Kementerian Kesihatan Malaysia



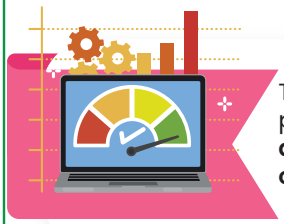
Malaysian Healthy *Lifestyle* Index



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., Sabinaa 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).

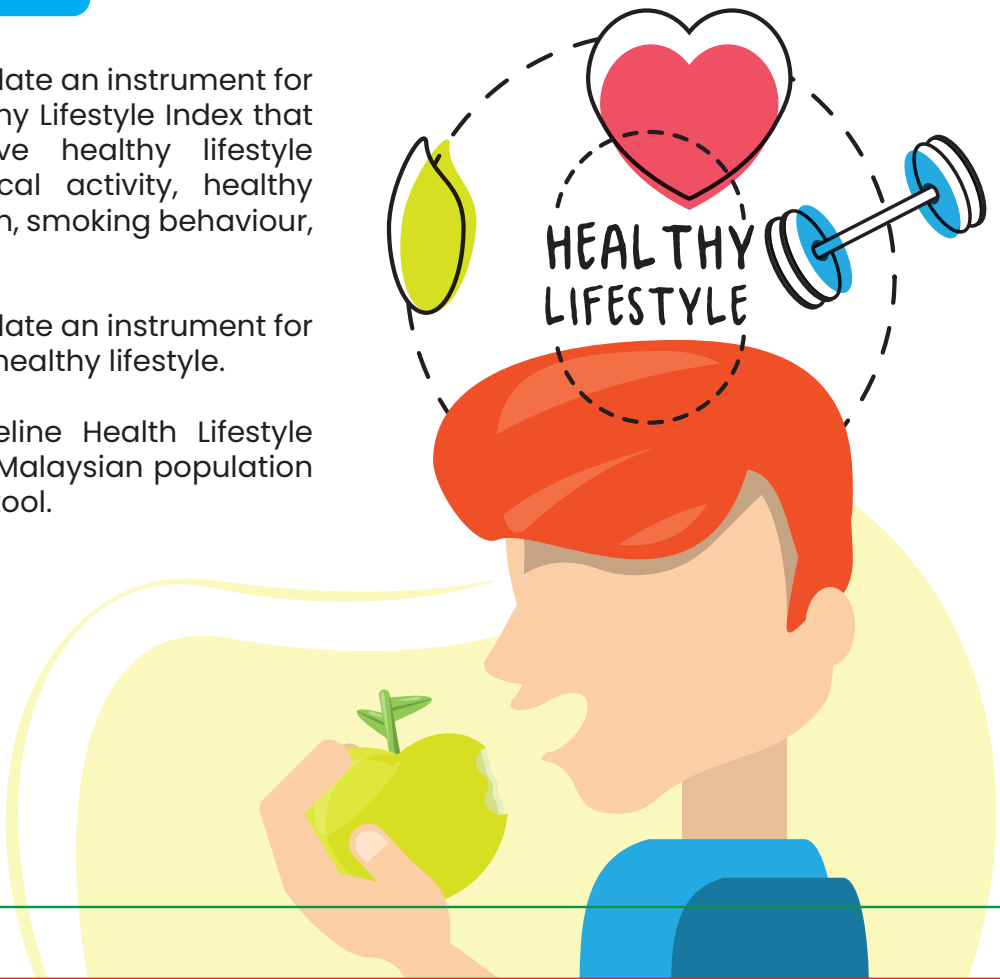
Objectives

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

Perlis — 76 Respondents — Respondents Percentage 0.8%

Kedah — 643 Respondents — Respondents Percentage 7.0%

P.Pinang — 544 Respondents — Respondents Percentage 5.9%

Perak — 702 Respondents — Respondents Percentage 7.6%

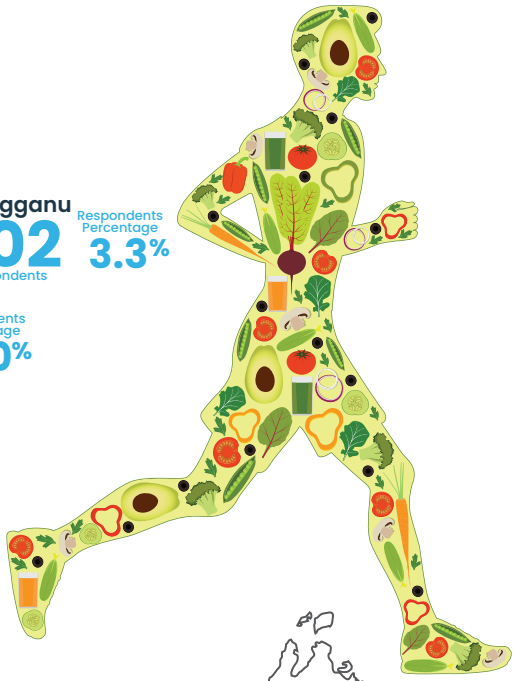
North Zone

Kelantan — 524 Respondents — Respondents Percentage 5.7%

Terengganu — 302 Respondents — Respondents Percentage 3.3%

Pahang — 460 Respondents — Respondents Percentage 5.0%

East Zone



Selangor — 1,834 Respondents — Respondents Percentage 19.9%

