

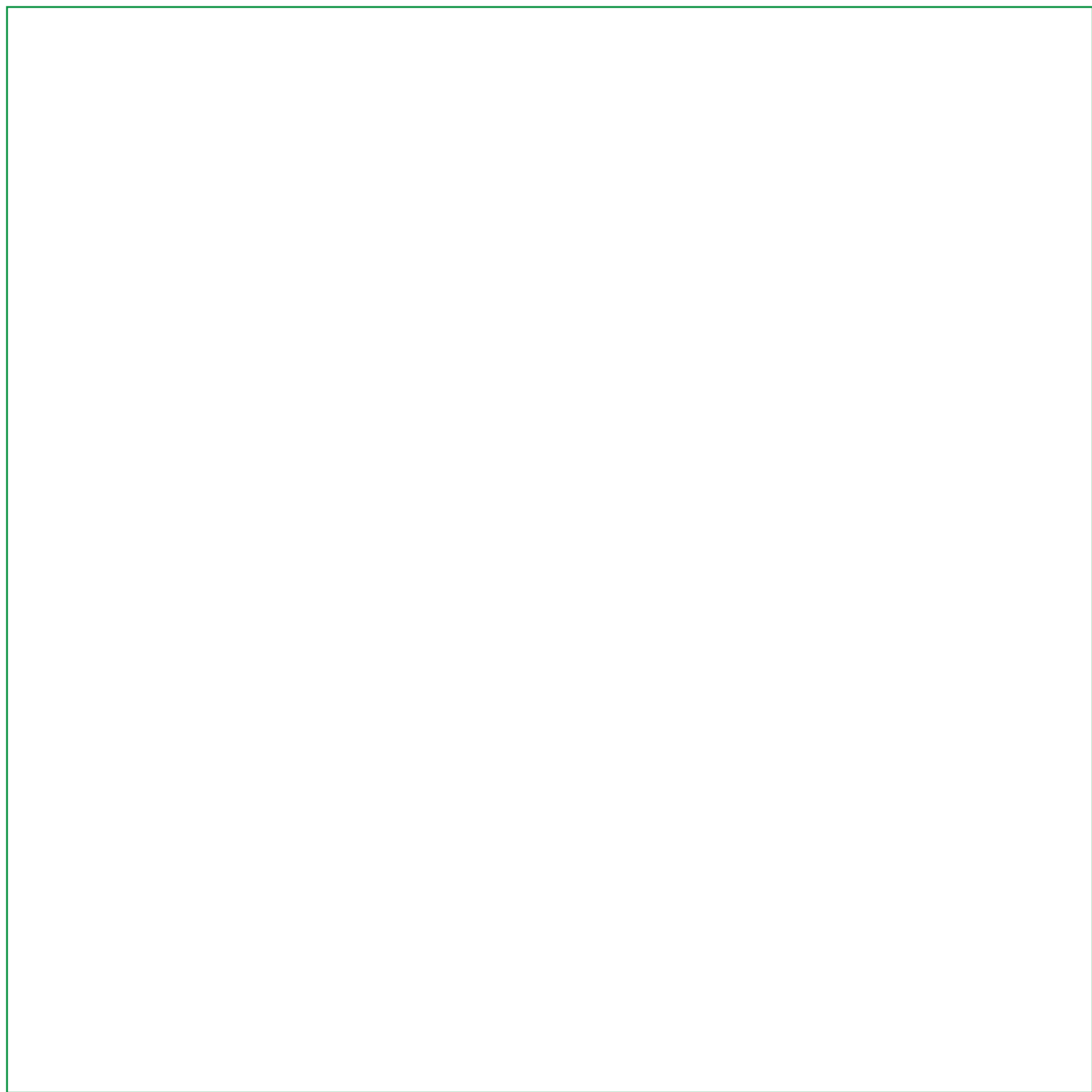


Kementerian Kesihatan Malaysia



# Malaysian Healthy *Lifestyle* Index





# Introduction

## of Malaysian Healthy Lifestyle Index

This study was conducted in two phases:

01



The first phase, which took place in 2021, focused on **the development and validation of the MHLI tool.**

02



The second phase of the study focused on the baseline study on **the Healthy Lifestyle Index** assessment among **Malaysians** using the validated instrument.

## The study instrument contains 3 sections:

**Section A** Sociodemographic Background

**Section B** Health Literacy on Healthy Lifestyle

**Section C** Physical activity, healthy eating, healthy without smoking, healthy without alcohol and healthy mind.

**Section C1:** Include three indicators of physical activity: physical and recreational activities from the Global Physical Activity Questionnaire (WHO) and Sallis et al. (1985), active living promotion, and supportive environments.

**Section C2:** Healthy eating domain that included three significant sub-domains: the healthy plate (NHMS, 2019), sugar consumption (Malaysian Dietary Guidelines (2010)), and fruits and vegetables (e.g., Sabinna A. et al. (2020); Yeh, M.C. et al. (2010); Bibi Nabihah et al. (2018)).

**Section C3:** Healthy without-smoking behaviour of the respondents and consists of items about a supportive environment and healthy living culture without smoking.

**Section C4:** Healthy without alcohol comprises items on healthy living culture without alcohol.

**Section C5:** Assess psychological health, high-risk behaviour, social well-being, supportive environments, healthy living culture, and spiritual well-being (Krauss, S., 2007).

