

TOWARDS AN INCLUSIVE SOCIETY THROUGH SPORTS

INCLUSIVE SPORT CONFERENCE 2021

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



Host



Co-host



INCLUSIVE
SPORT
CONFERENCE
2021

TOWARDS AN INCLUSIVE SOCIETY THROUGH SPORTS

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



NURUL JANNAH

SENIOR OCCUPATIONAL THERAPIST

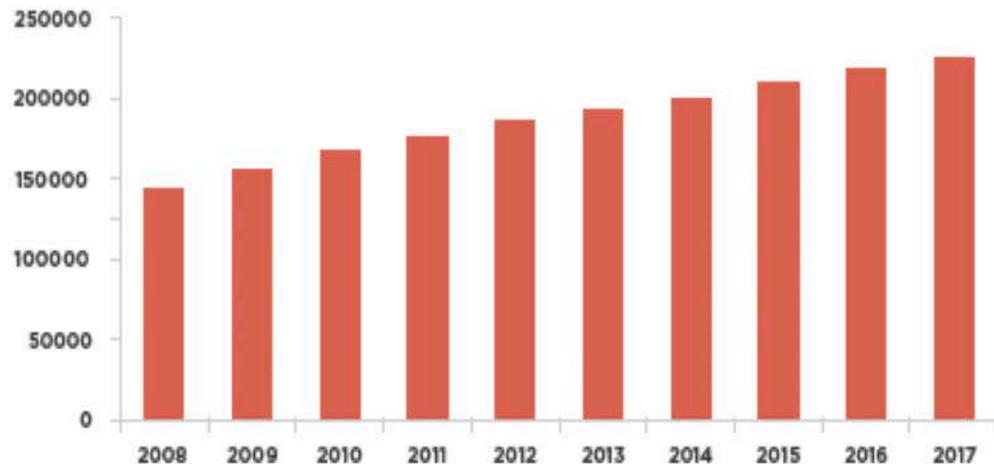


GABRIEL KWEK

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

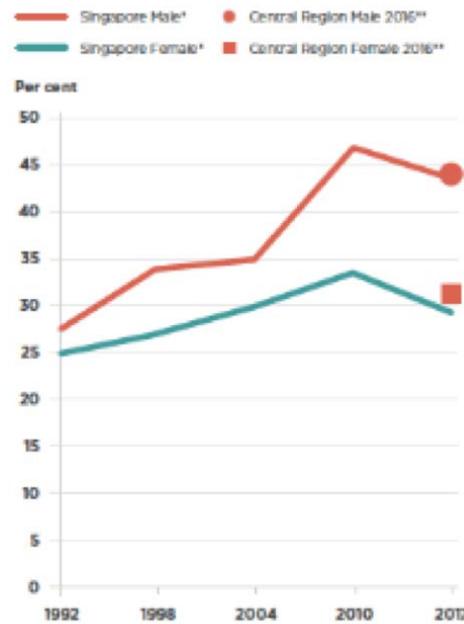
LIFESTYLE RISK FACTORS

- Obesity
- Unhealthy Diet
- Smoking
- Sedentary lifestyle

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

(National Healthcare Group, 2019)

Figure 5: 1992 to 2017 Trend in Obesity and Overweight Rates in Singapore



(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



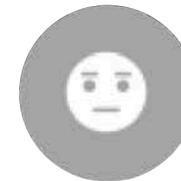
PACING & ENERGY
CONSERVATION



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.”

