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DEVELOPING A COMMUNITY MIND-BODY INTERVENTION IN NEURO-REHABILITATION

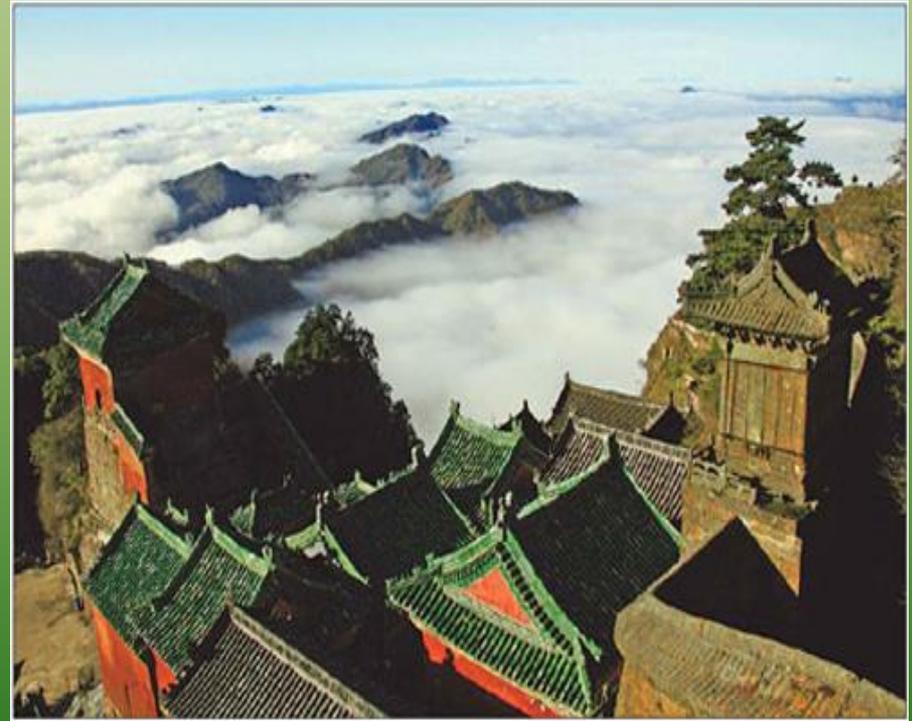
OVERVIEW

- Relevant clinical concerns in complex health conditions
- Key literature, relevant concepts (new & ancient)
- Experiential exercises



TAI JI

× Experiential Exercise....



“I NEED MY BODY AND MIND TO WORK AGAIN..”

- × **Body:** a need for ongoing physio beyond the limits of professional provision, but also cognitive and emotional challenges to the practice of exercises advised by physios. Barriers to community participation in exercise opportunities
- × **Mind:** struggles with anxiety, depression, adjustment to injury but traditional psychotherapy not an appealing format
- × **Fatigue:** Devastating impact on both of the above. Current fatigue management strategies work on conserving energy, rather than increasing it via non-pharmacological means
- × **Spirit:** neglected dimension of neuro-rehabilitation. How to respond to people of all faiths and none?



“I’M IN PIECES, NOT WHO I WAS.....”

✘ May speak to forms of distress and disruptions to self-experience:

+ Fragmentation

+ Inertia



THE NEED FOR A MIND-BODY COMMUNITY INTERVENTION?

