

Psychosocial Experiences of Breast Cancer Survivors Involved in a Dragon Boat Program: Exploring Links to Positive Psychological Growth

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This study explored psychosocial experiences of breast cancer survivors involved in dragon boat programs. Twenty women ($M_{\text{age}} = 58.69$, $SD = 6.85$) were interviewed for 45–60 min about their experiences as members of survivor dragon boat teams. Interviews were analyzed using constructivist grounded theory methods. The dragon boat program facilitated social support from women with common challenges and a shared understanding of survivorship. It also provided opportunities to (re)gain a sense of personal control, develop new identities as athletes, and overcome physical challenges. Together these elements contributed to positive psychological growth and linked to the literature on posttraumatic growth. Future physical activity interventions targeting breast cancer survivors may benefit from developing strategies that share key characteristics of dragon boating.

Key Words: posttraumatic growth, physical activity, social support, athletic identity, stress

Physical activity has become a common prescription for women diagnosed with breast cancer, both during and after adjuvant therapies and surgeries. There is evidence that physical activity positively influences physical, functional, psychological, and social challenges faced by breast cancer survivors (Baldwin & Courneya, 1997; Courneya & Friedenreich, 1999; Courneya, Mackey, & McKenzie, 2002; Pinto, Clark, Maruyama, & Feder, 2003; Pinto, Trunzo, & Shiu, 2002). There is also mounting evidence that structured sport participation, such as in dragon boating, is rewarding for women who have completed breast cancer treatments. A dragon boat is a canoe-like boat that holds 20 paddlers, a steersperson, and a drummer. Dragon boating is considered an appropriate activity for breast cancer survivors because it is not weight bearing and is a safe, strenuous, and repetitive upper-body activity (McKenzie, 1998). It is also adaptive because individuals of

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different training levels, ages, and athletic abilities are able to participate. Dragon boating fosters positive physiological adaptations that can subsequently enhance daily functional tasks (Lane, Jespersen, & McKenzie, 2005; McKenzie, 1998).

There is also evidence of psychosocial benefits associated with dragon boating among breast cancer survivors, including enhanced meaning and purpose, confidence, self-esteem, sense of control, and social interactions (Courneya et al., 2002; Mitchell & Nielsen, 2002; McKenzie, 1998; Parry, 2007; Unruh & Elvin, 2004). This research has been conducted with an array of research methods and underlying epistemologies and has generally identified the positive psychosocial benefits of dragon boating. For example, the links between breast cancer experiences and dragon boat intentions and adherence have been identified in two quantitative positivist studies (Culos-Reed, Shields, & Brawley, 2005; Courneya, Blanchard, & Laing, 2001). In these studies, the theory of planned behavior (TPB; Ajzen, 1991) provided a framework to explore how attitudes about dragon boating, subjective norms, and perceived behavioral control are associated with intentions to dragon boat. Results revealed that attitudes (Culos-Reed et al.) and social norms (Courneya et al.) were important correlates of dragon boating intentions, yet the mechanisms by which dragon boating may positively affect survivors' lives were not explored. Specifically, this positivist research on the determinants of participation does not contribute to understanding *how* women's views of their bodies, social relationships, and stressors and challenges associated with being a cancer survivor interplay with dragon boating.

One way to understand the unique functions of dragon boat teams and the psychosocial impact they have on survivors' lives is to explore participants' perspectives. Three qualitative studies have emphasized giving voice to women and representing their experiences (Mitchell & Nielsen, 2002; Parry, 2007; Unruh & Elvin, 2004). Mitchell and Nielsen (2002) engaged in a participatory phenomenological-hermeneutic study in which participants maintained involvement throughout the research process. There were nine resultant themes that were important to all six of their participants: hopeful mission, common base, paddling and the environment, camaraderie, regaining control, embracing life, facing the disease, having fun, and being focused on moving on. Unruh and Elvin's (2004) work did not explicitly state their epistemology, but used a thematic content analysis technique consistent with post-positivistic methodologies to represent three women's experiences. Themes included the attraction of dragon boat racing, physical and emotional well-being, competition as positive energy, dragon boat racing as social support, transcendence/connectedness/oneness, fear of recurrence and death, and increasing public awareness (Unruh & Elvin). Recent work by Parry (2007) took the lens of a feminist epistemology to explore survivors' perceptions of broadly defined health benefits associated with dragon boating. This work presented nine narratives that conveyed themes around personal control, social support, and close friendship; similarity to other survivors; and experiencing new opportunities and identities. Combined, these studies have been invaluable in understanding women's key experiences in these programs but the primarily descriptive identification of themes representing participants' experiences is limiting. There is a need to further explore links between the themes and the processes of change women are experiencing in these programs, particularly around the integral themes of body perceptions, social support, and transformative life experiences that have consistently emerged in existing works.

A more thorough understanding of breast cancer survivors' motivations and expectations for participation in dragon boating, their perceptions of social support pertaining to the program, and the effects on their physical self-perceptions is warranted. It is important to explore the social constructions of breast cancer survivors' lived experiences, and the process whereby dragon boating (and physical activity) influences, and is influenced by, the context. Studying participants' experiences using a constructivist grounded theory approach would help achieve these aims. A constructivist epistemology assumes that knowledge is transactional, and is co-created by participants and the researchers (Guba & Lincoln, 2005). This perspective would provide a representation of breast cancer survivor dragon boat participants' experiences that incorporates both the meaning they express and our background as researchers in the social psychology of sport and exercise. Using a constructivist grounded theory approach, this work would allow us to explore the processes and connections among themes using the tools of grounded theory, but without objective and positivist assumptions of traditional forms of grounded theory (Charmaz, 2005).