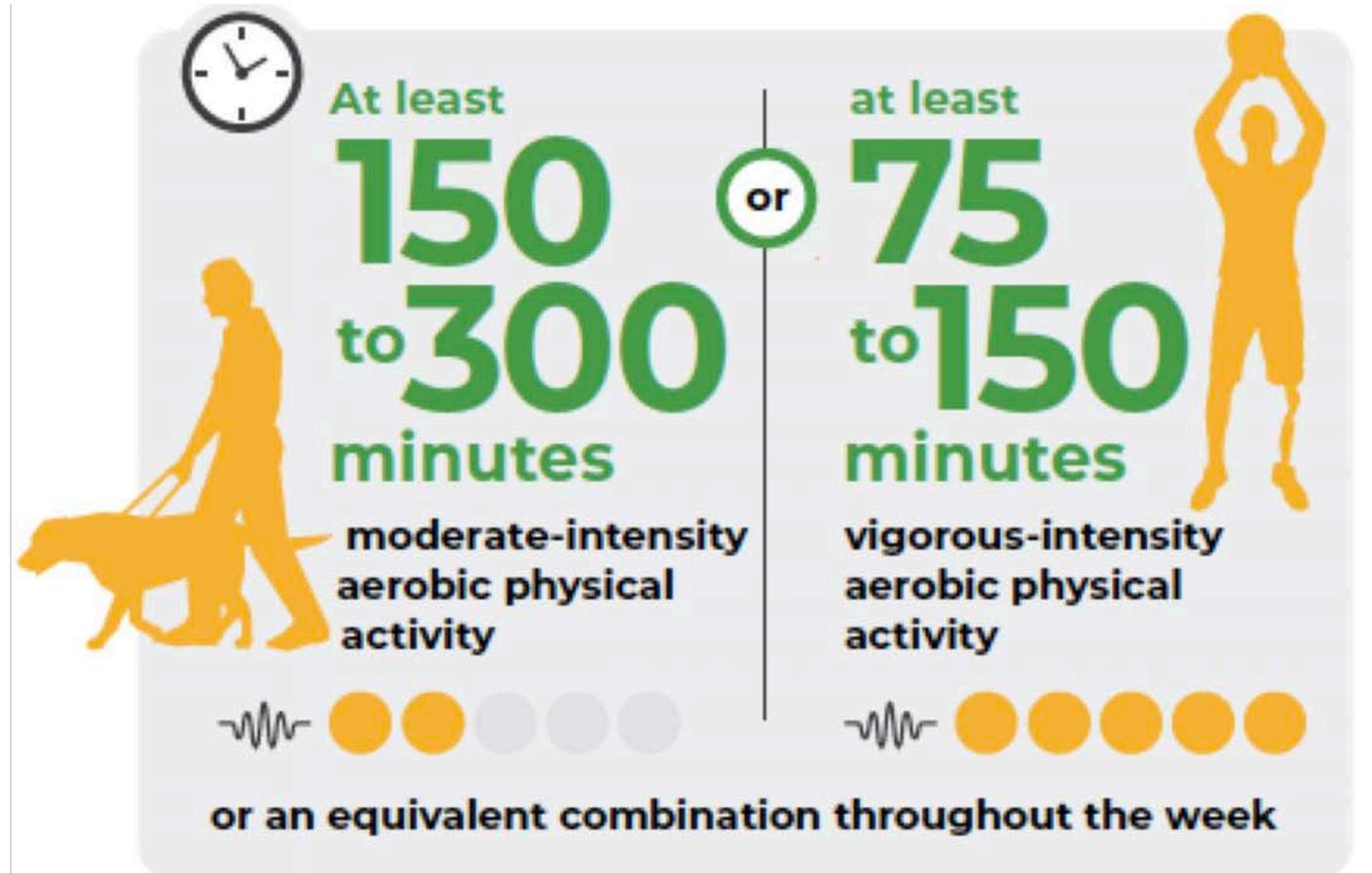
(HEALTH PROMOTION BOARD: NATIONAL PHYSICAL ACTIVITY GUIDELINES)



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)

WORLD HEALTH ORGANIZATION (WHO) RECOMMENDATIONS

FOR ADULTS AND OLDER ADULTS WITH CHRONIC CONDITIONS / LIVING WITH DISABILITY

For additional health benefits:

On at least

 **2** **days** **a week**

muscle-strengthening activities at moderate or greater intensity that involve all major muscle groups.



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

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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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
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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

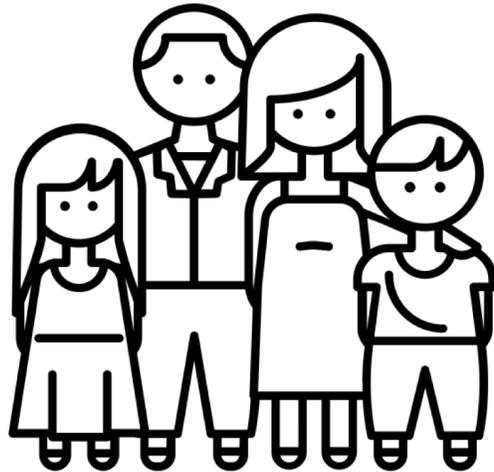


Created by Nithinan Tatah
from Noun Project

Balanced Lifestyle:

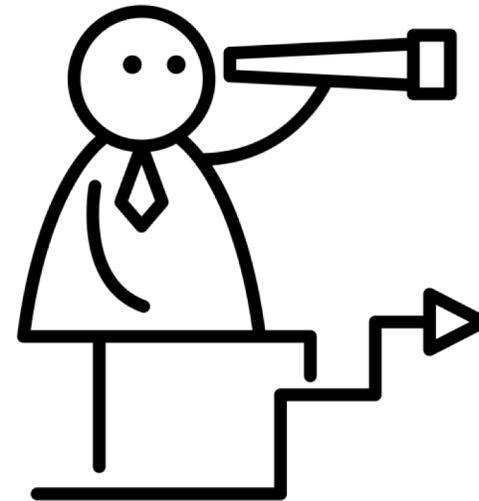
More to life than just work

CONTINUED LIFE NARRATIVES AS A FACILITATOR



Created by Aline Escobar
from Noun Project

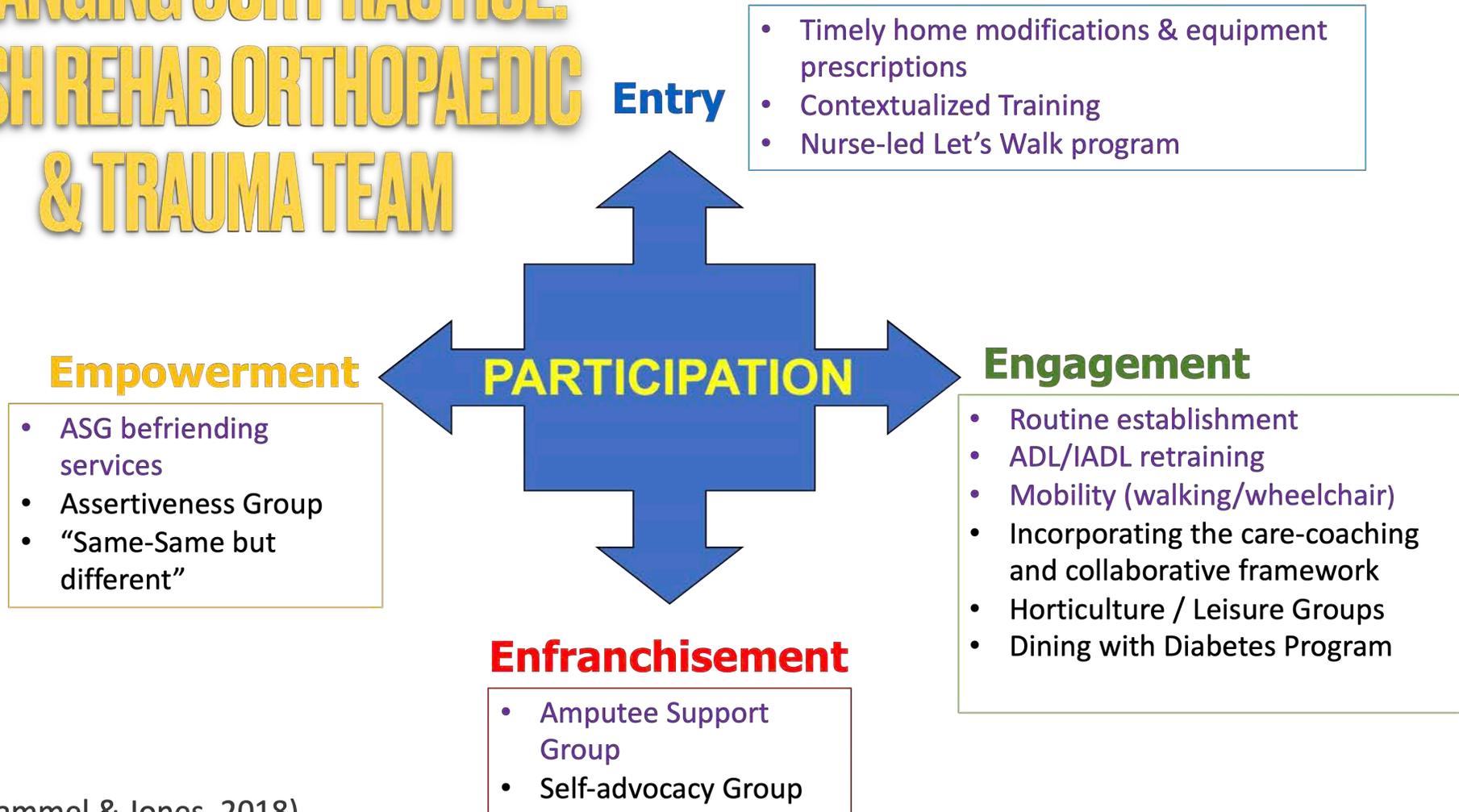
**Having a sense of “being”
through resumption of
valued roles - “For others”**



