INSTITUTE FOR YOUTH RESEARCH MALAYSIA

MINISTRY OF YOUTH AND SPORTS

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MALAYSIAN YOUTH 2023
MENTAL HEALTH INDEX
(MyMHI'23)

INSTITUTE FOR YOUTH RESEARCH MALAYSIA & UNITED NATIONS CHILDREN'S FUND

MALAYSIAN Y☀UTH 2023
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(M_yMHI'23)

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Foreword

YB Hannah Yeoh
Minister of Youth and Sports

YOUTH are the driving force of our nation's future. They fuel the trajectory of growth, but they too frequently face challenges and pressures that can significantly affect their mental health status.

Recognising the critical role that youth play in shaping our collective destiny, the Ministry of Youth and Sports places a strong emphasis on youth mental health as a critical component of their overall development. This commitment goes beyond mere acknowledgement; it is a genuine pledge to nurture our youth's well-being, recognising that their mental health is inextricably linked to their growth and success.

As we navigate the complexity of the modern world, the necessity for comprehensive data and research on youth mental health in Malaysia has become increasingly apparent. In response to this imperative, we support the development of the Malaysian Youth Mental Health Index 2023 (MyMHI'23). This **ground-breaking effort, led by the Institute for Youth Research Malaysia (IYRES) and the United Nations Children's Fund (UNICEF)** with the guidance and support from various government agencies, youth organisations, and non-governmental organizations, represents a major step forward in **our collective commitment to understanding and improving youth mental health**.

The MyMHI'23 gives us an important overview of the mental health landscape of our youth. It is more than just a number; it serves as a catalyst for action, policies, and interventions that can make a significant difference in the lives of our youth. Recognising the inseparable link between physical and mental health, this initiative moves us towards a more comprehensive approach in addressing mental health challenges among youth. It encourages us to foster an environment in which both aspects of health are treated concurrently, and in doing so, safeguarding our youth's overall well-being.

Foreword

MENTAL health has long been recognised as an important component on the well-being of an individual. This has been amplified especially in the wake of the COVID-19 pandemic. We witnessed how this pandemic brought significant challenges to not only physical well-being, but also to mental health that needs to be given due attention.

The pressures of our fast-moving world, augmented by digitalisation and the inability to unplug from our devices and gadgets have also impacted our mental well-being.

Hence, interventions at various levels supported by a whole-of-society approach need to be deployed to address these mental health challenges. This need is echoed strongly by the Ministry of Youth and Sports (KBS), whereby we acknowledge the essential role of mental well-being for the holistic development of our youth. In response, KBS has initiated a range of policies and initiatives aimed at improving and promoting mental health among youths.

One such policy is the Madani Youth Development Model 2030 whereby mental health has been given due emphasis. However, these policy statements must be translated into tangible actions and initiatives. Among such initiatives include the creation of a Malaysian Youth Mental Health Index, through collaborative efforts between IYRES and UNICEF. **This effort represents a commitment to fully understand the specifics and complexities of the mental health landscape of Malaysian youth.**

This index systematically measures various elements connected with youth mental health, providing nuanced insights. Furthermore, it will serve as a significant decision-making tool, providing vital pictures that lead to the development of targeted interventions and policies. Research findings from this index will enable policymakers, healthcare professionals, families, and communities to successfully collaborate, fostering a supportive environment for our youth.

We at KBS hope that through this collaborative endeavour and publication, we not only recognise the importance of mental health among youths, but actively work to create a future in which mental health is a shared priority, contributing to a sustainable and healthy society in line with the aspirations of Malaysia Madani.

Ts. Dr Nagulendran Kangayatkarasu
Secretary General,
Ministry of Youth and Sports

Foreword

IYRES is fully committed to the current concerns among the Malaysian youth as a key national research institute responsible for conducting research as well as conferences and workshops on youth development.

Motivated by the need to address the various challenges that youth face, particularly in the realm of mental health, IYRES has conducted several initiatives to address youth mental health, including The International Conference for Youth 2023: Driving Inclusivity in Youth Mental Wellness, 2023 Malaysian Youth Mental Health Profile Study, Guideline on Addressing Malaysian Youth Mental Health Issues, and Round Table Discussion: Youth Mental Health.

Presently, **the development of the M$_y$MHI'23 is a ground-breaking milestone in the field of youth well-being not only in Malaysia but globally.** The index is an **important tool for assessing Malaysian youth mental health. Moreover, it provides stakeholders with vital information for informed decision-making and targeted interventions by offering a thorough grasp of the varied facets of youth mental health.** M$_y$MHI'23 reflects the shared commitment to prioritise young well-being, an important step in fostering a resilient, empowered, and mentally healthy youth population.

Dr Vellapandian Ponnusamy
Chief Executive Officer,
Institute for Youth Research Malaysia

Foreword

Robert Gass
Representative to Malaysia,
United Nations Children's
Fund

THE mental health of youth is among the most neglected health issues globally. Malaysia has made important progress in addressing child and adolescent mental health. National policy and legislative frameworks are broadly supportive by recognising, at least in part, the specific needs and considerations for this age group and the importance of a national, multisectoral approach to mental healthcare, prevention, and promotion.

The Malaysian Youth Mental Health Index 2023 (M_yMHI'23) provides us with updated data and evidence about the mental health status of youth aged 15 to 30 years across seven key areas. It is a valuable tool for policymakers and healthcare practitioners and equips mental health professionals with resources to tailor and adapt interventions to the needs of affected youth.

The M_yMHI'23 indicates that the prevalence of mental health risks among youth is significant enough to require our collective attention and action. This is particularly evident among the Orang Asli youth, where the risk is notably higher than in other groups. This disparity underscores the urgent need for targeted support in rural and indigenous communities. To effectively tackle these issues, **collaboration among healthcare providers, educational institutions, community organisations, and government agencies is essential**.

I would like to thank the Institute for Youth Research Malaysia (IYRES) for their partnership in producing this report. We hope the insights and the focus on youth's needs will empower stakeholders to formulate a comprehensive action plan. This plan should focus on expanding mental health services where most needed and establishing resilient support mechanisms. Such efforts should encompass peer, family, and community support, ensuring that the youth in Malaysia, regardless of their background, have access to the mental health resources they need.

Good mental health for youth is critical. It benefits their ability to learn, adapt, and engage meaningfully with society. **It is our shared responsibility to offer essential support, allocate resources, and create nurturing environments that guarantee holistic health and well-being for every youth in Malaysia**.

Acknowledgement

Your collective efforts have undoubtedly made a lasting impact on our shared mission.

List of Abbreviations

AKPK	Credit Counselling and Debt Management Agency
COVID-19	Coronavirus disease
HiTS	*Hidangan Berkhasiat di Sekolah*
IHBR	Institute for Health Behavioural Research
IYRES	Institute for Youth Research Malaysia
KBS	Ministry of Youth and Sports
KKD	Ministry of Communications and Digital
LPPKN	National Population and Family Development Board
MCMC	Malaysian Communications and Multimedia Commission
MENTARI	Community Mental Health Centre
MHPSS	Mental Health and Psychosocial Support
MOE	Ministry of Education
MOH	Ministry of Health
MSCI	Malaysian Sports Culture Index
MYI	Malaysian Youth Index
M$_y$MHI'23	Malaysian Youth Mental Health Index 2023
NGO	Non-Governmental Organization
NHMS	National Health Morbidity Survey
PIBG	Parents Teachers Association
PPR	People Housing Project
SDGs	Sustainable Development Goals
UNICEF	United Nations Children's Fund
UTC	Urban Transformation Centre
WHO	World Health Organization

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Research Team Members

Advisor

Dr Vellapandian Ponnusamy
Chief Executive Officer
Institute for Youth Research Malaysia
Ministry of Youth and Sports

Principal Investigator

Dr Faridzah Jamaluddin
Senior Research Executive
Institute for Youth Research Malaysia
Ministry of Youth and Sports

Research Team

Professor Dr Haslinda Abdullah
Director
Institute for Social Science Studies
Universiti Putra Malaysia

Associate Prof. Dr Amer Siddiq Amer Nordin
Director
Community Engagement Centre
Universiti Malaya

Associate Prof. Dr Mohammad Rahim Kamaluddin
Criminologist
Faculty of Social Sciences and Humanities
Universiti Kebangsaan Malaysia

Associate Prof. Dr Suzaily Wahab
Consultant Psychiatrist
Hospital Canselor Tuanku Muhriz
Universiti Kebangsaan Malaysia Medical Centre

Dr Hayrol Azril Mohamed Shaffril
Social Research Officer
Institute for Social Science Studies
Universiti Putra Malaysia

Dr Hamizah Sahharon
Senior Lecturer
Faculty of Communication and Media Studies
Universiti Teknologi MARA

Professor Dr Muhammad Hisham Lee
Professor Statistics
Faculty of Science
Universiti Teknologi Malaysia

Associate Prof. Dr Nerda Zura Zaibidi
Deputy Dean (Research and Innovation)
School of Quantitative Sciences
Universiti Utara Malaysia

Ms. Hayon Nam
Chief of SBC/ Adolescent Development and
Participation Officer
UNICEF Malaysia

Dr Su Tein Sim
Program Officer
Mental Health and Psychosocial Support
UNICEF Malaysia

Ms. Jessica Sercombe
Adolescent Development and Participation Officer
UNICEF Malaysia

Ms. Shahhanim Yahaya
Senior Research Executive
Institute for Youth Research Malaysia
Ministry of Youth and Sports

Ms. Mastura Mohamad
Senior Research Executive
Institute for Youth Research Malaysia
Ministry of Youth and Sports

Ms. Shariffah Mamat
Senior Research Executive
Institute for Youth Research Malaysia
Ministry of Youth and Sports

Ms. Nurul Alya Mohamed Adnan
Research Executive Assistant
Institute for Youth Research Malaysia
Ministry of Youth and Sports

Ms. Syakirah Kamarulzaman
Research Assistant
Institute for Youth Research Malaysia
Ministry of Youth and Sports

Reviewers

Dr Vellapandian Ponnusamy
Chief Executive Officer
Institute for Youth Research Malaysia
Ministry of Youth and Sports

Dr Mohammad Fadzly Marzuki
Public Health Specialist
National Centre of Excellence for Mental Health
Ministry of Health

Dr Mohd Faiz Nazim Baidilleh
Medical Doctor
Hospital Sibu
Ministry of Health

Ms. Hayon Nam
Chief of SBC/ Adolescent Development and
Participation Officer
UNICEF Malaysia

Dr Su Tein Sim
Program Officer
Mental Health and Psychosocial Support
UNICEF Malaysia

Ms. Sharon Kwai Yan Lee
Planning, Monitoring and Evaluation Officer
UNICEF Malaysia

Ms. Jui Yee Eng
Nutrition Specialist
UNICEF Malaysia

Ms. Juanita Vasque Escallon
Chief Social Policy
UNICEF Malaysia

> **Being mentally healthy at the early life** stage instills the capacity to be mentally healthy **throughout life**.
>
> UNICEF 2023

Executive Summary

The Malaysian Youth Mental Health Index 2023 Study is a collaboration between the Institute for Youth Research Malaysia (IYRES) and the United Nations Children's Fund (UNICEF) Malaysia.

Malaysia has pioneered the development of the Youth Mental Health Index globally and in ASEAN. Malaysian Youth Mental Health Index 2023 ($M_yMHI'23$) is an essential tool for assessing the mental health level of youth aged 15 to 30 in Malaysia.

It provides a helpful snapshot for policymakers, healthcare practitioners, and relevant stakeholders to understand the mental health landscape of Malaysian youth. This index is essential for making informed decisions and developing targeted interventions.

The $M_yMHI'23$ assessed the mental health of Malaysian youth on a scale of 0 (lowest) to 100 (highest) across seven key areas (i.e., lifestyle, surrounding environment, personal characteristics, life experience, social support, coping mechanism, and healthy mind). Survey findings from 5,867 participants indicated that Malaysian youth, as a whole, face a moderate risk of mental health issues, reflected in an overall index score of 71.91. Notably, disparities are evident in the Orang Asli youth, indicating a pressing need for specialised interventions. These findings call for an integrative approach backed by policy evolution, community mobilisation, and robust family support, mirroring the multi-dimensional framework advocated by UNICEF's 2021 report.

At the governance and policy level, recommendations include creating non-congested living spaces with ample facilities and establishing community halls to foster an active lifestyle. Mental health services must be expanded, with an emphasis on community-based initiatives. Strategies also include the promotion of mental health hotlines, the development of mental health apps, and extending support groups.

> For family and youth, the focus should be on enabling young individuals to identify and cultivate their unique capabilities.

In community interventions, enhancing mental health literacy is crucial, as is the fortification of mental resilience through targeted awareness initiatives and leadership training. Educational bodies must embed mental health awareness in academic settings, and employers should prioritise workplace mental health education. The media's portrayal of mental health requires careful consideration to ensure the dismantling of stereotypes and stigma.

For family and youth, the focus should be on enabling young individuals to identify and cultivate their unique capabilities. It is essential for parents and educators to support this journey towards self-awareness, which bolsters self-esteem and societal contribution. Key domains where parental influence is paramount include fostering mental health awareness, advocating positive parenting techniques, guiding sound financial practices, and encouraging healthy lifestyle.

For the future, the Malaysian Youth Mental Health Index should be a recurring study to monitor trends. Focusing on the establishment of a National Steering Committee for youth mental health is imperative. A comprehensive Youth Mental Health Action Plan is needed to guide stakeholders in promoting mental health and preventing mental health issues among youth.
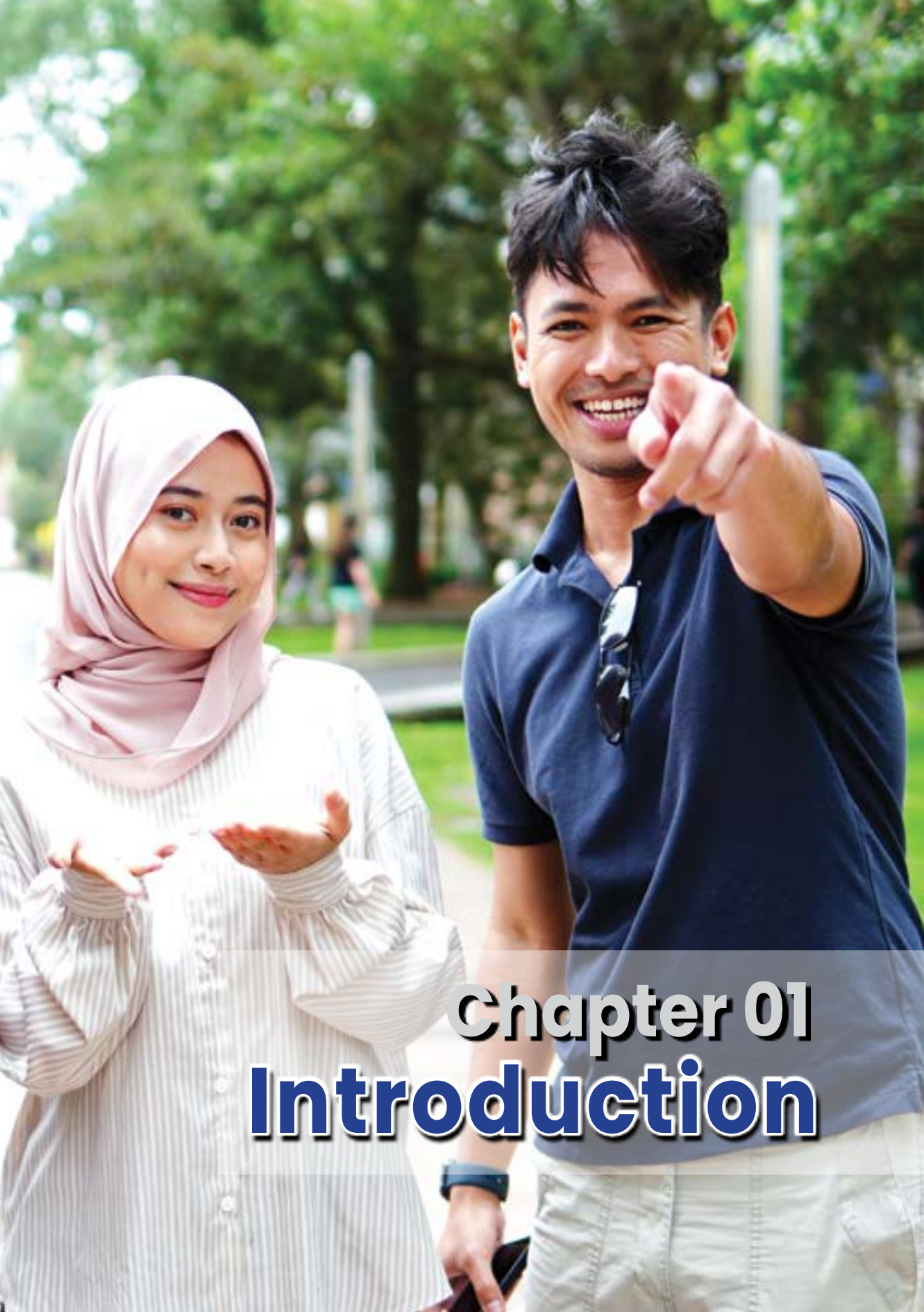
Chapter 01
Introduction

1.1   Research background

In an era characterised by rapid changes, increasing stressors, and involving societal norms, the significance of mental health has risen to an unprecedented height. Mental health, often regarded as the cornerstone of good physical, financial, and social health, encompasses the emotional, psychological, and social aspects of an individual's life. It plays a vital role in shaping how we think, feel, and interact with the world around us. Just as physical health is crucial, mental health is equally essential for leading a fulfilling and meaningful life. Embracing mental health as a fundamental aspect of human flourishing might be the pathway to a healthier and more harmonious world. With the inclusion of promoting mental health in the Sustainable Development Goals (SDGs), notably Goal 3 and Target 3.4, mental health is currently transitioning from an unseen problem to a worldwide concern.

However, mental health conditions are extremely common in all countries, with approximately 970 million people suffering from mental health issues in 2019. In other words, one in every eight people suffered from mental health disorders globally, with depressive and anxiety disorders the most common [1]. According to the World Health Organization (WHO), one in seven of the population aged between 10 to 19 years experiences a mental disorder and accounts for 13 per cent of the global burden of disease among people within this age range [2]. Mental disorders are known risk factors for suicide and the worst situation is that suicide is the fourth leading cause of death among young people aged 15 to 29 years [2].

The mental health situation in Malaysia also has reached a worrying state with the rising number of cases and statistics. For instance, data from the National Health Morbidity Survey (NHMS) 2019 showed that 2.3 per cent, or about half a million adults aged 18 and above in Malaysia were found to have depression [3]. Furthermore, a total of 424,000 or 7.9 per cent of Malaysian children aged 5 to 15 years suffered from mental health problems [3] and a rise was seen compared to the findings of 2015. Recently, NHMS: Adolescent Health Survey 2022 has revealed a troubling trend of increasing suicidal thoughts and attempted suicide among Malaysian teenagers in the past five years [4]. According to the survey findings, the prevalence of suicidal thoughts increased from 10 per cent in 2017 to 13.1 per cent among students aged 13 to 17 years in Malaysia last year. Similarly, the rate of attempted suicides among Malaysian students rose from 6.9 per cent in 2017 to 9.5 per cent in 2022. In addition to the rising rates of suicidal thoughts and attempts, the NHMS 2022 also exposed a considerable number of students experiencing depression. A quarter of the respondents reported feelings of depression [4]. A research investigation conducted in 2023 by the Institute for Health Behavioural Research (IHBR) discovered some concerning statistics about the mental health well-being of adolescents aged 10 to 17 years living in Klang Valley's People's Housing Project (PPR)[5]. A significant 12.3 per cent of adolescents in Klang Valley's PPR reported psychological distress. Within this group, 10.7 per cent displayed symptoms of depression, while 7.2 per cent exhibited symptoms of anxiety. Surprisingly, 13.4 per cent, or a total of 212 adolescents, reported

having thoughts related to suicide and self-harm [5]. Moreover, the 2022 Malaysian Youth Index (MYI'22) findings showed the Mental and Physical Well-Being Domain of youth aged 15 to 30 years remained moderately satisfactory, with less than 5 per cent or a 3.32 score increases in 2022 compared to 2021 [6]. A very recent Malaysian Youth Mental Health Profile Study by the Institute for Youth Research Malaysia (IYRES) revealed that Malaysian youth aged between 15 to 40 years are more prone to be anxious and depressed. Six in every ten youth experience mild to severe depressive symptoms, and three in every ten youth have moderate to severe anxiety symptoms [7]. These survey findings revealed an alarming deterioration in Malaysian youth mental health status, emphasising the importance of providing timely and suitable actions in promoting and protecting youth mental health in Malaysia.

