

TOWARDS AN INCLUSIVE SOCIETY THROUGH SPORTS

# INCLUSIVE SPORT CONFERENCE 2021

**DATE & TIME**  
**16 TO 18 MARCH 2021**  
**9AM - 5PM**



Host



Co-host





# **Skills, strategies, & opportunities to promote participation in physical activity & sports: perspectives from occupational therapy**



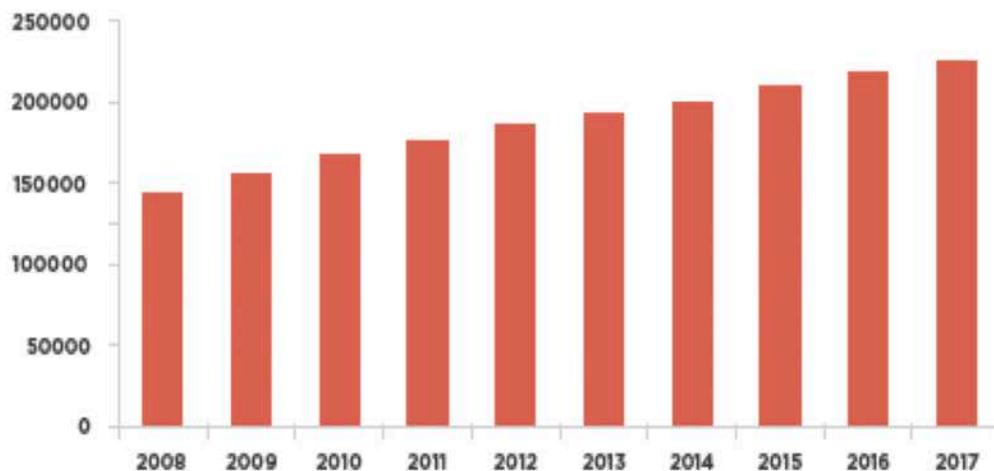
**NURUL JANNAH**  
**SENIOR OCCUPATIONAL THERAPIST**



**GABRIEL KWEK**  
**SENIOR PROFESSIONAL OFFICER**

# SECOND WAVE: RISING PREVALENCE OF CHRONIC DISEASES

Figure 2: Increase In Number of Patients with Chronic Conditions Seen in NHGP



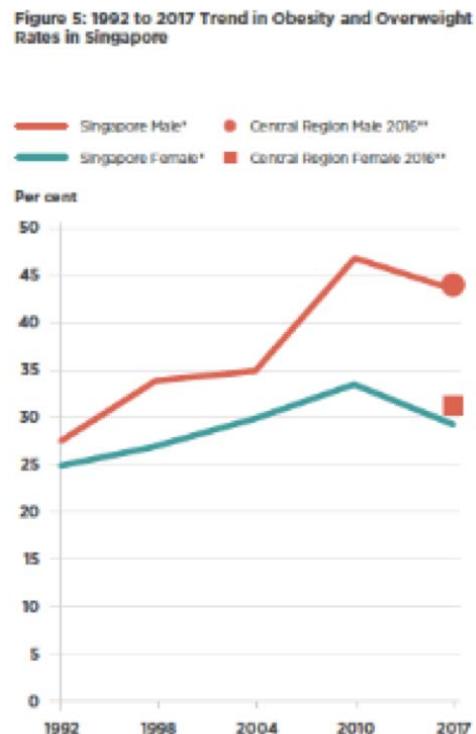
“...the number of stroke and diabetes patients is expected to increase by 109% and 87% respectively by 2050...”

(National Healthcare Group, 2019)

# THIRD WAVE: POOR LIFESTYLE HABITS

“For individuals who already have a chronic disease, ***lifestyle modification programmes can significantly improve their health and psycho-social outcomes.***”

(National Healthcare Group, 2019)



# LIFESTYLE RISK FACTORS

- Obesity
- Unhealthy Diet
- Smoking
- Sedentary lifestyle

(Healthhub, 2020)

# LIFESTYLE COMPONENTS



PHYSICAL ACTIVITY



EATING ROUTINES



TIME MANAGEMENT



STRESS MX,  
RELAXATION & SLEEP



MEANINGFUL  
ACTIVITIES



SOCIAL R/S, SUPPORT  
& COMMUNITY



PLEASURE, PLAY &  
LEISURE



SPIRITUALITY



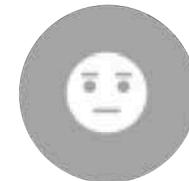
PACING & ENERGY  
CONSERVATION



ROLES



MOTIVATION



ATTITUDE & MOOD



DAILY HABITS &  
ROUTINE

(Dieterle, 2019)