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

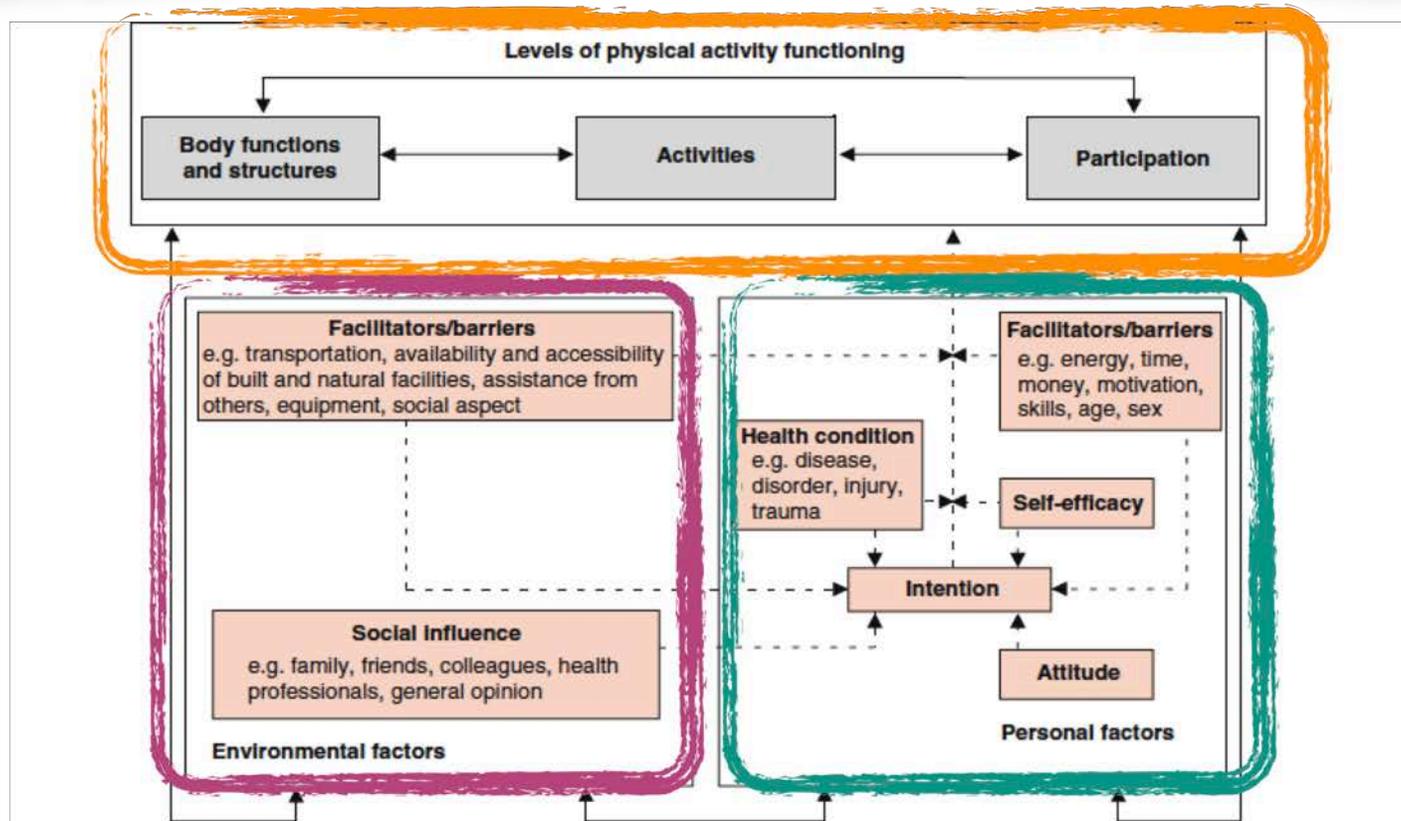
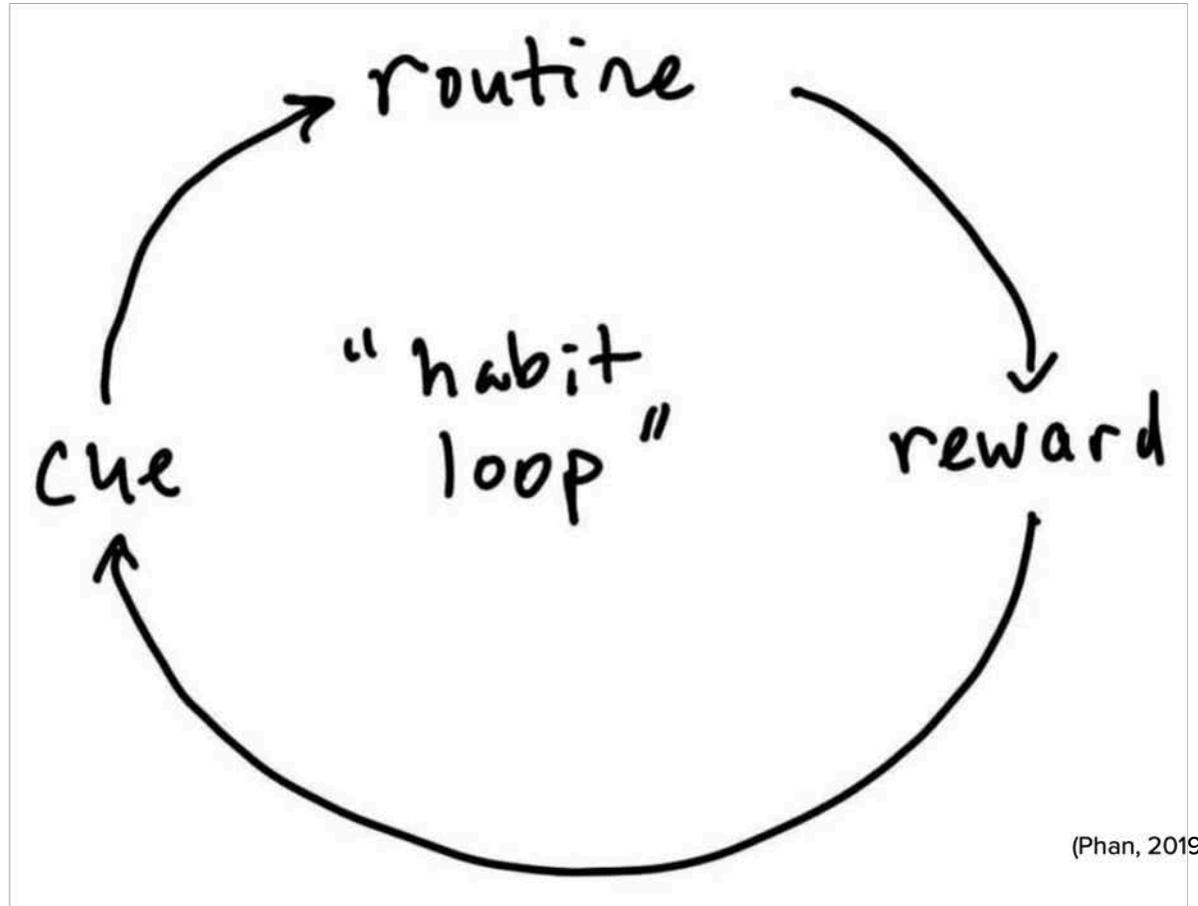