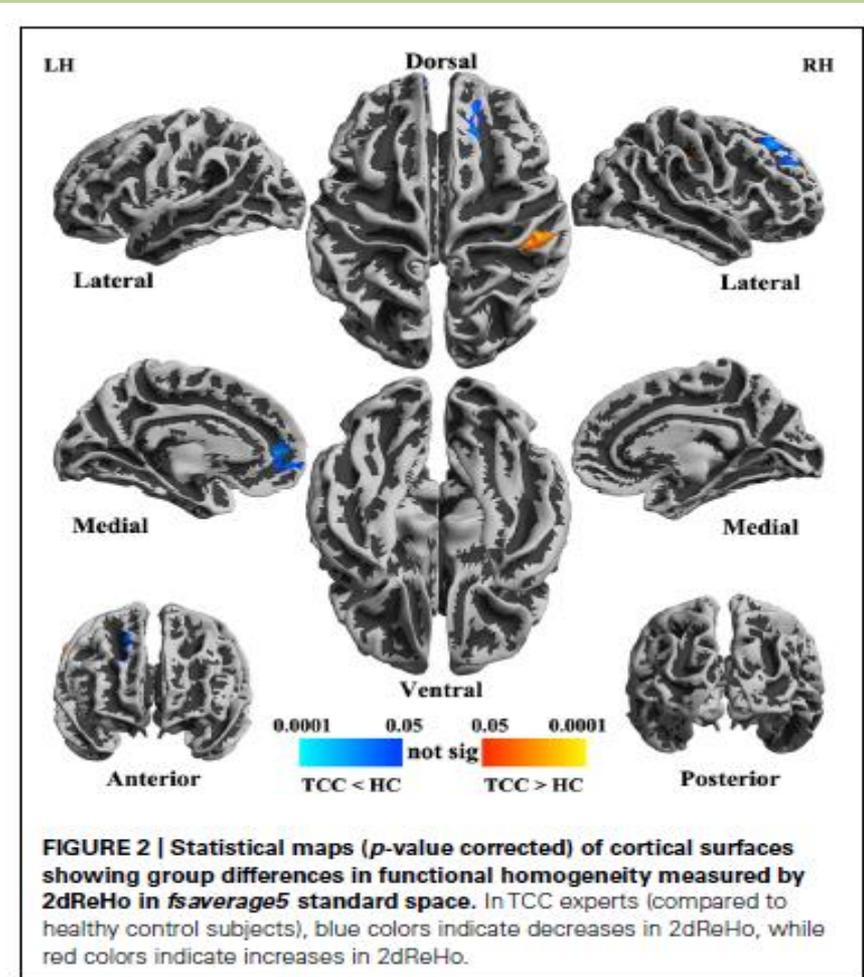


ZHANG SAN FENG & THE BIRTH OF TAI JI



EXPERIENCED TAI JI PRACTITIONERS IN THE GENERAL POPULATION

- ✘ In *general population*, long term TJ practitioners are characterised by:
 - + Increased bone density, muscle strength, flexibility, stamina, reduced blood pressure (Jahnke et al., 2012)
 - + Superior cognitive (executive) functioning (Wei et al., 2013; 2014)
 - + Cerebral re-organisation (Wei et al., 2013 2014)

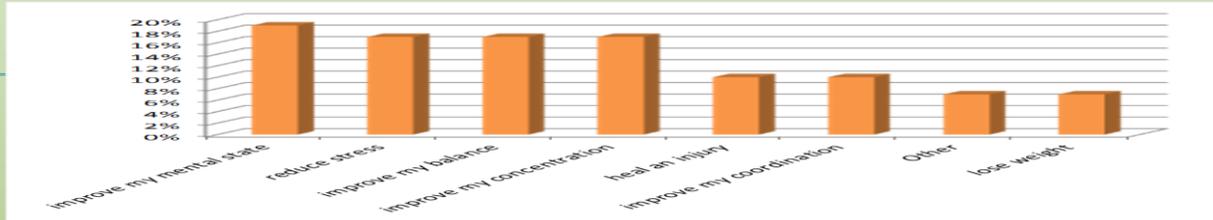


TAI JI & COMPLEX HEALTH CONDITIONS

- ✘ Simultaneous physical and psychological gains (for reviews see Jahnke et al 2012; Wang et al., 2004; 2010; Yeates, 2015; Zhang et al., 2012):
 - + Cardiac rehabilitation
 - + Breast cancer patients
 - + Osteoporosis
 - + Fibromyalgia
 - + Rheumatoid Arthritis
 - + Elderly patients in falls services = reduced rates of falling and reduced anxiety
 - + Mental health (depression in older adults; anxiety in working age)



CONSISTENT GAINS FOR NEURO-DISABILITY:



× **Balance:** Stroke survivors (see meta-analysis by Qin et al., 2016); Multiple Sclerosis (small effect size, Burschka et al., 2014); people with Parkinsons Disease (see reviews by Ni et al., 2014; Toh, 2013; Yang et al., 2014; Zhou et al., 2015).