The transition from adolescence to adulthood is a critical development stage, characterised by emotional, physical, and psychological changes. Youth are susceptible to various stressors, including academic or work pressures, social challenges, family relationships, and identity exploration. These stressors can lead to the development of mental health issues such as depression and anxiety. Youths play a vital role in nation-building and have the ability to help a country develop and progress. Therefore, having young people with good mental health is crucial. The Malaysian government has made various efforts to improve and promote mental health for the entire population, such as in terms of legislation (e.g., Mental Health Act 2001 (Act 615), Mental Health Act and Regulations (2010)), strategic plan (e.g., National Strategic Plan for Mental Health

2020-2025), and facilities and resources (e.g., Community Mental Health Centre or MENTARI, 1,080 health clinics, four mental institutions and 62 hospitals, Talian HEAL since 21st October 2022). For instance, in 2020, the Ministry of Health Malaysia (MOH) developed the National Strategic Plan for Mental Health 2020-2025, with the goals of promoting mental health well-being, preventing mental disorders, and providing care. This plan also includes various actions targeting the youth population under several strategies. Youth mental health is a public health priority and the Malaysian Ministry of Youth and Sports (KBS) has kickstarted various initiatives to address mental health problems, especially among youth. To name a few, these initiatives are webinars and forums (e.g., Are Youth Okay?, Dealing With Mental Disorders During Lockdown, Mental Adjustment In Times of Crisis), round table discussion (e.g., Youth Mental Health), and workshops (e.g., Anxiety & Depression). Recently, IYRES produced a Guideline on Addressing Malaysian Youth Mental Health Issues [8]. This guideline is vital, as a reference to youth and youth development stakeholders. Besides, it also aims to expose youth and community to mental health as well as mental health issues.

The initiatives mentioned above improved the mental health of the Malaysian population in general and specifically for youth. However, to effectively address the mental health scenarios among youth, the use of the index in measuring youth mental health is becoming increasingly important. A mental health index provides a comprehensive assessment of youth mental well-being, as it encompasses a range of factors that are associated with youth mental health. Besides, by

considering multiple factors, the youth mental health index presents a holistic picture of the mental health status of youth in Malaysia, enabling policymakers, researchers, healthcare professionals, and non-governmental organizations (NGOs) to identify areas of concern and implement targeted interventions and programmes.

The concept of the mental health index has emerged as a powerful tool in addressing the complexities of mental well-being in today's world. However, the lack of mental health indices indicates a critical research gap that needs to be addressed. TELUS Mental Health Index, AXA Mind Health Index, and Headway-Mental Health Index are examples of mental health indices. TELUS Mental Health Index measures the current mental health status of employed adults amidst the Coronavirus disease (COVID-19) pandemic across several countries. The AXA Mind Health Index by AXA and the Headway-Mental Health Index focus on the overall population, and none of the existing mental health indices focus specifically on the youth mental health index. As a result, the level of mental health among youth remains unknown, highlighting the importance and urgency of conducting research in this area. Therefore, IYRES in collaboration with the United Nations Children's Fund (UNICEF) developed the Malaysian Youth Mental Health Index 2023 (MyMHI'23) to measure the mental health level of Malaysian youth. This study targeted youth aged 15 to 30 years, including youth with careers, youth at large, youth in school, youth in higher education, youth at risk, minority and marginalised youth, and international Malaysian youth. The MyMHI Study 2023 was conducted from June 2022 to July 2023 and employed a quantitative method via survey.

1.2   Research objectives

General objective

To determine the level of mental health among Malaysian youth aged 15 to 30 years.

Specific objectives

1. To **develop** an index that can be used as a benchmark for measuring the level of youth mental health and can therefore be monitored regularly.

2. To **create** Malaysian Youth Mental Health Index core indicators and domains.

3. To **gather** perspective and input from youth development stakeholders to address and protect youth mental health.

4. To **contribute** to the development of action plans or policies that address mental health issues among youth.

1.3 Significance of the research

The following are the significances of the research:

Malaysian Youth Mental Health Index 2023 (M$_y$MHI'23) as a **benchmark** in measuring Malaysian youth mental health

Malaysia became the first country in the world and ASEAN to **develop** the Youth Mental Health Index

Produce a systematic assessment report for monitoring Malaysian youth mental health

Provide empirical input for the development of national mental health policies, strategies, and directions, aimed at improving the mental health of Malaysian youth

Serve as referrals for local, national, and international planning and implementation of youth mental health-related interventions and programmes

Chapter 02
The Development
of M_yMHI'23

2.1 Definition of mental health

Mental health does not exist on its own. It is an integral and essential component of overall health, which can be characterised in at least three ways: as the state of equilibrium where the individual is at peace with themselves, can function effectively socially, and care for their own basic needs and additional needs [9]. Mental health provides an individual with a sense of worth, control, and understanding of internal and external functioning. An individual in a state of good mental health will have a strong sense of self and others; they will be able and willing to form positive relationships and yet, be comfortable in their own company. Mental health is a dynamic state of internal equilibrium that enables individuals to use their abilities in harmony with the universal values of society [10]. Important components of mental health include basic cognitive and social skills, the ability to recognise, express, and modulate one's own emotions as well as empathise with others, flexibility and the ability to cope with adverse life events, function in social roles, and maintain a harmonious relationship between body and mind. These contribute, in varying degrees, to the state of internal equilibrium. The universal values refer to respect for the environment; respect for one's own and others' freedom. The concept of a "dynamic state of internal equilibrium" is meant to reflect the fact that different life epochs (e.g., youth crises, marriage, career, or becoming a parent) require an active search or changes for a new mental health equilibrium. Meanwhile, the WHO defined mental health as a state of mental well-being that allows people to cope with life's stressors, realise their strengths, learn, work effectively, and contribute to their community. It is an essential component of health and well-being that supports our individual and society's ability to make decisions, form connections, and change the world we live in [11]. In this context, youth mental health well-being is defined as the ability of young people to express emotions, engage in ways of thinking, adopt healthy coping mechanisms, make decisions, and develop positive connections in dealing with life, leading towards a more prosperous existence [7].

2.2 M$_y$MHI'23

2.2.1 M$_y$MHI'23 conceptual research framework

The M$_y$MHI'23 is comprised of seven domains and 28 indicators: lifestyle domain, surrounding environment domain, personal characteristics domain, life experience domain, social support domain, coping mechanism domain, and healthy mind domain, as depicted in **Figure 1.** The inclusion of these domains and indicators resulted from extensive brainstorming, syndication, and a series of discussions with a wide range of stakeholders, including ministries, departments, agencies, and others. Furthermore, national and international published documents were used as primary references for determining the significant and critical domains and indicators to be included. These are critical for a holistic assessment. The Malaysian Youth Mental Health Index should consider a wide range of elements that influence the mental health of Malaysian youth, as they differ greatly from those of children and adults.

Figure 1. M_yMHI'23 conceptual research framework
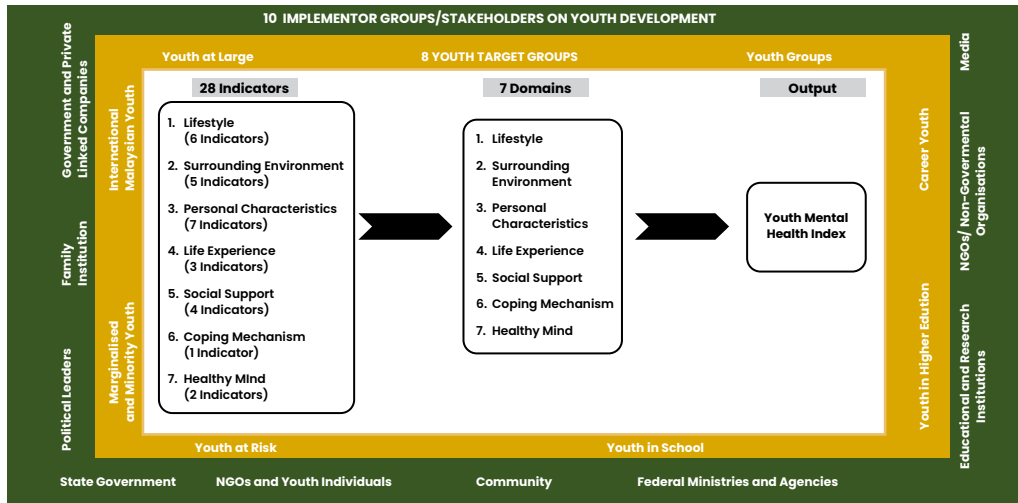
2.2.2 Rationale for the M_yMHI'23 domains

The domains that constitute the M_yMHI'23 reflect some of the essential areas that influence youth mental health. As a multidimensional concept, youth mental health is dependent on a wide range of factors that influence an individual's mental health in the transition from childhood to full adulthood. Backed by research evidence, all seven domains presented in **Figure 2** are weighted equally in the M_yMHI'23.

Figure 2. Malaysian youth mental health index domains

Lifestyle

Youth mental health is impacted by the lifestyle decisions that they make every day. Every facet of a youth's lifestyle, from daily routines to leisure activities, dietary patterns to exercise habits, and social interactions to risky behaviours, can have an impact on their mental health. In general, during this period between childhood and adulthood, youth gain more autonomy in lifestyle choices, including their physical activity, eating behaviour, and food choices. Inactive young people aged 15 to 35 years, for example, have been linked to an increased risk of mental problems. They were likely to acquire depression, anxiety, and other mental problems [12]. Maintaining high levels of physical activity, on the other hand, has been found as a potential approach for reducing symptoms of depression and anxiety in young people [13]. Physical activity appears to be an effective intervention for reducing depression or depressive symptoms in children and youth [14]. In terms of dietary patterns, unhealthy dietary patterns (e.g., refined grains, oils, sweetened beverages, processed meats, high-fat dairy, snacks, and sweets) increased the odds of depression, while healthy dietary patterns (high in fruits and vegetables, low-fat dairy, whole grains, nuts, and olives) decreased the odds ratio [15]. Brazilian adolescents aged 12 to 17 years with a healthy eating pattern that included more vegetables, meats, grains, and legumes had a lower risk of anxiety and depression [16]. The abovementioned examples demonstrate how leading a healthy lifestyle can assist in promoting and maintaining good mental health, thus preventing mental disorders from developing or deteriorating a good mental health.

Surrounding environment

The surrounding environment plays a pivotal role in shaping the mental health of youth. In an age characterised by rapid urbanisation, technological advancements, and evolving societal norms, various aspects of a surrounding environment such as social media, physical environment, safety, social expectations, and family environment collectively influence youth mental health. For instance, while social media offer connections and various opportunities, they also impact youth mental health. Swedish women aged 18 to 34 years with frequent social media use and a high number of social media contacts were more likely to have poor mental health [17]. The frequency of Instagram use was positively correlated with depressive symptoms, anxiety, and self-esteem issues in a cohort study of 129 women between 18 and 35 years of age [18]. Similarly, in another study, more frequent use of Instagram was significantly associated with depression among youth aged 18 to 29 years [19]. Meanwhile, social media comparison can lead to low self-esteem [20–23], anxiety [22], and depression [19]. In addition, cyberbullying has become more common as social media has grown and is accompanied by negative mental health consequences. Cyberbullying has been associated with increases in social anxiety [24–26], generalised anxiety [26], depression [27], and suicidal ideation [28–30] among school, college, or university students. Therefore, providing youth with good and positive surrounding environment is crucial for their mental health.

Personal characteristics

Youth require a unique set of personal characteristics that play a pivotal role in shaping their mental health. Self-worth and resilience, for example, serve as the inner compass for youth as they navigate the challenges of an evolving environment and world. The more youth believed they could bounce back from adversity quickly, the fewer mental health issues they had [31].

Life experience

The journey from childhood to adulthood is marked by a series of life experiences that shape the identity, perspectives, as well as mental health of youth. These experiences, including abuse, bullying, and stigma and discrimination have lasting effects on youth mental health. For instance, the trauma associated with abuse can lead to a range of mental health issues, including post-traumatic stress disorder [32,33], nonsuicidal self-injury [33], depression [34–36], and suicidal ideation [36]. Previous meta-analysis found that nearly half of the individuals with depression in the 184 studies had a history of childhood abuse and neglect [37]. The emotional wounds from childhood abuse can impact the way youth perceive themselves and their relationships with others. Meanwhile, bullying is a predictive or risk factor of depression and anxiety among young individuals aged between 14 and 18 years [38], 10 and 17 years [39], and 12 and 18 years [40]. Furthermore, bullying can erode self-esteem [41–43], making it difficult for youth to develop a strong sense of identity and cope effectively with stressors.

Social support

In the journey from childhood to adulthood, the role of social support cannot be understated. The influence of family members, friends, spouse or romantic partners, and professional experts on youth mental health is profound and far-reaching. These support systems serve as pillars of strength, sources of comfort, and outlets for emotional expression, playing a critical role in shaping youth mental health and well-being. For example, friends provide a platform for sharing experiences, coping with challenges, and receiving encouragement. Meanwhile, the emotional bonds, guidance, and sense of belonging fostered by family members contribute to positive youth mental health outcomes. Families are an important development context for youth, and family support has been linked with increased well-being across several domains, including lowering distress [44], depression [45,46], and substance use [47].

Coping mechanism

In the intricate tapestry of youth development, the diversity of challenges, uncertainties, and transitions demand efficient coping mechanisms. Coping mechanisms, in terms of stress management techniques, play a vital role in shaping youth's mental health. These techniques help young people navigate the complexities of life, handle pressures, and develop resilience in the face of adversity. Mindful breathing meditation, for instance, has been shown to reduce anxiety and stress in university students [48].

Healthy mind

In the intricate landscape of youth mental health, the pursuit of a healthy mind is of paramount importance. The challenges and transitions that characterise the journey from childhood to adulthood has a relatively significant impact on mental and emotional well-being. For instance, the weight of depressive symptoms can dampen self-esteem [49] and lead to a sense of isolation. Besides, most well-being indicators, such as functional well-being, emotional well-being, physical well-being, social well-being, and peace were significantly lower in those who had clinical depression or anxiety [50].

2.2.3 Domains and indicators of M$_y$MHI'23

The M$_y$MHI'23 study measured the index using seven domains and 28 indicators, as illustrated in **Figure 3**.

Figure 3. Domains and indicators of M$_y$MHI'23

Domains						
Lifestyle	Surrounding environment	Personal characteristics	Life experience	Social support	Coping mechanism	Healthy mind

Indicators

• Level of health • Food intake • Finance • Risk behaviour • Social relationship • Life balance	• Social media • Physical environment • Safety • Social expectation • Family environment	• Self-worth • Autonomy • Life purpose • Emotional regulation • Spirituality • Resilience • Self-efficacy	• Abuse • Bullying • Stigma and discrimination	• Friends • Family members • Significant others • Experts	• Stress management	• Depression • Anxiety

2.2.4 Operational definition of domains and indicators

Following are the operational definitions of seven domains and 28 indicators of M$_y$MHI'23.

Figure 4. Operation definition of domains and indicators of M$_y$MHI'23

Domains and indicators		Operational definition
Lifestyle The pattern of behaviours, choices, activities, habits, and routines that encompasses various areas of an individual's daily life	**Level of health**	The evaluation of an individual's overall health as well as their ability to engage in daily activities such as physical activities and exercise
	Food intake	The types, quantities, and frequency of foods and water consumed by an individual
	Finance	Strategic planning, utilisation, and allocation of financial resources by an individual or their family
	Risk behaviour	Encompasses actions, choices, or decisions that pose potential harm, danger, or negative consequences to an individual's physical and mental well-being, as well as safety. The behaviours include reckless riding or driving, racing, gambling, and pleasurable risky activities
	Social relationship	An individual's ability to build an interconnected network of relationships, interactions, and affiliations with their family, friends, colleagues, and other individuals within their social circles
	Life balance	Making deliberate judgments to devote time and resources to various activities while avoiding overcommitment or neglect of any one area
Surrounding environment The surrounding physical, social, and psychological environment in which an individual lives, learns, interacts, and engages in	**Social media**	Concentrating on social media platforms where individuals can connect, communicate, and interact with one another
	Physical environment	The environment, settings, and external situations an individual lives, learns, and engages in
	Safety	The level of protection and security provided by the physical environment in which an individual lives, learns, and engages in
	Social expectation	Unwritten rules and beliefs that an individual should conform to in terms of behaviour and what determines success, based on their social and cultural settings
	Family environment	The physical, emotional, and social environment in which an individual grows, develops, and interacts with their family members

Domains and indicators		Operational definition
Personal characteristics Individual characteristics, qualities, and attributes that define and distinguish individuals from one another	**Self-worth**	An individual's intrinsic value, sense of deservingness, and view of their significance
	Autonomy	The ability and freedom to make independent decisions, choices, and actions that reflect the preferences, values, and goals of an individual
	Life purpose	Clear sense of direction and goals that create meaning in an individual's life
	Emotional regulation	Ability to recognise, understand, and manage one's own emotions in a variety of events and scenarios
	Spirituality	An individual's sense of meaning, purpose, and connection to something larger than themselves, whether it is a higher power or a sense of interconnection with the universe
	Resilience	The ability to adapt, recover, and thrive in the face of adversity and obstacles
	Self-efficacy	One's ability, competence, and efficacy in completing tasks, overcoming problems or challenges, and achieving desired outcomes
Life experience A collection of diverse and significant events, interactions, and challenges that shape personal growth, perspective, and understanding of the world	**Abuse**	Individual rights, safety, and dignity are violated, leaving individuals exposed to long-term physical and psychological harm
	Bullying	Form of abuse that is intended to humiliate, intimidate, or harm an individual physically, emotionally, or psychologically
	Stigma and discrimination	Individuals' and society's collective negative attitudes, beliefs, acts, or behaviours are directed at individuals based on certain characteristics
Social support Family members, friends, and others within an individual's social network who provides physical and tangible help, care, guidance, and emotional connection	**Friends**	Emotional, practical, and social help is provided by friends within an individual social networks
	Family members	Emotional, practical, and caring support by family members, especially parents and siblings
	Significant others	Emotional, psychological, and practical support by individuals with prominent roles in an individual's life
	Experts	Assistance, guidance, and expertise are offered by trained and qualified professionals

Domains and indicators		Operational definition
Coping mechanism Adaptive techniques, actions, ideas, and emotional responses to handle and navigate the challenges, pressures, and demands an individual faces in their lives	**Stress management**	Techniques for coping with, to reduce, or to alleviate the physical, emotional, and psychological effects of stress
Healthy mind The assessment of an individual's mental well-being in terms of the presence of emotional disturbances or disruptive feelings that may affect their daily functioning	**Depression**	A complex and persistent mental health condition characterised by a range of emotional, cognitive, and physical symptoms, such as prolonged periods of low mood or sadness, and lack of interest or pleasure in activities that were previously enjoyed
	Anxiety	Mental health conditions characterised by excessive and persistent worry, fear, or apprehension about various aspects of an individual's life

2.3   Classification of M$_y$MHI'23 score

The M$_y$MHI'23 score reported findings using values ranging from 0 to 100, where a score of 0 is the lowest possible score and 100 is the highest possible score. The higher the score, the lower the risk of youth facing mental health issues. In contrast, the lower the score, the greater the risk of youth facing mental health issues. As depicted in **Figure 5**, the M$_y$MHI'23 score is divided into four categories: very dissatisfactory, dissatisfactory, moderately satisfactory, and satisfactory. The detailed explanation for each category is presented in **Figure 6**.

