, desiring someone who has a past experience with cancer, or who grapples with his own feelings of inferiority due to medical difficulties or not having a conventionally attractive appearance. This shared understanding of the woman's perspective is deemed critical, in order for her to feel confident of her partner's emotional support.

In the *Intensifying* stage, partners become emotionally connected and engage in reciprocal self-disclosure (Knapp & Vangelisti, 2008). It is in this stage that concerns regarding whether, how, and when to disclose breast cancer history and risk may begin to surface. This concern is the most frequently cited across all the articles included in this review, and is consistent with findings across other health contexts, such as populations with HIV and other sexually transmitted infections (Klitzman & Bayer, 2003; Klitzman & Sweeney, 2011; McCaffery, Waller, Nazroo, & Wardle, 2006). While these infections differ from cancer, in that they involve potential transmission of the virus to a partner, anxiety regarding disclosure remains comparable (Klitzman & Sweeney, 2011).

Decisions regarding whether, and how, to discuss breast cancer-related information with a potential partner can be understood within existing models of disclosure and stigmatisation. In particular, a central component of the Disclosure Process Model (Chaudoir & Fisher, 2010) involves the evaluation of potential costs versus benefits of disclosure in individuals with concealed, stigmatised identities. This reflects the concerns voiced by many women in this review, who reported weighing the competing pros (e.g., ethical obligations, effect on future children, bodily changes) and cons (e.g., fear of rejection) prior to disclosing to a new romantic partner. Importantly, aspects of this model also relate to other concerns expressed by women, including those regarding cancer recurrence and potentially reduced life expectancy. Two studies in this review suggested that women's concerns are exacerbated by previous dating experiences or conversations with others, which made them feel like a 'less viable partner' in future relationships. This is also consistent with the Disclosure Process Model, which postulates that anxiety regarding disclosure in new relationships can be exacerbated by previous negative experiences (i.e., becoming a 'downward spiral towards concealment'). Other models such as the Interpersonal Process Model of Intimacy (Manne et al., 2004) highlight the role of mutual disclosure in relationship formation. This also relates to the concern of having a 'limited dating pool', in that mutual disclosure contributes to the development of intimacy through the extent to which a partner responds and relates to the woman with breast cancer or susceptibility to developing this disease. Both models provide useful frameworks for future researchers to draw upon when seeking to better understand dating concerns in women with breast cancer or increased breast cancer risk, and may help clinicians to determine when and why disclosure may be beneficial in these populations (Chaudoir & Fisher, 2010).

Also aligning with the *Intensifying* stage of relationship development is the fear that a partner would not want to become romantically involved with a woman upon discovering her increased risk for developing cancer in the future and/or her reduced life expectancy. Our current understanding of this concern is evidently limited, due to the dearth of research detailing the underlying mechanisms. That is, while the literature *identifies* this as a valid concern, there is yet to be any *exploration* of what drives this concern or why it exists. Nonetheless, both of these concerns suggest that a woman's fear of rejection due to cancer-related disclosure, including her potential for cancer recurrence/occurrence and reduced life expectancy, may be so overwhelming that she may choose to avoid dating entirely.

The *Integrating* stage of relationship development involves the formation of a shared, public relational identity and possible initiation of intimacy (Knapp & Vangelisti, 2008). Herein lie the concerns regarding intimacy and sexuality. Women with breast cancer may voice apprehension about entering into a physical relationship with a new partner, due to the negative physical and psychological outcomes of treatment, and resultant fears of rejection. Importantly, while the concern regarding perceived dating urgency does not align closely with a specific relational stage, younger women likely harbour this fear throughout the duration of romantic relationships. They worry that there is limited time to meet a partner and start a family, and are keen to progress through each stage in a timely manner, and not 'waste time' on relationships without long-term potential.

Strengths, limitations and future directions

To our knowledge, this synthesis of findings provides the first broad and novel analysis of the dating concerns of women with a breast cancer diagnosis or increased susceptibility to developing this disease. This review was carefully executed, with multiple search engines utilised to ensure that all relevant studies were included. Furthermore, the review contained only high-quality and credible studies to enhance the integrity of results. Nonetheless, these findings should be considered in light of several limitations. First, synthesising qualitative data relies on the researcher's interpretation; thus, it is possible that other individuals may have reached different conclusions. However, this is true of all qualitative research, whereby our understanding of concepts is regarded as both constructive and relative (Lang et al., 2013). Moreover, we further improved the methodological rigour of our findings by involving two authors in the categorisation of concepts and assuming an iterative process that entailed continuously cycling back and forth between the individual articles and overarching themes.

A second limitation is the generalisability of findings. In particular, most research articles included in this review were based in the USA, UK and Australia, and many included younger populations. Nonetheless, while this synthesis focused on women with breast cancer or genetic breast cancer susceptibility, it is likely that some commonalities exist between this population and that of other cancer survivors. For example, women with ovarian cancer would also likely experience concerns regarding reproduction; men with prostate cancer may experience apprehension in terms of their sexual functioning (Ezer, Chachamovich, Saad, Aprikian, & Souhami, 2012; O'Shaughnessy, Ireland, Pelentsov, Thomas, & Esterman, 2013); and cancer patients in general may experience unwanted treatment side effects resulting in drastic changes to physical appearance.

Third, the use of quality appraisal criteria revealed some weaknesses across studies. For example, a significant proportion of the included papers provided minimal insight into methods of data interpretation, which limits our understanding of dating in this population. Moreover, approximately half of the included studies failed to acknowledge social and cultural factors, with most studies recruiting white, middle-class women. As social and cultural factors play a significant role in shaping our experiences, the lack of cultural variety and sensitivity in these studies may not accurately reflect the dating experiences of women with different cultural backgrounds (Adams et al., 2011; Cohen, 2014).

Finally, of the 19 papers reviewed, only four (Corney et al., 2014; Gluhoski et al., 1998; Klitzman & Sweeney, 2011; Kurowecki & Fergus, 2014) specifically aimed to investigate dating or relationship concerns of single women with breast cancer or with genetic breast cancer susceptibility. The remaining 15 studies did not specifically investigate dating concerns *per se*, rather they were more generally researching aspects of women's adjustment, needs and experiences post breast cancer. This may have introduced sample bias, by limiting the scope of questions asked regarding women's concerns about relationship formation. Future research should therefore aim to provide an in-depth exploration of women's dating concerns following breast cancer. Relatedly, it is highly probable that two of the studies included in this review (Werner-Lin, 2008b) used the same sample of participants, given

the high degree of similarity in sample characteristics and methodology reported; this may impact on the generalisability of findings presented in this review.

Despite these limitations, this paper provides a valuable synthesis of the dating concerns of women in the breast cancer context, and offers several areas for future research. While current research offers a superficial understanding of the concerns that women with breast cancer face, further research is warranted to explore the mechanisms that drive these concerns. At present, it is unclear whether factors such as age, treatment type or breast reconstruction influence women's fear that potential partners will find them unattractive. It is also not apparent *why* women believe that they will be rejected on the basis of potential cancer occurrence/recurrence or reduced life expectancy. For example, it is possible that reasons underlying these beliefs could relate to perceptions that a partner would not be able to emotionally cope with the possibility of developing cancer, multiple hospital appointments, significant financial strain or the compromised ability to experience typical milestones as a couple. More in-depth research exploring these concerns will help to ascertain their underlying mechanisms, and provide guidance as to how best to address these within the clinical context.

Implications for clinical practice

This review offers a valuable extension to the literature by synthesising the current qualitative research and providing insights into the barriers and concerns that women face when considering re-entering the dating world following their breast cancer experience. Findings from this review can assist health professionals in understanding the complex issues, concerns and decisions that single women with breast cancer face at different time points in their dating trajectory. Such health professionals are well placed to help women reduce their dating concerns by normalising anxieties about physical appearance and bodily insecurities, and encouraging self-acceptance in this population. Findings may also help to guide the future design and development of appropriate informational and supportive care offered to breast cancer patients.

Disclosure statement

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An Updated Review

Given that the review and meta-synthesis paper was published in 2015, an updated search of the literature was warranted for this thesis. Using the same search criteria and databases, this updated search yielded an additional 312 studies between February 2015 and July 2017. Of these, 289 studies were excluded on the basis of their title and abstract, and 14 were excluded due to duplication; 9 studies were retrieved for a more thorough review. Of these articles, a further 6 were excluded for not meeting review eligibility criteria. A final total of three studies were included in this review update.

Quality criteria for the updated studies are shown in Table 2. In brief, two (McClelland 2016; Tat, Doan, Yoo & Levine, 2016) of the three studies included in this update included mostly women who were in long-term relationships, and found sexuality changes to be a concern in terms of romantic relationship formation post-cancer. A more recent study of un-partnered breast cancer survivors found that while most women wanted to 'date' again, they faced a number of barriers, including managing rejection following cancer-related disclosure and coping with bodily changes after treatment (Ginter & Braun, 2016). These findings mirror those already reported in the published review; they highlight the importance of this topic area and the need for further research to better understand how women experience romantic relationship formation after breast cancer.

Table 2.
Study Quality Appraisal – Updated Studies

Study	Aims/objectives	Research approach	Clear account of process	Sufficient data	Method of analysis	Recruit. specific	Interview open	Theoretical framework	Socio-cultural factors	Verification of analysis	Score
Ginter & Braun (2016)	0	1	1	1	1	1	1	1	1	1	9
McClelland (2016)	1	1	1	1	1	0	1	1	1	1	9
Tat et al. (2016)	1	1	1	1	1	0	1	1	1	1	9

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An Addendum to Chapter 2. Consideration of Additional Theoretical Models

While Knapp's Relational Stage Model offers one explanatory framework for identifying women's concerns as they move along the dating trajectory, other theoretical approaches may also facilitate our understanding of dating in the breast cancer context. According to Goffman (1963), societies create systems of categorising individuals according to whether they possess 'normal' attributes; when an individual bears a distinctive mark that is attributed to their disposition, stigmatisation and rejection can result (Goffman, 1963; Knapp, Marziliano, & Moyer, 2014). As noted in this paper's discussion section, decisions regarding whether, what and how to disclose breast cancer information to a potential partner can be understood within existing stigmatisation models. However, it is important to acknowledge that stigmatisation was common across most identified themes in this review, and not solely linked to cancer-related disclosure. In particular, women also expressed fear of rejection due to changes in appearance, and held the belief that partners would find them 'less appealing' due to ramifications of their diagnosis (e.g., Corney, Puthussery, & Swinglehurst, 2014; Kurowecki & Fergus, 2014). Anticipated negative judgement weighed heavily during the disclosure process, with women expecting that cancer disclosure would 'scare away' potential partners (Hoskins et al., 2008). With regards to the theme *Cancer recurrence and reduced life expectancy*, women anticipated that their increased risk of cancer recurrence may deter some dating partners (e.g., Corey et al., 2014; Hoskins et al., 2008; Thewes, Butow, Girgis, & Pendlebury, 2004).

Another theoretical consideration when exploring barriers and concerns within the breast cancer dating journey is social norms of femininity. In the breast cancer context, 'sex' and 'sexiness' (i.e., being sexually active and having a desire for sex), are often equated with 'good health' (McClelland, 2017). Physical side-effects of cancer treatment often influence how a woman feels about her body, aligning closely with the theme *Feeling unattractive due*

to treatment side-effects. As noted in one study, many women equate the loss of their breast(s) to a critical loss of womanhood and femininity (Kurowecki & Fergus, 2014). Linking also to the theme *Entering into a sexual relationship*, cancer treatment can lead to dramatic changes to patient's genitals and their sexual response, and can impact on the psychological aspects of women's sexuality by exerting a negative effect on themselves as sexually desirable.

Drawing from models of Illness Representations (Leventhal, 1970) and Social Cognitive Theory (Bandura, 1977), it should also be noted that a woman's appraisals and perceptions of her cancer, and social learning/reinforcement from previous relationships, will likely influence how she approaches romantic relationships post-breast cancer. The impact of social learning was demonstrated clearly by one woman, who commented "I remember him (an ex-boyfriend from before the illness) meeting me and he said to me 'don't ever tell a man you have had cancer' and I was like 'why?'. He said 'because they'll run a mile" (Corney et al., 2014). In this sense, vicarious learning through others opinions and experiences, as well as one's own experiences of rejection, influence a woman's future dating attitudes and behaviours.

In conclusion, Knapp's Relational Stage Model (Knapp & Vangelisti, 2008) was utilised in this review to describe women's dating concerns as they progress along the dating trajectory. This model is helpful in that it allows us to understand challenges faced at each stage of romantic relationship formation. Nonetheless, consideration of additional theoretical approaches is beneficial in that it broadens our understanding, and provides a more holistic view, of the barriers and concerns that women face when dating during breast cancer survivorship.

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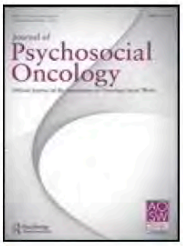
Chapter 3. Romantic Dating After Breast Cancer: A Qualitative Study

The review and meta-synthesis in Chapter 2 provides important insight into the barriers and concerns that women face when re-entering the dating world following their breast cancer experience (Shaw, Sherman, & Fitness, 2015). However, this review also highlights some gaps in our current knowledge. Most of the studies included in the review do not specifically focus on women's dating concerns after breast cancer, but are rather more geared towards aspects of women's adjustment, needs and experiences post-cancer. This likely limited the scope of questions asked regarding romantic relationship formation. Only one study to date has provided an in-depth exploration of women's experiences of romantic dating after breast cancer (Kurowecki & Fergus, 2014). However, this study included mostly women who were in a current long-term relationship and who reported high relationship satisfaction (Kurowecki & Fergus, 2014); thus, these results may not be generalisable to women who are un-partnered and/or have no experienced a successful relationship after breast cancer. While there is no data on the prevalence of women who experience romantic dating difficulties after breast cancer, this qualitative study seeks to provide an in-depth investigation into women's experiences of dating in this context, conducting semi-structured interviews with 13 un-partnered and nine partnered women. This study was also the first to include a subset of women's current male partners to understand their experience of relationship formation.

This paper was published in the *Journal of Psychosocial Oncology*:

Shaw, L-K., Sherman, K., Fitness, J., & Breast Cancer Network Australia (2016). Women's experiences of dating after breast cancer. *Journal of Psychosocial Oncology, 34*, 318-35. doi: 10.1080/07347332.2016.1193588.

Additionally, material from this study was presented at the Australian Psychological Society 2nd Health Psychology conference in April 2015, and the 3 Minute Thesis competition in September 2015 (see Appendix F for presentations).



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ARTICLE

Women's experiences of dating after breast cancer

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ABSTRACT

This study examined women's experiences of romantically dating after breast cancer. Semistructured interviews were conducted with 22 female breast cancer survivors who attempted to form new relationships post-breast cancer. Interview transcripts were analyzed using grounded theory methodology. We identified an overarching theme of "navigating the breast cancer dating journey," comprising seven themes including women's decision to consider dating; ability/desire to commence a new relationship; cancer-related disclosure; changes to intimacy and sexuality; body image difficulties; changing values; and trusting a new partner. Future research should empirically determine factors predicting a woman's ability to form a romantic relationship after breast cancer.

KEYWORDS

dating; relationships; breast cancer; grounded theory; qualitative; oncology

Introduction

Approximately 230,000 American women (Breastcancer.org, 2014) and 15,600 Australian women (Cancer Australia, 2015) are diagnosed with breast cancer every year. Significant improvements in detection and treatment of breast cancer have meant that survival rates for this disease are steadily increasing (American Cancer Society, 2013). However, undergoing breast cancer treatment can lead to significant long-term psychological and physical difficulties in survivorship. In addition to the loss of a breast, approximately 50% of women report sexual pain or dysfunction (Fobair et al., 2006; Wilmoth, 2001). Drastic changes to physical appearance (i.e., weight loss or gain, chemotherapy-induced alopecia, lymphedema) are a frequent concern, and younger women also face issues surrounding infertility and premature menopause (Breast Cancer Network Australia, 2010; Kurowecki & Fergus, 2014). It is perhaps unsurprising, then, that a significant number of women report poor body image and self-esteem as well as clinical levels of anxiety and depression,

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following their cancer diagnosis and treatment (Breast Cancer Network Australia, 2015; Fobair et al., 2006; Zimmermann, Scott, & Heinrichs, 2010).

Breast cancer can occur at any time in a woman's life, and many women rely on their romantically linked partner for social and emotional support following diagnosis (Syse & Aas, 2009). However, for women who are single at the time of diagnosis or who subsequently experience dissolution of their romantic relationship following their diagnosis, this much-needed source of social and emotional support can be lacking (Syse & Aas, 2009). This is unfortunate, as the emotional support of a romantic partner has been shown to be beneficial for breast cancer patients, buffering them against psychological stress and reducing their likelihood of developing depression over time (Giese-Davis, Hermanson, Koopman, Weibel, & Spiegel, 2000; Zimmermann et al., 2010). Partner support has also been shown to promote post-traumatic growth (Kausar & Saghir, 2010), facilitate sexual adjustment and relationship satisfaction (Kinsinger, Laurenceau, Carver, & Antoni, 2011), and lead to better physical health (Osborne, Ostir, Du, Peek, & Goodwin, 2005; Weihs, Enright, & Simmens, 2008), after breast cancer.

Currently, most research investigating romantic relationships within the breast cancer context has focused on women in stable, long-term relationships; far fewer studies have explored the dating experiences of single women. Importantly, we do know that unpartnered women consider romantic "dating" to be a key priority following breast cancer diagnosis and treatment, viewing it as a critical gateway to forming a lifelong partnership with another individual (Gluhoski, Siegel, & Gorey, 1998; Kurowecki & Fergus, 2014). However, despite this desire for partnership, the limited research available suggests that treatment side effects make dating extremely difficult for this population, with breast cancer patients reporting more dating concerns than cancer-free controls (Canada & Schover, 2012). In one study, for example, women reported feeling unattractive and feared that potential partners would reject them due to their "deformed" bodies (Kurowecki & Fergus, 2014). Women have also expressed some apprehension about disclosing their diagnosis to a potential partner, and entering into an intimate relationship while contending with sexual difficulties and body image concerns (Avis, Crawford, & Manuel, 2004; Gluhoski et al., 1998; Kurowecki & Fergus, 2014; Shaw, Sherman, & Fitness, 2015). Collectively, this research suggests that there are a significant number of unpartnered women with breast cancer who have dating-related concerns that can hamper relationship formation.

Only one study to date provides an in-depth exploration of women's experiences of establishing an intimate relationship with a new partner after breast cancer (Kurowecki & Fergus, 2014). This study included mostly women who were in a current relationship (87%; mean relationship duration = 2.9 years) and who reported high relationship satisfaction (Kurowecki & Fergus, 2014). Thus, these results are not generalizable to women who are unpartnered and/or have not experienced relationship satisfaction or success after breast cancer. The current

study aims to extend this work by including both single women and women who have commenced a new romantic relationship with a partner postdiagnosis, to provide a more holistic understanding of women's experiences of dating and forming relationships after breast cancer, including factors that have contributed toward relationship success and barriers that may preclude relationship formation in this population. Specific aims of this study are to explore women's dating experiences after breast cancer, including any challenges that they experienced to forming a relationship and their ability to cope with dating-related anxieties. It is anticipated that these qualitative data will enable a more in-depth and theoretical understanding of dating experiences and provide insight into factors that enhance relationship success after breast cancer.

Method

Participants

Participants were recruited between June and September 2014 through the research and survey group of the Breast Cancer Network Australia (BCNA), a not-for-profit community organization that has contact details of women who have been diagnosed with breast cancer. Women ($n = 22$) were eligible to participate if they (a) were over 18 years, (b) had received a breast cancer diagnosis, (c) were proficient in English, (d) and had considered commencing a heterosexual relationship at some point following their cancer diagnosis or treatment. Only heterosexual women were recruited, since prior research suggests that women in same sex relationships may encounter different dating concerns and experiences postdiagnosis and treatment (Kurowecki & Fergus, 2014), for example, the presence of both breasts in a partner may be challenging for a woman who has recently undergone a mastectomy (Kurowecki & Fergus, 2014). Participant details are shown in Table 1.

Procedure

This study was offered to women who were part of the BCNA online community. Invitations were e-mailed to women who had previously indicated that they would be interested in participating in research. Women received an invitation that included information about the study and a link to an online survey. Where relevant, women were also sent a study invitation to give to their romantic partner. Interested individuals initially provided consent online and were then automatically taken to a webpage where they recorded demographic information/contact details. Women were additionally asked for information about their cancer diagnosis, relationship status, and male partners' details (where relevant). Similarly, for interested male partners, they were directed to the online study website to provide consent and were asked some general demographic questions. Following this, the researcher contacted all participants through e-mail to arrange a date and time for a telephone interview. All interviews were semi-structured. For women, questions related to experiences of dating following a breast

Table 1. Participants sample characteristics.

	n (%)	*M* (range)
Female participants ($n = 22$)		
Demographics		
Age		47.3 years (27–74 years)
Country of birth		
Australia	12 (55)	
New Zealand	3 (7)	
UK/Ireland	3 (7)	
US	1 (5)	
Asia	1 (5)	
Unknown/other	2 (9)	
Relationship characteristics		
Marital status		
Single	11 (50)	
Romantic relationship	5 (23)	
Married/living with partner	4 (18)	
Divorced/separated	2 (9)	
Duration current relationship (months)	9	16.6 months (2–59 months)
Relationship started before diagnosis	3 (14)	
No. individuals dated since diagnosis		
0	13 (59)	
1	8 (36)	
2+	1 (5)	
Interested in dating	12 (55)	
Disease-related characteristics		
Breast cancer history		
Ductal carcinoma in situ	4 (18)	
Early breast cancer	15 (68)	
Unsure	2 (9)	
Time since diagnosis		38.6 months (12–81 months)
Breast cancer treatment		
Surgery		
Breast conservation surgery	5 (23)	
Single mastectomy	12 (55)	
Bilateral mastectomy	4 (18)	
Breast reconstruction	10 (45)	
Oophorectomy	2 (9)	
Chemotherapy	14 (64)	
Radiation	18 (82)	
Male participants ($n = 4$)		
Age		51.5 years (27–68 years)
Country of birth		
Australia	2 (50)	
New Zealand	1 (25)	
UK/Ireland	1 (25)	
Duration current relationship		13.3 months (2–24 months)
Partner's breast cancer surgery		
Single mastectomy	3 (75)	
Bilateral mastectomy	1 (25)	
Breast reconstruction	3 (75)	
Oophorectomy	2 (50)	

cancer diagnosis (e.g., "Overall, how do you feel your illness has influenced your ability or desire to enter into a new relationship?"; "Do you feel your illness has affected aspects of intimacy and sexuality in new relationships?"; "Has your illness changed what a good relationship means to you, or what you are looking for in a partner?") (e.g., Gluhoski et al., 1998; Kurowecki & Fergus, 2014). For male partners, interview questions related to dating a woman with breast cancer (e.g., "How did you react when your partner disclosed that she had breast cancer?"; "Do you think that your partner's cancer affected

the intimacy in the early stages of your relationship?"). Mean interview duration was approximately 40 minutes. Ethical approval for this study was granted by Macquarie University human ethics committee.

Analysis

The methodology adopted for this study was a grounded theory approach. This facilitated the development of a preliminary theory of how women experience romantic dating after breast cancer that is "grounded" in (rather than imposed on) the data (Glaser & Strauss, 1967). Participant interviews were recorded and transcribed verbatim, and the author Laura-Kate Shaw commenced memo writing and diagramming following each participant interview, a critical component of data synthesis and theory development. Data were analyzed using constant comparison, entailing repeatedly assessing similarities, and differences in the data, for example, within participant's experiences, between the transcripts, and among the categories that were developed throughout the coding process. Author Laura-Kate Shaw coded the transcripts, and an independent researcher coded a random subset ($n = 20$); the generated codes were compared and discussed to ensure 100% consistency between coders and validity of findings. Transcripts were initially subjected to open coding, which entailed line-by-line examining, conceptualizing, and labeling of the data. These "open codes" were then clustered under conceptual headings into categories or themes, which were related to the core category "navigating the breast cancer dating journey" (i.e., the central delimiting concept; Hunter, Keady, Casey, Grealish, & Murphy, 2016). Data were moved to a conceptual level using theoretical sampling and theoretical coding (Glaser, 1978; Walker & Myrick, 2006). Theoretical sampling is fundamental to grounded theory research and refers to the researcher's decision about what data to collect next and how to go about this, to continue to develop an emerging theory (Glaser & Strauss, 1967). In this study, emergent categories were incorporated into the interview protocol, and specific participants were sought to elaborate on concepts. Throughout data collection and analysis, interview questions were modified and extended to reflect key themes that arose from participant responses (i.e., addition of questions "How long after your diagnosis and treatment did you start to consider dating? What stopped you from dating earlier?"; "Were there some aspects that were more difficult to disclose than others? Why do you think this was?"; "How have you coped with the body image and sexual difficulties that have arisen?"). Data collection was terminated only when saturation was reached, and no further concepts or themes were generated from the data. Pseudo names were used to protect the identity of all participants.

Results

Our analysis identifies an overarching theme of "navigating the breast cancer dating journey," comprising seven categories or themes relating to women's experiences of dating after breast cancer. These themes are presented in the

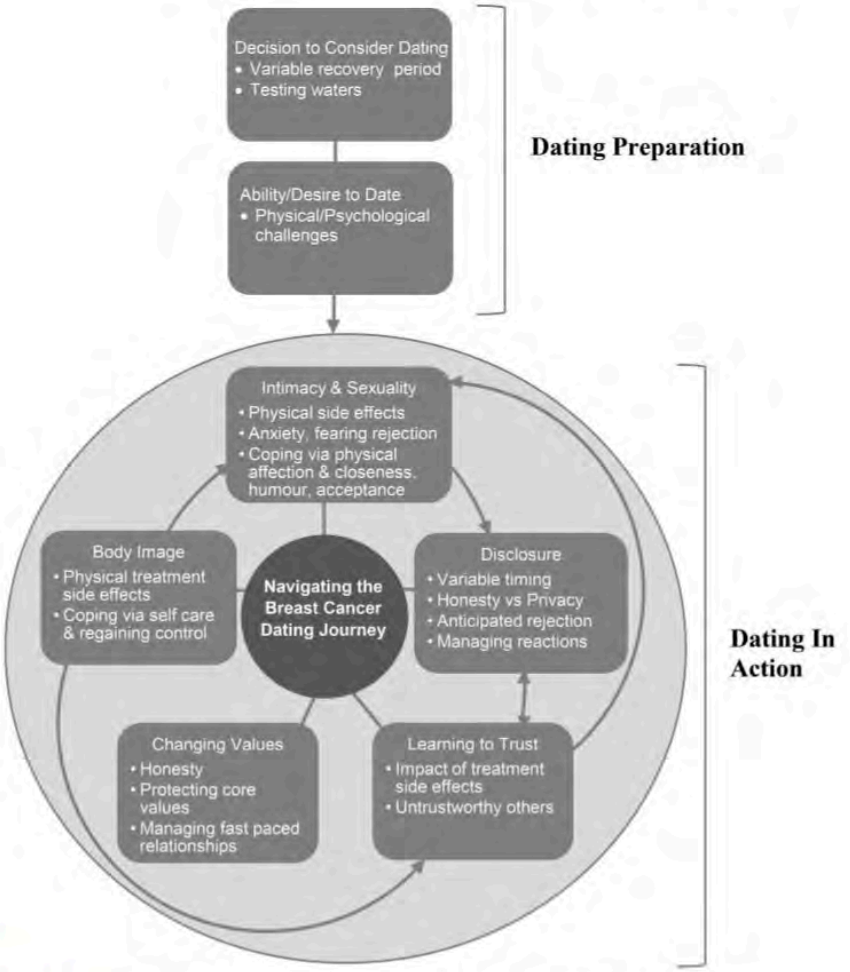

Figure 1. Understanding women's experiences and challenges of dating after breast cancer.

sections below, and are as follows: the decision to consider dating; ability and desire to enter into a new romantic relationship; cancer-related disclosure; intimacy and sexuality; body image and dating; changing values in relationships; and learning to trust a new partner. The accompanying figure (Figure 1) offers a pictorial representation of these themes, in terms of how women experience breast cancer, the challenges that they face, and their means of coping with these dating-related anxieties. The arrows indicate the direction of the reported impact of each dating experience (e.g., becoming intimate with a partner may prompt or necessitate disclosure).

The decision to consider dating

Many participants described needing time alone in the period immediately following their breast cancer diagnosis and treatment, to recover from emotional and psychological "scars" and treatment side effects, including medication, chemotherapy and radiation, fatigue, poor body image, low self-esteem, and difficulties with sexual satisfaction and functioning. The duration of this "recovery period" varied, with some women needing only a few weeks after surgery, and others requiring years before they were ready to consider pursuing a romantic relationship.

> I think that I'm through the treatment … and I'm used to the medication that I'm now on … I think I'm just mentally ready to pursue something, whereas before it was all about me (Kate, 39 years, single)

As well as feeling physically and psychologically "ready" to date, women cited loneliness as a motivation to seek a new partner. Breast reconstruction also played an important role for some women in helping them to be emotionally ready to commence a relationship, by allowing them to "look normal" again:

> Once I looked normal again … definitely after the reconstruction … I can't imagine that, even if I'd had the opportunity, that I would have seriously dated anybody wearing a prosthesis. (Betty, 51 years, single)

Of interest, eight women described using online dating services after their treatment, as it helped them to "test the waters" prior to having face-to-face meetings. Online dating was beneficial at this stage for two reasons. First, it allowed the women to date at a time when treatment side effects (e.g., fatigue) meant that a physical face-to-face meeting might not be practical. Second, it was perceived as a "safe" way to "experiment" with men's reactions to the women's cancer disclosure:

> I think it was more of an experiment than anything … if something negative happens, then I can just block and delete them … I can figure out how I can approach the subject of cancer, and if I find that people are acting really negatively toward it then it will be a better judge for how it will be in the real world (Anne, 28 years, single)

Online dating attempts were met with some success, with four of the partnered women interviewed meeting their current partners through this method.

Ability and desire to enter into a new romantic relationship

Sixteen women reported that breast cancer negatively impacted on their ability and/or desire to initiate contact with potential partners and enter into a new relationship. Some described how they no longer believed they were desirable to men, whereas others cited poor self-esteem and difficulty with communication. For example, one woman expressed how she no longer felt able to relate to a potential partner and "forgot" how to have a conversation that was not focused on cancer. Other women reported fear of burdening others with the ramifications of their

diagnosis and treatment, such as infertility, ongoing medical appointments, and having a "disfigurement."

> More the desire … I subconsciously thought, "If it is hard enough to find somebody looking complete, it's going to be harder to find somebody when you are looking like something that isn't proper for a woman" (Emma, 36 years, partnered)

For some women, relationship breakdowns that occurred during their cancer treatment also served as a barrier to seeking a new partner, as they feared a similar rejection from future partners.

> The reason why the relationship at that time when I was diagnosed broke down was because of my appearance pretty much … I didn't want to be rejected once again for the same reason, so to protect myself, I thought I'm not going to do that (Alison, 34 years, single)

Moreover, breast cancer influenced the women's ability to physically meet with potential partners, due to restricted opportunities; for example, having only single sex support groups, no longer visiting bars and clubs, residing in regional areas, and being unable to continue employment.

> I'm not really socialising in mixed company as much … And of course, the support groups are all female … and because I'm not well, I think my volunteer work has taken a very … I don't mix out as much as I used to in the community … It's probably harder now than ever (Beth, 49 years, single)

Cancer-related disclosure

Most participants ($n = 20$) had some experience of sharing their breast cancer experience with a potential partner, although the timing of disclosure varied. Some women described being upfront and disclosing their illness at the initial meeting, to avoid becoming "too attached" and being rejected at a later date.

> I've found that if I don't tell them up front you get too attached talking to them … and then they find out I have no breasts and then it kind of all goes pear shaped (Jill, 42 years, single)

Other women opted to wait until they had established some connection or trust with a partner and felt the relationship "could be going somewhere," as they feared he might become "too scared and run off." This period was usually defined as two or three face-to-face meetings or upon the exchange of contact details online. Women spoke of striking the right balance between being honest with their partner about the role of cancer in their life, while maintaining some level of privacy.

> Eventually I went to like a three-date rule, where I would just not tell them for like three dates, and maybe then they would get a sense of who I was without cancer (Ella, 27 years, partnered)

Alternatively, some women decided to disclose their breast cancer history immediately prior to becoming intimate with a partner. As one woman described:

> Well basically, as soon as their hands go below the top of my shirt! Yeah. It's like "Ok … if you're going to put your hand there I've got to tell you something!" (Sue, 48 years, partnered)

While some women preferred to broach the cancer conversation with a date and talk about their illness "straight up," others chose to address this whenever it naturally arose in conversation.