Coordination: Multiple Sclerosis (small effect size, Burschka et al., 2014).

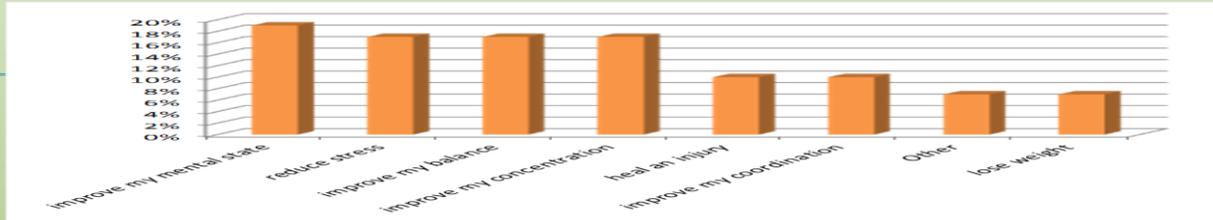
Postural Control: people with Parkinsons Disease (see reviews by Ni et al., 2014; Toh, 2013; Yang et al., 2014; Zhou et al., 2015).

Mobility: Gait speed for stroke survivors (see meta-analysis by Qin et al., 2016); differing aspects of mobility for people with Parkinson's Disease (see reviews by Ni et al., 2014; Toh, 2013; Yang et al., 2014; Zhou et al., 2015; but see caveats mentioned above). Multiple Sclerosis and perceived physical functioning (small sample, Tavee et al., 2011).

Aerobic Endurance: Older stroke survivors (Taylor-Piliae et al., 2014)

Incidence of Falling: Older stroke survivors (Taylor-Piliae et al., 2014); People with Parkinsons Disease (Gao et al., 2014).

CONSISTENT GAINS FOR NEURO-DISABILITY:



Pain: People with Multiple Sclerosis (Tavee et al., 2011).

Fatigue/Energy Levels: Stroke/Cerebro Vascular Disorder (daytime energy levels improvement discernible from a sleep quality questionnaire measure, Wang et al., 2010); Multiple Sclerosis (small sample, Tavee et al., 2011).

Psychological Functioning: Stroke survivors and anxiety (see meta-analysis by Qin et al., 2016); Multiple Sclerosis and depression (small effect size, Burschka et al., 2014); mood and self-esteem for survivors of Traumatic Brain Injury (but small sample size, Blake & Batson, 2009).

Quality of Life: Stroke survivors (see meta-analysis by Qin et al., 2016); Life satisfaction in people with Multiple Sclerosis (Burschka et al., 2014).

OMISSIONS IN THE MEDICAL TAI JI LITERATURE

- ✘ Mental health measures secondary to physical outcome measures. No clear conceptualised mediating psychological dimension?
- ✘ Diversity in patients physical, cognitive, and emotional needs? Adaptations? Elephant in the literature?



WHAT DO DAOISTS AIM FOR IN TAI JI?

NEIDAN (INNER ALCHEMY)