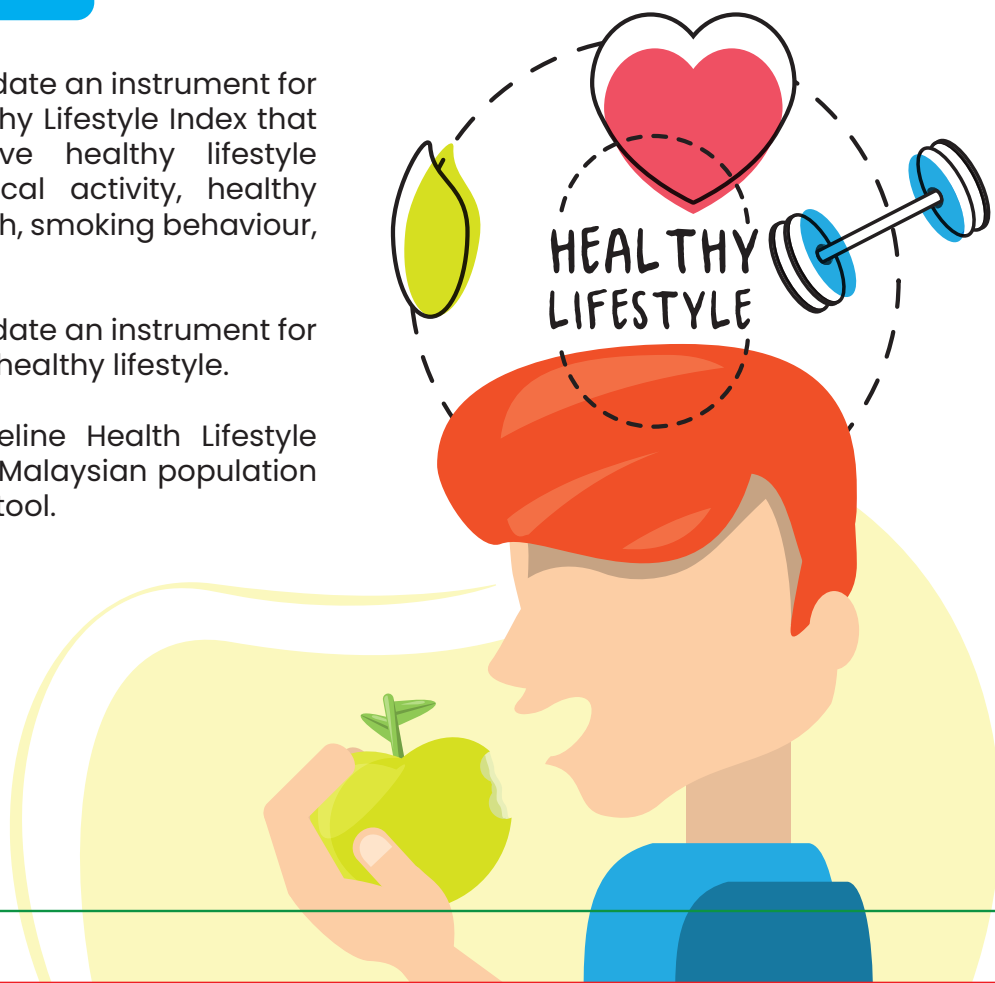
# Objectives

## General Objectives

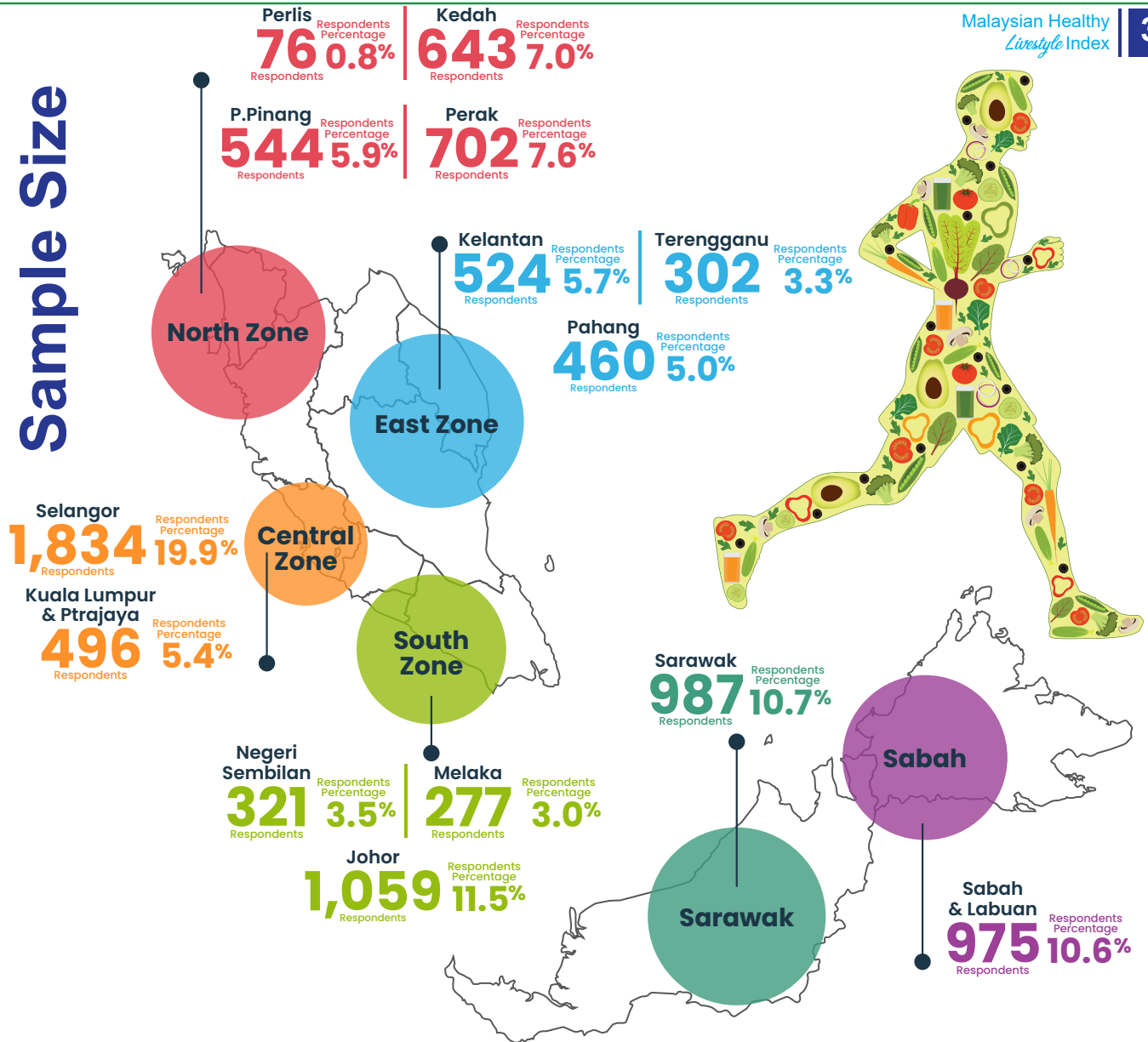
To measure healthy lifestyle scores among Malaysians using a systematic surveillance and evaluation system for planning future health promotion programs.

