

AUTONOMY SUPPORT, MOTIVATIONS, VALUE AND NATURAL CONTENT  
BELIEF ON HERBAL MEDICINE PRODUCT CONSUMPTIONS AMONGST  
EMERGING ADULTS

TAM YIN LING @ ADELIN TAM

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## **DEDICATION**

This thesis is dedicated to my late father and my mother, who taught me that knowledge is invaluable, and the road of learning required a strong passion and determination. It is also dedicated to my husband, whose unconditional support had driven me to achieve my dream. And to my son, for the lovely smile that thumb up my life.

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## ABSTRACT

Global and local herbal medicine product markets experienced recorded growth, while emerging adults are one of the fastest growing markets for health-related products in Malaysia. However, emerging adults are turning to non-herbal products. Although marketing herbal medicines to emerging adults would provide significant contributions, empirical study on herbal medicine product consumption was limited. Underpinned by Self-Determination Theory (SDT), this study addressed the practical and literature gaps by investigating the effects of perceived autonomy support, motivations, consumer perceived value, and natural content belief on herbal medicines products consumption stages. Consumer perceived value is included as the mediator on the relationship between autonomous motivation and consumption stages, while natural content belief is included to moderate the relationship between motivations and consumption stages. Multi-method quantitative research, using cross-sectional survey questionnaire and experiment, were conducted. Natural content belief was tested with experiment, while other variables were examined with survey. Samples of this research were emerging adults studying in local universities. Data were collected from Universiti Malaysia Sabah and Universiti Teknologi Malaysia. A total of 363 usable samples collected, in which 184 were in experiment group and the rest were in controlled group. Partial Least Square Structural Equation Modelling technique is applied to analyse a model and eight hypotheses. The last hypothesis was analysed with profile analysis, a person-centred approach, to understand consumer profile. Analysis of the results confirmed that perceived autonomy support significantly influenced motivations, as well as autonomous motivation significantly predicted consumption stages. Mediation effects of autonomous motivation and consumer perceived value were also found significant, respectively. However, moderation effects of natural content belief were rejected. Profile analysis provided insights on the herbal medicine consumer profiles. Meanwhile a model predicting herbal medicine consumption is confirmed theoretically. Mediation effect of consumer perceived value is another important theoretical implication. Findings of this study also contributed practically by confirming that herbal medicine product users appreciated perceived benefits and multi-dimensional values.

## ABSTRAK

Pasaran produk perubatan herba global dan tempatan mencatatkan rekod perkembangan, manakala golongan dewasa muda adalah salah satu pasaran produk kesihatan yang paling pesat berkembang di Malaysia. Namun, golongan ini kian beralih kepada produk bukan herba. Walaupun pemasaran perubatan herba kepada orang dewasa muda memberikan sumbangan yang signifikan, kajian empirik dalam penggunaan produk perubatan herba adalah terhad. Bersandarkan Teori Penentuan-Diri (SDT), kajian ini mengisi jurang praktikal dan literatur dengan menyiasat kesan tanggapan sokongan autonomi, motivasi, nilai tanggapan pengguna dan kepercayaan pada kandungan semulajadi pada tahap penggunaan produk perubatan herba. Nilai tanggapan pengguna disertakan sebagai pengantara dalam hubungan antara motivasi autonomi dan tahap penggunaan, manakala kepercayaan pada kandungan semulajadi disertakan sebagai moderator dalam hubungan antara motivasi dan tahap penggunaan. Kajian kuantitatif berbilang kaedah dengan menggunakan kaedah soal selidik keratan rentas dan eksperimen telah dilaksanakan. Kepercayaan pada kandungan semulajadi telah diuji dengan kaedah eksperimen, sementara pembolehubah lain dikaji dengan soal selidik. Sampel kajian ini adalah golongan dewasa muda yang sedang belajar di universiti tempatan. Data telah dikumpul dari Universiti Malaysia Sabah dan Universiti Teknologi Malaysia. Sejumlah 363 sampel telah dikumpul, di mana seramai 184 berada dalam kumpulan eksperimen dan selainnya dalam kumpulan kawalan. Model Persamaan Berstruktur – Kuasa Dua Separa Terkecil diaplikasikan untuk menganalisis model ini dan lapan hipotesis. Hipotesis terakhir diuji dengan analisis profil dalam kaedah berpusat persona untuk memahami profil pengguna. Keputusan analisis mengesahkan bahawa tanggapan sokongan autonomi mempengaruhi motivasi secara signifikan serta motivasi autonomi meramalkan tahap penggunaan secara signifikan. Kesan pengantara motivasi autonomi dan nilai tanggapan pengguna juga disahkan signifikan. Namun, kesan moderator kepercayaan pada kandungan semulajadi ditolak. Analisis profil memberikan pemahaman mendalam mengenai penggunaan perubatan herba. Di samping itu, satu model menjangkakan penggunaan produk perubatan herba juga disahkan secara teori. Kesan pengantara nilai tanggapan pengguna juga adalah satu lagi implikasi teori yang penting. Penemuan kajian ini juga menyumbang secara praktis dengan mengesahkan bahawa pengguna perubatan herba menghargai manfaat tanggapan dan nilai dalam pelbagai dimensi.



