FACTORS INFLUENCING PREVENTIVE HEALTH BEHAVIOR FOR CANNABIS USE AMONG VOCATIONAL STUDENTS

NATHAN T-ATHITSAKUL

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR MASTER DEGREE OF NURSING SCIENCE
(INTERNATIONAL PROGRAM)
IN PSYCHIATRIC & MENTAL HEALTH NURSING
FACULTY OF NURSING
BURAPHA UNIVERSITY
2025

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The Thesis of Nathan T-athitsakul has been approved by the examining committee to be partial fulfillment of the requirements for the Master Degree of Nursing Science (International Program) in Psychiatric & Mental Health Nursing of Burapha University

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Thailand is facing an increase in cannabis use among adolescents. Exposure to cannabis during adolescence can affect an individual's neurophysiological health, psychological, sociocultural development, and well-being. Investigating the factors influence preventive behaviors related to cannabis use would be valuable for the early detection of cannabis use among adolescents. The objectives of this study were to investigate preventive health behavior for cannabis use among vocational students and its influencing factors including mental health literacy, family connectedness, optimism, and psychological flexibility. The sample consisted of 299 vocational students from Chonburi Province, aged ≤19 years old. The sample was obtained through simple random sampling technique. Data collection was conducted from April to June 2024. Instruments included 1) personal information 2) an adolescent mental health literacy questionnaire, 3) a family connectedness questionnaire, 4) an optimism questionnaire, 5) psychological flexibility scale for adolescents, and 6) preventive health behavior for cannabis use questionnaire. The Cronbach's Alpha coefficients for questionnaires number 2-6 were 0.96, 0.84, 0.70, 0.76, and 0.93, respectively.

The mean score of preventive health behavior for cannabis use among vocational students was 59.47 (SD = 21.89). Factors regarding mental health literacy, optimism, family connectedness, and psychological flexibility accounted for 34.5% of the variance in preventive health behavior toward cannabis use (R^2 = .345, F4, 294 = 38.64, $p < .001$). The strongest predictor was mental health literacy ($\beta = .32$, $p < .001$) followed by optimism ($\beta = .25$, $p < .001$), family connectedness ($\beta = .13$, $p < .01$), and psychological flexibility ($\beta = .12$, $p < .05$), respectively.

The results of this study provide preliminary information on preventive health behavior for cannabis use and its predictive factors in vocational students. Significant predictors should be taken into account in developing nursing intervention aimed at preventing or decreasing cannabis users and improving individuals' preventive health behavior relevant to cannabis use.

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CHAPTER 1
INTRODUCTION

Background and significance of problems

Cannabis use has gained popularity worldwide, with approximately 228 million users in 2022 and with 60 million were non-medical users (United Nations Office on Drugs and Crime, 2024). Particularly, the Covid-19 pandemic has increased the non-medical use of cannabis and sedatives globally (United Nations Office on Drugs Crime, 2021). Cannabis use is a critical problem in Thailand. Office of Narcotics Control Board (ONCB), Ministry of Justice reported that in 2021 substance abuse in Thailand is still a critical issue compared with previous years. Cannabis is ranked in the top three of the largest amount has increased reported by the number of the substance seized (Office of the Nacrotic Control Board, 2021). In addition, Ministry of Public Health removed cannabis from the controlled substances list on June 9, 2022. The new regulation stipulates that only cannabis extracts containing tetrahydrocannabinol (THC) levels exceeding 0.2% by weight will be classified as narcotics. This legislative change signifies Thailand's legalization of cannabis for cultivation, consumption, and medical purposes (Royal Thai Government Gazette, 2022). The Plook Ganja application, designed to assist Thai citizens in registering cannabis for cultivation and consumption, has yielded significant data since its launch. As of January 5, 2023, a total of 1,125,253 individuals had registered through the application (Food and Drug Administration, 2022).

Adolescent cannabis use has become increasingly prevalent, with approximately 37% of high school students in the United States reporting having used cannabis at least once in their lifetime, and 22% indicating use within the past 30 days. This trend of cannabis use among high school students persisted into 2022 (Centers for Disease Control and Prevention, 2021). Thailand's outcomes report for the fiscal year 2021 from the Office of the Narcotics Control Board (ONCB) indicated that approximately 1.89 million individuals aged 18 to 25—representing 4.3% of the Thai population—have engaged in non-medical cannabis use. This figure reflects a twofold increase compared to the fiscal year 2020 (Department of Mental Health,

2022). In addition, Vipa, Anukul, Samroui, Supaporn, and Sarochinee (2016) reported that 23.2% of vocational students across four regions of Thailand have used at least one type of substance, with cannabis, kratom, and amphetamines being the most commonly reported (Danthamrongkul, 2016). Furthermore, Pimpisa (2017)found that the prevalence of cannabis use among vocational students in the northern region of Thailand was 9.5% (Pimpisa, 2017). Thus, adolescents' cannabis accessibility should be concerned (Department of Mental Health, 2022).

Numerous research evidence has highlighted the potential benefits of medical cannabis, for instance it has been shown to effectively reduce nausea and vomiting, decrease levels of risky alcohol and other illicit substance use, promote weight gain, limit intraocular pressure in patients with glaucoma, and decrease the frequency of epileptic seizures and relieving symptoms of chronic neuropathic pain associated with conditions such as multiple sclerosis. (Fischer, Murphy, Kurdyak, Goldner, & Rehm, 2015; Koppel et al., 2014; Volkow, Baler, Compton, & Weiss, 2014; Whiting et al., 2015; Wilsey et al., 2013). Moreover, some studies have found that patients, who used cannabis to treat a range of medical problems including anxiety, had largely improved cognitive performance, reduced clinical symptoms and anxiety-related symptoms as well as reduced use of conventional medications, including opioids, benzodiazepines, and other (Cooper et al., 2018; Gruber, Smith, Dahlgren, Lambros, & Sagar, 2021; Hill & Saxon, 2018). Conversely, exposure to cannabis during adolescence stage caused disruption of the endocannabinoid system development and led to a wild range of effects (Volkow et al., 2014). Cannabis use in adolescents affects neurophysiological health including; altered connectivity and reduced volume of specific brain regions such as the hippocampus, prefrontal cortex, amygdala, and cerebellum (R. S. Kalayasiri, Sakol, 2020), Biological health; causing AKT1 gene variations (Di Forti et al., 2012). Psychological consequences including led impairment of memory, learning, and impulse control (Batalla et al., 2013; Filbey et al., 2014; R. S. Kalayasiri, Sakol, 2020), a decline in IQ (Meier et al., 2012), and EQ (Leeviroj, 2022a), developing dependence, using other drugs, diminished life attainment goals (D. M. Fergusson & Boden, 2008), attempting suicide (Leos-Toro, Fong, Meyer, & Hammond, 2020), and risk of developing psychosis (Caspi et al., 2005). Affecting sociocultural aspects including led lower GPAs and a longer time to

graduation (Arria, Caldeira, Bugbee, Vincent, & O'Grady, 2015), lower income, greater welfare dependence, unemployment, and criminal behavior (Brook, Lee, Finch, Seltzer, & Brook, 2013; D. M. Fergusson & Boden, 2008). Given the recent legalization of cannabis for cultivation, consumption, and medical purposes, it is crucial to investigate preventive behavior related to cannabis use among adolescents to understand the factors that influence cannabis consumption. Understanding this behavior can help develop effective strategies to mitigate the risk of cannabis use in this vulnerable population.

In the context of investigating behavior and its influencing factors, it was essential to select an appropriate conceptual framework to guide the study. A variety of strategies exist for investigating behavior, and one approach is the Socioecological Model (SEM). SEM was first introduced as a conceptual model for understanding human development by Urie Bronfenbrenner in the1970s and later formalized as a theory in the 1980s (Bronfenbrenner, 1977, 2000, 2013; Bronfenbrenner, Morris, Damon, & Lerner, 1998). SEM demonstrates that individual behavior is shaped by factors at multiple levels (Bronfenbrenner, 1977; McLeroy, Bibeau, Steckler, & Glanz, 1988; Sallis, Owen, & Fisher, 2015), such as individual, interpersonal, organizational, community, and public policy influences (Sallis et al., 2015). This study focused mainly on individual-level factors, including mental health literacy, psychological flexibility, and optimism, as well as interpersonal-level factors, namely family connectedness.

Mental health literacy (MHL) is a specific construct that has emerged from the broader domain of Health Literacy (HL) (Kutcher, Wei, & Coniglio, 2016). Strong evidence revealed that the dimension of mental health literacy is very closely related to help-seeking behavior and mental health outcomes (Almanasef, 2021; Tariku Seboka et al., 2022; F. Zhang, Or, & Chung, 2021). It stands to reason that, by improving mental health literacy, health behavior, as well as quality of life were improved (Nobre et al., 2022; Scollione, 2021). The empirical study found that Adolescents' alcohol consumption and tobacco use were influenced by HL (Yangyuen, Mahaweerawat, Thitisutthi, & Mahaweerawat, 2021), lack of knowledge and low-risk perception about the consumption of cannabis contributed involving in cannabis use among adolescent (González-Cano-Caballero et al., 2023) as well as

limited health literacy is associated with health-risk behaviors (e.g., substance abuse, alcohol use, and smoking) (Chisolm, Manganello, Kelleher, & Marshal, 2014; Hoover et al., 2018; Panahi, Niknami, Ramezankhani, Tavousi, & Osmani, 2015; Yangyuen et al., 2021). Positive and negative expectations regarding the future are important for understanding the vulnerability to mental disorders as well as to physical illness. Optimism is derived from a more general interest in the processes that underlie the self-regulation of behavior (Scheier & Carver, 1992) and regarding the traits related to optimism including; hardiness, self-efficacy, and internal locus of control and hope, those are predicted health behavior (Niewiadomska, Bień, Rzońca, & Jurek, 2022). Optimism is a mental attitude that significantly influences both physical and psychological health, as well as the ability to cope with every day, social, and working life through adaptive management of personal goals and development by using active coping strategies (Conversano et al., 2010). Optimism also refers to a personal belief and faith that life's outcomes will primarily be positive, and a distressing present has the potential to be transformed into a better future (Setia, Krägeloh, Bandyopadhyay, & Subramaniam, 2021). Research evidence indicated that optimism, hope, and self-esteem are key determinants in avoiding substance use (Carvajal, Clair, Nash, & Evans, 1998), optimism had an important role in the tendency to tobacco smoking and substance abuse among students (Ansari et al., 2019), optimism were also found to be protective for both the frequency of alcohol use and heavy drinking trajectories (Rawana & Ames, 2012). In addition, psychological flexibility spans a wide range of human abilities to: recognize and adapt to various situational demands; shift mindsets or behavioral repertoires when these strategies compromise personal or social functioning; maintain balance among important life domains; and be aware, open, and committed to behaviors that are congruent with deeply held values (Kashdan & Rottenberg, 2010). Psychological flexibility has a role in promoting mental health, psychological flexibility is important for one's mental health and that both are integral to life satisfaction (Lucas & Moore, 2020). The original conceptualization of psychological flexibility is "the ability to change or persist with functional behavioral patterns when doing so serves valued ends." Therefore, maintaining flexibility is essential for healthy psychological functioning. People who lack psychological flexibility may have difficulty identifying their core values or may not prioritize them

in their decision-making, their actions may be driven by external influences or short-term gains, leading to a sense of dissatisfaction and disconnection from a meaningful life. Research evidence revealed that psychological flexibility significantly predicts substance misuse, subjective well-being, and self-compassion among university student (Arslan, Uzun, Güven, & Gürsu, 2024; Detchaiyot, Vatanasin, & Dallas, 2021), as well as a predictor of intention to abstain from drugs among youths with substance abuse (Detchaiyot et al., 2021). Moreover, family connectedness describes the quality of connections within a family and is important for well-being in adolescence (White & Newcombe, 2014). Family connectedness encompasses the feeling of trust, understanding, and support within the family, and is significantly associated with healthy child development (Collins, 2013). The research evidence suggested that adolescents who reported feeling connected to home or school at ages 12-17 years were as much as 66% less likely to experience health risk behaviors related to sexual health, substance use, and violence and to have better mental health in adulthood than less connected peers (Steiner et al., 2019). Family connectedness was also significantly negatively related to smoking tobacco and risky drinking, negative associated with substance use, and also predicted lower risk of experiencing drug use problems (Kopak, Chen, Haas, & Gillmore, 2012; Tomlinson, 2021; White & Newcombe, 2014). Thus, having parental support, bonding, communication, and interaction between adolescents and parents, youth have an increased opportunity to live healthier, more productive lives and are less likely to participate in health-risk behaviors (Blum, Lai, Martinez, & Jessee, 2022).

Adolescents have significant potential as the country's future drivers of development and societal change. Based on literature reviews, Thailand is experiencing an increase in cannabis use among adolescents (Suranatwatchawong et al., 2024), particularly among vocational students (Paileeklee et al., 2016). Thus, this study aims to investigate the factors influencing preventive health behaviors related to cannabis use among vocational students, including mental health literacy, optimism, psychological flexibility, and family connectedness. Chonburi province located in eastern of Thailand. Pattaya, a major tourism destination in Thailand located in Chonburi, along with Laem Chabang, the country's primary seaport. In addition, Chonburi is also the center of the country's largest industrial parks. The population of

the province has grown rapidly and now totals 1.7 million residents, although a large portion of the population is floating or unregistered (Population Stat world statistical data, 2022). In 2023, 1,730 people in Chonburi were diagnosed with cannabis use disorder (F12.0–12.9) based on the International Classification of Diseases and Related Health Problems, 10th Revision (ICD-10), which is a 73% increase compared to the previous year. Chonburi ranks second in Eastern Thailand for the highest number of people with cannabis use disorder (Health Data Center, 2024). Chonburi is the most attractive to tourists and rapid urbanization led Chonburi to be one of the most dominant drug markets and trafficking by amount seized (Thaikla, 2022). Chonburi vocational students should be investigated in terms of factors that account for preventive behavior for cannabis use to early detect any behavioral pattern trends contributed to cannabis use.

With a limited amount of research on preventive health behavior related to cannabis use. Assessing this behavior among vocational students would be valuable for the early detection of cannabis use and associated risk factors. Investigating factors such as mental health literacy, family connectedness, optimism, and psychological flexibility, and examining their influence on preventive health behavior, would provide valuable insights for improving strategies aimed at preventing cannabis use within this population. This study would fill this gap by identifying the factors influencing preventive health behavior toward cannabis use among vocational students within the Thai context. Furthermore, the findings will contribute to the foundation for the development of effective cannabis prevention strategies. Results obtained from this study would help in formulating structured training programs to enhance the capacity of healthcare professionals, social workers, and school counselors regarding to support a deeper understanding of preventive health behavior related cannabis use and its influencing factors. Preventive health behavior related to cannabis use can act as a buffer against cannabis misuse. Exploring the factors that influence these behaviors is crucial for developing effective strategies and interventions aimed at reducing cannabis use among this population. At the policy level, the knowledge derived from this study is expected to play a pivotal role in the formulation of effective policies and preventive strategies aimed at reducing adolescent cannabis use.

Research Objectives

This study aimed to:

1. Describe the preventive behavior related to cannabis use among vocational students in Chonburi, Thailand.

2. Examine influencing factors of preventive behavior for cannabis use among vocational students including mental health literacy, psychological flexibility, optimism, family connectedness.

Research Hypothesis

Mental health literacy, psychological flexibility, optimism, and family connectedness can jointly predict preventive behavior for cannabis use among vocational students in Chonburi, Thailand.

Research Conceptual Framework

The conceptual framework of this study is guided by Socioecological Model (SEM) and a literature review. SEM was first introduced as a conceptual model for understanding human development by Urie Bronfenbrenner in the1970s and later formalized as a theory in the 1980s (Bronfenbrenner, 1977, 2000, 2013; Bronfenbrenner et al., 1998). The core concept of the Socioecological Model is that behavior is influenced by multiple levels, including the individual, interpersonal, organizational, community, and public policy (Mubayi, 2017). It focuses on the linkages and relationships among those factors (or determinants) affecting health behavior (Sallis et al., 2015). Strong evidence revealed that mental health literacy (Almanasef, 2021; Nobre et al., 2022; Scollione, 2021; Tariku Seboka et al., 2022; F. Zhang et al., 2021), optimism (Niewiadomska et al., 2022; Scheier & Carver, 1992), psychological flexibility (Kashdan & Rottenberg, 2010), and family connectedness (Blum et al., 2022), are strongly associated with health behavior. Therefore, this study used SEM and literature reviews as the framework of the study. These predictive factors include mental health literacy, psychological flexibility, and optimism within the intrapersonal domain, and family connectedness within the interpersonal domain. A diagram of the study framework is shown in Figure 1.

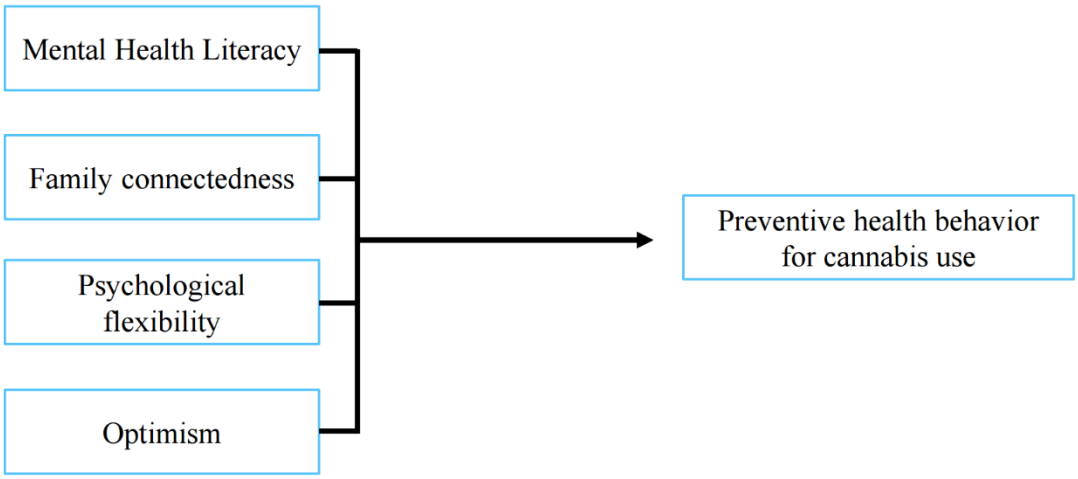

Figure 1 Research conceptual framework.

Scope of the study

This study was conducted to describe the preventive behavior related to cannabis use and examine the influencing factors of preventive behavior for cannabis use among vocational students. Participants included vocational students aged ≤ 19 years who were currently studying at a Technical College 2, located in Chonburi province, Thailand. The period of data collection was from April to June 2024.

Definition of terms

Preventive behavior for cannabis use refers to any activities undertaken by vocational students in preventing cannabis use. The activities being performed may be promoted by individuals, family, and the community factor. Preventive health behavior for cannabis use was measured using the instrument developed by the researcher based on definitions, Socio-Ecological Model, literature reviews, and the concept of protective factors for preventing cannabis use among adolescents.

Mental health literacy refers to vocational students' knowledge/stereotypes, beliefs, self-help abilities, help-seeking and first-aid skills about mental disorders which aid their recognition, management, or prevention. It was

measured using the Adolescent Mental Health Literacy Questionnaire (AMHLQ) developed by Campos, Dias, Palha, Duarte, and Veiga (2016)

Psychological flexibility is defined as vocational students' perception of contact with the present moment, fully aware of emotions, sensations, and thoughts, welcoming them including the undesired ones, and moving in a pattern of behavior in the service of chosen values. Psychological flexibility was measured using the Psychological Flexibility Scale for Adolescents developed by Sannarin, Sakulsriprasert, and Thongpibul (2019).

Optimism is defined as vocational students' perception of a generalized tendency to expect positive outcomes even in the face of obstacles, having hope, and belief in their potential to pass through difficulty. Optimism was measured using a 10-items Life Orientation Test-Revised (LOT-R) developed by Scheier, Carver, and Bridges (1994). The Thai version of the LOT-R translated by Lonhlam, Sutiwan, and Pornprasertmanit (2008).

Family connectedness is defined as how closedness the vocational students perceived with their families, the perception of care provided by family members, satisfaction with family relationships, and the sense of being loved and valued within the family unit. Family connectedness was measured by the questionnaire developed by Krasaesat, Deoisres, and Wacharasin (2011), which was modified from the questionnaire of Nopparat (2000), according to the concept of (Resnick, Harris, & Blum, 1993).

CHAPTER 2
REVIEW LITERATURE

This study aimed to describe preventive health behavior concerning cannabis use and to examine the factors that predict this behavior, specifically focusing on mental health literacy, family connectedness, optimism, and psychological flexibility. Accordingly, this chapter provides a comprehensive literature review addressing these constructions including.

1. Overview of cannabis and situation of cannabis use
2. Adolescents and vocational students with cannabis use
3. Protective factors related cannabis use
4. Factors associated with preventive health behavior for cannabis use
5. Preventive Health Behavior for Cannabis use and associated theories
6. Summary

Overview of cannabis and situation of cannabis use

Definition of cannabis

Cannabis refers to the dried leaves, flowers, stems, and seeds of the cannabis plant. The plant has many different chemical compounds, including tetrahydrocannabinol (THC), which has intoxicating—mind altering—effects (National Institute on Drug Abuse, 2024). Cannabis is a generic term used to denote the several psychoactive preparations of the plant Cannabis sativa. The cannabis plant contains about 540 chemical substances (National Center for Complementary and Integrative Health, 2019). THC (tetrahydrocannabinol) is the primary psychoactive ingredient in cannabis. Cannabinoids (CBD) are substances that share structural similarities with THC. Furthermore, several newly discovered substances exhibit many of the pharmacological characteristics of cannabinoids despite having structural differences. CBD derived directly from the hemp plant, a cousin of cannabis, or manufactured in a laboratory (National Center for Complementary and Integrative Health, 2019). In many nations, cannabis leaves or other unprocessed plant material are commonly referred to by the Mexican term "marijuana." Hashish is the term for

the unpollinated female plants. Cannabis oil, often known as hashish oil, is a cannabinoid concentration made by solvent extraction of the resin or raw plant material (World Health Organization, 2024).

Epidemiology

The most commonly grown and abused illegal substance is without a doubt cannabis. Cannabis seizures account for half of all drug seizures globally. Additionally, such seizures are geographically widespread, occurring in almost every nation on Earth. Approximately 228 million individuals, or 3.88% of the global population, use cannabis (United Nations Office on Drugs and Crime, 2024), compared with 0.2% consuming cocaine and 0.2% consuming opiates. Cannabis abuse has increased at a faster rate than cocaine and opiate abuse in the last ten years. Since the 1960s, industrialized nations in North America, Western Europe, and Australia have had the fastest increases in cannabis consumption. The age of initiation for cannabis is typically lower than that of other drugs, and it has been more associated with youth culture. An examination of cannabis marketplaces reveals that high levels of abuse are correlated with low prices, and vice versa. In the short term, cannabis seems to be price-inelastic, but in the long run, it seems to be rather elastic. Despite the fact that there are more people using cannabis than using opiates or cocaine, the cannabis market is relatively tiny in terms of economics due to its cheaper pricing (World Health Organization, 2024).

