

WISH 2014 Poster Submission

**The effects of interpersonal communication and enacted support on exercise motivation for high risk breast cancer survivors**

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**Abstract**

*This proposal presents a qualitative study that investigates how interpersonal communication and enacted support impact breast-cancer survivors' motivation to initiate and sustain post-treatment lifestyle behavior changes in an effort to decrease their risk for recurrence. By applying an interpersonal communication approach to a Self-Determination Theory framework, the study considers how the concept of relatedness and enacted support affect an individual's self-motivation when adopting and maintaining a healthy lifestyle post-cancer treatment. The research focuses on a group of women who were overweight at the time of their diagnosis, and therefore considered a high-risk group, and investigates their experiences receiving enacted support when adhering to a new diet and exercise wellness program. Research findings will be applied to the development of a requirement analysis for the design of a web-based tool that helps participants track their diet and exercise behavior while facilitating social support between peers and with their health care and wellness teams.*

**Introduction and Background**

Recent research shows, overweight and obese breast cancer survivors are at higher risk for recurrence and mortality than survivors within a healthy weight range (Davidson, 2012; Sparano et al, 2012). Not surprisingly, nutrition and physical activity have been found to improve breast cancer survival rates (Holmes et al., 2005; Rock & Demark-Wahnefried, 2002). Unfortunately, the subset of breast cancer survivors with the highest risk of recurrence is also the group with the highest dropout rates in exercise studies (Musanti, 2012; Kim et al., 2006). To understand what factors might determine whether an individual will demonstrate behavior changes over time, such as initiating and maintaining new exercise regimens, several studies have concluded that motivation plays an important role (e.g. Wood, 2008).

While most exercise studies focus on patient outcomes, they do not fully investigate how participants experience motivation in the first place or how motivation affects their ability to sustain exercise over time. Additionally, more studies are also needed that investigate how factors such as social relationships and social support affect high-risk individuals' motivation to maintain their diet and exercise program over time. Indeed, studies of social support, conceptualized as enacted support in the research field of interpersonal communication, have produced mixed results with respect to its effects on wellbeing (Chen & Feeley, 2012). The proposed study will add to this body of research by studying how individuals experience motivation and social support throughout the course of a wellness program. By focusing on a group of high-risk individuals with corresponding high exercise drop-off rates (i.e. overweight and obese breast cancer survivors), the present qualitative study seeks to understand how the enacted support they receive through interpersonal communication affects their motivation to sustain a healthy diet and exercise program over time.

**Theoretical Framework**

A useful theoretical framework for the study of exercise motivation is Self-Determination Theory (Wood, 2008), since it offers a more fine-grained approach to the study of factors involved in motivation. According to Self-Determination Theory (SDT), as an individual moves from being motivated extrinsically to intrinsically, she experiences greater autonomy, self-confidence and a sense of well-being (Ryan and Deci, 2000; Wood 2008). That is, as motivational factors such as expected outcomes, social pressure, enjoyment and personal fulfillment move from extrinsic to intrinsic, the likelihood that an individual will make permanent behavior changes increases (Ryan and Deci, 2000).

Studies have found that a sense of belonging or connection to others, referred to as the concept of 'relatedness' in the SDT framework, contributes to the development and persistence of intrinsic motivation, and has been empirically found to be a key determinant to maintaining and sustaining behavior modifications (Ryan and Deci,

2000). Since SDT focuses on individual psychological needs rather than social relationships, an interpersonal communication approach to studying motivational factors such as social support can therefore be used to further expand SDT's concept of relatedness.

To the best of our knowledge, exercise interventions for women based on SDT have only been designed to study specific outcomes. Few qualitative studies based on SDT have been published that investigate how social factors (i.e. relatedness and interpersonal communication) impact motivation to sustain lifestyle changes, including healthy diet and exercise routines. The proposed study is therefore intended to address this gap. By focusing on a high-risk subset of breast cancer survivors, we examine how social support, manifested through interpersonal communication (e.g., between exercise coach and patients, as well as among a group of patients), might impact an individual's motivation to initiate and sustain healthy lifestyle changes. That is, this study will look explicitly at the role of social support, an *external* mechanism, as it affects individuals' *internal* motivation to sustain their individualized diet and exercise regimens over time.