Kuala Lumpur & Ptrajaya — 496 Respondents — Respondents Percentage 5.4%

Central Zone

South Zone

Sarawak — 987 Respondents — Respondents Percentage 10.7%

Sabah

Negeri Sembilan — 321 Respondents — Respondents Percentage 3.5%

Melaka — 277 Respondents — Respondents Percentage 3.0%

Johor — 1,059 Respondents — Respondents Percentage 11.5%

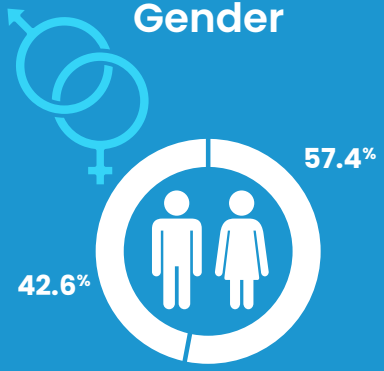
Sarawak

Sabah & Labuan — 975 Respondents — Respondents Percentage 10.6%

9,200 Respondents | 100%

Respondent Profile
Demography

Gender



Age Group



18-30	31-60	60+
42.2%	45.4%	12.4%

Marital Status



Divorced/ Seperated	2.1%
Widowed	3.7%
Single	43.5%
Married	50.7%

Income Group



T20	M40	B40
1.7%	15.9%	82.4%

Education Level



No formal education	2.9%
Primary School	3.3%
Secondary School	38.1%
Certificate/Diploma	33.2%
Degree & Above	22.5%