Qualitative methods grounded in constructivist epistemology have informed *why* women participate and *how* participation in physical activity has contributed to women's understanding of life experiences in the general population. For example, physical self-perceptions relate to women's physical activity involvement as both a factor initiating physical activity and as perceptions emerging through the physical activity experience (McDermott, 2000). Using a constructivist epistemology fostered an understanding of the bidirectional nature of women's participation in physical activity (a relationship that is often tested as unidirectional and linear) and contributed to alternative ways of understanding these experiences. Furthermore, McDermott (2004) found that women enjoyed participating in a single-gendered activity (canoeing) for the opportunity to meet and be with other women, perceptions of equality in terms of skill level and ability to learn, and preference for learning and performing in an all-female setting. Breast cancer survivors involved in dragon boating could very well endorse similar reasons for physical activity engagement. It is therefore important to explore the socially constructed meanings associated with these phenomena through the experiences of breast cancer survivor dragon boaters using a constructivist lens.

The benefit of employing a constructivist epistemology to understand meanings and experiences associated with breast cancer is also evident (Riessman, 1990). In particular, the interplay of social support and physical self-perceptions emerged while exploring the impact of breast cancer from the perspective of women's lived experiences (Berterö, 2002). Both personal and public struggles with body perceptions and social relationships were discussed as having positive and negative effects on self-respect and self-value (Berterö, 2002). These divergent and concomitant perspectives of body and social phenomena reveal the complexity of meanings associated with breast cancer experiences. It is feasible that participation in dragon boating may help women deal with negative effects of physical and social perceptions. Dragon boating may also introduce unique stressors. These interrelated possibilities should be explored by inviting survivors' perspectives of meaning associated with body and social phenomena in dragon boating.

The exclusive context of a breast cancer survivor dragon boat team suggests that these programs may be distinct from other physical activity settings and that the

psychosocial effects of participation may be unique. Given the surging popularity of these programs and the potential effects they have on survivors' lives, a better understanding of these effects may prove beneficial. Therefore, the purpose of the current study was to explore breast cancer survivors' experiences of participation motivation, social support, and physical self-perceptions related to their participation in specialized dragon boat programs using constructivist methodology.

Methods

Participants

Twenty women in at least their second year of participating in dragon boat programs for breast cancer survivors volunteered for this study. The women ranged in age from 42 to 70 years ($M = 58.69$, $SD = 6.85$) and had participated in dragon boating for 2 to 8 years. Participants were predominantly Caucasian, and identified themselves as married ($n = 9$), divorced ($n = 6$), and single ($n = 5$). The women had been first diagnosed with breast cancer between 3 and 8 years before the study, and five had experienced at least one recurrence of cancer. All had undergone multiple treatments for breast cancer, including mastectomy, lumpectomy, lymph node removal, chemotherapy, radiation therapy, tamoxifen, and breast reduction and reconstruction surgeries. Most ($n = 16$) of the women had been at least minimally physically active in the past, but for many, participating in the dragon boat program represented a substantial increase in activity compared with their activity levels before diagnosis.

Procedures

Following behavioral research board ethics approval, the coaches of six breast cancer dragon boat teams were contacted, and the researchers visited each team at practices to explain the study and distribute consent forms. Volunteers contacted the researchers by telephone and informed consent was obtained. Each woman participated in one 45–60 min semistructured interview to gain information about her dragon boating experiences. The interview guide contained questions and probes about why they got involved in the program (e.g., What did you expect to get out of your participation in dragon boat?), their perceptions of themselves physically (e.g., What are the main factors that influence your physical perceptions?), and social support (e.g., Can you describe to me your social support network?). The guide was developed to allow participants to discuss any areas of their dragon boat experiences that they felt were important, and specifically to cover the breadth of physical self-perception and social support elements. To ensure data collection consistency, the three interviewers participated in 2 days of intensive training, including role play practice sessions.

Data analysis followed guidelines adapted from constructivist grounded theory methods (Charmaz, 2000, 2005; Henwood & Pidgeon, 2003). Constructivist grounded theory is based on the methods of Strauss and Corbin (1998), whereby coding techniques facilitate description, conceptual ordering, and then theorizing. Unlike the more traditional post-positivist conceptualization of grounded theory, the constructivist approach has been adapted to acknowledge the existence of multiple social realities and recognizes that knowledge is co-created by the researcher and

participants (Charmaz, 2005; Henwood & Pidgeon, 2003). Essentially, even though positivist and post-positivist epistemologies assume that there is an underlying objective truth that can be discovered, in a constructivist approach the goal is to represent the subjective reality co-created in the interaction between participants and researcher in a manner that is trustworthy and authentic (Guba & Lincoln, 2005). Constructivist grounded theory is post-positivistic in that it is used to better understand participants' meanings, and regards the methods of grounded theory as flexible, heuristic strategies (Charmaz, 2000).

The methods of grounded theory were followed closely, with one exception. Strauss and Corbin (1998) suggest that a key component of grounded theory is that each interview is conducted, transcribed, and analyzed before undertaking the next interview. Owing to practical constraints in scheduling interviews with all participants during their dragon boat season, this step had to be done in an abbreviated manner. Following each interview, the researchers reviewed their field notes independently and conducted a preliminary analysis of major themes from those notes. The emerging themes were then discussed among the researchers, and new probes were developed for subsequent interviews. It was not possible, however, to fully transcribe and code each interview in detail at this stage. It is recognized that this is a limitation of this study; however, every effort was made to be as close to the intent of these methods as possible, and to allow knowledge gained from each interview to inform subsequent interviews.