Situation of cannabis use

Around 228 million people used cannabis globally in 2022, with 60 million of them users not using it for medical purposes (United Nations Office on Drugs and Crime, 2024). Furthermore, according to the World Health Organization's annual report, the annual prevalence of cannabis use is approximately 147 million, or 2.5% of the global population, whereas the prevalence of cocaine and opiates is 0.2% and 0.2%, respectively. Cannabis abuse has increased more quickly than cocaine and opiate abuse in the last ten years (World Health Organization, 2024). In Europe, cannabis remains by far the most consumed illicit drug in Europe. National surveys of cannabis use would suggest that overall, around 8 % of European adults (22.6 million aged 15 to 64) are estimated to have used cannabis in the last year (European Union Drugs Agency, 2023).

In Asia and Oceania, Australia, New Zealand, and Thailand, medical use has been approved, whereas it is limited in South Korea and Singapore and illegal in other countries. Except Australia, none of the Asia-Pacific region countries allows recreational use. China and Japan are expected to approve medical use, whereas Australia and New Zealand work on decriminalization. Most cultivation is allowed and regulated for medical use (Areesantichai, Perngparn, & Pilley, 2020). However, following the 2019 approval for medical use, Thailand became the first nation in Asia to legalize the use and purchase of cannabis leaves in February 2021 and the entire plant in June 2022 (R. Kalayasiri & Boonthae, 2023). Ministry of Justice reported that in 2021, cannabis is ranked in the top three of the largest amount has increased reported by the number of the substance seized (Office of the Nacrotic Control Board, 2021). In addition, Ministry of Public Health removed cannabis from the controlled substances list on June 9, 2022. The new regulation stipulates that only cannabis extracts containing tetrahydrocannabinol (THC) levels exceeding 0.2% by weight will be classified as narcotics. This legislative change signifies Thailand's legalization of cannabis for cultivation, consumption, and medical purposes (Royal Thai Government Gazette, 2022). Furthermore, the Plook Ganja application designed to assist Thai citizens in registering cannabis for cultivation and consumption, has yielded significant data since its launch. As of January 5, 2023, a total of 1,125,253 individuals had registered through the application (Food and Drug Administration, 2022). The timeline of cannabis legal in Thailand showed below (Rasmon Kalayasiri, 2023).

The drug policy change towards softer measures on drugs in Thailand began in 2016, when the new Drug Act was first drafted as a measure to decriminalize and reduce jail occupancy of people who used drugs in Thailand.

The Drug Act was then formally issued in 2019 for the first time in Thai modern history to allow cannabis use for medical purposes and was renewed again in 2021 to fully exonerate the persons who used drugs as criminals.

In 2022, Thailand removed all parts of the cannabis plant from the illegal drug list, making Thailand the first country in Asia to legalize cannabis use for recreational purposes (no penalty).

As of April 14, 2024, Thailand has a total of 7,747 cannabis sales points, with 1,122 located in Bangkok and 1,114 in Nonthaburi. This represents a significant increase compared to August 2023, when there were approximately 5,600 sales points. The average price of cannabis flowers is 579 baht per gram, with a price range of 250 to 1,000 baht per gram. However, the actual sale price at farms or from producers is approximately 100 to 350 baht per gram. According to surveys conducted in May 2023, September 2023, and February 2024, approximately 20-35% of Thai males and 10-15% of Thai females reported using cannabis at least once during the 12 months prior to the survey. Based on these findings, the overall prevalence of cannabis uses among the Thai population nationwide in 2023-2024 is estimated to be around 20%. Approximately 60% of the population reported using cannabis for recreational purposes, while 34% indicated using it for relaxation and to aid sleep. Only about 6% of respondents stated that they used cannabis for medical purposes (Assanangkornchai, 2024).

Adolescent and vocational students with cannabis use

Adolescence

World Health Organization (WHO) has defined “adolescence” as the phase of life between childhood and adulthood, from ages 10 to 19. It is a unique stage of human development and an important time for laying the foundations of good health. Adolescence is the stage that rapidly of physical, cognitive, and psychological growth. Thus, those growing affect how they think, feel, make decisions, and environmental interactions. During this phase, adolescents establish a pattern of behaviors particularly risky behaviors such as substance use, and sexual activity (World Health Organization, 2022).

The American Psychological Association (APA) defines adolescence as "the period of human development that begins with puberty, typically around 10 to 12 years of age, and concludes with physiological and neurobiological maturity. Neuroscientific research indicates that this maturation process extends to at least age 20, with significant brain development occurring during the late adolescent stage,

specifically between the ages of 18 and 20." (American Psychological Association, 2022).

The Faculty of Medicine at Ramathibodi Hospital, Mahidol University, defines adolescence as "the transition period between childhood and adulthood characterized by biological, psychological, and social development. This stage serves as a preparation for adulthood and cannot be distinctly defined by a specific age range, as it varies based on individual development and cultural norms." (Faculty of Medicine Ramathibodi Hospital Mahidol University, 2020).

Various definitions of terms related to developmental stages can lead to confusion. The following table presents key definitions of adolescence, youth, and young people, categorized by age range.

Table 1 Key definitions of adolescence and the age range.

Group	Age range (According to WHO)
Adolescence	10-19 years
Youth	15-24 years
Young people	10-24 years

Adolescence is the stage marked by change including biological, physical, psychological, and socioenvironmental changes, opening a critically important gateway to adulthood. The period of adolescence is contributed with significant vulnerability to mental health problems for instance depression, anxiety, eating disorders, substance abuse disorders, and psychosis (Blakemore, 2019). Around the 19th century, Charles Darwin and G. Stanley Hall defined adolescence as a period of “storm and stress, a time of universal and of inevitable upheaval” (G. S. Hall, 1905). Sarah-Jayne Blakemore considered adolescence as a distinct period of biological, psychological, and social development. Adolescence is a period in which there is a tremendous amount of growth and changes in adolescents (Ramachandran, 2012). Metamorphism in adolescence starts with the growth and maturation of the reproductive, musculoskeletal, neurodevelopmental, endocrine, metabolic, immune,

and cardio-metabolic systems. For this reason, adolescence can be considered a sensitive phase, during which the quality of the physical, nutritional, and social environments may change trajectories of health and development into later life (Patton et al., 2018). The significant changes in hormones and the body have increased coinciding with mental health problems. For instance, before puberty depression occurs in men and women at around the same but starting puberty earlier than one's peers is a risk factor for depressive symptoms and anxiety, especially in girls. On other hand, developing substances use disorders in boys. In addition, in the adolescence period, the regions of the brain involved in perception and movement (sensory and motor cortices) mature earlier than other regions such as the prefrontal, parietal, and temporal cortices, which are involved in higher-level cognitive processes and continue to develop into the twenties or thirties. Moreover, neurodevelopment including the myelination of axons, axonal growth, and reorganization of synapses may affect mechanisms of neuroplasticity. Those may affect the developing adolescent brain particularly vulnerable to stressful or negative environmental experiences (Blakemore, 2019).

Adolescence is characterized by socioenvironmental factors such as parenting styles, social hierarchies, social networks, and peer groups. Early parenthood predicts both poor maternal and infant health (Blakemore, 2019). Adolescent childbirth, particularly in individuals under the age of 15, is associated with an elevated risk of eclampsia and puerperal infections, as well as an increased likelihood of neonatal undernutrition. In low-income and lower-middle-income countries, the prevalence of mothers giving birth at or below 15 years of age is reported to be 5.5% and 4.1%, respectively. Moreover, maternal health conditions may compromise both the quality and quantity of breast milk, potentially hindering the formation of secure attachment bonds between mother and infant (Patton et al., 2018). When they are with their peers, adolescents are more willing to try new things and take chances than when they are by themselves. Numerous evidence revealed that peer influence or peer group is the factor contributing to substance abuse in adolescence (Leeviroj, 2022b; Libuy, Ibáñez, & Mundt, 2020; Vipa et al., 2016).

Adolescence can be categorized into 3 overlapping developmental stages. These stages are not universally accepted, those are provided a basic framework to understand adolescent development (World Health Organization, 2006).

Table 2 Stages of adolescence

Category of change	**Early**	**Middle**	**Late**
	10-13 to 14-15 years	**14-15 to 17 years**	**17-21 years (variable)**
Growth	Secondary sexual characteristics appear Growth accelerates and reaches a peak	Secondary sexual characteristics advanced Growth slows down, approximately 95% of adult stature attained	Physically mature
Cognition	Concrete thinking Existential orientation Long-range Indications of actions do not perceive	Thinking is more abstract Capable of long-range thinking Reverts to concrete thinking when stressed	Established abstract thinking Future-oriented perceives long-range options
Psychosocial	Preoccupied with: Rapid physical growth Body image Disrupted change	Re-establishes body image Preoccupation with fantasy and idealism Sense of all-powerfulness	Intellectual and functional identity established

Table 2 (Continued)

Category of change	Early	Middle	Late
	10-13 to 14-15 years	14-15 to 17 years	17-21 years (variable)
Family	Defining boundaries of independence/dependence	Conflicts over control	Transposition of child-parent relationships to adult-relationships
Peer group	Seeks affiliation to counter instability	Needs identification to affirm self-image Peer groups define behavioral code	Peer group recedes in favor of individual friendship
Sexuality	Self-exploration and evaluation	Preoccupation with romantic fantasy Testing the ability to attract the opposite sex	Forms stable relationships Maturity and reciprocity Plans for future

Adolescents grow quickly in many areas—physical, mental, and social. Adolescence is a period of human growth and a critical period for establishing a foundation for long-term health. Adolescents require information in order to grow and develop in their health, including comprehensive sexuality education that is age-appropriate, opportunity to learn life skills, and safe, supportive environments as well as health treatments that are suitable, equitable, acceptable, and effective. In order to maintain and enhance their health, they also require chances to actively engage in the planning and implementation of interventions (World Health Organization, 2022).

Initiation of cannabis use and adolescence

The use of cannabis has increasingly gained popularity, particularly among adolescents and young adults. According to data from the Centers for Disease Control and Prevention (CDC), in 2019, 37% of high school students in the United States reported having used cannabis at least once in their lifetime, while 22% indicated

usage within the past 30 days. This trend persisted into 2022, reflecting ongoing patterns of consumption among this demographic (Centers for Disease Control and Prevention, 2021). The outcomes of the Office of Narcotics Control Board (ONCB) of Thailand for the fiscal year 2021 indicate that approximately 1.89 million individuals aged 18 to 25, or 4.3% of the Thai population within this age group, reported having used non-medical cannabis. This figure represents a doubling of the prevalence compared to the previous year, highlighting a significant increase in cannabis use among young adults in Thailand (Department of Mental Health, 2022). In addition, Vipa et al. (2016) report 23.2% of vocational students in high-risk provinces including Nakhon Pathom, Nakhon Sawan, Phra Nakhon Si Ayutthaya, Ubon Ratchathani, and Nakhon Si Thammarat province have used at least 1 type of substance, and the most reported is Cannabis, Kratom, and Amphetamine respectively. Likewise, Pimpisa (2017) found that the prevalence of cannabis usage among vocational students in the northern region of Thailand is 9.5%. Moreover, Shi, Lenzi, and An (2015) have studied the associations between types of cannabis control policies at a country level and the prevalence of adolescent cannabis use. The study analyzed data collected from 2001 to 2010 across 38 countries that regarded cannabis as both a liberalized and illicit substance. The sample included a total of 83,294 boys and 89,600 girls aged 15 years. The prevalence of cannabis use among boys and girls was categorized into three classifications: ever use, past-year use, and regular use, with rates of 19.85%, 15.56%, and 3.32%, respectively.

United Nations Office on Drugs and Crime, (UNODC) has reported percentage of adolescents who perceived cannabis as harmful fell by as much as 40 percent. Indeed, lower perceptions of drug use risks have been linked to higher rates of drug use (World Drug Report, 2021). Similarly, Torrejón-Guirado, Lima-Serrano, Mercken, and de Vries (2022) have found that cannabis users recognized some disadvantages of cannabis use but played down their importance and mentioned more advantages. Nowadays, there are various countries where cannabis become liberalization. Following recreational cannabis legalization led statistically significant increased prevalence of cannabis use, and a lower perception of risk and harm (Mennis, McKeon, & Stahler, 2023). Thus, cannabis accessibility to adolescence should be critically concerned.

Fortunately, over the past 2 decades, numerous shreds of evidence suggest the risk factors of cannabis use in adolescence such as social influenced, especially from peer seem critically plays a role in cannabis use in adolescence (D. Fergusson & Boden, 2011; Leeviroj, 2022b; Libuy et al., 2020; Torrejón-Guirado et al., 2022; Vipa et al., 2016) other factors such as demographic factors; including male gender (D. Fergusson & Boden, 2011; Spechler et al., 2019; Taylor et al., 2017; Torrejón-Guirado et al., 2022), family-related factors; including parental use of illicit drugs and exposure to childhood sexual abuse, low family function, low family affluence as well as the problematic relationship with parents (D. Fergusson & Boden, 2011; Guxensa, Nebot, Ariza, & Ochoa, 2007; Torrejón-Guirado et al., 2022), individual factors; including novelty-seeking behavior, conduct disorder, use of alcohol or tobacco, low perceived risk of cannabis use, curiosity, high pocket money, low self-efficacy to resist using cannabis and positive intentions to use cannabis (D. Fergusson & Boden, 2011; Leeviroj, 2022b; Libuy et al., 2020; Torrejón-Guirado et al., 2022; World Drug Report, 2021), and another social factors; such as much social modeling of cannabis use, social norm and pressure favoring cannabis (Torrejón-Guirado et al., 2022). However, protective factors have been investigated such as familism (Roblyer, Betancourth, & Grzywacz, 2015), individual traits of optimism; a high level of mindfulness; having social phobia; having strong beliefs against substance abuse; the desire to maintain one's health; high paternal awareness of drug abuse; school connectedness; structured activity and having strong religious beliefs (Nawi et al., 2021).

Global studies indicate that the initiation of cannabis use commonly occurs before the age of 18.(Spechler et al., 2019). Similarly, a prospective longitudinal study involving adolescents (N = 2,446) found that the average age of initiation of cannabis use was approximately 13 years. Following this age, there was a marked increase in usage, with the onset of abuse and dependence typically occurring after the age of 15 (von Sydow et al., 2001). Similarly, the prevalence of both occasional and regular cannabis use demonstrated a notable increase between the ages of 13 and 18 years. (Taylor et al., 2017). Furthermore, a substantial body of evidence indicates that factors associated with the initiation of cannabis use frequently include characteristics such as high levels of pleasure-seeking and low levels of effortful control. (Creemers et al.,

2010), own and peer involvement with substances, delinquency, and school problems (Van den Bree & Pickworth, 2005), prior experiences with legal drugs (von Sydow, Lieb, Pfister, Höfler, & Wittchen, 2002), parental and peer-influenced (Day, Goldschmidt, & Thomas, 2006; Ellickson, Tucker, Klein, & Saner, 2004). In addition, the investigation of sex-specific psychosocial and neurobiological features that contributed to the initiation of cannabis use among adolescence by Spechler et al. including psychosocial predictors; parental lifetime cannabis use, greater lifetime alcohol and cigarette use, novelty-seeking personality, disorderly personality, and less-negative feelings towards deviant behaviors, brain predictors; six functional and two structural brain features predicted cannabis use in male, and fifteen functional and two structural brain features predicted cannabis use in the female. Moreover, an investigation of genetic predictors found that cannabis users had a greater number of risk alleles for both Dopamine receptor subtype 1 Single nucleotide polymorphisms (DRD1 SNPs) and three μ1-receptor SNPs suggesting alterations in their neurobiological processing of rewards. However, the findings were uncovered from exploratory models. Hence, genetic predictors yielded a nonsignificant prediction. In addition, psychosocial data alone can be used to significantly predict cannabis use, containing both psychosocial and sex-specific brain features highlighting the utility of capturing individual neurobiological differences in predicting adolescent cannabis use (Spechler et al., 2019).

Cannabis use pattern in adolescence

Cannabis use patterns in adolescence were captured as four latent classes corresponding to ‘non-users’, ‘late-onset occasional’, ‘early-onset occasional’, and ‘regular’ users. There was good agreement that a four-class solution was adequate in explaining the heterogeneity in the cannabis use data (Taylor et al., 2017). Although younger age starting cannabis use will develop dependence or abuse, some evidence suggested that the probability of developing cannabis abuse or dependence is relatively low. Moreover, the natural course of cannabis use is quite variable: about half of all cannabis users (N = 2442) stopped their use spontaneously in their twenties, while others report occasional or more frequent use of cannabis (von Sydow et al., 2001).

Consequences of cannabis use

The regular use of cannabis during adolescence is of particular concern since use by this age group is associated with an increased likelihood of deleterious consequences. Although multiple studies have reported detrimental effects, others have not, and the question of whether canna is harmful remains the subject of heated debate. Here we review the overview of cannabis, and the current state of the science related to the health effects of cannabis use both medical views and adverse health effects, focusing on evidence finding.

- Risk of addiction

Long-term use of cannabis can lead to addiction. Particularly, among those who start using cannabis as teenagers (Volkow et al., 2014). Some evidence suggested that about 1 in 6 among those who start using cannabis as teenagers and 25 to 50% of those who use cannabis daily lead to addiction (W. Hall & Degenhardt, 2009). Indeed, exposure to cannabis during adolescence stage and regular use led increasing in the endocannabinoid system development which can lead to addiction. Adolescent-onset cannabis users were an estimated 2-4 times more likely to experience clinical features within 24 months after first use as compared to their adult-onset counterparts. (Chen, Storr, & Anthony, 2009). However, some evidence suggested that the probability of developing cannabis abuse or dependence is relatively low, and the natural course of cannabis use is quite variable: about half of all cannabis users (N = 2442) stopped their use spontaneously in their twenties (von Sydow et al., 2001). In addition, the risk of cannabis addiction is lower than the risk of addiction to alcohol, tobacco, or opioids (Government of Canada, 2023).

- Effect on brain development

During adolescence the brain remains in a state of activity, During these developmental periods, it is intrinsically more vulnerable than a mature brain to the adverse long-term effects of environmental insults, such as exposure to tetrahydrocannabinol, or THC, the primary active ingredient in cannabis (Volkow et al., 2014). This view has received considerable support from studies in animals, which have shown, for example, that prenatal or adolescent exposure to THC can recalibrate the sensitivity of the reward system to other drugs (DiNieri & Hurd, 2012). Similarly, exposure to THC in animal models can alter the rain reward system (Testai et al.,

2022). Moreover, cannabis use led impair judgment, motor coordination, and reaction time, and affected performance in real-world activities (NIDA, 2020; Testai et al., 2022). Compared to those who do not use, some research indicates that frequent cannabis use during adolescence is linked to decreased volume and altered connections of particular brain regions involved in a variety of executive processes, including memory, learning, and impulse control (Batalla et al., 2013; Filbey et al., 2014; R. S. Kalayasiri, Sakol, 2020). However, investigation of cannabis-associated neuropsychological impairment showed no statistically significant difference across neuropsychological domains (Meier et al., 2012).

- Possible role as a gateway drug

According to preclinical and epidemiologic evidence, cannabis usage throughout adolescence may have an impact on a variety of addictive behaviors in adulthood. If early cannabis exposure does result in decreased dopamine reactivity in the reward regions of the brain, this effect may help to explain why most epidemiologic studies have found that people are more likely to abuse drugs and become addicted to several drugs later in life (Agrawal, Neale, Prescott, & Kendler, 2004). Similarly, some research suggested that cannabis use is likely to precede the e of other licit and illicit substances (Secades-Villa, Garcia-Rodríguez, Jin, Wang, & Blanco, 2015). Addiction to other substances may arise as a result of cannabis use. For example, a study that used longitudinal data from the National Epidemiological Study of Alcohol Use and Related Disorders discovered that adults who reported using cannabis during the survey's first wave had a higher chance of developing an alcohol use disorder within three years than those who did not; additionally, those who used cannabis and had an alcohol use disorder at the beginning were more likely to have their condition worsen (Weinberger, Platt, & Goodwin, 2016). These findings are consistent with the idea of cannabis as a "gateway drug." However, the majority of people who use cannabis do not go on to use other, "harder" substances. Conversely, some evidence suggested that medical cannabis reduced levels of risky alcohol and other illicit substance use (Fischer et al., 2015).

- Relation to mental health illness

Although causality has not been proven, regular cannabis usage is linked to an increased risk of anxiety and depression (Volkow et al., 2014). Cannabis use is also

linked with psychoses (including those associated with schizophrenia), especially among people with a preexisting genetic vulnerability, and exacerbates the course of illness in patients with schizophrenia. For instance, adolescent cannabis use was found to increase the risk for psychosis (RR = 1.71 (95%CI, 1.47-2.00, $p < 0.00001$) and predict earlier onset of psychosis. The following factors are moderately associated between cannabis use and the risk of psychosis: age of onset of cannabis use, frequent cannabis use, exposure to childhood trauma, concurrent use of other substances, and genetic factors (Kiburi, Molebatsi, Ntlantsana, & Lynskey, 2021). In addition, people who use cannabis led to AKT1 gene variations which affect dopamine signaling in the striatum and increased the risk of developing psychosis (Di Forti et al., 2012). However, some studies have found that patients, who used cannabis to treat a range of medical problems including anxiety, had largely improved cognitive performance, reduced clinical symptoms and anxiety-related symptoms as well as reduced use of conventional medications, including opioids, benzodiazepines, and other (Cooper et al., 2018; Gruber et al., 2021; Hill & Saxon, 2018).

- Effect on school performance and lifetime achievement

Research has shown that cannabis's negative effects on attention, memory, and learning. Consequently, someone who smokes cannabis daily may be functioning at a reduced intellectual level most or all of the time. Considerable evidence suggests that students who use cannabis have poorer educational outcomes than their nonsmoking peers. For instance, a review of 48 relevant studies found cannabis usage is associated with reduced educational attainment (i.e., reduced chances of graduating) (Macleod et al., 2004). A recent analysis using data from three large studies in Australia and New Zealand found that adolescents who regularly used cannabis were significantly less likely than their non-using peers to finish high school or obtain a degree (Silins et al., 2014). In addition, cannabis usage in adolescence causes a decline in IQ (Meier et al., 2012), and EQ (Leeviroj, 2022b) led lower GPAs and a longer time to graduation (Arria et al., 2015). However, some evidence suggested the potential beneficial effects of cannabis as part of a pain management protocol, including reducing concussion-related symptoms. Thus, cannabis deserves further investigation to enhance athletes' performance (Ware, Jensen, Barrette, Vernec, & Derman, 2018).

- Risk of cancer and other effects on health

Additionally, smoking cannabis is linked to lung hyperinflation, increased airway resistance, and inflammation of the major airways. These findings are in line with the fact that chronic bronchitis symptoms are more common in habitual cannabis users than in nonsmokers (Tashkin, 2013), but the long-term effect of low levels of cannabis exposure does not appear to be significant (Pletcher et al., 2012). The effects of long-term cannabis smoking on the risk of lung cancer are unclear. Although the possibility of a positive association between cannabis smoking and cancer cannot be ruled out the evidence suggests that the risk is lower with cannabis than with tobacco (Hashibe et al., 2006). However, the smoking of cannabis increased rates of respiratory infections and pneumonia (Owen, Sutter, & Albertson, 2014) and is associated with vascular conditions that increase the risks of myocardial infarction, stroke, and transient ischemic attacks during marijuana intoxication (Thomas, Kloner, & Rezkalla, 2014).