圖 形 現 兒 嬰

他日雲飛方見真人朝上帝

夫媾媾之真
孕蟻蛉之子
傳其情交葉
精此其氣柯
其神隨物大
小俱得其真



此時丹熟更須忘孝情嬰兒

滯龍今已化飛龍
變現神通不可窮
一朝跳出珠光外
一身直到紫微宮

氣穴法名無盡藏
藏包於寂寂包空
我問空中誰氏子
他云是你主人翁

行在坐卧
抱璞守雌
綿綿若存
念茲在茲

神水溶液
統濫根株
內外無虛
長養聖服

MULTIPLE MIND-BODY ROUTES TO NEIDAN

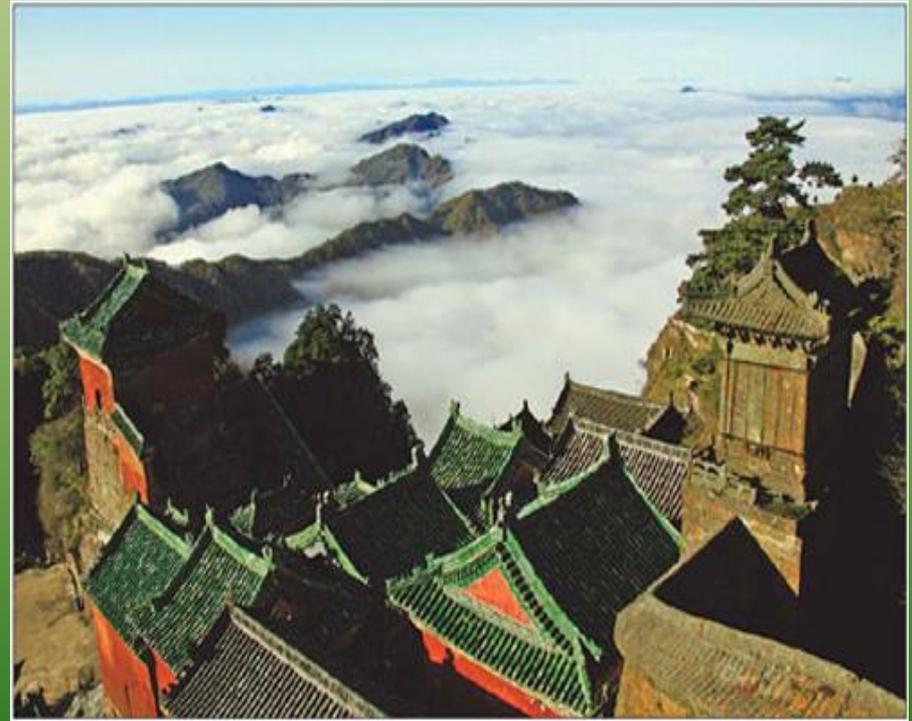






TAI JI

× Experiential Exercise....



IMPERMANENCE & CHANGE.....

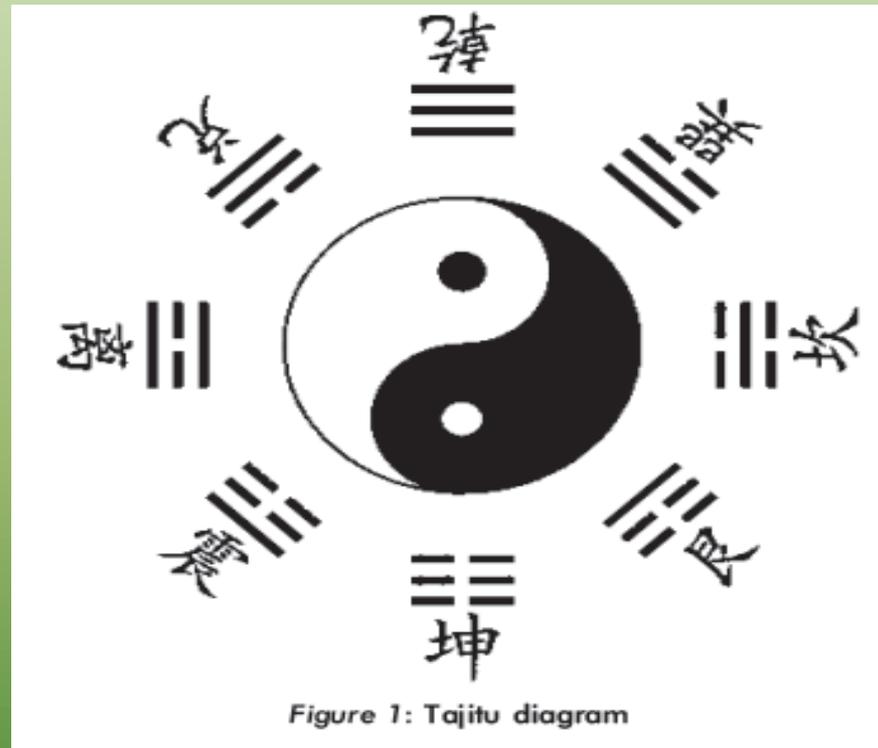
“Once upon a time, I, Chuang Chou, dreamt I was a butterfly fluttering hither and thither, to all intents and purposes a butterfly. I was conscious only of my happiness as a butterfly, unaware that I was Chou.

