

Participants' experiences of a mixed-ability yoga series

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ABSTRACT

The practice of yoga encourages individuals to work within their own bodies to bring balance and health to the mind, body and spirit, providing relief for symptoms of chronic conditions. The purpose of this study was to explore the experiences of individuals participating in a series of mixed-ability yoga classes. Barriers and facilitators to their participation were also explored. Seven participants were recruited from the mixed physical and mental ability yoga classes. Semi-structured interviews were used to collect data. Thematic analysis was used to analyse the data and develop themes. Prominent themes were Engagement Partnerships, Physical Activity Beliefs, Supported Participation and Concepts of Disability. These themes provided insight into the experiences of participants and the facilitators and barriers that influenced their participation. Additionally, themes were supported by literature on group cohesion and self-efficacy that highlight the potential for change to group exercise classes with cross over into rehabilitation classes. The importance of appropriate adaptation through skilled instructors was key to the success of the mixed-ability yoga series, as was the promotion of inclusion and understanding of perceptions of disability. Participants experienced health benefits from the mixed-ability yoga class. The fundamental concepts of the class can be applied in physiotherapy practice to promote physical activity for all.

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INTRODUCTION

Yoga is a physical activity in which individuals of all walks of life are able to participate. Research suggests that people who experience disability are less likely to engage in physical activity than their non-disabled peers (Lundberg, McCormick, & Tibbs, 2011; Singh, 2012). A lack of physical activity and complications from long term health conditions place the disabled population at greater risk of obesity, cardiovascular disease and diabetes (Keegan et al., 2014; Kehn & Kroll, 2009; Reinders, Bryden, & Fletcher, 2015; Harder, Parlour & Jenkins, 2012). Adaptive physical activity encourages participation by removing potential and perceived barriers including lack of accessibility, limited financial resources or reduced confidence (Anderson & Heyne, 2012; Bantjes, Schwartz, Conchar & Derman, 2015; McCall, Thorne, Ward & Heneghan, 2015; Ross, Bogart, Logan, Case, Fine & Thompson, 2016).

Adaptation, inclusion and mixed-ability are three principles central to the ethos of this study. Lundberg et al. (2011) describes adaptive sport and recreation as the "modification of a given sport or recreation activity to accommodate the varying ability levels of an individual" (p. 1). Inclusion is defined as a collective effort to allow people to participate, whereby differences are normalised through differentiated instruction (Andreason, 2014). Inclusive physical activity fosters an environment that gives people a 'sense of belonging' through peer support and awareness of different abilities (Rimmer, Riley, Wang, Rauworth & Jurkowski, 2004). Mixed-ability is a concept,

in the context of the yoga series, which utilises principles of inclusion and adaptation to encourage participation, and involves individuals of different levels of physical ability (Tomlinson, 2001). We were unable to find published literature on this style or format of group exercise delivered as a component of physiotherapy intervention.

Adaptive yoga, considered an accessible physical activity, has been investigated through qualitative research as an adjunct to traditional therapeutic interventions including physiotherapy for individuals with health conditions including stroke, spinal cord injury, cerebral palsy and cancer. It has been shown to provide benefits comparable to those in non-disabled populations, including better sleep, stress relief and improvements in strength and flexibility, measured through scales including the visual analogue scale (VAS) and the perceived stress scale (PSS) (Curtis et al., 2015; Garrett et al., 2011; McCall et al., 2015; Patel, Newstead & Ferrer, 2012). Although a significant cardiovascular response would not necessarily be expected from adaptive yoga, participants perceive improved cardiovascular fitness (Alexander, Innes, Selfe and Brown, 2013).

Given the proposed benefits of mixed-ability and adaptive physical activity, an initial series of mixed-ability yoga classes was offered to the public in November 2014. In total, five eight-week series were offered from November 2014 to November 2015. Participants could join at any time and continue from one series to the next.

The aims of the classes were to operationalise the principles of mixed-ability, inclusion and adaptation and promote these concepts in exercise prescription. An individual introductory session was conducted to discuss expectations, concerns and current mobility; attendee responses informed individualised adaptations provided by the yoga instructor. During sessions, time was invested for introductions between participants and also when new people joined. Participants were given the option to stand, sit in an adaptive or standard chair or use their own wheelchair in a circle formation. The series operated in eight-week blocks, was composed of primarily seated Iyengar yoga postures that focused on meditation, visualisation and physical exercises including sun salutations, upper limb stretches and core activation. Each class was 60 minutes in duration, and cost NZ\$12.50 to attend with an average of seven to ten participants.