- The foundations of vocational schools in Thailand

Thailand's vocational career started when a system has placed in Study 1898, which represents a particular education. The only lesson to be proficient in the year 1909 was management study. It is divided into two categories: general education schools which teach ordinary level, and extraordinary schools which generally educate courses to pursue a career such as an obstetrician, English teacher, commerce, and so on. In 1910, the first vocational school was established, which is the School of Commerce at the Mahaprutharam and Wat Rat Burana temple. In 1913, a Poh-Chang school (primary technician) and in 1917 established an agricultural training schoolteacher. At that time, the National Education Plan affects more clearly defines a career. The National Education Plan 1932 has determined that extraordinary education including professional training, agriculture, handicrafts, and commerce is a basis of knowledge for agricultural and industrial enterprises. The national education plan in 1937 showed the word "vocational" for the first time in the country's education system. It is divided into three educational levels namely, primary, secondary, and advanced. The vocational education commission was established and placed in a royal decree in 2003 (Office of the Vocational Education Commission, 2014).

- Characteristics of vocational education and training (VET) in Thailand.

Thailand's VET programs are offered in both public and private VET institutions under the supervision of the Office of the Vocational Education Commission, Ministry of Education (OVEC). The development of Thailand's VET focuses on enhancing the quality of life, facilitating economic development, alleviating poverty, and increasing employment opportunities. Cooperation with industries and businesses is also emphasized in Thailand's VET. Vocational education in Thailand offers formal, nonformal, and dual VET programs. Formal education is the education that defines the educational method, course, certain period of study, conditions, and evaluations usually proceeded by OVEC. Nonformal education is learning flexibility in pattern, method, course, period of study as well as evaluation. However, nonformal education needs to certify the same as formal education. For dual VET programs Thanarachataphoom et al. have divided into two patterns; (1) Dual Vocational Education is the system in that students learn about knowledge in school and practice in private enterprise, state enterprise, or government sector, and (2) Dual Education is the program of study that corroborate between the Office of the Vocational Education Commission and the Office of the Basic Education Commission, or the Office of the Non-formal and Informal Education, or the Office of the Private Education Commission to provide vocational certificate courses, and basic education core curriculum B.E. 2551 (Thanarachataphoom, Srilapo, Mekarkakorn, & Lalitpasan, 2019). However, vocational and technical education in Thailand is primarily offered through formal education systems. Meanwhile, an increasing number of students and enterprises are involved in dual VET programs (Mongkhonvanit & Choomnoom, 2022).

- Thai vocational students and violence and substance abuse.

A surveillance alcohol, tobacco, substance use, and health-risk behaviors among high school students in 177 academic schools and 79 vocational schools from 38 provinces in Thailand revealed that vocational students have a higher rate of alcohol, tobacco, and substance use compared with academic students, and most reported of substance use is cannabis, Kratom (Mitragyna speciose Korth) and amphetamine respectively (Paileeklee et al., 2016). Thai vocational students were

critically concerned in terms of violence and substance abuse. Department of juvenile observation and protection, Thailand revealed that in 2020, amount 19,470 cases of youth age not over 18 years had prosecuted, most of them (19,337 cases) are a student (vocational students is included), about 9,600 cases contributed to substance abuse, and 2,912 cases associated with violence and crime (Department of Juvenile Observation and Protection, 2020). Qualitative research from Thapanas Ruangrattanapong and Sasiphattra Siriwato which aim to investigate factors affecting inter-school violence among vocational college students found that the impetuous and sensitive incitement affecting the violent behavior of vocational students (Ruangrattanapong & Siriwato, 2020). From exploratory factor analysis of 5,883 vocational students at Roi Et province found that there were 10 components contributed to the violence of vocational students including; (1) honor of institute, (2) deprivation of liberty, (3) self-harm, (4) destroyed and burglary, (5) sexual behavior, (6) persecute and bullying, (7) harm other, (8) alcohol drinking, (9) verbal aggression, and (10) substance abuse (Srithong, Peerasaksophon, & Pourphaiboon, 2007). In addition, substance use, and cannabis use also have spread among vocational students. Danthamrongkul et al. found that the prevalence of substance use among vocational students in the high-risk provinces (Nakhon Sawan in the north, Nakhon Pathom and Phra Nakhon Si Ayutthaya in the central region, Ubon Ratchathani and Nakhon Si Thammarat in the northeastern and southern region respectively) is 23.2% and cannabis is the most illicit drug use, using in male student was higher threefold than the female student (Vipa et al., 2016). Likewise, Pimpisa found that the prevalence of cannabis use among vocational students in the northern region of Thailand is 9.5% and the disinhibition score was positively significant with an increased risk of becoming a substance user (Pimpisa, 2017). Obviously, can be seen that physiological, biological, sociocultural, and emotional changes during the adolescent development stage may affect how they feel, think, make decisions, and interact with the world around them and curiosity may lead to involvement in cannabis use. Particularly, vocational students who have high dignity and partisan attitude may lead peer-influenced and contribute to cannabis usage as well as substance abuse, like suggestions of numerous evidence (D. Fergusson & Boden, 2011; Leeviroj, 2022b; Libuy et al., 2020; Torrejón-Guirado et al., 2022; Vipa et al., 2016).

Protective factors related cannabis use

Several protective factors against cannabis use were identified, including strong familial relationships; such as having a trusted adult in the family, frequent hugs from parent, eating dinner together every day, mother and father understanding adolescent's worries and problems, being able to confide in mother and father (Afifi et al., 2022) as well as higher levels of parental/guardian monitoring (Wellman, O'Loughlin, Sylvestre, Dugas, & O'Loughlin, 2023), and role of family can protect early adolescent from cannabis use (Hawkins, Catalano, & Miller, 1992). Furthermore, peer activity context and parental monitoring regulations reduced the relationship between substance use with friends and individual substance use. In particular, there was a greater correlation between substance use with friends and individual substance use when there were fewer parental monitoring regulations and when friends mostly spent their time together in unstructured settings like parks or the street (Kiesner, Poulin, & Dishion, 2010), peer Influence and social networks; for instance, peers close to adolescents exert a stronger influence on adolescent cannabis use than peers less close to adolescents (Zaharakis et al., 2018), Additionally, well-stablished socio-cognitive theories discuss the importance of peer influences on risk behaviors (Dijkstra, Cillessen, Lindenberg, & Veenstra, 2010; Stone, 2020; Zaharakis et al., 2018). A first type of peer influence concerns social modelling. This factor, proposed by Bandura in his Social Cognitive theory (Bandura, 1986), implies that behaviors of others such as cannabis use can be adopted by merely observing their behavior (Andreas, Pape, & Bretteville-Jensen, 2016; Jalilian et al., 2020), academic engagement and success such as Laodarun, Hengudomsub, and Dallas (2018) found that students with higher GPAs exhibited more behavior in preventing drug use, personal resilience and self-esteem (Wellman et al., 2023), community support (Hawkins et al., 1992) such as the implementation research by Somprat Munjit (2007) who found that after community regulations for the prevention and control of addictive substance abuse were established through village consultative meetings, the scale of substance addiction became dramatically more limited in these three villages (Somprat Munjit, 2007), health education and awareness; encouraging young people to engage in programs and activities that keep them connected to their school, family, community and culture by provide education of cannabis use can help to protect them

from harmful drug use including cannabis use (Lee et al., 2012), cultural and religious beliefs; such as the research conducted by Burdette, Webb, Hill, Haynes, and Ford (2018) who investigated religious involvement and cannabis use for medical and recreational purposes found that adults who attend religious services more frequently and hold more salient religious beliefs tend to exhibit lower rates of medical and recreational marijuana use, legal and environmental factors; the fact that after considered legalize of cannabis in Thailand, the prevalence of cannabis uses among the Thai population nationwide in 2023-2024 is estimated to be around 20%. Approximately 60% of the population reported using cannabis for recreational purposes, while 34% indicated using it for relaxation and to aid sleep. Only about 6% of respondents stated that they used cannabis for medical purposes (Assanangkornchai, 2024). The factors examined in this study, which influence preventive health behavior related to cannabis use, including mental health literacy, family connectedness, optimism, and psychological flexibility. A review of the literature on these factors is provided below:

Factors associated with preventive health behavior for cannabis use

Mental health literacy

The term "mental health literacy' was first introduced in 1997, and it was defined as 'knowledge and beliefs about mental disorders which aid their recognition, management or prevention"(Kutcher et al., 2016).

Mental Health Literacy (MHL) can be considered an integral part of health literacy (HL), which itself can be understood as an individual's knowledge, motivation and competencies to access, understand, appraise, and apply mental health information in order to make judgments and take decisions in everyday life concerning mental care, mental disease prevention, and mental health promotion to manage one's own health through informed decisions and corresponding health behavior (Spiker & Hammer, 2019). Mental health literacy is contributing 6 areas regarding the dimensions of Health Literacy : (1) the ability to recognize specific disorders of types of psychological distress; (2) knowledge and beliefs about risk factors and causes; (3) knowledge and beliefs about self-help interventions; (4) knowledge and beliefs about professional help available; (5) attitudes which facilitate

recognition and appropriate help-seeking; and (6) knowledge of how to seek mental health information (Jorm, 2000). Regarding, the dimension of health literacy and mental health literacy is very closely related to help-seeking behavior and mental health outcomes (Henderson, Evans-Lacko, & Thornicroft, 2013; Rusch, Evans-Lacko, Henderson, Flach, & Thornicroft, 2011).

The results from the previous findings showed that lack of knowledge and low-risk perception about the consumption of cannabis contributed involving in cannabis use among adolescent (González-Cano-Caballero et al., 2023), enhancing patients' knowledge and attitudes regarding drug use and therapy led to a remarkable 93.0% reduction in relapse rates over a one-year follow-up period. Furthermore, it was found that patients with a higher level of knowledge experienced a greater reduction in relapse rates, achieving a decrease of 96.8% (Chotiwarangkul, 2022). Several studies have examined health literacy, including research showing that improving health literacy can increase the intention to avoid drug use (Chaipichitpan, Meesil, & Lampoo, 2023). Additionally, limited health literacy has been linked to various health-risk behaviors, such as substance abuse, alcohol consumption, and smoking (Chisolm et al., 2014; Hoover et al., 2018; Panahi et al., 2015; Yangyuen et al., 2021). While much of the existing literature has focused on health literacy (HL) and its relationship with health behaviors, it is important to recognize that mental health literacy (MHL) is a distinct construct that has emerged from the broader HL domain (Kutcher et al., 2016). Focusing on mental health literacy could help fill this gap in understanding.

Family Connectedness

According to Bowen Family Systems Theory, all relationships are influenced by two counterbalancing forces: separateness and togetherness (Bowen, 2012). In healthy families, a balance between these forces allows individual members to experience closeness with others while also pursuing interests outside the family. Families that can effectively manage this balance are better equipped to respond to the evolving needs of their members. Problems arise, however, when families struggle to regulate the distance between members, leading them to prioritize either intimacy or separateness at the expense of the other.

Olson's Circumplex Model identifies three dimensions of family functioning, one of which is cohesion—how families balance separateness and togetherness (D. H. Olson, 2000). In his most recent model, Olson proposes five categories of cohesion: three that are more balanced and promote optimal functioning, and two that are more unbalanced (D. Olson, 2006). The more extreme categories tend to prioritize either individual autonomy or family togetherness, often at the expense of the other. The main hypothesis of the Circumplex Model is that balanced families will function better and be more adaptable to change than unbalanced families (D. Olson, 2006). This idea, known as the curvilinear hypothesis, is one of the most widely debated theories in family studies (Cluff, Hicks, & MADSEN JR, 1994).

Family connectedness describes the quality of connections within a family and is important for well-being in adolescence. Family connectedness encompasses the feeling of trust, understanding, and support within the family, and is robustly associated with healthy child development (Collins, 2013). Connectedness means a sense of being cared for, supported, belonging, and closeness with others that comes from protective and sustained relationships within families, schools, and communities (Krasaesat et al., 2011). According to the National Longitudinal Study of Adolescent Health in the United States, adolescents who felt a sense of belonging at home or school between the ages of 12 and 17 were up to 66% less likely than their less connected peers to engage in risky behaviors related to violence, substance abuse, and sexual health and to have better mental health as adults (Steiner et al., 2019). In addition, previous studies have highlighted family connectedness as a significant predictor of preventive behaviors related to substance abuse. For example, Thapinta et al. (2024) identified family connectedness as a key factor in influencing preventive behaviors, while Laodarun et al. (2018) found that family relationships predicted drug prevention behaviors. Additionally, Maneepakorn (2011) noted that feeling cared for, loved, and having good family relationships can help restrain drug use.

Psychological Flexibility

Psychological flexibility is the tendency to respond to situations in ways that facilitate valued goal pursuit. Psychological flexibility also refers to "contacting the present moment fully as a conscious human being, and based on what the situation

affords, changing or persisting in behavior in the service of chosen values". Hayes et al. divided psychological flexibility into 6 dimensions and the components in the ACT are not a fixed or rigid set of techniques that occur in a definite order. In accordance with functional contextualism, they are a functional set of components that can be changed and rearranged to meet the client's needs. 6 components including 1) Present-Moment awareness, 2) Acceptance, 3) Self-As context, 4) Defusion, 5) Connecting with value, and 6) Commitment Action. Improving psychological flexibility is the ultimate aim of Acceptance and Commitment Therapy (ACT). (Luoma, Hayes, & Walser, 2007).

The original conceptualization of psychological flexibility is the "ability to change or persist with functional behavioral patterns when doing so serves valued ends." Thus, psychological flexibility is crucial for healthy functioning (Kashdan & Rottenberg, 2010). In non-stressful conditions, psychological flexibility allows individuals to adjust their behaviors and routines effectively in response to situational demands, while still aligning with their goals and core beliefs. For instance, it can lead to enhanced proactive work behavior among employees (Kuo, Ye, Chen, & Chen, 2018). There is evidence suggesting that interventions aimed at increasing psychological flexibility can enhance both organizational behavior and overall health (Bond, Hayes, & Barnes-Holmes, 2006). Regarding substance use, Arslan et al. (2024) found that psychological flexibility significantly predicts substance misuse, subjective well-being, and self-compassion. Additionally, it serves as a predictor of the intention to abstain from drugs, especially among youth with substance abuse issues (Detchaiyot et al., 2021). Promoting health behaviors based on acceptance, particularly through the six core processes of Acceptance and Commitment Therapy (ACT), helps individuals sustain long-term health behavior changes. This approach encourages individuals to commit to actions that align with their values, while simultaneously acknowledging and accepting contrary thoughts, rules, and emotions as part of themselves, but not as determinants of their behaviors (C.-Q. Zhang et al., 2018).

Optimism

Scheier and Carver (1985) described optimism as a generalized tendency to expect positive outcomes even in the face of obstacles. Optimists are individuals who

expect good things to happen to them; conversely, pessimists are those who expect bad things to happen to them. An optimistic view makes it possible for an individual to assess stressful situations with positive thinking and to cope effectively with adversity (Peterson, 2000). The interest in optimism derives from a more general interest in the processes that underlie the self-regulation of behavior. An optimistic view makes it possible for an individual to assess stressful situations with positive thinking and to cope effectively with adversity (Peterson, 2000). Optimism can therefore be considered a predictor of behavior (Magnano, Paolillo, & Giacominelli, 2015).

Optimism is a mental attitude that significantly influences physical and psychological health, as well as coping with every day, social, and working life through adaptive management of personal goals and development and by using active coping strategies (Conversano et al., 2010), also refers to a personal belief and faith that life's outcomes will primarily be positive, and a distressing present has the potential to be transformed into a better future (Setia et al., 2021). Higher optimism would higher individual health outcomes expectations, adaptive management of personal goals, and improved coping strategies. In addition, optimism is also strongly correlated with decision-making styles (Magnano et al., 2015). Patrick et al. (2024) found that adolescents are increasingly using cannabis as a means of relaxation and coping with the stresses of daily life. Thus, contributed to cannabis use is also influenced by patterns of coping and decision-making of students. Ansari et al. (2019) found that optimism had an important role in the tendency to tobacco smoking and substance abuse among students, and the co-occurrence of smoking and substance abuse is high among students with low optimism scores (Ansari et al., 2019). In addition, Carvajal et al. (1998), those who investigated the relation of optimism, hope, and self-esteem to social influences in deterring substance use in adolescents, found that optimism, hope, and self-esteem are determinants of avoiding substance use, with the effects of these variables being mediated by attitudes, perceived norms, and perceived behavioral control. Moreover, Soares et al. (2011) who examined the relationship between psychoactive substances and optimism among undergraduate nursing students and nursing residents. The findings revealed a weak negative correlation between the use of sedatives and levels of optimism.

Preventive Health Behavior for Cannabis use and associated theories

Preventive Health Behavior for Cannabis use

Preventive health behavior for cannabis use is defined as "any activity undertaken by an individual who believes himself (or herself) to be healthy, for the purpose of preventing cannabis use. Preventive health behavior is influenced by multiple levels, including the individual, interpersonal, organizational, community, and public policy (Bronfenbrenner, 2000, 2013; Mubayi, 2017). Preventive health behavior for cannabis use has derived from the principle of Socio-Ecological Model, Concept of protective factors for preventing cannabis use, and literature reviews. The associated theories and concepts explained below.

Socio-Ecological Model

Ecological theory posits that human development is the result of interactions between the individual and their context and that proximal as well as distal factors play an important role in developmental outcomes, including substance use (Bronfenbrenner et al., 1998). The socio-ecological model (SEM), initially introduced by Urie Bronfenbrenner in the 1970s as a conceptual framework for understanding human development, was later formalized as a theory in the 1980s. Bronfenbrenner's original model was depicted using nested circles, with the individual placed at the center, surrounded by various systems. The closest system, the microsystem, encompasses the immediate relationships and interactions surrounding the individual, having the most substantial influence. The second circle, the mesosystem, extends beyond immediate interactions and includes settings such as work, school, church, and neighborhood. The ecosystem, although not directly impacting the individual, exerts indirect effects through community contexts and social networks. The macrosystem represents broader societal, cultural, and religious values. Finally, the chronosystem incorporates both internal and external elements of time and historical context, with more recent models also addressing policy influences. The SEM provides a broad conceptualization of health, emphasizing the interaction between individual characteristics, community environments, and physical, social, and political factors. The Centers for Disease Control and Prevention have adopted the SEM to guide various health promotion efforts, emphasizing interpersonal, organizational, community, and policy spheres. Subsequent revisions of the model have been applied

to diverse fields such as public health promotion, violence prevention, and cancer prevention (Kilanowski, 2017).

While SEMs are useful for structuring research, planning, and implementation processes in community and public health nursing, it's important to note that not all contextual factors relevant to a particular community or health issue may be captured by the model. Additionally, the findings derived from work guided by SEM may not be universally applicable to every individual within a given population or community. The current iteration of the SEM has evolved from numerous interprofessional theories and studies on health and behavior that began in the 1970s with psychologist Urie Bronfenbrenner. Bronfenbrenner called for researchers to examine how human development and behavior are shaped and can adapt to environmental systems and how individuals interact with those systems (Bronfenbrenner, 1977). Originally, Bronfenbrenner developed this model to explain child development and identified four key systems surrounding the individual child: the microsystem, mesosystem, ecosystem, and macrosystem. Later, Bronfenbrenner added the chronosystem as an essential component to consider when analyzing child (Bronfenbrenner, 2013). Table 3 outlines the definitions of each of these systems (Bronfenbrenner, 1977; Bronfenbrenner et al., 1998)

Table 3 Systems of Bronfenbrenner's Socio-Ecological

System	Definition
Microsystem	Complex relations between the developing individual and environment and the immediate setting of the individual. The setting is a place with particular features in which the individual engages in particular activities in particular roles—for example, their home (a child), school (a student), or workplace (an employee).
Mesosystem	The interrelations among major settings containing the developing individual at a particular point in their life—for example, interactions among family, school, and peer groups.

Table 3 (Continued)

System	Definition
Exosystem	An extension of the mesosystem that includes other specific informal and formal social structures that do not contain the individual but do encompass the settings where the individual is found—for example, major institutions of society, the neighborhood, mass media, government agencies, and social networks.
Macrosystem	Institutional patterns of the culture and subculture. Macrosystems direct norms and activities. A macrosystem may include codified laws, regulations, and rules but can also include informal and implicit norms. For example, the economic, social, educational, and legal systems shape the meaning and motivation of how individuals are treated and interact with each other in different settings.
Chronosystem	The influence of time on an individual's development, including life transitions and events over the course of life.

Ecological Model for Health Behavior

Ecological models of health behavior emphasize the environmental and policy contexts of behavior, while incorporating social and psychological influences. Ecological models lead to the explicit consideration of multiple levels of influence, thereby guiding the development of more comprehensive interventions.

In the past two decades, there has been a dramatic increase in interest in and application of ecological models in research and practice, partly due to their potential for guiding comprehensive, population-wide approaches to behavior change that can reduce serious and prevalent health problems. The combination of environmental, policy, social, and individual intervention strategies has been credited with the major reductions in tobacco use in the United States since the 1960s (Institute of Medicine, 2001), and this experience has stimulated the application of multi-level models and interventions to address many health problems.

The core concept of an ecological model is that behavior is influenced by multiple levels, often including intrapersonal (biological, psychological), interpersonal (social, cultural), organizational, community, physical environmental, and policy factors. Ecological models are believed to provide comprehensive frameworks for understanding the multiple and interacting determinants of health behaviors. More importantly, ecological models can be used to develop comprehensive intervention approaches that systematically target mechanisms of change at each level of influence.

Four core principles of ecological models of health behavior are proposed:

1. There are multiple influences on specific health behaviors, including factors at the intrapersonal, interpersonal, organizational, community, and public policy levels.
2. Influences on behavior interact across these different levels.
3. Ecological models should be behavior-specific, identifying the most relevant potential influences at each level.
4. Multi-level interventions are most effective in changing behavior.

The ultimate purpose of ecological models of health behavior is to inform the development of comprehensive intervention approaches that can systematically target mechanisms of change at several levels of influence. Behavior change is expected to be maximized when environments and policies support healthful choices, when social norms and social support for healthful choices are strong, and when individuals are motivated and educated to make those choices.

Background, History, and Principles of Ecological Models

The term "ecology" is derived from biological science and refers to the interrelations between organisms and their environments. In the context of behavioral sciences and public health, ecological models focus on the nature of people's interactions with their physical and sociocultural surroundings—what we refer to as environments (Stokols, 1992). The environmental levels of influence distinguish ecological models from behavioral models and theories, which typically emphasize individual characteristics, skills, and proximal social influences such as family and friends, but do not explicitly account for broader community, organizational, and policy influences on health behaviors.

Ecological models can integrate constructs from models that focus on psychological, social, and organizational levels of influence, providing a comprehensive framework for incorporating multiple theories while considering environments and policies in the broader community.

Healthy behaviors are believed to be maximized when environments and policies support healthful choices, and when individuals are motivated and educated to make those choices (Ottawa Charter for Health Promotion, 1986). Educating people to make healthful choices in environments that are not supportive often results in weak and short-term effects. This is a common issue. Simply providing resources such as vegetables, sidewalks, or accessible condoms does not guarantee that people will make use of them. Consequently, a central conclusion of ecological models is that substantial changes in health behaviors typically require a combination of both individual-level and environmental/policy-level interventions.