Soon I awoke, and there I was, veritably myself again. Now I do not know whether I was then a man dreaming I was a butterfly, or whether I am now a butterfly, dreaming I am a man.

Between a man and a butterfly there is necessarily a distinction. The transition is called the transformation of material things”. Chuang Tzu, cited in Merton, 1968.



STILLNESS IN CHANGE & IMPERMANENCE



So is there really a “this” and “that”? Or is there really no “this” and no “that”? When there is no more separation of “this” and “that”, we have what is called the still-point of the Dao. (Zhuangzi Qiwulun, cited in Merton, 1969)

LIMINAL EXPERIENCE

- ✘ “The term liminal finds its origin in the Latin *limen*, referring to a boundary or threshold. It may be likened to the threshold of a doorway, or place of transition from one state to another, a between state that leads to change, something new”.
- ✘ “A new set of circumstances involve the dissolution of a former identity and the formation of a new identity. Between these two states, the condition of liminality suspends a person or system in what may appear to be an amorphous or ill-defined state”
- ✘ “The sense of being between, a withdrawal of one thing and an approach to another, being between remembrance and anticipation, or departure and arrival, all impared feelings of fluidity and unpredictability to the liminal experience. It is a realm of possibility. “
- ✘ Anthropological studies of rites of page in multiple cultures marking key times of transition; artistic experience, the value of such for the psychotherapy process



Elliot, B. (2011). Arts-based and narrative inquiry in liminal experience reveal platforming as basic social psychological process. *The Arts in Psychotherapy*, 38, 96-103.

FLOW.....

Be like water . . . empty your mind, be formless, shapeless like water. If you put water in the cup, it becomes the cup. You put water in the bottle, it becomes the bottle. You put it in the teapot, it becomes the teapot. Now, water can flow or it can crash. Be water my friend. (Little & Lee, 2000, TV documentary)

We are always in a process of becoming and nothing is fixed. Have no rigid system in you, and you'll be flexible to change with the ever changing. Open yourself and flow, my friend. Flow in the total openness of the living moment. If nothing within you stays rigid, outward things will disclose themselves. Moving, be like water. Still, be like a mirror. Respond like an echo. (Lee, 2000, p. 13).



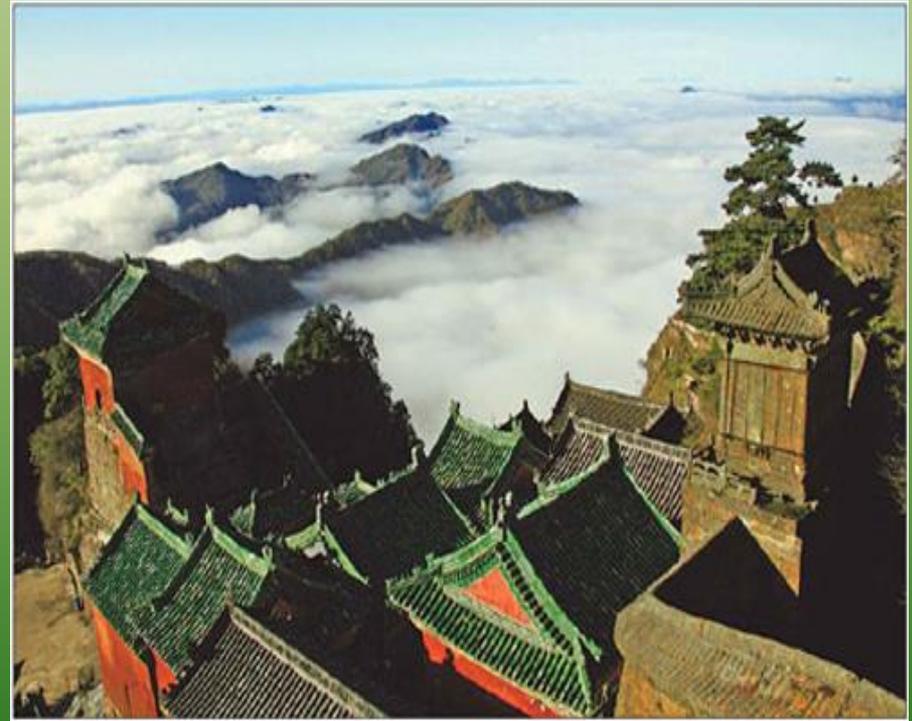
FLOW.....