## Specific Objectives

- 1 To develop and validate an instrument for the Malaysian Healthy Lifestyle Index that could measure five healthy lifestyle components: physical activity, healthy eating, mental health, smoking behaviour, and alcohol intake.
- 2 To develop and validate an instrument for health literacy on a healthy lifestyle.
- 3 To conduct a baseline Health Lifestyle assessment for the Malaysian population using the validated tool.



# Sample Size

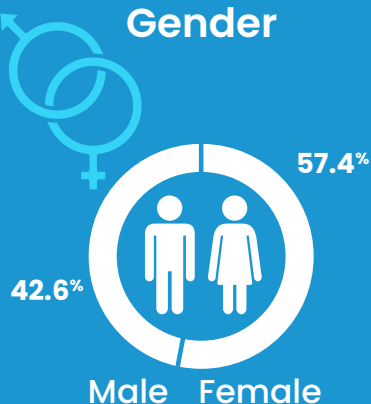


9,200 Respondents | 100%

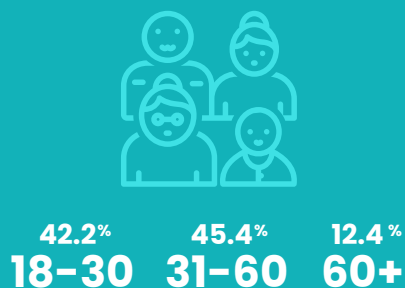
# Respondent Profile

## Demography

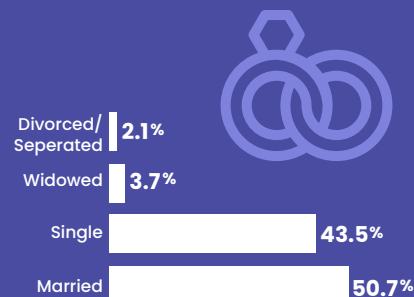
### Gender



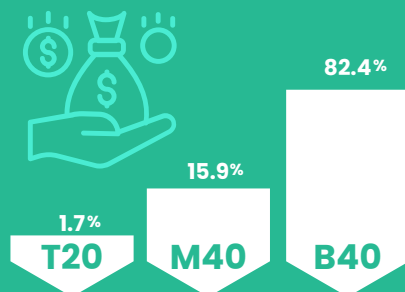
### Age Group



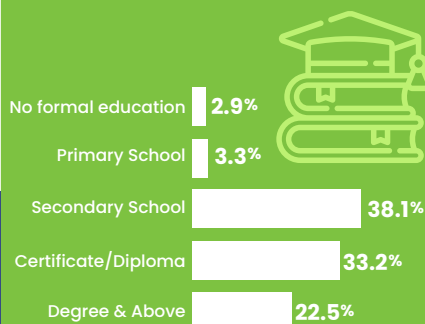
### Marital Status



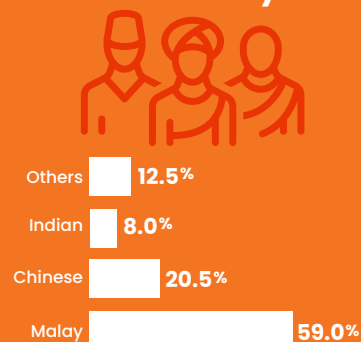
### Income Group



### Education Level



### Ethnicity



# Domains



**Physical  
Activity**



**Healthy  
Eating**



**Mental  
Health**



**Healthy without  
Smoking**



**Healthy without  
Alcohol**

## Domain: Health Literacy

### Limited Health Literacy Level

Scoring range from 0–33: Very difficult and fairly difficult to access, understand, appraise and apply health lifestyle-related information.