The widespread acceptance and enthusiasm for ecological models in the context of health behavior is reflected in authoritative documents that guide public health programs both nationally and internationally. These include Healthy People 2010 (U.S. Department of Health and Human Services, 2000a), Institute of Medicine (IOM) reports on health behaviors (Institute of Medicine, 2001) and childhood obesity prevention (Koplan, Liverman, and Kraak, 2005), the World Health Organization's (WHO) strategy for diet, physical activity, and obesity (World Health Organization, 2004), and the WHO Framework Convention on Tobacco Control.

Historical and Conceptual Background of Ecological Models

The proliferation of contemporary ecological models is rooted in a rich conceptual tradition within the behavioral and social sciences. The contributions of many of these authors were discussed in a previous version of this chapter (Sallis and Owen, 2002), and they are summarized in Table 4. Initially, there was a progression from the idea that only perceptions of environments were important (Lewin and Cartwright, 1951) to a focus on the direct effects of environments on behavior (Barker, 1968). Many early models were intended to apply broadly to behaviors, but more recent models have been specifically designed for application to health behaviors and health promotion. Notable examples include those proposed by McLeroy and colleagues (1988), Stokols and colleagues (1992, 2003), Flay and

Petraitis (1994), Cohen, Scribner, and Farley (2000), Fisher and colleagues (2005), Glanz and others (2005), and Glass and McAtee (2006).

Categories and hierarchies of behavioral influences have been described in various ways, such as Bronfenbrenner's (1979) micro, meso, and exo environment approach, and McLeroy and colleagues' (1988) five sources of influence: intrapersonal, interpersonal, institutional, community, and policy. The first section of Table 20.1 describes models primarily aimed at explaining behavior, while the second section includes models mainly intended to guide interventions. Some of the newer models are designed to apply to a wide range of health behaviors (Cohen, Scribner, and Farley, 2000; Glass and McAtee, 2006; Stokols, 1992; Stokols, Grzywacz, McMahan, and Phillips, 2003), while others are specifically tailored for particular categories of behaviors (Flay and Petraitis, 1994; Fisher and others, 2005; Glanz, Sallis, Saelens, and Frank, 2005). This diversity highlights the adaptability and robustness of ecological models.

Here is a revised version of the text for clarity, formatting, and improved readability:

Table 4 Historical and Contemporary Ecological Models

Author, Citation	Model	Key Concepts
Historical and Contemporary Ecological Models designed Mainly to Explain Behavior		
Kurt Lewin (1951)	**Ecological Psychology**	Ecological psychology focuses on the study of the influence of the external environment on individuals.
Roger Barker (1968)	**Environmental Psychology**	"Behavior settings" are the social and physical situations in which behaviors occur. Barker concluded that behaviors are more accurately predicted by the situations people are in than by their individual characteristics.

Table 4 (Continued)

Author, Citation	Model	Key Concepts
Rudolph Moos (1980)	**Social Ecology**	Identifies four categories of environmental factors: (1) *Physical settings*—features of the natural (weather) and built environments (buildings); (2) *Organizational settings*—size and function of worksites and schools; (3) *Human aggregate*—sociocultural characteristics of the people in an environment; and (4) *Social climate*—supportiveness of a social setting for a particular behavior.
Urie Bronfenbrenner (1979)	**Systems Theory**	Describes three levels of environmental influences: (1) *Microsystem*—interactions among family members and work groups; (2) *Mesosystem*—physical family, school, and work settings; and (3) *Exosystem*—the larger social system, including economics, culture, and politics.
Thomas Glass & Matthew McAtee (2006)	**Eco-social Model**	Conceptualizes hierarchies of influences on behavior within biology and society, incorporating both social and physical environmental dimensions. Structural contingencies provide opportunities and constraints, while biological processes regulate the expression of behavior.

Table 4 (Continued)

Author, Citation	Model	Key Concepts
Models Designed Mainly to Guide Behavioral Interventions		
B. F. Skinner (1953)	**Operant Learning Theory**	The primary model is: *Environment* → *Behavior*. Reinforcers and cues in the environment directly control behavior. Recently, Hovell and colleagues (2002) proposed a behavioral ecological model that draws heavily on Skinner's work.
Albert Bandura (1986)	**Social Learning and Social Cognitive Theories**	Proposes that both environmental and personal influences affect behavior. Bandura focused mainly on social environments and rarely considered the role of physical, community, or organizational environments (see Chapter Eight).
Models Designed Mainly to Guide Behavioral Interventions (Cont'd)		
Kenneth McLeroy et al. (1988)	**Ecological Model of Health Behavior**	Five sources of influence on health behaviors: intrapersonal factors, interpersonal processes and primary groups, institutional factors, community factors, and public policy.
Daniel Stokols (1992, 2003)	**Social Ecology Model for Health Promotion**	Four assumptions: (1) health behavior is influenced by physical environments, social environments, and personal attributes; (2) environments are multidimensional (e.g., social, physical); (3) human-environment interactions occur at varying levels (individuals, families, cultural groups, populations);

Table 4 (Continued)

Author, Citation	Model	Key Concepts
		(4) people influence their settings, which in turn influence health behaviors.
Deborah Cohen et al. (2000)	**Structural-Ecological Model**	Identifies four categories of structural influences: (1) availability of protective or harmful consumer products, (2) physical structures (or characteristics of products), (3) social structures and policies, and (4) media and cultural messages.
Brian Flay & J. Petraitis (1994)	**Theory of Triadic Influence**	The model assumes that genes and environment both affect all behaviors, and that behavior is influenced by three streams: intrapersonal, social, and sociocultural.
Karen Glanz et al. (2005)	**Model of Community Food Environments**	Proposes key constructs affecting eating behaviors, such as availability, price, placement, and promotion of foods, as well as nutrition information. This model applies to restaurants and food stores.
Edwin Fisher et al. (2005)	**Resources and Skills for Self-Management Model**	Focuses on the integration of individuals' skills and choices with support from the social environment, along with the physical and policy environments of communities.

Principles of Ecological Perspectives on Health Behavior Change

Four core principles of ecological perspectives on health behavior change are proposed:

1. Multiple Levels of Influence on Health Behaviors

Ecological models emphasize that health behaviors are influenced by factors at multiple levels, including intrapersonal, interpersonal, organizational, community, and public policy. These factors may overlap, with sociocultural factors and physical environments affecting more than one level. By considering all of these levels, ecological models differ from theories that focus only on one or two levels of influence.

2. Interactions Across Levels

Ecological models recognize that influences at different levels interact with one another. For example, individuals with strong motivation to avoid weight gain may respond differently to the sight of fast-food restaurants than those with lower motivation. Similarly, education promoting physical activity may be more effective when policies support physician counseling and insurance discounts for regular activity. Understanding how these influences interact is a challenge for research, as it requires identifying the most significant interactions across multiple levels of influence.

3. Effectiveness of Multi-Level Interventions

One key implication of ecological models is that interventions targeting only one level are unlikely to produce lasting, population-wide effects. For example, educational interventions targeting individual beliefs or behavioral skills may yield short-term results. However, these interventions are likely to be more successful when policies and environmental changes support the targeted behavior. Similarly, environmental changes alone, such as placing more fruits and vegetables in convenience stores, may have limited impact unless accompanied by communication, education, and motivational campaigns.

4. Behavior-Specific Models

Ecological models are most effective when they are tailored to specific health behaviors. Often, environmental and policy factors are behavior-specific. For example, the availability of condoms in nightclubs has little relevance to dietary behaviors, and the presence of cycling trails in suburban neighborhoods is unlikely to influence alcohol consumption. Identifying the environmental and policy variables relevant to each behavior is a key challenge when applying ecological models. However, lessons learned from one behavior, such as promoting jogging, may

sometimes be applicable to other behaviors, such as promoting walking to work. General ecological models can serve as the foundation for behavior-specific models that are needed for research and intervention.

Summary of the Ecological Model

Ecological models help us understand how individuals interact with their environments. This understanding is crucial for developing effective multi-level approaches to improving health behaviors. The core idea behind the ecological perspective is straightforward: while providing individuals with motivation and skills to change their behavior is important, it will not be effective if environments and policies make healthy choices difficult or unattainable.

The ecological approach advocates for creating environments and policies that make healthy behaviors convenient, attractive, and affordable. Once these supportive conditions are in place, individuals can be motivated and educated to make healthful choices.

For health promotion researchers and practitioners, the challenge lies in being creative and persistent in applying ecological models. This involves generating evidence about the various behavioral influences at different levels and assessing the effectiveness of multi-level interventions on health behaviors. Ultimately, the goal is to translate this evidence into improved public health outcomes (Sallis et al., 2015).

Concept of protective factors for preventing cannabis use among adolescents.

The optimal development and well-being of children and adolescents depend on the interaction of biological and environmental/contextual factors, including family, community, sociocultural, economic, political, and legal influences, as well as the services and structures surrounding them, all of which impact their development throughout the life course (Lund et al., 2018). These factors (Table 5) have been explored through various frameworks, including child development theories, social ecological models, and studies on children's resilience in the face of adversity. All these frameworks emphasize that children, adolescents, and families possess their own skills, assets, and resources for coping with challenges. The social ecological model highlights the significance of the networks of people and structures surrounding a child or adolescent, which safeguard their well-being, foster their sense

of agency, and support their optimal development (United Nations Children's Fund, 2020).

Table 5 Social Ecological Model: Key Definitions

Level	Risk Factors	Protective Factors
Individual	-Genetic or familial predisposition -Gender, age -Childhood neglect -Discrimination due to minority status (e.g., gender identity/sexual orientation, belonging to a minority group, etc.) -Ethnicity -Disability or chronic health condition -Socio-economic status -Exposure to trauma (witnessing or experiencing), including involvement in armed groups -Post-conflict/emergency/crisis/natural disasters/displacement/insecurity/other hardships (i.e., hunger, housing) including household-level -Experience of physical or sexual abuse	-Self-esteem -Coping styles -Civic engagement -Individual agency/locus of control -Religious beliefs and practices -Access to livelihoods (including household-level) -Supportive and inclusive learning pathways (schools, training centers, etc.) -Access to care and support services

Table 5 (Continued)

Level	Risk Factors	Protective Factors
Family and Peer	-Loss of caregiver/family member -A history of mental health conditions, including depression, suicide, and self-harm within the family -Alcohol and substance use within household -Intimate partner violence (witnessing or experiencing) -Household-level economic stress -Caregiver poor mental health -Caregiver trauma exposure• Abuse and neglect within family -Stigma and discrimination	-Parental support and parental monitoring -Secure attachment -Positive family functioning -Nurturing care including responsive caregiving -Mother's education -Quality of home environment -Caregiver positive mental health -Peer social support -Participation and engagement
School-level	-Destruction of schools/lack of access to inclusive educational opportunities -Violence experienced at school – by peers or teachers -Lack of connectedness and a sense of belonging to schools – including through teasing, discrimination, stigma experienced at school -Lack of capacity of teachers -Lack of accessible physical environment and education materials	-School retention/level of schooling achieved -Teacher social support -Counselling/peer-to-peer support -Social cohesion programs -Mental and physical health promotion in school settings and in educational plan/curricula

Table 5 (Continued)

Level	Risk Factors	Protective Factors
Community-level	-Disruption of social networks -Changes in gender or religious dynamics -Cultural norms/concepts, i.e., hiding distress, etc. -Community-level violence -Stigma and discrimination/prevailing perceptions of mental health/illness and acceptable coping strategies within communities	-Cultural norms/practices/concepts, i.e., adherence to ideology and connection to land -Community acceptance -Trust -Community cohesion
Macro-level	-Housing/settlement options – i.e., temporary vs. permanent -Ongoing conflict -Displacement status, i.e., refugees, IDPs -Limited access to services in deprived communities and humanitarian contexts -Modes of delivery of humanitarian aid	-Supportive policies and legal frameworks -Trust in national system and government -Children and adolescent specific mental health policies -On the move support (migrants) -Disability inclusive services and assistance in all contexts

Summary

Cannabis use has a range of consequences that affect individuals across physical, biopsychosocial, sociocultural, and economic dimensions. In response to these concerns, Thailand has expressed a strong commitment to addressing cannabis use, particularly among its youth. Notably, approximately 12.73% of Thailand's population is comprised of young people (Thailand Board of Invesment, 2021), a

demographic that holds significant potential as the country's future drivers of development and societal change. This group represents a critical opportunity for fostering positive change, making it essential to study the factors influencing preventive health behaviors related to cannabis use among adolescents in Thailand. Research has suggested that psychological flexibility, mental health literacy, optimism, and family connectedness are statistically linked to substance abuse prevention. Understanding the protective health behaviors that mitigate cannabis use, as well as identifying the predictors of these behaviors, is crucial. This knowledge can help inform strategies that prevent adolescents from engaging in cannabis use, contributing to better long-term health outcomes and the overall well-being of the population. A substantial body of research has explored the factors influencing cannabis use among adolescents; however, there is a notable gap in evidence regarding the role of preventive behaviors. The findings of this study aim to address this gap by providing insights that can inform the development of interventions. The results will be valuable for healthcare professionals and vocational educators, equipping them with the knowledge necessary to design and implement effective programs aimed at both preventing and improving health behavior related to cannabis use.

CHAPTER 3
RESEARCH METHODS

This chapter presents an overview of research methods encompassing details about population, sample, sampling procedure, instruments, human subjects' protection, data collection procedure, and data analyses.

Research Design

This study utilized a predictive correlational design to examine preventive health behavior toward cannabis use and its influencing factors including mental health literacy, family connectedness, optimism, and psychological flexibility.

Research setting

This study was conducted at Technical College 2, Chonburi province, Thailand. It is a vocational institution operated under the jurisdiction of the Office of the Vocational Education Commission. This Technical College offers 21 fields of specialization for its students, with approximately 4,564 students enrolled for the academic year 2024. A total of 300 participants, aged ≤ 19 years and meeting the study criteria, were selected for inclusion in this research.

Population and Sample

Population

The population of this study consisted of vocational students who are recently studying at a vocational school in Chonburi province both formal and non-formal program, Thailand, studying in academic year 2023. Data collection was conducted between April and June 2024.

Sample

The sample was recruited from vocational students at Technical College 2 based on the following criteria.

Inclusion criteria

1. Age ≤ 19 years old
2. Studying at the vocational school in Chonburi, Thailand
3. Fluently communicated and read in Thai
4. Accessible via the internet; having smartphone access to the internet or able to access the internet to complete all questionnaires.

Exclusion Criteria

1. Having physical and mental conditions cannot provide information.

Sample size and sampling method

The sample size is derived from using a sample size table for Multiple Regression: at $\alpha = .05$ for power = .80, with 4 predictors and a small effect size ($R^2 = .04$) (Polit & Beck, 2008). The minimum number of samples required was 287; consequently, 300 participants were considered as the statistical sample to ensure greater assurance, prevent missing data, and improve the generalizability of the findings. In this research, a simple random sampling method was performed. One college was randomly selected from a total of eight institutions, resulting in the selection of Technical College 2. The list of vocational school details as below.

1. Technical College 1
2. Technical College 2
3. Technical College 3
4. Technical College 4
5. Technical College 5
6. Technical College 6
7. Technical College 7
8. Technical College 8

Subsequently, the researcher conducted proportional allocation sampling within S1, which has a total of 3,763 students enrolled in the Vocational Certificate classes Year 1 to Higher Vocational Certificate Year 1. The proportions were calculated for each academic year, leading to the following sample sizes:

1. Vocational Certificate Year 1: 928 students, with 74 participants included in the study.

2. Vocational Certificate Year 2: 839 students, with 67 participants included in the study.

3. Vocational Certificate Year 3: 970 students, with 77 participants included in the study.

4. Higher Vocational Certificate Year 1: 1,026 students, with 82 participants included in the study.

Subsequently, the predetermined sample sizes for each academic year were selected using simple random sampling methods.

Research instrument

The research instruments in this study were divided into 2 parts as followed: Part 1 Demographic questionnaire, this part presents general demographic data of the sample , and Part 2 Data collection Instruments, this part consisted of questionnaires to gather data regarding the Preventive Health Behavior for Cannabis use questionnaire, the Adolescent Mental Health Literacy Questionnaire (AMHLQ), the Life Orientation Test-Revise (LOT-R), the Psychological Flexibility Scale for Adolescents, and the family connectedness questionnaire.

Part I: Demographic questionnaire

A demographic questionnaire for collecting demographic data of participants, it was designed to capture data for general demographic data containing information's as followed : 1) Gender, 2) Age, 3) Ethnicity, 4) Nationality, 5) Religion, 6) Education class, 7) Education type, 8) Working status, 9) Marital status, 10) received per month, 11) Living pattern, 12) self-report relevant to substances use of the sample and their family members.

Part 2 Data collection Instruments

Preventive Health Behavior for Cannabis Use Questionnaire

The Preventive Health Behavior for Cannabis Use Questionnaire was developed by the researcher to assess preventive behavior for cannabis use based on Ecological Model, established definitions, a comprehensive literature review, and the concept of protective factors for preventing cannabis use among adolescents. The

development of the questionnaire was also based on the Socio-Ecological Model which places emphasis on the adolescent at the core of concentric circles representing the various influences on behavior. These influences include family, peers, community, culture/society, and overarching government policies and systems, all of which contribute to shaping adolescent behavior (Nawi et al., 2021). The instrument consisted of 20 items measured on a Likert rating scale. The questionnaire was reviewed by three experts to evaluate its content validity. Following this review, the researcher calculated the content validity index (CVI), which yielded well accepted CVI value of .96. Subsequently, the questionnaire was administered to a pilot group at Technical College 5, and the reliability of the instrument was assessed. The results revealed Cronbach's Alpha coefficient of .93

Adolescence Mental Health Literacy Questionnaire

This questionnaire was developed by Campos and comprised of 33 items measured on a Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. It is organized into four dimensions: (1) knowledge of mental health problems; (2) erroneous beliefs and stereotypes; (3) help-seeking and first aid skills; and (4) self-help strategies (Campos et al., 2016; Zare et al., 2022). The maximum possible score is 165, while the minimum score is 33. Higher scores reflect a better status of mental health literacy (MHL). The original version of the questionnaire was translated into Thai by two content experts. Backward translation from Thai to English using blind backward translation by two experts (Guillemin, Bombardier, & Beaton, 1993). The forward and backward translation process was employed to ensure the congruence of both English and Thai versions. Subsequently, the questionnaire was administered to a pilot group at Technical College 5, and the reliability of the instrument was assessed. The results revealed a Cronbach's Alpha coefficient of .96

Life Orientation Test-revise

This study used the Life Orientation Test-Revised (LOT-R) by Lonhlam et (2008). LOT-R comprised the 10 items, 3 items measure optimism, 3 items measure pessimism, and 4 items serve as fillers. Respondents rate each item on a 4-point scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree (Scheier et al., 1994). For the Thai version (Lonhlam et al., 2008), was developed 10-items Likert scale based on Scheioner et al. A pilot test involving 30 students at

Technical College 5 with qualifications similar to the target population was conducted. The results indicated that the items met the significance level of .05 for statistical relevance, and the overall internal consistency, as measured by Cronbach's Alpha, was found to be .70, the total score is 24 scores, and higher scores indicate better optimism status.

Psychological Flexibility Scale for Adolescents

This study used a psychological flexibility scale for adolescents developed by Thanpitcha et al, which comprises 27 items measured on a Likert scale (ranging from 1 = strongly disagree to 5 = strongly agree) and is organized into six dimensions (1) Defusion, (2) Acceptance, (3) Attentional flexibility, (4) Self as context, (5) Value-identity, (6) Committed action. The six-component measurement demonstrated good structural validity, as evidenced by the following fit indices: $\chi^2 = 510.818$, degrees of freedom (df) = 309, $p < .001$, $\chi^2/df = 1.653$, CFI = .952, and RMSEA = .046. This instrument had appropriate psychometric properties, making it suitable for assessing the psychological flexibility of youth (Sannarin et al., 2019). Subsequently, the questionnaire was administered to a pilot group at Technical College 5, and the reliability of the instrument was assessed. The results revealed Cronbach's Alpha coefficient of .76

Family connectedness

Family connectedness was assessed using a questionnaire developed by Watcharin Kraesat (2011), which was adapted from the questionnaire created by Phisamai Nopparat (2000) in accordance with the framework established by Resnick et al. (1993). The instrument consists of 12 items, including 6 positively worded questions and 6 negatively worded questions. Respondents rated their agreement on a 5-point Likert scale for the positive questions, ranging from 1 (strongly disagree) to 5 (strongly agree). Conversely, the negative questions were scored in reverse order. For interpretation, lower scores indicate low engagement, while higher scores reflect greater engagement. From this study, the questionnaire was administered to a pilot group at Technical College 5, and the reliability of the instrument was assessed. The results revealed Cronbach's Alpha coefficient of .84

Psychometric properties of instruments

Validity

All instruments except Adolescence Mental Health Literacy (AMHL) used in this study were validated and used in previous studies, therefore validity testing was not examined. For Adolescence Mental Health Literacy, it was translated into Thai by two experts including 1 professor in community health nursing department, Burapha University, and 1 professor in psychiatric mental health nursing department, Mahasarakham University, then using blind backward translation technique by two expert including 1 professor from adult nursing and 1 professor from nursing management, Burapha University, the technique postulated by Guillemin et al. (1993). Preventive Health Behavior for Cannabis use which was developed by the researcher and had been validated by three experts including 2 nursing professors in psychiatric mental health department and 1 nursing professor in community health nursing department.

Reliability

Prior to the use of all scales in the actual study, these scales were tested for their reliability. The Cronbach's values of all scales are as follows: 1) Preventive health behavior for Cannabis use was .93, 2) Adolescence Mental Health Literacy was .96, 3) Life Orientation Test-revise was .70, 4) Psychological Flexibility Scale for Adolescents was .76, and 5) Family Connectedness was .84

Human Subjects Protection

In this research the researcher first obtained permission from the board of Graduate School Burapha University. The approval with the project code is G-HS119/2566(C1), then the researcher obtained the permission from the director of vocational school where the data collection was performed. Ethical considerations were addressed as follows:

1. Addressing the rights to the anonymity of the respondents, and using code instead of participants' name
2. Explaining the aims and the states of study before administrating the questionnaire
3. Keeping participants' information confidentially.
4. Addressing voluntary participation in this study.

5. Obtaining assent and informed consent prior to the conduct of data collection

The four ethical principles were strictly applied including: respect, competence, responsibility, and integrity.

Data Collection Procedure

In the present study, the researcher conducted data collection according to the following procedures:

Preparatory stage

1. The research proposal was presented to the board of the Graduate School Burapha University along with ethical approval.
2. After approval, a letter requested permission for data collection was issued by the Graduate School of Burapha University were presented to the Director of Technical College 2 for granting permission in data collection from the students in this school.
3. After approval, the researcher was at Technical College 2 to meet the director of Technical College 2.
4. After the needed cooperation, the researcher made an appointment with the person in charge of collecting data.

Implementing stage

1. The researcher collaborated with the students who served as the sample in this study in order to explain the study details.
2. The researcher provided essential information about how to answer the online questionnaire and demonstrated how to do first to the students.
3. Informed consent was obtained, ensuring that respondents understood their rights and confidentiality.
4. Throughout the implementation process, the researcher was available to answer the students in case they have any questions or concerns.

Data Analysis

The data was performed coding and entered into Statistical software. A p-value less than .05 was considered as statistical significance.