> I have maybe a couple of teaspoons of wine and the rest soda water, and I just said "look, don't mind me" … people go "oh my god, you're wrecking the wine," and I said "no, I've had chemo, and this is how I drink now" (Mary, 48 years, single)

Many ($n = 15$) of the women described positive reactions they had received upon disclosure, noting how partners showed acceptance, and were "calm," "supportive," and "encouraging." For example, one woman spoke of the compassion she felt when she disclosed to her current partner, when he exclaimed:

> "Oh let me have a look" and "Oh gosh, your poor body has been through a lot hasn't it?" (Sue, 48 years, partnered)

Interestingly, while many of the women feared a negative reaction to disclosure, this anticipated rejection was not always experienced. As two women explained:

> The concern was I was making it an issue, I expected it to be an issue … I've not had a negative reaction (Kerrie, 54 years, single)

> I think it's been more of an issue for me than it has been for the guys (Grace, 43 years, partnered)

The few women who did report a negative reaction to sharing their cancer experience described responses ranging from "pity" and a lack of interest or understanding, to completely terminating contact (both online and face-to-face). This was particularly confronting for some women and made them hesitant about pursuing future relationships.

> I told him on the second date, because he said I've got something to tell you … he said "oh, you know, I live with my parents because I'm trying to save to buy a house." And I was like "oh that's ok, I've had cancer." … And then when we left, "oh do you want to do something tomorrow?" "ok," and when I texted him the next day I never heard from him again (Ella, 27 years, partnered)

However, for other women, receiving negative responses from men provided them the opportunity to "weed people out" before becoming too invested in the relationship.

> A few of those guys, sort of deleted me pretty soon after that … I didn't take too much offense … I'd rather not have a relationship with them if that's how they're going to be … I'd rather be single! (Anne, 28 years, single)

Women tended to find disclosure easier and less anxiety-provoking when they already knew the individual, for example, from a previous relationship or from work. Some women also acknowledged that a man's acceptance of their cancer history may have been shaped by his own personal life experiences, which enabled him a greater understanding of the cancer journey; here, mutual disclosure promoted trust within the relationship. For example, some women noted that they received a positive response from men with prostate cancer, and with a man whose father had recently died from cancer.

> This particular person's dad had recently died of cancer … and I know it sounds really bad, but it kind of gave me a little bit of confidence to know that they actually, possibly, could have some idea what the day-to-day life is of someone who is going through treatment … it's almost given us something to bond with (Anne, 28 years, single)

> Because his life has been reasonably tragic in 2013 as well, when we were just swapping stories, it was actually quite easy (Sophie, 50 years, partnered)

Moreover, women voiced that some aspects of their diagnosis were more difficult to disclose than others, such as the need for future surgery or an inability to have children, as this would have some impact on their partner. One woman also noted how she avoided talking about her mastectomy, as this meant she was "missing a boob." Another woman described the difficulty in accurately describing her scars to a potential partner, as seeing the scars can be "confronting" irrespective of any prior explanation.

Intimacy and sexuality in new relationships

Fourteen women described how going through cancer significantly influenced their sexuality and ability to be intimate with a potential partner. This was due to physical side effects of treatment (i.e., poor lubrication) and medication that made intercourse painful, as well as anxiety around revealing scars to another person, and fearing their reaction.

> I had to stop taking HRT … that makes it really hard because it just bloody knocks your libido for sex … I had pain on both sides and you just do not feel like sex full stop (Nicole, 64 years, partnered)

> I didn't have sex for 4½ years after I was diagnosed … because I was scared of anybody seeing me without clothes on because of all my scars. And then because it had been so long I was too scared to do it again (Ella, 27 years, partnered)

Some of the women described how they managed this by keeping their top half covered until they were able to trust that their partner would accept their body and appreciate them as a person in their own right.

> At the beginning, it affected me because I was at the time wearing my tops and I didn't want him to touch, to touch me I mean (Emma, 36 years, partnered)

The women described many ways in which they coped with intimacy difficulties within their relationships, for example, being physically affectionate ("cuddling and holding hands when you walk down the street"), and receiving acceptance and validation from their sexual partners. One woman noted how she and her partner "talked about the boobie" to keep the issue playful and lighthearted, and another woman voiced how her "sexual identity is caught up in breasts" and described how she "found" herself "sexually" again through Latin dancing. This enabled her to experience physical closeness and connectedness with a man "without having any [sexual] obligation."

Body image and dating

Half of the women interviewed voiced that their treatment had impacted on their body image, which in turn affected their confidence in re-entering the dating world following cancer. The most significant changes noted were scarring and weight gain. One woman noted a perceived loss of femininity ("I don't feel as feminine. No, I feel part of me is gone"), while another compared herself to an "amputee" which made her feel inferior to other women.

> I've put on weight, and even my boobs have changed and they've got scars and lumps and swelling and redness and numbness … I'm probably less likely to [meet new people] because I don't feel as attractive … I just don't feel very good about myself really (Beth, 49 years, single)

Nonetheless, the women described how they overcame their body image difficulties, by focusing on being "good" people and loving themselves, and by looking after themselves physically. One woman described how she covered her scars with tattoos, explaining "personally, I'd rather look at a tattoo that I've chosen than scars that I didn't choose." In doing this, she helped to regain control over her scars, increase her confidence, and foster self-acceptance. Importantly, having a supportive partner also encouraged bodily acceptance among the women, by offering reassurance that "you're beautiful even though you've got scars."

Communication and changing values in relationships

Eight women noted how they became more honest in their relationships following cancer treatment. This was especially true for the partnered women who commenced their relationship prior to receiving their diagnosis. For these women,

openness and honesty were critical, as their relationship was continually "tested" and progressed faster than under normal circumstances.

> You tend to really have to fast track to the nitty gritty it's a bit like speed dating… you have to be very open and very honest. Even as far as being able to really cry together. You know people don't do that sort of thing when you're going out ordinarily (Lauren, 52 years, partnered)

Sixteen women reported some change in the qualities they valued in a partner and personal relationships after cancer. Some described having similar values as pre-diagnosis, such as trust, respect, acceptance, and support, but being more "protective" of these and less willing to "settle."

> Whereas in the past I have put up with things in relationships that… I shouldn't have. But it's interesting that when you have had something like cancer you just think "no," because I suppose you don't quite know what life holds for you so you want to make the best of what you have (Hannah, 55 years, single)

Other women reported that they sought new qualities in a partner, including acceptance and understanding, an ability to "live for the day," respect for her independence, appreciating the value of good health, and the ability to visibly demonstrate emotional understanding and empathy.

Learning to trust a new partner

Half of the women interviewed believed that trust had been significantly impacted by cancer, in that they felt "wary" and unable to trust others wholly. Some women felt the need to "protect" themselves, by seeking reassurance that potential partners would accept their cancer prior to disclosing their cancer history. Difficulties in trusting others were sometimes due to the cancer and associated side effects leading to feeling vulnerable, or from having untrustworthy or unsupportive friends during recovery. Responses from men (i.e., dates, past romantic partners) played a key role for many of the women, with those who suffered rejection from previous partners finding it difficult to move on, and fearing similar reactions from future dates.

The experience of male partners

In addition to interviewing women about their experiencing of dating after breast cancer, we conducted interviews with a convenience sample of four of the participant's current male partners. This preliminary analysis sought to explore relationship formation from the male's perspective.

We found that the men experienced different reactions to their partner's breast cancer diagnosis, ranging from shock and an initial desire to abandon the relationship ("what am I getting myself into?") to indifference and acceptance ("I don't really care to be honest"). They referenced several strategies that facilitated coping

with this disclosure, such as reading and trying to understand the physical and psychological impacts of cancer, talking with peers, and accepting that "none of us has a guarantee that we are going to be around." They discussed how breast cancer affected communication within their relationship, by bringing them closer together as a couple and becoming more open and honest with one another ("it certainly drew us closer … the diagnosis and fighting it and supporting her together have made us closer, no doubt about that"). Additionally, the men reported that their partner's breast cancer impacted on intimacy within their relationship, and described how they managed this through being patient and understanding, and by communicating with their partner. None of the men reported that the cancer changed the way they felt about their partner's body ("I don't care for perfection or anything, my body's not perfect"). At last, the men commented on factors that they believe contributed to the success of their relationship, such as emotional and physical support ("just to be there … be someone they can talk to, be honest with, someone they can cry with"), not questioning their partner's ability to make decisions about her cancer ("I've never second-guessed her … she made decisions that I didn't necessarily agree with, but she was so strong in making those decisions"); and acceptance, especially in regard to her physical appearance ("I don't care about how your body looks, I care about you").

Discussion

There is a clear need to better understand women's experiences of forming romantic relationships after breast cancer. The theory of "navigating the breast cancer dating journey" provides invaluable insight into the aspects of dating that women find physically and/or psychologically challenging as well as how women cope with these difficulties and anxieties. Consistent with prior research, we found that women in this study were generally interested in forming romantic relationships after breast cancer (Gluhoski et al., 1998). However, they described many challenges when re-entering the dating scene, both during dating "preparation" and when experiencing actual dating. One such challenge involves determining dating readiness after breast cancer, with our findings indicating that this decision invariably differs between individuals, and is complicated by a myriad of psychological (i.e., poor body image and self-esteem) and physical (i.e., fatigue, restricted opportunities) factors.

Difficulties regarding intimacy, sexuality, and body image after cancer are not specific to the breast cancer context. Indeed, these issues have been reported across many different cancer diagnoses, including endometrial and cervical cancer (Jeppesen, Mogensen, Dehn, & Jensen, 2015), head and neck cancer (Fingeret, Teo, & Goettsch, 2015; Rhoten, 2015), young adult cancer (Robinson, Miedema, & Easley, 2014), and prostate cancer (Donovan, Walker, Wassersug, Thompson, & Robinson, 2015). While cancer treatment in general can lead to many unwanted physical side effects that can impact on body image (e.g., weight gain, hair loss),

what appears somewhat unique to the breast cancer population is the loss of the breast, symbolizing a loss of femininity ("I don't feel as feminine"; feeling like an "amputee"). Health-care professionals should be aware of the unique and salient body image and sexuality issues that may arise in women with breast cancer in order to facilitate adjustment post-treatment.

While self-disclosure plays an integral role in the formation of all romantic relationships (Hoskins, Roy, Peters, Loud, & Greene, 2008; Wynne, 1984), breast cancer often requires women to communicate with dating partners about topics that may otherwise have been avoided, such as health and illness (including the possibility of cancer recurrence), sexual problems, financial difficulties, and the need for practical or emotional support (Hamilton & Zebrack, 2011). Consistent with previous research in general cancer and genetic risk populations (Hamilton & Zebrack, 2011; Klitzman & Sweeney, 2011), our data suggest that women anticipate facing stigma or rejection in dating as a result of their breast cancer, and hence may struggle with knowing whether, what, how and when to share their cancer history with a potential partner. What appears to differ in the current population (compared to individuals with genetic risk) is the need to disclose information due to physical bodily changes that will not go unnoticed by a partner once the relationship progresses to a more intimate level. As detailed in the Disclosure Process Model (Chaudoir & Fisher, 2010), women must balance numerous factors such as the risks and benefits of revealing prior to sharing this information; this is an ongoing process, and women must constantly evaluate what aspects of their illness they will share as a relationship progresses. Importantly, our data suggest that anticipated rejection following disclosure is not often experienced, and that a partner's ability to react with acceptance, affection, and support may contribute to the ongoing success of the relationship. This positive response likely sets an expectation for the women of continued unconditional support in the developing relationship. It also establishes the norm of open and honest communication, which is critical given that communication avoidance has been associated with significant levels of distress in breast cancer patients (Yu & Sherman, 2015).

Another unique finding from our research is that online dating can be a valuable tool for women when "practicing" disclosure. Research in stigmatized health populations suggests that internet dating allows users to experiment with disclosing to potential partners within the comfort and privacy of their own home, with much less fear of disapproval and rejection (Saltes, 2012). In this study, online dating allowed women to regain some element of control in the dating world, in that they could selectively choose whom to communicate with, and whom to block or delete from their online dating accounts. This notion of control was also evident in the context of sexuality and body image, with some women covering the top part of their body during intimacy, and another woman describing how she would rather look at her tattoo than "scars that I didn't choose." This suggests that maintaining control when commencing a new relationship may help some women to manage their dating-related anxieties.

An additional novel and reassuring finding from our study was that male partners were unconcerned about a woman's changes in appearance due to cancer. Prior research has emphasized the role of the partner's unconditional acceptance and support in restoring a woman's self- and body-esteem after cancer (Kurowecki & Fergus, 2014). Data from both the women and the male partners in this study support this notion and further suggests alternative ways of overcoming women's body image difficulties without relying on their partner, by focusing on self-acceptance and taking control of their appearance (i.e., through using tattoos to cover scars). Moreover, our findings indicate that physical affection, humor, partner communication, and intimacy through nonsexual activities (e.g., dance) may also assist to reduce women's intimacy-related anxiety.

Limitations and future research

Potential limitations of this study warrant consideration in light of these findings. First, the proposed model demonstrates the reported impact of each of the dating experiences; future research should empirically test these relationships so as to better understand women's experiences and challenges of dating after breast cancer. Second, lesbian participants were excluded from this study to obtain a more homogenous sample. Prior research suggests that there are unique challenges to lesbian partnerships that may make adjustment to breast cancer more complex and may lead these women to experience dating relationships differently (Kurowecki & Fergus, 2014). For example, lesbian women may be confronted by the presence of both breasts in a partner, and this may intensify perceived bodily disfigurement and feelings of loss (Kurowecki & Fergus, 2014). In turn, this may impact on how they approach dating and how they relate to a new partner. Future research should investigate the relationship experiences of lesbian women after breast cancer and determine the extent to which these differ from heterosexual couples.

Third, the method of recruitment for this study likely resulted in some response bias. Women were invited into the study only if they had previously indicated their willingness to participate in research and may therefore not be representative of the breast cancer population. Furthermore, while attempts were made to include a culturally diverse sample, more than half of the women interviewed were born in Australasia. Nonetheless, variability was achieved regarding type of breast surgery undergone (including history of breast reconstruction), and a significant number of both single and partnered women were recruited for this study. Our sample also included a wide age range, capturing the need for younger women especially to feel supported by health-care professionals during a time when they are unable to achieve typical relationship milestones for their age. The diverse age range may have implications for dating or relationship expectations, in that women who receive their diagnosis at an older age may have more experience of forming a stable relationship that may in turn influence their current relationship

experiences; this is something to consider in future research. Unlike previous studies, the current research explored dating experiences in women with both high and low relationship satisfaction, rather than including only women who were successful in establishing a satisfactory relationship.

Fourth, while this study aimed to consider the experiences of women who commenced a new romantic relationship after breast cancer, three women in this study met their partner approximately a week prior to diagnosis. These women were still in the early stages of dating following their diagnosis and shared many of the experiences described by other women in the study, particularly regarding disclosure, intimacy, body image, trust, and values. Moreover, it is possible that some of the questions asked of participants were a little leading and may have caused certain themes to emerge in the analysis.

Finally, the convenience sample included only four male partners. Although this part of the study was exploratory, the limited sample is potentially biased and lacks generalizability. Nonetheless, the inclusion of male partners provides preliminary insight that men are also affected by women's cancer-related relationship difficulties; even in relatively new relationships, male partners appear to play a critical role in women's adjustment to cancer. These findings offer a starting point for further investigations in this area that include male partners.

Despite these limitations, this study provides valuable insight into the dating experiences of women after breast cancer, in terms of how they navigated their dating journey, the barriers and/or concerns that they experienced to forming a relationship, and their ability to cope with these dating-related anxieties. Future research should aim to empirically determine factors predicting a woman's ability to form a romantic relationship after breast cancer.

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Chapter 4. Factors Associated with Romantic Relationship Formation Difficulties in Women with Breast Cancer

As highlighted in previous chapters, a growing body of qualitative research suggests many un-partnered women experience dating difficulties post-breast cancer. This qualitative research was an important first step to provide an in-depth exploration into challenges that may interfere with relationship formation during breast cancer survivorship. Chapter 4 reports on the next logical step of this research, a large-scale quantitative study to investigate factors associated with relationship formation difficulties in un-partnered breast cancer survivors who were interested in romantic dating. Guided by qualitative findings and the model presented in Chapter 3, we examined body image and self-compassion variables and their association with dating-related anxiety and perceived interpersonal competence skills (including competency in initiation and disclosure) in an un-partnered breast cancer population. We also examined differences between partnered and un-partnered women across variables of interest in this study. While a number of factors may impact on relationship formation in his population, body image and self-compassion were strongly identified across previous studies. Moreover, while body dissatisfaction may be common among the general population of women interested in romantic dating, the previous chapters highlighted body image concerns unique to the breast cancer context and the use of self-acceptance and compassion in resolving these concerns.

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Additionally, data from this study were presented at: i) The 31st International Congress of Psychology, Japan, in July 2016; ii) The 14th International Congress of Behavioral Medicine, Melbourne, in December 2016; iii) The 38th Annual Meeting of the Society of Behavioral Medicine, San Diego, in March 2017; and, iv) An invited presentation to researchers at The University of California, Merced, in April 2017 (see Appendix F for presentations).

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An Addendum to Chapter 4. Sexuality and Relationship Formation Outcomes

As reported in Chapter 1, most women (70-83%) experience difficulties with sexual functioning following breast cancer (Bartula & Sherman, 2013). Moreover, research suggests that un-partnered women may have greater worries about their sexual attractiveness and are more likely to feel embarrassed than women who are in a relationship (Fobair et al., 2006). Previous qualitative studies have highlighted the unique stressors faced by single women with regards to entering into an intimate relationship after breast cancer treatment (Shaw, Sherman, Fitness, & Breast Cancer Network, 2016; Shaw, Sherman, & Fitness, 2015). Psychologically, these women tend to feel less sexually desirable as a result of physical bodily changes after treatment. Moreover, treatment can lead to physical changes in sexual functioning, which is often a great source of anxiety for many women in terms of both disclosing this to a partner and managing an intimate relationship (Jankowska, 2013; Shaw et al., 2016; Shaw et al., 2015) (see Chapters 2 and 3). In light of the research suggesting sexuality may contribute to dating difficulties post-cancer, and the inclusion of intimacy and sexuality challenges in the dating model shown in Chapter 3, participants in the empirical study completed two sexuality measures (in addition to measures stated in the previous manuscript): the Arizona Sexual Experience Scale and the Physical Disability Sexual and Body Esteem Scale. The following section reports on each of these measures, the rationale for excluding these from the regression analysis, and preliminary findings.

The Arizona Sexual Experience Scale (ASEX)

The ASEX is a brief (5-item) measure that that quantifies sex drive, arousal, vaginal lubrication, ability to reach orgasm, and satisfaction from orgasm (Rosen et al., 2000). Items are rated 1-6, and sexual dysfunction is indicated by a total score greater than 19, any one item with a score greater than five, or any three items with a score greater than four (McGahuey, 2000). This measure has been shown to have acceptable psychometric properties, is suitable

for use in the breast cancer context, and incorporates all dimensions of sexual dysfunction according to the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) and International Classification of Diseases and Related Health Problems (ICD-10) criteria (Bartula & Sherman, 2013). However, the ASEX was not included in the regression analyses for two reasons. First, a logic error in the survey meant that only 43 participants (28%) completed the final two items in this measure. Consequently, a total score was not able to be calculated for most participants, and so sexual dysfunction was indicated only by participants having any one item with a score greater than five, or any three items with a score greater than four. Second, the niche topic area and difficulty recruiting a breast cancer sample meant that the regression was only powered for five predictor variables; as sexual dysfunction had the lowest correlation with the outcome measures, this variable was excluded from analyses. Preliminary findings for this measure show that 86 women (59%) indicated sexual dysfunction, although, a chi-square test of independence revealed no difference in sexual dysfunction according to relationship status (single vs. partnered), X^2 (1, N=122) = .693, p= .450. Among un-partnered women, sexual dysfunction was significantly correlated with interpersonal competence (r=-.234) and dating anxiety (r=.242).

The Physical Disability Sexual and Body Esteem Scale

This measure was used to assess sexual esteem (i.e., positive regard for and confidence in one's capacity to experience their sexuality in a satisfying and enjoyable way) and body esteem (i.e., the overall positive or negative evaluation of one's body) (Taleporos & McCabe, 2002). Items were rated 1-5, with higher scored indicating greater sexual and body esteem. This scale was adapted for women with breast cancer (replacing the term 'disability' with 'cancer', e.g., 'It is harder to find a sexual partner when you have cancer', 'I believe that I experience rejection from potential sexual partners because of my cancer'). One irrelevant item was also removed from this scale ('I would do a body swap with an able bodied person if I could'), prorating

responses based on the nine remaining items. This scale has been used in a previous breast cancer population (Kedde, van de Wiel, Weijmar Schultz, & Wijsen, 2013). Similar to the ASEX, this measure was initially intended to be included in the regression analysis and write-up with the body image variables. However, the correlation between this variable and body image dissatisfaction was .73, suggesting multicollinearity and significant overlap between constructs measured. As the Body Image Scale has been extensively used within the breast cancer context (Kedde et al., 2013; Przezdziecki et al., 2013), the sexual and body esteem measure was excluded from this analysis. Preliminary findings showed that mean body and sexual esteem score in this study was 28.70 (*SD*=10.37). Among un-partnered women, body and sexual esteem was significantly correlated with both interpersonal competence (*r*=.376) and dating anxiety (*r*=-.465).

Conclusion

The significant relationship of both sexuality measures with interpersonal competence and dating anxiety is consistent with previous qualitative findings; it suggests that changes to sexual satisfaction and functioning following breast cancer treatment may impact on women's ability to form romantic relationships during survivorship (Shaw, Sherman, Fitness, & Breast Cancer Network, 2016; Shaw, Sherman, & Fitness, 2015). Caution is warranted, however, when interpreting these findings given the error in ASEX data collection and significant overlap of the sexual esteem scale with body image constructs. Future research should investigate the extent to which sexual difficulties impact on relationship formation in the breast cancer context. It should also aim to identify any underlying factors, so that clinicians may be better placed to support and facilitate relationship adjustment during survivorship.

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Chapter 5. Development and Acceptability of the Dating After The Experience (DATE-BC) Online Intervention

As discussed in previous chapters, many un-partnered women who emerge from breast cancer treatment consider romantic 'dating' to be an important priority. However, dating presents many challenges for these women, and research indicates that they experience significant dating-related anxiety and difficulty forming romantic relationships (see Chapters 2-4). Poor body image (i.e., high appearance investment and body image dissatisfaction) and low self-compassion, in particular, have been shown to contribute to romantic relationship formation difficulties during survivorship (see Chapter 4). Despite this, there is currently little support available for women who would like to romantically date after breast cancer. To our knowledge, only one intervention has been piloted in this area that specifically targets only young breast cancer survivors (Ahmed, Marchand, Williams, Coscarelli, & Ganz, 2016). This intervention partially addresses the concerns identified in this PhD research by including one section specifically addressing fears about dating and disclosure. However, the Ahmed et al. (2016) intervention neglects to consider previously-identified factors that have an important impact on dating anxiety and ability, including body image variables and self-compassion (see Chapter 4). Moreover, as the Ahmed et al. (2016) intervention is disseminated via workshops, there is a need to explore more readily-available resources to enhance access, particularly in rural areas. To address this significant gap in the current literature we have developed an evidence-based online intervention (Dating After The Experience-Breast Cancer; DATE-BC) specifically targeting factors that impact on women's dating-related anxiety and ability to form romantic relationships after breast cancer. The development of the intervention and its components is described, and we then report on a study assessing the user acceptability of the DATE-BC website.

Intervention Website and Content Development.

DATE-BC is a novel online intervention created using Wordpress (an online, open source, content management system) and designed specifically to assist women to overcome barriers to romantic relationship formation after breast cancer. It comprises four main content sections (as well as introductory and concluding sections) each addressing an identified area of difficulty, or a barrier, for women wishing to re-enter the dating scene post-breast cancer (see Figure 1 and Table 1 for overview). These content sections were chosen based on previous theories and research, including qualitative and quantitative studies presented in this thesis. In particular, the qualitative model presented in Figure 1, Chapter 3, highlighted women's anxieties around disclosure and body image, coping via self-care, and 'changing values' as key aspects when navigating the breast cancer dating journey. Our quantitative findings further support these factors, highlighting the role of body image and self-compassion in relation to women's dating-related anxiety and ability to form romantic relationships post-breast cancer.

Table 1.

DATE-BC Content Overview

Section	**Content Description**
Welcome	Introduction and advice for website usage.
What do I value in a partner?	Users reflect on whether their values have changed since cancer, and are asked to note traits they value in a potential partner.
Having the cancer talk	Users reflect on when, how, and what they would be comfortable sharing/disclosing to a partner about their cancer.
Coping with my changed body	Reviews the changes that can occur after breast cancer treatment, and how this can impact on one's body image. Introduces self-compassion as a means to improve body image, and provides a guided self-compassion exercise used in previous research. A summary of users' responses is provided upon completion of the exercise. Users are provided a shorter daily self-compassion exercise and asked to complete this for the next two weeks.
Managing my dating worries	Offers psychoeducation about the feeling-thought-behaviour connection, helpful versus unhelpful thoughts, and ways to change unhelpful thinking patterns. Provides guided exercise with examples to help users identify whether their anxieties around dating are helpful and reality-based. A summary of users' responses are provided upon completion of the exercise for their reference.
Final thoughts	Summary of all website sections.

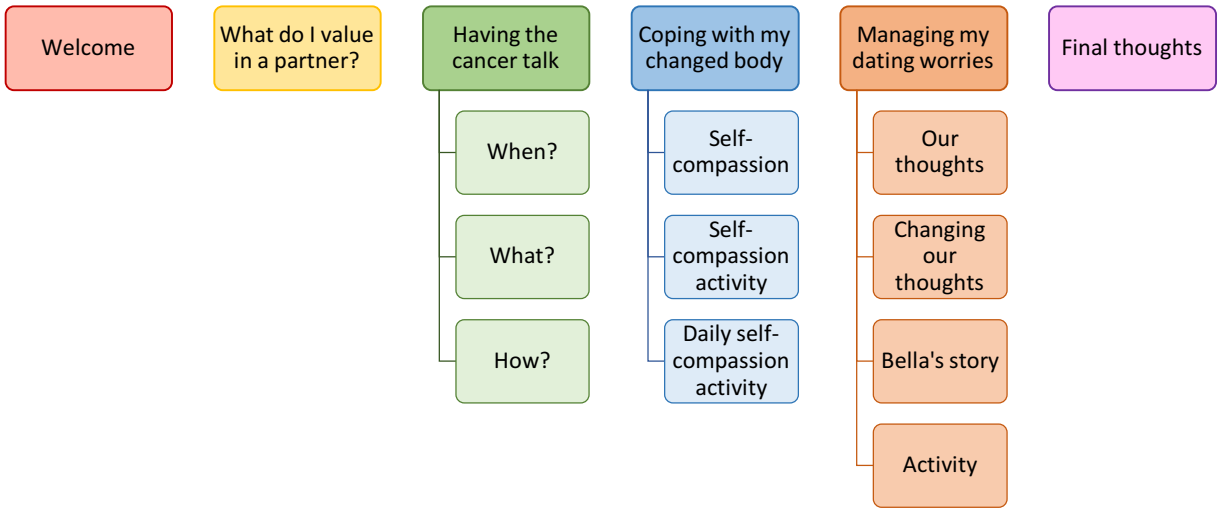

Figure 1. DATE-BC components

The website has an initial 'Welcome' page, providing an overview of the intervention and user instructions (Figure 2). Users are then prompted to proceed to the first section, addressing 'What do I value in a partner?' (Figure 3). This section is informed by prior qualitative research whereby women expressed that the qualities they value in a potential partner often change after their cancer journey (Shaw, Sherman, & Fitness, 2015; Shaw, Sherman, Fitness, & Breast Cancer Network Australia, 2016). For example, many women seek a partner who is able to 'live for the day', appreciate the value of good health, and can visibly demonstrate emotional understanding and empathy (Shaw et al., 2016). This section of the intervention addresses this concern by inviting users to reflect on whether their desired partner-values have changed following cancer, and encouraging them to note down their responses in an allocated space on the webpage.

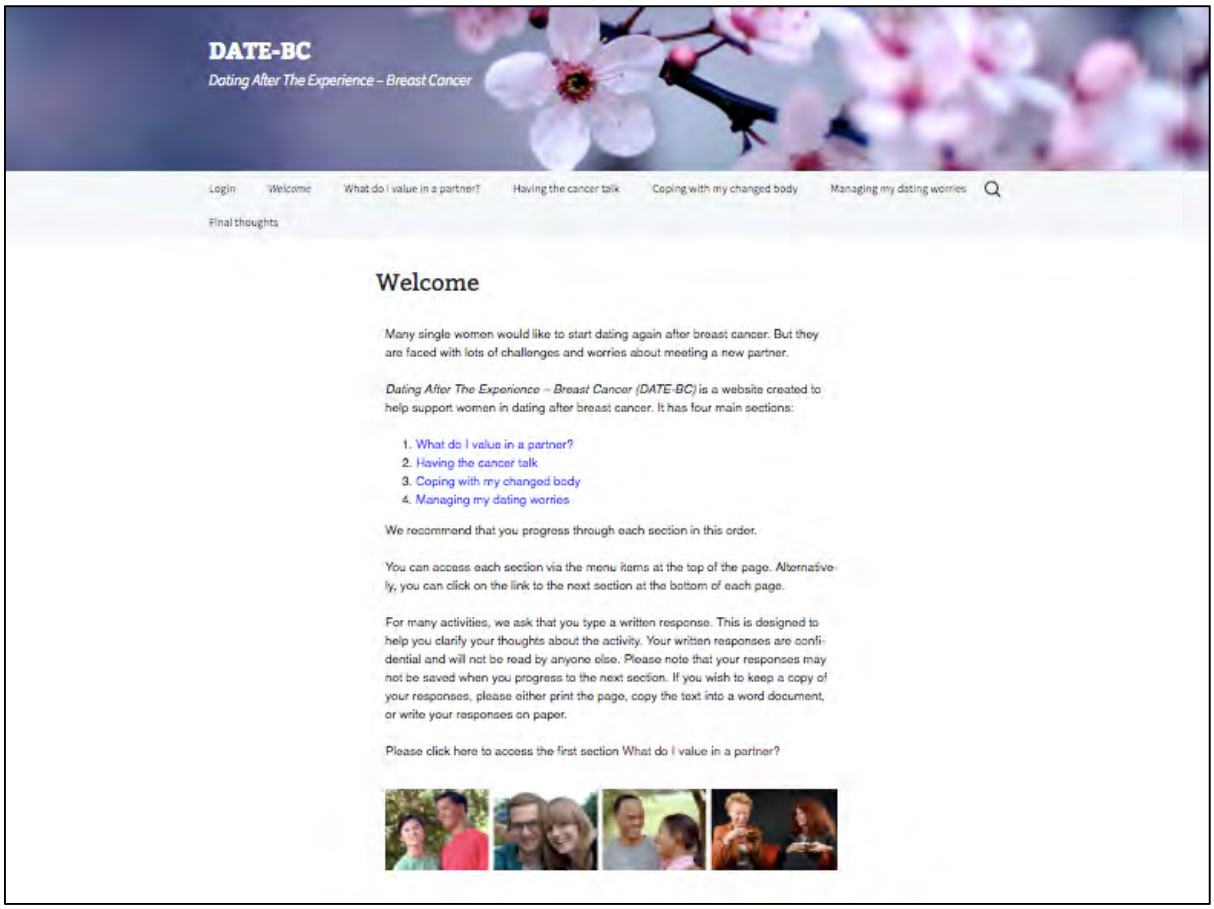

Figure 2. DATE-BC Welcome page

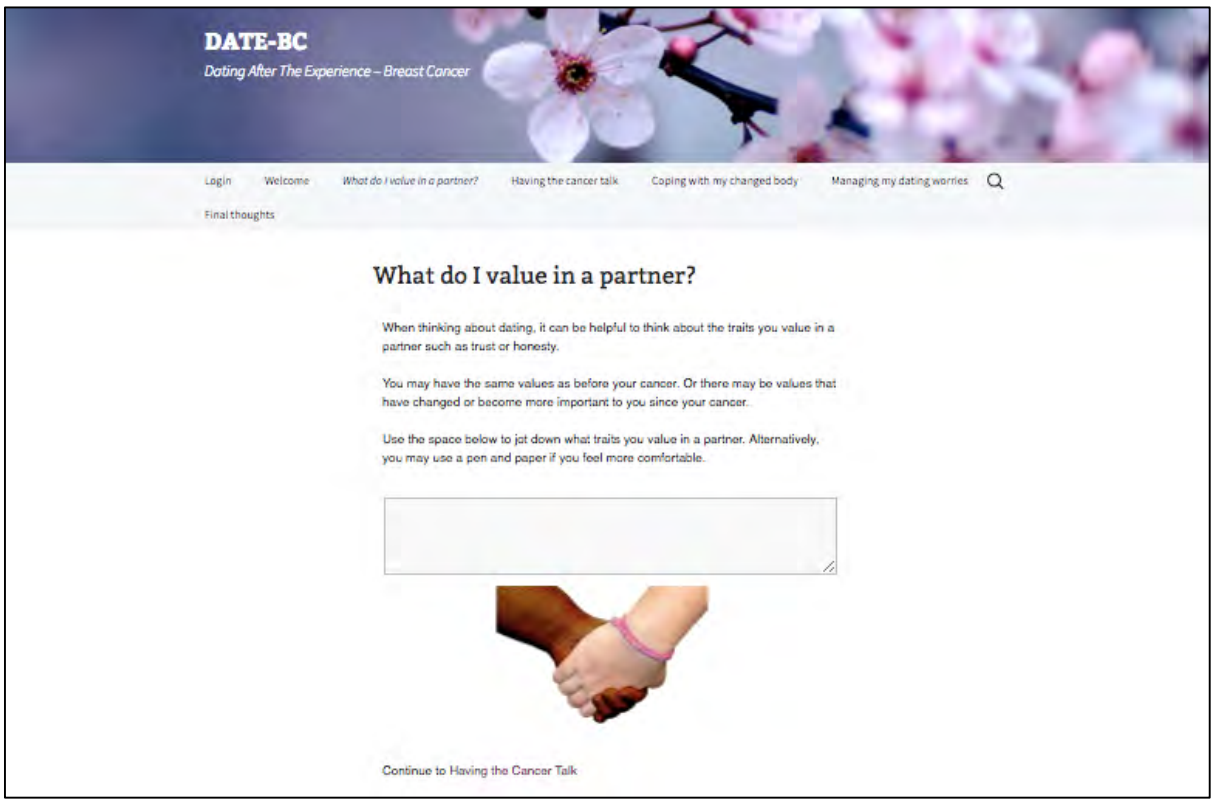

Figure 3. DATE-BC section ‘What do I value in a partner?’