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## LIST OF ABBREVIATIONS

AM	- Autonomous motivation
BRSQ	- Behavioural Regulation in Sport Questionnaire
CAMBI	- Complementary and Alternative Medicine Beliefs Inventory
CB-SEM	- Covariance-Based Structural Equation Modelling
CHA	- Complementary Health Approaches
CM	- Controlled motivation
CMV	- Common method variance
CPV	- Consumer perceived value
CS	- Consumption stages
CV	- Conditional value
EPV	- Epistemic value
EV	- Emotional value
EVF	- Emotional value – feeling
EVA	- Emotional value – aesthetic
FV	- Functional value
FVV	- Functional value – value for money
FVQ	- Functional value – quality
HBM	- Health Belief Model
IMB	- Information-Motivation-Behavioural Skills Model
IOCQ-S	- Important Other Climate Questionnaire for smoking cessation
IPH	- Institute for Public Health, Ministry of Health
MI	- Manipulation item
NCB	- Natural content belief
PAS	- Perceived autonomy support
PERVAL	- Perceived Value Scale
PLS-SEM	- Partial Least Square Structural Equation Modelling
RAI	- Relative Autonomy Index
SBM	- Andersen’s Sociobehavioural Model
SDT	- Self-Determination Theory
SERV-PERVAL	- Service’s Perceived Value Scale



SPSS	- IBM Statistical Package for Social Sciences Programme
SOC	- Stages of change
SRQ	- Self-Regulation Questionnaire
SV	- Social value
TCV	- Theory of Consumption Values
TPB	- Theory of Planned Behaviour
TTM	- Transtheoretical Model
VIF	- Variance inflation factor
WHO	- World Health Organisation

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# CHAPTER 1

## INTRODUCTION

### 1.1 Study Background

Healthcare products are an important industry as they prevent illnesses and cure diseases (regain health). The market for preventive and personalised medicine as well as public health grew from \$534.3 billion (USD) in 2015 to \$574.8 billion (USD) in 2017, for an 3.7% annual growth rate (*Global Wellness Economy Monitor*, 2018). Complementary Health Approaches (CHA) are commonly used for illness prevention and treatment, complementing mainstream conventional medicines (Rhee, Ng, & Dusek, 2017). CHA was formerly known as Complementary and Alternative Medicine. Many terminologies have been used to describe CHA, such as unconventional, unproven, and traditional treatments (Chingwaru & Vidmar, 2016; Wieland, Manheimer, & Berman, 2011). In Malaysia, CHA is recognised as Traditional and Complementary Medicine (Traditional & Complementary Medicine Division, 2011), which includes traditional Malay, traditional Chinese, and traditional Indian medicines, as well as complementary medicines such as homeopathy, manipulative based practices, and Islamic medical practices (Chang, Tam, & Suki, 2015).

CHA refers to any healthcare modalities (medicine and practices) that are not part of the conventional medical system (National Center for Complementary and Integrative Health, 2016; Goldman & Cornwell, 2015). The global market for CHA was up to \$359.7 billion (USD) in 2017 (*Global Wellness Economy Monitor*, 2018). CHA is commonly consumed in both developed and developing countries. Over the course of one-year, CHA was used by 79% of consumers in Australia (Thomson, Jones, Browne, & Leslie, 2014), 26% (average) of consumers in European countries (Kemppainen, Kemppainen, Reippainen, Salmenniemi, & Vuolanto, 2018), 60% of

consumers in Zimbabwe (Chingwaru & Vidmar, 2016), and 21.5% (self-prescribed CHA products not included) of consumers in Malaysia (Institute for Public Health (IPH), 2015). Even though conventional medical care is available, especially in developed countries, the high prevalence of CHA use demonstrates that a lack of access to conventional medicine may not be the reason for CHA use.