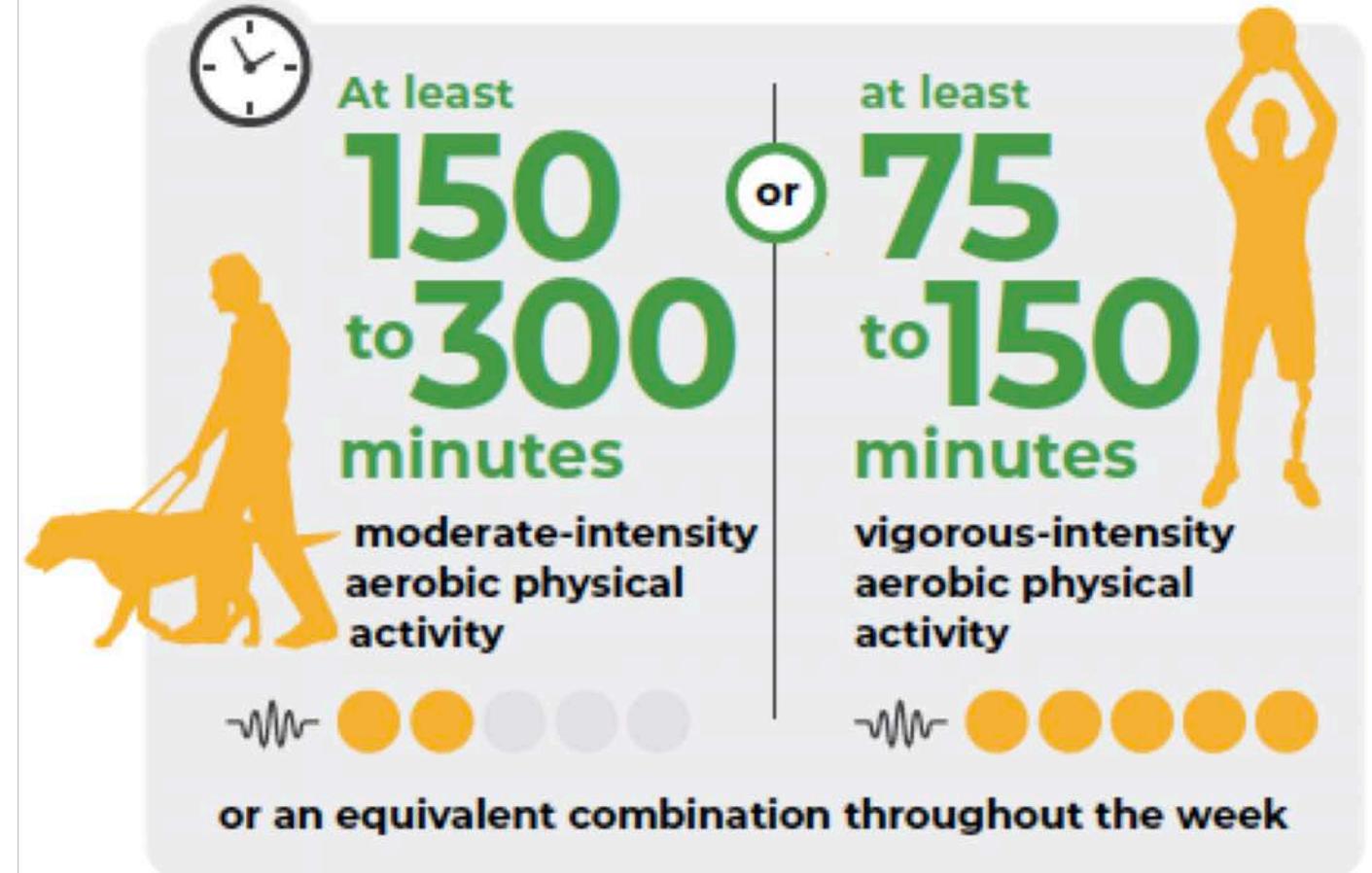
# **“PHYSICAL ACTIVITY IS ANY FORCE PRODUCED BY SKELETAL MUSCLES THAT RESULTS IN ENERGY EXPENDITURE ABOVE RESTING LEVEL.”**

**(HEALTH PROMOTION BOARD: NATIONAL PHYSICAL ACTIVITY GUIDELINES)**



Photos courtesy of Amputee Support Group

# WORLD HEALTH ORGANIZATION (WHO) RECOMMENDATIONS FOR ADULTS AND OLDER ADULTS WITH CHRONIC CONDITIONS / LIVING WITH DISABILITY



(WHO Guidelines on Physical Activity and Sedentary Behavior, 2020)

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(WHO Guidelines on Physical Activity and Sedentary Behavior, 2020)



Created by BomSymbols  
from Noun Project

# BENEFITS OF PHYSICAL ACTIVITY

## For people with Spinal Cord

### Injury:

Improve walking function  
(depending on level of injury)

Improved muscle strength &  
upper extremity function

## For people with type-2 diabetes:

Improve secondary indicators  
of risk progression (HbA1c,  
blood pressure, BMI, & lipids)

## For people with Stroke:

Improve physical function  
Improve balance, walking speed,  
distance, ability and endurance,  
cardiorespiratory fitness  
Improve mobility and ADLs  
May have beneficial affects on  
cognition

## For people with Parkinson's Disease:

Improve motor symptoms  
Improved functional mobility and  
performance, endurance, freezing  
of gait and velocity  
May help in global cognitive  
function

## For people older adults:

Reduce rate of falls  
Reduce risk of injury from  
falls

(WHO Guidelines on Physical Activity and  
Sedentary Behavior, 2020)