Interviews were audiotaped and transcribed verbatim, and data were organized and stored using the computer program QSR N6. The authors read each interview in its entirety. Open coding was used to identify key actions and concepts within the text, and to develop labels representing the meaning of these segments (Charmaz, 2005). Open codes were compared and grouped into categories of conceptually related information in a process of axial coding. As each interview was coded, some data were included in existing codes, and new codes and categories were created to accommodate emerging concepts. Throughout this process, constant comparison was used to compare codes and categories within and across interviews to establish their bounds and contexts (Charmaz, 2000). Memo writing was used to note interpretations, connections, and patterns as they became evident to the researchers throughout this process (Charmaz, 2000). These connections guided selective coding, whereby categories were arranged to develop a conceptual model that linked to the existing literature in the field (Henwood & Pidgeon, 2003). Once all interviews had been coded, each interview was reread to check that all relevant information had been coded consistently in each text. To evaluate the credibility of this coding, the first two authors reviewed all codes, categories, and the resultant model. Agreement was reached through consensus.

The process of coding the data involved the use of sensitizing concepts, or elements of the researchers' backgrounds in the field that act as starting points for recognizing and organizing themes and categories in the data (Charmaz, 2000). In this study, the researchers were educated in theories of the physical self, social support, stress, and psychological growth that influenced how codes and connections were initially identified in the data. Although this theoretical knowledge is acknowledged as an influence in the analysis, all codes, categories, and connections had to be grounded in the data to be included in the final model. Therefore, sensitizing concepts acted as a starting point for analysis, rather determining the final findings (Charmaz, 2000; Henwood & Pidgeon, 2003).

After the inductive analysis methods of grounded theory were complete, the codes and categories were compared with findings and models in previous research to inform the development of the final model. This approach of incorporating existing frameworks when they are consistent with the inductively derived model is in line with grounded theory and has been used previously in the sport psychology literature (e.g., Holt & Dunn, 2004).

Results

The results are organized into themes that emerged from the data to illustrate progressions of experiences with breast cancer diagnosis and subsequent dragon boat participation. Supporting quotes from participants that are unique to dragon boat experiences are presented in Table 1. Quotes pertaining to cancer diagnosis and treatment more generally are presented in the text, where appropriate. The participants are identified by numbers to illustrate the variety of responses.

Experiences of Cancer

All the women described their breast cancer diagnoses as unexpected, sudden, traumatic, and critical life events. One woman recalled her diagnosis by saying, “I mean, you have no risk factors. And suddenly—there’s nothing in the family—and suddenly you have breast cancer, and it has happened to a lot of women. God, if this can happen to me, what else can happen? Because I didn’t expect this. I didn’t see it coming” (P10). Another spoke of her body betraying her: “[It’s] as if your body somehow has betrayed you in some really perverted kind of way . . . and so, it’s a reality check. It’s that sort of, it’s like going along, along, and along lots of stuff and then somebody puts a bar in front of you and says, you know, this is reality” (P17). The way many women described breast cancer highlighted the insidious impact of the traumatic event. Some descriptors, such as “white noise” (P1) and “it’s always just there” (P3), emphasize the pervasiveness of cancer in their lives. Other descriptions of cancer, including “dragon” (P13), and “the rug pulled out from underneath you” (P17), exposed the severity of the trauma by likening cancer diagnosis to a creature or to an event in which one ends up on the floor—vulnerable and powerless. Phrases such as “the big ‘C’ word” (P20) infer the vulgarity and offensiveness of the diagnosis. And finally, “refresher course on life” (P16) depicted the link between cancer and changes in breast cancer survivors’ lives. As can be seen from these descriptions, the diagnosis challenges the perceptions of the predictability and controllability of one’s sense of self and future.

Persistent Stressors and Challenges

For many participants, stressors and challenges were often associated with the idea that there is never an escape from cancer. Reminders of illness, disease, and even death are inherent in being part of a program restricted to cancer survivors. The constant reminders of breast cancer are powerful messages that lead some women to consider dropping out completely. Some survivors also discussed the difficulty of witnessing the illness and death of teammates because they personalized others’ experiences. Finally, a few women spoke of the visibility of being a breast cancer

survivor dragon boat paddler as somewhat demanding and stressful. Despite experiencing these stressors, survivors often spoke of the challenge to overcome them and the importance of coping strategies rather than the view that the stressors were permanent setbacks.

Table 1 Categories of Breast Cancer Survivors' Psychosocial Experiences With Dragon Boating and Representative Sample Quotations

Categories	Number of participants	Selected quotations (participant number)
Persistent stressors and challenges		
Constant reminders	13 (65%)	<p>"It's that thing that reminds you again, you know. We may be cured but we're still, we're survivors of the disease, you know, there's always that chance." (6)</p> <p>"And in the beginning, I was scared of the group because of that aspect. And several of us discussed leaving because it was so much death to handle." (3)</p>
Dealing with others' illness and death	4 (20%)	"There was another woman at the same time who was very sick, and she, she did die. And I got to the point where I couldn't go see her anymore because I felt like that was going to be me." (13)
Visibility	3 (15%)	<p>"If I have my pink shirt on, and in outgear, I make myself available to anybody, for those who need to talk to someone or ask questions or touch base . . . it's a little tiring." (5)</p> <p>"Of course, you have to be aware of your breast cancer when you're all in pink." (7)</p>
Coping with stress		
Fun and laughter	13 (65%)	"I'd say even the end of the first practice . . . what I found is I was really laughing. Like really laughing. Not just smiling or anything. Really laughing. And that's what was missing from my life." (2)
Proving physical ability	3 (15%)	"I felt like I had been betrayed by my body and I just wanted to prove that this body could still do something really physical . . . was just doing this to prove it to myself." (10)
Filling a void	3 (15%)	"I didn't even know what was missing, but something was really missing from my life. . . . I was quite selfish. I joined it [dragon boat] to see if I could help myself, to find this missing thing." (2)