Figure 5. M$_y$MHI'23 score level

Very Dissastisfactory	Dissastisfactory	Moderately Satisfactory	Satisfactory
0–25	26–50	51–75	76–100

Figure 6. Explanation for each M$_y$MHI'23 score category

Score			
0–25: **Very dissatisfactory**	**26–50:** **Dissatisfactory**	**51–75:** **Moderate satisfactory**	**76–100:** **Satisfactory**
Explanation			
Very high risk of facing mental health issues	Have a risk of facing mental health issues	Moderate risk of facing mental health issues	Less risk of facing mental health issues

2.4   Formulation of M$_y$MHI'23 score

The average score for each domain is used to determine the M$_y$MHI'23 score. The calculation of the score is given in the following equation:

$$\text{Indicator score } (IS)_j = \frac{\frac{\sum_{i=1}^{m} x_{ij}}{m} - Min_j}{R_j} \times 100 \ ;$$

$$\text{Domain score } (DS)_k = \frac{\sum_{j=1}^{n} IS_j}{n} \ ;$$

and

$$\text{Index} = \frac{\sum_{k=1}^{d} DS_k}{d} \ ;$$

where

i = 1, 2, …, m item

j = 1, 2, …, n indicator

k = 1, 2, …, d domain

Min_j = Minimum scala

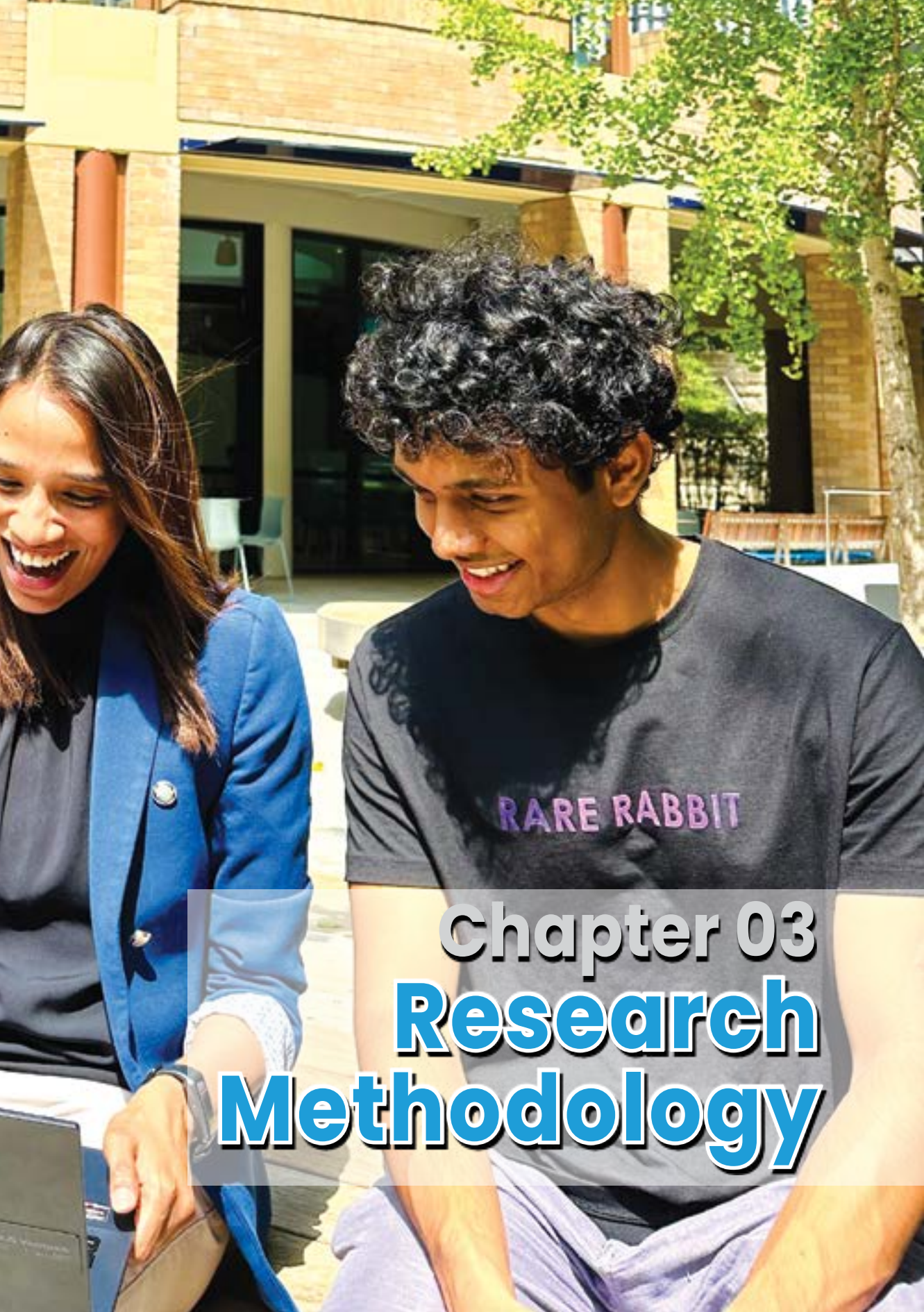R_j = Range (maximum scala – minimum scala)

"
**Mental
health**
is critically
important
for everyone

(WHO, 2022)
"

Chapter 03
Research Methodology

3.1 Research design

The research adopted a quantitative approach, collecting empirical data from the target population of Malaysian youth aged 15 to 30 years. This approach aimed to gather objective and measurable information that could be statistically analysed to draw a significant conclusion about Malaysian youth's mental health level. The researchers carefully created a questionnaire to collect data. The questionnaire served as the primary data collection instrument, and it was distributed to respondents via the IYRES Survey System. The questionnaire was designed to measure Malaysian youth mental health across all seven domains and 28 indicators.

3.2 Target population and sample

As of 2021, the target population consisted of 9.66 million youth aged 15 to 30 years [51]. The study included all eight youth target groups, which are youth at large, youth groups, career youth, youth in higher education, youth in school, youth at risk, international Malaysian youth, and marginalised and minority youth, as highlighted in the Malaysian Youth Policy [52]. Youth at large consists of urban youth, rural youth, youth of main ethnic, youth icon, young families, and young parents. The study covered all 13 Malaysian states and three federal territories, both urban and rural. The targeted sample size of 6,400 respondents was determined using the Sample Size Calculator by Raosoft [53].

3.3 Sampling method

To ensure that the study accurately represents Malaysia's diverse youth population, the researchers used disproportionate stratified random sampling. A total of 6,400 respondents were targeted for the survey to obtain a comprehensive understanding of youth perspectives on mental health. The selection of respondents was guided by specific criteria, including ethnicity, youth age category, location, and gender, as researchers aimed to ensure that the sample represents the demographic diversity of the Malaysian youth population.

3.4 Data collection period and approach

The data-gathering process spanned two phases, October to November 2022 and March to April 2023. The IYRES Survey System was chosen as the survey platform because of its user-friendly interface, which allowed the researchers to design a structured questionnaire that respondents could easily navigate. To ensure an efficient data collection process, 113 IYRES Community Enumerators were assigned to help administer the survey across the country.

3.5 Characterisation of the study sample

This study included 5,867 respondents; 2,901 males (49.45 per cent) and 2,966 females (50.55 per cent) who participated in this study. The majority of the respondents were Malay (57.85 per cent, n = 3,394), followed by Chinese (18.08 per cent, n = 1,061), Indian (10.35 per cent, n = 607), Bumiputera Sabah (6.74 per cent, n = 396), Others (3.50 per cent, n = 205), Bumiputera Sarawak (3.17 per cent, n = 186), and lastly, Bumiputera Orang Asli (0.31 per cent, n = 18). More than half of the respondents were Muslims (66.41 per cent), while 703 were Buddhists (11.98 per cent), 676 were Christians (11.52

per cent), and the remaining 10.09 per cent were Hindus and others. More than two-thirds (66.87 per cent, n = 3,923) of respondents were from urban areas and 1,944 were from rural areas (33.13 per cent). **Figure 7** demonstrated a detailed breakdown of the 5,867 respondents' sociodemographic characteristics.

Figure 7. Sociodemographic characteristics of respondents, M$_y$MHI'23

Sociodemographic characteristics MALAYSIA 5,867 (100.00%)	State			
	Johor 403 (6.87%)	Kedah 404 (6.89%)	Kelantan 340 (5.80%)	Melaka 396 (6.53%)
	Negeri Sembilan 399 (6.80%)	Pahang 355 (6.05%)	Perak 349 (5.95%)	Pulau Pinang 323 (5.51%)	Sabah 397 (6.77%)
	Sarawak 375 (6.39%)	Selangor 383 (6.53%)	Terengganu 399 (6.80%)	Perlis 400 (6.82%)
	Wilayah Persekutuan Kuala Lumpur 299 (5.10%)	Wilayah Persekutuan Labuan 387 (6.60%)	Wilayah Persekutuan Putrajaya 258 (4.40%)

Location

Urban
▼
3,923 (66.87%)

Rural
▼
1,944 (33.13%)

Sex

Male
▼
2,901 (49.45%)

Female
▼
2,966 (50.55%)

Age group

Early youth (15–18 years)
▼
1,819 (31.00%)

Middle youth (19–24 years)
▼
2,043 (34.82%)

Late youth (25–30 years)
▼
2,005 (34.18%)

Ethnicity

Malay	▸ **3,394**	(57.85%)
Chinese	▸ **1,061**	(18.08%)
Indian	▸ **607**	(10.35%)
Bumiputera Sabah	▸ **396**	(6.74%)
Bumiputera Sarawak	▸ **186**	(3.17%)
Bumiputera Orang Asli	▸ **18**	(0.31%)
Others	▸ **205**	(3.50%)

Marital status

Single
▸ **4,925** (83.94%)

Married
▸ **904** (15.41%)

Widow (er) or Divorcee
▸ **38** (0.65%)

Educational level

No formal education	▸ **23** (0.39%)	Upper secondary education	▸ **2,008** (34.23%)
Primary education	▸ **372** (6.34%)	Tertiary education	▸ **2,683** (45.73%)
Lower secondary education	▸ **760** (12.95%)	Others	▸ **21** (0.36%)

Youth categories

Youth at large	▸ **102** (1.74%)
Youth groups	▸ **274** (4.67%)
Career youth	▸ **2,382** (40.60%)
Youth in higher education	▸ **1,616** (27.54%)
Youth in school	▸ **1,433** (24.43%)
Youth at risk	▸ **8** (0.14%)
International Malaysian youth	▸ **16** (0.27%)
Marginalised and minority youth	▸ **36** (0.61)

Religion

Islam	▸ **3,896** (66.41%)
Buddhism	▸ **703** (11.98%)
Hinduism	▸ **532** (9.07%)
Christianity	▸ **676** (11.52%)
Others	▸ **60** (1.02%)

Household income group

No income ▸ **2,726** (46.46%)

Less than RM2,500 ▸ **2,054** (35.01%)

RM2,501 – RM4,850 ▸ **874** (14.90%)

RM4,851 – RM10,970 ▸ **186** (3.17%)

More than RM10,970 ▸ **27** (0.46%)

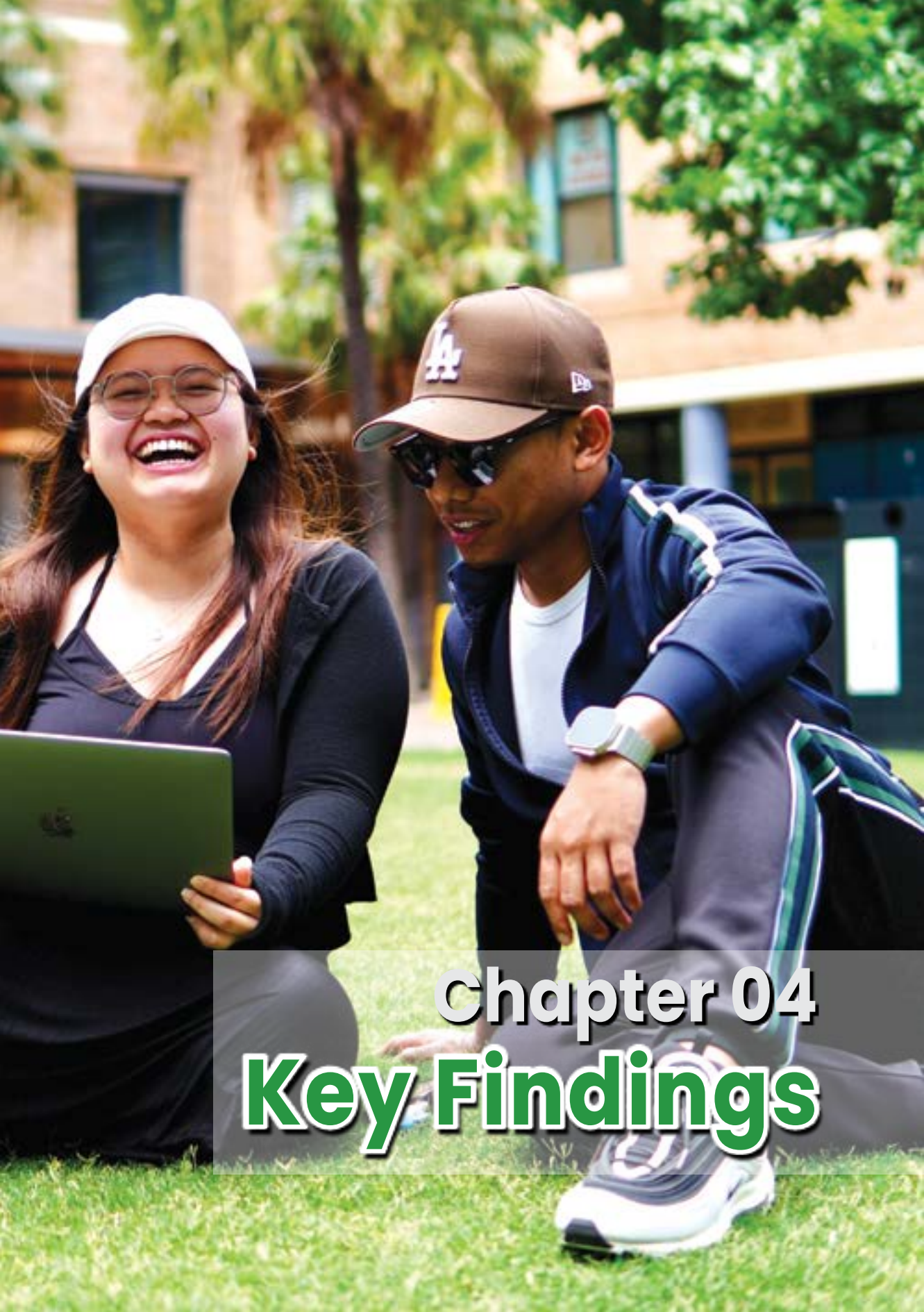Frequency (percentage)

Occupation

Government employee	Private employee	Entrepreneur	Paid family worker	Unpaid family worker	Housewife or Homemaker	Students	Not working	Others
490 (8.35%)	1,777 (30.29%)	188 (3.20%)	95 (1.62%)	15 (0.26%)	134 (2.28%)	2,825 (48.15%)	238 (4.06%)	105 (1.79%)

Chapter 04
Key Findings

4.1   M_YMHI'23 score

Figure 8 illustrates the result of the M_YMHI'23, which is based on the average score of seven domains. With a score of 71.91, the youth's mental health is rated as moderately satisfactory. This score provides valuable insights into Malaysian youth's mental well-being, highlighting their general mental health status and potential risk of developing mental health problems. A score of 71.91 indicated that Malaysian youth are at moderate risk of facing mental health problems. A moderately satisfactory mental health level suggests that a youth's mental state is neither outstanding nor significantly harmed. It falls in between a satisfactory mental state and mental distress. This middle ground suggests that while the youth may not be currently experiencing severe mental health problems, there are still underlying elements or domains that warrant attention. A moderate satisfactory mental health level can serve as a valuable early warning indication of potential mental health problems. It suggested that there are some stressors, especially those related to the surrounding environment, social support, and a healthy mind. If left unaddressed, it could lead to more serious mental health concerns among Malaysian youth.

Figure 8. Malaysian youth mental health index (M_YMHI'23) score
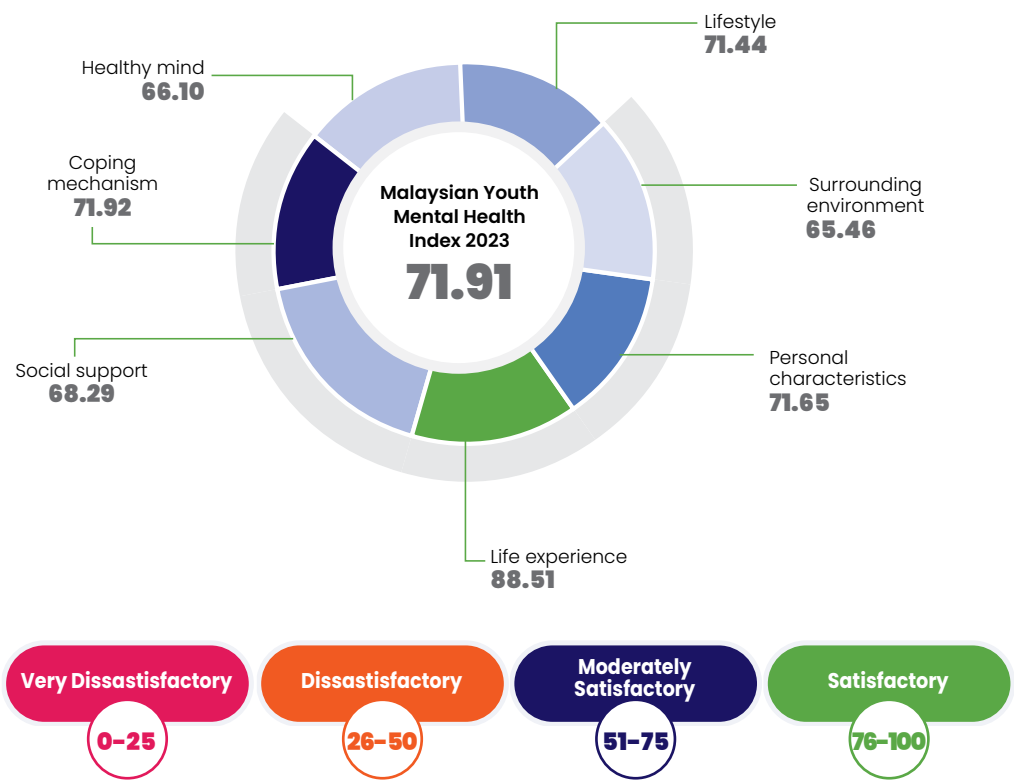
4.2 Index score based on domain and indicators

4.2.1 Lifestyle domain

Youthhood, as a dynamic and transformative phase of life, is marked by exploration, growth, and identity formation. Amidst these changes, the significance of lifestyle in shaping youth mental health cannot be understated. Lifestyle choices have a significant impact on youth's mental health and well-being. A healthy lifestyle contributes to positive mental health outcomes for youth. For instance, physical activity is a key contributing factor to healthy brain function and mental health [54]. Also, building and nurturing meaningful relationships through a balanced lifestyle, fosters emotional support and reduces feelings of isolation.

A healthy lifestyle entails not only eating well and exercising regularly, but also balancing social life, work, family life, money management, and community engagement. Therefore, the following six lifestyle factors have been selected as indicators in this domain:

As depicted in **Figure 9**, the lifestyle domain index score is 71.44, indicating a moderately satisfactory level of lifestyle among youth in Malaysia. A moderately satisfactory lifestyle suggests that many youths are trying to maintain a relatively balanced lifestyle, which benefits their mental health. The score of the six indicators in the lifestyle domain is shown in **Figure 9**. The most significant indicator that contributes to the lifestyle index score is social relationships (78.91), followed by life balance (76.05), risky behaviour (74.72), level of health (71.00), food intake (64.38), and finance (63.60). Both social relationships and life balance are satisfactory, while the other four indicators are moderately satisfactory.

A score of 78.91 suggests that youth in Malaysia are generally experiencing satisfactory social relationships with others in their social environment. Findings also revealed that more than 90 per cent of youths in Malaysia have good relationships with family members, classmates or colleagues, and neighbours. Having good social relationships is essential for the mental health development of youth.

| Level of health | Food intake | Finance | Risky behaviour | Social relationship | Life balance |

Figure 9. Lifestyle domain score and six indicators
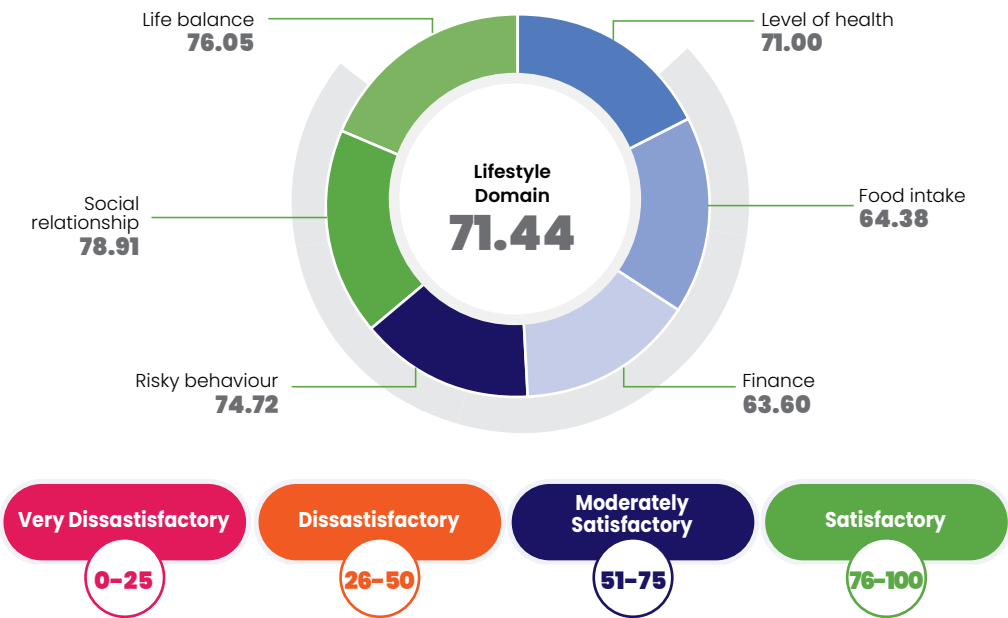
Achieving a good life balance is critical for youth mental health. Finding a balance can be difficult for youth due to the demands of the jobs or academics. In this study, a score of 76.05 indicated that youth in Malaysia have a satisfactory or good life balance. Interestingly, they are skilfully handling work or school tasks while also spending time with family. According to the findings, more than 90 per cent of youths spend quality time with family, take a break when they feel tired from work or study, and know how to balance between work and their social life activities (e.g., watching movies at the cinema on weekends or after school or work, hanging out at restaurants at night for chit-chatting and supper). Meanwhile, 76.26 per cent of youth in Malaysia participate in community-based programmes or activities.

