

# Development and Psychometric Testing of a Breast Cancer Survivor Self-Efficacy Scale

Victoria L. Champion, PhD, RN, FAAN, Kim W. Ziner, RN, PhD, CBCN®, Patrick O. Monahan, PhD, Timothy E. Stump, MA, David Cella, PhD, Lisa G. Smith, MS, Cynthia J. Bell, PhD, RN, Diane Von Ah, PhD, RN, and George W. Sledge, MD

**B**reast cancer survivors (BCSs) are the largest female cancer survivor group and include 2.6 million women in the United States (American Cancer Society, 2012). BCSs deal with problems related to the disease and treatment throughout their life. Compared to women without breast cancer, survivors experience more depression, anxiety, fatigue, and sexual dysfunction, as well as decreased marital satisfaction (Minton & Stone, 2008; Von Ah, Kang, & Carpenter, 2008). The construct of self-efficacy has demonstrated effectiveness for developing interventions that enable cancer survivors to manage symptoms, ultimately improving their overall quality of life (QOL) (Hoffman et al., 2009; Merluzzi, Philip, Vachon, & Heitzmann, 2011; Zachariae et al., 2003). The purpose of this article is to present the psychometric development of a breast cancer self-efficacy scale (BCSES) that can quantify self-efficacy for use in interventions that address long-term problems encountered by BCSs.

Self-efficacy is a central construct in Bandura's (1977) social cognitive theory and is defined as an individual's perception of his or her ability to complete a given task. Self-efficacy predicts the effort expended for a given problem and the length of time an individual will maintain a behavior to gain an expected outcome toward a unifying theory (Bandura, 1977). Self-efficacy and future outcome expectations play central roles in behavior change. Self-efficacy includes (a) magnitude (level of task difficulty), (b) generality (whether one believes tasks can be accomplished across several situations or only under limited conditions), and (c) strength (the relative certainty an individual has relative to accomplishing a given task or behavior) (Bandura, 1977; Champion, Skinner, & Menon, 2005).

Bandura (1997) postulated that self-efficacy mediates behavior through cognitive appraisal. Decreased self-efficacy has been associated with physical and psychological distress and lower QOL (Cunningham, Lockwood, & Cunningham, 1991; Han et al., 2005; Lev

**Purpose/Objectives:** To describe the development of a self-efficacy instrument that measures perceived ability to manage symptoms and quality-of-life problems resulting from the diagnosis and treatment of breast cancer.

**Design:** Items were developed and content validity assessed. A 14-item scale was psychometrically evaluated using internal consistency reliability and several types of construct validity.

**Sample:** 1,127 female breast cancer survivors (BCSs).

**Methods:** Written consents were mailed to the research office. Data were collected via mail and telephone.

**Main Research Variables:** Demographics, symptom bother, communication with healthcare provider, attention function, fear of recurrence, depression, marital satisfaction, fatigue, sexual functioning, trait and state anxiety, and overall well-being.

**Findings:** Data demonstrated that the breast cancer self-efficacy scale (BCSES) was reliable, with an alpha coefficient of 0.89, inter-item correlations ranging from 0.3–0.6, and item-total correlation coefficients ranging from 0.5–0.73. Three of 14 items were deleted because of redundancy as identified through high (> 0.7) inter-item correlations. Factor analysis revealed that the scale was unidimensional. Predictive validity was supported through testing associations between self-efficacy and theoretically supported quality-of-life variables, including physical, psychological, and social dimensions, as well as overall well-being.

**Conclusions:** The BCSES demonstrated high internal consistency reliability, unidimensionality, and excellent content and construct validity. This scale should be integrated into interventions that target self-efficacy for managing symptoms in BCSs.

**Implications for Nursing:** Nurses working with BCSs may use this tool to assess areas in which survivors might need to build confidence to adequately cope with their specific survivorship concerns.

**Knowledge Translation:** The use of the BCSES can inform nurse researchers about the impact of an intervention on self-efficacy in the context of breast cancer survivorship, improving the ability to deliver effective interventions. The scale is brief and easy to administer. Results of this study demonstrate clear psychometric reliability and validity, suggesting that the BCSES should be put to use immediately in interventions targeting the quality of life of BCSs.