(continued)

Table 1 (continued)

Categories	Number of participants	Selected quotations (participant number)
Social support		
Sharing information about breast cancer	5 (25%)	“We support each other, we offer practical information about how to deal with what the decision we made . . . and it’s really comforting, to know that they have had those things, dealing with fear and the unknown of whether you are going to live.” (10)
Understanding breast cancer experience	11 (55%)	“You don’t have to fill in the blanks and create the background. They all have the background, they’ve been in the blanks themselves, so you can cut right to the, today. And they will know exactly how you are feeling. You don’t have to explain it. You don’t have to say a word. They would just know how you are feeling . . . because you don’t have to articulate anything, it’s already in there.” (14)
Unconditional support	7 (35%)	“Everybody pitches in and that’s another thing that belongs to the dragon boats, it’s almost like an insurance policy.” (1) “The fact that it may come back, you may, it may reoccur, that you have women that you can talk to or will support you or you can be alone if you want to.” (20)
Opportunity to help	8 (40%)	“It was nice being helped in the first year. It was even nicer to be able to help.” (19)
Unique from support groups	5 (25%)	“Some of these other support groups are just sort of all sat around and say how terrible it was that [name] had died. Well, we all think that but at the same time we are getting on with living.” (1) “When you’re in a support group . . . you’re still very much into that ‘I’m ill’ treatment mode. Whereas now it’s, we’re getting on with life and aren’t we lucky that we can do this. And we can laugh at our misshaped bodies and, not say, ‘oh you poor thing.’” (15) “That’s why it was so appealing, because it was an activity, it had everything a group had but without this overlay of too much navel gazing, too much whatever.” (12)

Table 1 (continued)

Categories	Number of participants	Selected quotations (participant number)
Physical self-perceptions		
Athletic identity	11 (55%)	“To think that I am, we’re, we are athletes. . . . It’s a fun thing to say. So, you know, it’s wonderful that women can do that. And I don’t think that a lot of women, because I’m one of them, if it hadn’t been for breast cancer, would ever be in a dragon boat.” (20)
Competitiveness	12 (60%)	<p>“In theory our mission statement is we’re not competitive, we’re recreational with, to raise awareness. . . . But when you work hard to do something, you want to do it the best you can. . . . So I like the competition and I feel I learn more almost by racing than by the instructions because it’s, you know, when you race you realize, darn it I could’ve done that better and that better.” (15)</p> <p>“We’ve had lots of issues around people who really want to win at all costs. . . . We always joke that the c-word isn’t cancer, it’s competition.” (13)</p>
Personal control		
Controlling physical and mental health	6 (30%)	“When you have a diagnosis, there’s all sorts of people who, who come into your life, and all of a sudden, you know, people are pushing you and pulling you in one direction, ‘This isn’t good for you,’ or ‘That’s not good for you,’ or ‘You should be eating this’ . . . and all of a sudden we’re doing something that we wanted to do. So it gave us the sense that we had some control back.” (13)
Positive psychological growth		
Closer relationships	15 (75%)	<p>“If I, if it does come back and if I do have to go through all those horrible treatments again, and if I am going to die, I really want to be around all these women.” (11)</p> <p>“They said I couldn’t join [dragon boat] until I was diagnosed with breast cancer and so I thought well, if I had to have some kind of cancer you know, these people, are so inspiring to me that, you know, I’d like to join their group and you know, I guess I’d prefer to have breast cancer too [laugh].” (7)</p>

(continued)

Table 1 (continued)

Categories	Number of participants	Selected quotations (participant number)
New possibilities and opportunities	15 (75%)	<p>“It [dragon boating] gave me something to reach for knowing, you know, but it gave me something to reach for on the other side of mastectomy and surgery.” (5)</p> <p>“If my time is short then I’m gonna do this. So the dragon boating, well it was a new sport, a new activity for a nonathletic person, it was a challenge. And I was able to do that.” (15)</p>
Psychological strength	16 (89%)	<p>“I love myself even more for getting through it [cancer]. I cherish me.” (8)</p> <p>“You know somebody said to me well you know you could die, and I said yeah I know, and they said well you’ll do it well, and I thought yeah I will, you know I - I’ve seen other people do it, I can do this. I may not want to, but if I have to I can.” (13)</p>
Appreciation for life	13 (65%)	<p>“But when you’re out [dragon boating] on a lovely evening and you think this is, this is life, it’s so beautiful. So it’s, it not only is a delightful, just pleasant evening’s activity, but it just reminds you how darn lucky you are to be there.” (12)</p> <p>“So for me, it was the most amazing transformation. Suddenly I am so excited about life because I’ve got this new thing [dragon boating] in my life.” (15)</p>

Coping with Stress

Fourteen women identified how dragon boating reduced emotional stress by providing a focal point, a shared sense of accomplishment and challenge, and a novel environment. A common theme was that dragon boating brought a new source of fun and laughter into survivors’ lives, filled voids, or provided time away from psychological stress. Dragon boating was also a challenge and an opportunity to prove oneself physically. Overall, the majority of the women discussed reductions in emotional stress and enhanced psychological well-being. A common perspective was that dragon boating provided a comfortable environment that facilitated positive affect and changes in self-perceptions by providing opportunities for rumination associated with the breast cancer experience, personal control, and social support.