# What does health management mean to persons with disabilities?

**“Because end of the day, what you want to tell us is not say we don’t know. We know.”**

*(Direct quote from TTSH Rehab 2018  
Amputee focus-group participant)*



Created by Lara  
from Noun Project

### Time Use:

*Health is about staying active; being busy*



Created by Adrien Coquet  
from Noun Project

### Sports:

*As a motivating means to stay active and  
towards achieving health*

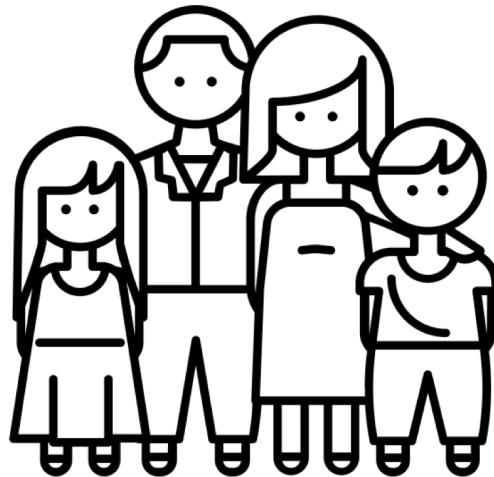


Created by Nithinan Tatah  
from Noun Project

### Balanced Lifestyle:

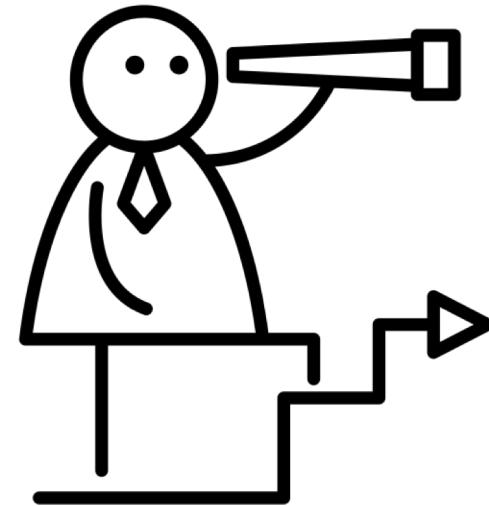
*More to life than just work*

# CONTINUED LIFE NARRATIVES AS A FACILITATOR



Created by Aline Escobar  
from Noun Project

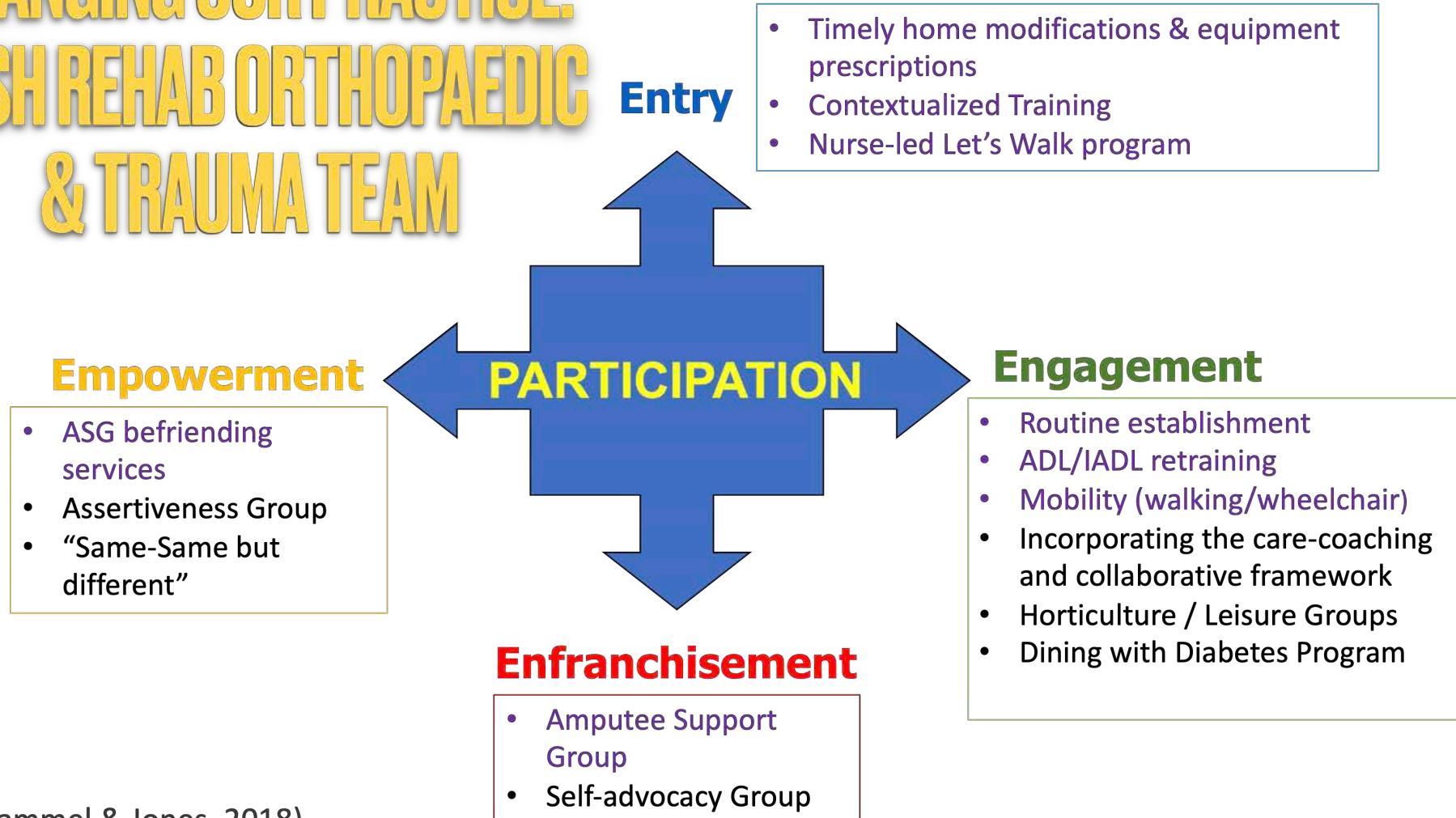
**Having a sense of “being”  
through resumption of  
valued roles - “For others”**



Created by iconcheese  
from Noun Project

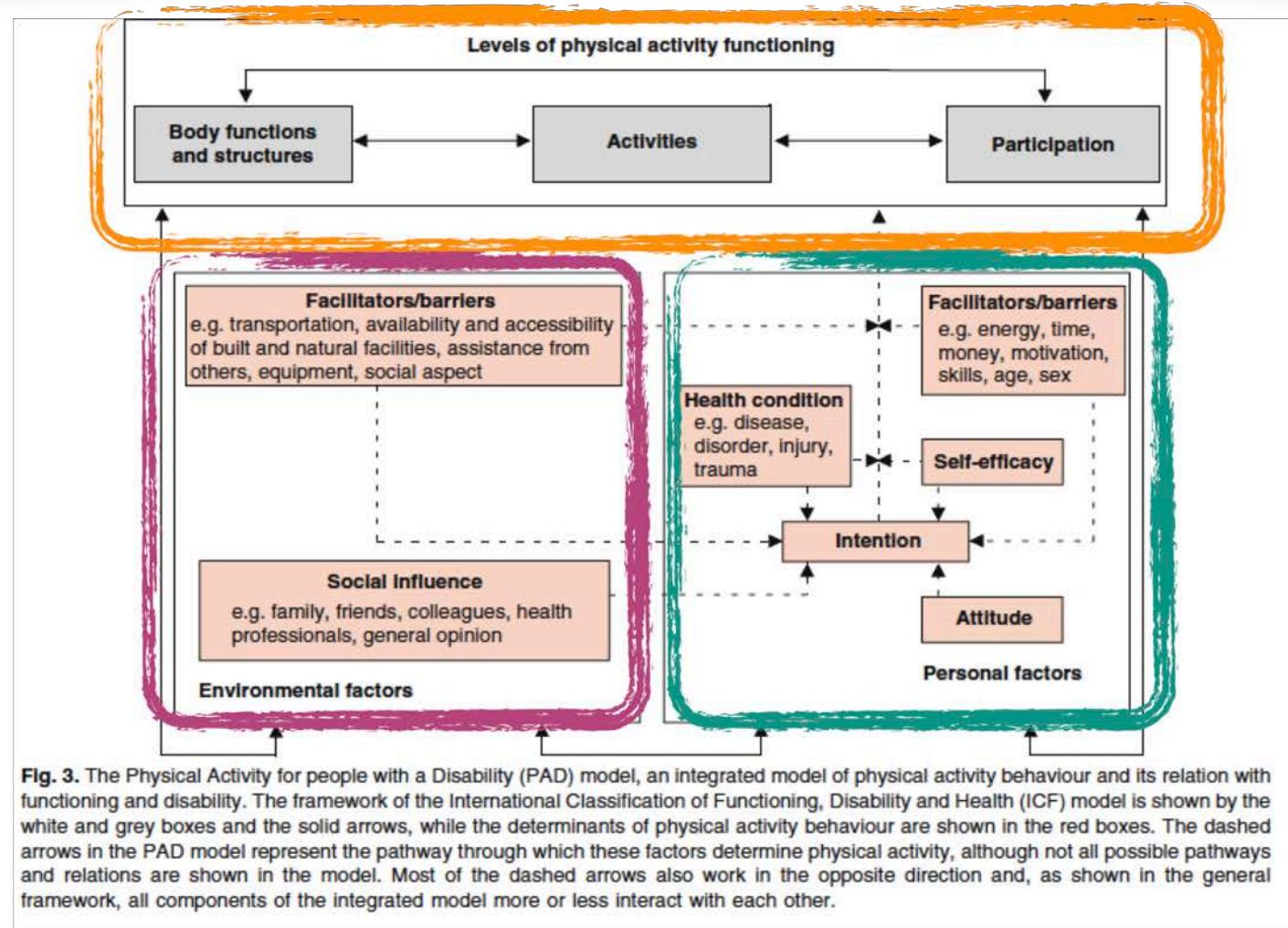
**Being able to envision  
a future self**