### Sufficient Health Literacy Level

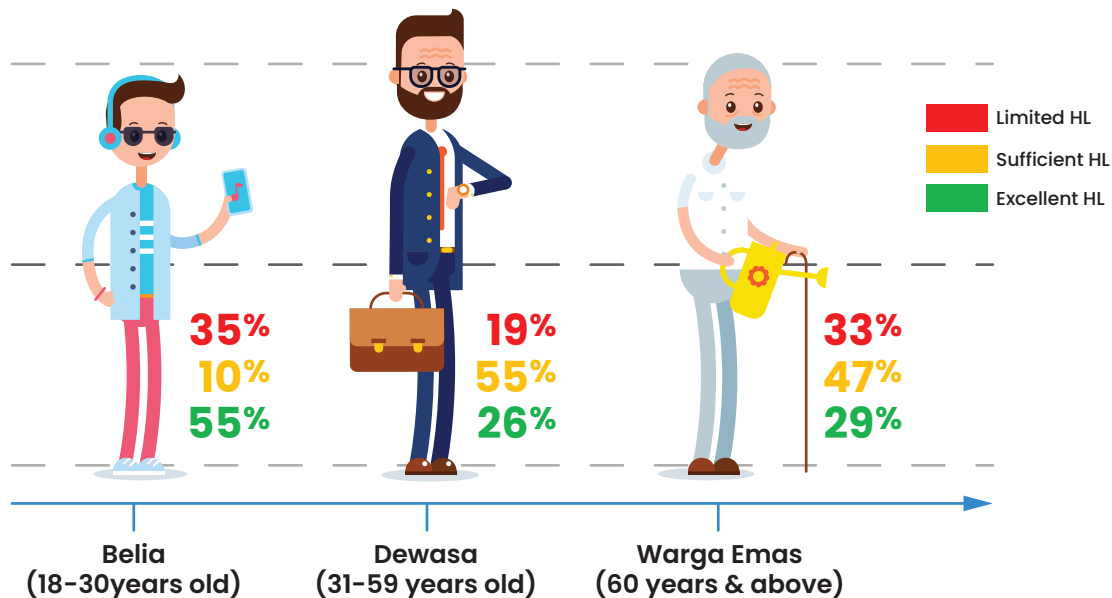
Scoring range from above 34 to 42: Fairly easy to access, understand, appraise and apply health-related information within the three domains of capacity or ability of individuals to obtain, process, understand, and use health information and services in order to make appropriate health decisions.

### Excellent Health Literacy Level

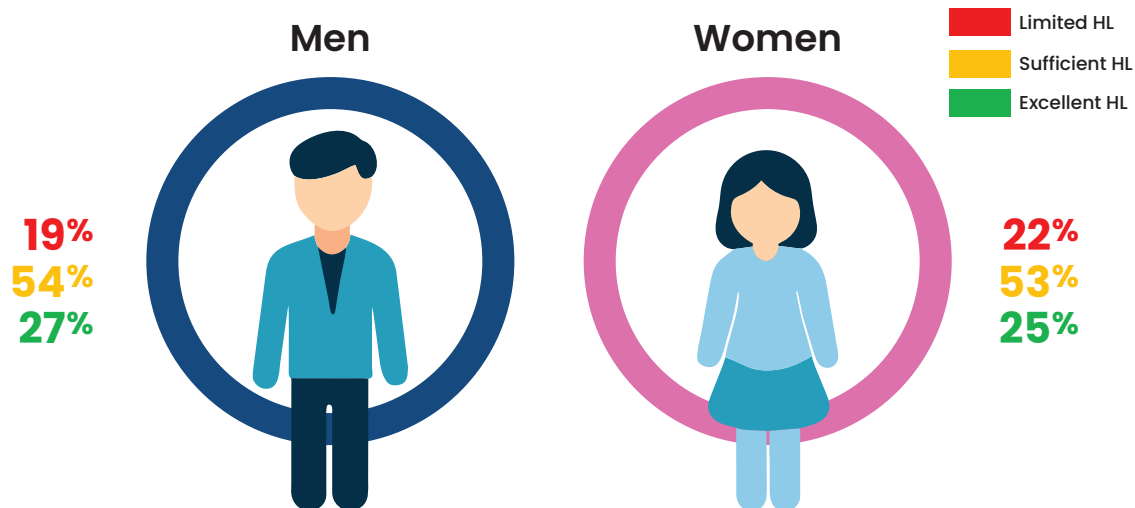
Scoring from above 43 and – 54 Very easy to access, understand and appraise and apply health-related information of healthy lifestyle within the three domains of healthcare.

Health Literacy Level	Percentage
Limited Health Literacy Level (0-33)	20.6%
Sufficient Health Literacy Level (34-42)	53.3%
Excellent Health Literacy Level (43- 54)	26.1%

## Comparing Age Group & Health Literacy Score



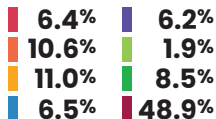
## Comparing Gender & Health Literacy Score



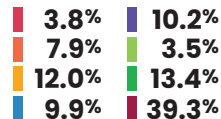
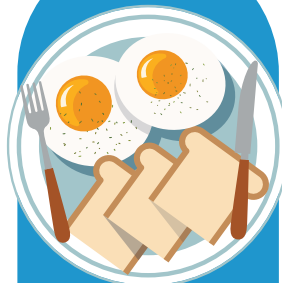
# Domain: Healthy Eating Domain

## Healthy Plate Recommendation

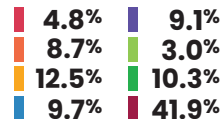
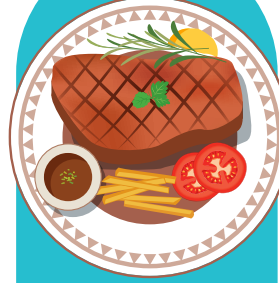
Breakfast