The following section of the website, ‘Having the cancer talk’, was included in light of studies describing how many women are unsure how, when and what to disclose to potential partners about their cancer history (Shaw et al., 2015; Shaw et al., 2016). This section asks users to consider and reflect on each of these aspects, and to note down in a space provided their perceived benefits, limitations and preferences for each option (Figure 4). For example, some users may wish to disclose their cancer history upon meeting a potential partner to avoid becoming ‘too attached’, while other users may refrain from sharing until a later day for fear of immediate rejection (Shaw et al., 2016).

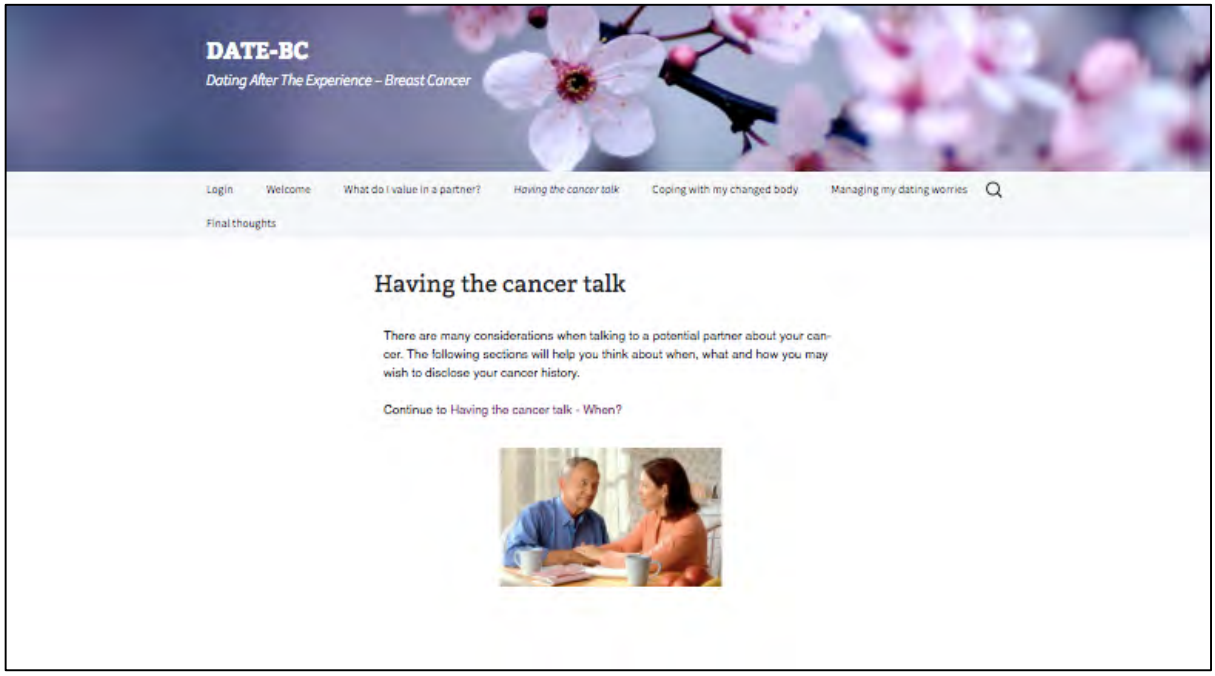

Figure 4. DATE-BC section ‘Having the cancer talk’

The next section ‘Coping with my changed body’ discusses body image and how it may change after breast cancer, and introduces users to the concept of self-compassion (Figure 5). It then incorporates an existing evidence-based writing exercise designed to address body image concerns arising from breast cancer and enhance self-compassion: My Changed Body (Przezdziecki et al., 2013; Przezdziecki, Alcorso, & Sherman, 2016; Sherman, Przezdziecki, Alcorso & Breast Cancer Network Australia, 2016). This exercise has previously been

demonstrated to reduce body image distress and to enhance body positive aspects of body image, and to enhance self-compassion in breast cancer survivors (Przezdziecki et al., 2013; Przezdziecki, Alcorso, & Sherman, 2016; Sherman, Przezdziecki, Alcorso & Breast Cancer Network Australia, 2016).

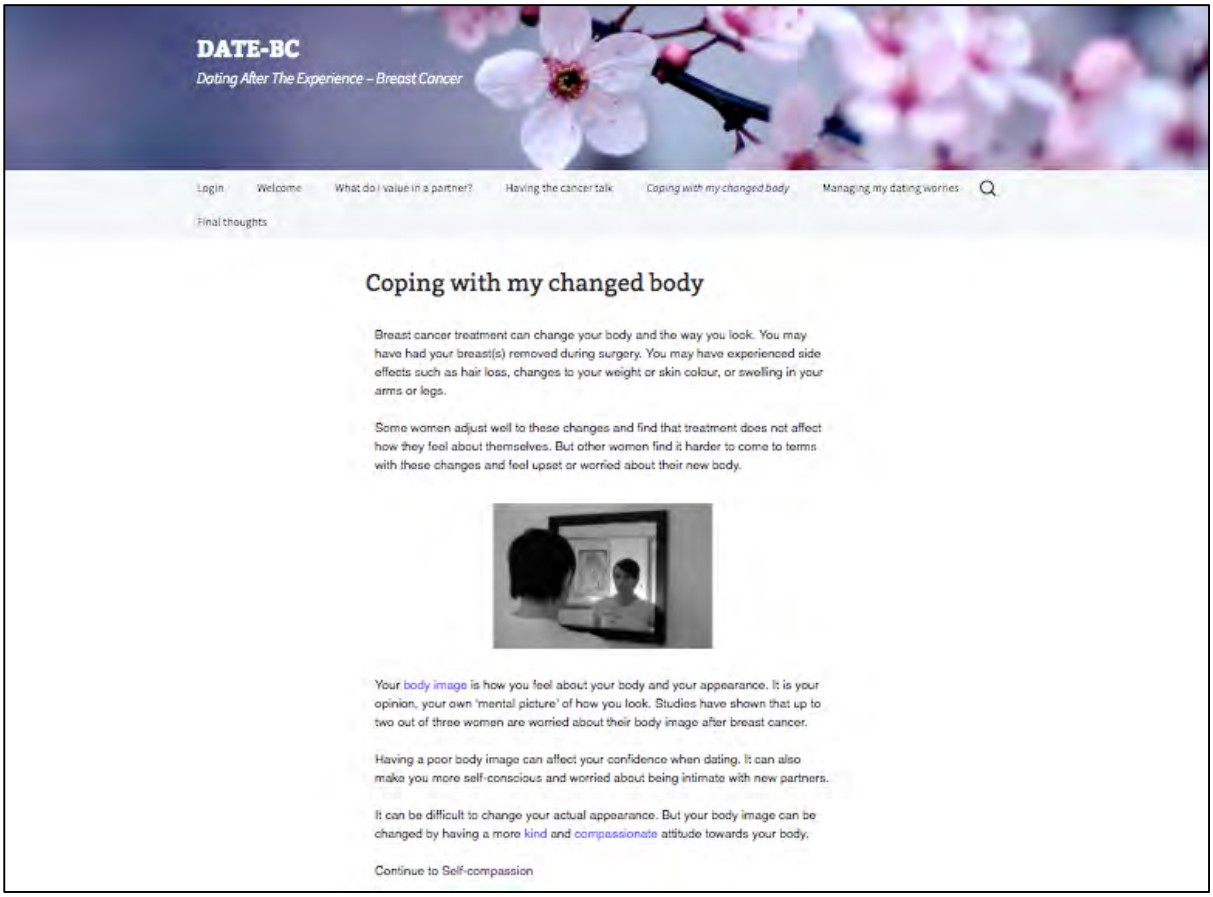

Figure 5. DATE-BC section 'Coping with my changed body'

The 'My Changed Body" writing intervention was incorporated into DATE-BC as our previous research has shown a positive association between higher levels of self-compassion/lower body image disturbance and greater interpersonal competence/reduced dating anxiety, respectively (Chapter 4). The self-compassion exercise provides six writing prompts (each on a separate page so as not to overwhelm the user): (1) an introductory unstructured writing section where users write about a negative body image experience post-

breast cancer, (2) treatment of one's body and self with kindness, (3) kind advice to oneself, (4) connection with others who experience body image difficulties, (5) awareness of one's situation and reactions in a broader context, and (6) a self-compassionate letter to oneself that summarises the most salient points of self-compassion (Przezdziecki et al., 2016). These writing prompts are necessary in order to address self-kindness, common humanity and mindful awareness, key components of self-compassion as outlined in this research area (Przezdziecki et al., 2016). At the end of the exercise, users are presented with a summary of the writing prompts and their responses for self-reflection purposes. The final stage in this section describes a brief, daily self-compassion exercise designed to supplement the longer self-compassion activity (Figure 6).

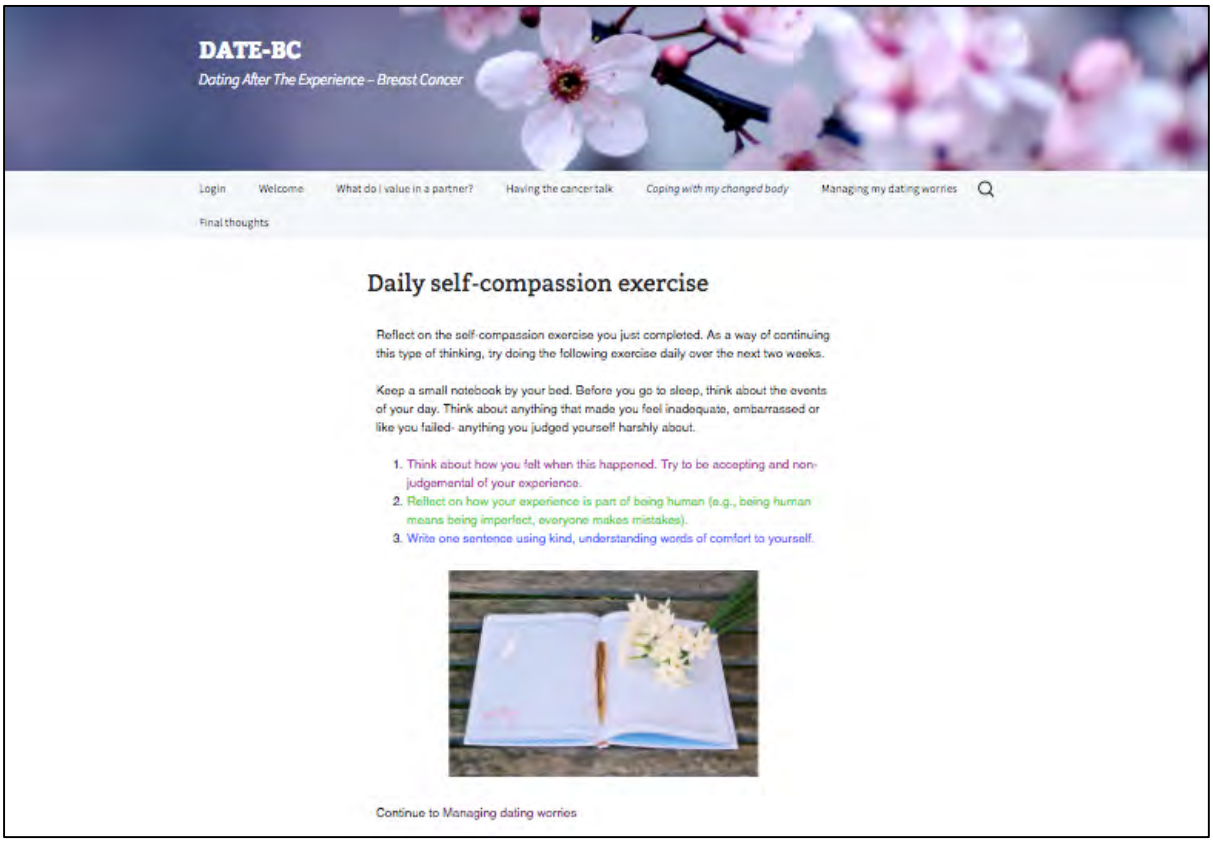

Figure 6. DATE-BC section 'Coping with my changed body – Daily self-compassion exercise'

The final section, ‘Managing my dating worries’ was included in recognition of the high levels of dating anxiety in this population (see Chapter 4). A cognitive-behavioural therapy (CBT) approach was used given that this treatment has been shown to be efficacious for addressing distress across diverse health contexts, including via an online modality (Carpenter, Stoner, Mundt, & Stoelb, 2012; Menga et al., 2014). CBT recognises that the way in which we think (i.e., our cognitions) and act (i.e., our behaviours) impact on how we feel. The aim of this therapeutic approach is to help individuals identify and challenge unhelpful thoughts or thinking patterns. To this end, this section of DATE-BC first provides psychoeducation regarding the basics of CBT, that is, the link between our thoughts, feelings and behaviours (Figure 7).

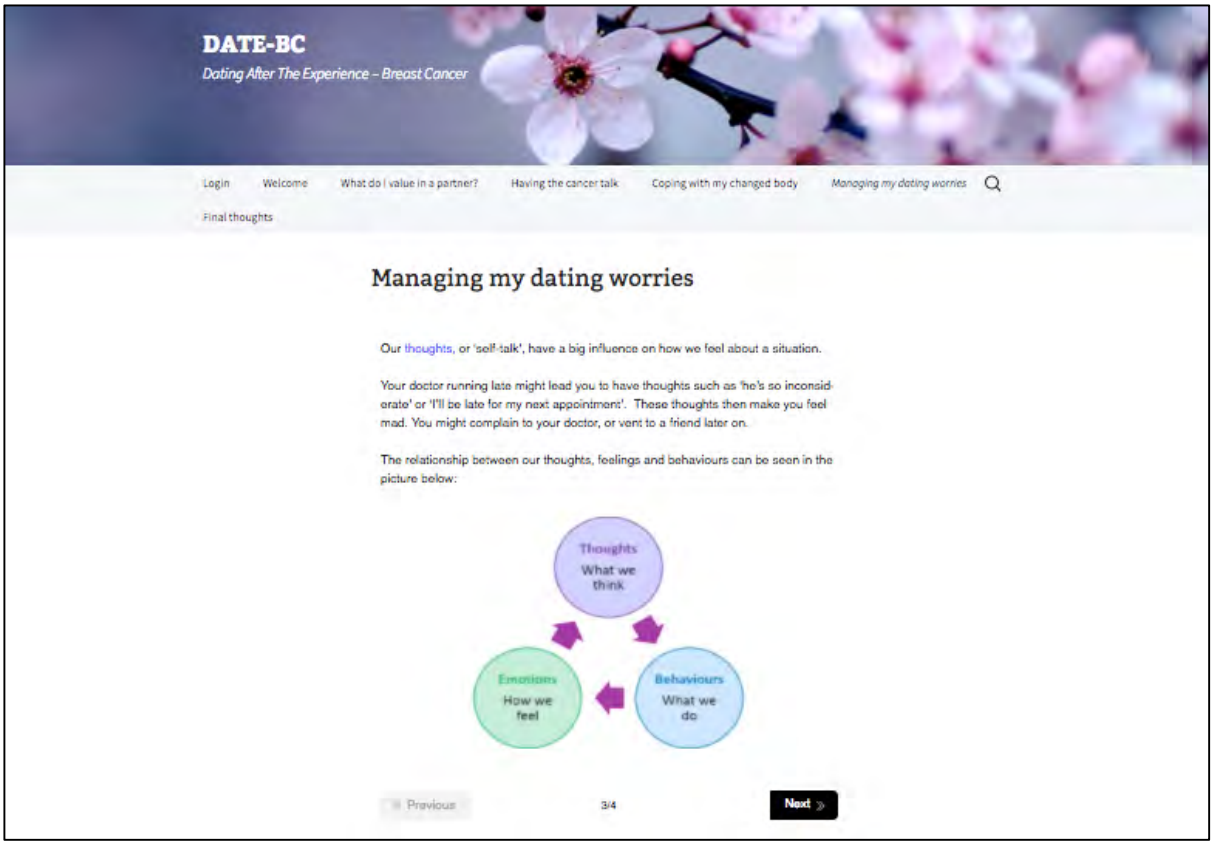

Figure 7. DATE-BC section ‘Managing my dating worries’

Users are encouraged to reflect on the thoughts they have had about dating after cancer, and how these thoughts may have influenced their anxiety. They are then provided examples

of helpful versus unhelpful thoughts in this context, and are introduced to a CBT-based activity to help them identify and modify any unrealistic or unhelpful thoughts about dating (Figure 8). Next, users are guided through an exercise to help reduce their dating-related anxiety; first, they are shown how a fictional character 'Bella' responded to these questions, and are then prompted to complete the exercise themselves (Figure 9). They are asked a sequence of CBT-based questions (see Table 2 for details), with one question provided per page to avoid overwhelming the user. They are asked to provide a written response for each question in the space provided. On each page, users are able to hover their mouse over the button 'view Bella's response' to revisit Bella's response to each item. At the end of the exercise, users are shown a summary of all questions and their responses to allow for reflection and any changes to levels of anxiety.

Table 2.
CBT-based Questions for 'Managing my Dating Worries' Section

Question	**Response**
What exactly am I worried about? What do I think will happen?	Written response space provided
On a scale of 1 to 10, how much do I think my worry is true or likely to happen?	Participants indicate score on sliding scale
On a scale of 1 to 10, when I think about my biggest worry, how do I feel?	Participants indicate score on sliding scale
What is the evidence (proof) that my worry is true or will happen?	Written response space provided
What is the evidence (proof) that my worry isn't true or won't happen?	Written response space provided
Supposing my worry did happen, how would I cope?	Written response space provided
What are the consequences of worrying about this?	Written response space provided
What is a more balanced and helpful way to think about this worry?	Written response space provided
Re-rate how much you believe your worry	Participants indicate score on sliding scale
Re-rate the intensity of your feelings.	Participants indicate score on sliding scale

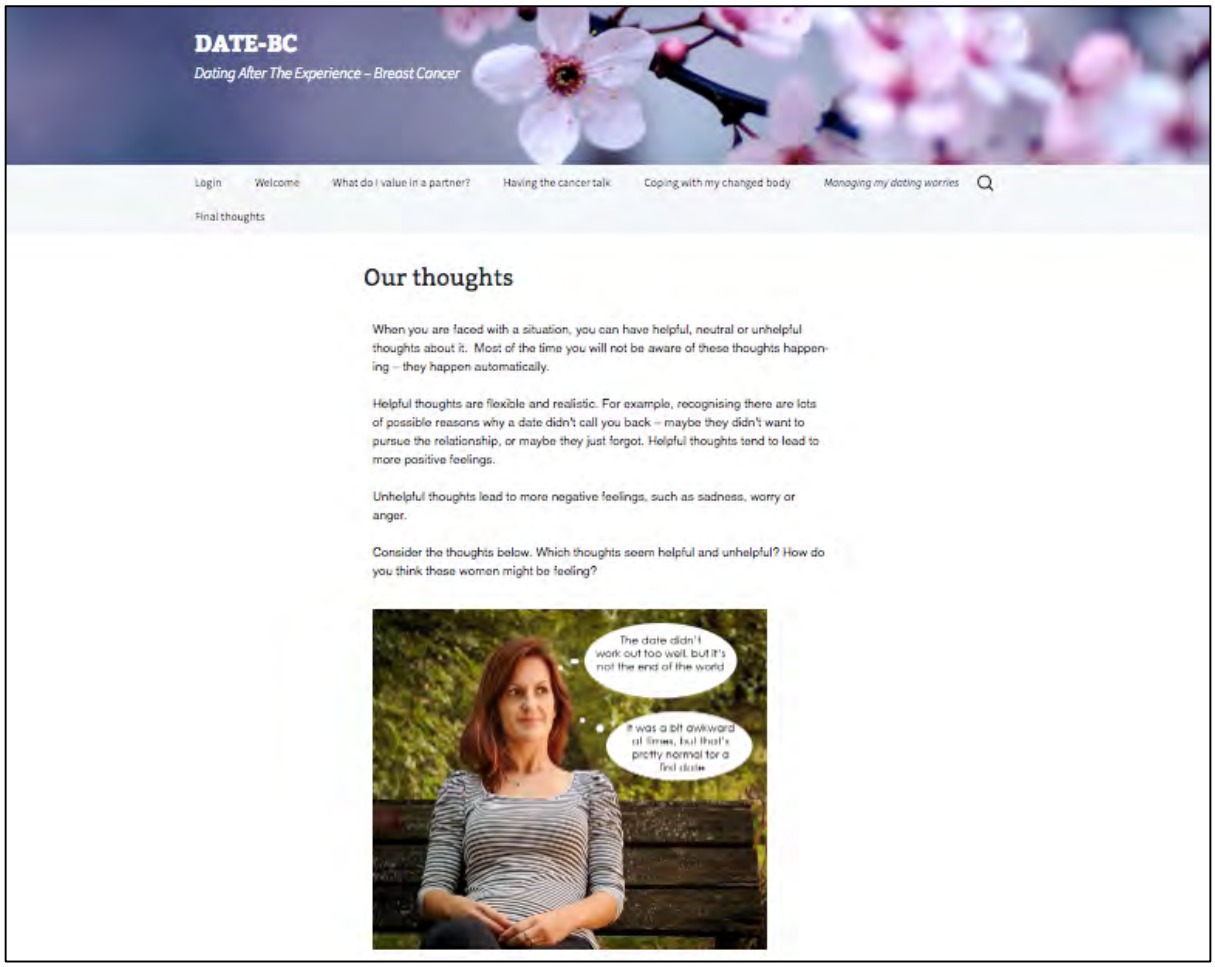

Figure 8. DATE-BC section 'Managing my dating worries - Our thoughts'

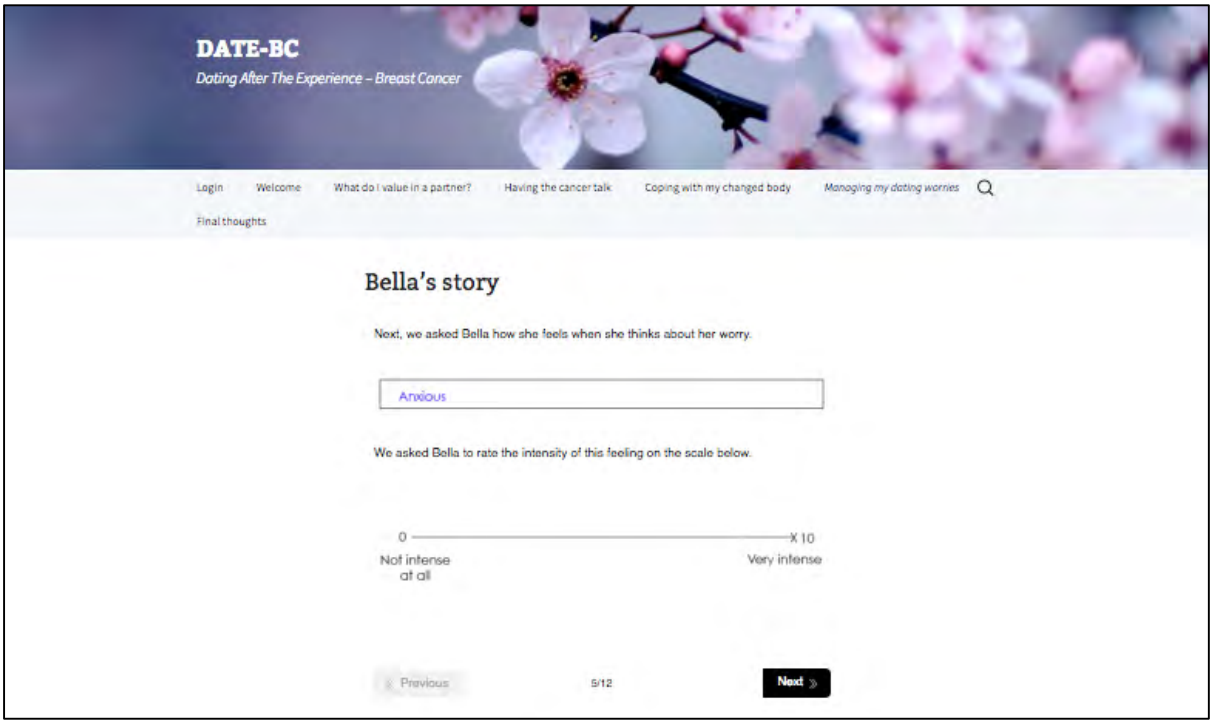

Figure 9. DATE-BC section 'Managing my dating worries – Bella's story'

This intervention adopts an online modality for three key reasons. First, online interventions, particularly those utilising CBT approaches, have been shown to increase social functioning and reduce anxious preoccupation in cancer samples (Beatty, Koczwara, & Wade, 2016), and reduce emotional distress and anxiety and increase quality of life in breast cancer patients (Post & Flanagan, 2016). In non-oncology populations, online cognitive therapy and CBT interventions for general anxiety and social anxiety have demonstrated significant reductions in anxiety levels with large effect sizes (Saddichha, Al-Desouki, Lamia, Linden, & Krausz, 2014; Stott et al., 2013). In a recent integrative review of web-based interventions for breast cancer survivorship care, studies evaluating CBT provided the strongest data; 75% of CBT studies found that, compared with control groups, intervention groups reported significant improvements for primary and secondary outcomes including distress and self-efficacy, that is, belief in one's ability to succeed or accomplish a specific task (Berg et al., 2015; Bruggeman Everts, van der Lee, & de Jager Meezenbroek, 2015; Carpenter et al., 2012). This is particularly relevant to the dating context, given that the DATE-BC intervention aims to help women feel more comfortable and confident in dating situations. Second, web-based couples' interventions in the breast cancer context have reported numerous relationship benefits. Fergus and colleagues conducted a feasibility and acceptability study of an online intervention to support young couples' coping and adjustment to breast cancer (Fergus et al., 2014). Participants reported a number of benefits, including enhanced communication within the relationship, creation of opportunities for meaningful, cancer-related discussion, greater closeness between partners, and affirmation of relationship strengths (Fergus et al., 2014). Third, most Australian households (including almost 80% of rural or remote areas) have internet access, speaking to the broad reach of this modality of health intervention (Australian Bureau of Statistics, 2016).

This DATE-BC intervention has individual log-in passwords to ensure privacy, and the overall readability of the website is 8th grade level according to the Flesch Kincaid Index level,

in line with usability recommendations for online health material (Luckett et al., 2016). Illustrations (images, user-friendly simple diagrams) are used throughout the website to reinforce section content. DATE-BC is self-paced, and users are advised to progress through each section in the order shown on the website. Each module is designed to be completed in a single sitting and interactive exercises and components are designed to enhance user engagement. It is estimated to take the average user 45 minutes in total to progress through all sections. DATE-BC is designed for use on PC, Macintosh, tablet and mobile devices; it is configured as a mobile responsive website, which dynamically adjusts depending on the device a participant uses to connect to the website. This website can be viewed at www.date-bc.com using the temporary login details username: participant, password: participant. Complete screenshots of all webpages are shown in Appendix D. The second stage of the development of the DATE-BC intervention entailed the conduct of a study with breast cancer survivors to assess the acceptability of the web-based intervention.

Method

Sample and Procedures

Participants for the acceptability study (*N*=20) were recruited via a range of breast cancer-related consumer groups including the Review and Survey group of the Breast Cancer Network Australia, the Young Women's Christian Association (YWCA) Encore breast cancer exercise group in Australia, and international breast cancer social media ('Facebook') groups. Inclusion criteria were women who were: (1) aged 18+; (2) previously diagnosed with breast cancer; (3) fluent in English language; (4) had internet access; and, (5) identified as un-partnered (i.e., 'single') and were considering dating. Potential participants emailed the researcher (LKS) to express their interest in this study. The researcher provided participants with individual login details and a link to consent to this study online. Participants were then provided access to the DATE-BC website for a two-week period, during which time they were asked to review and

complete all sections of the website. Following the website access period, participants were emailed a web-link to complete acceptability items detailed below.

Measures

Acceptability. Participants completed 16 online acceptability items similar to those used in previous research (Przezdziecki, et al., 2013) regarding the overall impression of the website (e.g., 'the website appeals to me'), the appearance and design of the website (e.g., 'I liked the design of the website'), and website information and content (e.g., 'the information is useful'). Items were rated on a 5-point Likert-type scale (1 'strongly disagree' to 5 'strongly agree'). Participants were also asked whether they accessed each section of the website and completed each activity, as well as questions relating specifically to each section and corresponding exercise (e.g., 'I found the exercises helpful'; 'the instructions were easy to understand). At the end of the survey, participants were asked two open-ended questions, 'What did you like about the website?' and 'What do you think could be improved?' for qualitative comments.

Demographic and medical characteristics. Demographic and medical information collected included: age, sexuality, relationship status, country of birth, level of education, time since cancer diagnosis, breast cancer stage, breast cancer surgery/treatment undertaken and time since surgery, lymphoedema status (affected or unaffected), experience using online activities, information about prior relationships (duration and number), and intention and desire to enter into a future relationship.

Results

Participants' demographic information is shown in Table 3. Most women accessed each section of the website (85% values section; 85% cancer talk section; 80% changed body section; 75% dating worries section), and many participants completed the online activities (60% values section; 70% cancer talk section; 60% changed body section; 50% dating worries

section). The mean rating for participants' overall impression (6 items; α=.70) of the website was 3.42 (SD=1.35).

Table 3.

Participant Characteristics

Variable	***N* (%)**	**Mean (SD)**
Age		52.80 (12.03)
Education		
12 years	2 (10.5)	
Vocational training	4 (21.1)	
Some university	3 (15.8)	
University degree	10 (52.7)	
Country of birth		
Australasia	17 (85)	
UK/Ireland	2 (10)	
Asia	1 (5)	
Africa		
Breast cancer stage		
Early breast cancer	10 (50)	
Ductal Carcinoma in Situ (DCIS)	5 (25)	
Lobular Carcinoma in Situ (LCIS)	1 (5)	
Locally advanced breast cancer	2 (10)	
Metastatic breast cancer	1 (5)	
Time since diagnosis (years)		9.12 (14.07)
Treatment surgery type		
Breast conserving surgery	12 (60)	
Single mastectomy	4 (20)	
Double mastectomy	6 (30)	
Breast reconstruction	9 (45)	
Lymphoedema diagnosis	7 (35)	
Treatments received		
Radiation therapy	14 (70)	
Chemotherapy	14 (70)	
Hormone therapy	12 (60)	
Experience using online activities		
None or very low experience	4 (20)	
Low level of experience	4 (20)	
Neither high nor low experience	7 (35)	
High level of experience	4 (20)	
Very high level of experience	1 (5)	
Relationship status		
Single, not dating	13 (65)	
Single, casually dating	5 (25)	
Number of previous relationships		4.18 (2.60)
Length of longest relationship (years)		12.28 (9.20)
Number of relationships since completing breast cancer treatment		
0	10 (50)	
1	3 (15)	
2	5 (25)	
Sexuality		

Heterosexual	20 (100)
I would like to find someone with whom I can have a serious and committed relationship	
Strongly agree	8 (40
Agree	7 (35)
Unsure	3 (15)
Disagree	1 (5)
Intention to date in the near future	
Strongly agree	6 (30)
Agree	7 (35)
Unsure	5 (25)
Disagree	1 (5)

The mean rating for the appearance, design and layout of the website (5 items; α=.76) was 3.67 (SD=1.39). The mean rating for website information and content (5 items; α=.79) was 3.27 (SD=1.37). Mean participant scores for each section of the website are shown in Figure 10.

Responses to the open-ended questions demonstrated that participants commented positively on the information ("comprehensive", "lots of good information", "relevant and informative"), and usability ("ease of use", "easy to navigate", "user friendly", "interactive", "positive language") of the website. They also reported on the overall helpfulness of the website, describing how writing their own responses "helps to get it straight in your head" and "helps to look into your own feelings". One participant referred to the novel nature of the website, reporting that it "discusses issues about changed body image and dating which are not addressed elsewhere but which are important after breast cancer".