Ethnicity



Others	12.5%
Indian	8.0%
Chinese	20.5%
Malay	59.0%



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

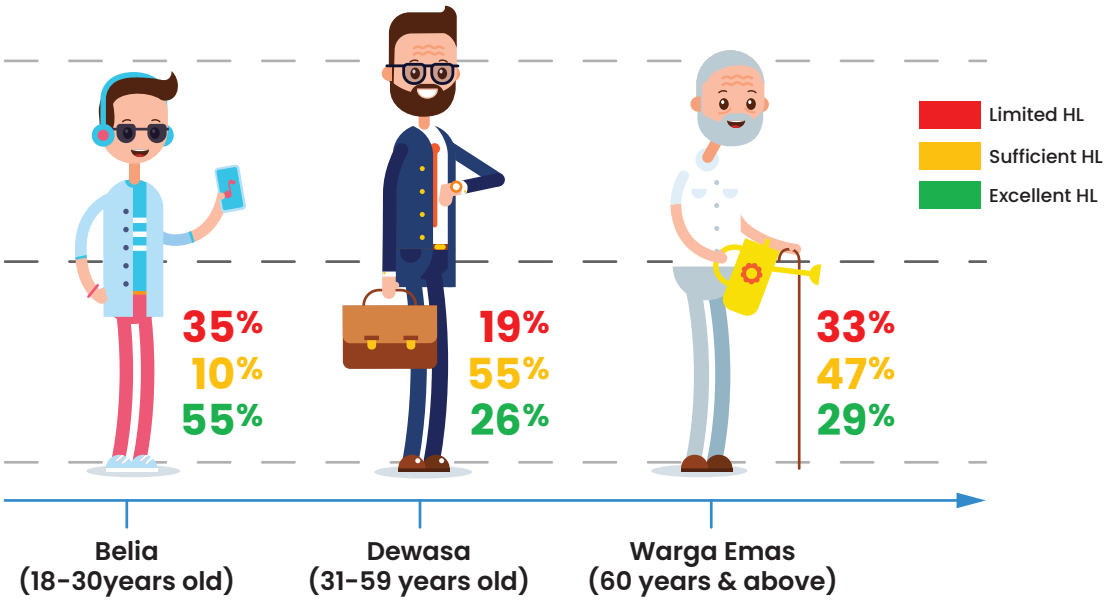
Scoring range from above 34 to 42: Fairly easy to access, understand, appraise and apply health-related information within the three domains of capacity or ability of individuals to obtain, process, understand, and use health information and services in order to make appropriate health decisions.

Excellent Health Literacy Level

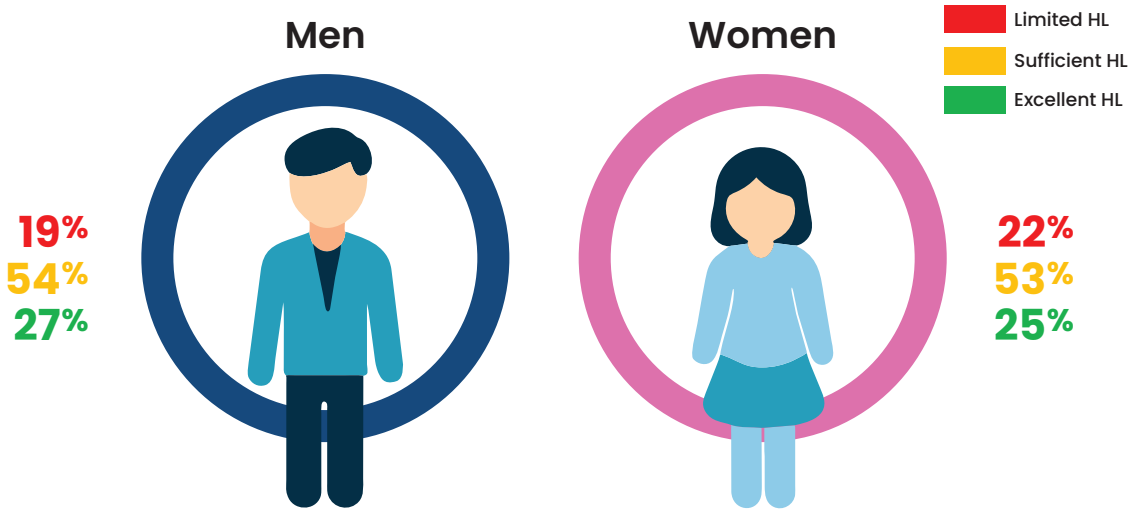
Scoring from above 43 and - 54 Very easy to access, understand and appraise and apply health-related information of healthy lifestyle within the three domains of healthcare.