Although adaptive yoga has been explored in different patient populations, the experiences of participants involved in a mixed-ability yoga series have not yet been described. Developing a better understanding of the experiences of those attending and what helps or hinders participation in a mixed-ability yoga class could inform programme refinements and development of a class template, that could be introduced into community leisure programmes and inform rehabilitation practice.

The specific aims of this study were to explore:

- a) how participants describe their experience of participating in a series of adaptive yoga classes, and
- b) the facilitators and barriers participants perceived to taking part in a series of adaptive yoga classes.

METHODS

Study Design

A qualitative approach was employed for this study as it is valuable for exploring the meaning of a particular phenomenon and appropriate for investigating the research questions (Giddings & Grant, 2007). Qualitative descriptive methodology can be used to develop practice insights, yield working hypotheses and for “assessing, developing and refining clinical interventions for vulnerable populations” (Sullivan-Boylai, Bova & Harper, 2005, p. 127; Neergaard et al., 2009).

Participants

Inclusion criteria were that participants had a) attended at least two yoga classes in the last year and b) were able to give informed consent to be interviewed by a researcher. Exclusion criteria were those unable to give informed consent. Participants were recruited by personal invitation from the final eight-week block of classes in November 2015. Information sheets were provided and participants provided their details to researchers if they wished to participate. In total, seven participants were recruited from a pool of typically ten class members. Research participants will only be described in general terms to protect their anonymity (see Table 1).

Of the research participants, five out of seven had long term conditions including chronic pain, spinal cord injury, developmental disability, cardiopulmonary disease and musculoskeletal injuries. Participants were broadly representative of the yoga class members; all had participated in at least 2 sessions and several had participated in multiple sessions; and they came from any of the five series that occurred over the year. One of the yoga class members who participated in this study was a registered physiotherapist.

Instructors

Two yoga instructors have been involved in running the yoga class at different times; both had experience making individual adaptations for disabled or older yoga students, though had not previously worked with a mixed-ability class. One yoga instructor took the classes during the study and was supported by physiotherapy students in providing adaptations for participants, done through touch or equipment including tennis balls for tactile cues, straps for increased stretching or blocks to change the base of the posture. All yoga class participants did the same positions at the same time and the class was delivered as a whole, though each posture was adapted to suit each individual’s physical limitations. For example, the instructor would secure a belt around the waist of a wheelchair user attached to their chair to allow them to complete a forward bend without fear of falling and provide overpressure with their hands to increase the stretch.

Data Collection

This study was undertaken from December 2015 to February 2016. The study was granted ethical approval by AUTECH (Application No. 15/ 269).

Table 1: Description of participants

Pseudonym	Age (years)	Main mobility aid		Long term health condition or impairment
		wheelchair	walker	
Maadi	60			
Maysie	71	yes		yes
Eve	72		yes	yes
Clementine	29	yes		yes
Poppy	54	yes		yes
Marita	57			
Anna	25			yes

Data were collected by way of face-to-face semi structured individual interviews as we anticipated that some participants may have sensory impairments such as hearing impairment, therefore individual interviews would best accommodate this. Interviews were conducted between December 2015 and January 2016, following the last block of classes for the year. Interviews were conducted in a conversational style, guided by an interview schedule (Appendix 1), audio recorded with consent and took up to 60 minutes in duration.

Following the completion of all interviews, all paper forms were scanned, converted to PDF files and stored electronically. Digital recordings were securely electronically stored. Interviews were transcribed using intelligent verbatim. Participants selected their own pseudonym, with all identifying features removed from transcribed data. Participants were given a gift voucher as koha for partaking in the study.

Analysis

Thematic Analysis (TA) is an analytical approach to data analysis not tied to any particular theoretical framework that is used to find patterns across data sets, not just within them (Braun, Clarke & Terry, 2015; Braun & Clarke, 2006; Clarke & Braun, 2013). Familiarisation and coding of the transcribed data was completed by AB. KW coded the first two transcripts in conjunction with AB to facilitate rigor. Theme development using semantic and/or latent codes to identify similarities and differences across the data was completed by AB (Braun, Clarke & Terry 2015; Braun & Clarke, 2006). Theme generation was derived from the data, informed by the interview questions and codes from the data set by AB and agreed upon by all researchers (Braun & Clarke, 2006). Participants were not invited to provide feedback on the findings.