Lunch

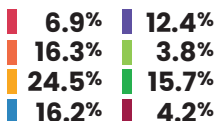


Dinner

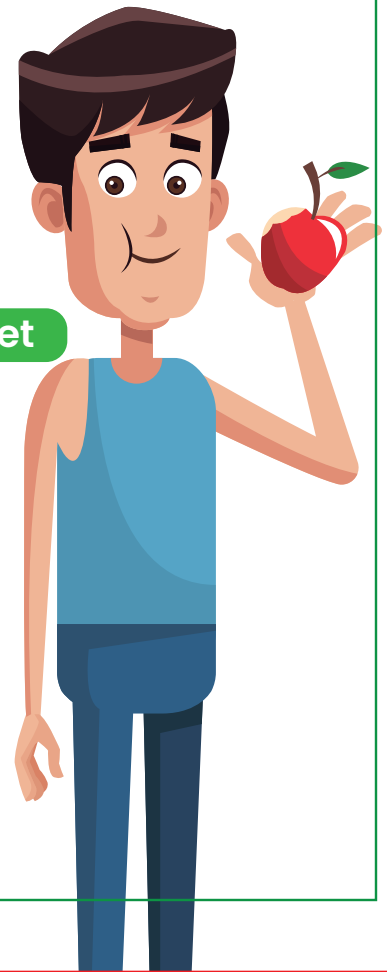
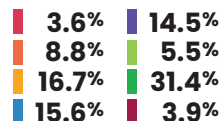


## Consumption of Fruits and Vegetables in Daily Diet

Fruit



Vegetable



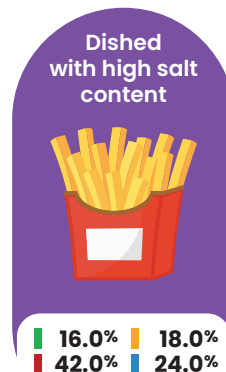
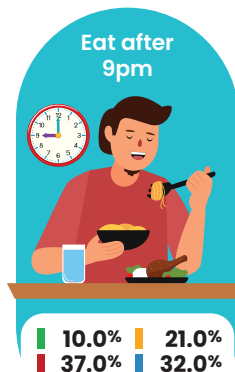
## Consumption of Rice, Other Cereals, Whole Grain Cereal-based Products in Daily Diet



## Consumption of Milk and Milk Products in Daily Diet



## Consumption of Food's groups in Daily eating activities

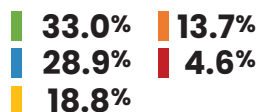


## Supportive Environment

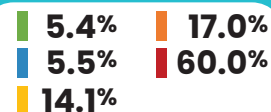
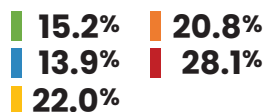


## Domain: Physical Activity Domain

Walking for more than 10 minutes per day



Estimate days engaging vigorous physical activity



Engaging in moderate intensity physical activity

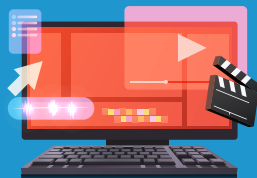
## Physical Activity Culture in Daily Life

Willingness  
to exercise despite  
limitation



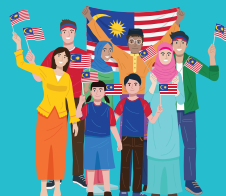
■ 5.0% ■ 95.0%

My motivation  
to exercise is  
increased by resources  
like fytness-related  
videos on websites  
or social media



■ 9.0% ■ 91.0%

I also volunteer  
to assist organise  
such activities in  
my community



■ 42.0% ■ 58.0%

i'm prepared to  
pay for it in order to  
keep in shape



■ 30.6% ■ 69.4%

i ONLY take part  
in physical activity  
or exercise when there  
are facilities nearby



■ 42.7% ■ 57.3%

i ONLY take part  
in physical activity  
or exercise if i  
accompanied by  
someone