- ✘ Studied in Western Positive Psychology, Mihály Csíkszentmihályi (1990, 1997):
- ✘ Intense states of absorption in the domains of sport, music, creativity, and work.
- ✘ Flow states are routinely described by practitioners as involving the dissolving of a self-state and loss of normal self-boundaries (loss of reflective self-consciousness), distortion of temporal experience, a merging of action and awareness where intention is not effortful and the activity concerned seems to flow forth of its own accord.
- ✘ Practitioners feel intense well-being, ecstatic experiences at the time, and part of something bigger than themselves. Importantly, those experiencing flow states in a particular activity have attained some level of mastery over that activity through practice and experience, such that there is a dimension of automaticity and diminution of effort.
- ✘ Practitioners across diverse fields consistently use a metaphorical language of creativity and action flowing forth, hence Csíkszentmihályi's term flow states.



TAI JI

× Experiential Exercise....



VAL'S STORY



6 MONTH WEEKLY TAI JI GROUP PILOT

- ✘ 9 participants with ABI (aimed for 10-12):
 - + 5 Stroke; 2 TBI; 2 post-tumour resection
 - + Years post-injury: 3-12
 - + 8:1 male: female;
 - + ages: 28-69
 - + Intentional sampling to represent a range of physical, cognitive and emotional needs
- ✘ Measures of a) anxiety, b) depression, c) fatigue, d) QoL taken pre and post-intervention & a-c repeated every 4 sessions
- ✘ Qualitative focus group conducted at mid- and end0 points.



EARLY VERSUS LATER SESSIONS:

QUALITATIVE FOCUS GROUP FINDINGS (1): BENEFITS

- × “You’re trying to do movements sort of smoothly and you’re breathing smoothly and I think that really helps your mind.”
- × “It teaches you how to relax...if you can sit down and relax, it teaches you how to kind of ... let go and slow down”
- × “I think it has improved. I think I’ve got more into the flow of things.”
- × “I find it nice to come and do the exercises, mental and physical exercises and meet with the rest of the group. I find it very relaxing.”
- × “I do feel confident in the group and I find that very useful for my wellbeing.”
- × “I enjoy doing the form together as a group, as a whole. I find that quite energising. I don’t know. I tend to get energy of the others as well.”

QUALITATIVE FOCUS GROUP FINDINGS (2): CHALLENGES

MOBILITY:

- × “Well I have difficulty with my left side so that’s...that’s just here for the ride. It doesn’t really participate.”
- × “I’m the same as well. And it does...not being able to do, use the left side for tai chi does impair the overall ability and enjoyment of it.”
- × “But I do find it a bit limiting not being able to stand up and do any of the moves safely. But I do.... even though I’m sitting in the wheelchair trying to do as much as I can, I still really enjoy it and it’s a challenge.”

FATIGUE:

- × “because the session is so long I feel exhausted by the second half”
- × “It’s just fatigue really, yeah it makes me a lot more tired than it should do. I think because you know, the mental thing.”

PRAXIS:

- × “I do find it very very difficult to try and do the moves, and making it flow nicely with only one hand and one leg”
- × “more complex moves, so that bit right at the end, going from that to that (gestures movements) I’m still trying to remember, am I doing it right”

QUALITATIVE FOCUS GROUP FINDINGS (2): CHALLENGES

MEMORY:

- × “yeah I think it’s just learning the form ... I can’t bloody learn it”
- × “to an limited extent yeah, but again a lot of the time I forget the flow of the exercises. The exercises we do now – I tend to forget them.”