Social Support

Dragon boating provided opportunities for participants to self-disclose and was an environment to give and receive social support. Seventeen participants explicitly

mentioned that their social support network expanded as a result of their participation in dragon boating. Some women saw dragon boating as a way to meet new people, and they realized that being part of a team was a new experience with social connections. Two women identified not looking for social support when they joined the dragon boat program. For these women, their treatments were either relatively minor or occurred so long ago that there was no immediate need for social support.

Several participants discussed the role that other women on their dragon boat teams played in providing informational and emotional social support by sharing knowledge about breast cancer, and understanding breast cancer. Several women also took great comfort in knowing that, if there was a recurrence, support would be available from teammates. The support for further illness and treatment was not just anticipated but had been either personally provided to them or observed when the team came together to support others. Despite the perceptions of unconditional support reported by many breast cancer survivors, some women felt support was conditional on their involvement and effort. Eight women also talked about dragon boating as providing them with opportunities to help other survivors.

Social support received in dragon boating was unique from support group programs. Dragon boating involved peer support from other breast cancer survivors, but it occurred in a context of physical activity. One distinctive feature of dragon boat participation was that the primary focus was on life rather than death and illness. A key difference between dragon boating and support groups was the appeal of physical activity. One woman discussed how dragon boat activities and support groups have roles at different times throughout the treatment and healing process, with dragon boating fulfilling a unique role in helping women get on with their lives after they have completed the treatment process. In line with this continuum of support, dragon boating provided a means for social disclosure and enhanced support in the context of physical activity, which in turn resulted in assistance to cope with stress and motivation to enhance perceptions of self.

Changes in Physical Self-Perceptions

There were many experiences of altered physical self-perceptions following breast cancer diagnosis and ongoing dragon boat participation. The most integral self-perception change occurred as many women transitioned into describing themselves as athletes. Identifying oneself as an athlete was an important self-descriptor for several women. Specifically, looking athletic and building muscle were motivating factors for dragon boating and related exercise. Although only eight women overtly described themselves as athletes, and some stated that they were not athletic, all participants discussed increases in fitness, strength, and sport competence that were important to their perceptions of self and identity. Therefore, independent of the degree to which these women ascribed to an athletic identity and experienced changes in physical self-perceptions, it was evident that dragon boat participation encouraged many women to consider themselves in new roles and identities.

For most breast cancer survivors, a sense of competition was revealed along with their feelings of increased fitness and competence. Despite being involved in dragon boat programs that were explicitly based on a noncompetitive model, a number of women discussed the environment as an opportunity to express and

develop competitiveness. A competitive perspective seemed to facilitate some breast cancer survivors' transition into becoming athletes, whereas it was an obvious deterrent for others. Specifically, some women realized personal benefits associated with competitiveness, but attitudes toward competition were controversial on many teams. Based on these observations, greater knowledge of the participants' goals for paddling and tendencies to judge their success based on individual improvement versus interpersonal comparison may help us understand whether competition is adaptive or maladaptive for breast cancer survivors. Nonetheless, the mixed attitudes about competition led to a variety of emotions that shaped some women's athletic identities and physical self-perceptions.

Personal Control

Several women talked about loss of control and uncertainty during diagnosis and treatment, and the role that dragon boating played in rebuilding feelings of personal control. Some women specifically discussed this sense of loss and uncertainty: "You sort of think your body is giving up on you, like you aren't in control; you have the right to be in control of your body, and then this happens. And it is beyond your control" (P11) and "I could not lift my arm all the way up to my shoulder, I couldn't do that. That upset me. Not the mastectomy, but the fact that there was, there was something, you know, that I couldn't do" (P5). Regaining perceptions of personal control, such as managing the effects of cancer and possibilities of recurrence while making personal decisions and being in command over their lives, was important to survivors' sense of self. Dragon boating appeared to assist in developing and providing a sense of personal control. For six women, joining the dragon boat program was a choice that they could make as a way of controlling their physical and psychological health. For other survivors, the opportunity to engage in physical activity facilitated their realization of control over the quality of their own lives. Overall, a sense of personal control was important to the breast cancer survivors and appeared to serve as foundation for positive affect and psychological growth.

Positive Psychological Growth

Dragon boating facilitated varying degrees of psychological awareness and growth for all participants. Each individual's experiences with positive psychological growth were unique, yet they included a number of similar elements associated with closer relationships with others, recognizing new possibilities and opportunities, mental strength, and greater appreciation for life.

Closer Relationships. Arguably one of the most influential roles that dragon boating played in facilitating positive psychological growth was the opportunity to develop closer, more intimate, and more meaningful relationships with other breast cancer survivors. Several of the participants mentioned that they experienced positive relational benefits including (a) the comfort of being with women who have had breast cancer, (b) a greater sense of appreciation and understanding of others, (c) inspirational relationships with individuals who have become role models, and (d) an understanding of their social needs. In addition to closer relationships with other survivors, many women also identified developing or enhancing other relationships

with partners, family members, friends, and colleagues. The relationships were discussed as being shaped or strengthened through dragon boat conversations, competitions, and training.