Youth and risky behaviour have been a subject of study and concern for many years. A score of 74.72 indicated that youth in Malaysia are less likely to exhibit actions or decision-making that potentially lead to harmful consequences. About 87.01 per cent of Malaysian youth do not engage in risky activities (e.g., reckless riding, racing, gambling), implying that 12.99 per cent of them do. Previous findings indicated that 29.6 per cent of 2,262 Malaysian secondary school students in Negeri Sembilan participated in some kind of gambling over a 12-month period [55]. In contrast, a recent research found that 78.3 per cent of Malaysian youth in higher education had gambled before [56]. This percentage, however, was based on a very small sample size of 60 university students. Approximately 85 per cent of our youth do not engage in risky activities without thinking about the

implications. Furthermore, more than 75 per cent of them do not easily accept invitations from newly acquainted people.

Physical and mental health are mutually reinforcing, with good mental health resulting from good physical health and vice versa. Regular physical activity can boost a person's mood and mental health [57]. The score of 71.0 implies that, generally, youth in Malaysia have a moderately satisfactory level of health and participate moderately in sports and exercise. Furthermore, the findings also revealed that about 69.10 per cent and 71.66 per cent of Malaysian youth exercise for at least 30 minutes every day and participate in sports, respectively. This figure indicated that more than 30 per cent of youth do not exercise for at least 30 minutes per day. Findings are supported by the Malaysian Sports Culture Index 2022 (MSCI'22). Malaysians have a moderate sports culture, as evidenced by the MSCI'22 score of 52.0 [58]. Furthermore, only 48.0 per cent of Malaysians participate in sports, exercise, and recreational activities, and 13.6 per cent of them are active participants, which means they participate in more than 150 minutes of sports activities per week. Because the majority (44.9 per cent) of their respondents were youth, the MSCI'22 study also indirectly illustrated sports culture among youth. Besides that, the MYI'22 showed a 6.06-point decrease from 2021, indicating that Malaysian youth are allocating less of their free time to sports and leisure activities [6]. In addition, according to the findings of the NMHS 2022, four in five Malaysian school students aged 13 to 17 years are physically inactive [4].

Healthy food is crucial for supporting and promoting mental health. According to this study's findings, a score of 64.38 suggested that Malaysian youth consume healthy food at a moderately satisfactory level. While there is still much room for improvement, this score indicated that youth try to incorporate good eating habits into their daily lives. Food intake is one of the crucial indicators because the score recorded is the second lowest in the lifestyle domain. Although the findings show a positive result, the indicator is moderately satisfactory (far from the upper level of the range which is 75 – 100), and if we dig deeper, the moderately satisfactory indicator is mostly contributed by the highest percentage of youth (85.04 per cent) who consumes six to eight glasses of water each day. However, more than 30 per cent of youth, or one in three, do not eat fruits and follow meal time recommendations. Thus, the findings from NHMS 2022 and MYI'22 may be the most reliable source of validation. Findings from NHMS 2022 also revealed that four out of five Malaysian school students aged 13 to 17 years do not consume enough fruits and vegetables, one in three drink carbonated soft drinks every day, and one in ten eat fast food at least three times a week [4]. The MYI'22 findings also demonstrated that the balanced nutrition practise indicator score is 44.69, which is unsatisfactory [6]. The 1.42-point decrease from 2021 suggests that Malaysian youths are becoming less likely to consume a balanced diet, such as eating fruits, vegetables, or "ulam-ulaman", and practise the Quarter, Quarter, Half or "Suku, Suku, Separuh" concept [6]. An increasing body of evidence suggests that adequate fruit and vegetable intake promotes a healthy mood and mental well-being [59], and lower risks of depression [60]

The relationship between financial management and youth mental health is complex and significant. Financial issues and mismanagement can have a significant impact on the mental health of young people. For example, unpaid credit card and student loan debt were inversely associated with young adults' mental health [61]. The strains and anxiety caused by financial issues can have an adverse impact on youth mental health. Malaysian youth's financial management is moderately satisfactory with a score of 63.30. This is the lowest score recorded in the lifestyle domain, indicating that financial issues are key issues among the young generation. The findings also revealed that 47.35 per cent of youths agreed that finance is a major problem for them or their families; 24.46 per cent agreed that they or their family had significant debts compared to their monthly earnings (approximately half of the households' monthly income is used to service debt payments [62]); 27.93 per cent agree that they spend more than they can afford; and 24.80 per cent agreed that their financial management was disrupted as a result of purchasing necessities or support equipment, such as wheelchair and medications. This finding is consistent with the MYI'22 which demonstrated that Malaysia's youth economic domain score fell to 58.55 in 2022 from 59.07 in 2021, remaining below satisfactory [6]. Meanwhile, findings from the Credit Counselling and Debt Management Agency (AKPK) revealed that one in five Malaysian working adults did not save in the previous six months and three in ten of them need to borrow money to buy essential goods [63]. In addition, it is reported that 36 per cent and 28 per cent of Malaysian youth aged 18-29 years are worried and extremely worried, respectively, about being able to cover expenses in old age as stated in the Financial Stability Review-First Half 2022 Report by Bank Negara Malaysia [64].

Table 1. Items in the lifestyle domain

Items	Percentage			
	Strongly disagree	**Disagree**	**Agree**	**Strongly agree**
Indicator 1: Social relationship				
My relationship with family members is good	1.55	3.85	42.99	51.61
My relationship with colleagues or classmates is good	1.11	3.63	50.84	44.42
My relationship with neighbours is good	1.23	5.78	54.22	38.78
Indicator 2: Life balance				
I take breaks when feeling tired from work or study	0.73	3.36	50.50	45.41
I allocate time between work or education and my social life	1.09	5.52	53.45	39.94
I spend quality time with my family	1.04	5.28	49.80	43.87
I participate in programs or activities within the local community	4.06	19.69	45.22	31.04

Items	Percentage			
	Strongly disagree	**Disagree**	**Agree**	**Strongly agree**
Indicator 3: Risky behaviour				
I easily accept invitations from newly acquainted people	37.38	39.34	17.76	5.52
I engage in pleasurable risky activities without considering the consequences	47.76	36.32	12.12	3.80
I enjoy engaging in risky activities (e.g., reckless riding, gambling, racing)	52.58	34.43	9.31	3.68
Indicator 4: Level of health				
I exercise for at least 30 minutes every day for personal health	5.22	25.69	43.00	26.10
I actively engage in sports (e.g., playing football, badminton)	5.05	23.30	43.43	28.23
In the past month, my health level has been good	1.36	7.52	53.18	37.94
I can carry out my daily routine effectively	1.07	4.67	56.54	37.72
Indicator 5: Food intake				
I drink 6 to 8 glasses of water per day	1.81	13.16	52.26	32.78
I eat fruits every day	4.86	31.57	41.01	22.57
I eat according to the recommended meal times	5.47	26.64	44.74	23.15
I avoid unhealthy foods	3.75	22.94	48.51	24.80
I eat healthily following the recommendations of the Ministry of Health Malaysia (e.g., Quarter, Quarter, Half)	4.43	24.75	48.64	22.17
Indicator 6: Financial				
Financial matters are a major problem for me or my family	17.35	35.30	31.31	16.04
I or my family members have significant debts	31.57	43.97	18.56	5.90
I spend more than I can afford	23.25	48.82	21.90	6.03
Purchases of necessities or support equipment (e.g., wheelchair, medications) disrupt my financial management	31.12	44.08	19.40	5.40

4.2.2 Surrounding environment domain

The environment in which youth grow, learn, and interact plays a pivotal role in shaping their mental health. Youthhood is a critical development phase characterised by significant changes (e.g., physical changes, emotional and social development) and vulnerabilities (e.g., peer pressure, social exclusion), amplifying the impact of the surrounding environment. The surrounding environment encompasses physical, social, and psychological factors that collectively influence the mental health of youth. The interplay between these factors can either bolster or undermine a youth's mental health. The five indicators that have been selected in the surrounding environment domain are as follows:

As depicted in **Figure 10**, the surrounding environment domain index score is 65.46, which is at a moderately satisfactory level. In the context of Malaysia, a moderately satisfactory surrounding environment suggests a mixed state of supportiveness for the youth population. It indicated that while there may be certain supportive aspects, there are also potential stressors and challenges that could impact the mental health and well-being of Malaysian youth. The score signified that the environment is not inherently detrimental, but there may be areas that warrant attention to prevent potential mental health issues from emerging or escalating. The score of the five (5) indicators in the surrounding environment domain is shown in **Figure 10**. The most significant indicator that contributes to the surrounding environment index score is social media (74.15), followed by safety (69.40), family environment (66.22), social expectation (58.82), and physical environment (58.73).
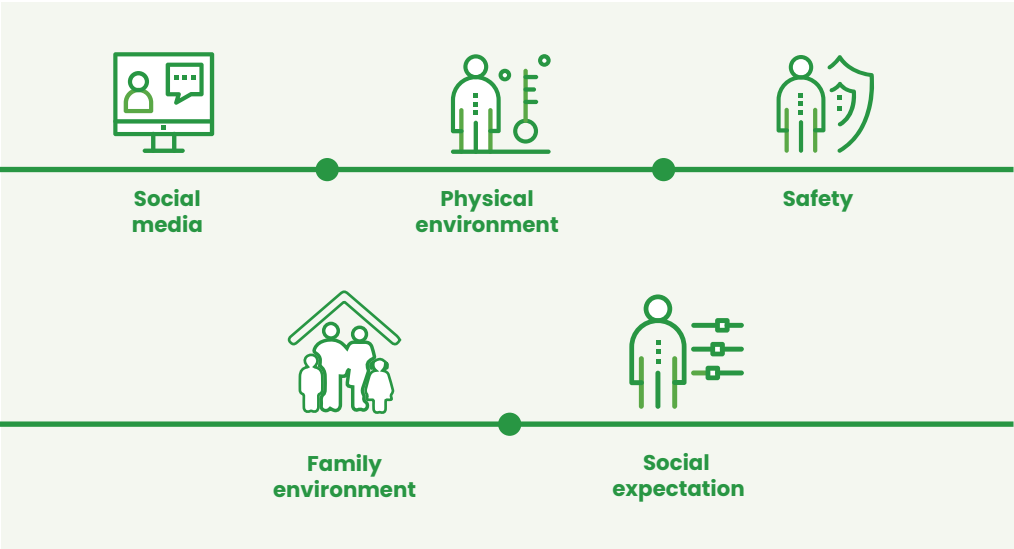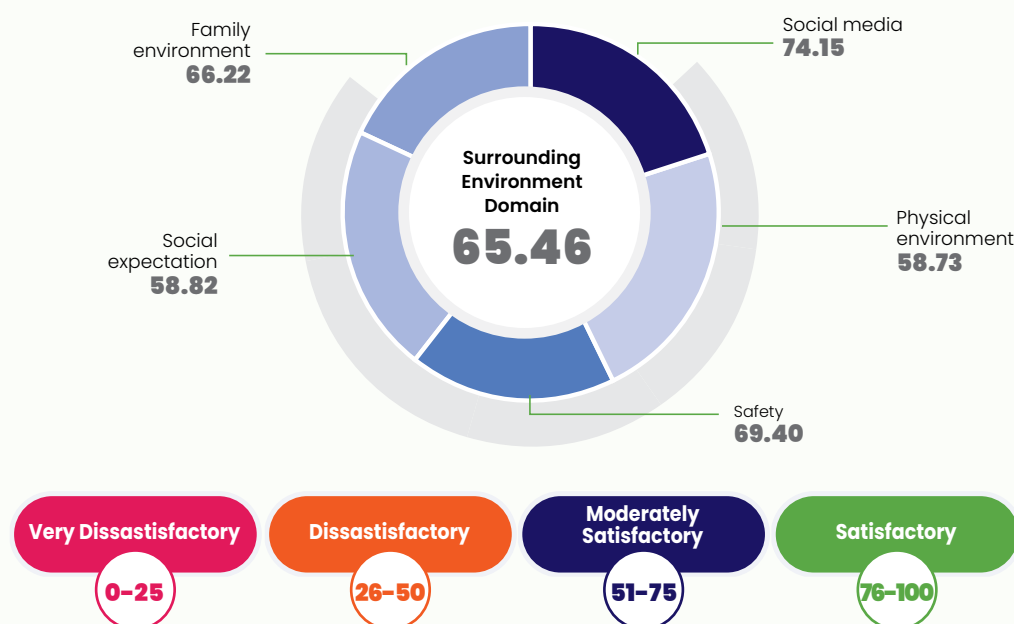

Social media

Physical environment

Safety

Family environment

Social expectation

Figure 10. Surrounding environment domain score and five indicators

Family environment
66.22

Social media
74.15

Surrounding Environment Domain
65.46

Physical environment
58.73

Social expectation
58.82

Safety
69.40

Very Dissastisfactory	Dissastisfactory	Moderately Satisfactory	Satisfactory
0–25	26–50	51–75	76–100

The advent of social media (e.g., Facebook, Instagram, Twitter, etc.) has revolutionised the way youth communicate, interact, and share experiences. These platforms offer unprecedented connectivity, which allows young individuals to connect with friends, family, and communities regardless of geographical barriers, while serving as valuable mediums for accessing various information. However, the relationship between social media and youth mental health is not without challenges. The prevalence of negative experiences on social media such as cyberbullying, online harassment, feelings of inadequacy due to comparison, and fear of missing out has raised concerns about their impact on youth mental health [24–27]. A score of 74.15 suggests that Malaysian youth's social media experience is moderately satisfactory and even close to satisfactory, which is a positive sign. However, it is essential to approach this finding with caution since the impact of social networking sites on mental health is complex. The findings of this study also revealed that more than one-fifth (21.81 per cent) of youth become upset when their posts on social media do not receive positive comments. Additionally, 17.16 per cent of them are demotivated when their posts do not receive many likes. The emotional distress caused by seeking validation through likes and positive comments highlights the potential for fragile self-esteem and a dependence on external affirmation. Emotional reactions can add to feelings of inadequacy and make youth more vulnerable to mental health problems. Furthermore, the findings show that 10.59 per cent of youth often face disturbances on social media. Disruptions on social networking sites such as cyberbullying and offensive comments, can cause emotional instability. Cyberbullying and

offensive comments, for example, not only affect an individual's self-perception but can also lead to isolation, which, if left unaddressed, can lead to more serious mental health issues.

Safety is the base for stability, security, and overall mental well-being. It is inextricably linked to the basic human need for a supporting and nurturing environment. When safety is compromised, it can cause increased worry, anxiety, and emotional distress, especially among youth who are still developing coping mechanisms and emotional resilience. A score of 69.40 suggests that Malaysian youth perceived their safety at home, residential areas, school, or workplace moderately satisfactory. Findings also showed that 38.23 per cent of youth feel unsafe in their school or workplace environment, which affects their emotions. The absence of a safe space for learning or working can result in diminished motivation, emotional exhaustion, and even the development of mental health issues. Besides, 15 per cent of youth are concerned about their safety at home, which might worsen their mental health. Furthermore, 14.13 per cent of youth viewed their residential area as unsafe, which might lead to persistent feelings of tension and anxiety.

The family environment has a tremendous influence on the youth's mental health. A harmonious and supportive family builds emotional resilience, self-esteem, and a sense of belonging. On the other hand, challenges within the family unit can create tension, anxiety, and feelings of isolation. As youth establish their identity and emotional well-being within the family setting, the impact of these experiences resonates throughout their lives. A functional family can create a solid basis for young

people's emotional resiliency and well-being. On the other hand, growing up in a dysfunctional family can have numerous negative implications, including mental health issues. A score of 66.22 signifies a moderately satisfactory family environment, suggesting a mix of supporting and challenging aspects within the family unit. While some aspects may provide solace and emotional support, there might also be areas that necessitate improvement for the betterment of youth's mental health and well-being. Findings also revealed that over one-third (42.62 per cent) of youth feel insecure at home, which interrupts their peace of mind. In addition, about 31.56 per cent are burdened by the family's high expectations. Furthermore, 25.78 per cent of them are distressed as a result of family members' comparisons to others, while 17.09 per cent find that family members not valuing their presence makes them feel insignificant. The sentiment of not being valued by family members can lead to feelings of insignificance, which impacts mental health.

Societal expectations place substantial burdens on youth, impacting their mental health in significant ways. The pressure to conform to traditional gender roles, meet unrealistic beauty standards, compete with others' successes, and navigate societal judgments about education or employment can lead to a range of negative mental health outcomes. As youth navigate the complexities of growing up, social expectations can create significant pressures and challenges that impact their mental health. A score of 58.82 signifies that, from the Malaysian youth perspective, societal expectations are moderately satisfactory. This suggests that youth are experiencing a mix of conformity to societal norms and

personal autonomy. Societal expectations that dictate gender roles and behaviours can exert considerable pressure on youth. Findings showed that 36.42 per cent of youth agreed that societal expectations put pressure on them. The pressures to conform to traditional roles and norms, such as women being skilled at cooking or men refraining from expressing emotions, can be stifling. These expectations can undermine individuality and authenticity, leading to feelings of frustration, confusion, and even a diminished sense of self-worth. Such pressures can contribute to stress and anxiety, eroding the mental well-being of youth. Meanwhile, societal perceptions of beauty often revolve around specific ideals, such as fair skin and a slim figure. These beauty standards can significantly impact youth, particularly when they feel that they do not meet these criteria. About 39.39 per cent of youth agreed that beauty standards lower their self-confidence. The negative impact on their self-confidence can contribute to feelings of inadequacy, anxiety, and depression. Furthermore, findings also revealed that 35.38 per cent of youth felt bothered when others were used as examples of success. The practise of using others as examples of success can create a sense of competition and inadequacy among youth. The pressure to measure up to these standards can lead to a constant need for validation and a fear of failure. This comparative mindset can lead to anxiety, low self-esteem, and a persistent sense of not being good enough. The emotional toll of such comparison can be detrimental to youth mental health. In addition, 40.38 per cent of youth felt uncomfortable with public opinion about their education or job status. Public opinion on this can be a significant source of stress and anxiety for youth. Feeling judged based on societal expectations regarding success and career choices can lead to feelings of shame, inadequacy, and a fear of being perceived as unsuccessful.

The physical environment in which young people live and interact has a substantial impact on their mental health. A score of 58.73 suggests that Malaysian youth are moderately satisfied with their physical environment. The physical environment recorded the lowest score, indicating that Malaysian youth are less satisfied with their surroundings. Discomfort at home and in their physical surroundings as a result of cramped and messy spaces, daily traffic congestion, and living in crowded environments, can all lead to mental distress, frustration, and anxiety. Findings also showed that more than one-third (41.67 per cent) of youth feel uncomfortable in messy and cramped living spaces. The cramped and messy living space can translate into emotional distress, contributing to anxiety. Similarly, crowded living conditions can result in a lack of personal space, which can impede relaxing and cause frustration. Meanwhile, 42.66 per cent of youth said that the daily traffic congestion tests their patience. Spending extended lengths of time stuck in traffic can raise stress levels. Being stuck in traffic not only impacts mood but also causes exhaustion and a reduced sense of well-being. Furthermore, 41.11 per cent of youth felt that living in crowded places makes them feel uneasy and uncomfortable. Overcrowding leads to less privacy and personal space, which then translates to increased stress.