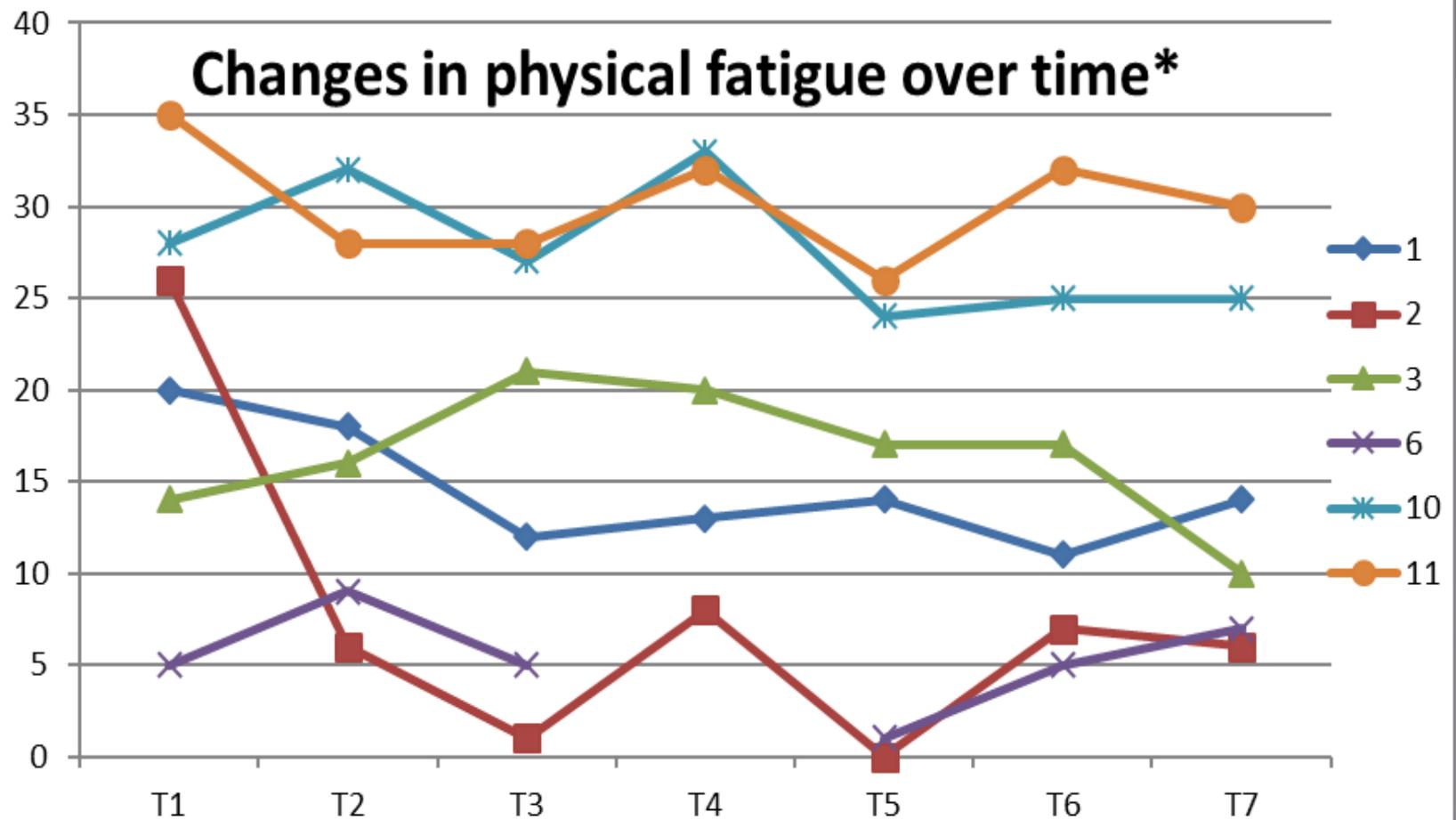
ENVIRONMENT - ATTENTION & SENSORY:

- × “when people are scattered around the room in different places, trying to hear from one side to the other and then someone else talking as well across it, it gets very very confusing”
- × “The acoustics in the room aren’t helpful at all. Even when there’s just the instructor speaking, because of the echo, I find that very difficult to cope with”
- × “at the moment I’m finding the room too cold”