Participants also suggested a number of improvements to the website, in terms of general aesthetics ("the home page could be brightened up a bit, happier colours", "improved graphics") and general information provided ("the instructions/questions were not explicit, not clear enough", provision of "further sources of information" and "support services").

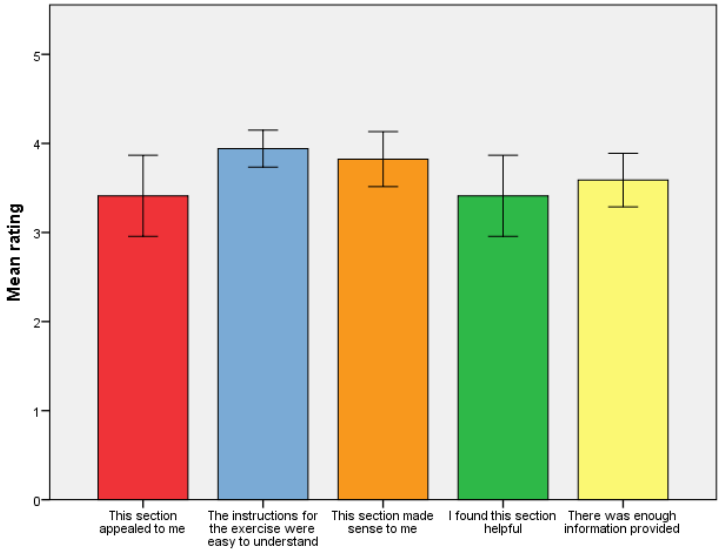

Figure 10a. Mean participant responses for 'What do I value in a partner?'

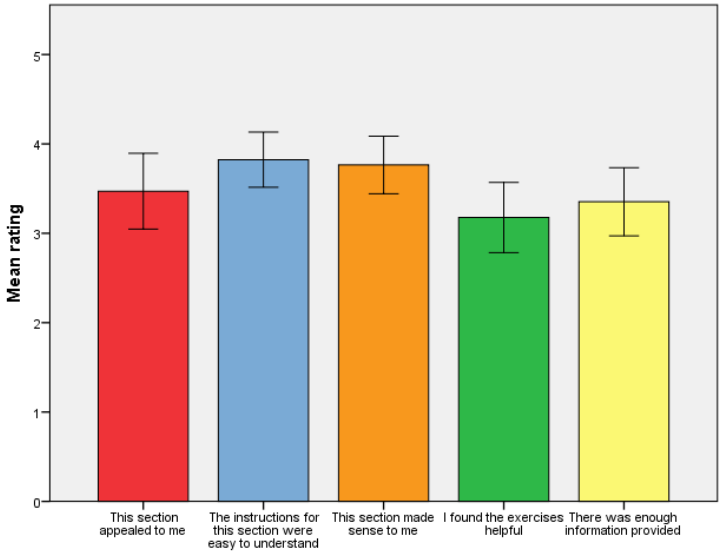

Figure 10b. Mean participant responses for 'Having the cancer talk'

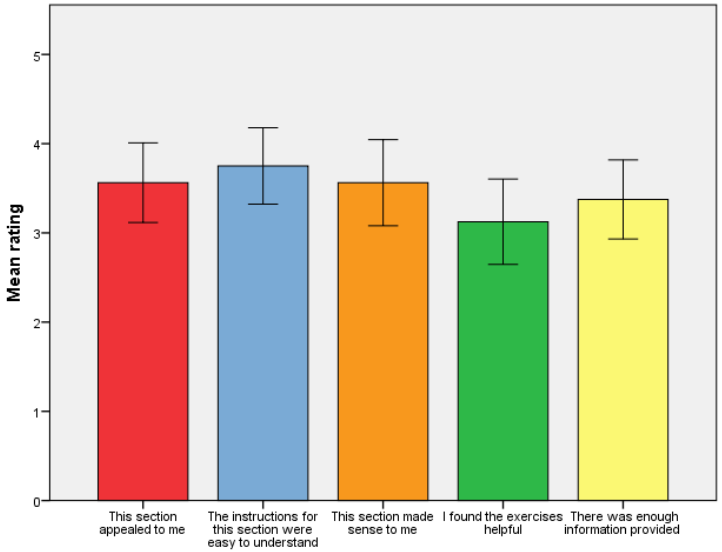

Figure 10c. Mean participant responses for 'Coping with my changed body'

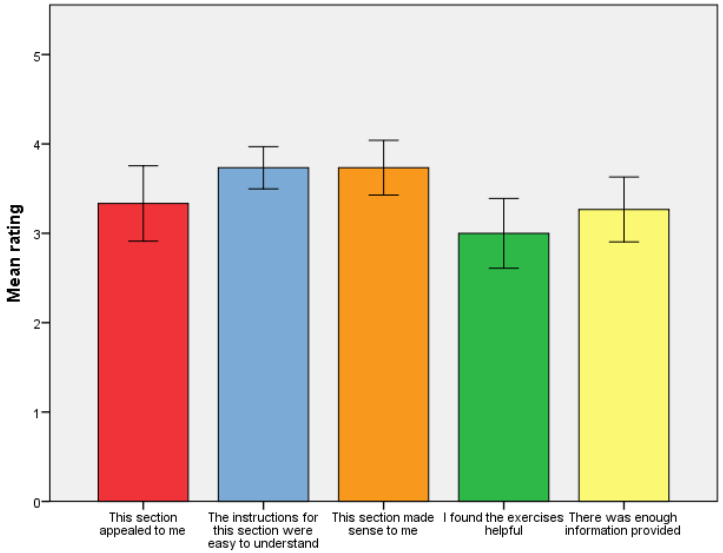

Figure 10d. Mean participant responses for 'Managing my dating worries'

They commented on the overall approach of the website, suggesting an opportunity to "consider more than just how cancer has affected things" and "acknowledge that we will have dark times…that this is normal". One participant also requested the website provide support and guidance for women who would like to enter into more causal, sexual relationships ("friends with benefits"), rather than commitment to a monogamous relationship or "full-time partner".

Discussion

DATE-BC is a novel online intervention designed to support women who would like to romantically date after breast cancer. This website is evidence-based, grounded in CBT and mindfulness-based (i.e., self-compassion-based) approaches (Post & Flanagan, 2016; Przezdziecki et al., 2016), and targets factors previously demonstrated to impact on women's dating-related anxiety and confidence/comfort in re-entering the dating world after breast cancer (Shaw et al., 2015; Shaw et al., 2016). Results from this sample of breast cancer survivors suggests a moderate-to-high level of user acceptability for the DATE-BC intervention. Participants reported favourably on the information, usability and helpfulness of the website as a whole. They also responded positively to each of the sections, further highlighting the need for interventions to target dating-related anxiety, changing partner values after breast cancer, uncertainty around cancer disclosure, and difficulties adjusting to appearance changes after cancer treatment (Shaw et al., 2015; Shaw et al., 2016). Users made a number of recommendations for website improvement, in terms of general aesthetics and clarification/addition of information, and suggestions were made to consider the bigger picture of romantic dating, not just in the context of breast cancer. This website builds significantly on current intervention approaches, by targeting breast cancer survivors of all ages and adopting an online approach to ensure broad reach of the resource (Ahmed et al., 2016). Collectively,

these findings support the usability of the first prototype of the DATE-BC website, indicating its potential to support women in navigating the world of dating after breast cancer.

While this acceptability study provides preliminary support for the use of this intervention, a number of limitations should be considered. While the focus on self-compassion makes clinical sense given the literature on compassion as a form of therapy (Przeddziecki & Sherman, 2016), our recent research indicates self-compassion is related to interpersonal competence only (i.e., not dating anxiety). Participants were recruited from online organisations, and thus may have more experience with using online activities. Participants in this study had a mean age of 53 years and average time since diagnosis of nine years; acceptability of this intervention should further be trialled with younger, more recently diagnosed breast cancer patients, who may face different dating concerns such as partner reactions to infertility and short-term treatment side-effects (e.g., hair loss). Furthermore, not all participants completed the activities in each section, suggesting that these activities may not applicable or relevant to all users, that these sections may be less appealing to some users in their current state, and/or indicating significant time limitations of users. Future website modifications should incorporate user feedback, in particular to include a section that normalises the dating experience and looks beyond cancer-specific relationship difficulties. Given the niche area of dating difficulties after breast cancer, there is also the future potential to broaden the reach of this tool to encompass chronic illness more generally, going beyond breast cancer to reach a range of physical illnesses and conditions (e.g., head and neck cancers, diabetes) where relationships are put under strain (Badr et al., 2016; Low, 2009; Trief, Sandberg, Dimmonck, Forken, & Weinstock, 2013) and partner support is desired and/or beneficial (Manne, Badr, & Kashy, 2012; Trief, Himes, Orendorff, & Weinstock, 2001; Trief, Wade, Britton, & Weinstock, 2002).

In sum, the findings from this study indicate moderate-to-high acceptability of the DATE-BC website, with a number of suggested modifications. Future research should conduct a pilot study to assess the efficacy of this website on outcome measures, including reducing dating-related anxiety and enhancing women's confidence and comfort in dating during breast cancer survivorship. If shown to be efficacious, this intervention has the potential to be used as an adjunct to therapy for breast cancer patients who are struggling with romantic relationship formation during survivorship. Importantly, DATE-BC may also serve as a valuable self-help resource for women who either do not require, or choose not to engage in, clinical support, or for whom this support is not available (i.e., rural breast cancer survivors).

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Chapter 6. Discussion

Many un-partnered women consider romantic dating to be a key priority after breast cancer, yet research suggests they face a number of challenges and barriers to this process (Kurowecki & Fergus, 2014; Shaw, Sherman, & Fitness, 2015; Shaw, Sherman, Fitness, & Breast Cancer Network Australia, 2016). This thesis represents the first in-depth examination of romantic relationship formation experiences and difficulties after breast cancer, with specific research questions addressed including: 'how do women experience romantic dating after breast cancer?', 'what factors and barriers contribute to relationship formation difficulties for these women?', and 'how can we help to minimise these barriers and support these women?'. The following discussion will summarise the key findings from each stage of this doctoral research, examine findings in the context of previous research and theories, and discuss limitations and implications for research and practice.

Summary of Findings

Review and meta-synthesis. The first stage in this thesis aimed to better understand the current literature examining how women experience romantic dating during breast cancer survivorship. As most research into this topic area has utilised qualitative methodology (Manne, Siegel, Kashy, & Heckman, 2014; Traa, De Vries, Bodenmann, & Den Oudsten, 2015; Zimmermann, 2015), a meta-synthesis approach was used to examine dating experiences and concerns within the breast cancer context (Reidy & Denieffe, 2014; Shaw et al., 2015). Published studies were reviewed in February 2015, and 19 studies meeting eligibility criteria underwent critical appraisal (Dixon-Woods et al., 2006). Noblit and Hare's (1988) approach to literature synthesis was used to compare, reinterpret and synthesise the qualitative studies, which were then interpreted in the context of current theoretical models of relationship formation (Noblit & Hare, 1988). This review highlighted six specific areas of dating concern, including: feeling unattractive due to treatment side-effects; perceiving limited dating partners

available; cancer-related disclosure; fear of cancer recurrence and reduced life expectancy; apprehension about entering into a new sexual relationship; and having a sense of dating 'urgency' and not wanting to 'waste time' on partners without long-term potential (Shaw et al., 2015). From a stage model perspective of relationship formation in general (Knapp, 1978), concerns unique to the breast cancer experience seem to arise in specific 'stages' of relationship formation. For example, difficulty coping with bodily changes and poor body image appear to occur during the *Initiating* stage, where initial impressions are formed largely based on physical appearance and attraction. Similarly, the *Intensifying* stage entails disclosing personal information; it is here where individuals are perhaps more likely to feel anxiety around knowing when, how and what information to share with a potential partner about their cancer history or experience (Knapp, 1978; Knapp & Vangelisti, 2008; Shaw et al., 2015).

Whereas this meta-synthesis provided valuable insight into the barriers and concerns that women face when dating after cancer, a number of clear gaps in the research were identified. In particular, most studies included in the review focused on general aspects of women's adjustment, needs and experiences post-cancer, rather than specifically on dating difficulties. Although one study provided an in-depth exploration of women's experiences of romantic dating after breast cancer, it included mostly women who were in a current long-term relationship and who reported high relationship satisfaction (Kurowecki & Fergus, 2014); these results are unlikely to be generalisable to women who are un-partnered and/or have not experienced a successful relationship after breast cancer.

Study One. To this end, the first empirical study (Chapter 3) aimed to extend the existing qualitative literature by interviewing both single women and women who had commenced a new romantic relationship with a partner post-breast cancer diagnosis. This allowed for a more holistic understanding of women's experiences of dating after breast cancer, including factors contributing towards relationship success and barriers hindering relationship

formation. Semi-structured interviews were conducted with 13 un-partnered and nine partnered female breast cancer survivors. Interviews were analysed using grounded theory methodology (Glaser, 1967) and revealed an overarching theme of 'navigating the breast cancer journey'. These findings indicated that the women were interested in forming new relationships after breast cancer although they faced a number of challenges, both during dating 'preparation' and the actual dating process as shown in the dating model. A number of themes found in this study were consistent with those previously identified in the meta-synthesis (Shaw et al., 2015), including body dissatisfaction and intimacy difficulties, as well as anxiety around cancer-related disclosure. Importantly, it is difficult to ascertain the extent to which many of these factors are unique to women with breast cancer; indeed, sexuality and body image concerns are not specific to the breast cancer context, but have been reported in cervical cancer (Jeppesen, Mogensen, Dehn, & Jensen, 2015), head and neck cancer (Fingeret, Teo, & Goettsch, 2015), young adult cancer (Robinson, Miedema, & Easley, 2014) and prostate cancer (Donovan, Walker, Wassersug, Thompson, & Robinson, 2015) populations. Cancer treatment in general can result in a number of negative side-effects impacting on sexuality and appearance; what is unique to the breast cancer context is the loss of a breast(s), which can lead to a perceived loss of femininity and sexual attractiveness (Kurowecki & Fergus, 2014; Shaw et al., 2016). Results from this qualitative study provided further insight into how self-kindness and physical affection with a new partner can help to *overcome* body and sexuality concerns within the dating context (Shaw et al., 2016).

An important finding regarding disclosure in this study was that there were relatively few women who had experienced rejection from partners after talking about their cancer history. Moreover, a number of women shared how online dating allowed for an environment where they felt safer to 'practice' and 'test the waters' of cancer disclosure. This allowed women to garner some control and choose who to communicate with online, but also provided

them with an opportunity to interact with potential partners from home during times when they may be suffering other physical treatment side-effects, such as fatigue. Importantly, this study was the first to propose a theoretical model of relationship formation in the breast cancer context, illustrating the predicted direction of the reported impact of each dating experience. This model provides some guidance for health professionals, offering insight into how women experience dating during survivorship and how each of these difficulties may be related to other areas of concern; for example, body dissatisfaction may be related to intimacy and sexuality issues, and may also hinder a woman's ability to trust a new partner (Shaw et al., 2015). Previous research has identified some of these associations, for example, showing how women who have a poor body image after breast cancer have lower rates of sexual satisfaction (Speer et al., 2005; Ussher, Perz, & Gilbert, 2012); however, to our knowledge this is the first study to synthesise this range of dating areas and concerns into the one model.

Another novel and promising finding from this qualitative study came from interviews with the women's male partners, who reported being unconcerned about the patient's changes to their appearance after cancer. A more recent phenomenological study of 12 men who committed to relationships with young breast cancer survivors reported similar findings; they noted how most men reacted to cancer disclosure with acceptance, and reported admiring and respecting the women upon hearing their stories (Freidus, 2017). These findings are reassuring, given that a frequent concern for single women related to anticipated rejection from a potential partner based on cancer history or treatment side-effects (Shaw et al., 2016). This finding also highlights the potential role of partner support and acceptance in restoring a woman's self- and body-esteem after breast cancer.

Findings from this study informed the large-scale quantitative study (Chapter 4), which addressed a number of the challenges identified in the dating model including dating anxiety, body image and self-care/self-compassion, sexuality, and dating initiation and disclosure (via

the interpersonal competence measure). It also informed the later development of the DATE-BC online intervention, which incorporated user values, disclosure, dating-specific worries, and body image and self-compassion.

Study Two. The qualitative study provided an important exploration into the dating experiences of women after breast cancer, in terms of how this sample of women navigated their dating journey and the barriers and challenges they faced. The next logical step in this research was to gain further insight into factors associated with relationship formation difficulties via a large-scale international cross-sectional study, conducted with 146 breast cancer survivors (*n*=92 un-partnered; *n*=54 partnered). Previous research (including the qualitative study) suggested poor body image and low levels of self-kindness to be associated with relationship formation difficulties in this population. Therefore, this study first investigated differences between partnered and un-partnered women in levels of dating anxiety, interpersonal competence, body image facets (self-evaluative salience, motivational salience, body dissatisfaction) and self-compassion. It then sought to determine whether body image and self-compassion were related to dating anxiety and interpersonal competence in un-partnered women who were interested in romantic dating.

There were a number of important findings from this study. First, compared with partnered women, un-partnered women reported significantly greater dating anxiety and self-evaluative salience, and lower interpersonal competence. This is consistent with the growing body of qualitative research highlighting dating difficulties in this population (Corney, Puthussery, & Swinglehurst, 2014; Gluhoski, Siegel, & Gorey, 1998; Kurowecki & Fergus, 2014). High levels of self-evaluative salience are also in line with previous research showing the significant impact of appearance changes to a woman's sense of self after breast cancer, with many women expressing intense disapproval of their new bodies, describing them as "ugly", "deformed" and "mutilated" (Kurowecki & Fergus, 2014, p. 56). Of note, cancer-

related body dissatisfaction was particularly high in this study, and significantly greater than previous breast cancer samples (Przezdziecki et al., 2013; Sherman, Woon, French, & Elder, 2017). As the average time since diagnosis in this study was approximately five years, this provides further support for the notion that body image difficulties can persist long into cancer survivorship (Falk Dahl, Reinertsen, Nesvold, Fossa, & Dahl, 2010; Przezdziecki et al., 2013).

Second, consistent with study hypotheses, high self-evaluative salience, body image dissatisfaction, and attachment avoidance were associated with dating anxiety in un-partnered women. This finding reflects previous research from non-oncology populations, whereby greater appearance investment has been linked with increased social evaluative anxiety (Cash, Thériault, & Annis, 2004), and with qualitative reports from breast cancer survivors of feared rejection from romantic partners due to changes in physical appearance (Kurowecki & Fergus, 2014; Shaw et al., 2015). From a theoretical perspective, this finding is also consistent with body image models specifically developed for the cancer context, whereby treatment-related appearance changes are said to result in negative reactions (including social isolation and avoidance) when the individual has high body image investment and there is a discrepancy with their body image ideals (Fingeret, Teo, & Epner, 2014).

A final unique finding from this study was that self-compassion was significantly associated with interpersonal competence. This is in line with previous qualitative reports highlighting the importance of self-acceptance prior to feeling comfortable and confident when initiating relationships and disclosing cancer history (Shaw et al., 2015). Prior research has linked higher levels of self-compassion with greater relationship skills such as emotional connectedness, support and acceptance (Neff, 2013). It stands to reason that if self-compassionate individuals are better able to offer themselves kindness and understanding, they may in turn anticipate greater understanding and compassion from romantic partners, and feel

more competent in dating situations (Feldman & Gowen, 1998; Kurowecki & Fergus, 2014; Shaw et al., 2015).

Taken together, the findings from Study Two support previous qualitative reports of dating difficulties after breast cancer (Corney & Swinglehurst, 2014; Gluhoski et al., 1998; Holmberg, Scott, Alexy, & Fife, 2001). These findings also suggest a role of poor body image and low self-compassion as barriers to romantic relationship formation in this population (Corney et al., 2014; Corney & Swinglehurst, 2014; Kurowecki & Fergus, 2014; Lewis, Zahlis, Shands, Sinsheimer, & Hammond, 1996; Ruddy et al., 2013; Shaw et al., 2015; Shaw et al., 2016).

Study Three. Collectively, the findings from the review, qualitative and quantitative studies informed the development of a novel online intervention to support and facilitate romantic relationship formation in breast cancer survivorship. The DATE-BC website is evidenced-based, informed by our previous research and incorporates cognitive-behavioural and mindfulness-based exercises with demonstrated efficacy across oncology and other health contexts (Bruggeman Everts, van der Lee, & de Jager Meezenbroek, 2015; Carpenter, Stoner, Mundt, & Stoelb, 2012; Post & Flanagan, 2016; Przezdziecki, Alcorso, & Sherman, 2016; Saddichha, Al-Desouki, Lamia, Linden, & Krausz, 2014; Stott et al., 2013). Following development of this website, a study was undertaken to determine the acceptability of this intervention. This entailed asking an international sample of 20 breast cancer survivors to rate their overall impression of the website, in addition to the layout, design, information and content. Participants were also asked whether they accessed each section of the website and completed associated activities, as well as a number of questions relating specifically to each section. Results of this study suggest moderate-to-high user acceptability; a number of recommendations were suggested, and will be incorporated into the intervention prior to future use.

Thesis Limitations and Future Directions

There are several limitations that should be considered when interpreting the results of this thesis. The first limitation relates to the representativeness of participant samples. Study participants were primarily recruited through online breast cancer organisations and social media groups. Although this allowed for a relatively large, international sample, the results may be biased towards women with negative dating experiences, and may not be generalisable to breast cancer survivors who are not computer literate; this is particularly relevant in the context of assessing acceptability of the DATE-BC online intervention. Moreover, most participants in each of the three studies were recruited via the Breast Cancer Network Australia review and survey group, and were emailed study invitations only if they had previously expressed interest in participating in research; thus, results may be biased towards women with high enthusiasm for (and more time to complete) breast cancer-related research. The majority of study participants were resident in Australia and New Zealand, highly educated, and reported a heterosexual orientation. Previous research has suggested that romantic dating after breast cancer may be qualitatively different for lesbian women (Kurowecki & Fergus, 2014). Some researchers have argued that lesbian women may be confronted by the presence of both breasts in a partner, which in turn may exacerbate perceived bodily disfigurement and feelings of loss (Kurowecki & Fergus, 2014). Alternatively, another study comparing psychosocial responses to breast cancer treatment among lesbian and heterosexual women found that lesbian participants reported lower levels of sexual concern and less concern about (and investment in) their appearance (Arena et al., 2007). Thus, it may be argued that side-effects impacting on sexuality and appearance following breast cancer are less salient for lesbian women and hence may not serve as such barriers in the dating context. Future research should nonetheless investigate the dating experiences of lesbian women in this context. Future studies may additionally wish to examine the dating experiences of un-partnered women who would like to

date but who have opted against this, as well as those women who have chosen not to date. There is also scope to investigate women who struggle with maintaining romantic relationships, rather than primarily focusing on relationship initiation.

The second set of limitations pertains to the research design and measures used. All measures in the quantitative study were self-report, with no objective measures of medical (e.g., breast cancer stage/treatment) or demographic (e.g., relationship status) characteristics. Most variables were not specific to the cancer context, with the exception of the Body Image Scale and Experiences in Close Relationships scale (ECR-M16), although were identified as important variables by previous research. Similarly, while all measures were selected given their previously-demonstrated link to relationship formation, it should be acknowledged that some variables (e.g., attachment style) assessed factors that likely pre-date the cancer diagnosis. Sexuality was not included in the regression models due to measurement error (see Chapter 4). This is unfortunate, given that previous qualitative research has suggested this to be a source of dating-related anxiety for a number of women, particularly in light of treatment side-effects impacting of sexual functioning and satisfaction (Gluhoski et al., 1998; Holmberg et al., 2001; Ussher, Perz, & Gilbert, 2014). Sexuality and intimacy difficulties should, therefore, be quantitatively assessed in future research as potential dating barriers. Furthermore, the outcome measures used in the quantitative study were mostly validated in adolescent and young adult samples (Buhrmester, Furman, Wittenberg, & Reis, 1988; Glickman & La Greca, 2004); there are currently no known validated measures of romantic relationship formation in the adult and/or cancer context. Future research should adapt and validate these measures for use in cancer populations.

Given the novelty of this topic area, this research assumed an exploratory approach within the first study, and examined associations (rather than causality) in a large-scale cross-sectional study. This research has laid a strong foundation for future studies to examine

processes and mechanisms underlying the association between poor body image and self-compassion, and romantic relationship formation difficulties in this context, and also in the broader cancer or chronic illness context. Future research may wish to examine whether dating challenges are greater in subsets of cancer patients, for example, younger versus older survivors. Other potential moderators may also be examined, for example, medical (e.g., cancer type, reconstruction status) or relationship (e.g., number/length of relationships) factors.

The final stage of this thesis entailed the development and acceptability testing of the online intervention DATE-BC. A key limitation of this study was the lack of formal process for usability testing; this is an area for future research. Furthermore, future development of this intervention may consider modifying content to include, for example, managing the online dating situation, normalising participant concerns, providing patient experiences/stories, and assessing confidence in the key tasks in starting a romantic relationship. Inclusion of additional identified relationship barriers and concerns, such as infertility and sexuality, should also be considered.

Implications for Theory

This thesis significantly contributes to our theoretical understanding of how women experience romantic relationship formation during breast cancer survivorship. The meta-synthesis identified a number of barriers and concerns that un-partnered women face, within the context of the Relational Stage Model (Knapp, 1978); this facilitates our understanding of challenges that arise throughout the dating process or trajectory. Body image concerns appear to be particularly salient in this population, which is unsurprising given the significant changes to physical appearance that occur following treatment (Choi et al., 2014; Fallowfield & Jenkins, 2015; Goodwin et al., 1999; Schnur et al., 2011), and which may last many years into survivorship (Przezdziecki et al., 2013). This is likely to be impactful particularly in the early

stages of relationship formation, when individuals make 'first impressions' and physical appearance and attraction play a leading role (Knapp, 1978; Knapp & Vangelisti, 2008).

Furthermore, the qualitative study presents the first comprehensive model of how women experience relationship during breast cancer survivorship, including challenges faced during dating 'preparation' and then continuing into the actual dating process (Shaw et al., 2016). This model provides guidance for health professionals, suggesting how the challenges that un-partnered women face may not occur in isolation, and will likely flow into other areas; for example, dissatisfaction with physical appearance may introduce sexual difficulties, which may also impact how and when a woman chooses to disclose her cancer history (Shaw et al., 2016).

Implications for Health Professionals

Findings from this thesis enhance our understanding of how women experience romantic dating after breast cancer, and highlight factors associated with a woman's dating-related anxiety and her ability to form romantic relationships. The results of this thesis have important implications for clinicians and health professionals, such as psychologists and breast care nurses. First, it raises clinicians' awareness of some of the psychosocial challenges that un-partnered women may face following breast cancer. This is important as previous studies of un-partnered breast cancer patients have reported that their concerns around dating and relationships are not routinely discussed as part of their care and treatment received (Corney et al., 2014). Second, health professionals need to be aware that body image concerns may persist long into cancer survivorship, and to support women in this area. These findings point to a number of modifiable factors that psychologists can target during psychotherapy that may enhance key relationship competencies and reduce dating-related anxiety. That is, for women who would like to romantically date during survivorship, clinicians should consider helping

them to adjust to their new body and work to enhance self-kindness and acceptance following cancer treatment (see Chapter 4).

The translation of these findings to the development of an innovative, evidence-based, readily disseminated online intervention gives the potential for clinicians and patients alike to access a resource which can help women to navigate romantic relationship formation post-breast cancer. Assuming efficacy of the intervention is demonstrated in future studies, psychologists may be able to use this resource as a valuable adjunct to therapy in terms of facilitating psychosocial adjustment during breast cancer survivorship. Supporting romantic relationship formation in this population is likely to have a number of secondary benefits, as partner support has been demonstrated to buffer against psychological distress, encourage post-traumatic growth, facilitate sexual adjustment, and lead to overall enhancements in physical health (Boeding et al., 2014; Kausar & Saghir, 2010; Kinsinger, Laurenceau, Carver, & Antoni, 2011; Zimmermann, Scott, & Heinrichs, 2010). Moreover, there also lies the potential for this resource to be adapted at a later stage for male cancer patients and/or individuals recovering from other similar illness, such as head-and-neck cancer patients, who may also experience anxiety around dating (Badr et al., 2016).

Conclusions

The aim of this thesis was to provide a holistic understanding of how women form romantic relationships in breast cancer survivorship, and to understand the barriers and concerns around dating for these women. This topic area has received minimal attention in the literature, yet is an exceptionally important aspect of psychosocial adjustment in breast cancer survivorship. Seeking romantic relationships, and the support and companionship that comes with having a romantic partner, is a priority for many un-partnered breast cancer survivors; yet, treatment-related challenges can make dating feel like an impossible task. This research provides promising results in this area, indicating that while dating difficulties do exist,

targeting body image and self-compassion may help to reduce dating-related anxiety and enhance interpersonal competency in this population. As one participant expressed in the early stages of this research, “that was my biggest thing, learning to love and accept myself, because once you can do that you will meet the right person”. This thesis additionally provides a promising means of facilitating romantic relationship formation post-breast cancer; a tailored, evidence-based novel online intervention, which has been well-received and has potential to minimise interpersonal barriers in un-partnered women during cancer survivorship.