FINDINGS

Four themes were identified in the data that related to participant's experiences and the facilitators and barriers to their participation in the mixed-ability yoga series. The themes were called: Engagement partnerships, Physical activity beliefs, Supported participation and Concepts of disability. Each of the four themes and associated notions are explained and supported by participant quotes from the data.

Theme One: Engagement Partnerships

This theme defined the context in which the mixed-ability yoga class occurred. All participants spoke of how the yoga class had been adapted to suit their personal needs and how these adaptations enriched their experience of participating in group physical activity. As Maysie suggested, *"You go at your pace and with your ability and that is a very important thing to be able to do because I can't think of another place where you can do that"*. Adaptations and use of equipment that were suggested by the yoga instructor facilitated participation, with Anna commenting that, *"I feel that she has a real understanding... she adapts it but she always kind of tries it out to see if this is going to work"*. This was suggestive of the trial and error technique of the yoga instructor, who helped participants tailor poses when they were unable to mimic the instructor. Others in the class took on roles to assist such as Marita (Marita is a class participant, however she is also a physiotherapist), who described her role in the class; *"I kind of watch bodies a lot"*

and *"sometimes giving the instructor feedback"* to enhance the experience of others in the class.

These experiences facilitated the development of participants' trust in the yoga instructor, empowering them to complete increasingly complex poses such as facilitated trunk rotations, with support from helpers. Eve stated, *"There's someone there, whether it's the trainer or ... someone who will help you to either complete something or do something or work out a different way of doing it"*. The balance of power in the instructor/participant relationship was considered equal as the instructor had knowledge of the practice and encouraged participants' knowledge of their bodies. The suggested adaptations encouraged participants to see beyond their own understanding of traditional yoga classes as only for able bodied individuals, which had previously been a barrier to involvement in physical activity. *"I was a bit surprised at the adaptations and the effect that they had, like, I wasn't quite sure what adaptive yoga meant really and I was, I was quite surprised that those small adaptations like placing somebody's body in position using a pillow... the effect that that had on people"* (Marita). Participants found their attitudes towards physical activity were altered following participation in the yoga series by highlighting what was considered important for the individual in regard to what constitutes physical activity.

Theme Two: Physical activity beliefs

Participants' beliefs about physical activity changed during the mixed-ability yoga classes, as they transcended the described complications and limitations of living with impairment(s), providing fundamental physical, mental and emotional benefits for the participants. These benefits were described by Clementine as having, *"...that complementary aspect of muscle movement, muscle relaxation, breathing exercises, all the kind of things to ease the chronic aspects of having a physical disability"*. These elements of yoga are typical of musculoskeletal and cardiorespiratory physiotherapy practice and in the context of the classes were considered part of a holistic view of the person rather than focus on their specific limitations.

Following participation in the yoga series, participants described increased confidence in their ability to perform activities of daily living and achieve self-determined goals. This confidence allowed them to overcome barriers to participation including ill health, *"I needed it this time more than ever since this last exacerbation, I have lost my confidence and this is why I made it a goal to get back to after I got over this"* (Eve). Other barriers described were previous bad experiences of physical activity that was not suited to participants' abilities, discussed by Maysie as *"wheelchair people don't lean forward too much, we don't go on the floor"*, and fear of injury.

Conservation of energy and the non-competitive environment were emphasised to make the yoga experience enjoyable. As Maysie said, *"We need to do it sitting down and it's amazing what you can do sitting down"*. The desire to maintain current levels of health and mobility was considered a favourable by-product of participation, particularly for those with unpredictable health conditions. Poppy indicated, *"I might not have improved but at least I'm maintaining as much mobility as I can"* [as a wheelchair user]. Despite differences in participants'

reasons for taking part in the series, participant accounts agreed that the emphasis of the series was on what a member could achieve in the classes. Maysie elucidated her thoughts as, *"Everyone is going to do it how they can do it and to the best of their ability"*.