# CHANGING OUR PRACTICE: TTSH REHAB ORTHOPAEDIC & TRAUMA TEAM



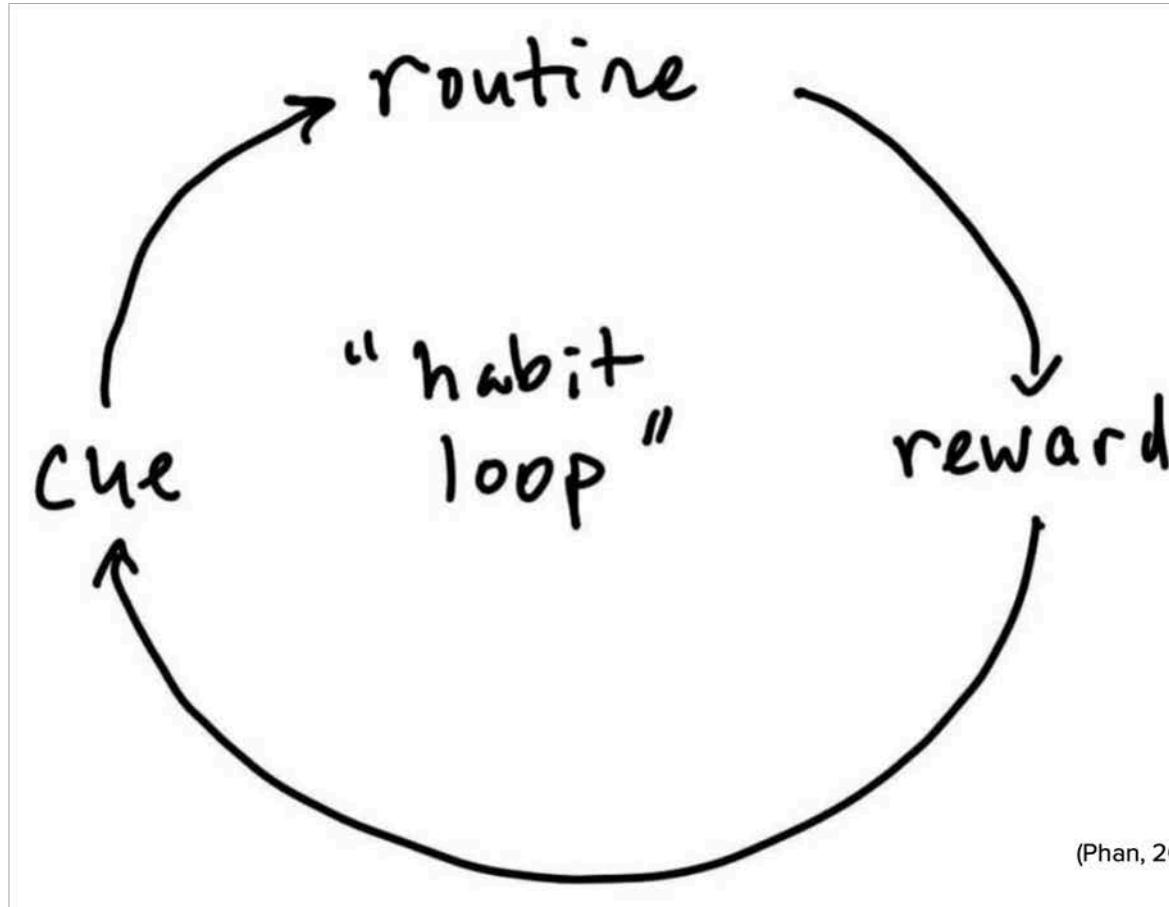
(Hammel & Jones, 2018)

# TIPS & STRATEGIES TO FACILITATE PARTICIPATION IN PHYSICAL ACTIVITY



**The physical Activity Model for People with Disabilities**  
 (van der Ploeg, van der Beek, van der Woude, & van Mechelen, 2004)

# HABIT FORMATION - THE HABIT LOOP (DUHIGG, 2014)



# FRAMEWORK TO FORM / CHANGE A HABIT



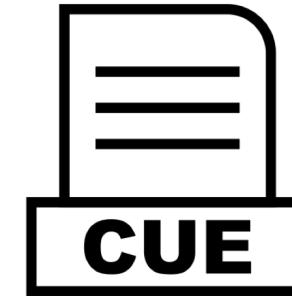
Created by Gan Khoon Lay  
from Noun Project