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Appendix A: List of Papers Included in Meta-Synthesis (Publication Supplementary Material)

Author	Country	Sample	Recruitment	Theoretical framework, method and analysis	Verification of data	Dating concerns/barriers	Themes/concepts
Corney, Puthussery et al.	UK	Breast Cancer; *N*=10 (8 single; 2 in a relationship); Mean age 34.6 years (range 30-44) at time of study	Charities, support groups, internet forums, contacts through authors' institutions	Qualitative descriptive method Semi-structured interviews Framework approach	NA	Fear of rejection by potential partners upon disclosure; changes in appearance; reduced life expectancy, dating urgency	Partnership worries, fertility concerns, views about support received
Corney & Swinglehurst	UK	Breast Cancer; *N*=19 (10 single, 9 in a relationship); Mean age 30.1 years (range 20-41) at diagnosis, mean time since diagnosis 18.9 months	Charities and support groups	Semi-structured interviews Thematic analysis	Inter-rater agreement, confirming findings with participants	Difficulty finding a partner due to changes in appearance, dating urgency, potential fertility difficulties, and a reduced life expectancy	Options given on fertility preservation, those not given the choice, those not given chemotherapy and fertility information and advice on pregnancy post-chemotherapy and radiotherapy, dilemmas and concerns, future worries, childless single women, recommendations
Elmir, Jackson et al.	Australia	Breast Cancer; *N*=4 (1 single, 1 de facto, 2 married); Mean age 39.5 at time of study	Information posters, advertisements in local and metropolitan papers, announcement on local radio	Phenomenology Interviews	Clarifying data with participants, reviewing transcriptions	Feeling unattractive, entering into a sexual relationship	It absolutely encompassed me; being overwhelmed; living with fear and uncertainty; finding strength within
Gluhoski, Siegel et al.	US	Breast Cancer; *N*=16 (all single); Mean age 33.5 years (range 22-42) at diagnosis, mean time since diagnosis 37 months (8 months-8years)	Cancer organisations and Memorial Sloan-Kettering Cancer Centre	Unstructured interview Thematic analysis	NA	Fear will be unable to attain relationship, limited number of potential partners, disclosure, avoidance of sexual relationships due to fear of rejection	Pessimism regarding future relationships, fears about disclosing their illness, negative body image and impaired sexuality, fear of rejection by partners, sense of isolation and inadequate support

Author	Country	Sample	Recruitment	Theoretical framework, method and analysis	Verification of data	Dating concerns/barriers	Themes/concepts
Gould, Grassau et al.	Canada	Breast Cancer; *N*=65 (11 single, 43 married/living with partner, 10 separated/divorced, 1 widow); Mean age 41 years (range 26-45) at diagnosis	Newspaper advertisements, CBCN's newsletter, support and community groups, cancer treatment centres.	Focus groups Content analysis	NA	Limited dating partners, disclosure	Nothing fit me, information, support, programmes/services
Holmberg, Scott, et al.	Not stated	Breast Cancer; *N*=15 (10 women – 4 single, 6 in a relationship - and 5 male partners); Mean age women 48 years (range 31-68) at time of study	University-affiliated oncology clinic	Individual interviews and focus groups Content analysis	Inter-rater agreement	Sexual desirability, disclosure	Differences between experiences of single and partnered women, the influence of breast cancer on body image, other dimensions of self-perception, sexual response and communication problems
Kurowecki & Fergus	Canada	Breast Cancer; *N*=15 (2 single, 13 in a relationship); Mean age 46.1 years (range 31-68) at time of study	Healthcare professionals, flyers community agencies, stakeholder websites	Grounded theory Semi-structured interviews	Emergent themes incorporated into interview, consensual validation, reverse validation of coding scheme	Coping with a 'deformed' body, feeling second rate to others, limited number of partners, disclosure, sexuality in new relationships	Wearing my heart on my chest (incl. losing and regaining self/bodily esteem, dating and the obligation to disclose, reclaiming of self through the new relationship)
Lewis, Sheng et al.	US	Breast Cancer; *N*=33 (18 single; 15 in a relationship); Mean age 37.39 at diagnosis	Sisters Network Inc. chapters, community events, health fairs, church support groups, flyers	Semi-structured interviews Content analysis	Inter-rater reliability	Disclosure	Impact of cancer on women's living situations, employment, relationships, fertility, and sexuality

Author	Country	Sample	Recruitment	Theoretical framework, method and analysis	Verification of data	Dating concerns/barriers	Themes/concepts
Lewis, Zahlis, et al.	US	Breast Cancer; *N*=123 (22 single, 101 in a relationship); Median age of single women 42 years	Participants from larger institutional studies	Structured interviews Thematic analysis	Inter-rater agreement and additional verification studies	Worry about partner rejection due to bodily changes, having a serious illness, and sexuality	Feelings of loss, worrying about work and money, dealing with their own reactions, dealing with others, and getting through the experience
Ruddy, Greaney et al.	US	Breast Cancer; *N*-36 (9 single, 27 in a relationship); Mean age 37.8 years (range 26-44) at time of study	Dana-Farber Cancer Institute	Semi-structured interviews with focus groups Thematic content analysis	Participant clarification	Physical consequences of treatments and impaired self esteem, disclosure	Feeling different from older patients in terms of relationships, fertility, menopausal symptoms, treatment side effects, work/finances; unique transition challenges; support and assistance desired
Thewes, Butow, et al.	Australia	Breast Cancer; *N*=18 (6 single, 12 in a relationship); Mean age 54.9 years (range 29-78) at diagnosis	Radiation oncology department in a Sydney teaching hospital	Semi-structured interviews Coding and identification of emergent themes using "established methods"	Inter-rater agreement	Feeling like a 'liability' for future partners because of potential recurrence	Impact of cancer, psychological and support needs, information needs
Ussher, Perz et al.	Australia	Breast Cancer; *N*=41 (19.6% sample with breast cancer; 85% of overall sample in relationship); Overall mean for women with cancer 49.5 years at time of study	Cancer support groups, media stories in local press, advertisements in cancer newsletters, hospital clinics, local cancer consumer websites, help-lines	Material-discursive—intra-psychic perspective Semi-structured interviews Thematic analysis	NA	Feeling unattractive	Changes to sexuality after cancer: loss of sexual desire, sexual pain, body image concerns, tiredness, partner erectile dysfunction; Renegotiating sex: resisting the coital imperative, embracing intimacy

Author	Country	Sample	Recruitment	Theoretical framework, method and analysis	Verification of data	Dating concerns/barriers	Themes/concepts
Vilahuer	US	Breast Cancer; *N*=14 (3 single, 11 married); Mean age 51.6 years at time of study	Community support centres, breast cancer clinics, organisations	Open-ended interviews Content analysis	Triangulation	Feeling unattractive	Body image, sexuality, worries about the effect of stress, daily activity, social support
Hamilton	Canada and US	Combined Breast Cancer and *BRCA*; *N*=44 (13 single, 31 in a relationship); age range 18-39 at time of study	Websites	Grounded theory Interviews	NA	Disclosure	Marital status, presence or absence of children, having a breast cancer diagnosis
Hamilton & Hurley	Canada and US	Combined Breast Cancer and *BRCA*; *N*=11 (all single); age range 18-35 years	Support /education websites specific to young women with *BRCA* mutations or breast cancer	Grounded theory Individual interviews constant comparative method	NA	Disclosure, urgency in relationship formation	Conditions = dating or not dating, time in relationship, physical impact of surgery/treatment. Consequences = explaining their choices, experiencing urgency, experiencing loss)
Klitzman & Sweeney	US	Combined Breast Cancer and *BRCA*; *N*= 32 (24 single; 8 in a relationship); Median age in 41-50 range	Clinics, studies at researcher's institution, newsletters, flyers, word of mouth	Grounded theory Semi-structured interviews Constant comparison method	Inter-rater agreement, triangulation	Disclosure	Whether to tell, why tell, what to tell, how to tell, when to tell, reactions to telling, alternative to telling, factors affecting disclosure
Hoskins, Roy, et al.	US	*BRCA; N*=11 (3 single, 7 in a relationship, 1 not specified); Mean age 30.3 (range 26-36) at time of study	NCI Clinical Genetics Branch Breast Imaging screening study	Grounded theory Semi-structured interviews	Confirmability audit	Disclosure, fear of developing cancer	Preparing for disclosure (risk perception, anticipating disclosure, timing), experiencing disclosure (partners' reactions, relationship bonding), living beyond disclosure

Author	Country	Sample	Recruitment	Theoretical framework, method and analysis	Verification of data	Dating concerns/barriers	Themes/concepts
Werner-Lin (1)	US	*BRCA; N*=23 (4 single; 19 in a relationship); Age range 22-35	Online and cancer clinic	Semi-structured interviews Thematic analysis via the Listening Guide	Triangulation	Disclosure, limited time to find partners, fertility	Individuals and family experiences with illness and genetic testing, meaning and beliefs, individual and family development
Werner-Lin (2)	US	*BRCA; N*=23 (4 single; 19 in a relationship); Age range 21-36	Online and cancer clinic	Open-ended interviews Thematic analysis via the Listening Guide	Triangulation	Limited potential partners who could cope with a *BRCA* mutation	Informal social support networks, formal support, alternative support sources

Appendix B: Ethics Documentation

Study 1. Women's Experiences of Dating After Breast Cancer

MACQUARIE UNIVERSITY

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26 May 2014

Associate Professor Kerry Sherman
Department of Psychology
Faculty of Human Sciences
MACQUARIE UNIVERSITY NSW 2109

Dear Associate Professor Sherman,

RE: *Formation of new romantic relationships following a breast or gynaecological cancer diagnosis*

Thank you for submitting the above application for ethical and scientific review. Your application was considered by the Macquarie University Human Research Ethics Committee (HREC (Medical Sciences)) at its meeting on 27 March 2014 at which further information was requested to be reviewed by the Ethics Secretariat.

The requested information was received with correspondence on 28 April 2014.

I am pleased to advise that ethical and scientific approval has been granted for this project to be conducted at:

- Macquarie University

This research meets the requirements set out in the *National Statement on Ethical Conduct in Human Research* (2007 – Updated March 2014) (the *National Statement*).

Details of this approval are as follows:

Reference No: 5201400332

Approval Date: 26 May 2014

The following documentation has been reviewed and approved by the HREC (Medical Sciences):

Documents reviewed	Version no.	Date
Macquarie University Ethics Application Form	2.3	July 2013
Correspondence from Ms Laura-Kate Shaw responding to the HREC's feedback.		Received 28/4/2014
MQ Participant Information and Consent Form (PICF) entitled *Dating following a breast or gynaecological cancer diagnosis*		Received 12/03/2014
Advertisement (Women's version)	1	28/4/2014
Advertisement (Men's version)	1	28/4/2014

Interview Schedule Women *Formation of new romantic relationships following a breast or gynaecological cancer diagnosis*	1	28/4/2014
Interview Schedule Male Partners *Formation of new romantic relationships following a breast or gynaecological cancer diagnosis*	1	28/4/2014
Questionnaire Women *Formation of new romantic relationships following a breast or gynaecological cancer diagnosis*	1	28/4/2014
Questionnaire Men *Formation of new romantic relationships following a breast or gynaecological cancer diagnosis*	1	28/4/2014

Please ensure that all documentation has a version number and date in future correspondence with the Committee.

This letter constitutes ethical and scientific approval only.

Standard Conditions of Approval:

1. Continuing compliance with the requirements of the *National Statement,* which is available at the following website:

http://www.nhmrc.gov.au/book/national-statement-ethical-conduct-human-research

2. This approval is valid for five (5) years, subject to the submission of annual reports. Please submit your reports on the anniversary of the approval for this protocol.

3. All adverse events, including events which might affect the continued ethical and scientific acceptability of the project, must be reported to the HREC within 72 hours.

4. Proposed changes to the protocol must be submitted to the Committee for approval before implementation.

It is the responsibility of the Chief investigator to retain a copy of all documentation related to this project and to forward a copy of this approval letter to all personnel listed on the project.

Should you have any queries regarding your project, please contact the Ethics Secretariat on 9850 4194 or by email ethics.secretariat@mq.edu.au

The HREC (Medical Sciences) Terms of Reference and Standard Operating Procedures are available from the Research Office website at:

http://www.research.mq.edu.au/for/researchers/how_to_obtain_ethics_approval/human_research_ethics

The HREC (Medical Sciences) wishes you every success in your research.

Yours sincerely

Professor Tony Eyers
Chair, Macquarie University Human Research Ethics Committee (Medical Sciences)

cc Ms Laura-Kate Shaw, Department of Psychology, Macquarie University

This HREC is constituted and operates in accordance with the National Health and Medical Research Council's (NHMRC) *National Statement on Ethical Conduct in Human Research* (2007) and the *CPMP/ICH Note for Guidance on Good Clinical Practice*.

Study 2. Predicting Romantic Relationship Formation After Breast Cancer

Office of the Deputy Vice-Chancellor
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MACQUARIE University
SYDNEY·AUSTRALIA

7 August 2015

Associate Professor Kerry Sherman
Macquarie University NSW 2109

Dear Associate Professor Sherman,

Reference No: 5201500604

Title: *Predicting romantic relationship formation after breast cancer*

Thank you for submitting the above application for ethical and scientific review. Your application was considered by the Macquarie University Human Research Ethics Committee (HREC (Medical Sciences)) at its meeting on 30 July 2015 at which further information was requested to be reviewed by the Ethics Secretariat.

The requested information was received with correspondence on 7 August 2015.

I am pleased to advise that ethical and scientific approval has been granted for this project to be conducted at:

- Macquarie University

This research meets the requirements set out in the *National Statement on Ethical Conduct in Human Research* (2007 – Updated March 2014) (the *National Statement*).

This letter constitutes ethical and scientific approval only.

Standard Conditions of Approval:

1. Continuing compliance with the requirements of the *National Statement*, which is available at the following website:

http://www.nhmrc.gov.au/book/national-statement-ethical-conduct-human-research

2. This approval is valid for five (5) years, subject to the submission of annual reports. Please submit your reports on the anniversary of the approval for this protocol.

3. All adverse events, including events which might affect the continued ethical and scientific acceptability of the project, must be reported to the HREC within 72 hours.

4. Proposed changes to the protocol must be submitted to the Committee for approval before implementation.

It is the responsibility of the Chief investigator to retain a copy of all documentation related to this project and to forward a copy of this approval letter to all personnel listed on the project.

Should you have any queries regarding your project, please contact the Ethics Secretariat on 9850 4194 or by email ethics.secretariat@mq.edu.au

The HREC (Medical Sciences) Terms of Reference and Standard Operating Procedures are available from the Research Office website at:

http://www.research.mq.edu.au/for/researchers/how_to_obtain_ethics_approval/human_research_ethics

The HREC (Medical Sciences) wishes you every success in your research.

Yours sincerely

Professor Tony Eyers
Chair, Macquarie University Human Research Ethics Committee (Medical Sciences)

This HREC is constituted and operates in accordance with the National Health and Medical Research Council's (NHMRC) *National Statement on Ethical Conduct in Human Research* (2007) and the *CPMP/ICH Note for Guidance on Good Clinical Practice*.

Details of this approval are as follows:

Approval Date: 7 August 2015

The following documentation has been reviewed and approved by the HREC (Medical Sciences):

Documents reviewed	Version no.	Date
National Ethics Application Form	2.2	Received 22/07/2015
Correspondence from Ms Laura Shaw responding to the issues raised by the HREC (Medical Sciences)		Received 07/08/2015
MQ Participant Information and Consent Form (PICF) entitled "Predicting Romantic Relationship Formation After Breast Cancer"	2	07/08/2015
Participant Questionnaire – Online Qualtrics Survey		12/07/2015

Study 3. Development of the DATE-BC Website

Office of the Deputy Vice-Chancellor
(Research)

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MACQUARIE University
SYDNEY·AUSTRALIA

8 December 2016

Dear Associate Professor Sherman

Reference No: 5201600882

Title: *Development and piloting of the Dating After the Experience-Breast Cancer (DATE-BC) online intervention*

Thank you for submitting the above application for ethical and scientific review. Your application was considered by the Macquarie University Human Research Ethics Committee (HREC (Medical Sciences)).

I am pleased to advise that ethical and scientific approval has been granted for this project to be conducted at:

- Macquarie University

This research meets the requirements set out in the *National Statement on Ethical Conduct in Human Research* (2007 – Updated May 2015) (the *National Statement*).

Standard Conditions of Approval:

1. Continuing compliance with the requirements of the *National Statement*, which is available at the following website:

http://www.nhmrc.gov.au/book/national-statement-ethical-conduct-human-research

2. This approval is valid for five (5) years, subject to the submission of annual reports. Please submit your reports on the anniversary of the approval for this protocol.

3. All adverse events, including events which might affect the continued ethical and scientific acceptability of the project, must be reported to the HREC within 72 hours.

4. Proposed changes to the protocol and associated documents must be submitted to the Committee for approval before implementation.

It is the responsibility of the Chief investigator to retain a copy of all documentation related to this project and to forward a copy of this approval letter to all personnel listed on the project.

Should you have any queries regarding your project, please contact the Ethics Secretariat on 9850 4194 or by email ethics.secretariat@mq.edu.au

The HREC (Medical Sciences) Terms of Reference and Standard Operating Procedures are available from the Research Office website at:

http://www.research.mq.edu.au/for/researchers/how_to_obtain_ethics_approval/human_research_ethics

The HREC (Medical Sciences) wishes you every success in your research.

Yours sincerely

Professor Tony Eyers
Chair, Macquarie University Human Research Ethics Committee (Medical Sciences)

This HREC is constituted and operates in accordance with the National Health and Medical Research Council's (NHMRC) *National Statement on Ethical Conduct in Human Research* (2007) and the *CPMP/ICH Note for Guidance on Good Clinical Practice*.

Details of this approval are as follows:

Approval Date: 6 December 2016

The following documentation has been reviewed and approved by the HREC (Medical Sciences):

Documents reviewed	Version no.	Date
Correspondence responding to the issues raised by the HREC (Medical Sciences)		Received 2/12/2016
Macquarie University Ethics Application Form		Received 9/11/2016
Study Advertisement	1*	9/11/2016
Online MQ Participant Information and Consent Form (PICF)	1*	8/11/2016
Online Survey 1	1.1*	2/12/2016
Online Survey 2	1*	9/11/2016
'Dating After the Event' – Breast Cancer (Website component)	1	9/11/2016

Documents Noted	Version no.	Date
Breast Cancer Network Australia (BCNA) application form		

***If the document has no version date listed one will be created for you. Please ensure the footer of these documents are updated to include this version date to ensure ongoing version control.**

Appendix C: Study Measure

Study One – Interview Schedule (Women)

OPENING (Script)

Thank you so much for helping us with this study. Today I would like to ask you some questions about your experiences of dating following a breast/gynaecological cancer diagnosis.

You do not have to answer any questions that you feel uncomfortable talking about and are free to stop the interview at any time. There are no right or wrong answers so please feel free to talk as honestly and openly as possible. If there is anything I have missed out that you feel you would like to talk about, please feel free to bring it up anytime. The interview should last for about 20 minutes in total.

With your consent I would like to record this conversation. All information conveyed to me during the course of this interview will be kept confidential and only heard by myself and the chief investigator, Associate Professor Kerry Sherman, of this project.

Would you like to ask any questions before we begin?

BODY

What is your current relationship status?			
SINGLE		IN A RELATIONSHIP	
Question	Sub-question	Question	Sub-question
Are you currently looking for a romantic partner?	What made you decide to look for a relationship after your diagnosis?	How did you meet your current partner?	
		What made you decide to look for a relationship after your diagnosis?	
Overall, how do you feel your cancer has influenced your ability or desire to enter into a new relationship?		Prior to your current relationship, did you feel that your cancer influenced your ability or desire to enter into a new relationship?	
How long after your initial diagnosis did you feel ready, or decide to start, dating?	What stopped you from starting earlier?	How long after your initial diagnosis did you feel ready, or decide to start, dating?	What stopped you from starting earlier?
Have there been times when you have found it difficult to initiate contact with potential dates because of your cancer?		Were there times when you found it difficult to initiate contact with potential dates because of your cancer?	
Have there been times when you have found it difficult to meet with potential dates because of your cancer?		Were there times when you found it difficult to meet with potential dates because of your cancer?	
Has going through cancer changed how you look for dates?	Do you go online, meet through friends etc.?	Did going through cancer changed how you looked for dates?	Did you go online, meet through friends etc.?
Has your cancer affected the way		Did your cancer affect the way you	

you communicate with potential partners?		communicated with potential partners?	
Have you ever disclosed your cancer to a potential date?	How did you arrive at your decision to disclose? How do you view this decision now? What reaction(s) have you encountered? Is there any aspect of your cancer you find especially difficult to disclose? Are there things that are easier to talk about than others? Does this change over time, as you get to know people better?	Did you ever disclose your cancer to a potential date?	How did you arrive at your decision to disclose? How do you view this decision now? What reaction(s) did you encounter? Was there any aspect of your cancer you found especially difficult to disclose? Were there things that were easier to talk about than others? Did this change over time, as you got to know people better?
Do you feel your cancer has affected aspects of intimacy and sexuality in new relationships?		When dating, did you feel that your cancer affected aspects of intimacy and sexuality in new relationships?	
Has your cancer changed the way you feel about yourself and your body?	In what way? Do you believe that this affects your dating experiences? How do you manage this? Are there any particular strategies you employ?	Did your cancer change the way you felt about yourself and your body?	In what way? Do you believe that this affected your dating experiences? How did you manage this? Were there any particular strategies you employed?
Has your cancer changed what a good relationship means to you, or what you are looking for in a partner?	What changes have you noticed?	Did your cancer change what a good relationship meant to you, or what you were looking for in a partner?	What changes did you notice?

Has your cancer influenced the extent to which you can trust others in intimate relationships?		Did your cancer influence the extent to which you could trust others in intimate relationships?	
As a single woman undergoing cancer treatment, how do you find the emotional and practical support given to you by health professionals?		When you were a single woman undergoing cancer treatment, how did you find the emotional and practical support given to you by health professionals?	
Did having cancer teach you anything about yourself?	Do you think this has any influence on your relationships?	Did having cancer teach you anything about yourself?	Do you think this had any influence on your relationship?
Do you have any other thoughts about these issues?	What advice would you give women with breast/gynaecological cancer who wish to enter or re-enter the dating scene?	Do you have any other thoughts about these issues?	What advice would you give women with breast/gynaecological cancer who wish to enter or re-enter the dating scene?

CLOSING (Script)

Once again, thank you for all your help with this study and for your time spent answering these questions today.

Are there any questions you would like to ask about the interview or any other aspect of project?

Thank you very much for your time

END

Study One – Interview Schedule (Male Partners)

OPENING (Script)

Thank you so much for helping us with this study. Today I would like to ask you some questions about your experiences of dating your partner after her breast/gynaecological cancer diagnosis.

You do not have to answer any questions that you feel uncomfortable talking about and are free to stop the interview at any time. There are no right or wrong answers so please feel free to talk as honestly and openly as possible. If there is anything I have missed out that you feel you would like to talk about, please feel free to bring it up anytime. The interview should last for about 20 minutes in total.

With your consent I would like to record this conversation. All information conveyed to me during the course of this interview will be kept confidential and only heard by myself and the chief investigator, Associate Professor Kerry Sherman, of this project.

Would you like to ask any questions before we begin?

BODY

Question	Sub-question
How did you and [woman's name] meet?	
When you met [woman's name], what qualities were you looking for in a partner?	What qualities do you think she was looking for in a partner when she met you?
When you met [woman's name], had she already been diagnosed with cancer or received treatment?	How did you cope with this? Do you think things would have been different if you'd met her before/after her diagnosis?
In the early stages of your relationship, did your partner's cancer affect the way you communicated with each other?	If so, in what way?
How did you react when your partner disclosed that she had cancer?	What went through your head? What did you do to cope with this news?
Do you think that your partner's cancer affected the intimacy in the early stages of your relationship?	If so, in what way?
Did your partner's cancer change the way you felt about her body?	
Aside from your partner, have you or anyone else you know had any experience of a serious illness or life-threatening disease?	Do you think that has influenced your current relationship in any way?

Were there any differences you've noticed in this relationship compared to previous ones where there hasn't been that influence of cancer?	
Was there anything in particular you found difficult about dating someone with (breast/gynaecological) cancer?	
Was there anything in particular you found rewarding about dating someone with (breast/gynaecological) cancer?	
What would you say to other men who are dating a woman after cancer?	What advice would you give them?
Do you have any other thoughts about these issues?	

CLOSING (Script)

Once again, thank you for all your help with this study and for your time spent answering these questions today.

Are there any questions you would like to ask about the interview or any other aspect of project?

Thank you very much for your time

END

Study Two - Measures

What is your age (in years)?

_____

What is your country of birth?

- O Australia (1)
- O New Zealand (2)
- O UK/Ireland (3)
- O US (4)
- O Asia (5)
- O Europe (6)
- O Africa (7)
- O Canada (8)

Are you an indigenous Australian?

- O Yes (1)
- O No (2)

How did you hear about this study?

- [ ] Breast Cancer Network Australia (1)
- [ ] Social Media (2)
- [ ] Breast Cancer Care WA (3)
- [ ] Breast Cancer Network NZ (4)
- [ ] Young Survival Coalition (5)
- [ ] Shocking Pink Charitable Trust (6)

What is your sexuality?

- O Heterosexual (1)
- O Homosexual/Lesbian (2)
- O Bi-sexual (3)
- O Asexual (4)
- O Other (5) _____

What is your current relationship status?

- O Single, not dating (1)
- O Single, casually dating (2)
- O In a committed relationship (3)
- O Married/living with partner (4)

Have you ever experienced online dating?

- O Yes (1)
- O No (2)

Please indicate when you experienced online dating

- O Before breast cancer diagnosis and/or treatment (1)
- O After breast cancer diagnosis and/or treatment (2)
- O Both before and after breast cancer diagnosis and/or treatment (3)

What is your highest level of education?

- O Less than 12 years (1)
- O 12 years (2)
- O Vocational training (3)
- O Some university (4)
- O Bachelor's degree (5)
- O Post graduate degree (6)

Please select which best describes you.

- O Still having periods (1)
- O No longer having periods (2)

Have you been diagnosed with breast cancer?

- O Yes (1)
- O No (2)

How many months ago were you diagnosed with breast cancer?

_____

Please indicate the stage of breast cancer with which you were diagnosed

- O Early Breast Cancer (breast cancer that has affected the breast tissue, or both the breast tissue and lymph nodes under the arm) (1)
- O Ductal Carcinoma in Situ (DCIS) (2)
- O Lobular Carcinoma in Situ (LCIS) (3)
- O Locally Advanced Breast Cancer (breast cancer that is large and/or has spread beyond the breast to other nearby area such as the skin, chest wall or muscle) (4)
- O Metastatic breast cancer (5)
- O I'm not sure (6)

Please indicate all types of surgery you have undergone

- ☐ Breast conservation surgery (1)
- ☐ Single mastectomy (2)
- ☐ Bilateral mastectomy (3)
- ☐ Breast reconstruction (4)
- ☐ Oophorectomy (5)

How many months ago did you undergo your most recent mastectomy?

_____

Please indicate your level of satisfaction with your breast reconstruction, with 0 = completely dissatisfied and 10 = completely satisfied.

1 (1)	

Have you undergone radiation therapy?

- O Yes (1)
- O No (2)

Have you undergone chemotherapy?

- O Yes (1)
- O No (2)

Have you taken, or are you currently taking, any hormone therapy?

- O Yes - tamoxifen (1)
- O Yes - an aromatase inhibitor (2)
- O No (3)

Following your cancer treatment, please indicate if you experienced any of the following:

- ☐ Difficulty concentrating (1)
- ☐ Memory loss (2)
- ☐ Fatigue (3)

Brief Self-Compassion Scale
Please indicate how often you behave in the stated manner, using the following scale.

	Almost never 1 (1)	2 (2)	3 (3)	4 (4)	Almost always 5 (5)
When I fail at something important to me I become consumed by feelings of inadequacy (1)	O	O	O	O	O
I try to be understanding and patient towards those aspects of my personality I don't like (2)	O	O	O	O	O
When something painful happens, I try to take a balanced view of the situation (3)	O	O	O	O	O
When I'm feeling down, I tend to feel like most other people are probably happier than I am (4)	O	O	O	O	O
I try to see my failings as part of the human condition (5)	O	O	O	O	O
When I'm going through a very hard time, I give myself the caring and tenderness I need (6)	O	O	O	O	O
When something upsets me I try to keep my emotions in balance (7)	O	O	O	O	O
When I fail at something that's important to me, I tend to feel alone in my failure (8)	O	O	O	O	O
When I'm feeling down I tend to obsess and fixate on everything that's wrong (9)	O	O	O	O	O
When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people (10)	O	O	O	O	O

I'm disapproving and judgmental about my own flaws and inadequacies (11)	O	O	O	O	O
I'm intolerant and impatient towards those aspects of my personality I don't like (12)	O	O	O	O	O

Interpersonal Competence Questionnaire

Please indicate your level of competence and comfort in handling each of the following situations, using the rating scale below:

5= I'm extremely good at this; I'd feel very comfortable and could handle this situation very well
4= I'm good at this; I'd feel quite comfortable and able to handle this situation
3= I'm ok at this; I'd feel somewhat uncomfortable and have some difficulty handling this situation
2= I'm only fair at this; I'd feel uncomfortable and have lots of difficulty handling this situation
1= I'm poor at this; I'd feel so uncomfortable and unable to handle this situation; I'd avoid if possible

	1 I'm poor at this (1)	2 I'm only fair at this (2)	3 I'm ok at this (3)	4 I'm good at this (4)	5 I'm extremely good at this (5)
Asking or suggesting to someone new that you get together and do something, e.g., go out together (1)	O	O	O	O	O
Telling a companion that you don't like a certain way he or she has been treating you (2)	O	O	O	O	O
Revealing something intimate about yourself while talking with someone you're just getting to know (3)	O	O	O	O	O
Helping a close companion work through his or her thoughts and feelings about a major life decision, e.g., a career choice (4)	O	O	O	O	O

Being able to admit that you might be wrong when a disagreement with a close companion begins to build into a serious fight (5)	O	O	O	O	O
Finding and suggesting things to do with new people whom you find interesting and attractive (6)	O	O	O	O	O
Saying 'no' when a date asks you to do something you don't want to do (7)	O	O	O	O	O
Confiding in a new date and letting him or her see your softer, more sensitive side (8)	O	O	O	O	O
Being able to patiently and sensitively listen to a companion 'let off steam' about outside problems s/he is having (9)	O	O	O	O	O
Being able to put begrudging (resentful) feelings aside when having a fight with a close companion (10)	O	O	O	O	O
Carrying on conversations with someone new whom you think you might like to get to know (11)	O	O	O	O	O

Turning down a request by a companion that is unreasonable (12)	O	O	O	O	O
Telling a close companion things about yourself that you're ashamed of (13)	O	O	O	O	O
Helping a close companion get to the heart of a problem s/he is experiencing (14)	O	O	O	O	O
When having a conflict with a close companion, really listening to his or her complaints and not trying to 'read' his/her mind (15)	O	O	O	O	O
Being an interesting and enjoyable person to be with when first getting to know people (16)	O	O	O	O	O
Standing up for your rights when a companion is neglecting you or being inconsiderate (17)	O	O	O	O	O
Letting a new companion get to know the 'real you' (18)	O	O	O	O	O
Helping a close companion cope with family or friendship problems (19)	O	O	O	O	O

Being able to take a companion's perspective in a fight and really understand his or her point of view (20)	O	O	O	O	O

	1 I'm poor at this (1)	2 I'm only fair at this (2)	3 I'm ok at this (3)	4 I'm good at this (4)	5 I'm extremely good at this (5)
Introducing yourself to someone you might like to get to know or date (21)	O	O	O	O	O
Telling a date that he or she is doing something that embarrasses you (22)	O	O	O	O	O
Letting down your protective 'outer shell' and trusting a close companion (23)	O	O	O	O	O
Being a good and sensitive listener for a companion who is upset (24)	O	O	O	O	O
Refraining from saying things that might cause a disagreement to build into a big fight (25)	O	O	O	O	O
Calling (on the phone) a new date to set up a time to get together and do something (26)	O	O	O	O	O
Confronting your close companion when he or she has broken a promise (27)	O	O	O	O	O
Telling a close companion about the things that secretly make you feel anxious or afraid (28)	O	O	O	O	O

Being able to say and do things to support a close companion when s/he is feeling down (29)	O	O	O	O	O
Being able to work through a specific problem with a companion without resorting to global accusations ('you always do that') (30)	O	O	O	O	O
Presenting good first impressions to people you might like to become friends with or date (31)	O	O	O	O	O
Telling a companion that he or she has done something to hurt your feelings (32)	O	O	O	O	O
Telling a close companion how much you appreciate and care for him or her (33)	O	O	O	O	O
Being able to show genuine empathic concern even when a companion's problem is uninteresting to you (34)	O	O	O	O	O

When angry with a companion, being able to accept that s/he has a valid point of view even if you don't agree with that view (35)	O	O	O	O	O
Going to parties or gathering where you don't know people well in order to start up new relationships (36)	O	O	O	O	O
Telling a date that he or she has done something that made you angry (37)	O	O	O	O	O
Knowing how to move a conversation with a date beyond superficial talk to really get to know each other (38)	O	O	O	O	O
When a close companion needs help and support, being able to give advice in ways that are well received (39)	O	O	O	O	O
Not exploding at a close companion (even when it is justified) in order to avoid a damaging conflict (40)	O	O	O	O	O

Dating Anxiety Scale (Homosexual/Lesbian)
Please read each item carefully and decide how much the statement is characteristic or true of you.

	Not at all characteristic (1)	Slightly characteristic (2)	Moderately characteristic (3)	Very characteristic (4)	Extremely characteristic (5)
I am usually nervous going on a date with someone for the first time (1)	O	O	O	O	O
I am often afraid that I may look silly or foolish while on a date (2)	O	O	O	O	O
I worry that I may not be attractive to people of the same sex (3)	O	O	O	O	O
It takes me a long time to feel comfortable when I am in a group of females (4)	O	O	O	O	O
I enjoy dating (5)	O	O	O	O	O
I am usually worried about what kind of impression I make while on a date (6)	O	O	O	O	O
It is difficult for me to relax when I am with a member of the same sex who I do not know very well (7)	O	O	O	O	O
I think I am too concerned with what members	O	O	O	O	O

of the same sex think of me (8)					
I feel nervous in dating situations (9)	O	O	O	O	O
I often feel nervous when talking to an attractive member of the same sex (10)	O	O	O	O	O
I love to go to parties (11)	O	O	O	O	O
I tend to be quieter than usual when I'm with a group of females (12)	O	O	O	O	O
I feel tense when I'm on a date with someone I don't know very well (13)	O	O	O	O	O
I often worry that the person I have a crush on won't think very much of me (14)	O	O	O	O	O

I love meeting new people (15)	O	O	O	O	O
I often feel nervous or tense in casual get-togethers in which just women are present (16)	O	O	O	O	O
I am concerned when I think that a date is forming a negative impression of me (17)	O	O	O	O	O
I feel confident in dating situations (18)	O	O	O	O	O
I become tense and jittery when I feel that someone of the same sex is checking me out (19)	O	O	O	O	O
I am frequently afraid that the person I have a crush on will notice my flaws (20)	O	O	O	O	O
Parties often make me anxious and uncomfortable (21)	O	O	O	O	O
I often worry about what kind of impression I am making on members of the same sex (22)	O	O	O	O	O
I am afraid that the person I am dating will find fault with me (23)	O	O	O	O	O

I am more shy with someone of the same sex (24)	O	O	O	O	O
I think that most people find me to be attractive (25)	O	O	O	O	O
I worry what my date will think of me even when I know it doesn't make any difference (26)	O	O	O	O	O

Dating Anxiety Scale (Heterosexual)

Please read each item carefully and decide how much the statement is characteristic or true of you.

	Not at all characteristic (1)	Slightly characteristic (2)	Moderately characteristic (3)	Very characteristic (4)	Extremely characteristic (5)
I am usually nervous going on a date with someone for the first time (1)	O	O	O	O	O
I am often afraid that I may look silly or foolish while on a date (2)	O	O	O	O	O
I worry that I may not be attractive to people of the opposite sex (3)	O	O	O	O	O
It takes me a long time to feel comfortable when I am in a group of males (4)	O	O	O	O	O
I enjoy dating (5)	O	O	O	O	O
I am usually worried about what kind of impression I make while on a date (6)	O	O	O	O	O
It is difficult for me to relax when I am with a member of the opposite sex who I do not know very well (7)	O	O	O	O	O

I think I am too concerned with what members of the opposite sex think of me (8)	O	O	O	O	O
I feel nervous in dating situations (9)	O	O	O	O	O
I often feel nervous when talking to an attractive member of the opposite sex (10)	O	O	O	O	O
I love to go to parties (11)	O	O	O	O	O
I tend to be quieter than usual when I'm with a group of males (12)	O	O	O	O	O
I feel tense when I'm on a date with someone I don't know very well (13)	O	O	O	O	O
I often worry that the person I have a crush on won't think very much of me (14)	O	O	O	O	O

I love meeting new people (15)	O	O	O	O	O
I often feel nervous or tense in casual get-togethers in which just men are present (16)	O	O	O	O	O
I am concerned when I think that a date is forming a negative impression of me (17)	O	O	O	O	O
I feel confident in dating situations (18)	O	O	O	O	O
I become tense and jittery when I feel that someone of the opposite sex is checking me out (19)	O	O	O	O	O
I am frequently afraid that the person I have a crush on will notice my flaws (20)	O	O	O	O	O
Parties often make me anxious and uncomfortable (21)	O	O	O	O	O
I often worry about what kind of impression I am making on members of the opposite sex (22)	O	O	O	O	O
I am afraid that the person I am dating will find fault with me (23)	O	O	O	O	O

I am more shy with someone of the opposite sex (24)	O	O	O	O	O
I think that most people find me to be attractive (25)	O	O	O	O	O
I worry what my date will think of me even when I know it doesn't make any difference (26)	O	O	O	O	O

Dating Anxiety Scale (Bisexual)

Please read each item carefully and decide how much the statement is characteristic or true of you.

