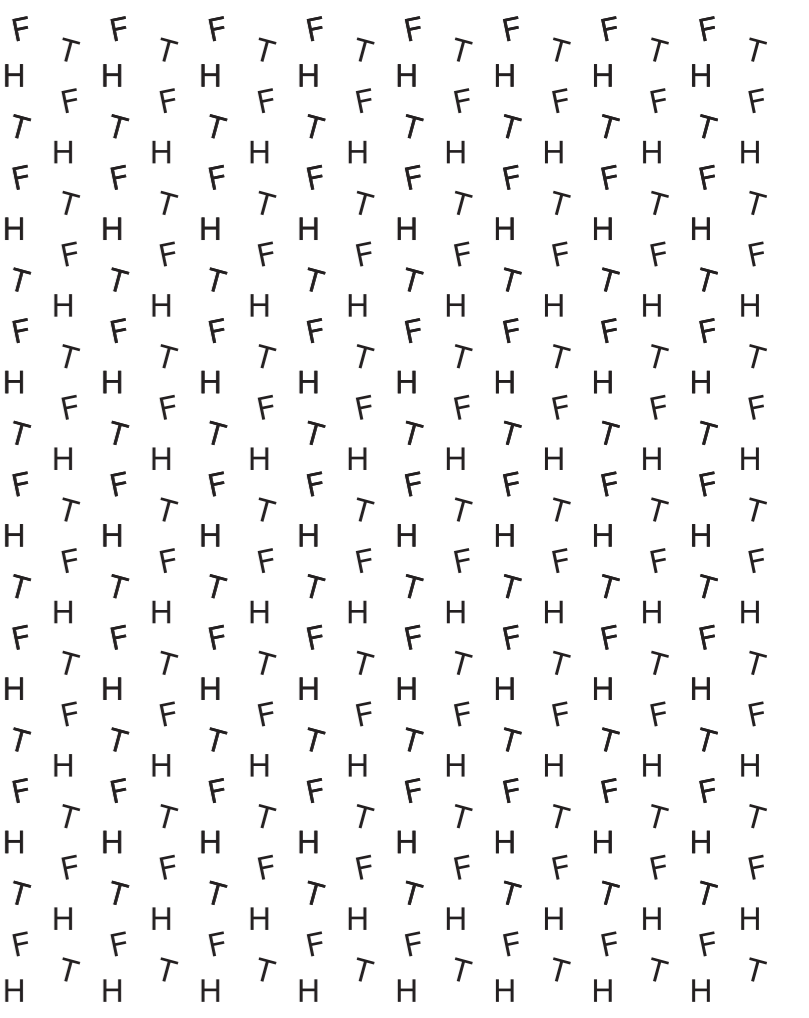


MODULE 2: Exploring the potential of digital health interventions to address behavioural risk factors for the prevention of non-communicable diseases: A qualitative study in Singapore

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1 Background

Changing lifestyle patterns have seen growing numbers of people in Asia affected by non-communicable diseases. Interventions targeting healthy lifestyle behaviours through digital technologies, including new approaches such as chatbots, may be a low-cost approach to prevent these conditions. The aim of this study was to **explore perceptions, barriers, and facilitators to the use of digital health interventions (DHIs) for lifestyle behaviour change** in Singapore

2 Method

Six virtual **focus group discussions** were conducted between July 2021 and February 2022 with a total of **34 participants**

Focus group recordings were transcribed verbatim and analysed using an **inductive thematic analysis** approach

3 Results

Variables	% (n), Mean ± SD
Gender (% of females)	64.7% (22)
Age	45 ± 3.6
Ethnicity	
Chinese	82.3% (28)
Indian	8.8% (3)
Arab	5.8% (2)
Malay	2.9% (1)
Employment status	
Working full time	61.7% (24)
Working part time	14.7% (5)
Homemaker	8.8% (3)
Student	2.9% (2)
Education level	
University degree	79.4% (27)
Polytechnic	11.7% (4)
Diploma	
Other diploma	5.8% (3)

3 Results: Themes

(1) **Holistic wellbeing** (i.e., the importance of physical & mental health)

Quote: “I would think that it is more than the physical and the food and the sleeping, for example, to me, also making meaningful connections to people around me.” (P29, Chinese Male aged 41 years)

(2) **Uptake of DHIs** (i.e., factors influencing DHI’s uptake such as incentives or government backing)

Quote: “For me, I feel probably you need to make the app more popular first, maybe some incentive to initially just jump start. You need to make the app popular.” (P34, Chinese male aged 42 years)

(3) **Sustained engagement with DHIs** (i.e., factors influencing DHI’s continued use such as personalisation or ease of use)

Quote: “the user interface has to be very simple. Once you download an app and you find there’s a learning curve, you’re more likely to just delete it in the next 5 seconds.” (P6, Chinese female aged 39 years)

(4) **Emerging technologies** (i.e., experience with chatbots and their role in providing lifestyle behaviour support)

Quote: “Well, if it is still not a real person, then after all it is programming, so I wouldn’t say that I have much confidence in it, because, after all, for everyone the problem is unique.” (P32, Indian female aged 37 years)

4 Conclusions

Findings highlighted several factors that are relevant for promoting a healthy lifestyle and for the **effectiveness** of DHI in Singapore and potentially other Asian countries



1. Participants showed a generally positive attitude towards digital health interventions targeting **holistic wellbeing**, including body, mind, connectedness, and spirituality



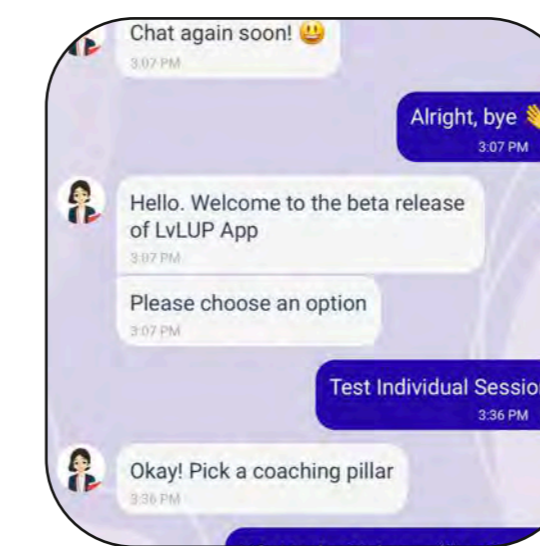
2. **Environment-specific barriers** to a healthy lifestyle should be considered by future intervention development teams (e.g., tropical weather, the food environment)



3. **Government endorsement** plays a major role on a users’ decision to start using a DHI and sharing health-related data



4. The use of **incentives** was generally viewed by participants as a useful strategy to sustain engagement



5. Participants had mostly a negative opinion towards **chatbots**. Future research is needed in the Singaporean context exploring different chatbot interaction styles

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