Table 2. Items in the surrounding environment domain

Items	Percentage			
	Strongly disagree	**Disagree**	**Agree**	**Strongly agree**
Indicator 1: Social media				
I get upset when my posts do not receive positive comments	37.43	40.75	18.03	3.78
I feel demotivated when my posts do not get many likes	41.86	40.97	14.35	2.81
I often face disturbances on social media	46.14	43.28	8.66	1.93
Indicator 2: Safety				
Feeling unsafe in my school or workplace environment disrupts my emotions	28.48	33.29	27.00	11.23
I worry about my safety at home	41.26	43.74	11.64	3.36
My living environment is not safe for me	40.28	45.49	10.64	3.49
Indicator 3: Family environment				
Feeling uncomfortable at home disrupts my peace of mind	25.38	31.99	30.54	12.08
High expectations from my family weigh me down	30.49	37.94	22.12	9.44
Comparisons with others by family members create distress	34.69	39.53	17.96	7.82
Indicator 4: Social expectation				
Societal expectations put pressure on me (e.g., marry early)	27.65	35.93	25.43	10.99
Societal perceptions of beauty (e.g., fair skin) lower my self-confidence	25.31	35.30	26.79	12.60
I am bothered when others are used as examples of success	25.74	38.44	25.29	10.53
Public opinion about my job or education status makes me uncomfortable	24.71	34.91	28.94	11.44
Indicator 5: Physical environment				
I feel uncomfortable with the conditions at home (e.g., messy house)	27.02	31.31	27.49	14.18

Items	Percentage			
	Strongly disagree	Disagree	Agree	Strongly agree
Daily traffic congestion tests my patience	22.43	34.91	29.98	12.68
Living in a crowded environment makes me uneasy	24.25	34.63	29.18	11.93

4.2.3 Personal characteristics domain

Youth mental health is shaped by numerous factors, including personal characteristics which play a pivotal role in youth's emotional and psychological development. The seven characteristics have been selected as indicators in the personal characteristics domain are as follows:
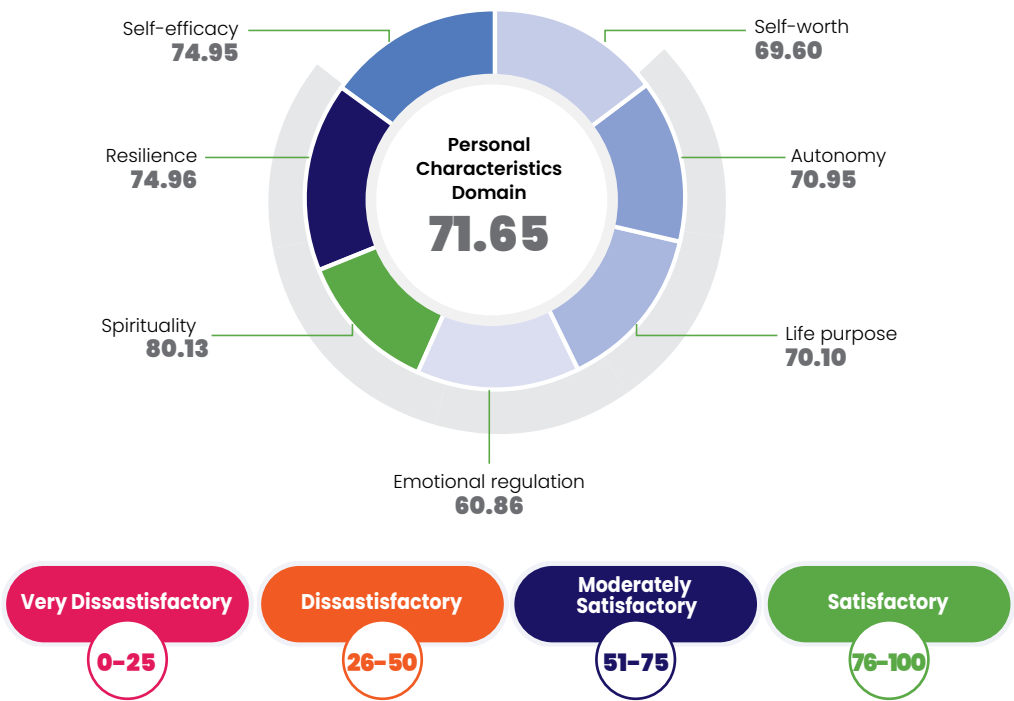
to overcome multiple life challenges, thus boosting resilience and fostering positive mental health and well-being. The score of the seven indicators in the personal characteristics domain is also shown in **Figure 11**. Spirituality (80.13) is the most significant indicator that contributes to the personal characteristics index score, followed closely by resilience (74.96) and self-efficacy (74.95). Emotional

Self-worth   Autonomy   Life purpose   Emotional regulation

Spirituality   Resilience   Self-efficacy

As depicted in **Figure 11**, the personal characteristics domain index score is 71.65, indicating that Malaysian youth's characteristics are moderately satisfactory. With moderately satisfactory characteristics, many Malaysian youths possess valuable traits that enable them

regulation, on the other hand, recorded the lowest score of 60.86. Only spirituality is considered satisfactory, while the remaining six indicators are considered moderately satisfactory. However, resilience and self-efficacy are nearly satisfactory.

Figure 11. Personal characteristics domain score and seven indicators

Self-efficacy
74.95

Self-worth
69.60

Resilience
74.96

Autonomy
70.95

Personal
Characteristics
Domain
71.65

Spirituality
80.13

Life purpose
70.10

Emotional regulation
60.86

Very Dissastisfactory	Dissastisfactory	Moderately Satisfactory	Satisfactory
0–25	26–50	51–75	76–100

Spirituality holds a profound influence on youth's mental health, offering a sanctuary of solace, meaning, and purpose, especially during times of difficulty. A score of 80.13 indicated that Malaysian youth have a high level of spirituality. Believing that God is assisting with decision-making, feelings of peace, recognising the wisdom in hardship, feeling God's presence, and embracing calmness all highlight the favourable impact of spiritual beliefs on youth mental health. Furthermore, findings also revealed that 94.46 per cent of youth recognise there is underlying wisdom in the challenging situations they face and this perspective will increase youth's ability to cope with problems. Because of their faith in a higher power, almost 94.44 per cent of them believe they are not

alone. This belief in divine presence can provide comfort and emotional support, which is beneficial to their mental health. In addition, about 94.22 per cent believe that faith provides them with a sense of calmness or tranquillity. This concept provides a sense of calm and inner peace, which can be beneficial during stressful times.

Resilience is broadly defined as the capacity of individuals exposed to a negative event to remain healthy and to cope flexibly with the challenges of life. Resilient people are typically characterised by optimism, positive coping, and hardiness, and these characteristics are associated with better mental health outcomes and more positively adaptive behaviours to negative life events. Resilience was correlated to

positive indicators of mental health and individuals with low levels of resilience presented with higher rates of anxiety and depression [65]. A score of 74.96 indicated a moderately satisfactory level that's nearing satisfactory level. This score demonstrated that Malaysian youth have quite strong resilience. They can bounce back from adversity and cope with challenges, which is a positive sign for their overall mental health. Findings also indicated that in the event of failure or difficulty, 95.1 per cent of youth will not give up. The belief in their ability to rise again after experiencing failure or hardship is a hallmark of resilience. About 92.62 per cent believe in their capabilities to face any challenges that come their way. This self-assuredness can reduce feelings of overwhelm and empower youth to take proactive steps to address difficulties.

Self-efficacy stands as a critical determinant of youth's ability to navigate challenges, pursue goals, and maintain well-being. Malaysian youth scored 74.95 for self-efficacy which is moderately satisfactory bordering on satisfactory. This indicated that Malaysian youth possess reasonable levels of confidence in their ability to handle tasks and situations successfully. Findings also showed that 88.53 per cent of youth are confident in their capability to handle unexpected events, 91.08 per cent can remain calm in the face of difficulties, 93.32 per cent of can overcome challenges, 94.03 per cent can complete tasks, and 95.65 per cent can generate problem-solving strategies. Youth who possess a sense of self-efficacy are more likely to view challenges as opportunities for growth rather than insurmountable obstacles. This mindset promotes emotional resilience, allowing them to bounce back from adversities and setbacks with greater confidence,

which will have a positive effect on mental health.

Autonomy or a sense of self-direction and independence can have a substantial impact on the mental health and well-being of youth. A score of 70.75 indicated that youth have a moderately satisfactory level of autonomy. The score suggested that youth have a reasonable level of control over their choices. Findings also revealed that 88.34 per cent of youth believe in their ability to determine what is best for themselves, which can foster a sense of competence and confidence. Besides, 84.18 per cent of them have the freedom to make their own life decisions. As they face challenges, make decisions, and experience successes, their self-efficacy and confidence also increase. This can serve as a protective factor against mental health issues. In addition, 78.47 per cent of them are unconcerned about the opinions of others. It demonstrates a healthy level of autonomy and suggests that youth are confident in their own choices or decisions and are not swayed by external judgments.

A higher sense of purpose in life is frequently related to better mental health and well-being as it provides youth with motivation, a framework for making choices, and fulfilment. Previous research revealed that those who have a strong sense of life purpose are less likely to suffer from depression, anxiety, and other mental health issues. A score of 70.10 suggests a moderately satisfactory level of life purpose among youth. The score indicated that youth have a certain degree of clarity and direction in their lives. About 93.69 per cent of youth are actively looking for something that gives their lives significance. This search for meaning can be a positive

sign of personal development and desire to find their purpose. Furthermore, 86.18 per cent of them have a clear life purpose. Having a clear life purpose can improve mental health and overall well-being by offering a source of aspiration, resilience, and positive emotions. The fact that around 79.09 per cent of youth have a well-defined plan for the next five years is a promising sign. A clear plan can serve as a road map for success and contribute to a stronger feeling of purpose. On the other hand, just roughly 30.87 per cent of youth have never seriously thought about their life goals.

Self-worth plays a critical role in mental health and well-being, as it is often associated with better mental health outcomes. A score of 69.60 indicated a level of self-worth that is moderately satisfying. According to the findings, Malaysian youth have reasonably positive feelings about their personal value and worth. More than 80 per cent of them have a good attitude towards themselves (83.33 per cent) and have high expectations for their life achievements (85.27 percent). Positivity toward oneself is an indication of high self-worth, which can function as a buffer against negative thoughts and contribute to good mental health. While setting high standards can be inspiring, they must be balanced with realistic expectations. If unrealistic standards are constantly not met, that can lead to feelings of inadequacy. As a result, nearly one-third (31.28 per cent)

of youth feel useless, and 28.03 per cent perceive themselves as failures.

Emotional regulation is a vital aspect of youth mental health. Effective emotional regulation can be a source of strength in the field of mental health, contributing to emotional resilience and overall well-being. A moderately satisfactory level of emotional regulation with a score of 60.86 indicated that Malaysian youth have a foundation for managing their emotions. However, there is still potential for improvement. The moderately satisfactory level indicated a baseline ability, demonstrating that youth can manage their emotional responses. Despite the moderately satisfactory level, this indicator recorded the lowest score in the personal characteristics domain. Findings revealed that 90.93 per cent of Malaysian youth can manage their behaviour, but nearly half (48.67 per cent) of them directed their rage at themselves when they were disappointed and 32.87 per cent of them experience intense and uncontrollable emotions. These findings demonstrate that many young people hide their genuine emotions by demonstrating good behaviour. While masking emotions through positive behaviour is a typical coping mechanism, it is not without repercussions. Concealing emotions can result in a variety of problems, such as emotional suppression and internalised tension. This can have an effect on one's mental health over time.

Table 3. Items in the personal characteristics domain

Items	Percentage			
	Strongly disagree	**Disagree**	**Agree**	**Strongly agree**
Indicator 1: Spirituality				
When things go wrong, I see the hidden wisdom behind them	1.40	4.14	47.98	46.48
I know I am not alone because God is with me	1.47	4.09	44.43	50.01
My religious faith provides me with a sense of calmness	1.38	4.40	43.99	50.23
Indicator 2: Resilience				
I will rise again after experiencing failure or hardship	0.80	4.11	55.16	39.94
I am capable of facing any challenges that come my way	1.01	6.37	57.70	34.92
Indicator 3: Self-efficacy				
I am confident that I can handle any unexpected events or situations efficiently	1.35	10.12	58.33	30.20
I am confident that I can stay calm when facing difficulties because I can rely on my ability to overcome them	0.97	7.94	58.97	32.11
I am confident that I can manage anything that happens to be in my way	1.01	5.68	59.54	33.78
I am confident that I can find alternative ways to get what I want	0.63	5.33	59.86	34.17
I am confident that I can think of solutions when I encounter problems	0.80	3.55	59.55	36.10
Indicator 4: Autonomy				
I determine what is best for myself	1.86	9.80	53.38	34.96
I possess the freedom to make life decisions	2.69	13.12	52.55	31.63
I am untroubled by others' opinions of me	4.48	17.04	48.44	30.03
Indicator 5: Life purpose				
I seek something that gives my life meaning	1.31	4.99	56.21	37.48
I have a clear life purpose	1.89	11.93	53.40	32.78
I have a well-defined plan for the next 5 years	2.90	18.02	49.86	29.23
I have never really thought about life goals	29.11	40.02	21.51	9.36

Items	Percentage			
	Strongly disagree	Disagree	Agree	Strongly agree
Indicator 6: Self-worth				
At times, I feel utterly useless	31.67	37.05	23.95	7.33
I tend to view myself as a failure	29.11	42.85	20.96	7.07
I maintain a positive outlook towards myself	3.78	12.89	51.39	31.94
I set high standards for my life achievements	2.27	12.46	52.70	32.57
Indicator 7: Emotional regulation				
When disappointed, I direct anger at myself for feeling that way	18.07	33.27	35.20	13.47
I get stressed over trivial matters	20.54	40.28	27.94	11.25
I experience intense and uncontrollable emotions (e.g., outbursts, unexplained anger, mood swings)	27.03	40.11	22.69	10.18
I can manage my behaviour	1.82	7.24	59.79	31.14

4.2.4 Life experience domain

Both positive and negative life experiences play a significant role in shaping the mental health and overall well-being of young individuals. Youth with childhood, emotional, sexual, and physical abuse, for instance, have been associated with high levels of anxiety and depression [66,67]. These experiences have the power to influence their perceptions, emotional resilience, and even their trajectory in life. Therefore, the following three negative life experiences have been selected as indicators in the life experience domain:

Bullying   **Abuse**   **Stigma and discrimination**

A score of 88.51 in the life experience domain, as depicted in **Figure 12**, suggests that the overall quality of life experiences among Malaysian youth is deemed satisfactory. The score also indicated that the majority of Malaysian youth are likely to experience fewer negative events in their life, such as bullying and abuse. **Figure 12** depicts the score of the three indicators in the life experience domain. Bullying (89.47) is the most significant indicator contributing to the life experience index score, closely followed by abuse (88.47) and stigma and discrimination (87.59).

youth are likely experiencing a relatively lower prevalence of bullying in life. A lower prevalence of bullying is essential for fostering a positive atmosphere where youth can thrive emotionally. Findings also showed that 8.24 per cent of youth feel ignored or excluded by those around them, 7.98 per cent feel embarrassed in front of others, 6.74 per cent are targeted for mockery by peers, 3.63 per cent skip work or school due to fear of being bullied, and 3.14 per cent experienced cyberbullying, such as unauthorised sharing of their videos and pictures.

Figure 12. Life experience domain score and three indicators
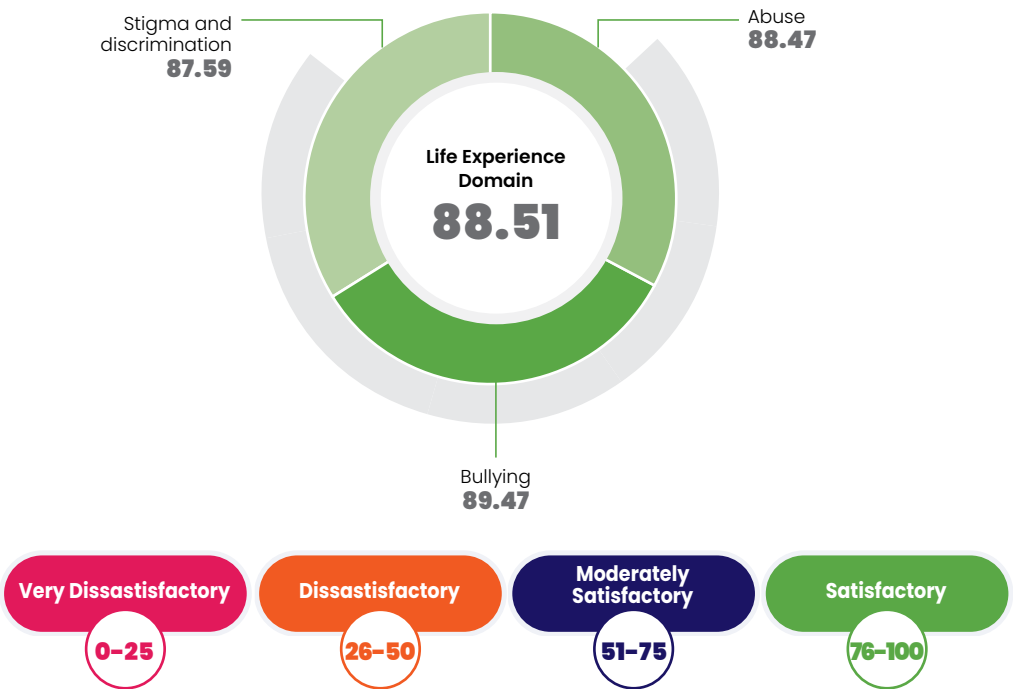
Bullying is a severe psychosocial problem because of the harmful effects it has on mental health, and it can happen to anyone at any age. A satisfactory level of bullying among youth, with a score of 89.47, indicated that the majority of Malaysian

It is important to acknowledge the profound impact that abuse, whether verbal, physical, sexual, or emotional, can have on an individual's mental health. People who have experienced abuse are at a higher risk of developing mental

health conditions such as depression and anxiety [68,69]. The effects of abuse can be long-lasting and may manifest at any point in an individual's life, whether during childhood or as an adult. A satisfactory level of abuse among youth, with a score of 88.47 suggests that the majority of youth in Malaysia may be experiencing relatively lower levels of abuse. Findings also revealed a small percentage of youth (4.44 per cent) report having difficulty sleeping due to past abuse experiences. Similarly, a portion of youth (3.75 per cent) indicated that they struggle to lead their daily lives as a result of the abuse they have experienced. About 3.62 per cent of youth reported having gone through a difficult childhood due to abuse. However, a relatively high percentage of youth (11.66 per cent) expressed a preference for being alone because they feel their words are never heard. Furthermore, (8.17 per cent) experience emotional disturbances when they see or read about abuse cases, especially if they have their own past abuse experiences or have witnessed abuse happening to others.

Stigma and discrimination can have profound negative effects on the mental health of young people. Stigma prevents young people from seeking help for their mental health issues. They may fear judgement, rejection, or social repercussions if they disclose their struggles. For instance, people with mental disorders might delay or stop seeking treatment for fear of labelling and discrimination [70]. This delay in seeking treatment can exacerbate mental health conditions. A satisfactory level of stigma and discrimination among youth, with a score of 87.59 suggests that the majority of youth in Malaysia may be experiencing relatively lower levels of stigma and discrimination. Findings also revealed a small percentage of youth (4.76 per cent) are worried about disclosing that they take medication or receive treatment for mental health issues. This concern may stem from the fear of stigma or negative judgement associated with mental health treatment. About 5.64 per cent of youth perceived that others believe they need to see a counsellor due to the emotional disturbances they experience. However, a significant portion of youth (12.75 per cent) expressed feeling disappointed with how people perceive them, including their physical appearance and intelligence quotient. In addition, a substantial percentage of youth (11.56 per cent) reported feeling isolated when people distance themselves from them. Social isolation can be emotionally distressing and is linked to various mental health challenges. Meanwhile, 11.52 per cent of youth do not share their problems because they are afraid that others will have negative perceptions of them.