	Not at all characteristic (1)	Slightly characteristic (2)	Moderately characteristic (3)	Very characteristic (4)	Extremely characteristic (5)
I am usually nervous going on a date with someone for the first time (1)	O	O	O	O	O
I am often afraid that I may look silly or foolish while on a date (2)	O	O	O	O	O
I worry that I may not be attractive to people of the opposite/same sex (3)	O	O	O	O	O
It takes me a long time to feel comfortable when I am in a group of males/females (4)	O	O	O	O	O
I enjoy dating (5)	O	O	O	O	O
I am usually worried about what kind of impression I make while on a date (6)	O	O	O	O	O
It is difficult for me to relax when I am with a member of the opposite/same sex who I do	O	O	O	O	O

not know very well (7)					
I think I am too concerned with what members of the opposite/same sex think of me (8)	O	O	O	O	O
I feel nervous in dating situations (9)	O	O	O	O	O
I often feel nervous when talking to an attractive member of the opposite/same sex (10)	O	O	O	O	O
I love to go to parties (11)	O	O	O	O	O
I tend to be quieter than usual when I'm with a group of females/males (12)	O	O	O	O	O
I feel tense when I'm on a date with someone I don't know very well (13)	O	O	O	O	O
I often worry that the person I have a crush on won't think very much of me (14)	O	O	O	O	O

I love meeting new people (15)	O	O	O	O	O
I often feel nervous or tense in casual get-togethers in which men and women are present (16)	O	O	O	O	O
I am concerned when I think that a date is forming a negative impression of me (17)	O	O	O	O	O
I feel confident in dating situations (18)	O	O	O	O	O
I become tense and jittery when I feel that someone of the opposite/same sex is checking me out (19)	O	O	O	O	O
I am frequently afraid that the person I have a crush on will notice my flaws (20)	O	O	O	O	O
Parties often make me anxious and uncomfortable (21)	O	O	O	O	O
I often worry about what kind of impression I am making on members of the opposite/same sex (22)	O	O	O	O	O
I am afraid that the person I am dating will find fault with me (23)	O	O	O	O	O

I am more shy with someone of the opposite/same sex (24)	O	O	O	O	O
I think that most people find me to be attractive (25)	O	O	O	O	O
I worry what my date will think of me even when I know it doesn't make any difference (26)	O	O	O	O	O

Body Image Scale

In these questions, you will be asked how you feel about your appearance, and about any changes that may have resulted from your cancer or treatment. Please read each item carefully, and indicate the response which comes closest to the way you have been feeling about yourself, during the past week.

	Not at all (1)	A little (2)	Quite a bit (3)	Very much (4)
Have you been feeling self-conscious about your appearance? (1)	O	O	O	O
Have you felt less physically attractive as a result of your cancer or treatment? (2)	O	O	O	O
Have you been dissatisfied with your appearance when dressed? (3)	O	O	O	O
Have you been feeling less feminine as a result of you cancer or treatment? (4)	O	O	O	O
Did you find it difficult to look at yourself naked? (5)	O	O	O	O
Have you been feeling less sexually attractive as a result of your cancer or treatment? (6)	O	O	O	O
Did you avoid people because of the way you felt about your appearance? (7)	O	O	O	O
Have you been feeling the treatment has left your body less whole? (8)	O	O	O	O
Have you felt dissatisfied with your body? (9)	O	O	O	O
Have you been dissatisfied with the appearance of your scar(s)? (10)	O	O	O	O

Appearance Schemas Inventory – Revised

The statements below are beliefs that people may or may not have about their physical appearance and its influence on life. Decide on the extent to which you personally disagree or agree with each statement below.

	Strongly disagree (1)	Mostly disagree (2)	Neither agree or disagree (3)	Mostly agree (4)	Strongly agree (5)
I spend little time on my physical appearance (1)	O	O	O	O	O
When I see good-looking people, I wonder about how my own looks measure up (2)	O	O	O	O	O
I try to be as physically attractive as I can be (3)	O	O	O	O	O
I have never paid much attention to what I look like (4)	O	O	O	O	O
I seldom compare my appearance to that of other people I see (5)	O	O	O	O	O
I often check my appearance in a mirror just to make sure I look okay (6)	O	O	O	O	O
When something makes me feel good or bad about my looks, I tend to dwell on it (7)	O	O	O	O	O
If I like how I look on a given day, it's easy to feel happy about other things (8)	O	O	O	O	O

If somebody had a negative reaction to what I look like, it wouldn't bother me (9)	O	O	O	O	O
When it comes to my physical appearance, I have high standards (10)	O	O	O	O	O
My physical appearance has had little influence on my life (11)	O	O	O	O	O
Dressing well is not a priority for me (12)	O	O	O	O	O
When I meet people for the first time, I wonder what they think about how I look (13)	O	O	O	O	O
In my everyday life, lots of things happen that make me think about what I look like (14)	O	O	O	O	O
If I dislike how I look on a given day, it's hard to feel happy about other things (15)	O	O	O	O	O
I fantasize about what it would be like to be better looking than I am (16)	O	O	O	O	O
Before going out, I make sure that I look as good as I possibly can (17)	O	O	O	O	O
What I look like is an important part of who I am (18)	O	O	O	O	O

By controlling my appearance, I can control many of the social and emotional events in my life (19)	O	O	O	O	O
My appearance is responsible for much of what's happened to me in my life (20)	O	O	O	O	O

The Physical Disability Sexual and Body Esteem Scale

Please indicate your response to the following statements. Your responses should reflect your personal opinions and feelings about your cancer, your body and your sexuality.

	Strongly Agree (1)	Agree (2)	Don't Know (3)	Disagree (4)	Strongly Disagree (5)
I feel that my cancer interferes with my sexual enjoyment (1)	O	O	O	O	O
It is harder to find a sexual partner when you have cancer (2)	O	O	O	O	O
I would like to hide my cancer as much as possible (3)	O	O	O	O	O
I feel sexually frustrated because of my cancer (4)	O	O	O	O	O
I feel that my cancer is likely to prevent me from satisfying a sexual partner (5)	O	O	O	O	O
My sexual expression is limited by my cancer (6)	O	O	O	O	O
I feel that people are not sexually interested in me because of my cancer (7)	O	O	O	O	O
I envy people with 'normal' bodies (8)	O	O	O	O	O
I believe that I experience rejection from potential sexual partners because of my cancer (9)	O	O	O	O	O

Experiences in Close Relationships Scale (ECR-M16)
The following statements concern how you feel in close relationships with others. In the following statements the term 'other people' refers to people with whom you feel close. Using the rating scale, indicate how much you agree with each statement.

	1 Disagree (1)	2 (2)	3 (3)	4 Neutral (4)	5 (5)	6 (6)	7 Agree (7)
I get uncomfortable when other people want to be very close to me (1)	O	O	O	O	O	O	O
I worry about being abandoned (2)	O	O	O	O	O	O	O
I tell people with whom I feel close just about everything (3)	O	O	O	O	O	O	O
I need a lot of reassurance that I am loved by people with whom I feel close (4)	O	O	O	O	O	O	O
I don't feel comfortable opening up to other people (5)	O	O	O	O	O	O	O
I worry a lot about my relationships (6)	O	O	O	O	O	O	O
I usually discuss my problems and concerns with people with whom I feel close (7)	O	O	O	O	O	O	O

I find that other people don't want to get as close as I would like (8)	O	O	O	O	O	O	O
I try to avoid getting too close to other people (9)	O	O	O	O	O	O	O
I worry that other people won't care about me as much as I care about them (10)	O	O	O	O	O	O	O
I don't mind asking other people for comfort, advice or help (11)	O	O	O	O	O	O	O
I get frustrated when other people are not around as much as I would like (12)	O	O	O	O	O	O	O
I prefer not to be too close to other people (13)	O	O	O	O	O	O	O
I worry a fair amount about losing people with whom I feel close (14)	O	O	O	O	O	O	O

It helps to turn to other people in times of need (15)	O	O	O	O	O	O	O
I resent it when people with whom I feel close spend time away from me (16)	O	O	O	O	O	O	O

The Arizona Sexual Experience Scale

Please indicate your overall strength of sex drive during the past week, including today.

	Extremely strong (1)	Very strong (2)	Somewhat strong (3)	Somewhat weak (4)	Very weak (5)	No sex drive (6)
How strong is your sex drive? (1)	O	O	O	O	O	O

For the items below, please indicate your overall level of ease during the past week, including today.

	Extremely easily (1)	Very easily (2)	Somewhat easily (3)	Somewhat difficult (4)	Very difficult (5)	Never (6)
How easily are you sexually aroused (turned on)? (1)	O	O	O	O	O	O
How easily does your vagina become moist or wet during sex? (2)	O	O	O	O	O	O

Please indicate whether you have had any sexual activity in the past week

O Some sexual activity (1)

O No sexual activity (2)

Please indicate your overall ease of reaching an orgasm during the past week, including today

	Extremely easily (1)	Very easily (2)	Somewhat easily (3)	Somewhat difficult (4)	Very difficult (5)	Never reach orgasm (6)
How easily can you reach orgasm? (1)	O	O	O	O	O	O

Please indicate your overall level of satisfaction with orgasms during the past week, including today.

	Extremely satisfying (1)	Very satisfying (2)	Somewhat satisfying (3)	Somewhat unsatisfying (4)	Very unsatisfying (5)	Can't reach orgasm (6)
Are your orgasms satisfying? (1)	O	O	O	O	O	O

Study Three - DATE-BC acceptability measures

Please rate your experience in using online activities provided through a website

- O No or very low levels of experience
- O Low level of experience
- O Neutral - neither low or high experience
- O High level experience
- O Very high level experience

The following statements relate generally to the DATE-BC website. Please indicate your level of agreement with the following statements.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
The website appeals to me	O	O	O	O	O
The home page is welcoming	O	O	O	O	O
The website is easy to navigate	O	O	O	O	O
The colour scheme is appropriate	O	O	O	O	O
The colour scheme is appealing	O	O	O	O	O
I liked the design of the website	O	O	O	O	O
The topic of this website is interesting	O	O	O	O	O

The information is useful	O	O	O	O	O
There is enough information provided	O	O	O	O	O
The information is easy to understand	O	O	O	O	O
The instructions for the exercises are easy to understand	O	O	O	O	O
When I look at this website, I know what to do next	O	O	O	O	O
The content is user-friendly	O	O	O	O	O
The website feels complete	O	O	O	O	O
I would recommend this website to a friend	O	O	O	O	O
I would be happy to return to this website on another occasion	O	O	O	O	O

Did you access the section on 'What do I Value in a Partner?'

O Yes

O No

Did you complete the written activity in the section 'What do I Value in a Partner?'

O Yes

O No

Please answer the following questions about the section 'What do I Value in a Partner?'

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
This section appealed to me	O	O	O	O	O
The instructions for the exercise were easy to understand	O	O	O	O	O
This section made sense to me	O	O	O	O	O
I found this section helpful	O	O	O	O	O
There was enough information provided	O	O	O	O	O
I would be happy to return to this section on another occasion	O	O	O	O	O

Did you access the section on 'Having the Cancer Talk?'

O Yes

O No

Did you complete the written exercises in the section 'Having the Cancer Talk'?

O Yes

O No

Please answer the following questions about the section 'Having the Cancer Talk'

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
This section appealed to me	O	O	O	O	O
The instructions for this section were easy to understand	O	O	O	O	O
This section made sense to me	O	O	O	O	O
I found the exercises helpful	O	O	O	O	O
There was enough information provided	O	O	O	O	O
I would be happy to return to this section on another occasion	O	O	O	O	O

Did you access the section on 'Coping with my Changed Body?'

O Yes

O No

Did you complete the written exercise (the self-compassion exercise) in the section 'Coping with my Changed Body'?

O Yes

O No

Please answer the following questions about the section 'Coping with my Changed Body'

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
This section appealed to me	O	O	O	O	O
The instructions for this section were easy to understand	O	O	O	O	O
This section made sense to me	O	O	O	O	O
I found the exercises helpful	O	O	O	O	O
There was enough information provided	O	O	O	O	O
I would be happy to return to this section on another occasion	O	O	O	O	O

Did you access the section on 'Managing my Dating Worries?'

O Yes

O No

Did you complete the written exercise on 'Managing my Dating Worries'?

O Yes

O No

Please answer the following questions about the section 'Managing my Dating Worries'

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
This section appealed to me	O	O	O	O	O
The instructions for this section were easy to understand	O	O	O	O	O
This section made sense to me	O	O	O	O	O
I found the exercises helpful	O	O	O	O	O
There was enough information provided	O	O	O	O	O
I would be happy to return to this section on another occasion	O	O	O	O	O

What did you like about this website?

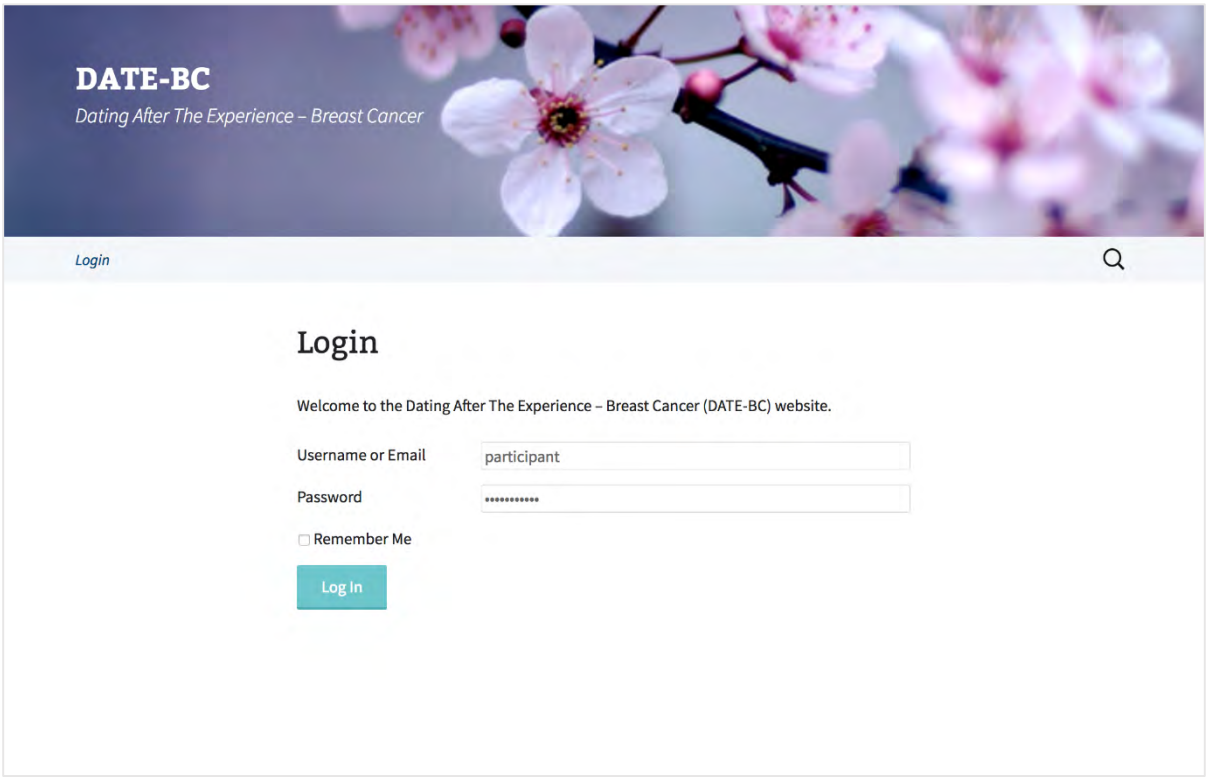
_____

What do you think could be improved on this website?

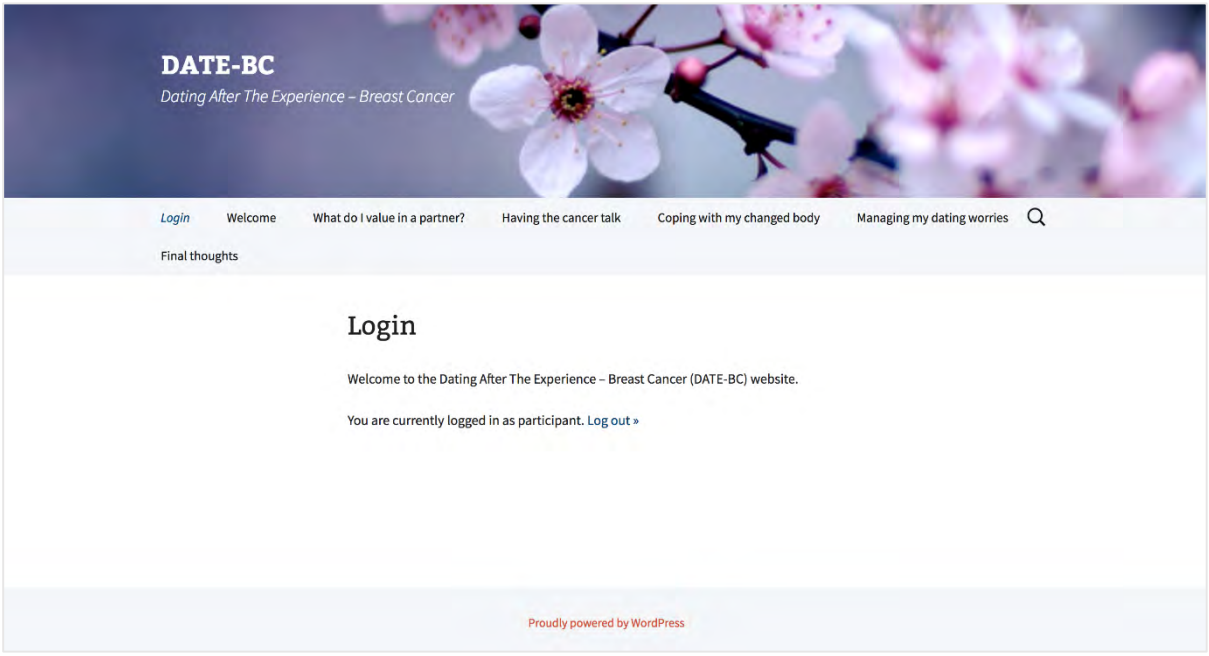
_____

Appendix D: Dating After The Experience (DATE-BC) Online Intervention Screenshots

Login Page



Landing Page



Welcome Page

Login | *Welcome* | What do I value in a partner? | Having the cancer talk | Coping with my changed body | Managing my dating worries | Final thoughts

Welcome

Many single women would like to start dating again after breast cancer. But they are faced with lots of challenges and worries about meeting a new partner.

Dating After The Experience – Breast Cancer (DATE-BC) is a website created to help support women in dating after breast cancer. It has four main sections:

1. What do I value in a partner?
2. Having the cancer talk
3. Coping with my changed body
4. Managing my dating worries

We recommend that you progress through each section in this order.

You can access each section via the menu items at the top of the page. Alternatively, you can click on the link to the next section at the bottom of each page.

For many activities, we ask that you type a written response. This is designed to help you clarify your thoughts about the activity. Your written responses are confidential and will not be read by anyone else. Please note that your responses may not be saved when you progress to the next section. If you wish to keep a copy of your responses, please either print the page, copy the text into a word document, or write your responses on paper.

Please click here to access the first section What do I value in a partner?

Proudly powered by WordPress

What do I Value in a Partner?

Login Welcome *What do I value in a partner?* Having the cancer talk Coping with my changed body Managing my dating worries

Final thoughts

What do I value in a partner?

When thinking about dating, it can be helpful to think about the traits you value in a partner such as trust or honesty.

You may have the same values as before your cancer. Or there may be values that have changed or become more important to you since your cancer.

Use the space below to jot down what traits you value in a partner. Alternatively, you may use a pen and paper if you feel more comfortable.

Continue to Having the Cancer Talk

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Having the Cancer Talk

Having the cancer talk

There are many considerations when talking to a potential partner about your cancer. The following sections will help you think about when, what and how you may wish to disclose your cancer history.

Continue to Having the cancer talk - When?

Having the Cancer Talk – When?

When?

There is no 'right' time to have the cancer talk with a new partner.

Some women prefer to talk about their cancer early on, before the relationship becomes too serious. This helps them to feel more honest about their cancer history. They can also find out early if their partner feels comfortable dating someone who has or has had cancer.

How do you feel about having the cancer talk early on? Please write your thoughts below (you may prefer to use a pen and paper).

Other women worry that talking about their cancer too soon will scare their date. They prefer to establish trust and feel the relationship is going somewhere before having the cancer talk.

What is your current preference for when you could share your cancer history? Please note your thoughts below (or use a pen and paper if you prefer).

Continue to Having the Cancer Talk - What?

Having the Cancer Talk – What?

What?

Now that you've thought about when to start the cancer talk, let's consider what you might talk about. Think about the following topics:

- Cancer 'facts', such as your diagnosis or treatment
- Body or sexual changes
- How you feel about your cancer
- Future considerations - having a family, future surgery, or cancer recurrence

Thinking about these cancer topics, what things might be easier for your to share with a new partner? Please write your thoughts below (you may prefer to use a pen and paper):

What things might be harder to talk about? Please write your thoughts below (you may prefer to use a pen and paper):

It's important to remember that it's your choice when and what to share about your cancer. You might not want to talk about everything all at once and that's ok.

Continue to Having the Cancer Talk - How?

Having the Cancer Talk – How?

How?

There are lots of different ways to talk about your cancer, such as:

- Sitting down with your date and simply talking about you cancer history.
- Showing a partner your scars and other body changes as a way to start the conversation.
- Using humor to make light of the cancer.
- Practicing how or what you will say with a close friend, a family member, or in front of a mirror. You could even write it down.

If you are worried about a negative reaction from a partner, it can help to practice a response and think about how you would cope in that situation.

Continue to Coping with my Changed Body

Copying with my Changed Body

Coping with my changed body

Breast cancer treatment can change your body and the way you look. You may have had your breast(s) removed during surgery. You may have experienced side effects such as hair loss, changes to your weight or skin colour, or swelling in your arms or legs.

Some women adjust well to these changes and find that treatment does not affect how they feel about themselves. But other women find it harder to come to terms with these changes and feel upset or worried about their new body.

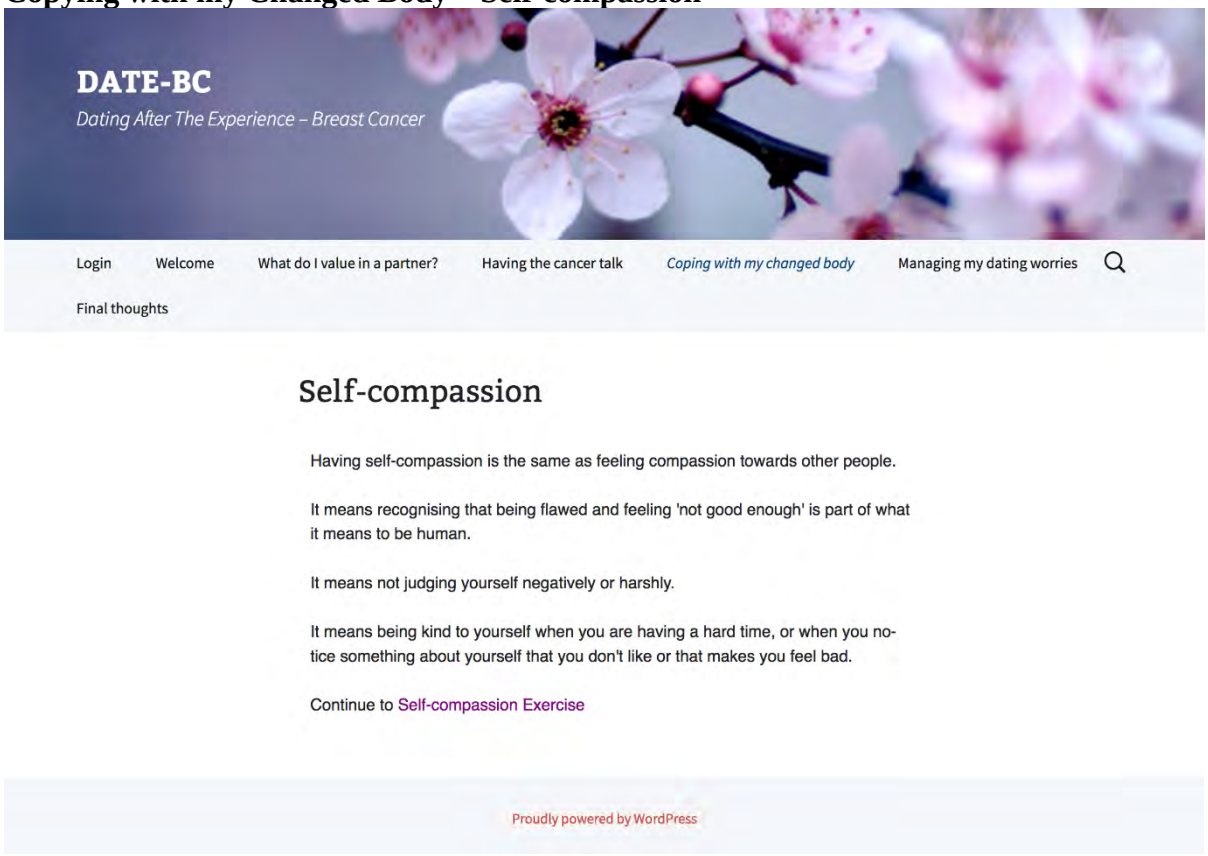
Your body image is how you feel about your body and your appearance. It is your opinion, your own 'mental picture' of how you look. Studies have shown that up to two out of three women are worried about their body image after breast cancer.

Having a poor body image can affect your confidence when dating. It can also make you more self-conscious and worried about being intimate with new partners.

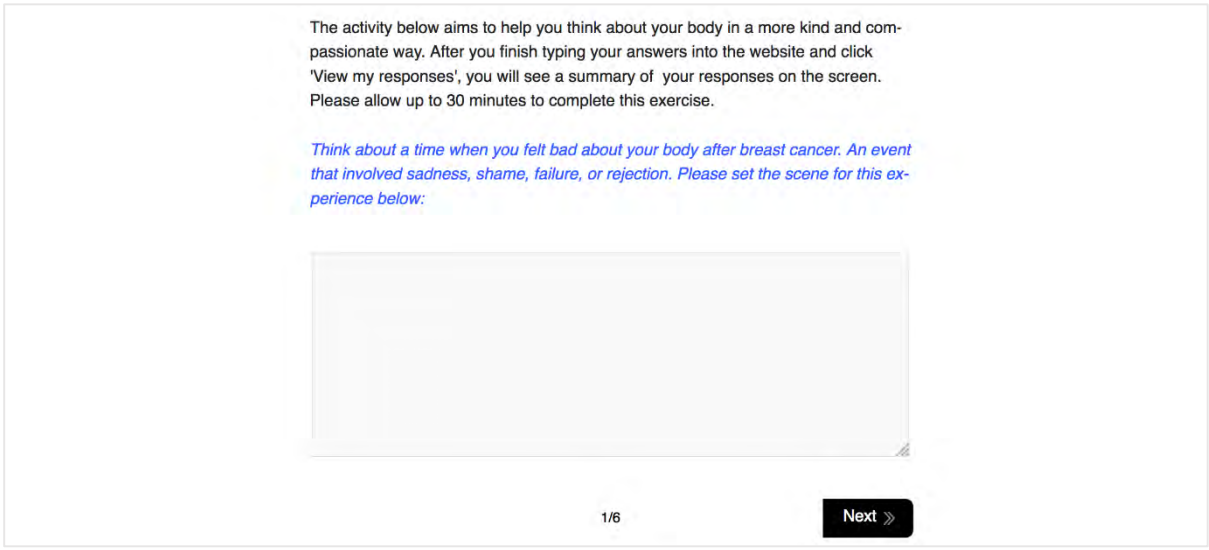
It can be difficult to change your actual appearance. But your body image can be changed by having a more kind and compassionate attitude towards your body.