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

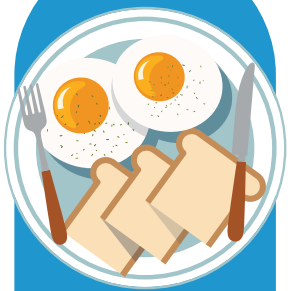
Healthy Plate Recommendation

Breakfast



6.4%	6.2%
10.6%	1.9%
11.0%	8.5%
6.5%	48.9%

Lunch

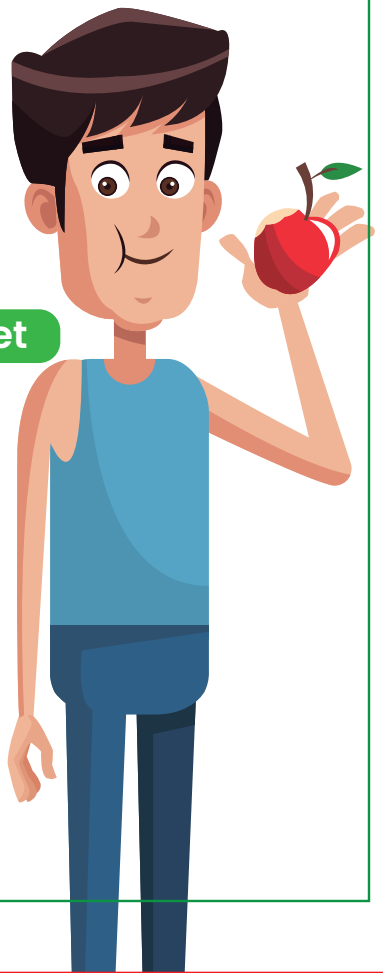


3.8%	10.2%
7.9%	3.5%
12.0%	13.4%
9.9%	39.3%

Dinner



4.8%	9.1%
8.7%	3.0%
12.5%	10.3%
9.7%	41.9%



Consumption of Fruits and Vegetables in Daily Diet

Fruit



6.9%	12.4%
16.3%	3.8%
24.5%	15.7%
16.2%	4.2%

Vegetable



3.6%	14.5%
8.8%	5.5%
16.7%	31.4%
15.6%	3.9%

- 1 day a week
- 2 day a week
- 3 day a week
- 4 day a week
- 5 day a week
- 6 day a week
- 7 day a week
- None

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



- 1 day a week
- 2 day a week
- 3 day a week
- 4 day a week
- 5 day a week
- 6 day a week
- 7 day a week
- None



Consumption of Milk and Milk Products in Daily Diet



- 1 day a week
- 2 day a week
- 3 day a week
- 4 day a week
- 5 day a week
- 6 day a week
- 7 day a week
- None

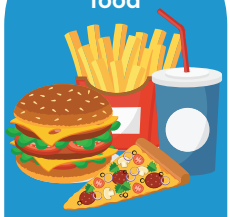
Consumption of Food's groups in Daily eating activities