There are many CHA modalities or practices, including herbal medicines, osteopathy, chiropractic, homeopathy, acupuncture, massage, and psychic healing. These CHA modalities have been further classified by the U.S. National Centre for Complementary and Alternative Medicine. Detailed CHA modalities or practices are listed in Appendix A. Herbal Medicine Products (HMP) are a CHA modality that is frequently used by consumers in many countries, including Europe (Kemppainen et al., 2018), United States (Clarke, Black, Stussman, Barnes, & Nahin, 2015), Philippines (Ladia et al., 2018), and Malaysia (IPH, 2015).

HMP refers to *“medicinal products containing exclusively herbal active substances that differ from chemically defined substances in several aspects; most notably, they consist of complex multi-component mixtures resulting from, e.g., extraction of plant parts such as roots and leaves”* (Du et al., 2014, p. 218). In short, HMP includes all products that *“contain either raw or processed plant ingredients to prevent or treat diseases”* (Aziz & Tey, 2009, p.45). There are different types of HMP, such as pure herbs (with or without simple production processes such as drying), herb-based applications, beauty and hygiene products, traditional herbal pharmaceutical products, and herbal food products (Rezai, Zahran, Mohamed, & Sharifuddin, 2013; Siti et al., 2009).

The global market for HMP, which is composed of tablets, capsules, powders and extracts, grew by 12.91% from \$63.05 billion (USD) in 2014 to \$71.19 billion (USD) in 2016 (Hexa Research, 2017). In Malaysia, sales of processed herbal and traditional products (excluding unprocessed or pure herbal medicines) grew by 8.5% from RM1.47 billion in 2018 to RM1.60 billion (estimated) in 2019 (Euromonitor international, 2019). However, the growth in sales of processed herbal and traditional products is expected to drop to 6.2% in 2020 and with further drop over the next few years (Euromonitor international, 2019). This situation is expected as the older

generations will continue to buy HMP because they are used to it, but changing lifestyles amongst young Malaysian have led to a switch from HMP to non-herbal products (Euromonitor International, 2016).

This is alarming because if younger adults continue to switch to non-herbal products, the HMP market will lose a large number of potential customers. Emerging adults aged 20-29 is the largest age group in Malaysia with a population of 5.78 million in 2019 (*Malaysia Population 2019*, 2019). They are one of the fastest growing markets for health-related products in Malaysia, as their healthcare products and services purchases have increased by an average of 10.52% annually from US\$93.9 million in 2007 to US\$143.3 million in 2012 (Yap, Noor, Marshall, & Liew, 2014). A large potential market coupled with high spending on healthcare products justifies the need to engage emerging adults in HMP consumption.

Unfortunately, past studies on HMP consumption have seldom focused on this population, but rather on adults as a whole (Ladia et al., 2018; Rhee et al., 2017), adults more than 30 years old (Duffy, Shupe, Kuczmariski, Zonderman, & Evans, 2017), the elderly (de Souza Silva et al., 2014) or adolescents (Du et al., 2014). These studies (Ladia et al., 2018; Rhee et al., 2017) have ignored the fact that emerging adults have features that distinguished them from older adults, such as a tend to explore their identity, instability, self-focus, and feelings of being ‘in-between’ adolescence and adulthood (Arnett, 2004). In view of the theoretical and managerial needs to engage emerging adults in HMP consumption, this study examined the factors influencing HMP consumption amongst emerging adults.

Psychological factors are more important than medical or demographic variables in predicting CHA use (Lorenc, Ilan-Clarke, Robinson, & Blair, 2009). Past studies that examined CHA and HMP consumptions have proposed a few important predictors of HMP consumption, which are motivation (Duffy et al., 2017; Yap et al., 2014; LaCaille & Kuvaas, 2011), perceived value (Dodds, Bulmer, & Murphy, 2014), family or friend support (Aziato & Antwi, 2016; Tangkiatkumjai, Boardman, Praditpornsilpa, & Walker, 2014), and natural content belief (NCB) (Lazarou & Heinrich, 2019; Aziato & Antwi, 2016). The interaction between these factors needs to be further studied to gain a comprehensive view on their relationships. Once these

relationships are clear, marketers can design and create a strategic plan to promote HMP consumption amongst emerging adults.

The next section submits the problem statement of this study, followed by an explanation of the research questions and research objectives. Then, the scope and significance of study are described. Next, this chapter also provides operational definitions for important terms used in this study. Finally, the organisation of the thesis and summary concluded this chapter.

## **1.2 Problem Statement**

Emerging adults represent a large population group who have increasing purchasing power for healthcare products (*Malaysia Population 2019*, 2019; Yap et al., 2014). However, they are turning to non-herbal products (Euromonitor International, 2016) and threatening HMP markets prospect. Understanding the factors (motivation, social support, perceived value, and NCB) that influence HMP consumption is important to planning effective and efficient marketing strategies to engage emerging adults in HMP consumption.