QUANTITATIVE ANALYSIS

Participant	% Sessions Attended	HADS A Pre-	HADS A Post-	RCI	HADS D Pre-	HADS D Post-	RCI	MFIS Total Pre-	MFIS Total Post-	RCI	QOLIBRI Total T-Score Pre-	QOLIBRI Total T-Score Post-	RCI
1	92	8	6	1.19 [^]	6	8	-1.15 [^]	51	39	2.02 [*]	60	59	0.13
2	92	8	10	-1.19	5	12	-4.02 ^{*^}	37	40	-0.51	57	48	-1.17
3	88	2	0	1.19	4	2	1.15	34	6	4.72 ^{*^}	69	85	2.08 [*]
4	88	9	9	0	11	6	2.88 ^{*^}	60	51	1.52	39	44	0.65
5	71	17	14	1.79 [^]	7	12	-2.88 ^{*^}	67	64	0.51	29	28	-0.13
6	50	8	8	0	5	6	-0.58	27	22	0.84 [^]	55	66	1.43
7	33	8	7	0.60 [^]	9	8	-0.58	53	54	-0.16	49	/	/
8	25	14	17	-1.79 [^]	13	13	0	59	62	-0.51	37	/	/
9	16	9	7	1.19 [^]	17	14	1.72 [^]	71	64	1.18	39	/	/

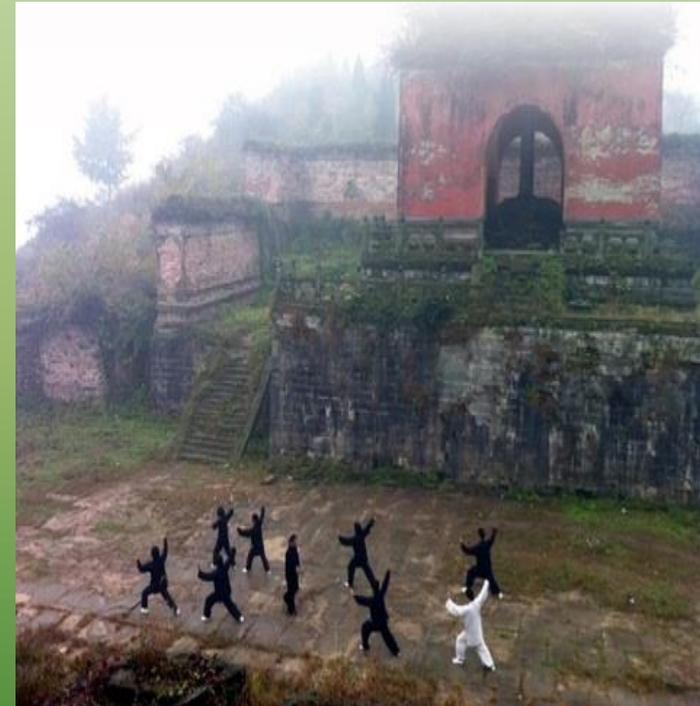
Changes in physical fatigue over time*



*a higher score indicates higher levels of fatigue

GOING FORWARD...

- ✘ The holistic contribution of Flow States and mind-body practices to the lives of people with neuro-disability is promising
- ✘ In particular these practices may break new ground in:
 - + Management of fatigue
 - + Optimising of psychological health
 - + Functional movement
 - + Social participation
 - + The possibility of transcendent experience for those of all faiths and none.



REFERENCE

- ✘ Yeates, G.N. (2015). Flow state experiences as a biopsychosocial guide for tai ji practice and research in neuro-rehabilitation. *Neuro-Disability & Psychotherapy*, 3(1): 22-41.
- ✘ (available on [researchgate.org](https://www.researchgate.org))
- ✘ More book chapters and articles coming out over next 1-2 years:



CONTACT:

- × '3 Minute Flow with Dr Yeates' blog on facebook/youtube
- × Search "NeuroFlow Tai Chi" on Facebook for general information and media updates
- × My clinical Mind-Body interventions:

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Neuro  Flow

Mind-Body Cultivation for Neurological Conditions

- × To find a local tai ji class:
www.taichifinder.co.uk
www.taichiunion.com