Continue to Self-compassion

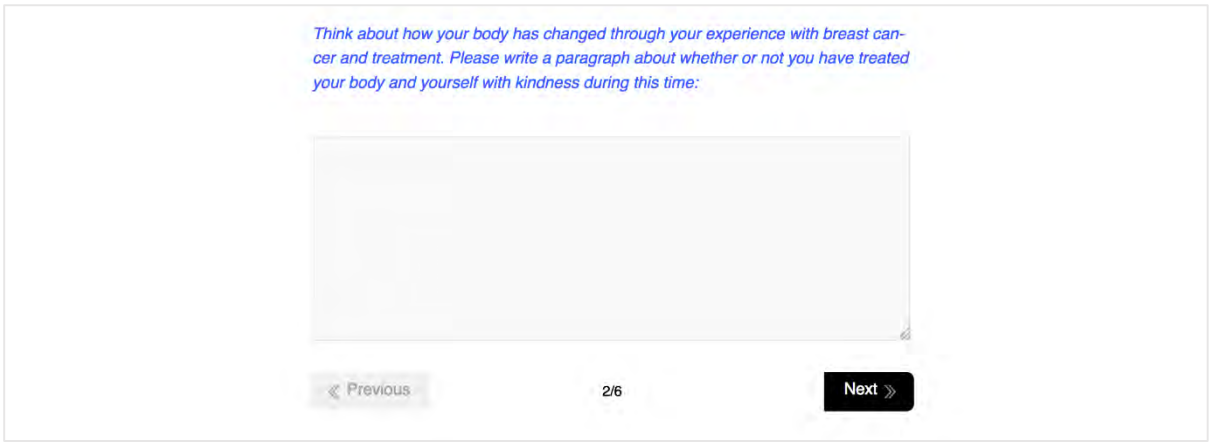
Copying with my Changed Body – Self-compassion



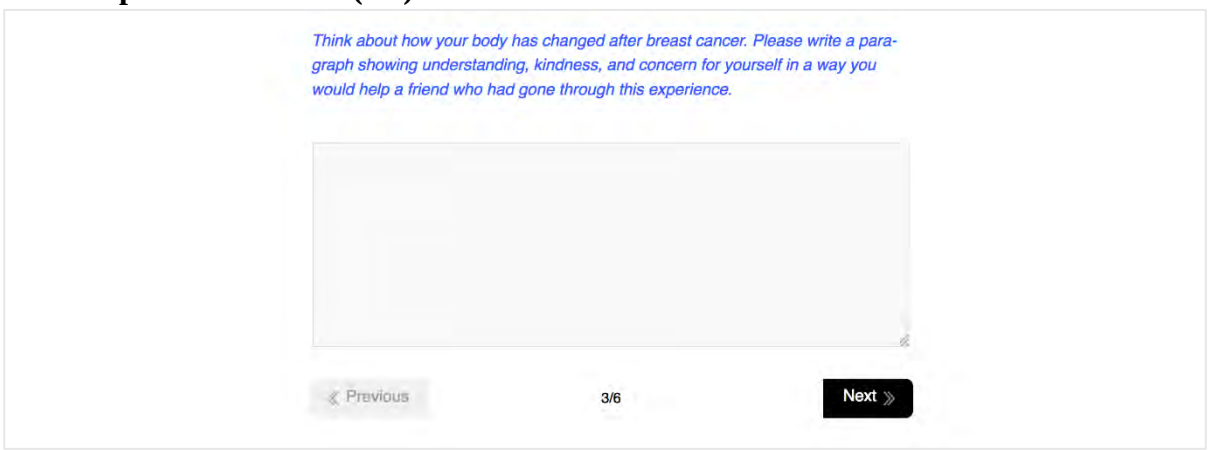
Self-compassion Exercise (1/6)



Self-compassion Exercise (2/6)

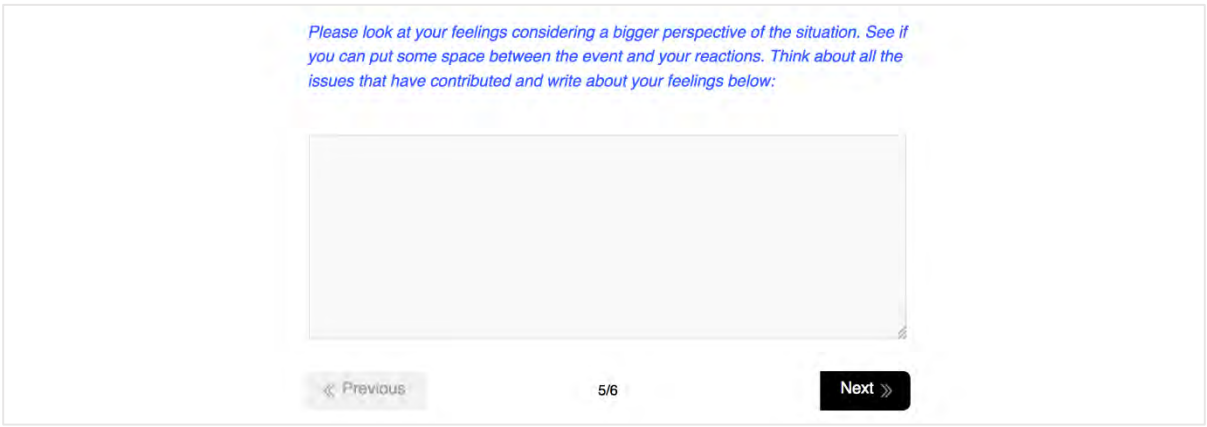


Self-compassion Exercise (3/6)

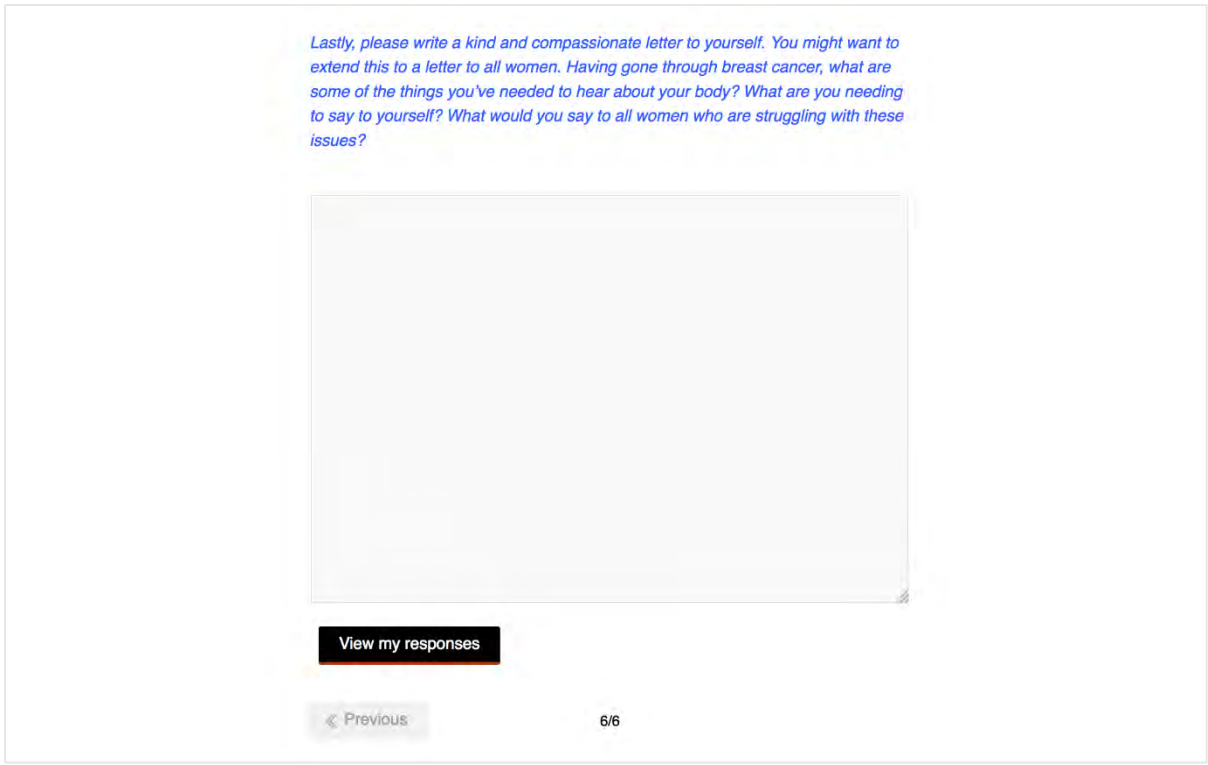


Self-compassion Exercise (4/6)

Self-compassion Exercise (5/6)



Self-compassion Exercise (6/6)



Daily Self-compassion Exercise

Daily self-compassion exercise

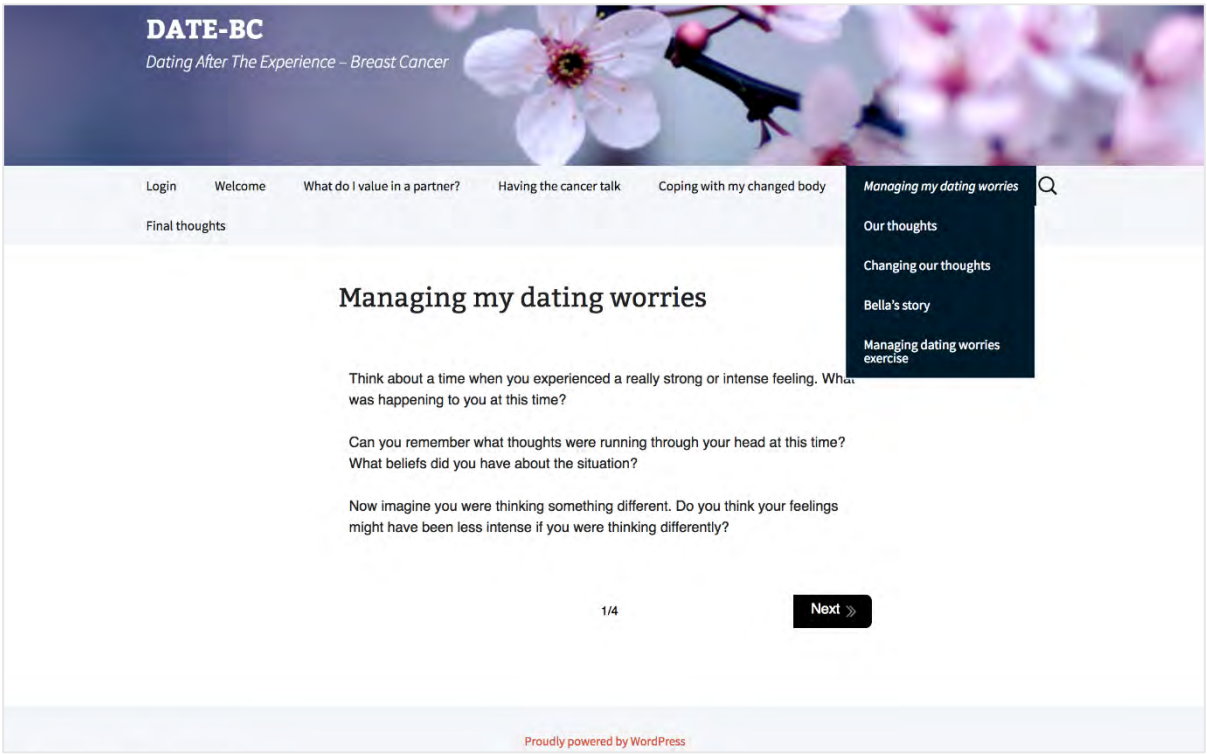
Reflect on the self-compassion exercise you just completed. As a way of continuing this type of thinking, try doing the following exercise daily over the next two weeks.

Keep a small notebook by your bed. Before you go to sleep, think about the events of your day. Think about anything that made you feel inadequate, embarrassed or like you failed- anything you judged yourself harshly about.

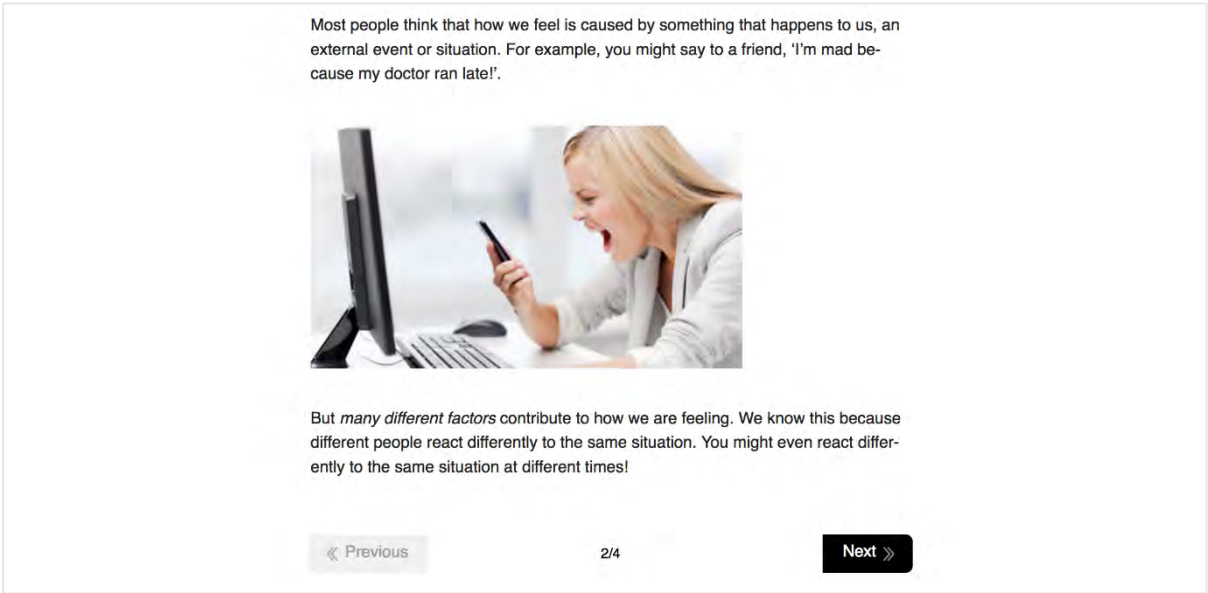
1. Think about how you felt when this happened. Try to be accepting and non-judgemental of your experience.
2. Reflect on how your experience is part of being human (e.g., being human means being imperfect, everyone makes mistakes).
3. Write one sentence using kind, understanding words of comfort to yourself.

Continue to Managing dating worries

Managing my Dating Worries (1/4)



Managing my Dating Worries (2/4)



Managing my Dating Worries (3/4)

Our thoughts, or 'self-talk', have a big influence on how we feel about a situation.

Your doctor running late might lead you to have thoughts such as 'he's so inconsiderate' or 'I'll be late for my next appointment'. These thoughts then make you feel mad. You might complain to your doctor, or vent to a friend later on.

The relationship between our thoughts, feelings and behaviours can be seen in the picture below:

« Previous 3/4 Next »

Managing my Dating Worries (4/4)

Think about some of the thoughts that you have had about dating since your cancer. How have these thoughts made you feel? Note your thoughts and feelings in the space below, or using pen and paper if you prefer.

Continue to Our Thoughts

« Previous 4/4

Our Thoughts

Our thoughts

When you are faced with a situation, you can have helpful, neutral or unhelpful thoughts about it. Most of the time you will not be aware of these thoughts happening – they happen automatically.

Helpful thoughts are flexible and realistic. For example, recognising there are lots of possible reasons why a date didn't call you back – maybe they didn't want to pursue the relationship, or maybe they just forgot. Helpful thoughts tend to lead to more positive feelings.

Unhelpful thoughts lead to more negative feelings, such as sadness, worry or anger.

Consider the thoughts below. Which thoughts seem helpful and unhelpful? How do you think these women might be feeling?

Continue to Changing Our Thoughts

Changing our Thoughts (1/4)

So far, we have established that it is our thoughts that influence our feelings and our behaviours. It's the thought-feeling-behaviour connection.

We have also talked about unhelpful and helpful ways of thinking.

It is important to remember that our thoughts are just ideas that we have in our head.

Sometimes these ideas are realistic and helpful. But other times they are not realistic and can be quite unhelpful.

The key to managing your dating-related worries is by challenging and changing your unhelpful thoughts.

1/4 Next

Changing our Thoughts (2/4)

Keep in mind that we are not trying to make all your thoughts positive. We don't want you to wear rose coloured glasses!

There will always be bad things that happen and we don't expect you to think positively when a situation is truly bad. Other ways of coping or talking to a therapist can be useful here.

That said, there may be times when you feel really worried or upset because of a thought that is unrealistic or unhelpful.

Previous 2/4 Next

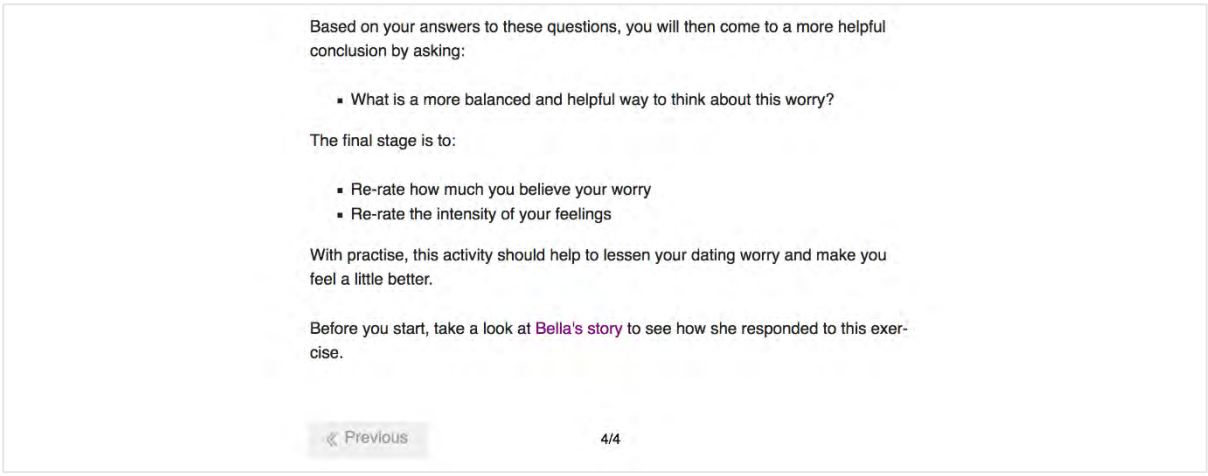
Changing our Thoughts (3/4)

The following activity aims to encourage helpful ways of thinking about dating after breast cancer. Over the next few pages, you'll need to think about your biggest worry about dating and ask yourself:

- What exactly am I worried about? What do I think will happen?
- On a scale of 1 to 10, how much do I think my worry is true or likely to happen?
- On a scale of 1 to 10, when I think about my biggest worry, how do I feel?
- What is the evidence (proof) that my worry is true or will happen?
- What is the evidence (proof) that my worry isn't true or won't happen?
- Supposing my worry did happen, how would I cope?
- What are the consequences of worrying about this?

Previous 3/4 Next

Changing our Thoughts (4/4)



Based on your answers to these questions, you will then come to a more helpful conclusion by asking:

- What is a more balanced and helpful way to think about this worry?

The final stage is to:

- Re-rate how much you believe your worry
- Re-rate the intensity of your feelings

With practise, this activity should help to lessen your dating worry and make you feel a little better.

Before you start, take a look at Bella's story to see how she responded to this exercise.

« Previous 4/4

Bella's Story

Bella was diagnosed with breast cancer 12 months ago when she was 36 years old. She had a single mastectomy and plans to have a reconstruction sometime in the future. Until then, she is wearing a breast prosthesis. During her cancer treatment, Bella put on lots of weight. This coupled with losing her breast and dealing with breast scarring made her feel really self-conscious about her body.

1/12 Next »

Two months ago, Bella was having dinner with some friends at a local restaurant when she met Mark. Bella and Mark have been on three dates now, and she is yet to tell him about her breast cancer. Every time she thinks about broaching this with Mark, Bella feels really worried. While Bella would like to start a more intimate relationship, she is afraid of how Mark will react to her new body.

Bella decided to complete the following exercise to try and work through her concerns.

« Previous 2/12 Next »

First, we asked Bella to think about one of her main worries or concerns that she has about dating or meeting a new partner. Then we asked her to answer the questions below as honestly as possible.

What exactly am I worried about? What do I think will happen?

Mark will think I'm unattractive and will leave me if I show him my body.

« Previous 3/12 Next »

We then asked Bella to rate how much she thinks her worry is true or likely to happen on the scale below.

« Previous 4/12 Next »

Next, we asked Bella how she feels when she thinks about her worry.

Anxious

We asked Bella to rate the intensity of this feeling on the scale below.

« Previous 5/12 Next »

After this, we asked Bella to write down any evidence or proof she has that her worry is true or likely to happen.

To help her with this, we asked her to think about the following:

- *How do I know my worry is true?*
- *Has it happened before? How often?*

My body doesn't look as good as it used to.
Other people have commented that my body has changed.
My friend's partner left her after her appearance changed.

« Previous 6/12 Next »

Then we asked her to write down the the evidence (proof) that her worry *isn't true* or *won't happen*?

To help her with this, we asked her to think about the following:

- *Are there any other ways of thinking about the situation?*
- *How might someone else view the situation?*
- *Is it helpful for me to think this way?*

Mark keeps saying how much he likes my body (and he can see my size/weight with clothes on).
He hasn't given any indication that he will leave.
My body is more than just my weight and my breast.
There are lots of other things that Mark says he likes about me, e.g., my eyes, my sense of humour.

« Previous 7/12 Next »

We then asked Bella to write down how she would cope if her worry did happen.

To help her answer this question, we asked Bella to consider:

- *How has she coped previously?*
- *Who or what could she call on to help get her through?*
- *What resources, skills or abilities could help her?*
- *Are there any positives in her or the situation that she is ignoring?*

I would be upset but would probably cope ok.
I have dealt with rejection before in previous relationships.
I am a really strong person.
I have lots of support in friends and family.

« Previous 8/12 Next »

Next, we asked Bella to write down the consequences of her having this worry.

Worrying isn't helping anything.
I'd like to be more intimate with Mark but my worry is stopping me.
My friends have noticed that I'm more irritable because I'm stressed/worried.

« Previous 9/12 Next »

We then asked Bella to think about a more balanced and helpful way to think about this worry, keeping in mind her answers to all the previous questions.

Mark probably won't think I'm ugly and probably won't leave. If he does, I'll be upset. But I know that I would cope becuase I am strong, have coped before and have lots of support around me.

« Previous 10/12 Next »

At the end of the activity, we asked Bella to rate how much she believes her worry is true or likely to happen now.

We also asked her to rate the intensity of her emotions now that she has finished the exercise.

« Previous 11/12 Next »

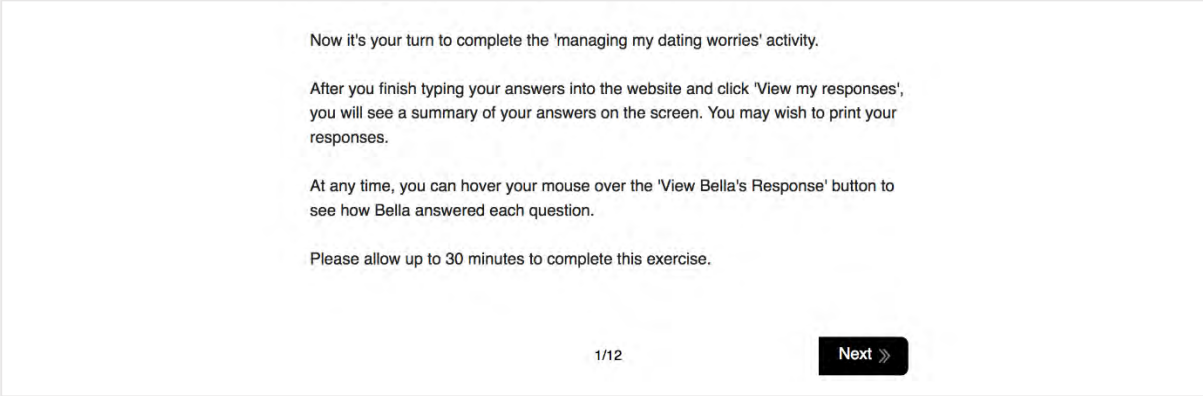
Here, Bella used this activity to help her form a more balanced view of the situation. This helped her to feel a little less anxious.

You'll notice that Bella's worry did not go away all together - that is not the purpose of the exercise. Instead, this exercise aims to help you to think about your worry in a more balanced way, considering many different perspectives, rather than just focusing on the negatives of the situation.

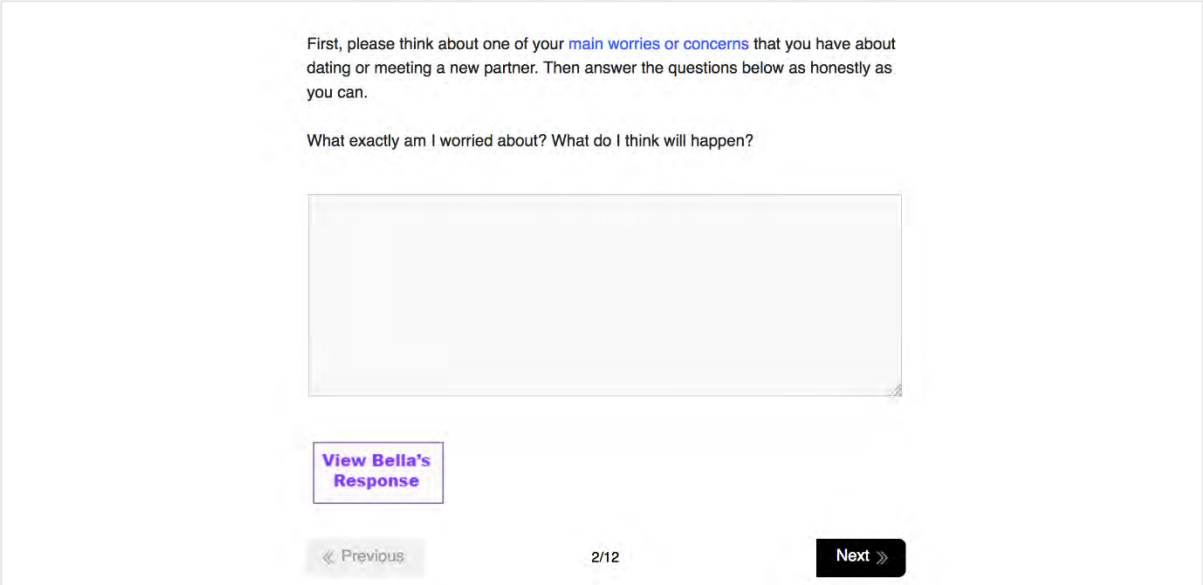
Now it's your turn to complete this activity - click on the Managing my Dating Worries link here.

« Previous 12/12

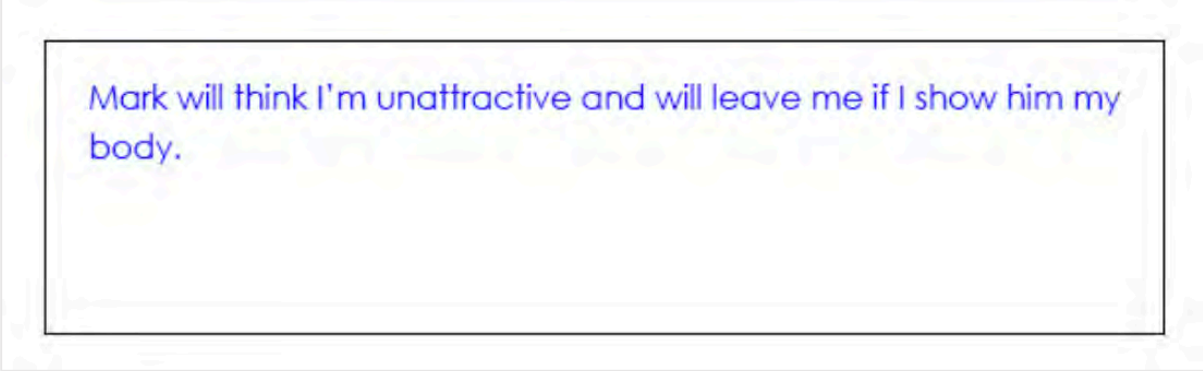
Managing Dating Worries Exercise (1/12)



Managing Dating Worries Exercise (2/12)



Mouse Rollover 'View Bella's Response'



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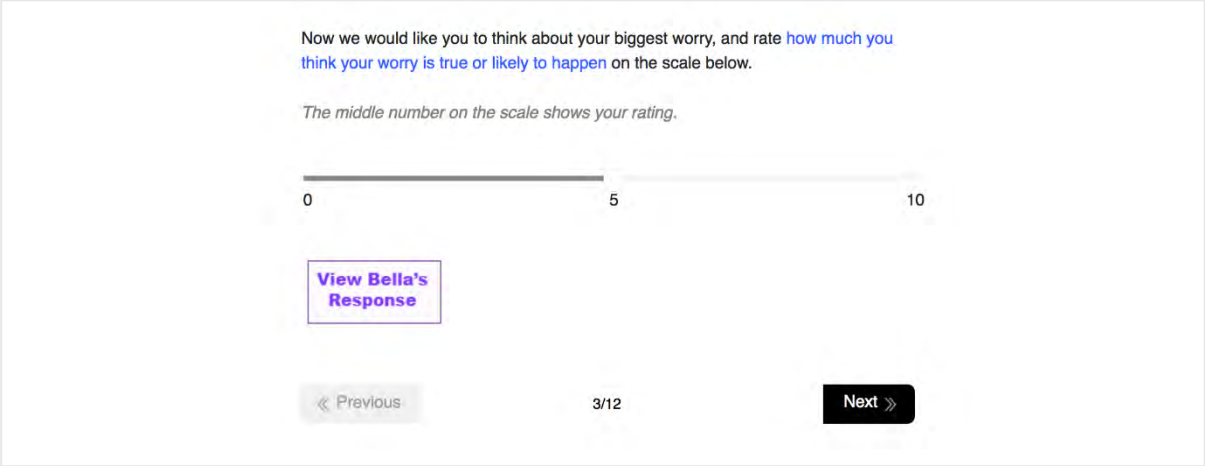
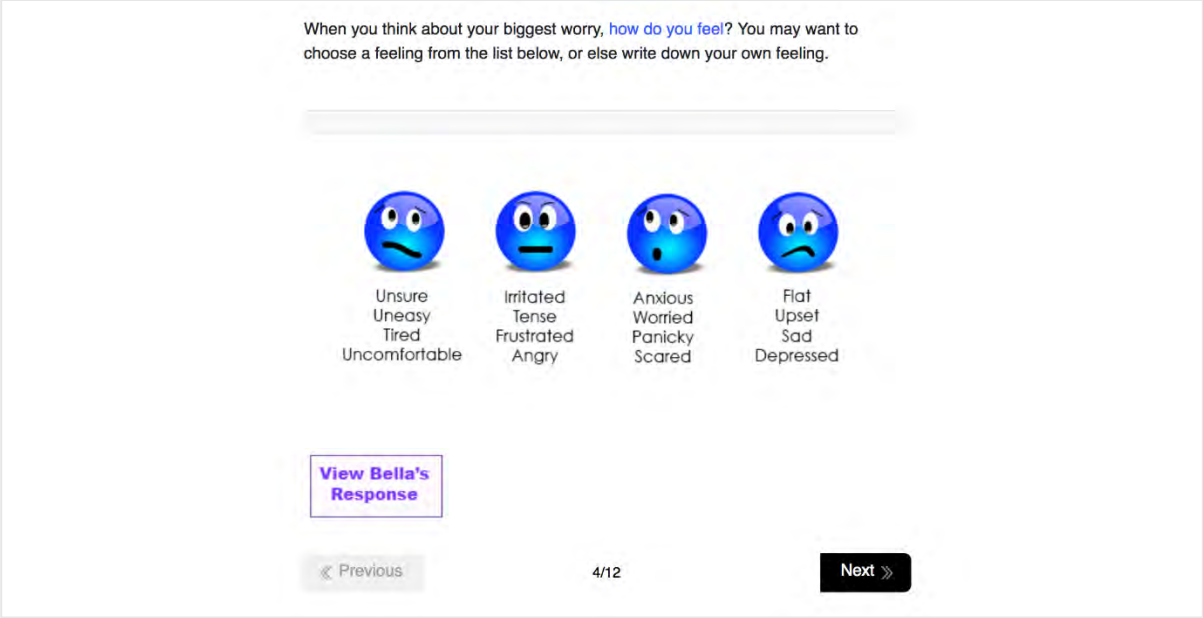


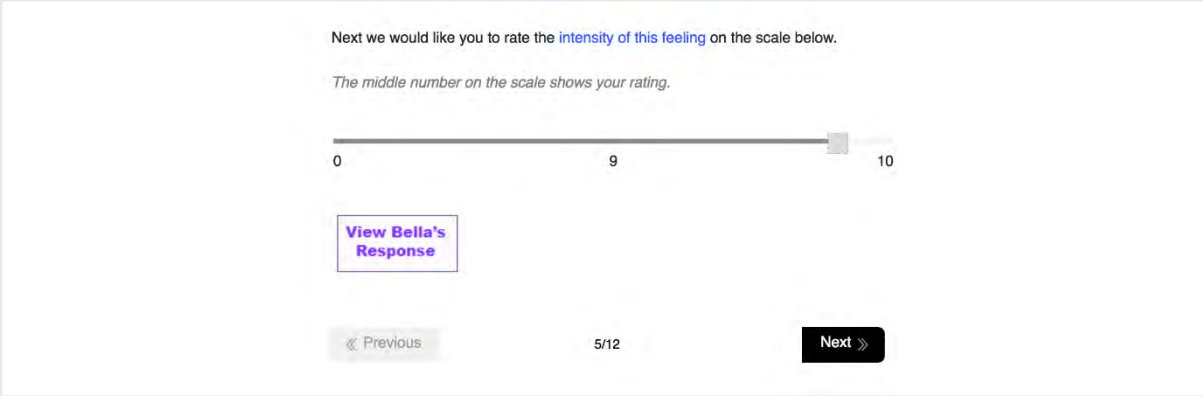
Mouse Rollover 'View Bella's Response'

Managing Dating Worries Exercise (4/12)



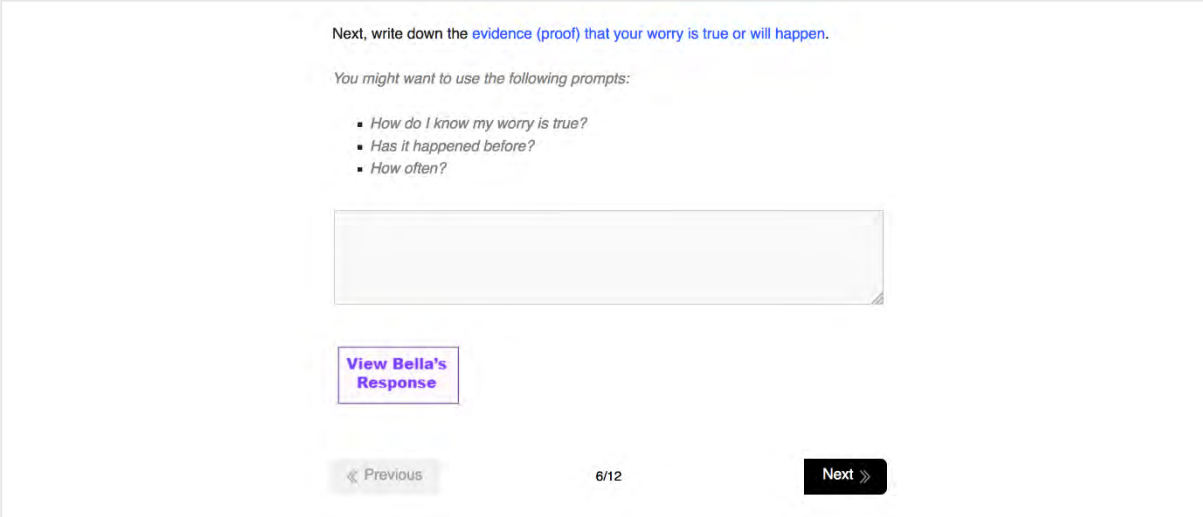
Mouse Rollover 'View Bella's Response'

Managing Dating Worries Exercise (5/12)