**Step 1:**  
**Identify the routine**



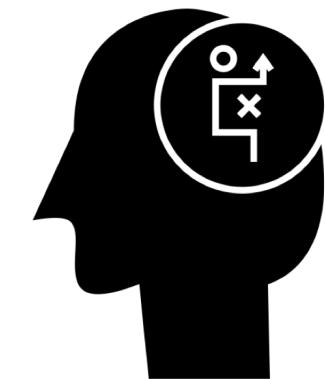
Created by The Icon Z  
from Noun Project

**Step 2:**  
**Experiment with rewards**



Created by Vector Valley  
from Noun Project

**Step 3:**  
**Isolate the cue**

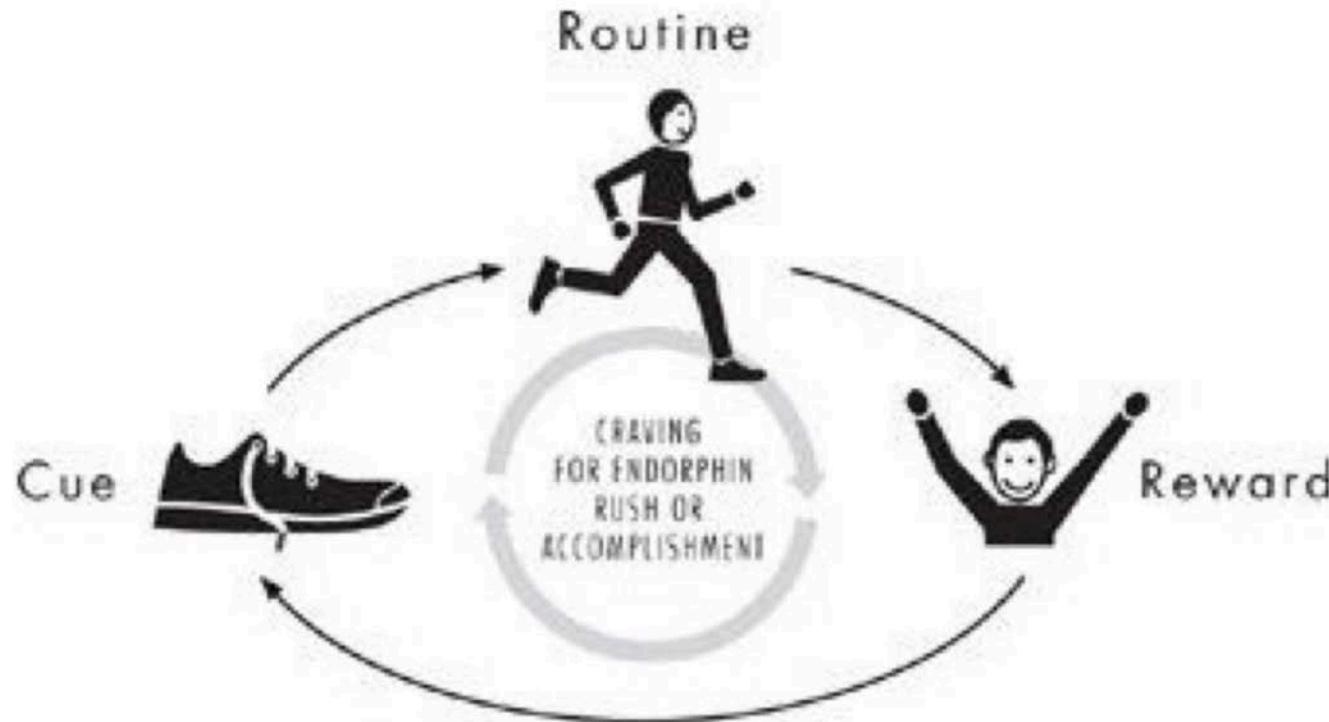


Created by glyph.faisalovers  
from Noun Project

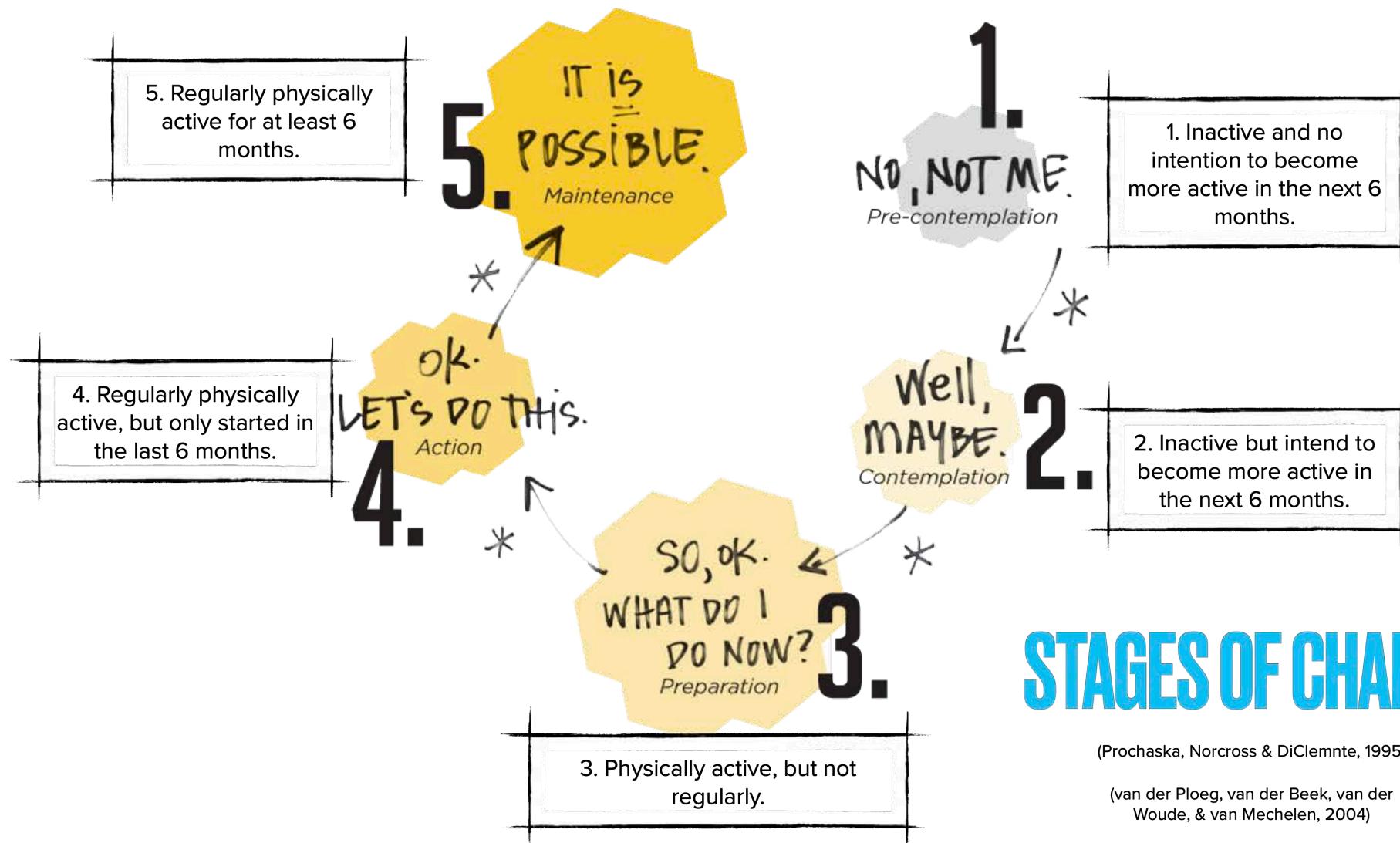
**Step 4:**  
**Have a plan**

(Duhigg, 2021)

# FORMING NEW HABITS



(Miller-Estrada, 2017)



## STAGES OF CHANGE

(Prochaska, Norcross & DiClemente, 1995)

(van der Ploeg, van der Beek, van der Woude, & van Mechelen, 2004)

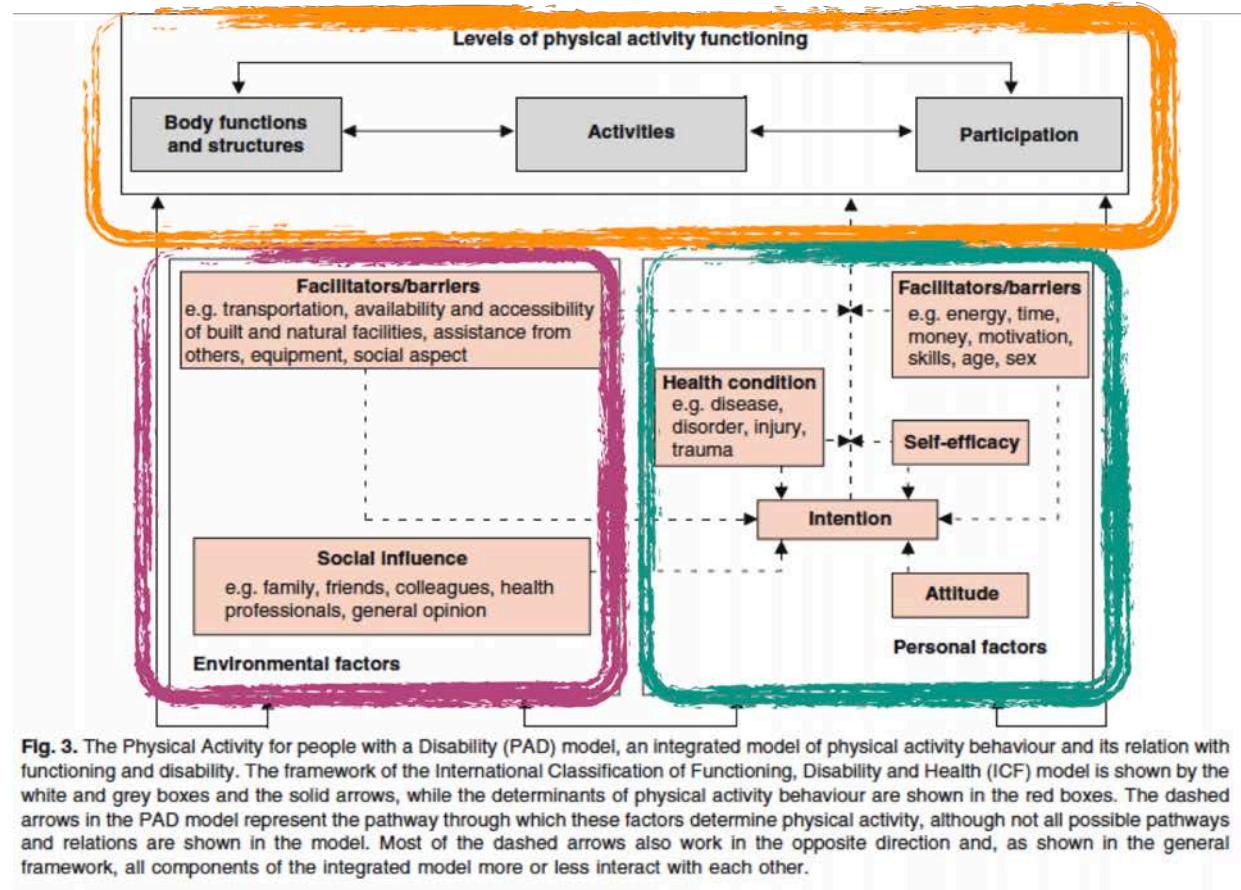
Stage	Patient Characteristics	Possible Strategies
<b>Precontemplation</b>	Unaware of health problems Minimizes health problems Avoids thinking about health problems <i>i.e. "I don't need to exercise"; "I am OK"</i>	Educate on risks VS benefits Educate on the positive outcomes related to change
<b>Contemplation</b>	Some awareness of health risks & the need to change behaviours Ambivalence <i>i.e. "I know exercise is important, BUT..."</i>	Identify barriers Address patient concerns Clarify Misconceptions Identify support systems
<b>Preparation</b>	Concerned about health Sees benefits of changing behaviours Intending to take action <i>i.e. "I'm thinking I might start taking nature walks next month"</i>	Develop care plan Develop realistic goals Develop timeline for change Provide positive reinforcement
<b>Action</b>	Changes behaviour to achieve a goal <i>i.e. "I exercised for 30 mins last Saturday"</i>	Review change expectations Review technical information Reset or refine goals
<b>Maintenance</b>	Continues with behaviours to maintain health <i>i.e. "I have been exercising 30 mins a day for the past one month"</i>	Provide positive reinforcement Provide encouragement and support Develop contingency plan for relapse

(Adapted from Tabor & Lopez, 2004)

# CONTEXT IS KEY

- Understanding your client's life roles, daily habits and routine
- Knowing your client's readiness for change and the value systems that drives them

# PHYSICAL ACTIVITY FOR PERSONS WITH DISABILITY MODEL: ENVIRONMENTAL FEATURES AS A CORE BARRIER



“...those in the contemplation or preparatory stage tend to place more emphasis on environmental barriers such as limited accessibility, limited knowledge, and discriminatory practices...”