Meals ordered/bought from outside



15.5%	22.7%
40.2%	21.6%

Fast food & processed food



19.0%	15.0%
49.0%	17.0%

Eat after 9pm



10.0%	21.0%
37.0%	32.0%

Drinks at least 6 glasses of plain water per day



12.0%	56.0%
30.0%	2.0%

Beverages with high sugar content



15.0%	25.0%
35.0%	25.0%

Food with high sugar content



18.0%	20.0%
15.0%	17.0%

Dished with high salt content



16.0%	18.0%
42.0%	24.0%

- Never
- 6-7 days
- 3-5 days
- 1-2 days

Supportive Environment

Easy access to healthy food



58.4%	31.9%
9.7%	

Easy access to healthy drinks



63.6%	28.3%
8.1%	

- Yes
- No
- Sometimes

Domain: Physical Activity Domain

Everyday
5-6 days
3-4 days
1-2 days
Never

Walking for more than 10 minutes per day



33.0% 13.7%
28.9% 4.6%
18.8%

Engaging in moderate intensity physical activity



15.2% 20.8%
13.9% 28.1%
22.0%

Estimate days engaging vigorous physical activity



5.4% 17.0%
5.5% 60.0%
14.1%

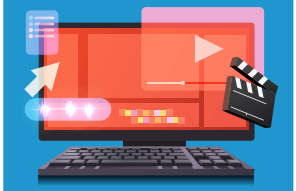
Physical Activity Culture in Daily Life

Willingness to exercise despite limitation



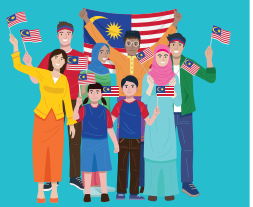
5.0% | 95.0%

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



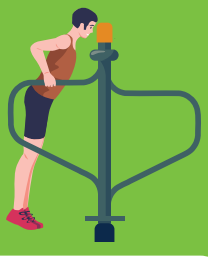
42.0% | 58.0%

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

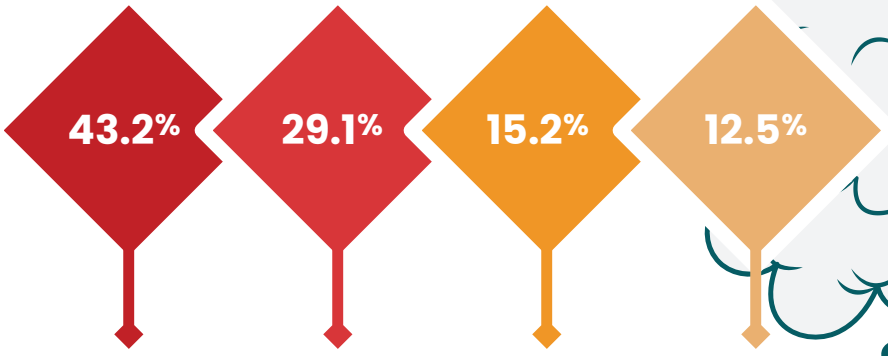
Non Smokers
Smokers

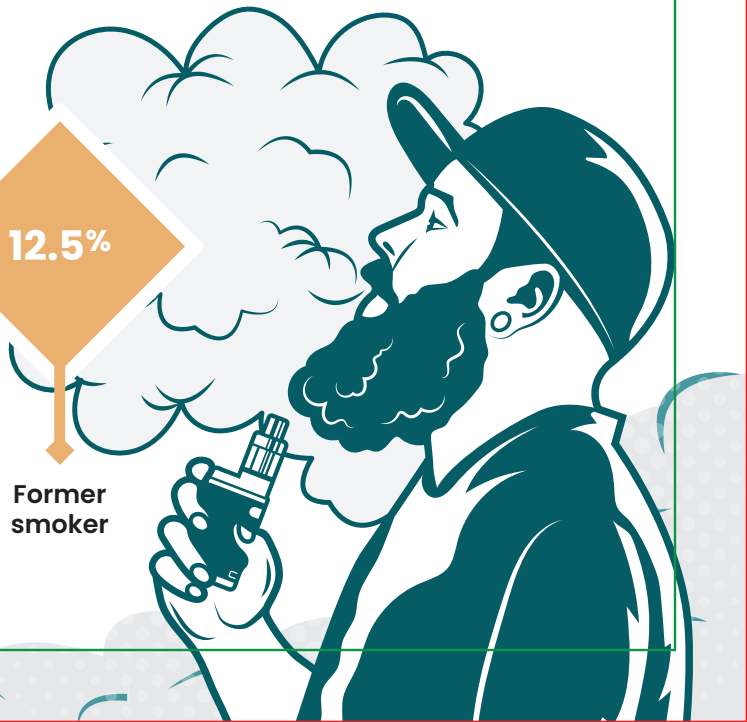




Everyday
Occasionally

Smoking status





Supportive Environment

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



37.0% 17.0% 46.0%

