

# Use of the Theory of Planned Behavior to Examine Intent of Cancer Rehabilitation Patients to Continue Exercise

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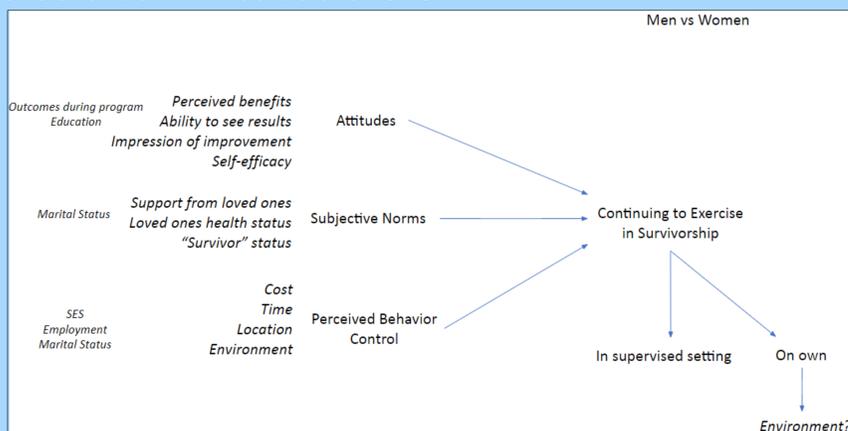
**Research Question:** We know that exercise is beneficial for cancer survivors, but what factors most strongly impact cancer survivors choice to continue exercise is a supervised exercise program?

## What Do We Know?

- A majority of cancer survivors are not living healthy or comfortable lives, as 70% of survivors suffer from multiple chronic conditions<sup>2</sup>.
- Exercise has been shown to benefit cancer patients both physiologically and psychologically, specifically leading to improvements in physical functioning, cancer-related fatigue, overall quality of life, and decreased occurrence of multiple chronic conditions<sup>1,8</sup>.
- There has recently been an increase in supervised exercise programs specifically for cancer survivors, but only around half of cancer survivors offered these programs complete them<sup>1,3</sup>.
- Survivor decisions to withdraw from these programs are many times impacted by survivors medical conditions and/or personal and social problems<sup>6</sup>.
- Exercise can decrease the risk of developing multiple chronic conditions, which can lead to longer and healthier lives with higher quality of life for survivors. The Theory of Planned Behavior can be used to analyze what factors most strongly impact survivors decisions to continue with exercise**<sup>5,7</sup>.

## What Did We Do?

- Utilizing the Theory of Planned Behavior (TPB), a questionnaire was created, modified from a different study<sup>6</sup>.
  - TPB states three factors (Attitudes, Subjective Norms (SN), and Perceived Behavior Control (PBC)) impact our intention to complete a certain behavior, as well as the completion of the behavior itself.
  - Our questionnaire also included questions regarding demographics and exercise behavior.
- Survey was sent to survivors who graduated from the Miami Valley Hospital South (MVHS) Oncology Rehabilitation Program within the past 6 months (retrospective group, n= 20), as well as distributed to active participants in the program upon their completion of the 12 session program (prospective group, n=5).
- Pre- and Post- program outcome data was accessed through electronic medical records for both retro- and pro-spective subjects.
- Data analysis was completed on questionnaire items
  - Descriptive analysis (means, standard deviations, frequencies) on demographic information
  - T-tests on program outcome data
  - Bivariate correlations on TPB factors and items



## What Did We Find?

### The Typical Participant:

- Age 67 +/- 8.94 (N=25); 40% Male, 60% Female
- Most Non-Hispanic (96%), Married (92%), and Not Employed (68%)
- Varied cancer diagnoses, but majority breast (48%) or prostate (36%)
- Education level and annual household income data collected showed more variance across categories.

### Effectiveness of MVHS Oncology Rehabilitation Program

- Post-completion of the 12 session MVHS Oncology Rehabilitation Program, six out of seven program outcome measures significantly improved

|           | 6 min. Walk (distance) | Handgrip R | Handgrip L | 30 sec. Sit-to-stand reps | PHQ-9 (depression) | COOP (QoL-lower is 'better') | Schwartz Fatigue |
|-----------|------------------------|------------|------------|---------------------------|--------------------|------------------------------|------------------|
| Avg. Pre  | 1614 m                 | 67         | 63         | 10                        | 5                  | 20                           | 11               |
| Avg. Post | 1854 m                 | 73         | 69         | 13                        | 3                  | 15                           | 9                |
| p         | 0.0007**               | 0.0050**   | 0.0022**   | 0.0007**                  | 0.0009**           | 0.0001**                     | 0.1030           |

\*\* = significant (p < 0.01)

### Correlation Between Attitude and Intention

- Attitude was the only factor significantly correlated with Intention to exercise.
- Item level correlations for each factor revealed that the Importance of exercise (*Attitude*), exercise behavior of loved ones (*Subjective Norm*), and program cost (*Perceived Behavior Control*) were most strongly related to Intention.

|           | PBC   | SN    | Intention |
|-----------|-------|-------|-----------|
| Attitudes | 0.066 | 0.253 | 0.538*    |
| PBC       |       | 0.298 | -0.051    |
| SN        |       |       | 0.305     |
| Intention |       |       |           |

\*significant (p = 0.0056)

| TPB Factor | Strongest Correlated Item to Intention            |
|------------|---|
| Attitude   | Importance of exercise (r= 0.38)                  |
| SN         | Important people around them exercising (r= 0.43) |
| PBC        | Cost (r= 0.18)                                    |

## What Does It Mean?

### Conclusions

Typically, PBC is most strongly related to Intention<sup>4,6</sup>. These results suggest that despite a variance in annual household income, Attitude toward exercise is more important than PBC, one item of which is cost. Oncology Rehabilitation Programs should focus on creating fun and enjoyable atmospheres for their patients and should provide information regarding the benefits of exercise to cancer patients to foster more positive attitudes toward exercise and encourage renewal.

### Perspectives

This study, as a pilot study, has a very small number of participants (N=25), which can limit the analysis we run on the data and the applicability of results to a larger population.

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