

**Article Title:** Barriers to Physical Activity: A Study of Academic and Community Cancer Survivors with Pain

**Journal Name:** *Journal of Cancer Survivorship*

**Author Names:** Sally A. D. Romero, PhD, MPH; Justin C. Brown, PhD; Joshua M. Bauml, MD; Jennifer L. Hay, PhD; Q. Susan Li, MS; Roger B. Cohen, MD; Jun J. Mao, MD, MSCE

**Corresponding Author:** Jun J. Mao, MD, MSCE, Memorial Sloan Kettering Cancer Center, Bendheim Integrative Medicine Center, 1429 First Avenue, New York, NY 10021; Email: maoj@mskcc.org

## **ONLINE RESOURCE**

Supplementary Table 1 shows the factor loadings and communalities for the 12-item PABAC scale subjected to principal components analysis (PCA). In support of the factorability of the correlation matrix of the barriers, the Kaiser-Meyer-Olkin value was 0.72, exceeding the recommended value of 0.6[1, 2] and Bartlett's Test of Sphericity[3] reached statistical significance ( $p < 0.001$ ). The PCA with oblimin rotation found four components with eigenvalues exceeding 1.0, explaining a total of 63.1% of the variance. The component with Symptoms (fatigue, pain, treatment side effects, nausea, and sadness) explained 26.5% of the variance; Cognitive barriers (time, motivation, and discipline) explained 15.2% of the variance; Logistical barriers (finances and environment) explained 12.7% of the variance; and the component with Clinical barriers (physician recommendation and surgical complications) explained 8.7% of the variance.

Supplementary Table 1. Principal components analysis pattern and structure matrix of the 12-item Physical Activity Barriers After Cancer scale

Barriers	Component 1 <i>Symptoms</i>		Component 2 <i>Cognitive</i>		Component 3 <i>Logistical</i>		Component 4 <i>Clinical</i>		Communalities	Overall Scale
	Component Loadings									
	Pattern	Structure	Pattern	Structure	Pattern	Structure	Pattern	Structure		
Fatigue	<b>0.862</b>	<b>0.813</b>	0.085	0.171	-0.040	-0.003	-0.225	-0.014	0.718	--
Pain	<b>0.742</b>	<b>0.755</b>	-0.060	0.068	0.142	0.204	0.035	0.250	0.594	--
Nausea	<b>0.592</b>	<b>0.631</b>	-0.012	0.109	0.181	0.256	0.102	0.293	0.449	--
Treatment side effects	<b>0.479</b>	<b>0.551</b>	0.035	0.093	-0.156	-0.026	0.324	0.407	0.403	--
Sadness	<b>0.411</b>	<b>0.530</b>	0.203	0.305	0.106	0.265	0.333	0.478	0.467	--
Difficulty remaining disciplined	0.057	0.153	<b>0.920</b>	<b>0.908</b>	-0.067	0.102	-0.076	-0.003	0.838	--
Difficulty getting motivated	0.115	0.209	<b>0.918</b>	<b>0.911</b>	-0.080	0.093	-0.078	0.006	0.852	--
Not enough time/ too busy	-0.245	-0.116	<b>0.530</b>	<b>0.563</b>	0.269	0.388	0.142	0.191	0.459	--
Lack of safe environment to exercise	0.024	0.102	0.024	0.199	<b>0.868</b>	<b>0.873</b>	-0.008	0.216	0.764	--
Lack of financial resources to exercise	0.155	0.224	-0.032	0.156	<b>0.844</b>	<b>0.850</b>	-0.006	0.240	0.746	--
My doctor told me not to exercise	-0.107	0.091	-0.074	-0.001	0.113	0.286	<b>0.795</b>	<b>0.791</b>	0.651	--
Surgical complications	0.092	0.279	0.001	0.061	-0.078	0.125	<b>0.781</b>	<b>0.785</b>	0.629	--
<b>Cronbach's alpha</b>	<b>0.71</b>		<b>0.72</b>		<b>0.73</b>		<b>0.52</b>			<b>0.75</b>

Bolded items indicate major loadings for each item and Cronbach's alpha for each scale.

## REFERENCES

1. Kaiser HF. A second generation little jiffy. *Psychometrika*. 1970;35(4):401-15.
2. Kaiser HF. An index of factorial simplicity. *Psychometrika*. 1974;39(1):31-6.
3. Bartlett MS. A note on the multiplying factors for various  $\chi^2$  approximations. *J R Stat Soc Series B Stat Methodol*. 1954:296-8.