Fig. 3. The Physical Activity for people with a Disability (PAD) model, an integrated model of physical activity behaviour and its relation with functioning and disability. The framework of the International Classification of Functioning, Disability and Health (ICF) model is shown by the white and grey boxes and the solid arrows, while the determinants of physical activity behaviour are shown in the red boxes. The dashed arrows in the PAD model represent the pathway through which these factors determine physical activity, although not all possible pathways and relations are shown in the model. Most of the dashed arrows also work in the opposite direction and, as shown in the general framework, all components of the integrated model more or less interact with each other.

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



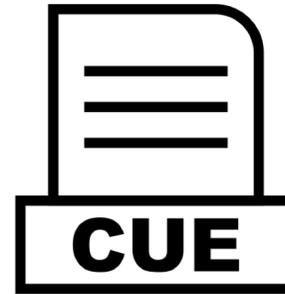
Created by Gan Khoon Lay
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Step 1:
Identify the routine



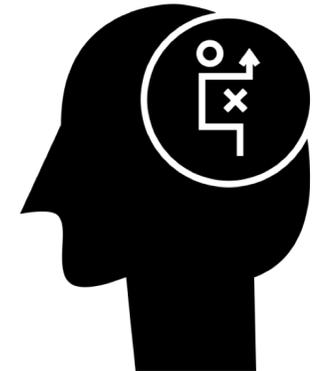
Created by The Icon Z
from Noun Project

Step 2:
**Experiment with
rewards**



Created by Vector Valley
from Noun Project

Step 3:
Isolate the cue

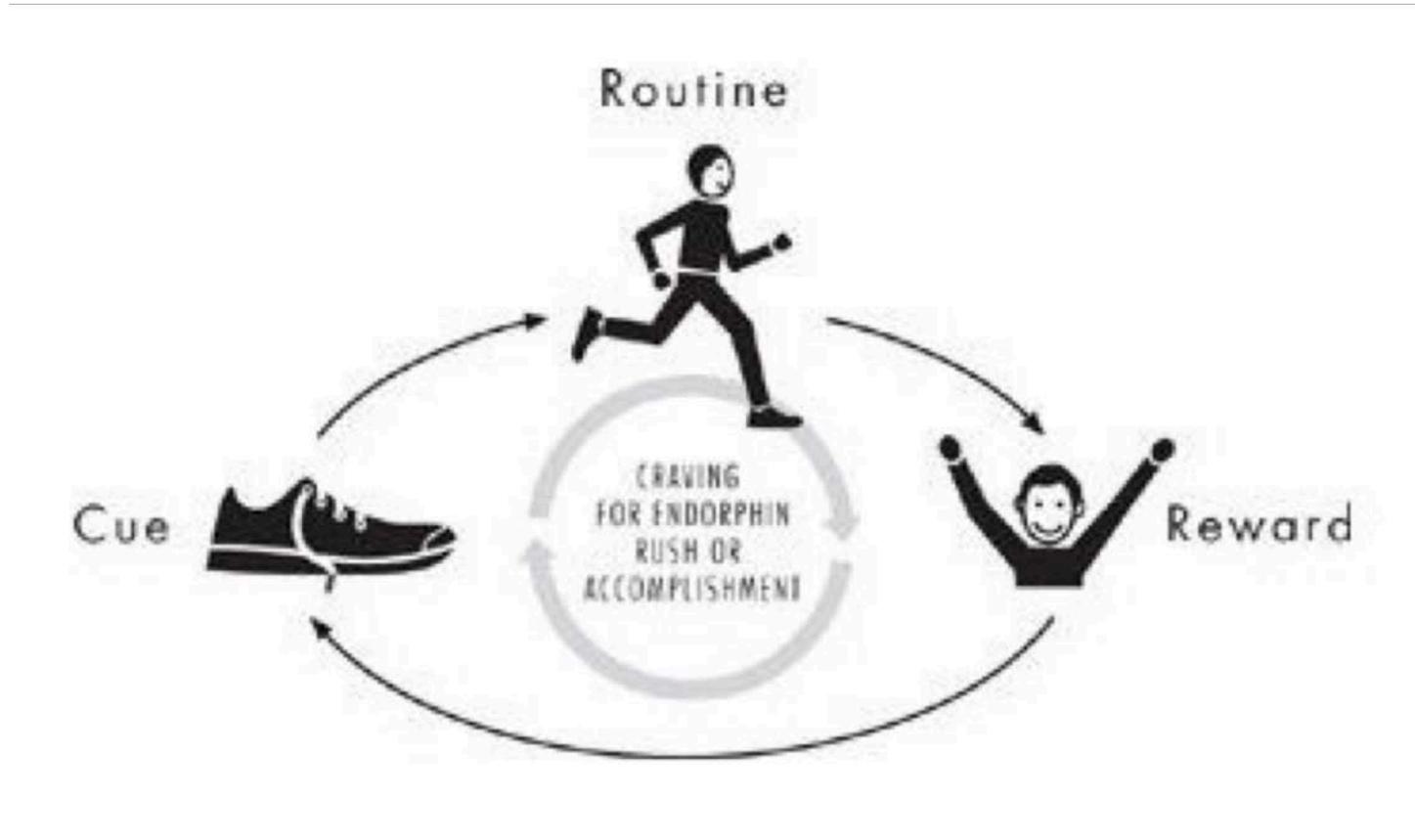


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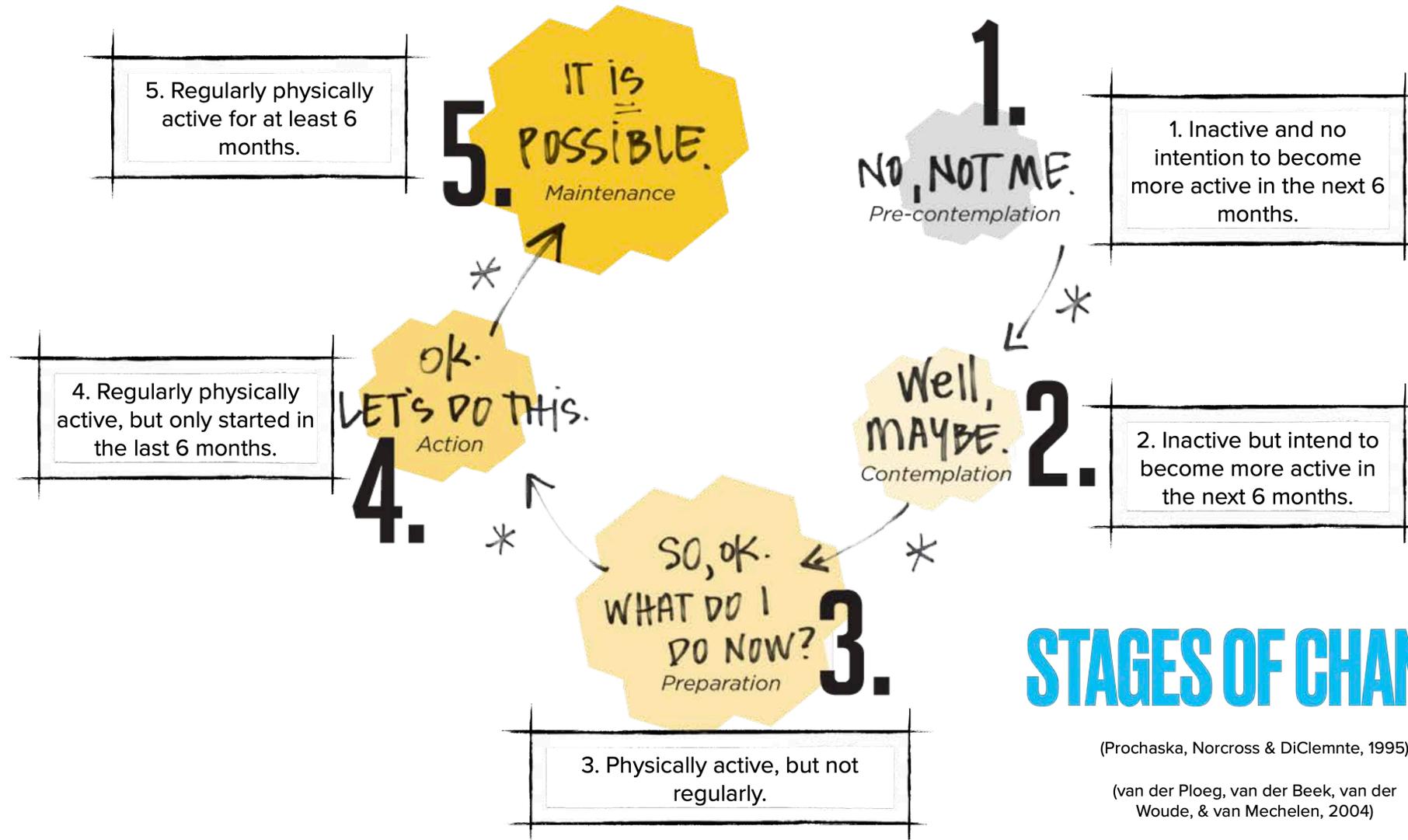
Step 4:
Have a plan

(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)

TOWARDS AN INCLUSIVE SOCIETY THROUGH SPORTS

Stage	Patient Characteristics	Possible Strategies
Precontemplation	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
Contemplation	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
Preparation	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
Action	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
Maintenance	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

