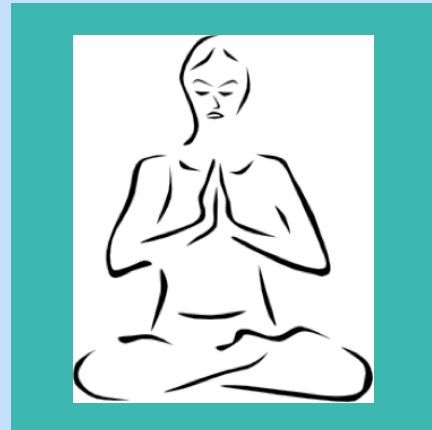
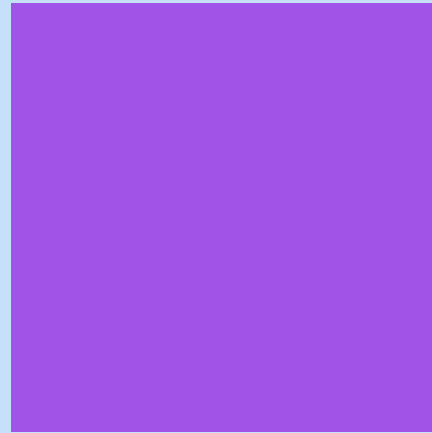




Improving Participation in Life Activities Through Yoga

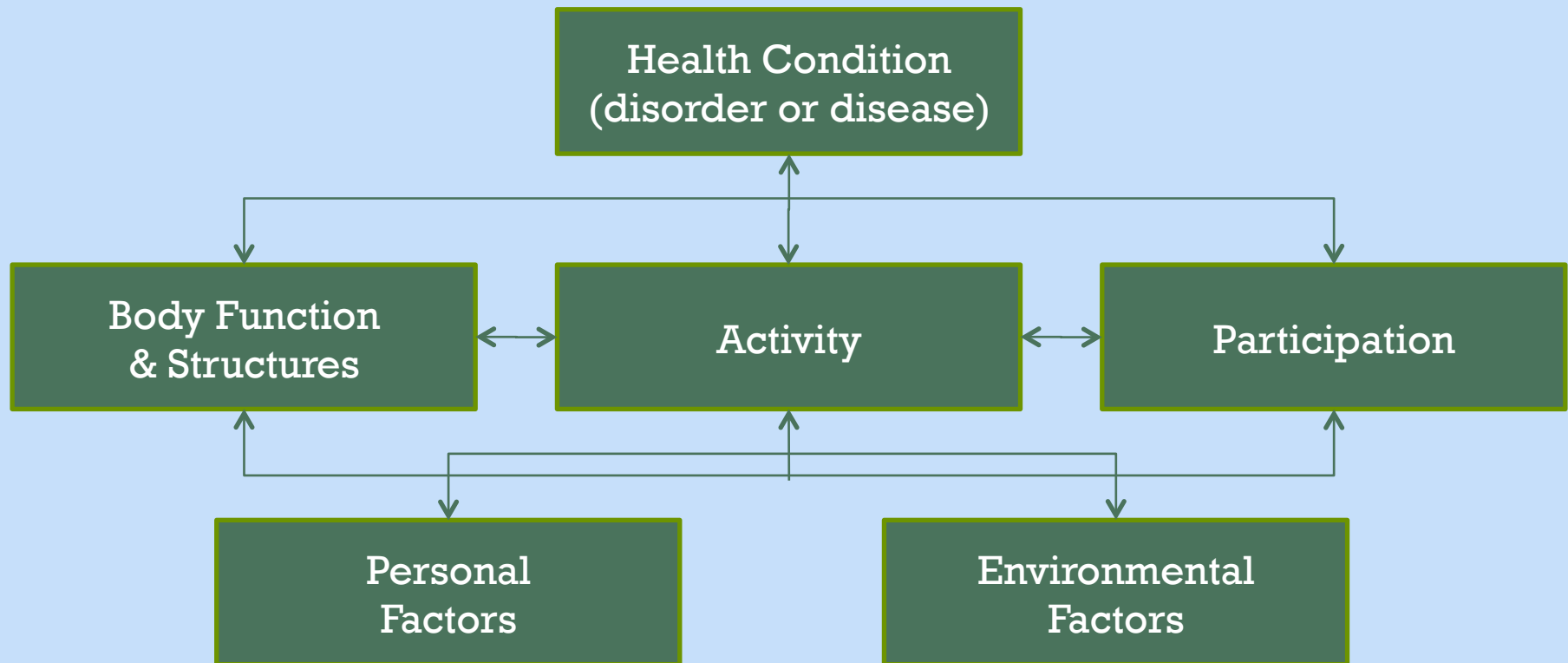


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+ Defining Participation

- From the World Health Organization's International Classification of Functioning, Disability, and Health (ICF)
- Engagement in a life situation



+ Participation

- Little research specifically on yoga and participation
- Areas of participation most commonly impacted after acute or chronic disease/disability:
 - Roles
 - Family relationships
 - Sexual relationships
 - Social activities
 - Return to work
 - Finances



+ Barriers to Participation: Constraints

■ Constraints

- Factors or perceptions that cause an individual to reduce or cease engagement in leisure or physical activity.