■ 40.8% ■ 59.2%

■ Disagree to Strongly Disagree  
■ Agree to Strongly Agree

## Domain: Healthy without Smoking

Non Smokers  
Smokers

Number of  
smoker and  
non-smokers



20.1% 79.9%

Frequency  
of smoking



Everyday  
Occasionally

78.0% 22.0%

### Smoking status

43.2%

29.1%

15.2%

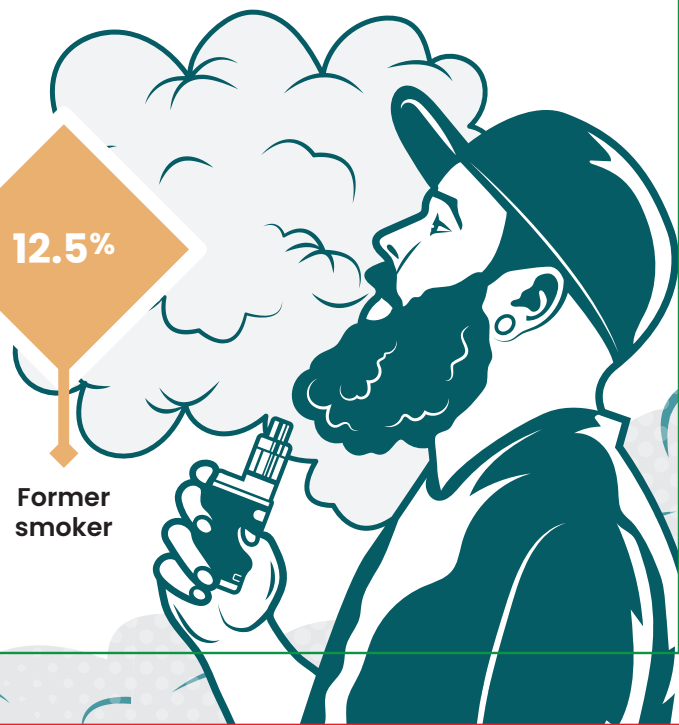
12.5%

Conventional  
smoker/white  
cigarette

Electronic  
smoker/vape

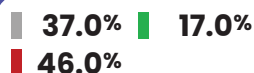
Conventional  
and electronic  
smokers

Former  
smoker

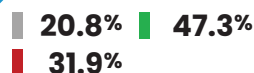


## Supportive Environment

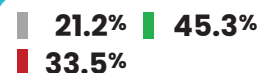
Smoking cessation services (clinic/online/etc) help me quit



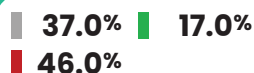
The enforcement of the ban on smoking in public places helped me not to smoke cigarettes or vapes



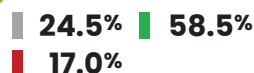
No smoking area helps me to not smoke cigarette or vape



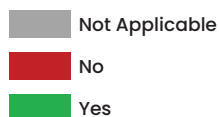
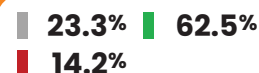
Advertisement related to cigarette or vapes make it difficult for me to stop smoking cigarette or vapes



The price of cigarette or vapes that people can afford to buy causes them to smoke cigarette or vapes

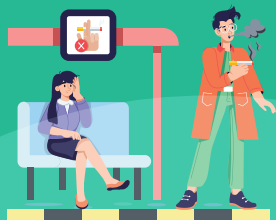


Cigarette or vape supplies are easy to buy which is why i still smoke cigarette or vapes



## Creating a Smoke free culture

Courage to  
speak out at smokers  
smoking in smoke  
free zone



40.0% 60.0%

Friend's  
influence to take up  
smoking



41.9% 58.1%

Giving advice  
to someone  
close (friends and  
relatives) to quit  
smoking



49.0% 51.0%

Agree to Strongly Agree  
Disagree to Strongly Disagree

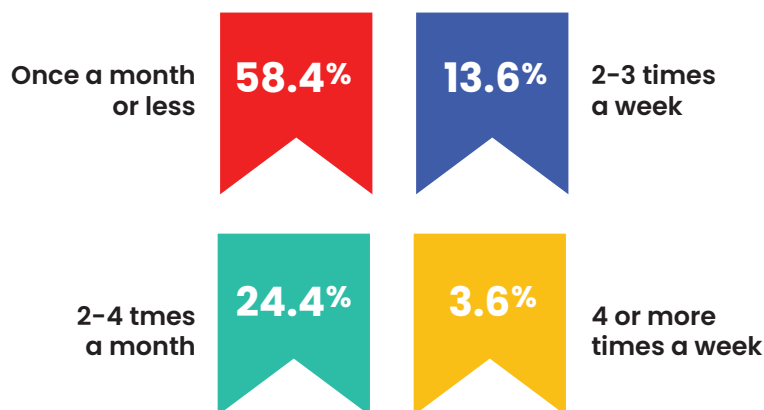


# Domain: Healthy without Alcohol

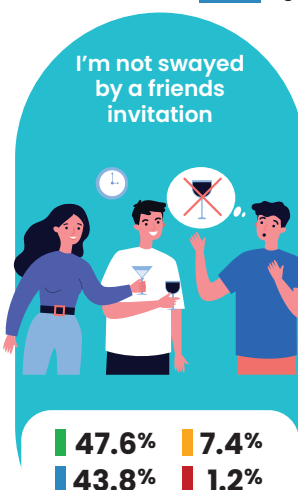
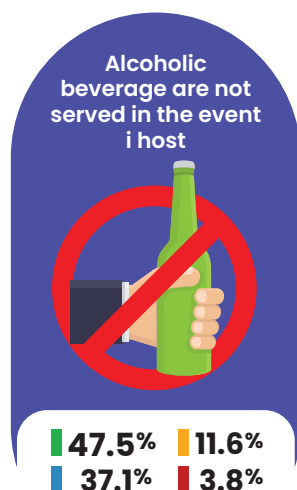
## Consumption of Food's groups in Daily eating activities






## Frequency of drinking alcohol beverage



## Supportive Environment



## Domain: Mental Health

	54-70	37-53	19-36
 <b>Psychological Health</b>	5.9%	70.9%	23.3%
	9-18	19-28	29-36
 <b>Social Well-being</b>	0.4%	74.1%	25.5%
	7-13	14-20	21-28
 <b>Spiritual Well-being</b>	0.1%	3.8%	96.1%



## Supportive Environment for Mental Health

I know there  
are Mental Health  
Services and  
Psychosocial Support  
in government and  
private health facilities



69.0% 31.0%

69.0% were aware of the availability of both public and private mental health services.

I know there is  
a support helping  
services



57.2% 42.8%

57.2% were aware of the availability of online mental health services.

Yes  
No

I am aware of the  
existence of mental  
health support group  
on social media



57.7% 42.3%

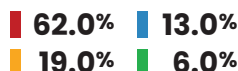
57.7% were aware of online mental health support programme.



## Positive Mental Health Practise

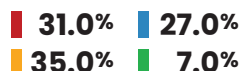
Despite the fact that the majority of respondents were aware of the public and private mental health services available:-

I will seek professional help (counselor/psychiatrist) manage my self



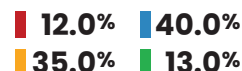
**62.0%** will never seek professional assistance.