1. Descriptive statistics including frequency, percentage, mean (M), and standard deviation (SD) used to describe demographic information and self-report towards substance use.

2. Before performing multiple regression, the assumption testing was performed by considering the relationship between the independent and dependent variables to be linear. The linearity assumption can best be tested with scatterplots. Then analysis assumes that the residuals (the differences between observed and predicted values) are normally distributed. This assumption can be assessed by examining histograms or Q-Q plots of the residuals. Then check multicollinearity by correlation matrices, where correlation coefficients should ideally be below 0.80. with VIF values above 10 indicating problematic multicollinearity. The variance of error terms (residuals) should be consistent across all levels of the independent variables. A scatterplot of residuals versus predicted values should not display any discernible pattern, such as a cone-shaped distribution, which would indicate heteroscedasticity. Addressing heteroscedasticity might involve data transformation or adding a quadratic term to the model.

3. Multiple regressions were performed to determine the predictors of preventive behavior for cannabis use in vocational students including mental health literacy, family connectedness, optimism, and psychological flexibility. The assumptions of the multiple regression tests were tested prior to multiple regression were performed.

CHAPTER 4
RESULT

This chapter presents the results of data analysis which are derived from responses collected from vocational students at Technical College 2 in Chonburi province starting from April to June 2024. A total sample of 300 students were recruited. Nevertheless, data from 299 participants who met the eligibility criteria and completed the questionnaire were included in this study analysis. This chapter is structured into five sections.

Part I examines the demographic characteristics of the participants. Part II explores the characteristics of cannabis use. Part III the factors influencing preventive health behaviors related to cannabis use. Part IV correlation matrix of factors affecting preventive health behavior for cannabis use. Finally, Part V the predictive factors that impact preventive health behavior among vocational students.

Part I: Demographic characteristics of participants.

The demographic characteristics were presented in Table 6. The majority of vocational students were male, constituting 67.9% of the total. The educational participants were classified into four distinct categories including vocational certificate 1, vocational certificate 2, vocational certificate 3, and high vocational certificate 1. Most participants identified their religion as Buddhist, comprising 95% of the sample (n = 284). Most students were enrolled in formal programs, accounting for 95.3% of the sample (n = 285), whereas 4.7% were enrolled in non-formal programs. Concerning students' working status, 74.2% were enrolled as full-time students, while 25.8% were engaged in part-time employment concurrent with their studies. In terms of marital status, 97.7% identified as single, 1.7% fell into other categories, 0.3% were married, and 0.3% were cohabiting. The results of the living pattern examined revealed that 69.6% of the participants lived with their father and/or mother (n = 208), followed by living in a student lodge or apartment accounting for 18.4% (n = 55). Four percent of vocational students reported having underlying health conditions. In terms of parental support, the reported monthly income provided by

parents was described, 43.8% of the participants indicated that their parents contributed less than 3,000 baht to their monthly expenses, 45.5% of participants reported that their parents contributed between 3,001 and 6,000 baht towards their monthly expenses, 6% between 6,001-9,000 Baht, and 4.8% higher than 9,001 Baht/Month. The self-report cannabis use showed that 82.3% (n = 246) of the participants had never used cannabis, 3% (n = 11) currently use cannabis, and 14% (n = 42) were used. In addition, the report showed that 19.73% (n = 59) of vocational students used other substances.

Table 6 Demographic characteristics of participants (N = 299)

Variables	**Categories**	**n**	**%**
Gender	Male	203	67.9
	Female	96	32.1
Religion	Buddhism	284	95.0
	Christian	7	2.3
	Other	8	2.7
Education Class	Vocational certificate 1	74	24.7
	Vocational certificate 2	66	22.1
	Vocational certificate 3	77	25.8
	High vocational certificate 1	82	27.4
Education types	Formal program	285	95.3
	Non formal program	14	4.7
Working Status	Study and work part-time job	77	25.8
	Full time study	222	74.2
Marital Status	Single	292	97.7
	Married	1	.3
	Cohabit without marriage	1	.3
	Other	5	1.7

Table 6 (Continued)

Variables	Categories	n	%
Living with	Relatives	31	10.4
	Father and/or Mother	208	69.6
	Living in a student lodge or Apartment	55	18.4
	Other	5	1.7
Underlying disease	Yes	12	4.0
	No or don't know	287	96.0
Income	Less than 3000/Month	131	43.8
	3001-6000/Month	136	45.5
	6001-9000/Month	18	6.0
	More than 9001/Month	14	4.7
Cannabis use status	Never	246	82.3
	Currently use	11	3.7
	Used	42	14.0
Substance use history	No	240	80.27
	Yes	59	19.73

Part II. Descriptions of the characteristics of cannabis use.

The primary purpose of cannabis use was to enjoyment accounting for 22.69% (n = 27) followed by boredom-coping, anxiety-coping, and socialization accounted for 26%, 22%, and 15% respectively. In terms of methods of cannabis consumption, 71.64% of cannabis users reported inhalation as their primary method (n = 48), followed by the use of e-cigarettes at 13.43%, cannabis incorporated into edibles at 7.46%, cannabis in beverage form at 5.97%, and other consumption methods at 1.49%. Regarding frequency of use, 41.5% of cannabis users indicated that their most recent use occurred at least one in their lifetime (n = 22), 39.6% reported using cannabis within the past year (n = 21), and 18.9% had consumed it within the past month (n = 10). Data is shown in table 7.

Table 7 Frequency and percentage of reasons for cannabis use, patterns of cannabis use, and the period of cannabis use (n = 53)

Variables	Categories	n	%
Reason for cannabis use (can select more than 1 choice)	Enhancement	27	22.69
	Boredom-Coping	26	21.85
	Anxiety-Coping	22	18.49
	Socialization	15	12.61
	Depression-Coping	11	9.24
	Performance	7	5.88
	Self-Expansion	6	5.04
	Other reason	3	2.52
	Conformity	2	1.68
Pattern of cannabis use (select more than 1 choice)	Inhalation	48	71.64
	E-cigarette	9	13.43
	Edibles	5	7.46
	Drinks	4	5.97
	Other	1	1.49
Cannabis use period	Over 1 year	22	41.5
	More than 1 month but less than 1 year	21	39.6
	Within 1 month	10	18.9

Part III. Factors associated with preventive health behavior related to cannabis use.

In this study, four factors associated with preventive health behavior toward cannabis use were examined including adolescence mental health literacy, family

connectedness, optimism, psychological flexibility, as well as preventive health behavior for cannabis use were included in the analysis. The results showed that the mean score of the Adolescence Mental Health Literacy scale was 114.61 (SD = 29.68). The mean score of the Family Connectedness was 39.13 (SD = 6.09). Family connectedness accounted for 3.26, which falls within the intermediate range of family connectedness level, Low level = 1-2.33, Intermediate level = 2.34-3.67, High level = 3.68-5 Krasaesat et al. (2011). The mean score of Optimism is 20.82 (SD = 4.45). For psychological flexibility, the mean score of 77.9 (SD = 15.24). The mean score of Preventive Health Behavior for Cannabis use of 59.47 (SD = 21.89) as present in Table 8.

Table 8 Mean and Standard Deviation (SD) of the factors related to preventive health behavior for cannabis use (N = 299)

Variables	Possible score	Actual score	Mean	SD
Mental Health Literacy	33-165	33-165	114.61	29.68
Family Connectedness	12-60	27-55	39.13	6.09
Optimism	6-30	11-30	20.82	4.45
Psychological Flexibility	27-108	49-108	77.90	15.24
Preventive Health Behavior for Cannabis use scale	0-100	5-100	59.47	21.89

Part IV: Factors influencing the preventive health behavior for cannabis use.

The correlation matrix analysis among five variables indicated moderate positive correlations: mental health literacy and optimism ($r = .47$, $p < .001$), mental health literacy and preventive health behavior for cannabis use ($r = .50$, $p < .001$), optimism and psychological flexibility ($r = .55$, $p < .001$), and optimism and preventive health behavior for cannabis use ($r = .48$, $p < .001$). Additionally, a weak positive correlation was observed between mental health literacy and psychological flexibility ($r = .39$, $p < .001$), psychological flexibility and preventive health behavior for cannabis use ($r = .37$, $p < .001$), family connectedness and preventive health

behavior for cannabis use (r = .19, p = .01), mental health literacy and family connectedness (r = .17, p = .01). Notably, a weak negative correlation was reported between family connectedness and psychological flexibility, as illustrated in Table 9.

Table 9 Correlation between predictors and preventive health behavior for cannabis use (N = 299)

Variable	**1**	**2**	**3**	**4**	**5**
1. Mental Health Literacy	1				
2. Family Connectedness	.17**	1			
3. Optimism	.47***	.86	1		
4. Psychological Flexibility	.39***	-.11	.55***	1	
5. Preventive health behavior for cannabis use	.50***	.19**	.48***	.37***	1

Note: *p < .05, **p < .01, ***p < .001

Part V the predictive factors that impact preventive health behavior among vocational students.

For multiple regression analysis results, prior to analysis, the assumptions of the multiple regression tests were tested. One of the participants was excluded from the analysis due to being identified as an outlier. Mental health literacy, optimism, family connectedness, and psychological flexibility were the four independent variables. Variance inflation factor (Ansari et al.) was used to test the collinearity between independent variables. The VIF value ranged from 1.08 to 1.65 in this study, indicating that the data met the assumptions of multiple linear analysis. A VIF value below 5 indicates a well-constructed model with linear independent variables and log odds. The normality of preventive health behavior for cannabis use was tested by Z skewness and Z kurtosis, reported 0.865 and -1.356 both are less than 2 indicated normality. The normal distribution of data was demonstrated through regression residuals, Q-Q plots, and scatter plots. Outliers were identified through casewise diagnostics.

The coefficient of correlation (R) is a crucial indicator for assessing the linearity between variables and reflects the degree of regression fitting. Typically, R values range from 0 to 1, with larger values indicating stronger linear relationships. In this study, the correlation coefficient R was found to be .59, indicating a significant positive relationship with moderate levels of the variables under investigation. Additionally, R2 represents the proportion of variance in the dependent variable that can be explained by changes in the independent variable.

Table 10 Multiple linear regression analysis of factors affecting preventive health behavior for cannabis use (N = 299)

Independent Variables	**B**	**SE**	**Beta**	**t**	**P-value**
Mental Health Literacy	.23***	0.04	.32***	5.65	.000
Optimism	1.23***	0.30	.25***	4.13	.000
Family Connectedness	.45**	0.18	.13**	2.54	.012
Psychological Flexibility	.67*	0.08	.12*	2.00	.047
Constant = -2.58**, R^2 = .345***, Adjusted R^2 = .336, $F_{4, 294}$ = 38.64***					

Note: DV: preventive health behavior for cannabis use, *p < .05, **p < .01, ***p < .001

From multiple regression analysis, it indicated that mental health literacy, optimism, family connectedness, and psychological flexibility collectively accounted for 34.5% of the variance in preventive health behavior toward cannabis use. (R2 = .345, F4, 294 = 38.64, p < .001). The F-statistics of 38.64, with 4 and 294 degrees of freedom, indicated that the overall regression model is statistically significant. This suggests that at least one of four independent variables significantly contributes to the model's ability to explain preventive health behavior (p < .001). The best predictors were mental health literacy (β = .32, p < .001), followed by optimism (β = .25, p < .001), family connectedness (β = .13, p < .01), and psychological flexibility (β = .12, p < .05).

CHAPTER 5
CONCLUSIONS AND RECOMMENDATIONS

This chapter summarizes the key findings of the study and their implications for nursing practice. We highlight the study's strengths while acknowledging its limitations. Additionally, we present recommendations for future research.

Summary of the results

A total of 300 vocational students were recruited for this study, and 299 cases were used in data analysis. Self-report questionnaire was used for collecting data including a demographic questionnaire, the Preventive Health Behavior for Cannabis use questionnaire, the Adolescent Mental Health Literacy Questionnaire (AMHLQ), the Life Orientation Test-Revise (LOT-R), the Psychological Flexibility Scale for Adolescents, and the family connectedness questionnaire.

The results indicated the majority of respondents were male (67.9%), single (97.7%). Most of the participants lived with their father and mother (69.6%). The majority of education types are formal programs (95.3%). The majority of respondents are full-time students (74.2%). Most students receive financial support from their parents ranging from 3,001 to 6,000 baht per month (45.5%) followed by less than 3,000 baht per month (43.8%). Self-reported cannabis use revealed that 53 participants (17.7%) have used cannabis at least once in their lifetime, while 59 participants (19.73%) have used other substances at least once in their lifetime.

This study revealed that all predictive factors including mental health literacy, family connectedness, optimism, and psychological flexibility accounted for 34.5% of the variance in preventive health behavior for cannabis use ($F4, 294 = 38.64$, $p < .001$). The best predictors were mental health literacy ($\beta = .32$, $p < .001$), followed by optimism ($\beta = .25$, $p < .001$), family connectedness ($\beta = .13$, $p < .01$), and psychological flexibility ($\beta = .12$, $p < .05$).

Discussion

This study aims to explore vocational students' preventive health behavior toward cannabis use and to investigate the factors affecting the preventive health behavior of vocational students. The health behavior theory of Glanz et al (2008), and a literature review were used to guide this study. The participants consisted of 300 vocational students who study in a vocational school located in Chonburi, Thailand under the responsibility of the Office of the Vocational Education Commission were recruited for this study by sample random sampling technique. Self-report questionnaire was used for collecting data including a demographic questionnaire, the Preventive Health Behavior for Cannabis use questionnaire, the Adolescent Mental Health Literacy Questionnaire (AMHLQ), the Life Orientation Test-Revise (LOT-R), the Psychological Flexibility Scale for Adolescents, and the family connectedness questionnaire.

The primary objective of this study is to investigate the preventive health behaviors related to cannabis use among vocational students. This research is the first research represents the examination of such behaviors in this demographic. Furthermore, no prior studies have been conducted in Thailand to facilitate a comparative analysis of the findings. The results showed a mean score of the preventive health behavior for cannabis use among vocational students of 59.47 (SD = 21.89). In each domain of preventive health behavior for cannabis use (See appendix Table 1.) found that the individual domain had the highest mean score (mean score = 25.36, SD = 9.16) followed by the community domain (mean score = 20.07, SD = 8.56), and family domain (mean score = 14.04, SD = 5.92) respectively. The result consistent with Pongnanthakulkit, Hengudomsub, and Dallas (2018) who found that individual factors including self-control influenced drug-preventive behavior in high school students.

In a comparison of preventive health behaviors related to cannabis use across different subgroups (See appendix table 2.), the findings indicate that females exhibited significantly higher levels of preventive health behaviors toward cannabis use compared to males ($p = .003$, $t = -3.013$). The results obtained from this study was consistent with the study conducted by Pongnanthakulkit et al. (2018) which found that females had drug preventive behavior higher than males. In addition, the

results also revealed that students who are currently using cannabis demonstrate significantly lower levels of preventive health behaviors toward cannabis use ($p < .001$, $t = -3.663$), while students who never use cannabis had the higher level of preventive health behavior for cannabis use. Furthermore, students who had reported other substance use also significantly had a low-level mean score of preventive health behavior for cannabis use ($p = <.001$, $t = -3.663$). This finding was consistent with the research conducted by Uzun and Kelleci (2018), which demonstrated that high school students who either personally engaged in substance use or were surrounded by individuals who used substances had lower self-efficacy for protecting themselves from substance abuse than students who neither used a substance themselves nor had substance users in their environment. However, in this study, the use of cannabis by family members was not significantly related to preventive health behavior regarding cannabis use.

The second objective of this study is to analyze the factors influencing preventive behavior related to cannabis use among vocational students, specifically focusing on mental health literacy, psychological flexibility, optimism, and family connectedness. The findings indicate that mental health literacy significantly predicts preventive health behavior toward cannabis use ($\beta = .32$, $p < .001$), followed by optimism ($\beta = .25$, $p < .001$), family connectedness ($\beta = .13$, $p < .01$), and psychological flexibility ($\beta = .12$, $p < .05$). Collectively, the regression model accounted for 34.5% of the variance in preventive health behavior regarding cannabis use, thereby supporting the study's objectives.

As the predictor of preventive health behavior for cannabis use, mental health literacy was the strongest predictor of this impact. It can be explained by the fact that an individual’s higher level of knowledge, motivation, and competencies to access, understand, appraise, and apply mental health information to make judgments and decisions in everyday life concerning mental care, mental disease prevention, and mental health promotion to managing one’s health through informed decisions and corresponding health behavior much better who have a lower level. Thus, this was consistently with the results from the previous findings which showed that lack of knowledge and low-risk perception about the consumption of cannabis contributed involving in cannabis use among adolescent (González-Cano-Caballero et al., 2023).

The students with a higher level of mental health literacy are much higher knowledge of mental health problems, accuracy beliefs, improved self-seeking & first-aid skills, and had a higher level of self-help strategies that impact individuals' behavior in cannabis use prevention. This finding is also consistent with Chotiwarangkul (2022), who conducted an experimental study using a one-group pretest-posttest design. This research indicated that enhancing patients' knowledge and attitudes regarding drug use and therapy led to a remarkable 93.0% reduction in relapse rates over a one-year follow-up period. Furthermore, it was found that patients with a higher level of knowledge experienced a greater reduction in relapse rates, achieving a decrease of 96.8% (Chotiwarangkul, 2022). Additionally, knowledge can affect an individual's thoughts, attitudes, and beliefs, which in turn are attributed to their behaviors (Pongnanthakulkit et al., 2018).

The results of this study are consistent with the findings of Chisolm et al. (2014), Hoover et al. (2018), Panahi et al. (2015), and Yangyuen et al. (2021), all of whom reported that limited health literacy is associated with various health-risk behaviors, including substance abuse, alcohol consumption, and smoking (Chisolm et al., 2014; Hoover et al., 2018; Panahi et al., 2015; Yangyuen et al., 2021). Although previous studies have primarily focused on health literacy (HL) and its relationship with health behaviors, it is important to note that mental health literacy (MHL) is a specific construct that has emerged from the broader domain of HL (Kutcher et al., 2016). The findings of this study further underscore the significance of MHL, demonstrating its predictive value regarding preventive health behavior related to cannabis use among vocational students.

Apart from mental health literacy, optimism was also significant predictor of preventive health behavior toward cannabis use among vocational students ($\beta = .25$, $p < .001$). Optimism is a mental attitude that significantly influences physical and psychological health, as well as coping with every day, social, and working life through adaptive management of personal goals and development and by using active coping strategies (Conversano et al., 2010), also refers to a personal belief and faith that life's outcomes will primarily be positive, and a distressing present has the potential to be transformed into a better future (Setia et al., 2021). Higher optimism would higher individual health outcomes expectations, adaptive management of

personal goals, and improved coping strategies. In addition, optimism is also strongly correlated with decision-making styles (Magnano et al., 2015). Patrick et al. (2024) found that adolescents are increasingly using cannabis as a means of relaxation and coping with the stresses of daily life. Thus, contributed to cannabis use is also influenced by patterns of coping and decision-making of students. This study revealed that optimism influenced preventive health behavior toward cannabis use. The result of this study was consistent with Ansari et al. (2019) which found that optimism had an important role in the tendency to tobacco smoking and substance abuse among students, and the co-occurrence of smoking and substance abuse is high among students with low optimism scores (Ansari et al., 2019). In addition, the result of the study was consistently with Carvajal et al. (1998), those who investigated the relation of optimism, hope, and self-esteem to social influences in deterring substance use in adolescents, which found that optimism, hope, and self-esteem are determinants of avoiding substance use, with the effects of these variables being mediated by attitudes, perceived norms, and perceived behavioral control. Moreover, the result of this study was also consistent with a study conducted by Soares et al. (2011) who examined the relationship between psychoactive substances and optimism among undergraduate nursing students and nursing residents. The findings revealed a weak negative correlation between the use of sedatives and levels of optimism. This supports that optimism can significantly influence preventive health behavior.

Apart from optimism, family connectedness was also a predictor of preventive health behavior toward cannabis use ($\beta = .13$, $p < .01$). This finding can be explained by the fact that connectedness means a sense of being cared for, supported, belonging, and closeness with others that comes from protective and sustained relationships. Family connectedness encompasses the feeling of trust, understanding, and support within the family and is robustly associated with healthy child development (Collins, 2013). Consequently, feelings of being cared for and supported, and a sense of belonging and closeness with family members are associated with enhanced health and well-being. These feelings arise from protective and sustained relationships. Therefore, families that provide higher levels of protection and support to their children have much higher improved health-related behaviors. The results of this study was consistent with previous studies that identified family connectedness as

a significant predictor of variance in preventive behavior related to substance abuse (Thapinta et al., 2024), family relationships predicted drug prevention behavior (Laodarun et al., 2018), and feeling of being cared for, being loved as well as good family relations also restraining drug use (Maneepakorn, 2011).

From this study, psychological flexibility was the least strong predictor of preventive health behavior concerning cannabis use among vocational students, with a standardized beta coefficient of $\beta = .12$ ($p < .05$). Psychological flexibility refers to an individual's ability to cope with, accept, and adjust to difficult situations. When experiencing stressful or life events, psychological flexibility was trapped to serve as a protective against negative feelings and can promote positive mental health (Tindle & Moustafa, 2021). According to the statement of the founders of Acceptance and Commitment Therapy (ACT), suffering in various forms is an integral part of human life. In situations of discomfort that cannot be avoided and with which an individual must learn to function daily over a longer period of discomfort, ACT proposes the development of Psychological Flexibility, which strengthens the psyche and mental immune resistance (Prokopowicz, Stańczykiewicz, & Uchmanowicz, 2021). In addition, psychological flexibility actually refers to a number of dynamic processes that unfold over time. This could be reflected by how a person: (1) adapts to fluctuating situational demands, (2) reconfigures mental resources, (3) shifts perspective, and (4) balances competing desires, needs, and life domains (Kashdan & Rottenberg, 2010). In terms of without stressful conditions, psychological flexibility allows people to adjust their behaviors and routines to respond effectively to the demands of the situation in ways that serve an individual's goals and adhere to their core beliefs such as enhanced proactive work behavior among employees (Kuo et al., 2018). The result of this study was consistent with Arslan et al. (2024) those who found that psychological flexibility significantly predicts substance misuse, subjective well-being, and self-compassion, as well as a predictor of intention to abstain from drugs among youths with substance abuse (Detchaiyot et al., 2021). The emerging use of cannabis among adolescent in Thailand, besides the lower enforcement of cannabis control regulations, cognitive defusion could play an important role in helping individuals discern the pros and cons of cannabis use. In addition, attentional flexibility serves as a reminder of their identity as students besides giving its values,

while committed action guides in pursuing their graduation goals. Those may affect an individual's thoughts, attitudes, and beliefs, which are in turn attributed to their behaviors. The results of this study also revealed psychological flexibility influenced preventive health behavior toward cannabis use.

Strength and limitation of the study

The strength of this study lies in its novelty, as it is the first to investigate preventive health behavior toward cannabis use among adolescent during a period of ambiguous cannabis use regulation.

This study had certain limitations. One limitation of this study was the use of a cross-sectional design, which may not adequately explain preventive health behavior toward cannabis use and their contributing factors over time change. Thus, the nature of the variable could explain vocational students' preventive health behavior toward cannabis use at the time that the researcher collected data.