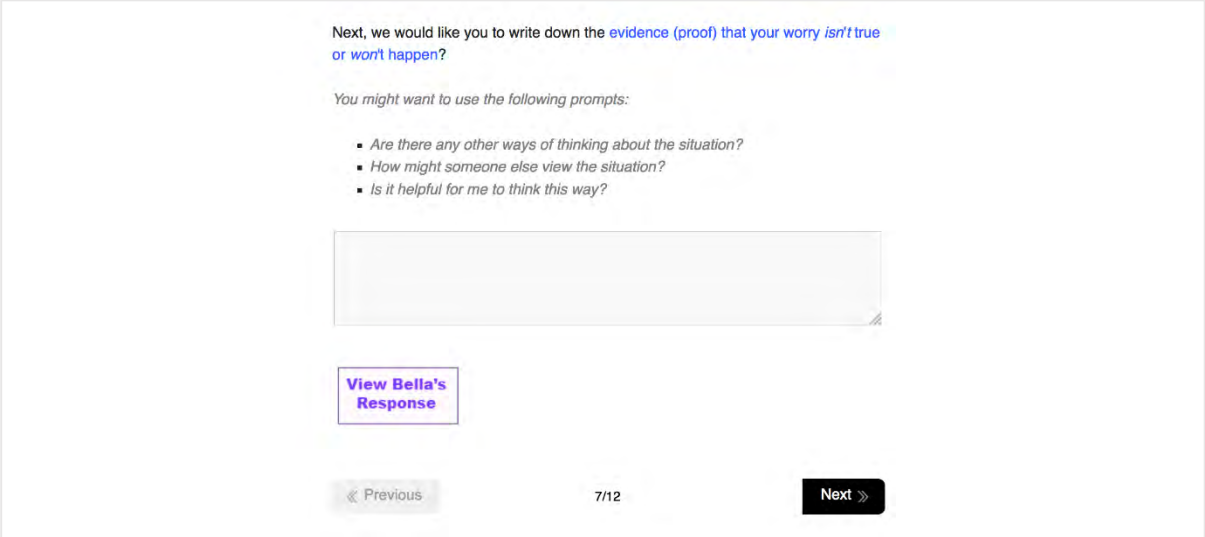
Mouse Rollover 'View Bella's Response'

Managing Dating Worries Exercise (6/12)



Mouse Rollover 'View Bella's Response'

Managing Dating Worries Exercise (7/12)



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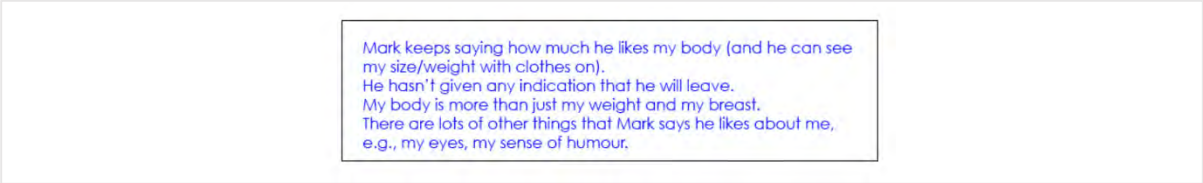

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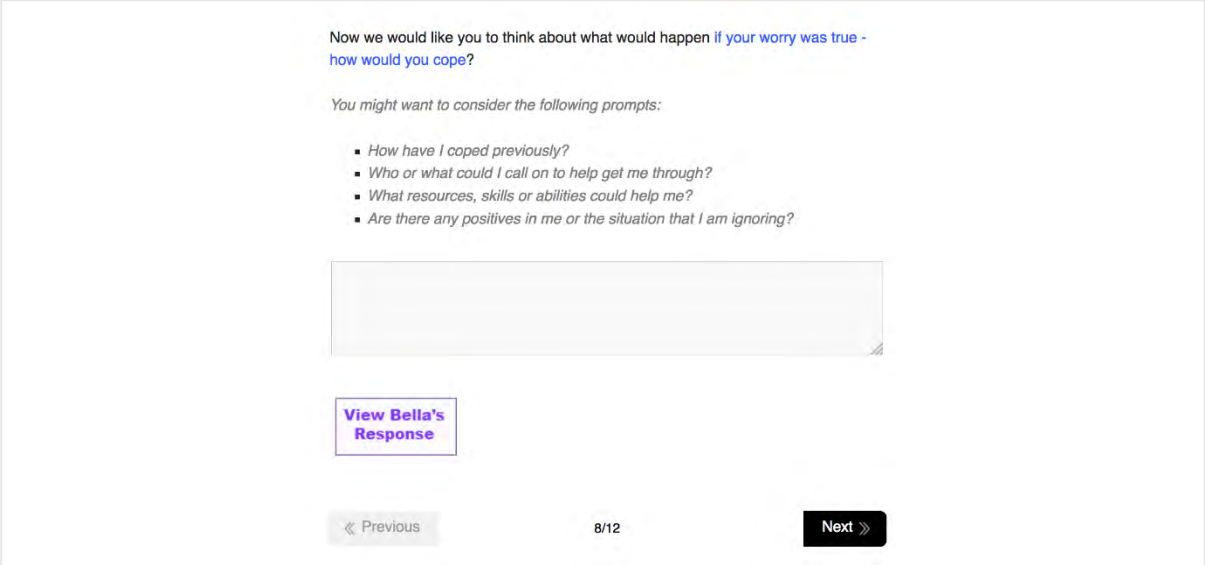

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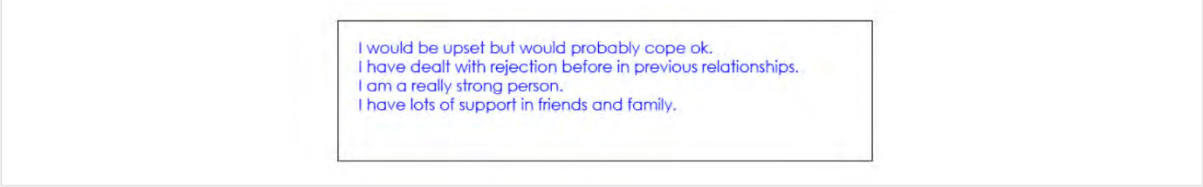

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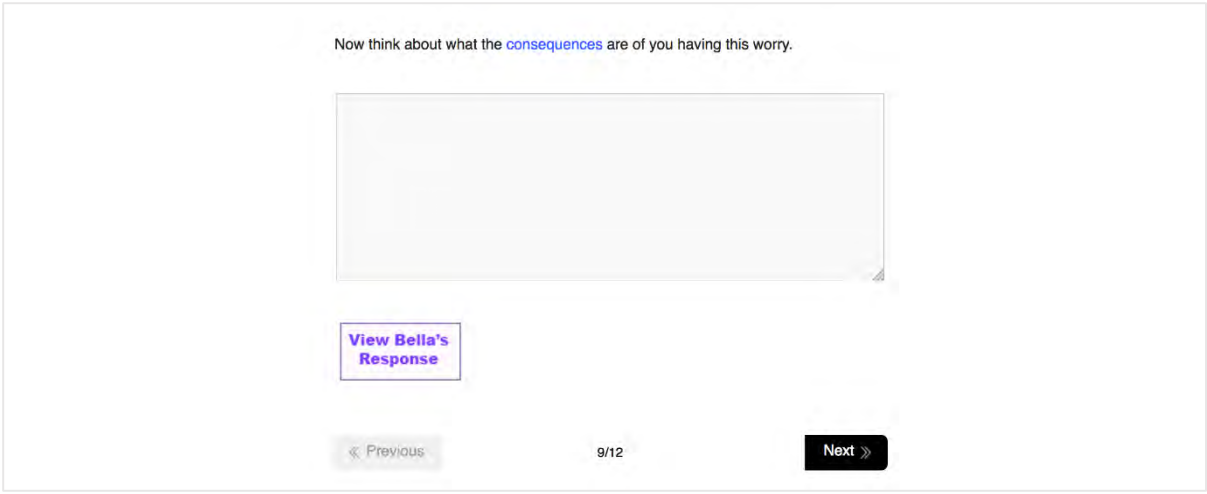

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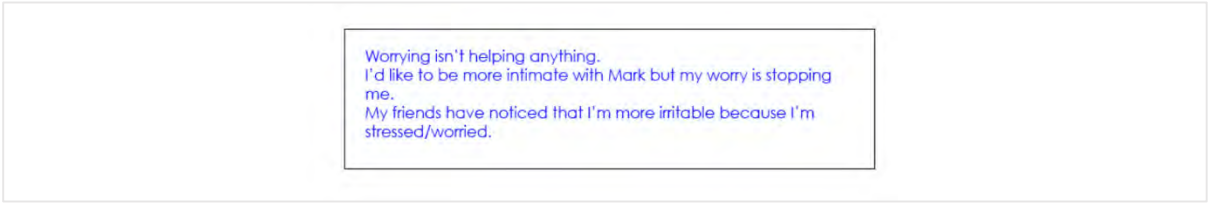
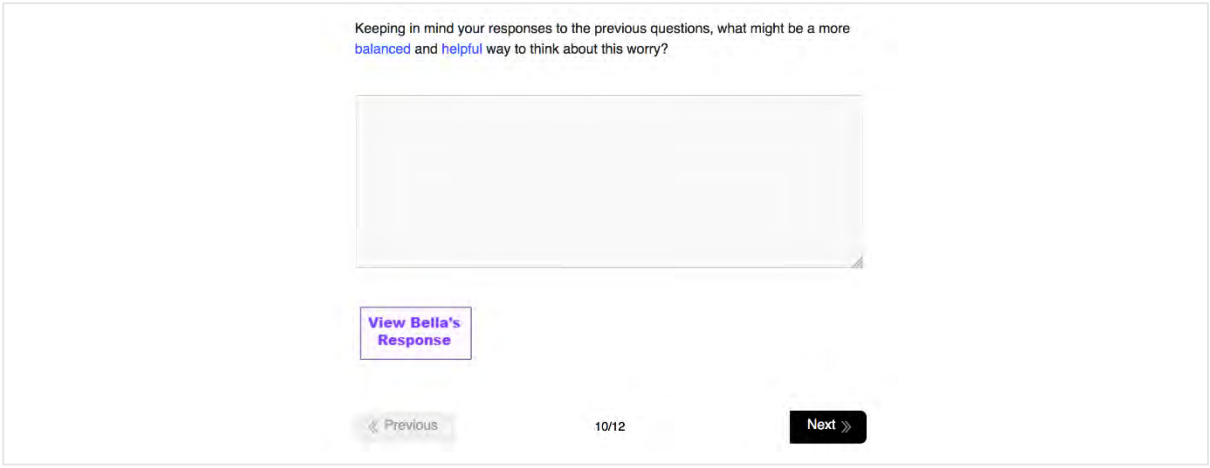


Managing Dating Worries Exercise (10/12)



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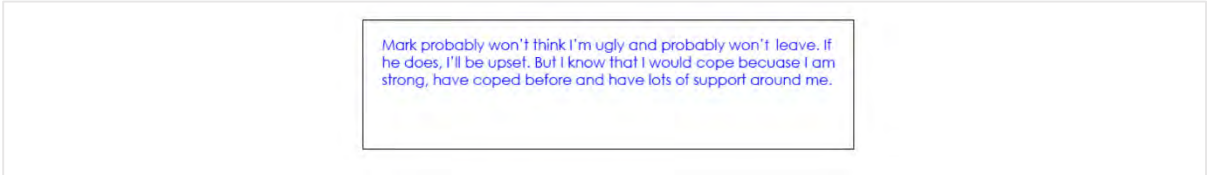
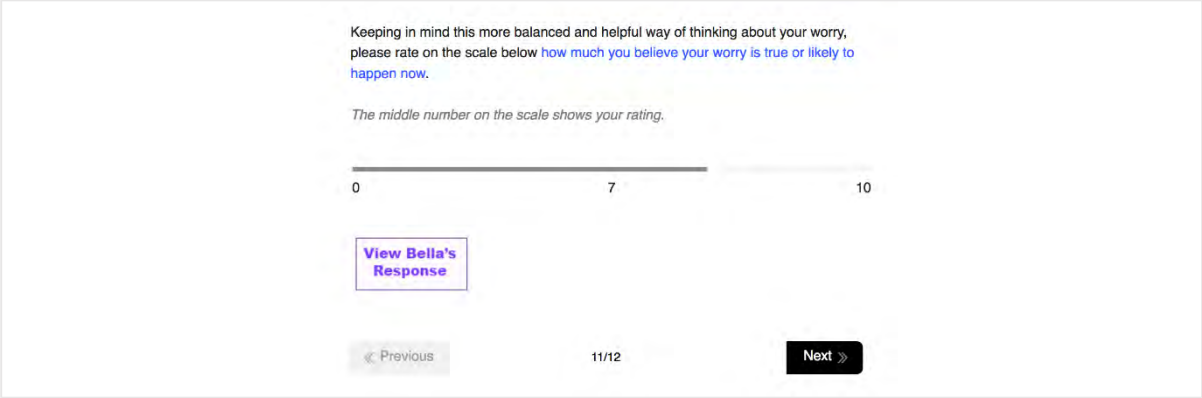


Managing Dating Worries Exercise (11/12)



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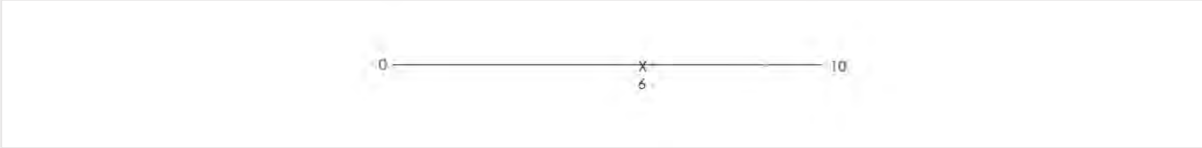
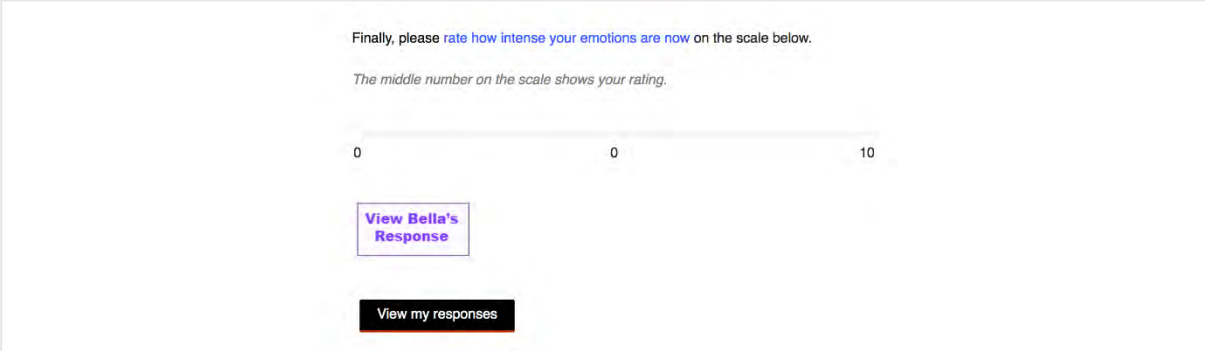


Managing Dating Worries Exercise (12/12)



Mouse Rollover 'View Bella's Response'

Final Thoughts

Login Welcome What do I value in a partner? Having the cancer talk Coping with my changed body Managing my dating worries

Final thoughts

Final thoughts

We hope that this website has provided you an opportunity to reflect on:

- What you value in a partner
- How and when you might like to talk about your cancer
- Practising kindness and compassion towards your body, *and*
- How you may manage any dating-related worries or concerns

It may help you to go back to sections of this website from time to time to look again at some of the information or complete the exercises. For example, you might change your mind about when you would like to talk to a date about your cancer. You may also have other worries or concerns that you would like to work through.

Please click here to log out of your session.

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Appendix E: Research Awards

- Australian Postgraduate Award (PhD) Scholarship (2013-2016)
- 3 Minute Thesis competition (2015):
    - Psychology Department - 3rd Place
    - Faculty of Human Sciences - 1st Place
    - Macquarie University Final - 3rd place
- Faculty of Human Sciences HDR Excellence Award (2016)
- Post Graduate Research Fund Award - $5000 funding (2016)

Appendix F: Posters and Presentations

MACQUARIE University

'I'd rather be single than date a s***head':
The dating experiences and concerns of women with breast cancer

Laura-Kate Shaw[1], Kerry A. Sherman[1,2], & Julie Fitness[1]

[1]Department of Psychology, Macquarie University
[2]Westmead Breast Cancer Institute, Westmead Hospital

MACQUARIE University

Background and Method

Objective. To provide an in-depth analysis of women's dating experiences and concerns following breast cancer

Method.

- 13 un-partnered female breast cancer survivors
- Semi-structured telephone interviews
- Grounded theory

MACQUARIE University

Results and Conclusion

Results.

Breast cancer affected women's dating experiences:

- Desire/ability
- Initiate contact/meet
- Disclose
- Intimacy, sexuality, body image
- Values
- Trust

Conclusion.

- Findings inform clinical practice
- Help women navigate relationships after breast cancer

MACQUARIE University

Dating concerns among women with breast cancer or genetic breast cancer susceptibility: A review and meta-synthesis

Laura-Kate Shaw[1], Kerry A. Sherman[1, 2], & Julie Fitness[1]

[1]Department of Psychology, Macquarie University
[2]Westmead Breast Cancer Institute, Westmead Hospital

MACQUARIE University

Quality of Life after Breast Cancer

Women face negative physical, psychological and psychosocial side effects after breast cancer treatment.

'At risk' women face additional challenges.

Breast Cancer Network Australia, 2010; Hoskins, Roy, Peters, Loud, & Greene, 2008; Kurowecki & Fergus, 2014; Werner-Lin, 2008

MACQUARIE University

Breast Cancer and Partner Support

Partner support is important to a woman's adjustment to breast cancer.

Not all women have support available.

Stresses of coping with breast cancer → relationship break-down.

Dorval, Maunsell, Taylor-Brown, & Kilpatrick, 1999; Kinsinger, Laurenceau, Carver, & Antoni, 2011; Kurowecki & Fergus, 2014

MACQUARIE University

Dating and Breast Cancer

Dating is critical in the formation of romantic relationships.

Single breast cancer survivors consider dating to be a key priority.

BUT they face many dating challenges:

- 80% body image/attractiveness
- 67% lack of confidence
- 65% feeling undesirable
- 47% fearing rejection

Canada & Schover, 2012; Gluhoski, Siegel, & Gorey, 1998; Kurowecki & Fergus, 2014, Ussher, 2014

Current Research

Most research focuses on women in stable, long-term relationships.

Studies of women in new relationships focus on specific aspects of dating concerns and patient populations.

A synthesis of qualitative findings is warranted to provide a broader and more holistic understanding of the dating concerns that women face within the breast cancer context.

Aim: Meta-synthesis to examine dating concerns among women with breast cancer or a genetic breast cancer susceptibility.

Methodology

Search Strategy: Systematic literature search of CINAHL, Embase, MEDLINE, PsycINFO, and PubMed in February 2015.

Search terms: "dating", "new relationship", "relationship formation", "courting", "romance", "intimate relationship", "romantic relationship", "unmarried women", "young* women", "single women", "sexuality", "sexual wellbeing", "breast cancer" and "*BRCA*", "qualitative", "interview*".

Methodology

Included: Qualitative; women with breast cancer or a *BRCA1/2* gene mutation; incl. dating concern; English.

Quality appraisal: e.g., 'Are the aims and objectives of the research clearly stated?'

Data Synthesis: Noblit and Hare's (1988) approach to literature synthesis.

Results

- Search yielded 1137 studies
- 983 excluded - title/abstract
- 154 studies retrieved for more thorough evaluation
- 99 studies excluded - eligibility criteria
- 36 removed - duplication

→ **Total 19 papers included in review**

Results

Six areas of concern:

1. Feeling unattractive
2. Limited dating partners available
3. How and when to disclose
4. Cancer recurrence and reduced life expectancy
5. Entering into a sexual relationship
6. Dating urgency

Feeling Unattractive

Reported by women with breast cancer.

Fear of rejection from potential partners due to changes in appearance.

Perpetuated by upward comparison to women without breast cancer.

"I was like, ready to be single for the rest of my life. Because I was thinking 'who would love me? Who would love my body like this?'. No one would feel attracted to me in any way" (Kurowecki & Fergus, 2014) (p. 57)

Corney, Puthussery, & Swinglehurst, 2014; Corney & Swinglehurst, 2014; Elmir, Jackson, Beale, & Schmied, 2010; Kurowecki & Fergus, 2014; Lewis, Zahlis, Shands, Sinsheimer, & Hammond, 1996; Ruddy et al., 2013; Ussher, 2014; Vilhauer, 2008

Limited dating partners

Reported by women with breast cancer and genetic susceptibility.

Concern limited partners available.

Two limiting factors:
1. Potential partners find them 'less appealing'.
2. Becoming more selective.

"I can't have kids so say you meet someone who wants kids? Well that takes out a whole group of people who want to have children." (Gould, Grassau, Manthorne, Gray, & Fitch, 2006) (p.264)

Gluhoski et al., 1998; Gould et al., 2006; Kurowecki & Fergus, 2014; Werner-Lin, 2008b

Disclosure

Reported by women with breast cancer and genetic susceptibility.

Dilemmas:
- Whether to tell?
- How much detail?
- How and when?

Fear of rejection overwhelming → women avoid dating altogether.

"Do I tell him on the first date? Do I wait? Do I hide this from him now or not? I don't know, it's kind of a tricky issue…How much information do you divulge?" (Hamilton, 2012) (p.28)

Corney et al., 2014; Gluhoski et al., 1998; Gould et al., 2006; Hamilton, 2012; Hamilton & Hurley, 2010; Holmberg et al., 2001; Hoskins et al., 2008; Klitzman & Sweeney, 2011; Kurowecki & Fergus, 2014; P. E. Lewis, Sheng, Rhodes, Jackson, & Schover, 2012; Ruddy et al., 2013; Werner-Lin, 2008a

Cancer Recurrence & Reduced Life Expectancy

Reported by women with breast cancer and genetic susceptibility.

Fear of rejection due to potential for developing cancer in the future and reduced life expectancy.

Concerns exacerbated by previous dating experiences.

"I think if a man really thought about it, he wouldn't want to get involved with someone who has a possibility of having cancer recur." (Lewis et al., 1996) (p.21)

Corney et al., 2014; Corney & Swinglehurst, 2014; Hoskins et al., 2008; Lewis et al., 1996; Thewes, Butow, Girgis, & Pendlebury, 2004

Entering into a Sexual Relationship

Reported by women with breast cancer.

Anxiety → impact of treatment side effects on sexual satisfaction/functioning.

Side effects alter women's view of themselves as sexually desirable.

Concerns exacerbated by negative responses from former partners.

"With the chemo, I was pushed into instant menopause…I don't know how to be sexual and menopausal." (Lewis et al., 1998) (p.21)

Gluhoski et al., 1998; Holmberg et al., 2001; Kurowecki & Fergus, 2014; Lewis et al., 1996

Dating Urgency

Cancer delays milestones for meeting a partner and starting a family.

High-risk women want children early so they can have prophylactic surgery.

Importance of not 'wasting time' on relationships without long-term potential.

"Because it delays everything by at least a year…and which I feel like you're on the cusp of child bearing age …you don't want to have a new relationship being affected by me thinking 'oh, I've got to get into this relationship and it's got to be the one'." (Corney et al., 2014) (p.19)

Corney & Swinglehurst, 2014; Hamilton & Hurley, 2010; Ruddy et al., 2013; Werner-Lin, 2008a

Conclusion

Review synthesises the complex concerns that single women face when dating after their breast cancer experience.

Intensity of dating fears can preclude relationship formation.

Findings can help health professionals to understand concerns and guide the development of breast cancer care.

OFFICE > FACULTY > DEPARTMENT

Thank You

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3 Minute Thesis (2015) Slide

Predicting romantic relationship formation after breast cancer

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Background

Intimate partners are often the most important source of support for women during cancer survivorship, and the physical and psychological benefits of this support are well-documented (Manne, Siegel, Kashy, & Heckman, 2014; Zimmerman, 2015). However, many women are un-partnered, and thus do not have this support available when they are diagnosed with breast cancer or receiving treatment. Results from qualitative studies suggest women consider romantic 'dating' a priority after breast cancer, but face many barriers including: poor body image, reduced sexual satisfaction/functioning, dating anxieties and reduced self-compassion (Shaw, Sherman & Fitness, 2015). No research has investigated the extent to which these factors influence women's ability to form romantic relationships after breast cancer

Aim: This study identified psychological factors associated with women's dating-related anxiety and their ability to form romantic relationships after breast cancer.

Methods

Women (N=80) were recruited between September 2015 and March 2016 via online breast cancer community groups.

Inclusion criteria were: over 18 years of age; diagnosed with breast cancer; able to complete a survey in English; single/un-partnered *or* had commenced a romantic relationship after their cancer diagnosis.

Participants consented online and completed demographic/medical questions and measures of:

- Interpersonal competence
- Dating anxiety
- Post-traumatic growth
- Self-compassion
- Fear of negative evaluation
- Sexuality
- Body image
- Attachment style.

Results

Dating-related anxiety was associated with greater attachment insecurity, appearance investment, fear of negative evaluation, and body image disturbance, and with less post-traumatic growth. Interpersonal competence was associated with greater post-traumatic growth, and less attachment insecurity, fear of negative evaluation, and body image disturbance.

Table 1. Selected demographic and medical characteristics

Variables	Mean (SD) or %
Age	54.13 (11.30)
Country	
Australasia	84.7
Relationship Status	
Single, not dating	54.1
Single, casually dating	12.9
In committed relationship	17.6
Married/living with partner	15.3
Breast cancer - type	
Early breast cancer	53
DCIS	27.7
LCIS	3.6
Other	15.6
Time since diagnosis (months)	94.88 (229.31)

Table 2. Results from regression analyses

Dependent variable	Independent variable	β	*t*	p	*F (df)*	R^2
Dating anxiety	Post traumatic growth	-.207	-2.251	.028	12.59 (7,55)	.616
	Body image disturbance	.371	3.534	.001		
	Fear of negative eval.	.351	2.597	.012		
	Appearance investment	.202	2.091	.041		
	Attachment anxiety	.023	.179	.859		
	Attachment avoidance	.091	.866	.390		
	Sexual difficulties	.055	.557	.580		
Interpersonal competence	Post traumatic growth	.196	1.938	.058	9.28 (7,54)	.546
	Body image disturbance	-.042	-.361	.719		
	Fear of negative evaluation	-.239	-1.834	.072		
	Attachment anxiety	-.080	-.562	.577		
	Attachment avoidance	-.403	-3.619	.001		
	Symptom – memory loss	-.065	-.615	.541		
	Time since diagnosis	-.184	-1.931	.059		

Conclusions

This is the first study to empirically determine psychosocial factors associated with women's dating-related anxiety and their ability to form romantic relationships after breast cancer. Post-traumatic growth, body image disturbance, fear of being negatively evaluated by others, and a woman's psychological investment in her physical appearance predict dating-related anxiety, whereas an avoidant attachment style appears to be the only predictor of interpersonal competence. These findings have clinical implications for health professionals, who are well-placed to help women prepare for, and adjust to, bodily changes that may occur after cancer treatment, and help them to navigate the world of 'dating after breast cancer.

For more information, please contact – Laura-Kate Shaw at laura-kate.shaw@mq.edu.au

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Factors associated with romantic relationship formation after breast cancer

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Breast Cancer Survivorship

- Five year survival rate ~90% in Western countries Zimmerman, 2015
- Survivorship challenges
  - **Physical**
    - Weight loss/gain; hair loss; lymphedema; sexual pain/dysfunction

      Fobair et al., 2006; Kurowecki & Fergus, 2014
  - **Psychological**
    - Poor body image; self-esteem; anxiety; depression

      Fobair et al., 2006; Zimmerman, Scott & Heinrichs, 2010

Survivorship & Partner Support

- Many women rely on their partner for support
- Benefits of partner support well-documented

  Giese-Davis et al., 2000; Zimmerman, Scott & Heinrichs, 2010; Kausar & Saghir, 2010; Donal et al., 2008; Wells, Enright, & Simmens, 2008
- **BUT** not all women have partner support available

  Donal, Maunsell, Taylor-Brown, & Kilpatrick, 1999; Kurowecki & Fergus, 2014

Dating after Breast Cancer

- Dating is critical in the formation of romantic relationships

  Klozman & Sweeney, 2011
- Dating a key priority for many single breast cancer survivors Glufonik, Siegel, & Gorey, 1999; Kurowecki & Fergus, 2014
- But more dating-related anxieties Canada & Schover, 2012

Dating Anxieties

- Body image
- Limited partners available
- Disclosure
- Cancer recurrence
- Sexual relationships
- Dating urgency

Shaw, Sherman & Fitness, 2010; Shaw, Sherman & Fitness, 2016

Current Literature

- Most research focuses on long-term relationships
- Qualitative research
  - Body image
  - Fear of negative evaluation
  - Sexual difficulties
  - Self-compassion
  - Post-traumatic growth
- + Insecure attachment

Galhoski, Siegel, & Goney, 1995; Kurowecki & Fergus; Faulk, Pitman, Kerpelman, & Adler-Baeder, 2011; Shaw, Sherman & Fitness, 2015; Shaw, Sherman & Fitness, 2016

This Study

Aim: to *quantitatively identify determine* the *psychosocial factors* associated with women's *dating-related anxiety* and their *ability to form romantic relationships* after breast cancer.

Hypotheses

Women with:

Lower:
- Post-traumatic growth
- Self-compassion
- Sexual/body esteem

Higher:
- Body image disturbance
- Fear of negative eval.
- Appearance investment
- Attachment insecurity

…would report high levels of dating-related anxiety, and low levels of interpersonal competence.

Design and Participants

Cross-sectional online survey, duration 30 mins.

Breast cancer survivors (N=156) recruited via breast cancer community groups:

- Breast Cancer Network Australia (Au)
- Breast Cancer Care WA (Au)
- Westmead Breast Cancer Institute (Au)
- Breast Cancer Network NZ (NZ)
- Young Survival Coalition (US)
- Young Women 4 Young Women (UK)

Design and Participants

Inclusion criteria:

- 18+ years of age
- Diagnosed with breast cancer
- Able to complete a survey in English
- Single or had commenced a romantic relationship after their cancer diagnosis.

Measures - Independent Variables

Self-Compassion - Self-Compassion Scale (Raes, Pommier, Neff, & Van Gucht, 2011)

Post Traumatic Growth - Post Traumatic Growth Inventory (Tedeschi & Calhoun, 1995)

Attachment Style - Experiences in Close Relationships Scale (Lo et al., 2009)

Fear of Negative Evaluation - Brief Fear of Negative Evaluation Scale (Duke, Kirshman, Rath, & Storch, 2008)

Body Image - Body Image Scale (Hopwood, Fletcher, Lee, & Al Ghadid, 2001)

Sexual and Body Esteem - Sexual and Body Esteem Scale (Tolaymat & McCabe, 2002)

Appearance Investment – Appearance Schemas Inventory Revised (Cash, Melnyk, & Hrabosky, 2004)

Measures - Outcomes

Interpersonal Competence

Interpersonal Competence Questionnaire Buhrmester, Furman, Wittenberg, & Reis, 1988

Initiation, disclosure, negative assertion, emotional support, conflict management

Dating Anxiety

Dating Anxiety Scale Glickman & La Greca, 2004

RESULTS

Demographics

Variables	Mean (SD) or %
Age	51.79 (10.70)
Country	
Australasia	74
Relationship Status	
Single, not dating	48.7
Single, casually dating	14.7
In committed relationship	36.7
Breast cancer - type	
Early breast cancer	54.5
DCIS	24.8
LCIS	2.8
Other	18
Time since diagnosis (months)	67.93 (60.23)

Sample Characteristics

Variables (scores ranges)	Mean (SD)
Interpersonal competence (1-5)	3.05 (.61)
Dating Anxiety (26-130)	64.82 (21.15)
Post-traumatic growth (0-105)	61.40 (22.41)
Body image disturbance (0-30)	14.66 (9.19)
Self-compassion (1-5)	3.09 (.73)
Fear of negative evaluation (12-60)	37.11 (10.11)
Attachment avoidance (1-7)	3.71 (1.22)
Attachment anxiety (1-7)	3.78 (1.50)
Sexual esteem (10-50)	28.76 (10.23)
Appearance investment (1-5)	3.30 (.51)

Bivariate Correlations

Dating Anxiety

Appearance investment, fear of negative evaluation, body image disturbance, attachment insecurity.

Self-compassion, post-traumatic growth, sexual/body esteem.

Bivariate Correlations

Interpersonal competence

Self-compassion, post-traumatic growth, sexual/body esteem.

Attachment insecurity, fear of negative evaluation, body image disturbance

Regression- Dating Anxiety

Independent variable	β	t	p
Post traumatic growth	-.143	-1.934	.056
Body image disturbance	.243	2.480	.018
Fear of negative evaluation	.294	2.967	.004
Appearance investment	.130	1.725	.087
Attachment anxiety	.029	.299	.766
Attachment avoidance	.230	2.760	.007
Self-compassion	-.073	-.742	.459
Sexual esteem	.029	.284	.777

$F(8,104) = 16.419$

$R^2 = .56$

Regression - Interpersonal Competence

Independent variable	β	T	p
Age	.306	-4.238	.000
Symptom - Concentration	-.140	-1.569	.115
Sexual esteem	.145	1.397	.165
Post traumatic growth	.185	2.448	.016
Body image disturbance	-.010	-.095	.924
Fear of negative evaluation	-.026	-.269	.788
Attachment anxiety	-.133	-1.349	.180
Attachment avoidance	.235	-2.835	.005
Self-compassion	.291	2.905	.004

$F(9,105) = 13.459$

$R^2 = .54$

CONCLUSIONS

Summary

Findings highlight key psychosocial factors associated with women's ability to form relationships after breast cancer:

- Body image & fear of negative evaluation
- Attachment insecurity
- Self-compassion
- Post-traumatic growth

Future research

- Future psychosocial interventions should target *modifiable* factors such as body image and self-compassion.
- Help to reduce dating anxiety and facilitate romantic relationship formation after breast cancer.

Thank You

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