I practice relaxation techniques when i stressed



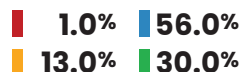
**35.0%** rarely practice relaxation techniques.

I spend time exploring interest or doing hobbies to overcome my stress



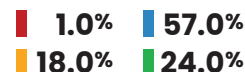
**40.0%** frequently take up activities or hobbies as their preferred method for stress management.

I stay in touch and spend time with family

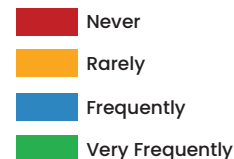


**56.0%** frequently stay in touch and spend time with family.

I stay in touch and spend time with friends



**57.0%** frequently discuss their problems with people they trust.



# Malaysian Healthy Lifestyle Index

## Calculating Healthy Lifestyle Index

### Step 1. Creating the dimension indices

The construct of Malaysia's Healthy Lifestyles Index is based on several key domains: healthy eating, physical activity, mental health, and a smoke-free lifestyle. To standardize the indicators, which are expressed in different units, they are transformed into indices ranging from 0 to 1. This transformation is achieved by setting minimum and maximum values as follows:

Dimesion	Indicator	Minimum	Maximum
Physical activity	-	0	40,000
Mental health	-Psychological well-being	10	90
	-Social well-being	10	90
	-Spiritual wel-being	10	90
	-Mental health practice	10	90
Healthy eat	-Healthy eating	0	7
	-Healthy food selection practice	0	2
Healthy without smoking	-	0	1

**Step 1: Having defined the minimum and maximum values, the dimension indices are calculated as:**



$$\text{Dimesion index} = \frac{\text{actual value} - \text{minimum value}}{\text{mazimum value} - \text{minimum value}}$$

Each dimension index is a proxy for capabilities in the corresponding dimensions

## Step 2. Aggregating the dimensional indices

The HLI is the geometric mean of the four-dimensional indices:

$$\text{HLI} = (\text{I Physical activity} \times \text{I Mental health} \times \text{I Healthy eating} \times \text{I Healthy without smoking})^{1/4}$$

- Assuming the indicator scores across all four domains are equal in weight based on literature and experts, the score for each domain is derived (Livingstone & McNaughton, 2017; Villegas, Kearney & Perry, 2008).
- The MHLI was then turned into a categorical variable:
  - Very low healthy lifestyle practises (below .34),
  - Low healthy lifestyle practises (score .35 – .44),
  - Moderate healthy lifestyle practises (score .45 – .54),
  - Excellent healthy lifestyle practises (score .55 and above)



**VERY LOW**  
Not Practising

0–0.34



**LOW**  
Less Practising

0.35–0.44



**MODERATE**  
Moderately  
Practising

0.45–0.54



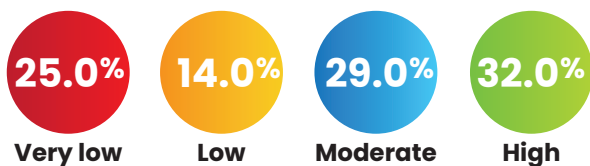
**EXCELLENT**  
Practising

0.55  
and above



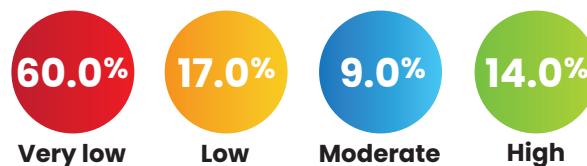
## Overall Healthy Lifestyle Index

- 25.0% very low score (.34 and below)
- 14.0% low score (.35-.44)
- 29.0% moderate score (between .45 and .54)
- 32.0% high score (.55 and above)



## Physical Activity Dimension

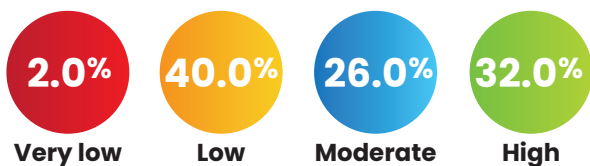
Items for the index were adapted from the International Physical Activity Questionnaire (IPAQ). The scores used for this PA index obtained by respondents are based on the METs (Metabolic Rate) system used in the IPAQ.



METs (Metabolic Rate) system	Calculation
METs walking/week	3.3 x walking minutes x walking days
Moderate activity METs/week	4.0 x minutes of moderate intensity activity x day
Heavy activity METs/week	8.0 x minutes doing high intensity activities x day

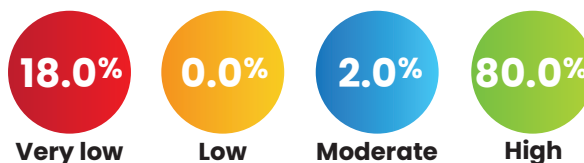
## Healthy Eating Dimension

- 2.0% very low score (.34 and below)
- 40.0% low score (.35-.44)
- 26.0% moderate score (between .45 and .54)
- 32.0% high score (.55 and above)



## Healthy Without Smoking

- 80.0% have a high score in this domain (1)
- 2.0% earned a moderate (0.5)
- 18.0% had a low score (0)



## Mental Health Dimension

### Healthy Mental Index



**Psychological  
Health**



**Social  
Well-being**



**Spiritual  
Well-being**



**Cultivation of  
good Mental Health  
Practice**



- 61.0% high score (.55 and above)
- 28.0% moderate score,
- 9.0% have a low score,
- 2.0% very low score



Very low



Low



Moderate



High

# Recommendations

## Policy Measures

- Regulating food and beverage premises by setting operational hours.
- Adjusting insurance premiums based on health behaviors and clinical outcomes (e.g., blood pressure, cholesterol, BMI).
- Increasing taxes on unhealthy products.