Table 4. Items in the life experience domain

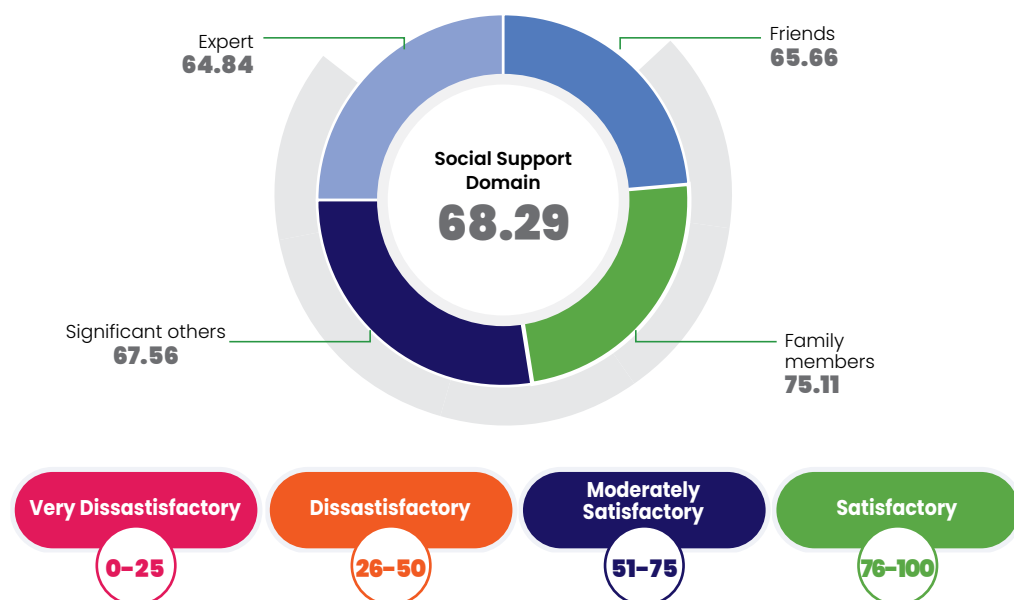| Items	Percentage			
	Strongly disagree	Disagree	Agree	Strongly agree
Indicator 1: Bullying				
I feel excluded because I am ignored by those around me	67.68	24.08	5.97	2.27
I lack of self-confidence because I have been embarrassed in front of others or public	69.73	22.29	5.68	2.30
I am often used as a target for mockery by peers	70.55	22.70	4.87	1.87
I skip work or school out of fear of being bullied	84.32	12.05	2.90	0.73
My videos or pictures have been viral without my knowledge	87.46	9.41	2.34	0.80
Indicator 2: Abuse				
I have difficulty sleeping because I am haunted by past abuse	82.53	13.04	3.43	1.01
I struggle to lead my daily life due to the abuse I have experienced	81.61	14.64	2.90	0.85
I went through a difficult childhood due to abuse	85.38	11.01	2.78	0.84
I prefer to be alone because my words are never heard	55.99	32.35	8.54	3.12
I experience emotional disturbances when I see or read about abuse cases due to my own experiences (e.g., being abused or seeing people around being abused)	61.55	30.29	5.61	2.56
Indicator 3: Stigma and discrimination				
I am worried about telling people that I take medication or receive treatment for mental health issues	83.98	11.27	3.60	1.16
People think I need to see a counsellor due to the emotional disturbance I experience	81.17	13.19	4.07	1.57
I am disappointed with how people perceive me (e.g., physical appearance, intelligence quotient)	62.08	25.17	8.42	4.33
I feel isolated when people distance themselves from me	61.72	26.73	7.74	3.82
I do not want to share my problems because I am afraid others will have negative perceptions of me	65.59	22.89	7.33	4.19

4.2.5 Social support domain

Social support is a powerful and influential factor in shaping the mental health and well-being of young individuals. The following four supportive networks have been selected as indicators in the study:

The most significant indicator that contributes to the social support index score is family members (75.11), followed by significant others (67.56), friends (65.66), and experts (64.84). Only family support is satisfactory, while the
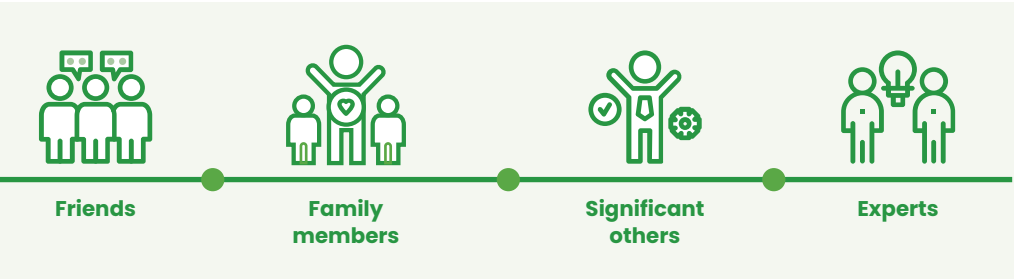
The relationships, connections, guidance, and understanding offered by the abovementioned supportive networks can have profound effects on how youth navigate challenges, manage stress, build resilience, and maintain good mental health. As depicted in **Figure 13**, the social support domain index score is 68.29, indicating youth in Malaysia received a moderately satisfactory level of social support. This suggests that youth in Malaysia are receiving inadequate support (e.g., emotional, practical, and informational) from family, friends, significant others, and experts. The score of the four indicators in the social support domain is shown in **Figure 13**.

other three indicators are moderately satisfactory. A score of 75.11 indicated that on average, youth in Malaysia receive adequate support from their family members. The findings also imply that family plays an important role in providing Malaysian youth with emotional, practical, and informational support. Findings also revealed that 93.08 per cent of youth agree that family is their everything, 89.12 per cent agree that their families help them make decisions, 87.22 per cent of them get the support they need from their family, and 84.68 per cent can talk or share their problems with their family. Having positive and good social support from family members is critical for youth mental health development.

Figure 13. Social support domain score and four indicators

Expert
64.84

Friends
65.66

Social Support Domain
68.29

Significant others
67.56

Family members
75.11

Very Dissastisfactory
0–25

Dissastisfactory
26–50

Moderately Satisfactory
51–75

Satisfactory
76–100

Support from significant others, whether they are spouses or romantic partners, plays a vital role in influencing youth mental health. A score of 67.56 suggests that the youth received moderately satisfactory support from significant others. The score indicated that youth have a positive level of support and connection with these individuals. Findings also revealed that 79.65 per cent of youth have the presence of reliable individuals in their lives, such as romantic partners or spouses. This network of support shows that there are people who are willing to help, listen, and be there for youth when they face difficulties. Furthermore, 77.91 per cent of youth believe they can trust individuals other than their family members and friends. In addition, 77.67 per cent of youth noticed that individuals beyond their family and friends genuinely care about their feelings and emotions. This adds to a sense of belonging and validation, which improves youth mental health.

Friendship is an important component of human capital because it provides companionship, shared experiences, and a sense of belonging. For youth, these relationships hold special significance, not only shaping their social lives but also playing a crucial role in their mental health. With a score of 65.66, youth received moderately satisfactory support from friends or peers. Although the score suggests that there is room for improvement in terms of creating better ties and support, it is heartening that young people can rely on their peers to some extent. Supportive friendships provide emotional affirmation, which is critical for the youth's mental health. The findings also revealed that many of the youth (84.63 per cent) have friends they may share their joys and sorrows with. This implies that there are relationships where youth can express their emotions and experiences, fostering a sense of connectedness, which is an important

aspect of social support. Also, 83.24 per cent of them are at ease talking about and expressing concerns with their friends. This is critical for emotional support and assisting youth in dealing with stress and other mental health issues. Furthermore, 72.51 per cent of youth believe they can rely upon friends for help when they are in trouble. It is a good sign since it shows a level of trust and a willingness to seek help from their peers during difficult situations.

Professional services, such as psychiatrists and clinical psychologists, emerges as vital resources for youth mental health. These experts possess a deep understanding of the intricacies of mental health. They have the expertise, abilities, and experience to address the unique mental health needs of young people. A score of 64.84 suggests youth received moderately satisfactory support from professional services. The score suggests that youth are accessing a certain degree of support from professionals but there is space for improvement. Findings also demonstrated that 82.70 per cent of youth believe that professional experts can help them if they are in an unstable state mentally, emotionally, or behaviourally. This signifies a level of trust in experts. Furthermore, 78.27 per cent of youth know where to get expert help if they need it, which reflects an understanding of the available resources for professional support services. This information is critical for youth to navigate the process of seeking help quickly and efficiently. In addition, if they are depressed, 70.99 per cent of them will seek professional help from psychiatrists or psychologists. This demonstrates a proactive approach to getting help when dealing with depression, which is critical because timely intervention through professional services can have a substantial impact on the course and result of mental health challenges.

Table 5. Items in the social support domain

Items	Percentage			
	Strongly disagree	**Disagree**	**Agree**	**Strongly agree**
Indicator 1: Family members				
Family means everything to me	1.38	5.54	44.32	48.76
My family is willing to assist me in making decisions	2.28	8.59	50.11	39.01
I receive the necessary support from my family (e.g., emotional, social)	3.00	9.78	54.27	32.95
I can talk or share my problems with my family	3.49	11.83	48.00	36.68
Indicator 2: Significant others				
Apart from family and friends, I have someone who is always there when needed (e.g., spouses, romantic partners)	5.81	14.54	48.66	30.99

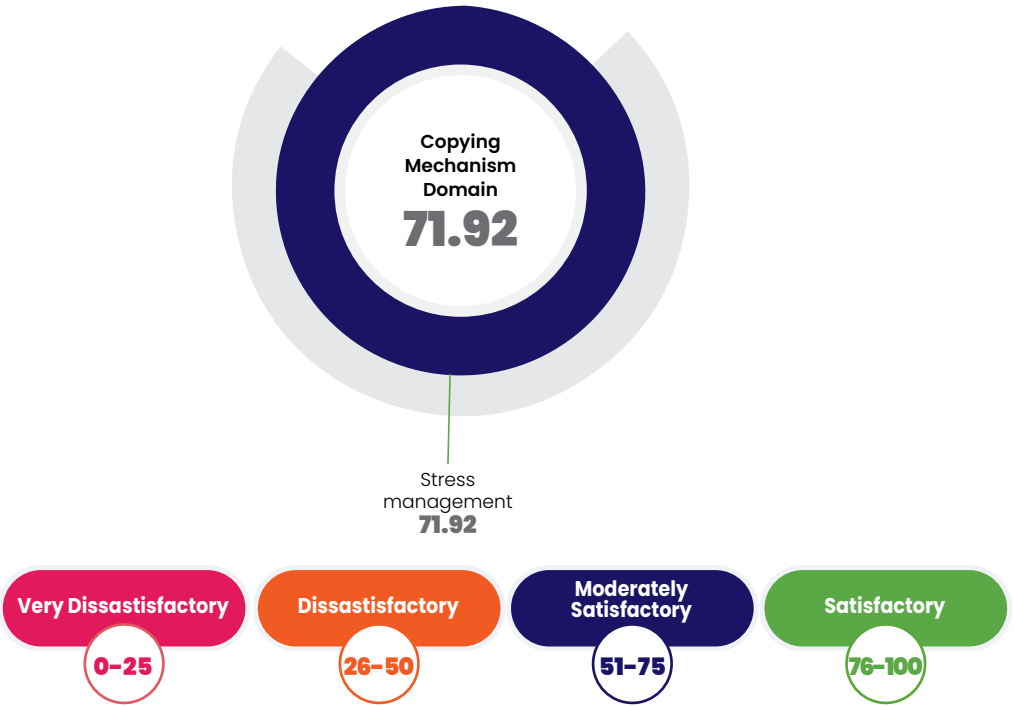| Items	Percentage			
	Strongly disagree	Disagree	Agree	Strongly agree
I have a trustworthy person other than family and friends	5.69	16.40	47.91	30.00
I have someone else who cares about my feelings besides family and friends	5.78	16.55	48.58	29.09
Indicator 3: Friends				
I have friends with whom I can share my joys and sorrows	3.53	11.85	59.37	25.26
I can talk or share my problems with my friends	3.72	13.04	59.67	23.57
I can rely on my friends when I have problems	8.76	18.73	54.75	17.76
Indicator 4: Experts				
I believe professionals can help me when I am in a mentally, emotionally, or behaviourally unstable condition	5.68	11.62	56.47	26.23
I know where to seek professional help if I need it	7.28	14.45	53.20	25.07
I would seek help from professionals (e.g., psychiatrist, psychologist) if I feel depressed	9.66	19.35	48.05	22.94

4.2.6 Coping mechanism domain

Coping mechanisms are essential tools that empower youth to navigate the complexities of life while also promoting mental health and well-being. Coping mechanisms help youth reduce the impact of stressors on their mental health. Engaging in relaxation techniques, mindfulness practises, or hobbies they enjoy can alleviate stress, allowing them to maintain a more positive outlook and emotional stability. A score of 71.92 indicated a moderately satisfactory level of coping mechanisms among youth. It signifies that youth possess a reasonable ability to handle and manage various stresses and challenges they encounter.

The coping mechanism domain is measured in terms of stress management, which has a direct impact on their mental health. By adopting positive stress management techniques, they can effectively reduce stress, enhance emotional well-being, and prevent stressors from evolving into more serious mental health challenges. Findings also revealed that the top four stress management strategies applied by Malaysian youth are engaging in leisure activities, engaging in worship or spiritual practises, spending time on outdoors activities, and spending time with family and friends.

Positive stress management strategies relieve stress and was found to be beneficial in the long run. About 93.57 per cent of youth spend time on enjoyable activities like watching movies, reading books, or listening to music, which serves as a positive distraction from stress. These activities provide relaxation, reduce tension, and contribute to a more positive mood, all of which enhance youth mental health and well-being. Besides, 89.80 per cent spend time with family and friends. Building and maintaining strong social connections is a vital aspect of Malaysian culture. Malaysian youth often turn to their family and friends to express their feelings and seek emotional support when facing stressors. These trusted relationships serve as a crucial buffer against stress.

About 87.01 per cent of youth engage in worship or spiritual practises. Malaysia is a diverse country with a rich tapestry of cultures and religions. Many youths find solace and strength in their religious beliefs and engage in worship, prayer, or spiritual practises as a means of coping with stress. These practises provide a sense of purpose and connection to a higher power. In addition, 86.66 per cent of youth spend time outdoors. The natural beauty of Malaysia offers youth an opportunity to escape the hustle and bustle of daily life by spending time on outdoor activities. Hiking, visiting parks, and engaging in nature-related pursuits allow them to recharge, reduce stress, and connect with the environment. A

Figure 14. Coping mechanism domain score and its indicator

Copying Mechanism Domain
71.92

Stress management
71.92

Very Dissastisfactory	Dissastisfactory	Moderately Satisfactory	Satisfactory
0–25	26–50	51–75	76–100

minimum percentage of Malaysian youth engage with negative coping mechanisms such as taking sedatives or hurting themselves. Negative coping mechanisms such as taking sedatives, on the other hand, may ease stress for a short time but is proved to be harmful in the long run, affecting both physical and mental health. About 10.58 per cent and 9.77 per cent of youth in Malaysia take sedatives and hurt themselves, respectively. Although the percentages of youth in Malaysia taking sedatives and hurting themselves are less than 11 per cent, these actions are indeed concerning. It is crucial to take these behaviours seriously.

4.2.7 Healthy mind domain

A healthy mind is characterised by excellent mental and emotional well-being. In the context of M$_y$MHI'23, it refers to the assessment of youth's mental well-being in terms of emotional disturbances or disruptive feelings. Depression and anxiety are two indicators of a healthy mind domain. **Figure 15** shows that the health mind domain index score is 66.10, indicating a moderately satisfactory level of healthy mind among youth in Malaysia. A moderately satisfactory healthy mind means that youth are at moderate risk of facing emotional disturbance or disruptive feelings. **Figure 15** also displays the scores for two indicators, anxiety (69.08) and depression (63.11). A moderately satisfactory score of 69.08 indicated that the majority of youth in Malaysia experience minimal to mild

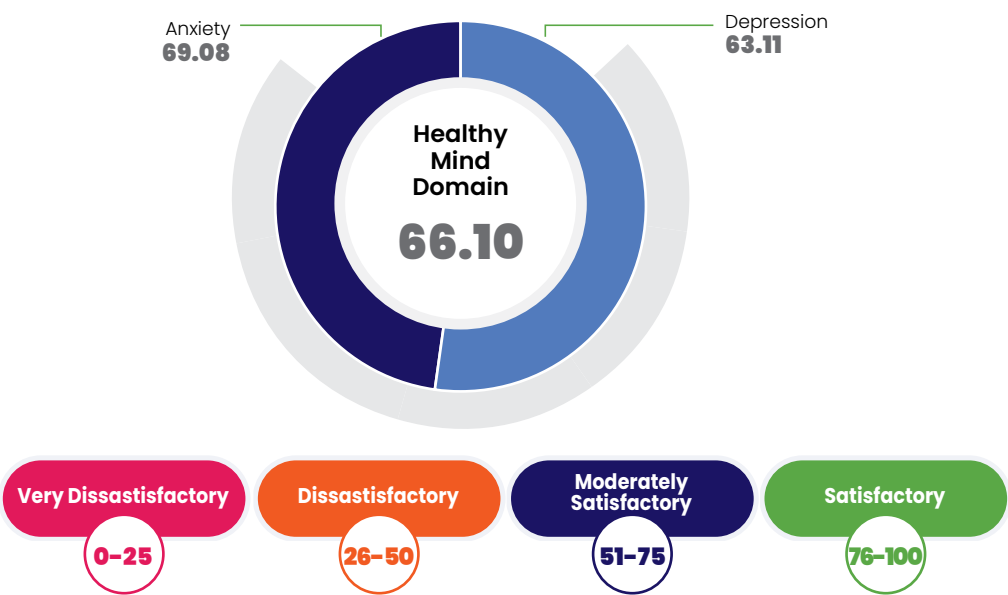**Table 6.** Items in coping mechanism domain

Items	Percentage			
	Strongly disagree	**Disagree**	**Agree**	**Strongly agree**
Indicator: Stress management				
I spend my time doing other things (e.g., watching movies or drama, listening to music, reading books) to reduce the stress that I face	1.98	4.45	52.34	41.23
I spend time with family or friends to reduce the stress that I face	2.45	7.74	50.72	39.08
I worship (e.g., praying, chanting) to reduce the stress that I face	3.09	9.90	49.68	37.33
I do outdoor activities (e.g., gardening, travel) to reduce the stress that I face	3.85	9.49	50.88	35.78
I have taken a sedative to reduce the stress that I face	65.47	23.95	6.95	3.63
I hurt myself to reduce the stress that I face	71.79	18.44	6.51	3.26

anxiety. Findings also revealed that 52.71 per cent of youth experience mild anxiety and 30.99 per cent experience minimal anxiety. Meanwhile, a moderately satisfactory score of 63.11 indicated that the majority of youth experience minimal to mild depression. About 45.35 per cent of them experience mild depression, while 14.37 per cent experience none-minimal depression. Mild anxiety and mild depression are relatively common experiences among youth in Malaysia. Many of them may face periods of mild emotional distress or mood fluctuations as a normal part of growing up and dealing with the obstacles that come with the transition from childhood to adulthood. These mild symptoms involve changes in mood and behaviour that are less intense [71] and do not always indicate a mental health disorder. However, severe depression and anxiety can be symptoms of underlying mental health disorders [72]. Youth experiencing mild anxiety and depression may appear normal, but if left untreated, their symptoms can become severe.

4.3 Index score based on sociodemographic

Males and females have different levels of mental health. Males were found to have better mental health than females, with a M$_y$MHI'23 score of 72.76 compared to 71.17 (**Figure 16**). This implies that men are less likely to develop mental health problems than women. Statistics revealed a significant gender discrepancy in mental health outcomes among those aged 16 to 24 years, with young women being almost three times as likely (26 per cent) than their male counterparts (9 per cent) to encounter common mental health issues [73]. Furthermore, 12.6 per cent of young women test positive for post-traumatic stress disorder, which is significantly greater than the 3.6 per cent among men of the same age [73]. Another study indicated that women are twice as likely as males to be diagnosed with anxiety [74]. The difference in male

Figure 15. Healthy mind domain score and two indicators

Anxiety
69.08

Depression
63.11

Healthy Mind Domain
66.10

Very Dissastisfactory	Dissastisfactory	Moderately Satisfactory	Satisfactory
0–25	26–50	51–75	76–100

and female mental health levels in this study is seen in the healthy mind and surrounding environment domains (**Figure 17**). Our findings show that the rural Malaysian youth ($M_yMHI'23$ = 72.30) have a better mental health level than the urban Malaysian youth ($M_yMHI'23$ = 71.71) (**Figure 16**). The slight difference between urban and rural youth mental health might be due to differences in the social support and healthy mind domains. Rural youth received higher social support and have better mind health (lower number of depression and anxiety) than urban youth (**Figure 18**). Notably, late youth aged 25-30 years old ($M_yMHI'23$ = 72.58) have better mental health, followed by middle youth aged 19-24 years old ($M_yMHI'23$ = 71.83) and

early youth aged 15-18 years old ($M_yMHI'23$ = 71.28) (**Figure 16**). The late youth group outperformed the middle and early youth group in practically every domain except the lifestyle domain (**Figure 19**). In terms of ethnicity, Bumiputera Sarawak scored the highest $M_yMHI'23$ at 73.37, followed by Chinese ($M_yMHI'23$= 72.91), Malay ($M_yMHI'23$ = 71.84), and Bumiputera Sabah ($M_yMHI'23$ = 71.04), while the lowest is Bumiputera Orang Asli ($M_yMHI'23$ = 62.48) (**Figure 16**). Bumiputera Sarawak recorded the highest score in domains of surrounding environment, personal characteristics, social support, and coping mechanisms. Meanwhile, Chinese youth recorded the highest score in lifestyle domain, life experience domain, and healthy mind domain (**Figure 20**).