Theme Three: Supported Participation

Central to this theme were accounts of a shared connection between the different members of the group as an unexpected benefit to the yoga series. Maysie suggested that, *"it's a safe place in here and we're all doing stuff together because it's good for us, you know, it's helping us physically and it's making this wonderful connection with friends that you never would meet normally"*. Participants described their relationships with other group members and the yoga instructor as good friends with whom they shared a mutually rewarding experience.

The importance of individual preference was also emphasised with each participant having opportunities to voice any concerns, opinions or requests as part of the structure of the class, which Marita describes through the importance of *"keeping up the time for a kind of reflection and discussion about what's going on for different people in the class"*. The group connection between members was identified as a key facilitator in participation and engagement in the yoga class, which Marita details, *"by participating you become kind of a member ... of the team, and in that way you assist others to understand kind of their own body and yourself"*.

A sense of belonging through membership to the group was fostered among the participants and the concept of inclusion became fundamental to the ethos of the class as participants felt accepted by other class members, summarised by Clementine as, *"come as you are"*. The sense of belonging felt by participants is discussed as, *"when you have a disability you are perhaps in the minority, well you are normally, now in this set of circumstances, they are in the majority, which is rather nice"* (Maadi).

Theme Four: Concepts of disability

This theme emphasises the dynamic relationship that participants described between the physical limitations of their disability and their attitudes towards living with a disability. Clementine said, *"I can still work, I can still contribute, but you don't, you often become quite distrustful of your body"*. Other participants discussed an initial fear of injury through doing yoga as a result of their body's inability to perform the demands of the tasks. This distrust resulted in perceived or actual limitations, which developed into psychological barriers to participation in physical activity. Barriers included perceptions of physical activity as unsafe or inaccessible to participants, in particular those in wheelchairs, as Poppy articulated, *"I was concerned about the things, that the things, that I couldn't do and I was kind of wondering oh, that as I call it that kind of 'fear factor' comes in for me"*. This psychological and logistical barrier was overcome in the class as the instructor provided physical support to Poppy during poses, such as those that required weight shifting to facilitate the experience of the yoga pose.

In contrast, other participants spoke passionately about defying perceptions of experiencing disability. Through adaptation,

participants felt that the class offered a level playing field, as equipment was incorporated to promote participation in complex poses. Marita reflected how the use of equipment enabled members to participate meaningfully, *"It surprised me that they, once they were in position with the yoga blocks and things, how it facilitated them to have an experience"*. For Marita, the use of blocks under her feet promoted correct posture and increased basal expansion.

Participation rather than performance was celebrated within the class as Clementine suggested, *"You can still develop a confidence in your body and a confidence in being physically active even if it's a reduced capacity"* and participants credited the mixed-ability yoga class with having, *"...given me the strength to carry on with my life the way I am"* (Maysie). This ethos was unique to what participants had experienced before in traditional exercise classes, which promoted functional outcomes as opposed to participation.

DISCUSSION

The importance of appropriate adaptation through skilled yoga instructors for participants of the mixed-ability yoga series, facilitation of group cohesion and inclusion were key findings of this study. These components provided participants with a safe and accepting environment in which to participate in yoga and throughout the series, individuals' understanding and perceptions of what it meant to live with a disability were challenged. Participants reported the experience as positive and beneficial to their physical, mental and emotional health. All members of the group enjoyed the class, and learnt more about themselves and others as they worked towards personal and unspecified group goals. The findings of this study provide physiotherapists with a useful adjunct to consider to promote the health of disabled people. Similar examples are rare to find in physiotherapy practice however adapting activity to promote inclusion, group cohesion and participation may have significant value for disabled clients.

Our findings identified that the use of individualised adaptation by the yoga instructor encouraged engagement between the participants and allowed the members to achieve their version of the poses with support. Thus an approach of instructor-led adaptations should increase engagement to achieve self-determined goals. This is best implemented through open dialogue with clients to determine the focus of each class, time for comments and handouts for a home programme for clients to continue their practice independently or under supervision from a physiotherapist.