## MHLI Instrument & Application Integratio

- The Malaysia Healthy Lifestyle Index (MHLI) could be incorporated into existing apps like MySejahtera, providing interactive tools for public use.

## Nudging for Healthy Eating

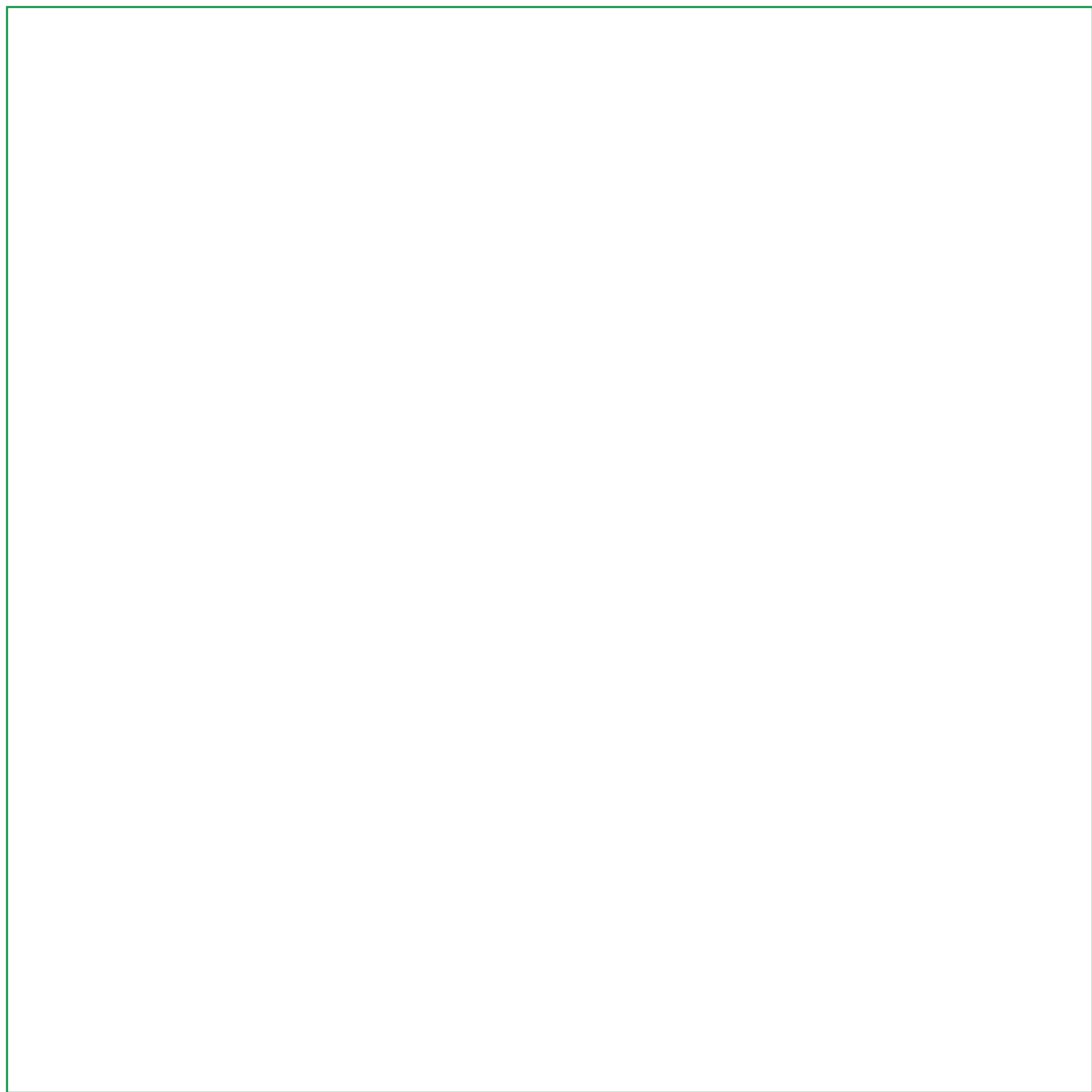
- Healthy eating calls: Written or verbal prompts encouraging healthier choices.
- Convenience enhancements: Making healthier options easier to access (e.g., grab-and-go options, better utensils).
- Size enhancements: Using smaller plates or portions for unhealthy foods.
- Evaluative nutritional labelling: Color-coded labels (e.g., green for healthy, red for unhealthy).
- Visibility enhancements: Placing healthy foods at eye level, in transparent containers, or near cash registers.
- Hedonic enhancements: Using appealing descriptions and attractive displays for healthy foods.

## Leveraging Social Norms

- Promoting success stories through official websites, community platforms, or social media to encourage healthier lifestyles.

# Conclusion

- The MHLI's purpose is to give Malaysians access to an easy-to-use instrument for assessing health behaviour that allows people to quantify their current health behaviour and, in doing so, empowers them to adopt healthy lifestyle adjustments.
- This MHLI can also help identify areas to develop and establish reasonable targets for increasing healthy behaviours to combat the increasing number of NCD cases.
- Besides, this comprehensive index will aid MOH to establish a systematic surveillance and evaluation system to monitor the risk factor of health behaviour for future health promotion program planning.



# Malaysian Healthy *Lifestyle* Index