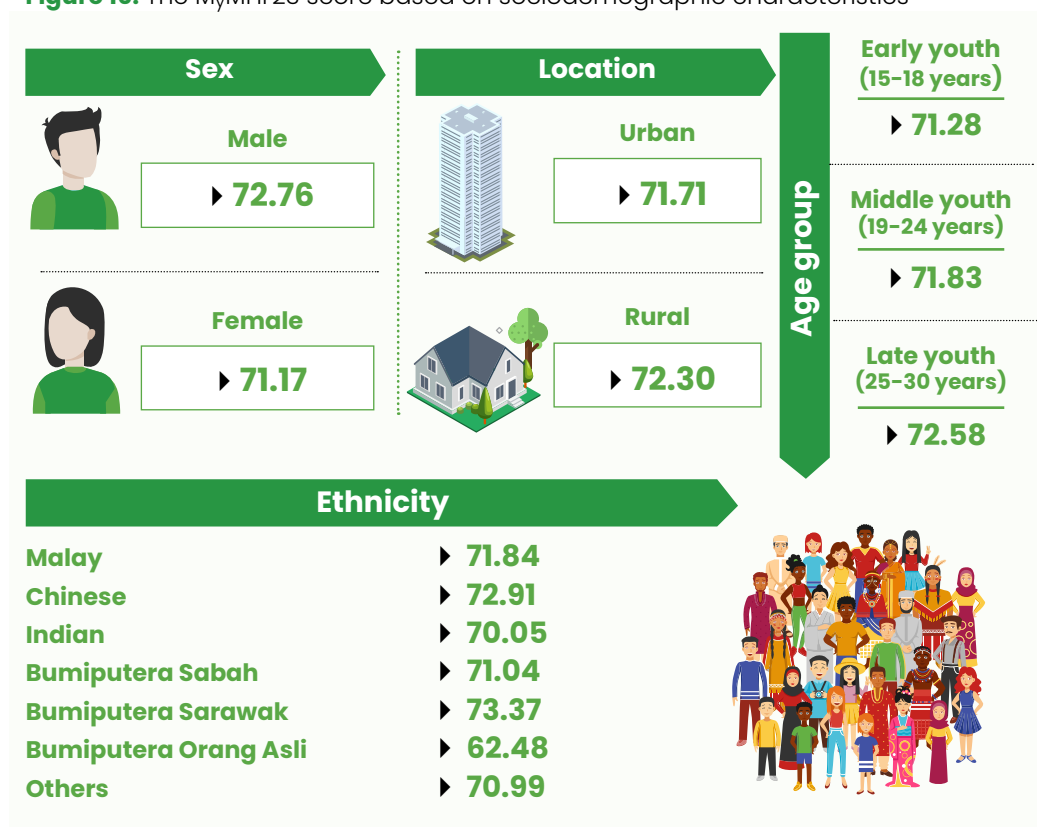**Figure 16.** The $M_yMHI'23$ score based on sociodemographic characteristics

Sex

Male ▸ **72.76**

Female ▸ **71.17**

Location

Urban ▸ **71.71**

Rural ▸ **72.30**

Age group

Early youth (15-18 years) ▸ **71.28**

Middle youth (19-24 years) ▸ **71.83**

Late youth (25-30 years) ▸ **72.58**

Ethnicity

Malay ▸ **71.84**
Chinese ▸ **72.91**
Indian ▸ **70.05**
Bumiputera Sabah ▸ **71.04**
Bumiputera Sarawak ▸ **73.37**
Bumiputera Orang Asli ▸ **62.48**
Others ▸ **70.99**

Figure 17. Index score comparison based on sex

Lifestyle ▼	Surrounding environment ▼	Personal characteristics ▼	Life experience ▼	Social support ▼	Coping mechanism ▼	Healthy mind ▼
Sex						
Male						
71.54	67.05	72.55	89.13	68.64	72.20	68.23
Female						
71.35	63.91	70.77	87.90	67.96	71.64	64.65

Figure 18. Index score comparison based on location

Lifestyle ▼	Surrounding environment ▼	Personal characteristics ▼	Life experience ▼	Social support ▼	Coping mechanism ▼	Healthy mind ▼
Location						
Urban						
71.04	65.56	71.59	88.09	67.61	71.79	66.26
Rural						
72.25	65.27	71.78	89.35	69.65	72.17	67.95

Figure 19. Index score comparison based on age group

Lifestyle ▼	Surrounding environment ▼	Personal characteristics ▼	Life experience ▼	Social support ▼	Coping mechanism ▼	Healthy mind ▼
Age group						
Early youth (15–18 years)						
71.54	65.23	69.99	88.14	67.44	70.68	65.94
Middle youth (19–24 years)						
71.51	64.75	72.13	88.04	68.39	72.40	65.62
Late youth (25–30 years)						
71.30	66.41	72.67	89.32	68.97	72.54	66.89

Figure 20. Index score comparison based on ethnicity

Lifestyle ▼	Surrounding environment ▼	Personal characteristics ▼	Life experience ▼	Social support ▼	Coping mechanism ▼	Healthy mind ▼
Domains						
Ethnicity						
Malay						
71.23	65.04	71.66	88.40	68.07	72.40	66.10
Chinese						
72.89	66.90	72.25	89.87	69.72	71.94	66.80
Indian						
70.22	64.25	69.87	86.87	66.59	70.48	62.09
Bumiputera Sabah						
69.91	64.74	70.39	87.95	68.00	70.45	65.84
Bumiputera Sarawak						
72.76	68.05	76.23	87.37	71.21	73.76	64.24
Bumiputera Orang Asli						
50.49	64.37	59.47	83.15	59.28	63.61	59.79
Others						
69.81	66.54	72.04	89.35	68.11	69.30	61.81

Chapter 5
Conclusion

5.1   Summary

Measuring and assessing youth mental health levels on a national scale, as demonstrated by the Malaysian Youth Mental Health Index 2023 (M_yMHI'23), is indeed a proactive and strategic approach. It helps in understanding the overall mental health and well-being of the youth population and provides valuable insights for targeted interventions and programmes. In 2023, the M_yMHI'23 score is 71.91, which is rated as moderately satisfactory. While the score suggests that youth may not be experiencing severe mental health risks, the significance of the underlying issues necessitates early intervention and support.

Findings also showed that six of the seven domains; lifestyle, surrounding environment, personal characteristics, social support, coping mechanism, and healthy mind, are at a moderate satisfactory level. Further analysis of the M_yMHI'23 can help pinpoint specific domains that contribute to the score. For instance, the surrounding environment domain recorded the lowest score. Hence, there should be continuous efforts in creating a more supportive and nurturing atmosphere for young people to improve their mental health, especially in terms of managing social expectations. In the meantime, the life experience domain and its three indicators; abuse, bullying, and stigma and discrimination are satisfactory. While this may appear to be a positive sign, a closer examination revealed that the stigma and discrimination indicator recorded the lowest score. This suggests that there is an urgent need to address stigma and discrimination issues as they have serious repercussions on Malaysian youth and their mental health.

Furthermore, the findings show that 21 of the 28 indicators are moderately satisfactory. While this demonstrates some progress in addressing youth mental health, it is vital to focus on critical indicators such as:

Lifestyle domain
• Finance
• Food intake

Surrounding environment domain
• Physical environment
• Social expectation

Personal characteristics domain
• Emotional regulation
• Self-worth

Social support domain
• Friends
• Experts
• Significant others

Healthy mind domain
• Depression
• Anxiety

A moderately satisfactory mental health level indicates a promising starting point for improvement. By addressing the underlying domains and indicators contributing to this score and implementing a range of interventions, Malaysia can work towards enhancing the mental health and well-being of its youth population and fostering a healthier, more resilient generation.

5.2 Recommendation

The MyMHI'23 serves as a pivotal tool for understanding how various domains contribute to the mental well-being of Malaysian youth as well as a guide for stakeholders in implementing systematic and holistic interventions and programmes. The main challenge for relevant stakeholders (e.g., government agencies, youth development institutions, voluntary bodies) participating in youth development policies is to design appropriate interventions that can further enhance the mental health of Malaysian youth. These interventions must be holistic, encompassing the whole ecosystem youth live in. To provide comprehensive and holistic youth mental health care, a multi-faceted approach involving youth, family, communities, and government must be considered. The interventions are divided into three categories: (i) intervention at governance and policy level, (ii) intervention at community level, and (iii) intervention at family and youth level. The three intervention levels are based on UNICEF's The State of the World's Children 2021 Report's spheres of influence (i.e., world of the child, world around the child, world at large) [75]. The following are strategies to improve youth mental health:

Intervention at Governance and Policy Level

Recommendations	Initiatives
R1 Create living spaces that are not overcrowded and are equipped with adequate facilities, fostering a supportive and stress-free environment	**▶▶ S1: Implement policies for spacious, affordable housing to prevent overcrowded living conditions, with emphasis on green spaces and recreational facilities to promote physical activity and social interaction.** The National Housing Policy was introduced and it looked into ownership of homes, availability of satisfactory houses with satisfactory surroundings, and affordability factors such as buying a home or only renting a home. As a temporary measure, a three-bedroom home is generally considered comfortable for most people. To conform to these accepted standards, intervention from the government, employers, established companies, and wealthy folks are very much needed to assist the affected youth. The government may introduce stricter guidelines to housing developers and provide youth with financial assistance for their monthly instalments or rentals. More detailed data on the population is a prerequisite.
	▶▶ S2: Develop multi-use community centres that serve as hubs for mental health programmes, indoor and outdoor activities, and cultural events, fostering a sense of community and belonging. The government should provide facilities that fulfil the community's needs by gathering feedback from government agencies (e.g., District Offices or Youth and Sports Departments in each state) or local community organisations (e.g., *Rukun Tetangga* Community). For example, if residents need a free space area, where all residents, particularly youth, can play indoor games (e.g., badminton, table tennis) or hold community events (e.g., community or movie screenings, live performances), then government should provide residents with a community hall. The existence of a community hall will encourage an active lifestyle and can also be a place for young people to interact and participate in positive activities.
	▶▶ S3: Provide a supportive and safe environment for youth. Having a supportive and safe environment at home is the best choice available for youth. But in certain cases where they are not getting a supportive and safe environment at home, a supportive and safe environment at school, other academic institutions, or workplace is still of great value. When their living situation at home and its surroundings is uncomfortable, a work environment that's safe may help reduce the stress among working youths. Factors like having sport facilities in their vicinity and employers encouraging employees to participate in extracurricular activities (e.g., martial arts, singing and acting clubs, volunteering) can be an added value.

Recommendations	Initiatives
R2 Improve youth's accessibility to mental health services	**⯈ S1: Expand the availability of community-based mental health services,** such as those provided by the MENTARI or *Pusat Kesihatan Mental Masyarakat*, particularly for underserved and rural populations, including services for individuals under 18. The MOH continues to administer the MENTARI program, which aims to promote mental health, provide screening of mental disorders in secondary and tertiary care, and ensure early treatment for psychiatric problems. Currently, there are only 33 MENTARI throughout all states. Increasing the number of MENTARI could be one of the most effective ways of monitoring not only youth mental health, but also the rest of the community. Aside from increasing their numbers, MENTARI should also extend their existing services to individuals under 18 years old.
	⯈ S2: Resources should also be put into increasing trust in the existing programmes. Furthermore, counsellors or educators should maintain students' confidentiality, and adhere to ethical guidelines. These practises create a supportive and trustworthy environment that encourages students to seek help and guidance.
	⯈ S3: Promote mental health hotlines in Malaysia. Mental health hotlines (e.g., Talian HEAL 15555 (Help with Empathy and Love), Talian Kasih 15999, MIASA-YSD Crisis Helpline) are critical, because they can provide immediate access to mental health professionals, trained counsellors, and trained volunteers, especially in rural areas where access to mental health services is limited. Besides raising awareness of mental health issues and highlighting efforts to support mental health, the relevant stakeholders, such as Ministry of Communications and Digital (KKD) and the Malaysian Communications and Multimedia Commission (MCMC), should intensify public awareness campaigns on the existence of mental health hotlines because many youths, parents, and communities are still unaware of them.
	⯈ S4: Create apps for Malaysian people, especially youth, that provide abundance of resources for dealing with all things mental health. These apps could offer a user-friendly interface and guide Malaysians to the nearest facilities when seeking treatment for their mental health challenges. Providing resources and information through an easily accessible platform can encourage more Malaysians, especially youth, to seek help without fear of judgement.

Recommendations	Initiatives
	⏩ **S5: Promote and expand positive support groups such as Kafe@TEEN,** organised by National Population and Family Development Board or *Lembaga Penduduk dan Pembangunan Keluarga Negara* (LPPKN). The Kafe@TEEN initiative is fantastic; however, intensive promotion by the relevant stakeholders such as LPPKN, KKD, and MCMC is crucial to bring this initiative to the forefront of youth consciousness. In 2020, there were 18 Kafe@TEEN locations, primarily situated at Urban Transformation Centres (UTCs) [76]. While UTCs are strategic, consideration should be given to expanding Kafe@TEEN to other locations which are reasonably closer to youth.
R3 Healthy lifestyle promotion	⏩ **S1:** Schools, higher educational institutions, and food premises should **improve on the availability of healthy foods.** Regular visits by relevant authorities to various local, district, and state-level food premises, and introducing healthy food competitions at each of those stages might improve healthy food access and availability.
	⏩ **S2:** The relevant stakeholders (e.g., MOH, KKD) should **aggressively promote the nature of healthy foods and the benefits of eating them** (e.g., campaigns, videos, or posters) in all platforms, including social media. The relevant authorities should also maintain what is working while introducing new, effective guidelines on the consumption of balanced and healthy foods at schools and higher education institutions.
	⏩ **S3: Strengthening school-based nutrition interventions.** School-based nutrition interventions such as *Program Hidangan Berkhasiat di Sekolah* (HiTS) should be extended to all schools in Malaysia. The participation of HiTS is quite low. As of October 2020, only 72 primary schools offer the HiTS, with the involvement of 18,138 students [77].
	⏩ **S4: Promote physical activity through structured sports programmes and informal play,** ensuring facilities are available and accessible to all students.

Intervention at Community Level

Recommendations	Initiatives
R1 Strengthening community and family support	**▶▶ S1: Facilitate community forums and workshops to enhance financial literacy, focusing on teaching young people and their families about budgeting, saving, and financial planning.** The relevant stakeholders should create space and opportunities for youth to start and run businesses, where they may learn how to generate and manage money. Relevant parties should also implement initiatives such as a "business day" in schools or on campus, where student clubs or individual students can develop entrepreneurship skills. Teaching youth how to generate and manage money via hands-on experiences can better prepare them to tackle economic or financial issues.
R2 Improve mental health resilience	**▶▶ S1: Develop platforms for parents and youth to learn about and practise positive communication, conflict resolution, and emotional intelligence, thus strengthening family bonds and support systems.**
	▶▶ S2: Educate both schools and higher education institutions' counsellors on mental health knowledge. Counsellors in both schools and higher educational institutions should be regularly updated with current mental health issues and suggestions made by professionals on how to tackle them based on relevant research findings.
	▶▶ S3: Enhance the Healthy Mind Programme by incorporating promotional activities, such as boosting mental health awareness through mental health literacy training or distributing comic or story books on mental health. Schools could significantly raise mental health awareness among students by incorporating it into existing programmes. For instance, discussing mental health and mental health disorders during a school assembly. This also helps reduce the stigma associated with mental health disorders.
	▶▶ S4: Incorporate mental health education into community programmes to raise awareness and dispel misconceptions about mental health conditions. It is important to provide communities with knowledge about prevalent mental health issues and their impact. A way to highlight the importance of mental health topics is by incorporating them into activities of various community institutions such as religious institutions, unions, and neighbourhood community centres. For instance, speaking about mental health or elements linked to mental health during religious sermon.

Recommendations	Initiatives
	▶▶ **S5: Key stakeholders, such as Ministry of Education (MOE) and mental health related-NGOs, have the opportunity to create a book on mental health, drawing from real-life experiences.** Such narratives can serve as compelling tools to inspire openness about personal challenges and celebrate the resilience of individuals who have navigated adversity successfully. This book could offer solace and hope to youth facing similar issues, reminding them they are not isolated in their journeys.
	▶▶ **S6: Encourage employers to implement mental health literacy training programmes.** Mental health training in the workplace helps to reduce the stigma associated with mental health issues, thus increasing mental health awareness, particularly among career youth. Career youth who feel supported and valued at work are more likely to perform well and less likely to leave their jobs.
	▶▶ **S7: Encourage responsible media reporting on mental health issues** to avoid the perpetuation of stereotypes and misinformation. Media plays a role in debunking stigmas related to mental health. Therefore, media professionals should think carefully when reporting or portraying mental health issues. Portrayals of people suffering from mental health disorders should be changed to minimise the dissemination of exaggerated misleading images and information about mental disorders.

Intervention at Family and Youth Level

Recommendations	Initiatives
R1 Youth empowerment and participation	**▶▶ S1: Increase mental health literacy among youth.** The government should regularly disperse knowledge regarding mental health problems, help-seeking behaviour, and factors affecting the development of good mental health to the general public. This could be done through mainstream media, multimedia, social media, government agencies, politicians, specific seminars and dialogues at all schools, higher educational institutions, parliamentary, and ministerial levels. Individuals of good mental health, particularly among youth, should occasionally be invited to give talks in federal and state government programmes. Since the cultivation of a person with good mental health starts from seeds, a programme highlighting a person of good mental health should begin at the early stage of education, such as primary school.
	▶▶ S2: Active involvement in leadership and service organisations. Youth should be encouraged to actively get involved in uniform bodies or units either at school level (e.g., *Pandu Puteri, Persatuan Bulan Sabit*), university level (e.g., *Pasukan Latihan Pegawai Simpanan Tentera Darat*, *KOR Sukarelawan Polis Siswa Siswi*), or community level (e.g., *Angkatan Pertahanan Awam Malaysia*, *Jabatan Sukarelawan Malaysia*). Youth should be exposed to real-life experiences. These uniform bodies have practises that can mould youth into well-rounded individuals who are intellectually and emotionally balanced. The involvement in the uniform bodies or units should include youth in all categories.
	▶▶ S3: Leadership opportunities in academic and community settings. The appropriate parties should offer platforms for youth to showcase their talents and leadership skills such as talent presentation events in community and family events. These opportunities are essential for developing leadership qualities and exposing potential.
	▶▶ S4: Educational modules to help youth discover and leverage their strengths. Allowing students to demonstrate their talents in class can significantly enhance self-confidence and encourage the pursuit of personal interest and strengths. This restructured approach not only emphasises the importance of engaging youth in meaningful activities but also highlights the role of education, family support, and government initiatives in empowering young individuals to recognise and use their strengths for personal growth and leadership development.

Recommendations	Initiatives
R2 — Empowerment by parents and caregivers	**⏭ S5: Increase youth participation in volunteering activities.** The relevant stakeholders (e.g., KBS, KKD) should aggressively promote volunteering activities (e.g., Rakan Muda Programme), including close collaboration between NGOs, youth associations, schools, and higher educational institutions. Volunteering activities could possibly reduce depressive symptoms by enhancing self-worth among students aged 11 to 18 years [78].
	⏭ S1: Parental involvement in recognising and supporting strengths is vital. Educate parents on the importance of recognising their children's strengths and providing the appropriate resources and support. Whether it is enrolling them in specialised enrichment programs, supplying the right equipment, or actively participating in their endeavours, parental support is the key to nurturing their child's potential.
	⏭ S2: Parents should receive training in mental health literacy and positive parenting skills to further support their children's emotional and psychological development. Parents hold a pivotal role in fostering their children's mental well-being, and evidence indicates that positive parenting practises are closely linked to improved mental health outcomes.
	⏭ S3: Parents should educate their children on finance-related matters. Parents should teach their children about financial matters, fostering an open dialogue about money within the family. Sharing insights on budgeting and financial management can equip children with essential skills for sound decision-making. By observing how their parents handle income, expenses, and savings, children gain practical examples to guide their own financial decisions in the future.

5.3   Limitation

Some of the key limitations include:

Recall bias may affect the accuracy of self-reported data, especially when asking about past mental health experiences or symptoms. Youths may struggle to accurately recall specific details or emotions from the past, leading to less reliable data.

The current study utilised the quantitative method only, which provided quantitative data in terms of numbers and trends; however, a deeper understanding is crucial for developing effective interventions, policies, and support systems that truly address the needs of youth in terms of their mental health. Hence a qualitative study that will explore the issue in depth is suggested for future research.

5.4   Way forward

The following are the five ways forward:

The Malaysian Youth Mental Health Index Study should be **carried out periodically** to determine the trend or pattern in Malaysian youth mental health.

A **comprehensive study** that **focuses** on a critical indicator which is **social expectation** should be **undertaken**. This is important to **enhance** the mental health level among Malaysian youth.

Establishing a National Steering Committee dedicated to youth mental health is of **utmost importance**, as emphasised in the Malaysia Country Report on Mental Health and Psychosocial Support (MHPSS) Systems and Services for children and adolescents [79].

Future research should **consider a combination of quantitative and qualitative approaches** to best gather information with regards to the source of the issues and ways to improve the situation.

The Youth Mental Health Action Plan should be **developed** to help and guide all stakeholders' actions. This includes **prevention** of mental health issues and the **promotion** of mental health and well-being.

References

References

[1] *Mental disorders*, World Health Organization, June 2022. [Online]. Available: https://www.who.int/news-room/fact-sheets/detail/mental-disorders

[2] *Mental health of adolescents, World Health Organization*, Nov. 2021. [Online]. Available: https://www.who.int/news-room/fact-sheets/detail/adolescent-mental-health

[3] Institute for Public Health, "National Health and Morbidity Survey (NHMS) 2019: Vol.1: NCDs - Non-Communicable Diseases: Risk Factors and other Health Problems," Shah Alam, MY, TR-NMRR-18-3085-44207, 2019.

[4] Institute for Public Health, "National Health & Morbidity Survey (NHMS) 2022: Adolescent Health Survey- Key Findings," Shah Alam, MY, Rep. NMRR-21-157-58261, 2022.