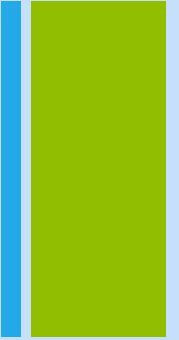
■ Examples:

- Fear of falling
- Fear for personal safety
- Lack of time
- Lack of services
- Lack of awareness of services
- Self-consciousness



+ Yoga Studies Measuring Participation and Constraints

- Stroke
- *Breast cancer
- *Older adults and fear of falling



+ Yoga for Chronic Stroke Study

Methods



DESIGN/GROUPS

Randomized controlled trial into yoga (n=37) or WL control (n=10)

DURATION

2x/per week @1 hr x 8 weeks

INCLUSION CRITERIA

Survived a stroke, required rehab post-stroke, completed all inpatient rehabilitation, at least 6 months post-stroke

INTERVENTIONIST

Advanced training in yoga therapeutics



+ Yoga for Chronic Stroke: Measures and Analysis



- Demographics
- ICF Measure of Participation and Activity (IMPACT) subscales
- Stroke Survivor Quality of Life (SSQOL)
- Focus groups
- Paired t-tests were utilized to compare the baseline and 8-week scores on each of the measures for both groups
- Qualitative analysis

+ Yoga for Chronic Stroke Results: Demographics



Variable	All (N=47)	Yoga (n=37)	Wait-list (n=10)
Age	63.1±8.8	63.9±8.7	60.2±8.9
Race, white	28 (60%)	22 (59%)	6 (60%)
Gender, male	38 (81%)	20 (54%)	10 (100%)
Months since stroke	51±40.4	54.9±43.2	36.4±23.6

+ Yoga for Chronic Stroke

Quantitative Results

- For individuals in the yoga group:
 - activity improved ($t=2.45, p=.02$)
 - participation improved ($t=2.10, p=.045$)
 - quality of life improved ($t=-2.187, p=.04$)
- For those in the WL control, activity, participation, and quality of life did not statistically significantly improve over the 8-week period.

+ Yoga and Chronic Stroke

Qualitative Results

- Much improvement in activity and participation stemmed from increases in body function.
- Participants focused on their increased ability to be more active in their own lives by being able to properly and independently perform essential tasks and actions.
- *“I think one of the things that has affected me is, I’m gonna cry [crying], it’s improved my life, I can take a shower and I’m not afraid of falling. I couldn’t, I was just scared and now I’m not. [sniffles]...”*
- *“I believe it’s given me greater, um, amount of confidence...two days ago I was up on uh, Continental Divide, and I had to go up probably another fifty feet up some stairs and the wind was probably fifty miles an hour... but I kept going on up there. [I was determined that] I’m gonna make it all the way to the top. I’m gonna view this glorious view that I have in front of me. And, a lot of it is just due to the confidence that this class has instilled. A year ago I couldn’t have done it—today I can.”*

+ Yoga for Chronic Stroke Discussion

- The 8-week yoga intervention for individuals with chronic stroke resulted in improved activity, participation, and quality of life.
- Those in the control group did not see improvements in these areas.
- These findings support future research in these areas to determine the mechanisms from yoga that improved activity, participation, and quality of life for individuals with chronic stroke.

+ Yoga and Breast Cancer Survivors

Methods

DESIGN/GROUPS

Single blind, 2-arm (yoga vs. light stretching), quasi-randomized trial

DURATION

2x/per week @ 1.25 hrs x 8 weeks

INCLUSION CRITERIA

At least 9 mo post-tx, dx at least 1 year prior to trial, able to commit to class times.

INTERVENTIONIST

Advanced training in yoga therapeutics



Van Puymbroeck, M., Schmid, A., et al. (2011). *Intl J Yoga Ther.*
Van Puymbroeck, M., Schmid, A.A., et al. (2013) *Amer J Health Promotion.*

+ Yoga and Older Adults with Fear of Falling Methods

DESIGN/GROUPS

1-arm, prospective trial

DURATION

2x/per week @1 hr x 12 weeks

INCLUSION CRITERIA

Endorse a FoF, at least 60 years old

INTERVENTIONIST

Advanced training in yoga therapeutics



+ Demographics for Breast Cancer and Older Adult studies



Characteristic	Breast ca (N=11)	Older adults (N=14)	All (N=25)
Age	53.72	77.26	67.52
Race (white)	11	14	25
Education			
HS	3	1	4
>College	8	13	21
Marital status			
Single	2	0	2
Married	7	8	15
Widowed	2	6	8
Gender			
Male	0	3	3
Female	11	11	22

+Yoga and Breast Cancer, Older Adults Combined Analyses

- Secondary analyses from 2 separate trials
 - Focused on constraints
- Both studies used physical activity constraint scale pre and post intervention
 - Cronbach's α = .74 for the breast cancer study and .93 for the older adult study (.88 combined).
- Post-hoc analyses
 - Mapped all constraint scale items with ICF codes
 - Two researchers coded independently

+ For example...