Motivation is concerned with “*the energy, direction, persistence, and equifinality of all aspects of activation and intention*” (Ryan & Deci, 2000a). Motivation explains why people pursue an activity (White, 2015). Motivation is an antecedent of healthcare behaviour that significantly and positively predicts various healthcare behaviours such as exercise (Keshtidar & Behzadnia, 2017) and healthy diet (Dwyer et al., 2017). Excluding Duffy et al. (2017) and LaCaille and Kuvaas (2011), motivation has seldom been tested in an CHA or HMP context. Therefore, the inclusion of motivation can better explain HMP consumption.

The influence of social networks (especially family and friends) has been cited as an important reason for HMP consumption (Griz, Matos-Rocha, Santos, Costa, & Mousinho, 2017; Aziato & Antwi, 2016). Family and friends influence HMP consumption by providing information, advice and encouragement (Griz et al., 2017;

Aziato & Antwi, 2016). Past studies have examined the influence of social networks on CHA use via subjective norms (from Theory of Planned Behaviour) and found inconsistent results (Bauml et al., 2015; Lino et al., 2014). This may be due to subjective norms, which measure a person's beliefs regarding what 'important others' think about a person's performance (Ajzen, 1991) but overlook influence of family or friends support. Hence, focusing only on support for HMP consumption would certainly provide a new perspective on HMP usage.

Furthermore, the effect of family support on healthcare behaviours has been well tested (Amorose, Anderson-butcher, Newman, Fraina, & Iachini, 2016; Kocayörük, Altıntas & İçbay, 2015), but few studies have examined support from peers or friends (van der Kaap-Deeder et al., 2014). Compared to family members, peers and friends play different roles as they support (autonomously) and strengthen each other through behaviour enhancement (van der Kaap-Deeder et al., 2014). The support of peers and friends on HMP consumption is worth further examination.

Consistent with the need to study motivation and support, Self-Determination Theory (SDT) (Deci & Ryan, 1985) was used as the underpinning theory of this research. In the literature, few theory-based studies have examined antecedents to CHA consumption. Of the few studies that did, the Theory of Planned Behaviour (TPB) (Ajzen, 1991) was frequently used to predict HMP usage (Ismail & Mokhtar, 2015; Bauml et al., 2015; Lino et al., 2014). However, TPB does not examine consumption behaviour, but instead examines the intention to consume. In addition, TPB does not include motivation and support.

The main constructs of SDT are Autonomous Motivation (AM), Controlled Motivation (CM), and Perceived Autonomy Support (PAS). PAS refers to 'unpressurised' support from an social environment that promotes one's sense of self-determination (Ng, Ntoumanis & Thøgersen-Ntoumani, 2014). PAS positively influences AM (Chung et al., 2018; Miežienė, Šinkariova, & Adomavičiūtė, 2015), which predicts healthcare behaviours (Sylvester, Curran, Standage, Sabiston, & Beauchamp, 2018 ; Keshtidar & Behzadnia, 2017). AM also significantly mediates the relationship between PAS and healthcare behaviours (Fenton, Duda, Quested, &

Barrett, 2014; Ng et al., 2014). Consequently, the main constructs of SDT (AM, CM, and PAS) were proposed as predictors for HMP consumption.

User's perceived value is also significant in predicting the use of healthcare products or services (Ghazali, Soon, Mutum, & Nguyen, 2017; Wu, Li, & Li, 2016; Zainuddin, Tam, & McCosker, 2016). CHA consumers appreciate a multi-dimensional perceived value that includes functional, social, and emotional values (Dodds et al., 2014). Consumer Perceived Value (CPV) positively influences satisfaction and behavioural intention to engage with the service again (Wu et al., 2016; Zainuddin et al., 2016). Therefore, it is believed that CPV is crucial to predicting HMP consumption. However, there are a lack of studies that have examined the influence of CPV on HMP consumption. Hence, this study attempts to include CPV to explain HMP consumption.

SDT emphasizes that AM involves recognises the importance of a behaviour and consciously values that behaviour (Deci & Ryan, 2000). A person is motivated to perform a behaviour because they perceive that such a behaviour will benefit (value) them to some extent. However, SDT does not include perceived value in its model. This is a theoretical gap that is worth further exploration. Hence, the inclusion of CPV in this study empirically examines CPV in SDT. According to Halvari, Halvari, Bjørnebekk, and Deci (2013), AM is significantly associated with the intrinsic value of continued treatments, which are associated with subjective well-being. Similarly, Gong, Choi and Murdy (2016) concluded that customer self-determination (motivation) was significantly related to consumption value, which is significantly related to customer well-being. Based on these studies, CPV is included as a mediator between AM and HMP consumption.