New Possibilities and Opportunities. Another benefit associated with dragon boat paddling was a heightened awareness of other possibilities and opportunities. The dragon boat program provided new social, physical, and personal experiences, such as leadership roles, public speaking, taking on challenges, and even facing the possibility of death. Some women had seen dragon boating itself as a new opportunity when they first joined because they had to complete treatments before participating. Overall, dragon boat paddling provided a range of new opportunities and possibilities that supported many women's journey toward positive psychological growth.

Psychological Strength. Aside from the physical strength gained from regular physical activity, 16 of the women discussed the role that the dragon boat played in making them stronger psychologically. They derived personal strength and confidence from proving they could make it through and thrive in the aftermath of a life-threatening illness. Some discussed how this strength would carry them through future challenges, even in the most difficult times such as recurrence and potential death. The psychological strength acquired from participating in dragon boating also provided a number of women with the confidence to make changes in other aspects of their lives, including romantic and social relationships, employment, and health behaviors.

Appreciation for Life. Many women mentioned experiencing a renewed and greater appreciation for life: "You got just one life. And you're gonna live it" (P7). The appreciation for life was primarily driven by the experience of facing a life-threatening illness. However, the positive and empowering environment associated with dragon boating continuously reminded many survivors of how privileged they were to be alive. Dragon boat also facilitated a greater appreciation for life because it was a novel activity that continuously acted as a reminder of positive outcomes associated with cancer. In providing a sense of excitement and a catalyst for passion and personal control, dragon boat paddling aided in developing and maintaining an appreciation for life that positively influenced many aspects of survivors' lives.

Discussion

The purpose of this study was to explore women's experiences in a dragon boat program for breast cancer survivors. The categories of persistent stressors and challenges, coping with stress, social support, physical self-perceptions, personal control, and positive psychological growth that resulted from this study were developed into a model linking existing theories and research in the field. During the process of developing the positive psychological growth model, it became apparent that the women's experiences corresponded with a model of posttraumatic growth (PTG; Tedeschi & Calhoun, 2004; see Figure 1a). We therefore chose to conceptualize our findings, where appropriate, using a similar structure to the PTG model and incorporating differences found in this study into our final model (see Figure 1b).

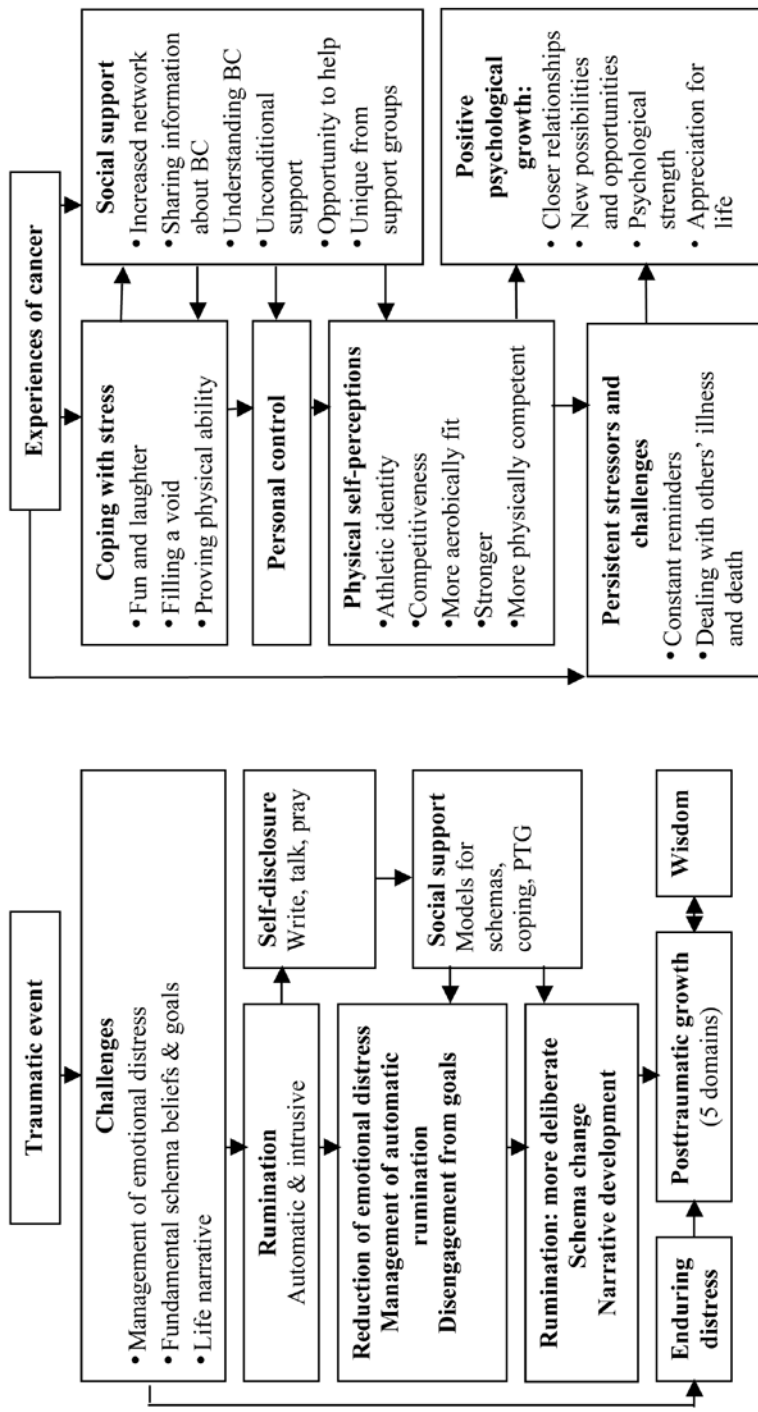


Figure 1 — Left panel: model of posttraumatic growth. From Tedeschi, R.G., & Calhoun, L.G. (2004). Posttraumatic growth: Conceptual foundations and empirical evidence. *Psychological Inquiry*, 15, 1-18. Right panel: model of positive psychological growth.