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



20.8% 47.3% 31.9%

No smoking area helps me to not smoke cigarrete or vapes



21.2% 45.3% 33.5%

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



37.0% 17.0% 46.0%

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



24.5% 58.5% 17.0%

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



23.3% 62.5% 14.2%

Not Applicable
No
Yes

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



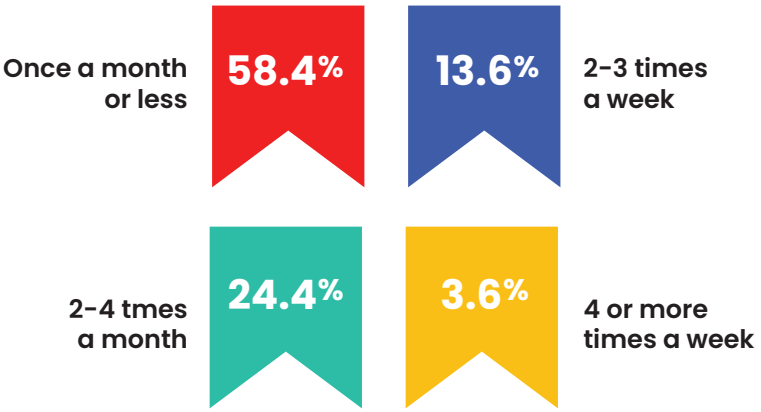
Domain: Healthy without Alcohol

Consumption of Food's groups in Daily eating activities

Alcohol Drinker
Non-Alcohol Drinker



Frequency of drinking alcohol beverage



Supportive Environment

Strongly Agree
Agree
Disagree
Strongly Disagree



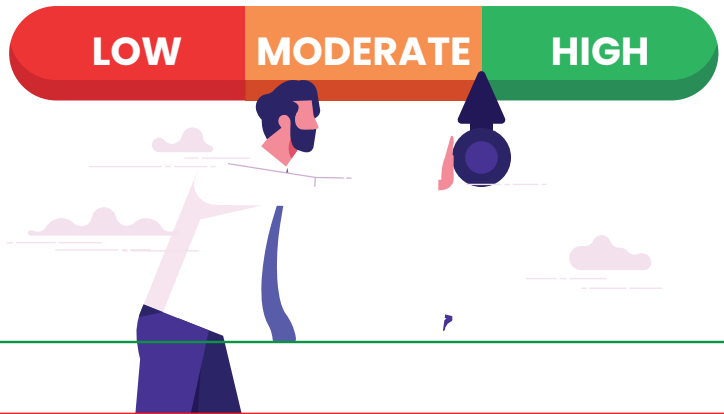






Domain: Mental Health

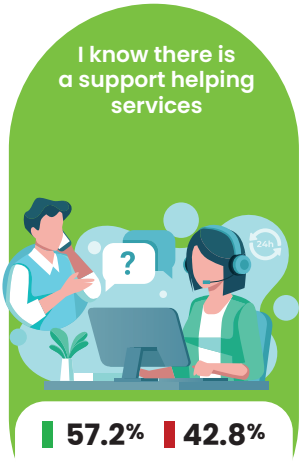
	LOW	MODERATE	HIGH
	54–70	37–53	19–36
 Psychological Health	5.9%	70.9%	23.3%
	9–18	19–28	29–36
 Social Well-being	0.4%	74.1%	25.5%
	7–13	14–20	21–28
 Spiritual Well-being	0.1%	3.8%	96.1%



Supportive Environment for Mental Health



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



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



57.7% were aware of online mental health support programme.



Positive Mental Health Practise

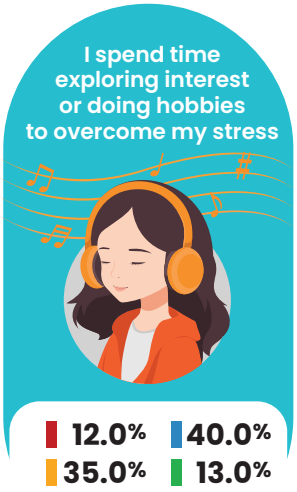
Despite the fact that the majority of respondents were aware of the public and private mental health services available:-



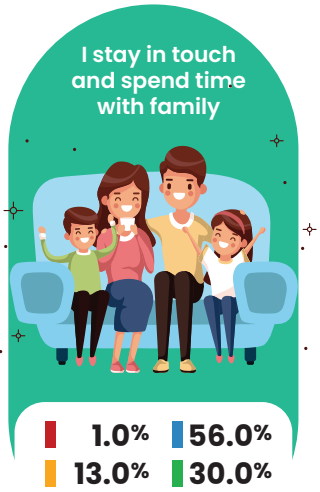
62.0% will never seek professional assistance.