Our study identified inclusion as an important element in the development and continued success of the yoga series. Inclusion was actively developed at the beginning of the series when time was taken by the yoga instructor for introductions. This helped develop group cohesion, providing participants with a social support network and membership to a group, something that had previously been a barrier in other activity contexts. We suggest that this type of active inclusion could be used in other types of mixed-ability physical activity settings as research indicates that cohesion has been found to predict adherence within the context of group-based exercise programmes (Dunlop et al., 2012). It is apparent from our findings that the social

support received from fellow participants was important in facilitating participation and encouraged people to overcome barriers, such as low confidence. Making use of this approach could help physiotherapists promote participation in physical activity among patient populations and promote inclusion as a primary goal of any group-based rehabilitation intervention or exercise.

Adaptive yoga promoted participation in physical activity for individuals with varied physical limitations along the spectrum of disability. Among those participants who identified as having an impairment, the majority described their experience of disability as a challenging aspect of their lives. Following their participation in the yoga series, many participants felt empowered and reconsidered their experiences of disability, relating closely to the social model theory. The social model theory rests upon the distinction between disability, which is socially created, and impairment, which is a physical attribute of an individual's body (Corker & French, 1999; Strathern & Stewart, 2011). Initially, participants were concerned about safety, specifically fear of injury. Following their experiences in the series, participants credited the ability of the class to push the boundaries of what they thought was possible to achieve with their bodies prior to participation. The majority of participants found that their initial expectations were vastly different to what they experienced and their concerns were overcome through the course of the yoga series.

What constitutes physical activity for the participants does not meet ACSM recommendations however, for most their physical ability was limited and participation in adaptive yoga was perceived as valuable to their overall wellbeing. Similar findings were identified by Mudge, Kayes, Stavric, Channon, Kersten and McPherson, 2013, in which participants spoke of having a broader view of living well, including aspects of social, emotional and physical wellbeing as opposed to a view commonly emphasised by health professionals of physical activity for the prevention of obesity and long term health conditions.

A recommendation of this study is the importance of understanding a client's personal beliefs around their disability, specifically for managing rehabilitation expectations and goal setting. Additionally, finding appropriate physical activities will build confidence and independence through a holistic approach with the client at the centre of the rehabilitation team. This would be considered the primary goal of rehabilitation practice and services (Gibson et al., 2015).

Study limitations

Limitations of this study were noted. The qualitative descriptive methodology can be considered less interpretive and more simplistic than other qualitative methodologies, although this critique often misunderstands the intent of the method to stay close to the participants' words (Sandelowski, 2010). The analytical process has been criticised as subjective as descriptions will depend on the researchers' perceptions, however this was mitigated through involving more than one researcher in the analytical process (Sandelowski, 2010; Neergaard et al., 2009). The role of KW in the development of the yoga series could be considered a potential bias in the study, however this was mitigated through AB recruiting, conducting interviews, and

leading analysis and the removal of identifying features of participants from transcripts.

Implications and recommendations for research and clinical practice

No formal outcomes measures were used in this study therefore we cannot conclude any causal relationship between the classes and the benefits that participants experienced, however participants were consistent with their positive views of the class and made their own links between the class and any reported personal benefits. Our research suggests there is merit to further investigation regarding whether the benefits of the class were supported by its method of delivery as an intervention.

A key implication of this study for physiotherapists to consider is the value of using mixed-ability settings in their own practice to promote engagement and participation. Physiotherapists should have an understanding of clients' perception of disability, their thoughts and concerns about their physical limitations and self-efficacy. The importance of knowledgeable adaptive instruction was recognised to be a valuable facilitator to participation and inclusion was essential to developing a community within a physical activity class, providing benefits beyond the physical body. Physiotherapists should focus on building rapport and trust with clients, as our study concluded that when skilful and individualised adaptations were used, patients' self-efficacy increased and they were more likely to have increased engagement. An example in practice would be an inclusive activity such as Tai Chi for people with a range of impairments and health conditions, with support provided by physiotherapists to adjust the activity to their needs in a social community environment.

CONCLUSION

This study provides an initial picture of the experiences, facilitators and barriers to participating in a mixed-ability yoga series in New Zealand. The findings indicate the suitability of mixed-ability yoga as a physical activity that could be encouraged among the disabled population and clinicians who work with them as an adjunct to rehabilitation therapy interventions. Participants' experiences provided indications of the health benefits of adaptive yoga and the importance of appropriate adaptation within an inclusive setting. Additionally, the mixed-ability yoga series model could be offered to consumers of group-based rehabilitation interventions or exercise programmes with a focus on increasing awareness of inclusion, adaptation and participation in physical activity.