The PTG model (Tedeschi & Calhoun, 2004) characterizes an illness such as breast cancer as an event that can lead to loss and anxiety, yet is also an opportunity for growth and increased well-being. The PTG model suggests that when women are diagnosed with breast cancer it challenges their assumptions about the world and their life. Survivors struggle to rebuild their expectations and views of the world and their future using strategies such as rumination, social support, schema change, and negotiating experiences of enduring distress (Tedeschi & Calhoun, 2004). These strategies influence the development of elements of posttraumatic growth, namely, a greater appreciation for life, realization of new possibilities, more intimate relations with others, enhanced personal strength, and spiritual change (Tedeschi & Calhoun, 2004). As our results demonstrate, diagnosis and treatment of breast cancer were described as consistent with the definition of a critical event (Tedeschi and Calhoun, 2004). Analogous to the PTG model, physical, psychological, and social changes associated with being a breast cancer survivor dragon boater were linked with how women adapted to their new situation and identity as a survivor and, in some cases, an athlete.

Dragon boating seemed to foster self-disclosure and social support. Although support is an important resource for managing stressful situations (Lazarus, 1999), researchers also suggest that support from others with similar experiences is particularly helpful in facilitating PTG (Tedeschi & Calhoun, 2004; Weiss, 2004). Consistent with previous literature, there appeared to be social benefits of exercising with others who share common backgrounds, such as cancer diagnosis (Midtgaard, Rorth, Stelter, & Adamsen, 2006). Work with survivor dragon boaters suggests that the implicit mutual understanding of breast cancer and informal information sharing are important benefits (Unruh & Elvin, 2004). Although there have been mixed results regarding whether social support for dragon boating predicts intentions to participate (Culos-Reed et al., 2005; Courneya et al., 2001), the dragon boat environment is generally seen as cohesive and supportive (Culos-Reed et al., 2005). Our findings are consistent with these views, and go further to propose that social support fostered reductions in emotional stress and changes in physical self-perceptions. Our findings suggest that women are gaining knowledge, reassurance, and validation from teammates and ultimately developing an integrated and organized social support network. These resources match with previously documented psychosocial needs of breast cancer survivors (Marlow Cartmill, Cieplucha, & Lowrie, 2003), and support the psychosocial benefits of dragon boating.

According to Tedeschi and Calhoun (2004), the experience of breast cancer requires some change in view of self in order to facilitate posttraumatic growth. In this study, the most obvious and integral self-perception change occurred as many women adopted an athletic identity, or at least transitioned into seeing themselves as stronger, fitter, and more competent at physical activities. Physical self-perception changes were important to many survivors' self-worth, as portrayed in many quotations in Table 1. This finding is consistent with the struggles and gains associated with body perceptions of breast cancer survivors (Berterö, 2002). The meanings associated with physical self-perceptions also support the traditional conceptualization of athletic identity (i.e., Brewer, Van Raalte, & Linder, 1993), with elements of personal and social domains and negative affect emerging from the women's experiences.

Posttraumatic growth theory suggests that enduring distress is an important step in facilitating experiences of psychological growth. Although this may seem counterintuitive, feelings of continual (yet manageable) distress are important catalysts of growth (Tedeschi & Calhoun, 2004). Although PTG focuses on stress as being predominantly negative, stressors can be appraised as either threatening/harming one's sense of self or challenging it (see Lazarus, 1999). The process of dealing with stress incorporates this appraisal and a selection of coping strategies that attempt to serve adaptive functions. For this reason, our model of positive psychological growth operationalizes persistent stressors and challenges as dynamic, comprehensive processes involving appraisals, emotions, and coping strategies. For breast cancer survivors, dragon boating's specific stressors (such as being around other women who are undergoing further treatment, recurrences, and death) were appraised as both threats and challenges and were therefore included in the final model as persistent stressors and challenges.

Based on our findings, women's experiences with psychological growth are varied both in occurrence and in intensity of emotions. Although PTG may not be experienced by everyone (Tedeschi & Calhoun, 2004), research suggests most breast cancer survivors experience at least one aspect of PTG (Linley & Joseph, 2004; Sears, Stanton, & Danoff-Burg, 2003; Weiss, 2004). Our findings are consistent with this observation in that all women experienced at least some of the benefits of psychological growth. Acknowledging this growth in a framework that supports the synergistic balances of stressors and benefits of dragon boating allows us to start identifying strategies for physical activity interventions unique to a breast cancer context.

Overall, adopting the general framework of the PTG model (Tedeschi & Calhoun, 2004) provided an appropriate starting point for framing the results of this study in a model that both encompassed women's understandings of their own experiences on survivor dragon boat teams and linked the findings in a useful way with existing literature. The results of this study do, however, differ somewhat from the PTG model. In particular, the emphasis on more proximal stages of positive psychological growth, the specific focus on the physical activity context, and the inclusion of personal control expand on the original PTG model. These unique findings contribute to our understanding of the effect of dragon boating on women's lived experiences.