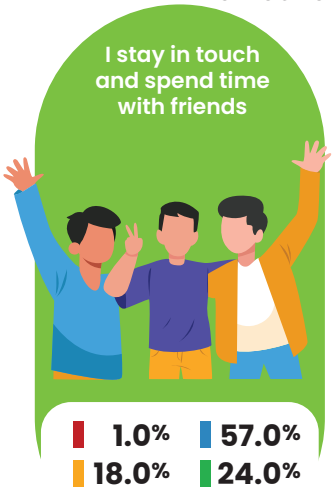
35.0% rarely practice relaxation techniques.



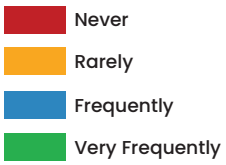
40.0% frequently take up activities or hobbies as their preferred method for stress management.



56.0% frequently stay in touch and spend time wtih family.



57.0% frequently discuss their problems with people they trust.



MalaysianHealthy 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 -Social well-being -Spiritual wel-being -Mental health practice	10 10 10 10	90 90 90 90
Healthy eat	-Healthy eating -Healthy food selection practice	0 0	7 2
Healthy without smoking	-	0	1

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



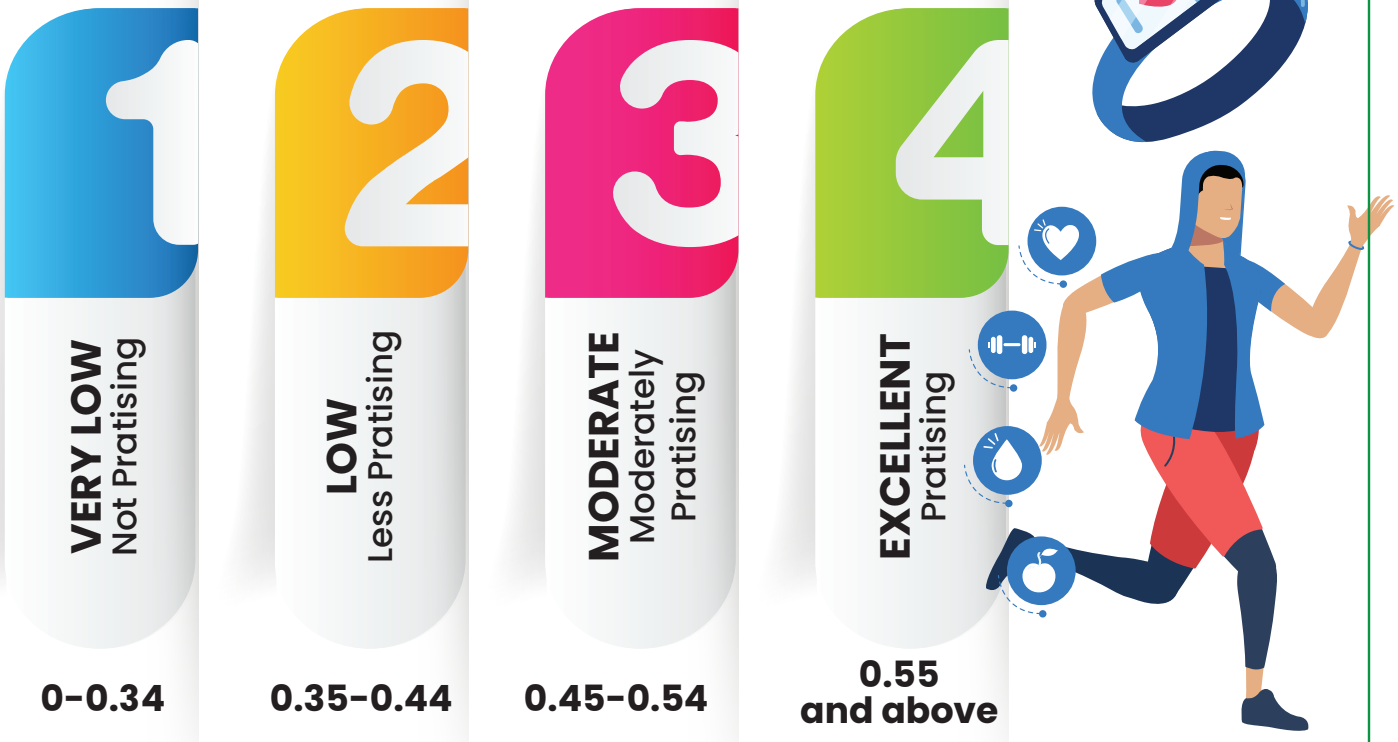
$$\text{Dimesion index} = \frac{\text{actual value - minimum value}}{\text{mazimum value - minimum value}}$$