Physical activity constraint

ICF code^a

1. I don't have time

b1802

b= body
functions

1 = chapter
1 within
body
functions

80=
experience
of self and
time
functions

2 =
experience
of time

b1802= specific mental functions of the subjective experiences related to the length and passage of time

Physical activity constraint	ICF code ^a
1. I don't have time	b1802
2. I'm afraid of getting hurt	b1522
3. It's not important for me to be physically active	d5701
4. My friends and family members would look down on me if I started to be physically active	e410; e429
5. I'm already physically active at work, I don't need to exercise	d5702
6. Weather is often bad around here	e2258
7. It's not safe to exercise in this area	e235
8. I'm afraid of unattended dogs	b1522
9. I'm too self-conscious about the way I look	b1801
10. My health is not good enough	d5701
11. I don't know where I could participate	e1400
12. I'm not skilled enough	b1644
13. I have problems with transportation	e1200
14. I have nobody to participate with	d7504
15. There are no facilities in my neighborhood	e1400
16. I participated in the past and I didn't like it	b1264
17. I don't like to participate in physical activity in public places	b1522
18. I am too self-conscious to exercise with others	b1266
19. I don't know anyone who exercises regularly	d7504
20. The local fitness facilities do not offer what I want	e1400

+ Yoga and Breast Cancer, Older Adults

Post-hoc analyses

- Questions divided into level 1 classifications of the ICF
 - Yielded 3 subscales:
 - Body functions (8 questions)
 - Activities and Participation (5 questions)
 - Environmental factors (7 questions)
- Pre-test/post-test scores were tallied for each subscale
- Paired sample t-tests to test significance of scores
- Linear regression to explore relations between subscales and total score for physical activity constraints

Yoga and Breast Cancer, Older Adults Results

comparison of pre- and post constraints scores

Variable	Pre-yoga	Post-yoga	t-test	p-value	% change
Constraints body functions subscale	31.88	35.32	-3.988	.001	10.77%
Constraints environmental subscale	31.32	32.48	-2.076	.049	3.70%
Constraints activities & participation subscale	21.76	22.35	-0.891	.382	2.70%



Yoga and Breast Cancer, Older Adults Results

Stepwise linear regression models



Model	R ²	df	F	p-value	β	p-value
Body functions	.86	24	142.42	0.000	.928	0.000
Body functions & environ- mental factors	.87	24	75.162	0.000	.823 .150	0.000 0.175

Yoga and Breast Cancer, Older Adults

Body function subscale questions




Physical Activity Constraint Question	ICF code
1. I don't have time	b1802
2. I'm afraid of getting hurt	b1522
8. I'm afraid of unattended dogs	b1522
9. I'm too self-conscious about the way I look	b1801
12. I'm not skilled enough	b1644
16. I participated in the past and I didn't like it	b1264
17. I don't like to participate in physical activity in public places	b1522
18. I am too self-conscious to exercise with others	b1266

+ Yoga and Breast Cancer, Older Adults Discussion

- Physical activity constraints decreased.
- The body function subscale questions had to do with cognitive processing and awareness of psychological events that prohibit activity participation.
 - Two questions addressed experience of self and time
 - Three addressed emotional functioning
 - One addressed higher level cognitive functioning
 - Two addressed temperament and personality functions

Yoga and Breast Cancer, Older Adults

Discussion



- BUT WHY?
- July 2014- Yoga Journal- Dr. Tim McCall talked about yoga increasing emotional intelligence.
- Broaden and Build Theory of Positive Emotions- Barbara Frederickson
 - Positive emotions expand an individual's mindset
 - This expanded mindset allows or even encourages new activities



Broaden and Build- exemplary quote



- “by broadening an individual’s momentary thought- action repertoire- whether through play, exploration, or similar activities- positive emotions promote discovery of novel and creative actions, ideas and social bonds, which in turn build that individual’s personal resources; ranging from physical and intellectual resources, to social and psychological resources.” (p. 1367)

+ So what does it all mean?

- Concepts of participation and constraint negotiation are important factors to consider in our research.
- Explore positive emotion, participation, and constraints simultaneously.
- Yoga is a powerful tool to improve holistic well-being.
- Appears that yoga acts as a gateway to engagement in other activities.



+
With sincere gratitude, I acknowledge...

- Primary collaborator: Dr. Arlene Schmid, OTR
- Our yoga therapists, the yoga teachers in training, and the students who assisted.



The Front Line of Yoga Research

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+

Thank you so much for your time!

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