(Malone et al., 2012)

(van der Ploeg, van der Beek, van der Woude, & van Mechelen, 2004)

# INFLUENCING CHANGE AT DIFFERENT ENVIRONMENTAL LEVELS

## Potential Participation

### @ Macro level:

- Para-Sports Classification Training
- Involvement & Feedback for Disability Sports Master Plan
- Public Awareness Resource Creation
- Participatory/Translational Research Projects

## Potential Interventions

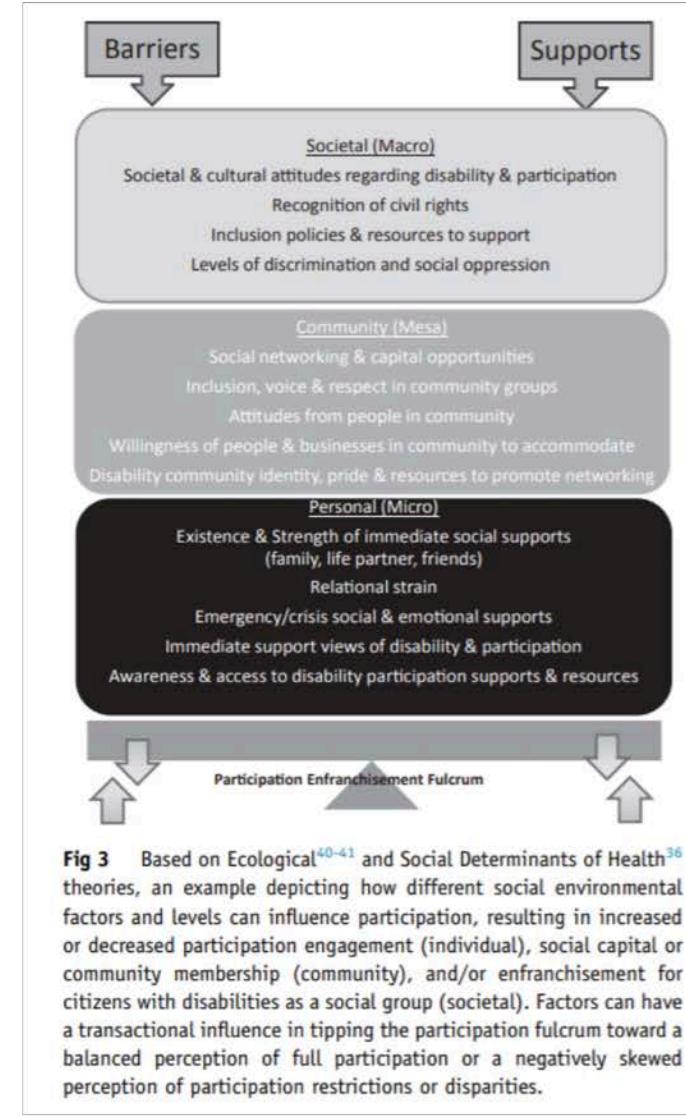
### @ Mesa level:

- Peer Visitor Programmes with Disability Organizations/Community Partners
- Community outings to Accessible Sporting Venues
- Volunteer Training in Disability Etiquette

## Where We Usually Intervene

### @ Micro level:

- Home or Classroom/School Adaptations
- Caregiver Training
- Class Talks
- Assistive Technology Prescriptions



**Fig 3** Based on Ecological<sup>40-41</sup> and Social Determinants of Health<sup>36</sup> theories, an example depicting how different social environmental factors and levels can influence participation, resulting in increased or decreased participation engagement (individual), social capital or community membership (community), and/or enfranchisement for citizens with disabilities as a social group (societal). Factors can have a transactional influence in tipping the participation fulcrum toward a balanced perception of full participation or a negatively skewed perception of participation restrictions or disparities.

(Hammel et al., 2015)



Credit: Amputee Support Group

*Snippets of our OT DAY 2021  
Rainbow Centre Margaret Drive School*

The image contains three screenshots from a presentation about assistive technology. The top screenshot shows two children playing basketball on a computer screen. A pink box overlaid on the image says "Using 'Helpkidzle' play basket switches". The middle screenshot shows a person's arm and hand interacting with a basketball hoop on a table. A pink box overlaid on the image says "'Shooting' into the real hoop with once from their rs or caregivers". The bottom screenshot shows a person's arm and hand interacting with a ping pong ball on a table. A pink box overlaid on the image says "Using 'Helpkidzle' play basket switches".

(Tan et al, 2021)



(Foo, 2017)

## INFLUENCING CHANGE AT DIFFERENT ENVIRONMENTAL LEVELS

**Where we usually intervene @ MICRO level:**

- Home or classrooms / school adaptations
- Caregiver training
- Class talks
- Assistive Technology Recommendations

## TOWARDS AN INCLUSIVE SOCIETY THROUGH SPORTS

(Credit: TTSH Sports Integration Programme)



(AWWA, 2019)



**INFLUENCE CHANGE AT  
DIFFERENT  
ENVIRONMENTAL LEVELS**

Where we usually intervene @ MESA level 😊

- Peer Visitor Programmes with Disability Organizations/Community Partners
- Community outings to Accessible Sporting Venues
- Volunteer training in Disability Etiquette



# INFLUENCING CHANGE AT DIFFERENT ENVIRONMENTAL LEVELS

Where we usually intervene @  
MACRO level:

- Para-sports Classification Training
- Involvement & Feedback for Disability Sports Master Plan
- Participatory / Translational Research Projects





# **Sustaining change: How do we go about it?**

## Professionals' perceptions of factors affecting implementation and continuation of a physical activity promotion program in rehabilitation: A qualitative study

1. Integration of physical activities into rehabilitation and adapt the procedures to local multidisciplinary context.
2. Establish local ownership by selecting committed and enthusiastic professional (s).
3. Establish National ownership by selecting a group of professionals responsible for nationwide cooperation across organisations.