### **Objectives**

The proposed study has three main objectives. First, we investigate *how* interpersonal communication, such as enacted social support, enables the development of relatedness for this high-risk group of breast cancer survivors. For instance, the study will investigate whether participants who maintained their diet and exercise routines over a long period of time experienced more support from family, peers, or their healthcare and wellness teams than participants who dropped off, and in what forms was such support felt among participants in the study. In other words, what kinds of supportive acts from others did participants experience (or not) throughout their diet and exercise program. Second, considering the empirical importance of relatedness to motivation in exercise studies, we aim to identify which interpersonal communication factors correspond to, or extend and enrich, the concept of relatedness based on the established SDT theoretical framework. Finally, the empirical findings from this study will be used to develop a requirement analysis for the prototype design of a web-based platform to support and facilitate interpersonal communication for similar high-risk patients who have been prescribed new diet and exercise regimens as part of their treatment or continuum of care. As part of a follow-up study, this platform will be tested and further analyzed.

### **Method and Analysis**

The study will be conducted at the Morristown Medical Center in New Jersey. As mentioned earlier, we are interested in breast cancer survivors who were overweight or obese at the time of their diagnosis and treatment. Currently, 24 such participants have enrolled in an ongoing diet and exercise breast cancer intervention program titled, *Breast Cancer Healthy Lifestyle Intervention Study*, and have been prescribed a diet and exercise program as part of their post-treatment continuum of care. As part of that intervention, the participants are following an individualized and evidence-based diet and exercise program based on a SDT model that supports motivational development while promoting collaborative care between the cancer center and the community. We will recruit participants from this intervention for our proposed qualitative study.

To better understand the relationship between relatedness and interpersonal relationships, and to investigate the impact that interpersonal communication and social support have on motivation to sustain a diet and exercise program, the proposed study will conduct a series of interviews with the participants. In order to respect their privacy and to ensure the confidentiality of their responses, and to minimize the effects of bias and mutual influence when recounting their experiences with social support and motivation as they follow their diet and exercise programs, participants will be interviewed individually.

The semi-structured interview questions will focus on barriers to adherence, the way in which motivation is felt and experienced by participants, and the types of support they receive from family, friends, peers and the healthcare and wellness teams as they initiate and follow their diet and exercise programs. We will code the interview data using a grounded theory approach to identify any factors related to interpersonal communication and social support, and to understand how they affect the motivation of overweight breast cancer survivors as they adopt, maintain or fail to sustain behavior changes associated with a healthy lifestyle post cancer treatment. These findings will subsequently be used for the requirement analysis of a web-based tool that helps high-risk individuals adhere to a diet and exercise regimen by facilitating social engagement and social support.

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### Expected Outcomes

By the time of WISH 2014 workshop, we expect to finish the interview study and will be able to share our preliminary results. We also look forward to exploring our prototype design ideas with workshop participants.

### Conclusion

Understanding how interpersonal communication and enacted social support affects the development of intrinsic motivation will enable practitioners and support staff to develop sustainable treatment strategies to support their patients' new behavior changes and ensure their long-term success. Additionally, the findings from this research will be used to better inform the design of effective health and wellness platforms that facilitate communication at different levels, e.g., between high-risk patients and their health care and wellness teams, and among patient peer support groups. By providing an in-depth understanding of high-risk individuals with high drop-off rates of participation and engagement, and by informing strategies for their adherence, this study will contribute to both the body of empirical work that helps reduce the rates of cancer recurrence and mortality, as well as the theoretical development of considering interpersonal communication factors within the SDT model framework.

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