KEY POINTS

1. Individualised adaptation by those knowledgeable of the human body can increase self-efficacy and perceived benefits from participation in adaptive physical activity.
2. Emphasis should be placed on taking time for introductions within the group to promote inclusion and the development of a sense of increased engagement with group based community rehabilitation.
3. Clinicians should discuss clients' personal beliefs of their abilities or impairments and their expectations of participation in an adaptive activity.

4. The development of an inclusive and adaptive mindset from physiotherapists can enhance clients' outcomes beyond physical improvements.

DISCLOSURES

Funding for this study was provided by Faculty of Health and Environmental Sciences at AUT University, through the Summer Student Research Award 2015/2016.

There were no conflicts of interest for the primary researcher or primary supervisor. A potential conflict of interest was identified for Kate Waterworth, who developed the initial mixed-ability yoga programme as well as being heavily involved in this research project. This was ameliorated by her not being involved in recruitment and strict management of de-identified transcripts for analysis.

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Appendix 1

Interview Guide

*Introduce interview on record (i.e. Your name, date, time, location, pseudonym)

*Begin Interview

Thanks so much for agreeing to participate in this research project/ interview.

- I wondered if you could start off by describing the (one) **yoga class for me** in your words (in detail),
- (Prompt to cover what happens when arrive, position (ie seat),
- **What is taught** (postures, meditation, breathing, any **adaptations** – who knows to adapt/ is helped?)
- Who takes what **roles**, layout, use of space, any changes week – week, any changes between series)
- What is there a certain feel to the room?
- **PUSH FOR EXAMPLES**

Did you meet anybody (teacher, PT/ OT/ student) before beginning a class? (Or talk on phone/ email).

What happened then/ there?

How did you find out about the series?

What made you **interested in coming along**?

Did you have **any concerns** before you began?

Were these addressed before you started or along the way (or unresolved)?

- In what way, how?

What do you particularly **enjoy about attending**? (What is it about that that makes it better than the other parts of the class?)

What would you say are the benefits to you/what are you getting out of yoga?
SPECIFIC

Do you think there are other benefits to other people in the class?

In what ways do you think attending the class has **been useful for you**?

Have you noticed any **'changes'/ improvements**?

(Body/ mind? Posture, breathing, mobility, function, physical activity, tension, mood, community/ friends network...)

Would you (do you) recommend the class to others/ friends? Why/ why not?

Do you think that there should be more opportunity for more members of the public to attend such a class? Why/ why not?

If you were organising the class, what would you do **differently**?

Are there **any changes** you would like to see in the class in the future?

Are there any aspects of the class/ series that you think could be improved?

Hypothetically, if the class were to be altered, would you take anything out?

Had you any experience of yoga before these classes? What?

Other physical activity involvement?

Do you consider yoga to be physical activity?

Any involvement in adaptive/ inclusive/ mixed ability activities? (Happy with these terms?)

What, why, benefits, challenges? (Do you relate that to yoga?)

Any changes in physical activity involvement since beginning yoga? (Type, frequency, duration)

How does **yoga compare to other physical activities**?

Do you have a sense that your physical fitness has changed as a result of the class? In what ways?

How about **function**? (Is anything getting easier to do?)

Any other changes to body structures? (Strength, flexibility etc)

On the days you come to the class, what does your morning consist of/ look like?

Is there anything in your morning schedule that makes it easy/difficult to come to the class?

Is it **easy** for you to attend the class? What do you need to do to make it happen?

What **helps** you to attend the class (transport, cost, other people, location, attitude)

Do you come by yourself or with someone?

Are there any days that you don't make it? Why not? → **Imagine** if you weren't able to come?

Are there any **general obstacles** to your attendance? How do you manage these?

What things would make it easier/ make you more likely to attend?

Is there any person/people who help you with coming to the class?

Would anything make a **significant difference** (so that you would definitely be able to go)? What about for other people?

** When closing (decision making – why do you decide to go to yoga?)

Overall how would you **sum up your experience** in one sentence?

Anything you think it is important for **health professionals** (PT/OT/Dr) to know about this experience/ type of experience?

(Comparing with rehab/therapy/ alternative therapies)

How long do you think you will be participating in yoga for?

Anything else you would like to add/ share?

Thanks so much.

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