Implications for nursing

The results of this study revealed that vocational students had a mean score of 59.47 (SD = 21.89) for preventive health behavior toward cannabis use. This score was influenced by various modifiable factors that can be enhanced and strengthened to promote students' preventive health behavior related to cannabis use. The findings of this study offer valuable insights for nurses, other healthcare professionals, and educators, who can use this information to promote preventive behavior related to cannabis use by improving mental health literacy, fostering family connectedness, enhancing optimism, and promoting psychological flexibility.

Preventive health behavior related to cannabis use can help identify protective factors associated with cannabis prevention, thereby enabling early interventions to prevent students from engaging in cannabis. School nurse or educator utilizing a preventive health behavior scale for cannabis use to assess students' protective behaviors would facilitate early detection and intervention.

Recommendation for further studies

1. Future research should further investigate preventive health behavior toward cannabis use, with an emphasis on proactive studies that extend beyond a single point in time. This approach will help mitigate the limitations associated with cross-sectional data and provide a more comprehensive understanding of the factors influencing preventive behavior over time.

2. Develop intervention programs that aim for the enhancement of mental health literacy, family connectedness, optimism, and psychological flexibility. Investigate how its components, roles, and processes contributed to the prevention of health-risk behavior.

3. Investigate other factors that could affect the preventive health behavior toward cannabis use, such as peer group, attitude toward cannabis, and social media factors, should be investigated correctly to improve preventive health behavior among students.

4. Investigate preventive health behavior toward cannabis use in different populations, such as academic students, employees, and university students.

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APPENDIX

APPENDIX A

Table 11 Descriptive analysis of preventive health behavior for cannabis use each domain (N = 299)

Preventive Health Behavior for Cannabis use	**Min**	**Max**	**Mean**	**SD**
Individual Domain	3	40	25.36	9.16
Family Domain	0	25	14.04	5.92
Family Connectedness Domain	0	35	20.07	8.56
Total			59.47	21.89

Table 12 Comparison of Preventive Health Behavior toward cannabis use between Subgroups of Demographic characteristics data (N = 299)

Variables	**Categories**	**Preventive Health Behavior for Cannabis use**			**Statistic test (p-value)**
		n	**Mean**	**SD**	
Gender	Male	203	56.89	22.35	t = -3.013
	Female	96	64.95	19.91	p = .003
Education Class	Vocational certificate 1	74	63.14	23.05	F = 1.007
	Vocational certificate 2	66	57.11	21.42	p = .390
	Vocational certificate 3	77	58.90	21.83	
	High vocational certificate 1	82	58.62	21.22	
Cannabis use status	Never used	246	61.61	22.38	F = 8.158
	Used	42	51.98	15.42	p <.001
	Currently use	11	40.45	16.96	
Substance use history	No	240	61.43	22.45	t = -3.663
	Yes	59	51.54	17.48	p < .001
Working Status	Non-work during study	222	60.59	22.04	t = -1.499
	Work During Study	77	56.26	21.25	p = .135

Variables	Categories	Preventive Health Behavior for Cannabis use			Statistic test (p-value)
		n	Mean	SD	
Family member cannabis use	No	272	60.25	21.98	t = -1.953
	Yes	27	51.67	19.64	p = .052

APPENDIX B

สำเนา

ที่ IRB3-014/2567

เอกสารรับรองผลการพิจารณาจริยธรรมการวิจัยในมนุษย์

มหาวิทยาลัยบูรพา

คณะกรรมการพิจารณาจริยธรรมการวิจัยในมนุษย์ มหาวิทยาลัยบูรพา ได้พิจารณาโครงการวิจัย

รหัสโครงการวิจัย : G-HS119/2566

โครงการวิจัยเรื่อง : ปัจจัยที่มีอิทธิพลต่อพฤติกรรมป้องกันการใช้กัญชาในนักเรียนอาชีวศึกษา

หัวหน้าโครงการวิจัย : นายณัฏฐ์ธารณ์ ธีร์อธิศสกุล

หน่วยงานที่สังกัด : คณะพยาบาลศาสตร์

อาจารย์ที่ปรึกษาโครงการหลัก (สารนิพนธ์/ งานนิพนธ์/ วิทยานิพนธ์/ ดุษฎีนิพนธ์) : รองศาสตราจารย์ ดร.ภรภัทร เฮงอุดมทรัพย์

หน่วยงานที่สังกัด : คณะพยาบาลศาสตร์

อาจารย์ที่ปรึกษาโครงการร่วม (สารนิพนธ์/ งานนิพนธ์/ วิทยานิพนธ์/ ดุษฎีนิพนธ์) : ผู้ช่วยศาสตราจารย์พรพรรณ ศรีโสภา

หน่วยงานที่สังกัด : คณะพยาบาลศาสตร์

วิธีพิจารณา : ☐ Exemption Determination ☐ Expedited Reviews ☑ Full Board

BUU Ethics Committee for Human Research has considered the following research protocol according to the ethical principles of human research in which the researchers respect human's right and honor, do not violate right and safety, and do no harms to the research participants.

Therefore, the research protocol is approved (See attached)

1. Form of Human Research Protocol Submission Version 2: 26 January 2024
2. Research Protocol Version 1: 14 September 2023
3. Participant Information Sheet Version 2: 24 January 2024
4. Informed Consent Form Version 1: 3 September 2023
5. Research Instruments Version 2: 24 January 2024
6. Others (if any) Version -: -

วันที่รับรอง : วันที่ 5 เดือน กุมภาพันธ์ พ.ศ. 2567

วันที่หมดอายุ : วันที่ 5 เดือน กุมภาพันธ์ พ.ศ. 2568

ลงนาม *Assistant. Professor Ramorn Yampratoom*

สำเนา

(*Assistant. Professor Ramorn Yampratoom*)
Chair of The Burapha University Institutional Review Board
Panel 3 (Clinic / Health Science / Science and Technology)

** หมายเหตุ การรับรองนี้มีรายละเอียดตามที่ระบุไว้ด้านหลังเอกสารรับรอง **

สำเนา

ผู้วิจัยทุกท่านที่ผ่านการรับรองจริยธรรมการวิจัยในมนุษย์ ต้องปฏิบัติดังต่อไปนี้

1. ดำเนินการวิจัยตามขั้นตอนต่าง ๆ ที่ระบุไว้ในโครงการวิจัยอย่างเคร่งครัด โดยใช้เอกสารชี้แจงผู้เข้าร่วมโครงการวิจัย (Participant Information Sheet) (AF 06-02), เอกสารแสดงความยินยอมของผู้เข้าร่วมโครงการวิจัย (Consent Form) (AF 06-03), แบบสัมภาษณ์ และ/หรือแบบสอบถาม รวมถึงเอกสารอื่น ๆ เช่น ใบประชาสัมพันธ์ หรือประกาศเชิญชวนเข้าร่วมโครงการ เป็นต้น
ที่ผ่านการรับรองและประทับตราจากคณะกรรมการพิจารณาจริยธรรมการวิจัยในมนุษย์ มหาวิทยาลัยบูรพา แล้วเท่านั้น
2. ผู้วิจัยมีหน้าที่ส่งแบบรายงานความก้าวหน้าของการวิจัย (Progress Report Form) (AF 09-01) ต่อคณะกรรมการฯ ตามเวลาที่กำหนดหรือเมื่อได้รับการร้องขอ
3. การรับรองโครงการวิจัยของคณะกรรมการฯ มีกำหนด 1 ปี หลังจากวันที่คณะกรรมการฯ มีมติให้การรับรอง หากการวิจัยไม่สามารถดำเนินการเสร็จสิ้นภายในระยะเวลาที่กำหนด ผู้วิจัยสามารถยื่นขอต่ออายุการรับรองโครงการวิจัยอย่างน้อย 30 วัน ก่อนวันหมดอายุตามที่กำหนดไว้ในเอกสารับรองผลการพิจารณาจริยธรรมการวิจัยในมนุษย์
4. หากมีการแก้ไขเพิ่มเติมโครงการวิจัย เช่น เปลี่ยนแปลงหัวหน้าโครงการวิจัย/ เพิ่มเติมผู้ร่วมวิจัย การแก้ไขหรือเพิ่มเติมวิธีดำเนินการวิจัย การแก้ไขการสะกดคำ เป็นต้น ผู้วิจัยจะต้องยื่นขอแก้ไขเพิ่มเติมโครงการวิจัย โดยส่งแบบรายงานการแก้ไขเพิ่มเติมโครงการวิจัย (Amendment Form) (AF 08-01) ต่อคณะกรรมการฯ โดยอ้างอิงรหัสโครงการวิจัยที่ได้รับไว้ และต้องระบุรายละเอียดให้ชัดเจนว่ามีการเปลี่ยนแปลงอะไร อย่างไร และเหตุผลที่ต้องมีการเปลี่ยนแปลง ทั้งนี้ ในกรณีการเปลี่ยนแปลงหัวหน้าโครงการวิจัย/ เพิ่มเติมผู้ร่วมวิจัยท่านใหม่ให้แนบประวัติมาด้วย
5. ผู้วิจัยมีหน้าที่รายงานเหตุการณ์ไม่พึงประสงค์ชนิดร้ายแรงที่เกิดขึ้นกับผู้เข้าร่วมโครงการวิจัย ภายในระยะเวลาที่กำหนดในวิธีดำเนินการมาตรฐาน (Standard Operating Procedures, SOPs) ให้แก่คณะกรรมการฯ ตามแบบรายงานเหตุการณ์ไม่พึงประสงค์ชนิดร้ายแรง (Serious Adverse Event (SAE) Report Form) (AF 10-01)
6. ผู้วิจัยมีหน้าที่รายงานให้คณะกรรมการฯ ทราบ เมื่อมีการยุติโครงการวิจัยก่อนกำหนด หรือการระงับโครงการวิจัยโดยผู้วิจัยหรือผู้สนับสนุนทุนวิจัย พร้อมทั้งคำอธิบายเป็นลายลักษณ์อักษรโดยละเอียดถึงสาเหตุของการยุติหรือระงับโครงการวิจัย ตามแบบรายงานการยุติโครงการวิจัยก่อนกำหนด (Study Termination Memorandum) (AF 12-01)
7. ผู้วิจัยมีหน้าที่ส่งแบบรายงานการไม่ปฏิบัติตามข้อกำหนด (Non-compliance / Protocol Deviation / Protocol Violation Report) (AF 13-01) ให้คณะกรรมการฯ และผู้สนับสนุนทันทีที่ตรวจพบ หรือได้รับรายงานว่ามีการปฏิบัติที่ไม่ตรงกับขั้นตอนที่ระบุไว้ในโครงการวิจัย หรือข้อ กำหนดของคณะกรรมการฯ
8. เมื่อสิ้นสุดโครงการวิจัย ผู้วิจัยมีหน้าที่ส่งแบบรายงานสรุปผลการวิจัย (Final Report) (AF 11-01) ให้คณะกรรมการฯ ทราบ ภายใน 30 วัน หลังจากสิ้นสุดการดำเนินการวิจัย

บันทึกข้อความ

ส่วนงาน กองบริหารการวิจัยและนวัตกรรม งานมาตรฐานและจริยธรรมในการวิจัย โทร. ๒๖๒๐
ที่ อว ๘๑๐๐/- **วันที่** ๕ เดือน กุมภาพันธ์ พ.ศ. ๒๕๖๗
เรื่อง ขอส่งสำเนาเอกสารรับรองผลการพิจารณาจริยธรรมการวิจัยในมนุษย์ มหาวิทยาลัยบูรพา

เรียน นายณัฏฐ์ธารณ์ ธีร์อธิศสกุล

ตามที่ท่าน ได้ยื่นเอกสารคำร้องเพื่อขอรับการพิจารณาจริยธรรมการวิจัยในมนุษย์ มหาวิทยาลัยบูรพา รหัสโครงการวิจัย G-HS119/2566(C1) โครงการวิจัย เรื่อง
ปัจจัยที่มีอิทธิพลต่อพฤติกรรมป้องกันการใช้กัญชาในนักเรียนอาชีวศึกษา นั้น

บัดนี้ โครงการวิจัยดังกล่าว ได้ผ่านการพิจารณาจากคณะกรรมการพิจารณาจริยธรรมการวิจัยในมนุษย์ มหาวิทยาลัยบูรพา สำหรับโครงการวิจัยระดับบัณฑิตศึกษาและระดับปริญญาตรี ชุดที่ 3 (กลุ่มคลินิก/ วิทยาศาสตร์สุขภาพ/ วิทยาศาสตร์และเทคโนโลยี) เป็นที่เรียบร้อยแล้ว กองบริหารการวิจัยและนวัตกรรม ในฐานะผู้ประสานงาน จึงขอส่งสำเนาเอกสารรับรองผลการพิจารณาจริยธรรมการวิจัยในมนุษย์ มหาวิทยาลัยบูรพา จำนวน ๑ ฉบับ เอกสารชี้แจงผู้เข้าร่วมโครงการวิจัย เอกสารแสดงความยินยอมของผู้เข้าร่วมโครงการวิจัย และเอกสารเครื่องมือที่ใช้ในการวิจัย โดยประทับตรารับรองเรียบร้อยแล้ว มายังท่าน เพื่อนำไปใช้ในการเก็บข้อมูลจริงจากผู้เข้าร่วมโครงการวิจัยต่อไป

จึงเรียนมาเพื่อโปรดทราบ

ผู้ช่วยศาสตราจารย์ แพทย์หญิงรมร แย้มประทุม
(ผู้ช่วยศาสตราจารย์ แพทย์หญิงรมร แย้มประทุม)
ประธานคณะกรรมการพิจารณาจริยธรรมการวิจัยในมนุษย์ มหาวิทยาลัยบูรพา
สำหรับโครงการวิจัยระดับบัณฑิตศึกษาและระดับปริญญาตรี
ชุดที่ 3 (กลุ่มคลินิก/ วิทยาศาสตร์สุขภาพ/ วิทยาศาสตร์และเทคโนโลยี)

ที่ อว ๘๑๓๗/๒๔๑

บัณฑิตวิทยาลัย มหาวิทยาลัยบูรพา
๑๖๙ ถ.ลงหาดบางแสน ต.แสนสุข
อ.เมือง จ.ชลบุรี ๒๐๑๓๑

๑๒ กุมภาพันธ์ ๒๕๖๗

เรื่อง ขออนุญาตเก็บข้อมูลเพื่อหาคุณภาพเครื่องมือวิจัย

เรียน ผู้อำนวยการ[redacted]

สิ่งที่ส่งมาด้วย ๑. เอกสารรับรองจริยธรรมการวิจัยของมหาวิทยาลัยบูรพา
๒. เครื่องมือที่ใช้ในการวิจัย (หาคุณภาพ)

ด้วยนายณัฏฐ์ธารณ์ ธีร์อธิศสกุล รหัสประจำตัวนิสิต ๖๔๙๑๐๐๕๑ นิสิตหลักสูตรพยาบาลศาสตรมหาบัณฑิต (หลักสูตรนานาชาติ) คณะพยาบาลศาสตร์ ได้รับอนุมัติเค้าโครงวิทยานิพนธ์เรื่อง “ปัจจัยที่มีอิทธิพลต่อพฤติกรรมป้องกันการใช้กัญชาในนักเรียนอาชีวะศึกษา” โดยมี รองศาสตราจารย์ ดร.ภรภัทร เฮงอุดมทรัพย์ เป็นประธานกรรมการควบคุมวิทยานิพนธ์ และเสนอหน่วยงานของท่านในการเก็บข้อมูลเพื่อหาคุณภาพเครื่องมือวิจัยนั้น

ในการนี้ บัณฑิตวิทยาลัย มหาวิทยาลัยบูรพา จึงขออนุญาตให้นิสิตดังรายนามข้างต้นดำเนินการเก็บรวบรวมข้อมูลจากนักเรียนอาชีวศึกษา ชั้น ปวช. ชั้นปีที่ ๑ - ๓ และชั้น ปวส. ๑ จำนวน ๓๐ คน ในระหว่างวันที่ ๑๕ - ๒๙ กุมภาพันธ์ พ.ศ. ๒๕๖๗ ทั้งนี้ สามารถติดต่อนิสิตดังรายนามข้างต้นได้ที่หมายเลขโทรศัพท์ ๐๘๐-๙๙๓-๓๕๕๐ หรือที่ E-mail: Nathan.t1991@hotmail.com หรือ 64910051@go.buu.ac.th

จึงเรียนมาเพื่อทราบและโปรดพิจารณา

ขอแสดงความนับถือ

มัณฑนา รังสิโยภาส

(ผู้ช่วยศาสตราจารย์ ดร.มัณฑนา รังสิโยภาส)
รองคณบดีฝ่ายวิชาการ ปฏิบัติการแทน
คณบดีบัณฑิตวิทยาลัย ปฏิบัติการแทน
อธิการบดีมหาวิทยาลัยบูรพา

บัณฑิตวิทยาลัย มหาวิทยาลัยบูรพา
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ที่ อว ๘๑๓๗/๒๔๒

บัณฑิตวิทยาลัย มหาวิทยาลัยบูรพา
๑๖๙ ถ.ลงหาดบางแสน ต.แสนสุข
อ.เมือง จ.ชลบุรี ๒๐๑๓๑

๑๒ กุมภาพันธ์ ๒๕๖๗

เรื่อง ขออนุญาตเก็บข้อมูลเพื่อดำเนินการวิจัย

เรียน ผู้อำนวยการ[redacted]

สิ่งที่ส่งมาด้วย ๑. เอกสารรับรองจริยธรรมการวิจัยของมหาวิทยาลัยบูรพา
๒. เครื่องมือที่ใช้ในการวิจัย

ด้วยนายณัฏฐ์ธารณ์ ธีร์อธิศสกุล รหัสประจำตัวนิสิต ๖๔๙๑๐๐๕๑ นิสิตหลักสูตรพยาบาลศาสตรมหาบัณฑิต (หลักสูตรนานาชาติ) คณะพยาบาลศาสตร์ ได้รับอนุมัติเค้าโครงวิทยานิพนธ์เรื่อง “ปัจจัยที่มีอิทธิพลต่อพฤติกรรมป้องกันการใช้กัญชาในนักเรียนอาชีวะศึกษา” โดยมี รองศาสตราจารย์ ดร.ภรภัทร เฮงอุดมทรัพย์ เป็นประธานกรรมการควบคุมวิทยานิพนธ์ และเสนอหน่วยงานของท่านในการเก็บข้อมูลเพื่อดำเนินการวิจัยนั้น

ในการนี้ บัณฑิตวิทยาลัย มหาวิทยาลัยบูรพา จึงขออนุญาตให้นิสิตดังรายนามข้างต้นดำเนินการเก็บรวบรวมข้อมูลจากนักเรียนอาชีวศึกษา ชั้น ปวช. ชั้นปีที่ ๑ - ๓ และชั้น ปวส. ๑ จำนวน ๓๐๐ คน ในระหว่างวันที่ ๑ - ๓๐ มีนาคม พ.ศ. ๒๕๖๗ ทั้งนี้ สามารถติดต่อนิสิตดังรายนามข้างต้นได้ที่หมายเลขโทรศัพท์ ๐๘๐-๙๙๓-๓๕๕๐ หรือที่ E-mail: Nathan.t1991@hotmail.com หรือ 64910051@go.buu.ac.th

จึงเรียนมาเพื่อทราบและโปรดพิจารณา

ขอแสดงความนับถือ

มัณฑนา รังสิโยภาส

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คณบดีบัณฑิตวิทยาลัย ปฏิบัติการแทน
อธิการบดีมหาวิทยาลัยบูรพา

บัณฑิตวิทยาลัย มหาวิทยาลัยบูรพา
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ที่ อว ๘๑๓๗/๙๐๑

บัณฑิตวิทยาลัย มหาวิทยาลัยบูรพา
๑๖๙ ถ.ลงหาดบางแสน ต.แสนสุข
อ.เมือง จ.ชลบุรี ๒๐๑๓๑

๒๙ เมษายน ๒๕๖๗

เรื่อง ขออนุญาตเก็บข้อมูลเพื่อดำเนินการวิจัย

เรียน ผู้อำนวยการ[redacted]

สิ่งที่ส่งมาด้วย ๑. เอกสารรับรองจริยธรรมการวิจัยของมหาวิทยาลัยบูรพา
๒. เครื่องมือที่ใช้ในการวิจัย

ด้วยนายณัฏฐ์ธารณ์ ธีร์อธิศสกุล รหัสประจำตัวนิสิต ๖๔๙๑๐๐๕๑ นิสิตหลักสูตรพยาบาลศาสตรมหาบัณฑิต (หลักสูตรนานาชาติ) คณะพยาบาลศาสตร์ ได้รับอนุมัติเค้าโครงวิทยานิพนธ์เรื่อง “ปัจจัยที่มีอิทธิพลต่อพฤติกรรมป้องกันการใช้กัญชาในนักเรียนอาชีวะศึกษา” โดยมี รองศาสตราจารย์ ดร.ภรภัทร เฮงอุดมทรัพย์ เป็นประธานกรรมการควบคุมวิทยานิพนธ์ และเสนอหน่วยงานของท่านในการเก็บข้อมูลเพื่อดำเนินการวิจัยนั้น

ในการนี้ บัณฑิตวิทยาลัย มหาวิทยาลัยบูรพา จึงขออนุญาตให้นิสิตดังรายนามข้างต้นดำเนินการเก็บรวบรวมข้อมูลจากนักเรียนอาชีวศึกษา ชั้น ปวช. ชั้นปีที่ ๑ ๒ และ ๓ และชั้น ปวส. ๑ จำนวน ๓๐๐ คน ในระหว่างวันที่ ๑ - ๓๑ พฤษภาคม พ.ศ. ๒๕๖๗ ทั้งนี้ สามารถติดต่อนิสิตดังรายนามข้างต้นได้ที่หมายเลขโทรศัพท์ ๐๘๐-๙๙๓-๓๕๕๐ หรือที่ E-mail: 64910051@go.buu.ac.th

จึงเรียนมาเพื่อทราบและโปรดพิจารณา

ขอแสดงความนับถือ

มัณฑนา รังสิโยภาส

(ผู้ช่วยศาสตราจารย์ ดร.มัณฑนา รังสิโยภาส)
รองคณบดีฝ่ายวิชาการ ปฏิบัติการแทน
คณบดีบัณฑิตวิทยาลัย ปฏิบัติการแทน
อธิการบดีมหาวิทยาลัยบูรพา

บัณฑิตวิทยาลัย มหาวิทยาลัยบูรพา
โทร ๐๓๘ ๑๐๒ ๗๐๐ ต่อ ๗๐๕, ๗๐๗
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แบบสอบถามเกี่ยวกับงานวิจัย พฤติกรรมป้องกันการใช้กัญชาในนักเรียนอาชีวะศึกษา

คำชี้แจง :

แบบสอบถามฉบับนี้เป็นส่วนหนึ่งของงานวิจัยเรื่อง ปัจจัยที่มีผลต่อพฤติกรรมป้องกันการใช้กัญชาในนักเรียนอาชีวศึกษา ประกอบด้วย 6 ส่วนดังนี้