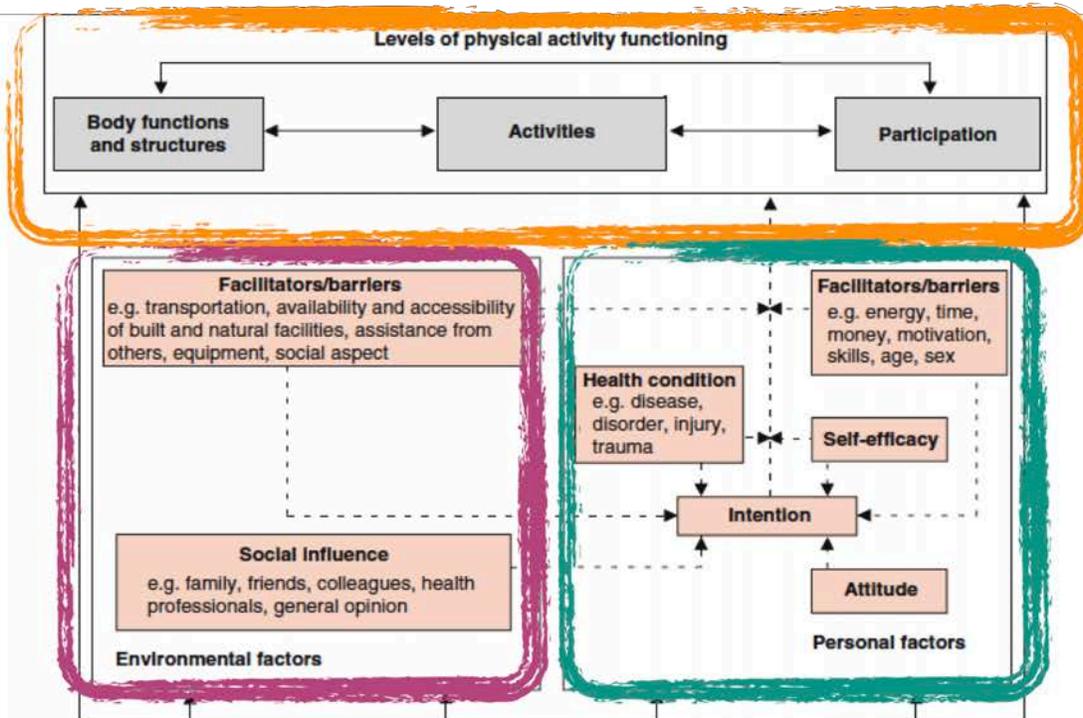


Fig. 3. The Physical Activity for people with a Disability (PAD) model, an integrated model of physical activity behaviour and its relation with functioning and disability. The framework of the International Classification of Functioning, Disability and Health (ICF) model is shown by the white and grey boxes and the solid arrows, while the determinants of physical activity behaviour are shown in the red boxes. The dashed arrows in the PAD model represent the pathway through which these factors determine physical activity, although not all possible pathways and relations are shown in the model. Most of the dashed arrows also work in the opposite direction and, as shown in the general framework, all components of the integrated model more or less interact with each other.

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

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

(Malone et al., 2012)

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

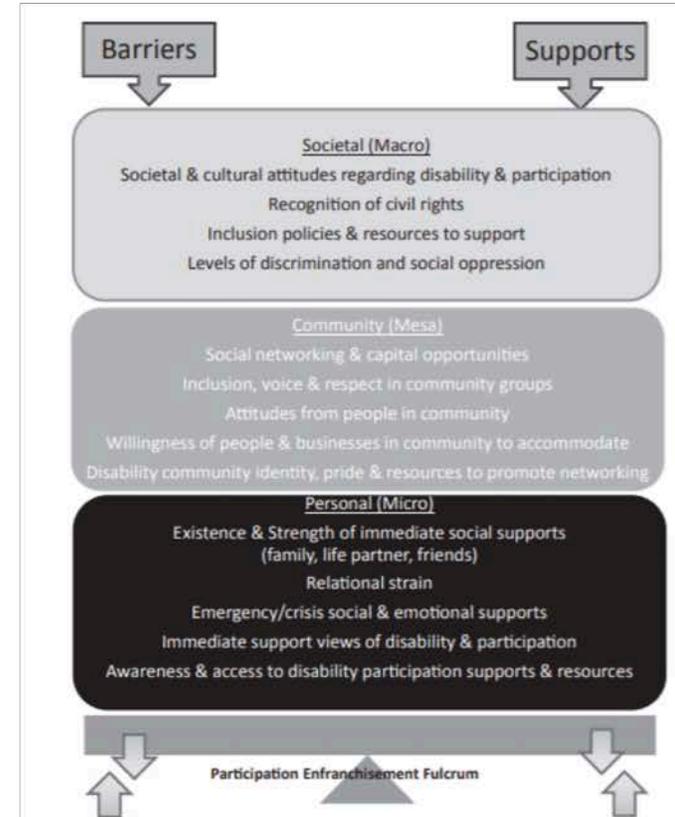


Fig 3 Based on Ecological⁴⁰⁻⁴¹ and Social Determinants of Health³⁶ theories, an example depicting how different social environmental factors and levels can influence participation, resulting in increased or decreased participation engagement (individual), social capital or community membership (community), 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)



INFLUENCING CHANGE AT DIFFERENT ENVIRONMENTAL LEVELS

Where we usually intervene @ MICRO level:

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

(Credit: TTSH Sports Integration Programme)



**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



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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.

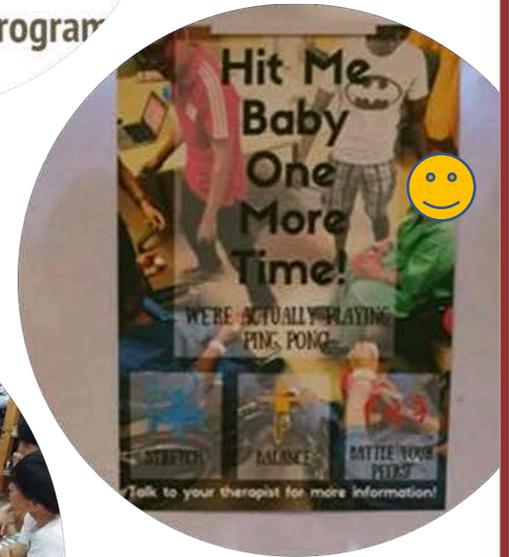
The **Time Schedule** for a typical volunteer training session will be as follows:

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 TTS 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"> • Understanding Persons with Disabilities (Booklet) • Challenging Perceptions - Experiential Doing <ul style="list-style-type: none"> ◦ Self-Care Activities (Hong Yun) ◦ Leisure Participation (Gab) ◦ Wheelchair Mobility (Bern) ◦ Transfers (Roxanne) • Group Sharing - Reflections on Being 	Group Facilitators
1045	Tea Break	-

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



Volunteer Training Program



THANK YOU



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