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:
HLI = (I Physical activity x I Mental health x I Healthy eating x 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)



Overall Healthy Lifestyle Index

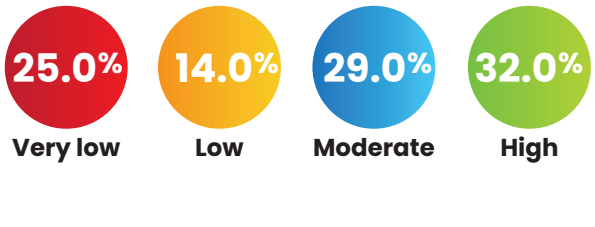
- 25.0% very low score (.34 and below)
- 14.0% low score (.35-.44)
- 29.0% moderate score (between .45 and .54)
- 32.0% high score (.55 and above)

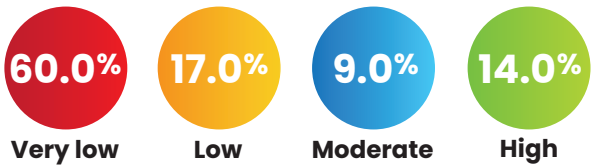




Physical Activity Dimension

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.

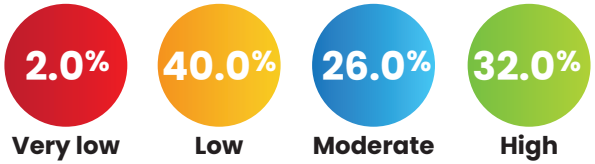




METs (Metabolic Rate) system	Calculation
METs walking/week	3.3 x walking minutes x walking days
Moderate activity METs/week	4.0 x minutes of moderate intensity activity xday
Heavy activity METs/week	8.0 x minutes doing high intensity activities x day

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)

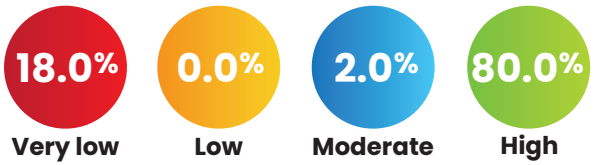






Healthy Without Smoking

- 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

Healty Mental Index



Psychological Health



Social Well-being



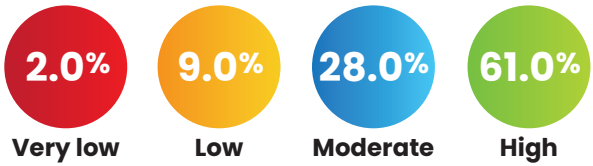
Spiritual Well-being



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



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 as- sessing 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