ส่วนที่ 1 แบบสอบถามข้อมูลส่วนบุคคล และแบบสำรวจการใช้กัญชา

ส่วนที่ 2 แบบสอบถามความรอบรู้ด้านสุขภาพจิต

ส่วนที่ 3 แบบสอบถามความผูกพันในครอบครัว

ส่วนที่ 4 แบบสอบถามการมองโลกในแง่ดี

ส่วนที่ 5 แบบสอบถามความยืดหยุ่นทางจิตใจ

ส่วนที่ 6 แบบสอบถามพฤติกรรมป้องกันการใช้กัญชา

แบบสอบถามฉบับนี้มีจำนวน 10 หน้า 120 ข้อ โดยเป็นข้อความเกี่ยวกับความคิดเห็นของเยาวชนระดับอาชีวศึกษา ใช้ระยะเวลาในการตอบแบบสอบถามประมาณ 30-45 นาที ขอความกรุณาท่านตอบแบบสอบถามตามความเป็นจริงมากที่สุด เนื่องจากข้อมูลที่ได้จะเป็นข้อมูลพื้นฐานสำคัญ ในการศึกษา หรือพัฒนาต่อยอดด้านต่างๆ เช่น โปรแกรมป้องกันการใช้กัญชา ข้อมูลที่ได้จากการวิจัยจะถูกเก็บไว้เป็นความลับ ไม่มีการเปิดเผย และไม่มีผลอย่างใดทั้งสิ้นต่อท่าน โดยผู้วิจัยจะนำข้อมูลไปวิเคราะห์ และนำเสนอโดยภาพรวมเท่านั้น

การเข้าร่วมในงานวิจัยครั้งนี้ เป็นไปตามความสมัครใจของท่าน เมื่อท่านได้รับทราบข้อมูลแล้วท่านมีสิทธิที่จะตอบรับ หรือปฏิเสธการเข้าร่วมการวิจัย โดยไม่มีผลใดๆ กับท่านทุกประการ หากท่านเห็นในคุณประโยชน์และยินดีเข้าร่วมการวิจัย โปรดตอบแบบสอบถามให้ครบถ้วนทุกข้อ และตรงกับความเป็นจริงของตนเองมากที่สุด

กลุ่มตัวอย่างในการเข้าร่วมงานวิจัยครั้งนี้ได้แก่

ปวช. 1 จำนวนกลุ่มตัวอย่างที่เข้าร่วมงานวิจัยเท่ากับ 74 คน

ปวช. 2 จำนวนกลุ่มตัวอย่างที่เข้าร่วมงานวิจัยเท่ากับ 67 คน

ปวช. 3 จำนวนกลุ่มตัวอย่างที่เข้าร่วมงานวิจัยเท่ากับ 77 คน

ปวส. 1 จำนวนกลุ่มตัวอย่างที่เข้าร่วมงานวิจัยเท่ากับ 82 คน

จึงขอความอนุเคราะห์ครูผู้สอน อาจารย์ที่ปรึกษาวิทยาลัยเทคนิคสัตหีบให้นักศึกษาตอบแบบสอบถามผ่าน google form โดยแสกน QR Code ที่แนบมาพร้อมนี้

QR Code แบบสอบถาม

คณะผู้วิจัยขอขอบคุณท่านผู้ตอบแบบสอบถามทุกท่านที่ให้ความร่วมมือในการวิจัยครั้งนี้

นายณัฏฐ์ธารณ์ ธีร์อธิศสกุล และอาจารย์ที่ปรึกษาการวิจัย

เอกสารชี้แจงผู้ปกครองผู้เข้าร่วมโครงการวิจัย

(Participant Information Sheet for parents of participants under 18 years)

รหัสโครงการวิจัย : G-HS119/2566

(งานมาตรฐานและจริยธรรมในการวิจัย กองบริหารการวิจัยและนวัตกรรม มหาวิทยาลัยบูรพา เป็นผู้ออกรหัสโครงการวิจัย)

โครงการวิจัยเรื่อง : ปัจจัยที่มีอิทธิพลต่อพฤติกรรมป้องกันการใช้กัญชาในนักเรียนอาชีวศึกษา

เรียน ผู้ปกครองผู้เข้าร่วมโครงการวิจัย

ข้าพเจ้า นายณัฏฐ์ธารณ์ ธีร์อธิศสกุล นิสิตมหาบัณฑิต สาขาการพยาบาลจิตเวชและสุขภาพจิต คณะพยาบาลศาสตร์ มหาวิทยาลัยบูรพา ขอเรียนเชิญนักเรียนในการปกครองของท่านเข้าร่วมโครงการวิจัย “ปัจจัยที่มีอิทธิพลต่อพฤติกรรมป้องกันการใช้กัญชาในนักเรียนอาชีวศึกษา” ก่อนที่ท่านจะตกลงให้นักเรียนในการปกครองของท่านเข้าร่วมการวิจัย ขอเรียนให้ท่านทราบรายละเอียดของโครงการวิจัย ดังนี้

โครงการวิจัยนี้มีวัตถุประสงค์เพื่อ ศึกษาพฤติกรรมป้องกันการใช้กัญชาในนักเรียนอาชีวศึกษา และ ศึกษาปัจจัยที่มีอิทธิพลต่อพฤติกรรมป้องกันการใช้กัญชาในนักเรียนอาชีวศึกษา ได้แก่ ความรอบรู้ด้านสุขภาพจิต ความยืดหยุ่นทางจิตใจ การมองโลกในแง่บวก และ ความผูกพันในครอบครัว

การวิจัยนี้เป็นการวิจัยเชิงปริมาณ ที่ใช้การเก็บข้อมูลโดยใช้แบบสอบถามชนิดออนไลน์ ในรูปแบบ กูเกิลฟอร์ม (Google form) ระยะเวลาในการตอบแบบสอบถามประมาณ 30-45 นาที โดยนักเรียนในการปกครองของท่านจะได้รับ คิวอาร์โค้ด (QR Code) และรหัสเข้าตอบแบบสอบถามจากผู้วิจัย/ผู้ช่วยวิจัย เพื่อเข้าทำแบบสอบถาม แต่สำหรับนักเรียนที่ไม่สะดวกในการตอบแบบสอบถามออนไลน์ ผู้วิจัย/ผู้ช่วยวิจัยจะจัดเตรียมแบบสอบถามชนิดกระดาษให้ทดแทน

หากท่านตกลงให้นักเรียนในการปกครองของท่านเข้าร่วมวิจัย สิ่งที่ท่านต้องปฏิบัติคือศึกษาคำชี้แจงเกี่ยวกับงานวิจัย และหลังจากท่านตัดสินใจให้นักเรียนในการปกครองของท่านเข้าร่วม ผู้วิจัยจะให้ท่านลงนามในใบยินยอมเข้าร่วมการวิจัย ก่อนการเก็บข้อมูล ผู้วิจัยจะอธิบายแบบสอบถาม และขั้นตอนการทำแบบสอบถามทั้งหมดให้นักเรียนในการปกครองของท่านรับทราบก่อนจะตอบแบบสอบถาม จากนั้นผู้วิจัยจะจัดให้นักเรียนในการปกครองของท่านอยู่ในสถานที่ที่สงบ มีความเหมาะสมเพื่อพิทักษ์ความเป็นส่วนตัวในช่วงเวลาของการตอบแบบสอบถาม ในขณะกำลังตอบแบบสอบถาม ผู้วิจัยและผู้ช่วยผู้วิจัยจะคอยให้คำแนะนำ หรือตอบคำถามข้อสงสัยเกี่ยวกับแบบสอบถาม ตลอดเวลา

ผลการศึกษาครั้งนี้เป็นประโยชน์ทางอ้อมกับท่านและนักเรียนในการปกครองของท่าน โดยผลการศึกษานี้สามารถเป็นข้อมูลพื้นฐานเกี่ยวกับปัจจัยที่มีอิทธิพลต่อพฤติกรรมป้องกันการใช้กัญชาในนักเรียนอาชีวศึกษา

อันจะนำไปสู่การพัฒนากิจกรรมทางการพยาบาล การประเมินพฤติกรรมเพื่อหาแนวทางส่งเสริม ป้องกันการใช้กัญชา หรือเป็นแนวทางในการพัฒนากิจกรรมต่างๆ เพื่อส่งเสริมพฤติกรรมป้องกันการใช้กัญชา อีกทั้งเป็นประโยชน์ต่อการศึกษา ต่อยอดด้านการวิจัย และ อาจจะเป็นข้อมูลในการพิจารณาเชิงนโยบาย ระดับสถาบัน จนกระทั่งระดับประเทศในการพิจารณากฎหมายเกี่ยวกับกัญชา

การเข้าร่วมการวิจัยของนักเรียนในการปกครองของท่านครั้งนี้เป็นไปด้วยความสมัครใจ ท่านสามารถปฏิเสธที่จะให้นักเรียนในการปกครองของท่านเข้าร่วมหรือถอนตัวออกจากการเป็นผู้เข้าร่วมโครงการวิจัยได้ตลอดเวลาโดยไม่ต้องแจ้งให้ผู้วิจัยทราบ และจะไม่ส่งผลกระทบต่อสิทธิประการใดๆ ที่ท่านและนักเรียนในการปกครองของท่านพึงได้รับ

ทั้งนี้ข้อมูลส่วนบุคคลและข้อมูลแบบสอบถามต่างๆของนักเรียนในการปกครองของท่านจะถูกเก็บรักษาไว้เป็นความลับ โดยใช้รหัสตัวเลขแทนการระบุชื่อ การรายงานหรือเผยแพร่ผลการวิจัยจะเป็นไปโดยภาพรวมเท่านั้น โดยไม่เปิดเผยข้อมูลรายบุคคลของผู้เข้าร่วมการวิจัยแต่อย่างใด ข้อมูลทั้งหมดดังกล่าวข้างต้น จะถูกเก็บไว้ในคอมพิวเตอร์ที่มีรหัสผ่านของคณะผู้วิจัยเท่านั้น ส่วนเอกสารต่างๆจะถูกเก็บในตู้เอกสารที่ใส่กุญแจไว้เป็นระยะเวลา 1 ปี หลังจากการเผยแพร่ผลการวิจัยแล้วข้อมูลเหล่านี้จะถูกทำลาย

หากท่านมีคำถามหรือข้อสงสัยประการใด สามารถติดต่อผู้วิจัย นายณัฏฐ์ธารณ์ ธีร์อธิศสกุล คณะพยาบาลศาสตร์ สาขาการพยาบาลจิตเวชและสุขภาพจิต มหาวิทยาลัยบูรพา โทรศัพท์มือถือหมายเลข 080-9933550 หรืออีเมล 64910051@go.buu.ac.th ผู้วิจัยยินดีตอบคำถาม และข้อสงสัยของท่านทุกเมื่อ

หากผู้วิจัยไม่ปฏิบัติตามที่ได้ชี้แจงไว้ในเอกสารชี้แจงผู้เข้าร่วมโครงการวิจัย สามารถแจ้งมายังคณะกรรมการพิจารณาจริยธรรมการวิจัยในมนุษย์ มหาวิทยาลัยบูรพา กองบริหารการวิจัยและนวัตกรรม หมายเลขโทรศัพท์ 038-102-620 หรืออีเมล buuethics@buu.ac.th

เมื่อท่านพิจารณาแล้วเห็นสมควรให้นักเรียนในการปกครองของท่านเข้าร่วมโครงการวิจัยนี้ ขอความกรุณาลงนามในเอกสารแสดงความยินยอมร่วมโครงการที่แนบมาด้วย และขอขอบพระคุณในการร่วมมือของท่านมา ณ ที่นี้

นายณัฏฐ์ธารณ์ ธีร์อธิศสกุล และอาจารย์ที่ปรึกษาวิจัย

เอกสารชี้แจงผู้เข้าร่วมโครงการวิจัย

(Participant Information Sheet)

รหัสโครงการวิจัย : G-HS119/2566

(งานมาตรฐานและจริยธรรมในการวิจัย กองบริหารการวิจัยและนวัตกรรม มหาวิทยาลัยบูรพา เป็นผู้ออกรหัสโครงการวิจัย)

โครงการวิจัยเรื่อง : ปัจจัยที่มีอิทธิพลต่อพฤติกรรมป้องกันการใช้กัญชาในนักเรียนอาชีวศึกษา

เรียน ผู้เข้าร่วมโครงการวิจัย

ข้าพเจ้า นายณัฏฐ์ธารณ์ ธีร์อธิศสกุล นิสิตมหาบัณฑิต สาขาการพยาบาลจิตเวชและสุขภาพจิต คณะพยาบาลศาสตร์ มหาวิทยาลัยบูรพา ขอเรียนเชิญท่านเข้าร่วมโครงการวิจัย ปัจจัยที่มีอิทธิพลต่อพฤติกรรมป้องกันการใช้กัญชาในนักเรียนอาชีวศึกษา ก่อนที่ท่านจะตกลงเข้าร่วมการวิจัย ขอเรียนให้ท่านทราบรายละเอียดของโครงการวิจัย ดังนี้

โครงการวิจัยนี้มีวัตถุประสงค์เพื่อ ศึกษาพฤติกรรมป้องกันการใช้กัญชาในนักเรียนอาชีวศึกษา และ ศึกษาปัจจัยที่มีอิทธิพลต่อพฤติกรรมป้องกันการใช้กัญชาในนักเรียนอาชีวศึกษา ได้แก่ ความรอบรู้ด้านสุขภาพจิต ความยืดหยุ่นทางจิตใจ การมองโลกในแง่บวก และ ความผูกพันในครอบครัว

การวิจัยนี้เป็นการวิจัยเชิงปริมาณ ที่ใช้การเก็บข้อมูลโดยใช้แบบสอบถามชนิดออนไลน์ ในรูปแบบ กูเกิลฟอร์ม (Google form) ระยะเวลาในการตอบแบบสอบถามประมาณ 30-45 นาที โดยท่านจะได้รับ คิวอาร์โค้ด (QR Code) และรหัสเข้าตอบแบบสอบถามจากผู้วิจัย/ผู้ช่วยวิจัย เพื่อเข้าทำแบบสอบถาม แต่สำหรับท่านที่ไม่สะดวกในการตอบแบบสอบถามออนไลน์ขอให้ท่านแจ้งผู้วิจัย/ผู้ช่วยวิจัยให้ทราบ ผู้วิจัย/ผู้ช่วยวิจัยจะจัดเตรียมแบบสอบถามชนิดกระดาษให้ทดแทน

หากท่านตกลงเข้าร่วมวิจัย สิ่งที่ท่านต้องปฏิบัติคือศึกษาคำชี้แจงเกี่ยวกับงานวิจัย และหลังจากท่านตัดสินใจเข้าร่วม ผู้วิจัยจะให้ท่านลงนามในใบยินยอมเข้าร่วมการวิจัย ก่อนการเก็บข้อมูล ผู้วิจัยจะอธิบายแบบสอบถาม และขั้นตอนการทำแบบสอบถามทั้งหมดให้ท่านรับทราบก่อนจะตอบแบบสอบถาม จากนั้นผู้วิจัยจะจัดให้ท่านอยู่ในสถานที่ที่สงบ มีความเหมาะสมเพื่อพิทักษ์ความเป็นส่วนตัวของท่าน ในการตอบแบบสอบถามโดยผู้วิจัยและผู้ช่วยผู้วิจัยจะคอยให้คำแนะนำ หรือตอบคำถามข้อสงสัยเกี่ยวกับแบบสอบถาม

ผลการศึกษาครั้งนี้เป็นประโยชน์ทางอ้อมกับท่าน โดยผลการศึกษานี้สามารถเป็นข้อมูลพื้นฐานเกี่ยวกับปัจจัยที่มีอิทธิพลต่อพฤติกรรมป้องกันการใช้กัญชาในนักเรียนอาชีวศึกษา อันจะนำไปสู่การพัฒนากิจกรรมทางการพยาบาล การประเมินพฤติกรรมเพื่อหาแนวทางส่งเสริม ป้องกันการใช้กัญชา หรือเป็นแนวทางในการพัฒนากิจกรรมต่างๆ เพื่อส่งเสริมพฤติกรรมป้องกันการใช้กัญชา อีกทั้งเป็นประโยชน์ต่อการศึกษา ต่อยอดด้าน

การวิจัย และ อาจจะเป็นข้อมูลในการพิจารณาเชิงนโยบาย ระดับสถาบัน จนกระทั่งระดับประเทศในการพิจารณากฎหมายเกี่ยวกับกัญชา

การเข้าร่วมการวิจัยของท่านครั้งนี้เป็นไปด้วยความสมัครใจ ท่านสามารถปฏิเสธที่จะเข้าร่วมหรือถอนตัวออกจากการเป็นผู้เข้าร่วมโครงการวิจัยได้ตลอดเวลาโดยไม่ต้องแจ้งให้ผู้วิจัยทราบ และจะไม่ส่งผลกระทบต่อสิทธิประการใดๆ ที่ท่านพึงได้รับ

ทั้งนี้ข้อมูลส่วนบุคคลและข้อมูลแบบสอบถามต่างๆของท่านจะถูกเก็บรักษาไว้เป็นความลับ โดยใช้รหัสตัวเลขแทนการระบุชื่อ การรายงานหรือเผยแพร่ผลการวิจัยจะเป็นไปโดยภาพรวมเท่านั้น โดยไม่เปิดเผยข้อมูลรายบุคคลของผู้เข้าร่วมการวิจัยแต่อย่างใด ข้อมูลทั้งหมดดังกล่าวข้างต้น จะถูกเก็บไว้ในคอมพิวเตอร์ที่มีรหัสผ่านของคณะผู้วิจัยเท่านั้น ส่วนเอกสารต่างๆจะถูกเก็บในตู้เอกสารที่ใส่กุญแจไว้เป็นระยะเวลา 1 ปี หลังจากการเผยแพร่ผลการวิจัยแล้วข้อมูลเหล่านี้จะถูกทำลาย

หากท่านมีคำถามหรือข้อสงสัยประการใด สามารถติดต่อผู้วิจัย นายณัฏฐ์ธารณ์ ธีร์อธิศสกุล คณะพยาบาลศาสตร์ สาขาการพยาบาลจิตเวชและสุขภาพจิต มหาวิทยาลัยบูรพา โทรศัพท์มือถือหมายเลข 080-9933550 หรืออีเมล 64910051@go.buu.ac.th ผู้วิจัยยินดีตอบคำถาม และข้อสงสัยของท่านทุกเมื่อ

หากผู้วิจัยไม่ปฏิบัติตามที่ได้ชี้แจงไว้ในเอกสารชี้แจงผู้เข้าร่วมโครงการวิจัย สามารถแจ้งมายังคณะกรรมการพิจารณาจริยธรรมการวิจัยในมนุษย์ มหาวิทยาลัยบูรพา กองบริหารการวิจัยและนวัตกรรม หมายเลขโทรศัพท์ 038-102-620 หรืออีเมล buuethics@buu.ac.th

เมื่อท่านพิจารณาแล้วเห็นสมควรเข้าร่วมโครงการวิจัยนี้ ขอความกรุณาลงนามในเอกสารแสดงความยินยอมร่วมโครงการที่แนบมาด้วย และขอขอบพระคุณในการร่วมมือของท่านมา ณ ที่นี้

นายณัฏฐ์ธารณ์ ธีร์อธิศสกุล และอาจารย์ที่ปรึกษาวิจัย

BUU-IRB Approved
5 Feb 2024

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แบบสอบถาม

ปัจจัยที่มีผลต่อพฤติกรรมป้องกันการใช้กัญชาในนักเรียนอาชีวศึกษา

คำชี้แจง: แบบสอบถามฉบับนี้เป็นส่วนหนึ่งของงานวิจัยเรื่อง ปัจจัยที่มีผลต่อพฤติกรรมป้องกันการใช้กัญชาในนักเรียนอาชีวศึกษา ประกอบด้วย 6 ส่วนดังนี้

ส่วนที่ 1 แบบสอบถามข้อมูลส่วนบุคคล และแบบสำรวจการใช้กัญชา

ส่วนที่ 2 แบบสอบถามความรอบรู้ด้านสุขภาพจิต

ส่วนที่ 3 แบบสอบถามความผูกพันในครอบครัว

ส่วนที่ 4 แบบสอบถามการมองโลกในแง่ดี

ส่วนที่ 5 แบบสอบถามความยืดหยุ่นทางจิตใจในวัยรุ่น

ส่วนที่ 6 แบบสอบถามพฤติกรรมป้องกันการใช้กัญชา

แบบสอบถามฉบับนี้มีจำนวน 10 หน้า 120 ข้อ โดยเป็นข้อความเกี่ยวกับความคิดเห็นของเยาวชนระดับอาชีวศึกษา ใช้ระยะเวลาในการตอบแบบสอบถามประมาณ 30-45 นาที ขอความกรุณาท่านตอบแบบสอบถามตามความเป็นจริงมากที่สุด เนื่องจากข้อมูลที่ได้จะเป็นข้อมูลพื้นฐานสำคัญ ในการศึกษา หรือพัฒนาต่อยอดด้านต่างๆ เช่นโปรแกรมป้องกันการใช้กัญชา ข้อมูลที่ได้จากการวิจัยจะถูกเก็บไว้เป็นความลับ ไม่มีการเปิดเผย และไม่มีผลอย่างใดทั้งสิ้นต่อท่าน โดยผู้วิจัยจะนำข้อมูลไปวิเคราะห์ และนำเสนอโดยภาพรวมเท่านั้น

การเข้าร่วมในงานวิจัยครั้งนี้ เป็นไปตามความสมัครใจของท่าน เมื่อท่านได้รับทราบข้อมูลแล้วท่านมีสิทธิที่จะตอบรับ หรือปฏิเสธการเข้าร่วมการวิจัย โดยไม่มีผลใดๆ กับท่านทุกประการ หากท่านเห็นในคุณประโยชน์และยินดีเข้าร่วมการวิจัย โปรดตอบแบบสอบถามให้ครบถ้วนทุกข้อ และตรงกับความเป็นจริงของตนเองมากที่สุด คณะผู้วิจัยขอขอบคุณท่านผู้ตอบแบบสอบถามทุกท่านที่ให้ความร่วมมือในการวิจัยครั้งนี้

นายณัฏฐ์ธารณ์ ธีร์อธิศสกุล และอาจารย์ที่ปรึกษาการวิจัย

ส่วนที่ 1 ข้อมูลส่วนบุคคล

คำชี้แจง: กรุณาเขียนคำตอบลงในช่องว่าง และใช้เครื่องหมาย ✓ หน้าคำตอบที่เหมาะสมกับท่านมากที่สุด

1. เพศ.....☐ ชาย ☐ หญิง
2. อายุ.....ปี
3. เชื้อชาติ.....
4. สัญชาติ.....
5. ศาสนา.....
6. กำลังศึกษาในระดับ..... ☐ ปวช.1 ☐ ปวช.2 ☐ ปวช.3 ☐ ปวส. 1 ☐ ปวส. 2
7. รูปแบบที่กำลังศึกษา..... ☐ เต็มเวลา ☐ ไม่เต็มเวลา
8. ท่านทำงานนอกเวลาหรือไม่ ☐ ทำ ☐ ไม่ทำ
9. สถานภาพสมรส ☐ โสด ☐ สมรส ☐ อยู่กินฉันสามีภรรยา ☐ อื่นๆ ระบุ.....
10. ท่านได้รับค่าใช้จ่ายจากผู้ปกครองเฉลี่ยเดือนละ.....บาท
11. สถานภาพการอยู่อาศัย ☐ อยู่กับญาติ ☐บิดา หรือมารดา ☐ อยู่หอพักในวิทยาลัย ☐ อยู่หอพักนอกวิทยาลัย
12. ปัจจุบันท่านมีโรคทางกาย หรือทางจิตเวชเรื้อรังระยะสุดท้าย โรคจิตเภท หรือซึมเศร้ารุนแรง
    ☐ ใช่ ☐ ไม่ใช่

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1.1 แบบสำรวจการใช้กัญชา

1. ท่านเคยใช้กัญชาหรือไม่ ☐ไม่เคยใช้ ☐เคยใช้ ☐เคยใช้ แต่หยุดแล้ว
   หากเคยใช้ และเคยใช้แต่หยุดใช้แล้ว กรุณาตอบคำถามในข้อ 2-4
2. ช่วงเวลาที่ท่านใช้กัญชาครั้งล่าสุด
   ☐ ใน 1 เดือนที่ผ่านมา ☐ มากกว่า 1 เดือน แต่ไม่เกิน 1 ปี ☐ มากกว่า 1 ปี
3. เหตุผลของการใช้กัญชา (สามารถเลือกตอบได้มากกว่า 1 ข้อ)
   ☐ เพื่อความสนุกและเคลิบเคลิ้ม
   ☐ เพื่อเข้าสังคม หรือสังสรรค์
   ☐ เพื่อการยอมรับจากกลุ่มเพื่อน
   ☐ เพื่อแก้เครียด
   ☐ เพื่อบรรเทาอาการเศร้าโศกเสียใจ
   ☐ เพื่อแก้อาการเบื่อ
   ☐ เพื่อให้รู้จักตัวตนตัวเองที่ซ่อนอยู่
   ☐ เพื่อเสริมสรรถนะในการทำงานการแก้ปัญหา หรือการเรียน
   ☐ อื่นๆ
4. ท่านใช้กัญชาวิธีใด (สามารถตอบได้มากกว่า 1 ข้อ)
   ☐ ดื่ม หรือเครื่องดื่มที่มีกัญชาเป็นส่วนผสม ☐ สูบชนิดบ้อง หรือ มอระกู่ ☐ ผสมอาหาร
   ☐ บุหรี่ไฟฟ้า ☐ อื่นๆ ระบุ.....
5. ท่านมีบุคลในครอบครัวใช้กัญชาหรือไม่ ☐มี ☐ไม่มี
6. ท่านเคยใช้สารเสพติดอื่นๆ หรือไม่ ☐ เคย ☐ ไม่เคย
   หากเคยโปรดเลือกคำตอบ (สามารถตอบได้มากกว่า 1 ข้อ)
7. ประเภทสารเสพติดที่ท่านใช้
   ☐ บุหรี่รวมทั้งบุหรี่ไฟฟ้า
   ☐ สุรา
   ☐ กระท่อม
   ☐ ยาบ้า
   ☐ ยาไอซ์
   ☐ อื่นๆ ระบุ.....