[5] Institute for Health Behavioural Research, "Contributing Factors to Psychological Distress, Coping Strategies, and Help-Seeking Behaviours Among Adolescents Living in the Klang Valley People's Housing Project (PPR)," Shah Alam, MY, TR-978-967-5340-51-2, 2023.

[6] Institut Penyelidikan Pembangunan Belia Malaysia, "Facts & Figures Kajian Indeks Belia Malaysia 2022 (IBM'22)," Putrajaya, MY, Rep. 2590-3926, 2023.

[7] Institut Penyelidikan Pembangunan Belia Malaysia, "Facts & Figures Kajian Profil Kesihatan Mental Belia Malaysia," Putrajaya, MY, Rep. 978-967-2783-13-8, 2023.

[8] Institut Penyelidikan Pembangunan Belia Malaysia, "Garis Panduan Menangani Isu Kesihatan Mental Belia Malaysia," Putrajaya, MY, Rep. 978-967-2783-10-7, 2023.

[9] D. Bhugra, A. Till, and N. Sartorius, "What is mental health?," Int. J. Soc. Psychiatry, vol. 59, no. 1, pp. 3–4, Feb. 2013, doi: 10.1177/0020764012463315.

[10] S. Galderisi, A. Heinz, M. Kastrup, J. Beezhold, and N. Sartorius, "Toward a new definition of mental health," World Psychiatry, vol. 14, no. 2, pp. 231–233, June 2015, doi: 10.1002/wps.20231.

[11] Mental health, World Health Organization, June 2022. [Online]. Available: https://www.who.int/news-room/fact-sheets/detail/mental-health-strengthening-our-response

[12] Á. Denche-Zamorano et al., "Increased Risks of Mental Disorders: Youth with Inactive Physical Activity," *Healthcare*, vol. 10, no. 2, pp. 237–249, Feb. 2022, doi: 10.3390/healthcare10020237.

[13] S. L. Bell, S. Audrey, D. Gunnell, A. Cooper, and R. Campbell, "The relationship between physical activity, mental wellbeing and symptoms of mental health disorder in adolescents: a cohort study," *Int. J. Behav. Nutr. Phys. Act.*, vol. 16, no. 1, pp. 138–150, Dec. 2019, doi: 10.1186/s12966-019-0901-7.

[14] L. P. Dale, L. Vanderloo, S. Moore, and G. Faulkner, "Physical activity and depression, anxiety, and self-esteem in children and youth: An umbrella systematic review," *Ment. Health Phys.*

Act., vol. 16, pp. 66–79, Mar. 2019, doi: 10.1016/j.mhpa.2018.12.001.

[15] M. Khosravi *et al*., "Healthy and Unhealthy Dietary Patterns Are Related to Depression: A Case-Control Study," *Psychiatry Investig*, vol. 12, no. 4, pp. 434–442, Oct. 2015, doi: 10.4306/pi.2015.12.4.434.

[16] L. H. A. Gratão et al., "Dietary patterns, breakfast consumption, meals with family and associations with common mental disorders in adolescents: a school-based cross-sectional study," *BMC Public Health*, vol. 22, no. 980, pp. 1–10, May 2022, doi: 10.1186/s12889-022-13367-7.

[17] E. S. Scott, C. Canivet, and P.-O. Östergren, "Investigating the effect of social networking site use on mental health in an 18–34 year-old general population; a cross- sectional study using the 2016 Scania Public Health Survey," *BMC Public Health*, vol. 20, no. 1, pp. 1753–1763, Nov. 2020, doi: 10.1186/s12889-020-09732-z.

[18] M. Sherlock and D. L. Wagstaff, "Exploring the relationship between frequency of Instagram use, exposure to idealized images, and psychological well-being in women." *Psychol. Pop. Media Cult.*, vol. 8, no. 4, pp. 482–490, Oct. 2019, doi: 10.1037/ppm0000182.

[19] K. Lup, L. Trub, and L. Rosenthal, "Instagram #instasad?: exploring associations among instagram use, depressive symptoms, negative social comparison, and strangers followed," *Cyberpsychol. Behav. Soc. Netw.*, vol. 18, no. 5, pp. 247–252, May 2015, doi: 10.1089/cyber.2014.0560.

[20] C. Midgley, S. Thai, P. Lockwood, C. Kovacheff, and E. Page-Gould, "When every day is a high school reunion: Social media comparisons and self-esteem.," *Journal of Personality and Social Psychology*, vol. 121, no. 2. American Psychological Association, pp. 285–307, Aug. 2021, doi: 10.1037/pspi0000336.

[21] C. Moningka and R. Eminiar, "The Effect of Self Comparison in Social Media on Self Esteem," *Adv. Soc. Sci. Educ. Humanit. Res.*, vol. 494, pp. 383–389, 2019.

[22] S. Jiang and A. Ngien, "The Effects of Instagram Use , Social Comparison , and Self-Esteem on Social Anxiety: A Survey Study in Singapore," *Soc. Media + Soc.*, vol. 6, no. 2, pp. 1–10, May 2020, doi: 10.1177/2056305120912488.

[23] E. A. Vogel, J. P. Rose, L. R. Roberts, and K. Eckles, "Social Comparison, Social Media, and Self-Esteem," *Psychol. Pop. Media Cult.*, vol. 3, no. 4, pp. 206–222, Oct. 2014, doi: 10.1037/ppm0000047.

[24] T. N. Lam, D. B. Jensen, J. D. Hovey, and M. E. Roley-Roberts, "College students and cyberbullying: how social media use affects social anxiety and social comparison," *Heliyon*, vol. 8, no. 12, p. e12556, Dec. 2022, doi: 10.1016/j.heliyon.2022.e12556.

[25] V. A. Coelho, M. Marchante, and A. M. Romão, "Adolescents' trajectories of social anxiety and social withdrawal: Are they influenced by traditional bullying and cyberbullying roles?," *Contemp. Educ. Psychol.*, vol. 69, p. 102053, Apr. 2022, doi: 10.1016/j.cedpsych.2022.102053.

[26] Z. Gong, J. D. Reinhardt, Z. Han, Z. Ba, and S. Lei, "Associations between school bullying and anxiety in children and adolescents from an ethnic autonomous county in China," *Psychiatry Res.*, vol. 314, p. 114649, Aug. 2022, doi: 10.1016/j.psychres.2022.114649.

[27] W. Wang, X. Xie, X. Wang, L. Lei, Q. Hu, and S. Jiang, "Cyberbullying and depression among Chinese college students: A moderated mediation model of social anxiety and neuroticism," *J. Affect. Disord.*, vol. 256, pp. 54–61, Sept. 2019, doi: 10.1016/j.jad.2019.05.061.

[28] H. Sampasa-Kanyinga, P. Roumeliotis, and H. Xu, "Associations between Cyberbullying and School Bullying Victimization and Suicidal Ideation, Plans and Attempts among Canadian Schoolchildren," *PLoS One*, vol. 9, no. 7, p. e102145, June 2014, doi: 10.1371/journal.pone.0102145.

[29] M. C. Martínez-Monteagudo, B. Delgado, Á. Díaz-Herrero, and J. M. García-Fernández, "Relationship between suicidal thinking, anxiety, depression and stress in university students who are victims of cyberbullying," *Psychiatry Res.*, vol. 286, p. 112856, Apr. 2020, doi: 10.1016/j.psychres.2020.112856.

[30] A. B. Eisman, S. A. Stoddard, J. Heinze, C. H. Caldwell, and M. A. Zimmerman, "Depressive symptoms, social support, and violence exposure among urban youth: A longitudinal study of resilience.," *Dev. Psychol.*, vol. 51, no. 9, pp. 1307–1316, Sept. 2015, doi: 10.1037/a0039501.

[31] M. Kim et al., "Severity of post-traumatic stress disorder and childhood abuse in adult crime victims as mediated by low resilience and dysfunctional coping strategies," *Child Abuse Negl.*, vol. 118, p. 105154, Aug. 2021, doi: 10.1016/j.chiabu.2021.105154.

[32] S. E. Sanchez et al., "Childhood physical and sexual abuse experiences associated with post-traumatic stress disorder among pregnant women," *Ann. Epidemiol.*, vol. 27, no. 11, pp. 716-723.e1, Nov. 2017, doi: 10.1016/j.annepidem.2017.09.012.

[33] J. Wu, S. Liu, J. Luo, X. Li, and J. You, "The effects of childhood abuse, depression, and self-compassion on adolescent nonsuicidal self-injury: A moderated mediation model," *Child Abuse Negl.*, vol. 136, p. 105993, Feb. 2023, doi: 10.1016/j.chiabu.2022.105993.

[34] H. C. Comijs, E. van Exel, R. C. van der Mast, A. Paauw, R. Oude Voshaar, and M. L. Stek, "Childhood abuse in late-life depression," *J. Affect. Disord.*, vol. 147, no. 1-3, pp. 241–246, May 2013, doi: 10.1016/j.jad.2012.11.010.

[35] S. Li, F. Zhao, and G. Yu, "Childhood Emotional Abuse and Depression Among Adolescents: Roles of Deviant Peer Affiliation and Gender," *J. Interpers. Violence*, vol. 37, no. 1–2, pp. NP830–NP850, May 2020, doi: 10.1177/0886260520918586.

[36] X. Wang, R. Xie, W. Ding, M. Jiang, S. Kayani, and W. Li, "You Hurt Me , so I Hurt Myself and Others : How Does Childhood Emotional Maltreatment Affect Adolescent Violent Behavior and Suicidal Ideation?," *J. Interpers. Violence*, vol. 37, no. 23–24, pp. NP22647 –NP22672, Jan. 2022, doi: 10.1177/08862605211072177.

[37] J. Nelson, A. Klumparendt, P. Doebler, and T. Ehring, "Childhood maltreatment and characteristics of adult depression: meta-analysis," *Br. J. Psychiatry*, vol. 201, no. 2, pp. 96–104, Feb. 2017, doi: 10.1192/bjp.bp.115.180752.

[38] C. Peng, Z. Wang, Y. Yu, J. Cheng, X. Qiu, and X. Liu, "Co-occurrence of sibling and peer bullying victimization and depression and anxiety among Chinese adolescents: The role of sexual

orientation," *Child Abuse Negl.*, vol. 131, p. 105684, Sept. 2022, doi: https://doi.org/10.1016/j.chiabu.2022.105684.

[39] N. Balluerka, J. Aliri, O. Goñi-Balentziaga, and A. Gorostiaga, "Association between bullying victimization, anxiety and depression in childhood and adolescence: The mediating effect of self-esteem," *Rev. Psicodidáctica (English ed.)*, vol. 28, no. 1, pp. 26–34, Jan. 2023, doi: 10.1016/j.psicoe.2022.11.001.

[40] W. Lai et al., "Association between bullying victimization, coping style, and mental health problems among Chinese adolescents," *J. Affect. Disord.*, vol. 324, pp. 379–386, Mar. 2023, doi: 10.1016/j.jad.2022.12.080.

[41] C. C. Brito and M. T. Oliveira, "Bullying and self-esteem in adolescents from public schools," *J. Pediatr. (Rio. J)*., vol. 89, no. 6, pp. 601–607, Nov. 2013, doi: 10.1016/j.jped.2013.04.001.

[42] E. I. M. Iglesias and B. D. B. R. Vallejo, "Prevalence of bullying at work and its association with self-esteem scores in a Spanish nurse sample," *Contemp. Nurse*, vol. 42, no. 1, pp. 2–10, Aug. 2012, doi: 10.5172/conu.2012.42.1.2.

[43] X. Wu, J. Qi, and R. Zhen, "Bullying Victimization and Adolescents' Social Anxiety : Roles of Shame and Self-Esteem," *Child Indic*. Res., vol. 14, pp. 769–781, Apr. 2021, doi: 10.1007/s12187-020-09777-x.

[44] J. A. La Torre et al., "Psychological Distress , Family Support and Employment Status in First-Year University Students in Spain," *Int. J. Environ. Res*. Public Health, vol. 16, no. 7, pp. 1209, Apr. 2019, doi: 10.3390/ijerph16071209.

[45] S. M. Levens, S. Sagui-henson, and S. Francisco, "The Role of Family Support and Perceived Stress Reactivity in Predicting Depression in College Freshman," *J. Soc. Clin. Psychol.*, vol. 35, no. 4, pp. 342–355, Apr. 2016, doi: 10.1521/jscp.2016.35.4.342.

[46] J. W. Pettit, R. E. Roberts, P. M. Lewinsohn, J. R. Seeley, and Y. I., "Developmental relations between perceived social support and depressive symptoms through emerging adulthood: blood is thicker than water.," *J. Fam. Psychol.*, vol. 25, no. 1, pp. 127–136, Feb. 2011, doi: 10.1037/a0022320.

[47] E. H. Telzer, N. Gonzales, and A. J. Fuligni, "Family Obligation Values and Family Assistance Behaviors: Protective and Risk Factors for Mexican – American Adolescents' Substance Use," J. *Youth Adolesc.*, vol. 43, pp. 270–283, Feb. 2014, doi: 10.1007/s10964-013-9941-5.

[48] M. Komariah, K. Ibrahim, T. Pahria, L. Rahayuwati, and I. Somantri, "Effect of Mindfulness Breathing Meditation on Depression, Anxiety, and Stress: A Randomized Controlled Trial among University Students," *Healthcare*, vol. 11, no. 1, pp. 26, Dec. 2023, doi: 10.3390/healthcare11010026.

[49] S. Bhattacharya, M. Kennedy, C. Miguel, A. Tröger, S. G. Hofmann, and P. Cuijpers, "Effect of psychotherapy for adult depression on self-esteem: A systematic review and meta-analysis," *J. Affect. Disord.*, vol. 325, pp. 572–581, Jan. 2023, doi: 10.1016/j.jad.2023.01.047.

[50] C. Malone and A. Wachholtz, "The Relationship of Anxiety and Depression to Subjective Well-Being in a Mainland Chinese Sample," *J. Relig. Health*, vol. 57, no. 1, pp. 266–278, Feb. 2018, doi: 10.1007/s10943-017-0447-4.

[51] Institut Penyelidikan Pembangunan Belia Malaysia, "Statistik Belia Malaysia

2021 Vol. 9," Putrajaya, MY, Rep. 2289-862X, 2022.

[52] Kementerian Belia dan Sukan, "Dasar Belia Malaysia 2015-2035 (2015)". Putrajaya, MY, 2015.

[53] *Sample size calculator*, Raosoft, 2004. [Online]. Available: http://www.raosoft.com/samplesize.html

[54] A. Doherty and A. F. Miravalles, "Physical Activity and Cognition: Inseparable in the Classroom," *Front. Educ.*, vol. 4, pp. 1–7, Sep. 2019, doi: 10.3389/feduc.2019.00105.

[55] P. S. Sheela, W. Y. Choo, L. Y. Goh, and C. P. L. Tan, "Gambling Risk Amongst Adolescents: Evidence from a School-Based Survey in the Malaysian Setting," *J. Gambl. Stud.*, vol. 32, no. 2, pp. 643–659, June 2016, doi: 10.1007/S10899-015-9577-3.

[56] S. M. Ang and S. C. Ang, "Gambling in Malaysia: Issues, Problems and Solutions," *Int. J. Mod. Trends Soc.* Sci., vol. 5, no. 21, pp. 18–29, Sep. 2022, doi: 10.35631/ijmtss.521002.

[57] L. Robinson, J. Segal, and M. Smith, "The mental health benefits of exercise," HelpGuide.org, Feb. 28, 2022. [Online]. Available: https://www.helpguide.org/articles/healthy-living/the-mental-health-benefits-of-exercise.htm.

[58] Institut Penyelidikan Pembangunan Belia Malaysia, "Facts & Figures Indeks Budaya Sukan Malaysia 2022 (IBSM'22)," Putrajaya, MY, Rep. 978-967-2783-14-5, 2023.

[59] X. Liu, Y. Yan, F. Li, and D. Zhang, "Fruit and vegetable consumption and the risk of depression: A meta-analysis," *Nutrition*, vol. 32, no. 3, pp. 296–302, Mar. 2016, doi: 10.1016/j.nut.2015.09.009.

[60] S. Mihrshahi, A. J. Dobson, and G. D. Mishra, "Fruit and vegetable consumption and prevalence and incidence of depressive symptoms in mid-age women: results from the Australian longitudinal study on women's health," *Eur. J. Clin. Nutr.*, vol. 69, no. 5, pp. 585–591, May 2015, doi: 10.1038/ejcn.2014.222.

[61] J. Kim and S. Chatterjee, "Financial Debt and Mental Health of Young Adults," *J. Financ. Couns. Plan.*, vol. 32, no. 2, pp. 187–201, Feb. 2021, doi: 10.1891/JFCP-18-00048.

[62] L. Y. Jia, "Financial Vulnerability of Working Adults in Malaysia," *Contemp. Econ.*, vol. 11, no. 2, pp. 205–218, 2017.

[63] *When financial knowledge alone is not enough*, Credit Counselling and Debt Management Agency, Aug. 2019. [Online]. Available: https://www.akpk.org.my/when-financial-knowledge-alone-not-enough

[64] Bank Negara Malaysia, "Financial Stability Review First Half 2022," Kuala Lumpur, MY, 2022.

[65] T. Hu, D. Zhang, and J. Wang, "A meta-analysis of the trait resilience and mental health A meta-analysis of the trait resilience and mental health," *Pers. Individ*. Dif., vol. 76, pp. 18–27, Apr. 2015, doi: 10.1016/j.paid.2014.11.039.

[66] A. N. Banducci, C. W. Lejuez, L. R. Dougherty, and L. Macpherson, "A Prospective Examination of the Relations between Emotional Abuse and Anxiety: Moderation by Distress Tolerance," *Prev Sci*, vol. 18, no. 1, pp. 20–30, Jan. 2017, doi: 10.1007/s11121-016-0691-y

[67] J. Lindert, O. S. von Ehrenstein, R. Grashow, G. Gal, E. Braehler, and M. G. Weisskopf, "Sexual and physical

abuse in childhood is associated with depression and anxiety over the life course: systematic review and meta-analysis," *Int. J. Public Health*, vol. 59, pp. 359–372, Apr. 2014, doi: 10.1007/s00038-013-0519-5.

[68] M. L. Radell, E. G. Abo Hamza, W. H. Daghustani, A. Perveen, and A. A. Moustafa, "The Impact of Different Types of Abuse on Depression," *Depress. Res. Treat.*, vol. 2021, Apr. 2021, doi: 10.1155/2021/6654503.

[69] Y. Hayashi et al., "Direct and indirect influences of childhood abuse on depression symptoms in patients with major depressive disorder," *BMC Psychiatry*, vol. 15, pp. 1–8, Dec. 2015, doi: 10.1186/s12888-015-0636-1.

[70] S. Clement et al., "What is the impact of mental health-related stigma on help-seeking? A systematic review of quantitative and qualitative studies," *Psychol. Med.*, vol. 45, no. 1, pp. 11–27, Jan. 2015, doi: 10.1017/S0033291714000129.

[71] J. Crawford, "What are the signs of mild depression?," Medical News Today, May 30, 2023. [Online]. Available: https://www.medicalnewstoday.com/articles/321385

[72] Z. Villines, "What to know about severe depression," Medical News Today, Feb. 11, 2022. [Online]. Available: https://www.medicalnewstoday.com/articles/severe-depression

[73] S. McManus, P. E. Bebbington, and R. Jenkins, "Mental Health and Wellbeing in England: the Adult Psychiatric Morbidity Survey 2014," NHS Digital, Leed, UK, 2016.

[74] O. Remes, C. Brayne, R. van der Linde, and L. Lafortune, "A systematic review of reviews on the prevalence of anxiety disorders in adult populations," *Brain Behav.*, vol. 6, no. 7, p. e00497, Jul. 2016, doi: 10.1002/brb3.497.

[75] UNICEF, "The State of the World's Children 2021: On My Mind - Promoting, protecting and caring for children's mental health," New York, US, 2021.

[76] *Pusat Remaja KafeTEEN*, Lembaga Penduduk dan Pembangunan Keluarga Negara, July 2022. [Online]. Available: https://www.lppkn.gov.my/lppkngateway/frontend/web/index.php?r=portal/article & menu=125&id=ZVhpeDFTVnVEaThuOWhDejFSM29ZQT09

[77] *Program Hidangan Berkhasiat di Sekolah (HiTS)*, Bahagian Pemakanan, Kementerian Kesihatan Malaysia, Feb. 2022. [Online]. Available: https://hq.moh.gov.my/ nutrition/ program - hidangan-berkhasiat-di-sekolah-hits-2/#:~:text = PENGENALAN,-sayuran dan buah-buahan

[78] H. Bang, D. Won, and S. Park, "School engagement, self-esteem, and depression of adolescents: The role of sport participation and volunteering activity and gender differences," *Child. Youth Serv. Rev.*, vol. 113, p. 105012, Jun 2020, doi: 10.1016/j.childyouth.2020.105012.

[79] UNICEF Malaysia, "Strengthening mental health and psychosocial support systems and services for children and adolescents in East Asia and the Pacific: Malaysia Country Report 2022," Putrajaya, MY, 2022.