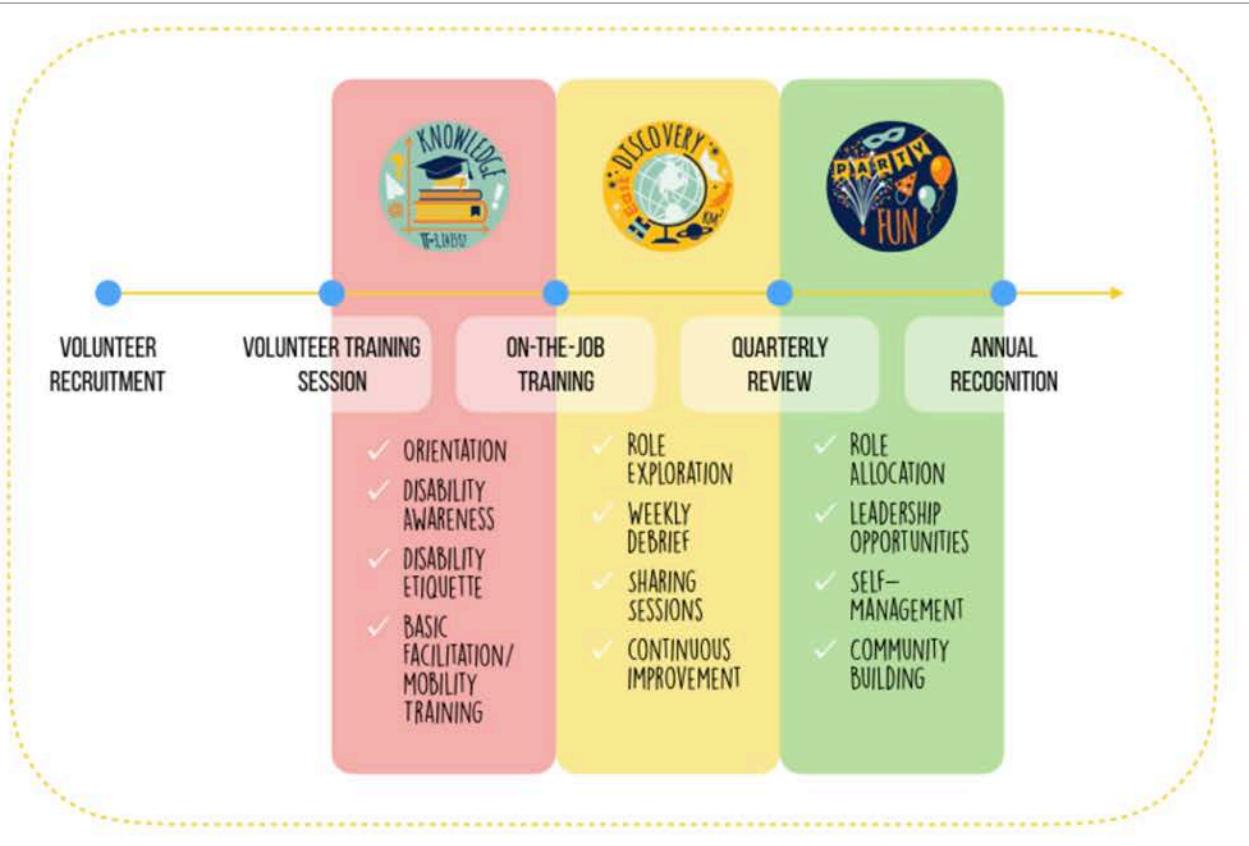
(Hoekstra et al., 2017)

## **Exploratory study on recruiting and retention of volunteers in Disability Sport Programmes in Singapore**

- 1. First Exposure: Volunteer Orientation**
- 2. Scaffolding & Support**
- 3. Promote sense of belonging:**
  - Role / Leadership Development
  - Community Building
  - Common Vision
- 4. “Value: motivation: Skills-Accorded Meaningfulness / Impact**
- 5. “Understanding” Motivation”: Skills-related Personal Development**
  - Multi-Disciplinary Teamwork
  - Hands-on Skill Development

(Mah, Chew, Imran, Yeo & Tan, 2017)

# VOLUNTEER INDUCTION + EXPERIENCE



## Volunteer Recruitment

Volunteers are currently recruited through the following channels:

- Nanyang Polytechnic School of Health Sciences (PT & OT Students)
- Friends
- Friends of friends
- Table Tennis Association for the Disabled Singapore

No selection criteria has been set-up yet as the founder believes in creating an open community where values are transmitted through open interaction with current volunteers and participating clients.

All volunteers will start out as **Befrienders**.

Progress of roles is conditional based on the later stages of volunteer training/development as detailed below.

### \*Definition of Befriender:

A volunteer whose main role is to interact with clients, learn about their stories, and to encourage participation and interaction throughout the group session. Befrienders WILL NOT be participating in transfers of patients unless invited explicitly by the session lead, secondary to safety concerns.

The Time Schedule for a typical volunteer Training Session will be as follows:

Time	Activity	Person-In-Charge
0900	Registration/Get-to-Know	Group Facilitators
0910	Introduction to Volunteer Training Workshop	Gabriel
0915	Introduction to Be-Lift	Gabriel
0920	Introduction to TTSH Rehabilitation Centre	Hong Yun + Bernie + Gabriel
0930	Bringing Wholeness: What's Your Story?	Group Facilitators
0950	Disability: Understanding to Being <ul style="list-style-type: none"> <li>• Understanding Persons with Disabilities (Booklet)</li> <li>• Challenging Perceptions - Experiential Doing               <ul style="list-style-type: none"> <li>◦ Self-Care Activities (Hong Yun)</li> <li>◦ Leisure Participation (Gab)</li> <li>◦ Wheelchair Mobility (Bern)</li> <li>◦ Transfers (Roxanne)</li> </ul> </li> <li>• Group Sharing - Reflections on Being</li> </ul>	Group Facilitators
1045	Tea Break	-

# VOLUNTEER ON-THE-JOB TRAINING & CO-CREATION @ TTSH REHABILITATION CENTRE



# THANK YOU



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