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ส่วนที่ 2 แบบสอบถามความรอบรู้ด้านสุขภาพจิต

คำชี้แจง: ให้ท่านพิจารณาข้อความที่กำหนดให้ โดยทำเครื่องหมาย ✓ ในช่องที่ตรงกับความคิดเห็นของท่าน ตามคำอธิบายดังนี้

5 หมายถึง ท่าน**เห็นด้วยอย่างยิ่ง**กับข้อความนั้น
4 หมายถึง ท่าน**เห็นด้วย**กับข้อความนั้น
3 หมายถึง ท่าน**ไม่แน่ใจ**กับข้อความนั้น
2 หมายถึง ท่าน**ไม่เห็นด้วย**กับข้อความนั้น
1 หมายถึง ท่าน**ไม่เห็นด้วยอย่างยิ่ง**กับข้อความนั้น

ข้อความ	ระดับความคิดเห็น				
	1	2	3	4	5
ด้านความรู้เกี่ยวกับปัญหาสุขภาพจิต					
1. ความผิดปกติทางจิตมีผลกระทบต่อความคิดของบุคคล					
2. การติดยาอาจเป็นสาเหตุทำให้เกิดความผิดปกติทางจิตได้					
3. การทำงานผิดปกติของสมอง อาจเป็นสาเหตุทำให้มีความผิดปกติทางจิตได้					
4. หนึ่งในอาการภาวะซึมเศร้าคือ การขาดความสนใจ หรือ ขาดความสุขในสิ่งต่างๆ ส่วนใหญ่ที่อยู่รอบตัว					
5. สถานการณ์ที่มีความเครียดสูง อาจเป็นสาเหตุก่อให้เกิดความผิดปกติทางจิตได้					
6. การดื่มแอลกอฮอล์อาจเป็นสาเหตุทำให้เกิดความผิดปกติทางจิต					
7. ความยาวนานของการเกิดอาการ เป็นสิ่งสำคัญประการหนึ่งในการพิจารณาว่าคน ๆ นั้นมี หรือ ไม่มี ความผิดปกติทางจิต					
8. คนที่มีภาวะซึมเศร้า จะรู้สึกว่าตนเองมีความทุกข์ใจอย่างมาก					
9. คนที่เป็นโรควิตกกังวลจะหลีกเลี่ยงสถานการณ์ที่อาจจะเป็นสาเหตุให้เขาทุกข์ใจ					
10. โรคคลั่งผอม (Anorexia Nervosa) คือภาวะผิดปกติทางการกินประเภทหนึ่งที่อาจทำให้เสียชีวิตได้					
11. คนที่เป็นโรควิตกกังวล อาจตื่นตระหนกกับสถานการณ์ที่เขากลัว					
12. โรคล้วงคอ (Bulimia) คือ การที่บุคคลพยายามชดเชยการกินที่มากเกินไปของตนเองเพื่อไม่ให้น้ำหนักเพิ่ม โดยการบังคับให้ตนเองอาเจียนหรือออกกำลังกายอย่างหนัก หรือใช้ยาระบายอย่างไม่เหมาะสม					
ด้านความเชื่อเกี่ยวกับปัญหาด้านสุขภาพจิต และแบบแผนการเกิดโรค					
13. ภาวะซึมเศร้าไม่ใช่ความผิดปกติทางจิตที่แท้จริง					
14. ผู้ใหญ่เท่านั้น ที่จะเกิดความผิดปกติทางจิต					
15. ความผิดปกติทางจิตไม่ได้ส่งผลต่อพฤติกรรมของบุคคล					
16. ความผิดปกติทางจิต ยิ่งตรวจพบและรักษาได้เร็วเท่าไร อีกยิ่งดีเท่านั้น					

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4

ข้อความ	ระดับความคิดเห็น				
	1	2	3	4	5
17. ความผิดปกติทางจิตไม่ได้ส่งผลกระทบต่อความรู้สึกของคน					
18. ถ้าเพื่อนของท่านมีความผิดปกติทางจิต ท่านจะรับฟังเขาโดยไม่ตัดสินหรือวิพากษ์วิจารณ์					
19. ถ้าเพื่อนของท่านมีความผิดปกติทางจิต ท่านไม่สามารถให้ความช่วยเหลือเขาได้					
20. คนที่มีความผิดปกติทาจิต จะมาจากครอบครัวที่ยากจน					
21. ถ้าท่านมีความผิดปกติทางจิต ท่านจะขอความช่วยเหลือจากเพื่อน ๆ ของท่าน					
ด้านความรู้ ความเชื่อเกี่ยวกับการแสวงหาความช่วยเหลือจากผู้เชี่ยวชาญ และทักษะการดูแลตนเอง					
22. ถ้าเพื่อนของท่านมีความผิดปกติทางจิต ท่านจะสนับสนุนให้เขาไปพบนักจิตวิทยา					
23. ถ้าท่านมีความผิดปกติทางจิต ท่านจะขอความช่วยเหลือจากผู้เชี่ยวชาญ (นักจิตวิทยา และ/หรือ จิตแพทย์)					
24. ถ้าเพื่อนของท่านมีความผิดปกติทางจิต ท่านจะกระตุ้นให้เขาไปพบแพทย์					
25. ถ้าท่านมีความผิดปกติทางจิต ท่านจะขอความช่วยเหลือจากครอบครัว					
26. ถ้าเพื่อนของท่านมีความผิดปกติทางจิต ท่านจะให้การสนับสนุนช่วยเหลือเขา					
27. ถ้าเพื่อนของท่านมีความผิดปกติทางจิต ท่านจะบอกครูที่ปรึกษา หรือครูคนอื่นๆ ให้ทราบ					
28. ถ้าเพื่อนของท่านมีความผิดปกติทางจิต ท่านจะพูดคุยกับเขา/ ผู้ปกครองของเขา					
ด้านความรู้ ความสามารถเกี่ยวกับการดูแลตนเองด้านสุขภาพจิต					
29. การนอนหลับที่ดี ช่วยทำให้สุขภาพจิตดีขึ้น					
30. การทำบางสิ่งบางอย่างด้วยความสนุกมีความสุขไปกับมัน ช่วยให้เรามีสุขภาพจิตที่ดีขึ้นได้					
31. การรับประทานอาหารอย่างสมดุลช่วยทำให้สุขภาพจิตดีขึ้น					
32. การออกกำลังกายช่วยทำให้สุขภาพจิตดีขึ้น					
33. การพูดคุยได้เล่าถึงปัญหากับคนอื่น ช่วยให้เรามีสุขภาพจิตที่ดีขึ้นได้					

ท่านสามารถทำแบบสอบถามออนไลน์ได้ที่
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ส่วนที่ 3 แบบสอบถามความผูกพันในครอบครัว

คำชี้แจง: กรุณาอ่านข้อความต่อไปนี้ และทำเครื่องหมาย ✓ ในช่องที่ตรงกับความรู้สึกของท่านมากที่สุดเพียงคำตอบเดียว

1 หมายถึง ไม่เห็นด้วยอย่างยิ่ง
2 หมายถึง เห็นด้วยเล็กน้อย
3 หมายถึง เห็นด้วยปานกลาง
4 หมายถึง เห็นด้วยค่อนข้างมาก
5 หมายถึง เห็นด้วยอย่างยิ่ง

ลำดับที่	ข้อความ	ท่านมีความคิดเห็นหรือความรู้สึกเช่นนี้เกิดขึ้น				
		1	2	3	4	5
1	เมื่อมีปัญหาท่านมักปรึกษากับสมาชิกครอบครัว					
2	เมื่อใดก็ตามที่ท่านกับสมาชิกในครอบครัวมีความคิดเห็นไม่ตรงกัน สมาชิกในครอบครัวจะเป็นฝ่ายถูกเสมอ					
3	เมื่อมีปัญหาท่านมักจะไปขอคำแนะนำจากเพื่อนสนิทมากกว่าที่จะไปปรึกษากับสมาชิกในครอบครัว					
4	สมาชิกในครอบครัวยอมรับและเข้าใจในตัวท่าน					
5	สมาชิกในครอบครัวรับฟังความคิดเห็นของท่าน					
6	สมาชิกในครอบครัวรักและห่วงใยท่าน					
7	ท่านไม่เคยมีส่วนร่วมในการตัดสินปัญหาของครอบครัว					
8	ท่านสามารถพูดคุยเรื่องสำคัญต่างๆกับสมาชิกในครอบครัวได้					
9	สมาชิกในครอบครัวส่วนใหญ่ไม่เคยทราบว่าท่านชอบ หรือต้องการอะไร					
10	ท่านรู้สึกห่างเหินกับสมาชิกในครอบครัว					
11	สมาชิกในครอบครัวมีเวลาพบปะและพูดคุยกับท่าน					
12	ท่านรู้สึกน้อยใจต่อคำพูดท่าทางที่สมาชิกครอบครัวปฏิบัติต่อท่าน					

ท่านสามารถทำแบบสอบถามออนไลน์ได้ที่
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ส่วนที่ 4 แบบสอบถามการมองโลกในแง่ดี

คำชี้แจง: ขอให้ท่านประเมินตนเองว่า ตัวท่านมีลักษณะตรงกับข้อความต่อไปนี้มากน้อยเพียงใด และทำเครื่องหมาย ✓ ในช่องที่ตรงกับตัวท่านมากที่สุด

1 หมายถึง ไม่เห็นด้วยอย่างยิ่ง
2 หมายถึง ไม่เห็นด้วย
3 หมายถึง เห็นด้วยกับไม่เห็นด้วยพอๆกัน
4 หมายถึง เห็นด้วย
5 หมายถึง เห็นด้วยอย่างยิ่ง

ลำดับที่	ข้อความ	ลักษณะเช่นนี้ตรงกับตัวท่าน				
		1	2	3	4	5
1	ในช่วงเวลาที่เต็มไปด้วยความไม่แน่นอน ท่านมักจะคาดหวังในสิ่งที่ดีที่สุดเสมอ					
2	โลกมันง่ายสำหรับท่านที่จะผ่อนคลาย					
3	ท่านกลัวว่าถ้าจะมีอะไรผิดพลาดเกิดขึ้นได้ในชีวิตท่าน สิ่งนั้นมักจะเกิดขึ้นจริง					
4	ท่านมักคิดถึงอนาคตของตนเองในแง่บวกเสมอ					
5	ท่านสนุกสนานกับเพื่อนๆอย่างมาก					
6	ท่านมักจะทำตัวยุ่งเสมอ เป็นสิ่งที่สำคัญมากสำหรับตัวท่าน					
7	ท่านแทบจะไม่เคยคาดหวังให้สิ่งต่างๆ เป็นไปตามที่ท่านต้องการเลย					
8	ท่านไม่รู้สึกผิดหวังง่ายๆ					
9	ท่านแทบจะไม่เคยเชื่อเลยว่าจะมีสิ่งดีๆ เกิดขึ้นกับท่านได้					
10	โดยรวมแล้ว ท่านคาดหวังว่าจะมีสิ่งดีๆ เกิดขึ้นกับท่านมากกว่าสิ่งที่ไม่ดี					

ท่านสามารถทำแบบสอบถามออนไลน์ได้ที่
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ส่วนที่ 5 แบบสอบถามความยืดหยุ่นทางใจในวัยรุ่น

คำชี้แจง โปรดอ่านข้อความดังต่อไปนี้และพิจารณาข้อความที่ท่านคิดว่าตรงกับท่านมากที่สุดแล้วใส่เครื่องหมาย (✓) ในช่องที่ตรงกับคำตอบของท่าน

1 หมายถึง ข้อความนี้ไม่เป็นความจริง
2 หมายถึง ข้อความนี้เป็นความจริงบางครั้ง
3 หมายถึง ข้อความนี้ค่อนข้างจริง
4 หมายถึง ข้อความนี้เป็นความจริงมาก

ข้อ	ข้อความ	ข้อความนี้ตรงกับตัวท่าน			
		1	2	3	4
1.	เมื่อมีเรื่องแย่ๆ เกิดขึ้นกับท่าน ท่านหยุดคิดถึงเรื่องนั้นได้ยาก				
2.	ท่านอยากมีเวทมนต์ที่เสกให้ความเศร้าหายไป				
3.	โดยส่วนมากท่านทำอะไรไปโดยไม่รู้ตัว				
4.	ในสถานการณ์ที่ทำให้ท่านรู้สึกแย่ ท่านมักทำความเข้าใจสถานการณ์นั้นในมุมมองที่เปิดกว้าง				
5.	ท่านไม่รู้ว่าตนเองมีความใฝ่ฝันเรื่องอะไร				
6.	ท่านอยู่กับความคิดทางลบในหัวเป็นเวลานานๆ				
7.	เมื่อตั้งใจจะทำสิ่งใด ท่านสามารถวางแผนในการทำสิ่งนั้นให้คลอบคลุมและต่อเนื่อง				
8.	ท่านพยายามทำทุกวิถีทางเพื่อให้รู้สึกเครียดน้อยลง จนหลายครั้งทำให้ท่านทุกข์ใจ				
9.	ที่โรงเรียนท่านเดินไปอีกห้องเรียนโดยไม่รู้ตัวว่าตัวเองกำลังทำอะไรอยู่				
10.	ท่านรับรู้ว่าฉันเป็นส่วนหนึ่งของสิ่งแวดล้อม				
11.	ท่านไม่รู้ว่าสิ่งที่ทำอยู่ทุกวันนี้ ท่านทำไปเพื่ออะไร				
12.	เมื่อเผชิญอุปสรรคปัญหาท่านยังคงมุ่งมั่นลงมือทำในสิ่งที่ท่านให้ความสำคัญ				
13.	เมื่อท่านมีความคิดทางลบ ท่านรู้สึกกังวลมาก				
14.	คนอื่นๆ บอกว่าท่านเก็บกดความรู้สึก				
15.	เมื่อท่านกำลังทำบางสิ่ง ท่านเสียสมาธิง่าย				
16.	ท่านดึงตัวเองออกมาจากสถานการณ์ที่ทุกข์ใจ เพื่อให้เห็นสิ่งต่างๆให้รอบด้านมากขึ้น				
17.	ท่านรู้สึกว่าตนเองดำเนินชีวิตไร้ทิศทาง/จุดมุ่งหมาย				
18.	เมื่อผู้อื่นกล่าวถึงท่านในแง่ร้าย ท่านมักจมอยู่กับอารมณ์เศร้า				

ท่านสามารถทำแบบสอบถามออนไลน์ได้ที่
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ข้อ	ข้อความ	ข้อความนี้ตรงกับตัวท่าน			
		1	2	3	4
19.	เมื่อเกิดความผิดพลาด ท่านจะไม่หยุดทำสิ่งที่ท่านให้ความสำคัญ				
20.	บ่อยครั้งที่ท่านใจลอยไปถึงความทรงจำแย่ๆ ในอดีต				
21.	เมื่อรู้สึกไม่ดี ท่านทบทวนว่ามันเกิดขึ้นได้อย่างไร				
22.	ท่านสามารถเลือกใช้ชีวิตในแบบที่ท่านต้องการ				
23.	บางครั้งที่เกิดความยากลำบาก ท่านค่อยๆทำต่อไป ทีละเล็กละน้อย				
24.	ความโกรธทำให้ท่านเผลอทำเรื่องแย่ๆ				
25.	บ่อยครั้งที่ท่านไม่ได้จดจ่อกับสิ่งที่กำลังทำเพราะมัวแต่สนุกกับจินตนาการเพ้อฝัน				
26.	ท่านรับรู้ว่าฉันมีความคิดอย่างไร ในแต่ละสถานการณ์				
27.	ท่านทำตามแผนระยะยาวที่วางไว้ แม้จะคืบหน้าไปอย่างช้าๆ				

ท่านสามารถทำแบบสอบถามออนไลน์ได้ที่
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ส่วนที่ 6 แบบวัดพฤติกรรมการป้องกันการใช้กัญชา

คำชี้แจง: โปรดแสดงความคิดเห็นของท่าน เกี่ยวกับพฤติกรรมป้องกันการใช้กัญชา ว่ามีระดับพฤติกรรมป้องกันตนเองอยู่ในระดับใด โดยเขียนเครื่องหมาย ✓ ลงในช่องที่ตรงกับความเป็นจริงตามพฤติกรรม หรือการปฏิบัติตัวของท่านทุกข้อคำถาม โดยพิจารณาดังนี้

5 หมายถึง ท่านมีพฤติกรรม หรือมีการปฏิบัติตัวในการป้องกันการใช้กัญชาอยู่ในระดับ**มากที่สุด**
4 หมายถึง ท่านมีพฤติกรรม หรือมีการปฏิบัติตัวในการป้องกันการใช้กัญชาอยู่ในระดับ**มาก**
3 หมายถึง ท่านมีพฤติกรรม หรือมีการปฏิบัติตัวในการป้องกันการใช้กัญชาอยู่ในระดับ**เป็นครั้งคราว**
2 หมายถึง ท่านมีพฤติกรรม หรือมีการปฏิบัติตัวในการป้องกันการใช้กัญชาอยู่ในระดับ**น้อย**
1 หมายถึง ท่าน**ไม่มีพฤติกรรม** หรือไม่ปฏิบัติตัวในการป้องกันการใช้กัญชาเลย
0 หมายถึง ไม่เกี่ยวข้องกับพฤติกรรมนี้

ข้อ	พฤติกรรมป้องกันการใช้กัญชา	ระดับพฤติกรรม					
		0	1	2	3	4	5
1	ท่านปฏิเสธการใช้กัญชา เพราะกลัวผลกระทบต่อสุขภาพของท่าน						
2	ท่านศึกษาข้อมูลเกี่ยวกับผลกระทบและพิษภัยของการใช้กัญชา						
3	ท่านใช้วิธีการที่สร้างสรรค์เพื่อสร้างเสริมความสุขให้กับตนเอง โดยไม่ต้องพึ่งกัญชา						
4	ท่านใช้กัญชาเป็นตัวช่วยในการอ่านหนังสือ หรือเล่นดนตรี						
5	ท่านปฏิเสธเพื่อน หรือคนใกล้ชิดของฉัน ที่ชักชวนให้ท่านใช้กัญชา						
6	ท่านตักเตือนเพื่อนหรือคนใกล้ชิด เมื่อรู้ว่าพวกเขาอยากลองหรือใช้กัญชา						
7	ท่านยืนหยัดในการปฏิเสธการลองใช้กัญชา แม้จะถูกรบเร้าให้ลองซ้ำๆ						
8	ท่านใช้เวลาว่างในการทำกิจกรรมอดิเรกที่สร้างสรรค์ เช่น ออกกำลังกาย เล่นดนตรี โดยไม่พึ่งกัญชา						
9	ครอบครัวสอนและแนะนำท่านว่ากัญชาเป็นสารเสพติดที่ให้โทษท่านจึงรับฟัง						
10	คนในครอบครัวใช้กัญชา ท่านจึงลองใช้ตาม						
11	ครอบครัวท่านปลูกกัญชาไว้เพื่อสูบและบริโภค และท่านก็มีส่วนร่วมในการปลูกและบริโภคกัญชานี้ด้วย						
12	เมื่อท่านอยู่ในสถานการณ์ที่เสี่ยงต่อการใช้กัญชา ท่านจะนึกถึงคำสอน คำตักเตือนของบุพการีหรือผู้ปกครอง						

ท่านสามารถทำแบบสอบถามออนไลน์ได้ที่
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ข้อ	พฤติกรรมป้องกันการใช้กัญชา	ระดับพฤติกรรม					
		0	1	2	3	4	5
13	เมื่อมีปัญหาหรือเรื่องไม่สบายใจท่านจะปรึกษาคนในครอบครัวโดยไม่พึ่งกัญชา						
14	ตามแนวทางศาสนาที่ท่านนับถือ สอนให้ท่านไม่ใช้กัญชา ท่านจึงปฏิบัติตาม						
15	การเที่ยวกลางคืนผับ บาร์ มีโอกาสทำให้ท่านใช้กัญชา ท่านจึงหลีกเลี่ยงไม่ไปสถานที่เหล่านั้น						
16	ท่านค้นคว้าแหล่งขายกัญชาทางออนไลน์ และในชุมชน						
17	สถานศึกษาหรือวิทยาลัยของท่านมีระเบียบที่เกี่ยวข้องกับกัญชาในสถานศึกษา ท่านจึงปฏิบัติตาม						
18	ในสังคมมีโอกาสทางกฎหมายในการปลูกกัญชาเพื่อบริโภค ท่านจึงใช้โอกาสนี้ปลูกกัญชาเพื่อสูบและประกอบอาหาร						
19	ในสถานศึกษามีกิจกรรมป้องกันการเสพกัญชาของนักเรียน ซึ่งท่านให้ความร่วมมือและช่วยเหลือกิจกรรมเหล่านี้						
20	ในชุมชนมีคนใช้กัญชา ซึ่งท่านจะเลี่ยงไม่ไปเข้าใกล้						

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