Although the original PTG model (Tedeschi & Calhoun, 2004) does not include a component of personal control, this study highlighted the facilitative mechanisms associated with survivor's gaining control in their lives. Based on the findings, (re)acquiring perceptions of personal control appears to be an achievement necessary, or at least profitable, for change in self-perceptions and experiences of positive psychological growth (Figure 1b). Many theories of motivation incorporate constructs similar to personal control as predictors of physical activity behaviors and affective experiences. Self-determination theory (SDT; Deci & Ryan, 1985) suggests that perceptions of autonomy are linked to self-determined motivation, positive affective experiences, and persistent behavior. In the quality of life literature, personal control is a domain of psychological well-being (Ferrell & Dow, 1997). Perceptions of behavioral control are also integrated in the theory of planned behavior (Ajzen, 1991) and have been explored in the links between breast cancer and dragon boating (Courneya et al., 2001; Culos-Reed et al., 2005). Additionally,

the relationships among perceptions of control and other psychosocial constructs are also supported empirically. In a population of healthy older adult women, the development of an exercise identity was supported by feelings of personal control and social interaction (Hardcastle & Taylor, 2005). Finally, research with breast cancer survivors suggests that physical activity may influence women's experiences of stress through its influence on perceptions of control (Courneya & Friedenreich, 1999). Based on this literature and the findings of the current study, it appears that social support together with perceptions of personal control are integral to changes in self-perceptions and positive affect and experiences. Therefore, the placement of personal control as an antecedent to changes in self-perceptions/athletic identity and PTG (Figure 1b) is supported but requires further research.

There are two constructs identified in PTG theory that did not emerge from the interviews. According to PTG theory, the initial stages following the critical event involve recognizing new challenges and pervasive rumination about the event and one's life (Tedeschi & Calhoun, 2004). This initial rumination tends to begin immediately after the event (e.g., at the time of diagnosis) and involves intraindividual processes. Because the women in this study participated on dragon boat teams that discourage participation until a minimum of 3 months posttreatment, initial rumination experiences had limited overlap with dragon boating, and did not figure prominently in the interviews.

Similarly, the PTG concept of spiritual change did not emerge in this study. There are a number of possible reasons for this finding. First, the intrapersonal nature of spiritual relationships and faith makes it difficult for environmental (i.e., dragon boating) influences to have an effect. Second, the focus of the interviews on the links between surviving breast cancer and participating in dragon boating may have limited the conversation about spirituality. Third, the inherent nature of dragon boating as a social and physical activity lends itself to obvious potential for providing or enhancing opportunities for new possibilities, enhanced social connections, appreciation of life, and demonstration of personal strength, but the opportunities to effect spiritual change may be constrained. These findings do not suggest that spiritual change is unimportant; rather, work is needed on the contexts in which spirituality is discussed.

This research highlights significant challenges faced by women in the dragon boat program that are difficult but may facilitate positive psychological growth. Future work needs to examine both ways to keep women in the program despite these challenges and to find appropriate ways to help breast cancer survivors face these challenges so that they can receive physical and psychological benefits. Participating in dragon boating is a positive experience for most participants, but it is important to recognize that it is also a struggle for many women, and that some may not get all the support they need to meet these challenges just because they are part of the team.

This study provided insight into breast cancer survivors' experiences with dragon boat participation, but there are limitations and areas in need of further research. First, the time constraints that limited our ability to fully transcribe and analyze each interview before proceeding to the next is a modification of grounded theory that may affect the depth of our results. However, efforts were made to approximate this process as closely as possible. Second, the self-selection bias cannot be overlooked. The participants expressed an interest in being interviewed

and were aware that they would be speaking about physical and social self-perceptions and physical activity motivation. Finally, the nature of the interviews did not allow a more detailed idiographic analysis of the processes involved in experiencing positive psychological growth. Future research should explore a number of specific experiences and emotions over multiple occasions to help better understand the role that dragon boat participation plays in these experiences.

In evaluating constructivist grounded theory research, it is important to consider its credibility, originality, resonance, and usefulness (Charmaz, 2005). The credibility was enhanced by the researcher's knowledge of the dragon boat programs, interviewing a range of participants, and adhering as closely as possible to grounded theory analysis procedures. The new connections made among key themes and with positive psychological growth concepts from the psychological literature speak to the originality of this work. Resonance is highlighted by the presentation of multiple perspectives, both positive and negative. Finally, these findings are particularly useful because of the link with psychosocial processes that suggests paths for future research on processes of psychological change facilitated through dragon boating in this population and provides evidence of the benefits of these programs in the lives of participants.

In conclusion, the results demonstrate the benefits of dragon boating in facilitating positive psychological growth among survivors of breast cancer. In particular, the combination of social and physical elements in the dragon boat context appeared to be integral in perpetuating positive experiences. As such, future intervention strategies seeking to enhance quality of life among breast cancer survivors might consider the principles of dragon boating—a group physical activity that is physically challenging, emotionally supportive, and socially unique. With interventions and physical activity programs, the opportunities and challenges unique to breast cancer are inherently managed in a balance of uncertainty and growth and ultimately foster enhanced quality of life and psychosocial well-being. In the words of one participant,

When you go through a difficult time, and you're fortunate that you have probably gained more than you lost in lots of ways and I—it's not just that I wish I hadn't had breast cancer—I have said that I have gained an enormous amount from having had breast cancer. Having been part of this organization, the women I've met, the experiences that I've had with people who were sick or who have died or, and learning from that—I think that shows that adversity—you gain from adversity: you become, you find out things about yourself, what you're made of, and I think that's a good thing to find out. (P10)

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