Numerous variables impact CHA consumption decisions, including desires and beliefs (Robinson, Lorenc, & Blair, 2009). However, SDT ignores the effects of beliefs on decision making. This study addresses this gap by adding NCB. NCB is the belief that HMP is composed of natural treatments that have fewer side effects and are safer to use than conventional medicine (Aziato & Antwi, 2016). Nevertheless, NCB is not consistently related to the intention to use CHA (Goldstein, Ibrahim, Frankel, & Mao, 2015; Gad, Al-Faris, Al-Rowais, & Al-Rukban, 2013). In view of the need to



understand the impact of NCB in predicting HMP use, NCB was added as a moderator in this research.

HMP users have been commonly categorised as people who have used HMP at least once in the past year to compare with non-users (Jang et al., 2017; Shih et al., 2017). However, this method “*prevents a deeper understanding of the nuances of CHA used*” (Bauml, Chokshi & Schapira, 2015). Bishop, Bradbury, Hj Jeludin, Massey, and Lewith (2013) concluded that different criteria are used by CHA users to make consumption decisions at different stages of use (new users vs. experienced users). The influence of motivations, PAS, and CPV on different HMP Consumption Stages (CS) is unclear and needs further investigation. This study addresses heterogeneity among HMP users using CS based on the Transtheoretical Model (TTM) (Prochaska & DiClemente, 1982).

Past studies have found that there are different categories of CHA users (Strizich et al., 2015; Bishop et al., 2013). However, the common variable-centred way of testing HMP consumption ignores heterogeneity among HMP users. Therefore, this study also explored HMP user profiles using a person-centred approach, in which motivations, CPV, and PAS were used to define HMP users. This person-centred approach complements the variable-centred approach in identifying sub-groups among a large population.

Prior studies have utilised either quantitative surveys (Duffy et al., 2017; Rhee et al., 2017) or qualitative interviews (Ramzan, Soelberg, Jäger, & Cantarero-Arévalo, 2017) to capture predictors for HMP consumption. Experimental studies have seldom been conducted. One exception is Bishop et al. (2013), who incorporated quasi-experiment and qualitative interviews to understand osteopath use. Undoubtedly, carrying out a multi-method research would contribute to the literature. Multi-method quantitative research also could provide extra advantages, such as enabling new discoveries, allowing result triangulation, and providing a more comprehensive approach to phenomena (Gil-garcia & Pardo, 2006). This study attempts to combine experiment and survey questionnaire methods to gain a deeper understanding of HMP consumption behaviour.

### **1.3 Research Questions**

Based on the problem statement discussed in the previous section, the research questions of this study are as follows.

1. Does perceived autonomy support from peers or friends influence motivations (autonomous and controlled) to engage in HMP consumption?
2. Do motivations (autonomous and controlled) influence HMP consumption stages?
3. Does autonomous motivation mediate the relationship between perceived autonomy support (from peers or friends) and HMP consumption stages?
4. Does consumer perceived value (functional, emotional, and social) towards HMP mediate the relationship between autonomous motivation and HMP consumption stages?
5. Does natural content belief in HMP moderate the relationships between motivations (autonomous and controlled) and HMP consumption stages?
6. What is the consumer segment and profile of HMP users?

### **1.4 Research Objectives**

The following research objectives are proposed to accommodate the research questions listed in the previous section.

1. To determine the influence of perceived autonomy support (from peers and friends) on motivations (autonomous and controlled) to consume HMP.

2. To investigate the influences of motivations (autonomous and controlled) on HMP consumption stages.
3. To determine whether autonomous motivation mediates the relationship between perceived autonomy support (from peers or friends) and HMP consumption stages.
4. To examine whether consumer perceived value (functional, emotional, and social) towards HMP mediates the relationship between autonomous motivation and HMP consumption stages.
5. To examine the moderating effect of natural content belief in HMP on the relationships between motivations (autonomous and controlled) and HMP consumption stages.
6. To segment HMP users by consumption stages and to understand the profile of HMP users using perceived autonomy support, motivations, and perceived value dimensions.

### **1.5 Scope of the Study**

This study investigated HMP consumption behaviour by examining constructs (PAS from peers or friends, motivations, the mediating role of CPV, and the moderating effects of NCB) that influence HMP CS among young (emerging) adults in Malaysia. HMP was selected as the main modality in this study because HMP is the most commonly used modality in Malaysia (IPH, 2015; Siti et al., 2009). HMP consists of various traditional HMP accepted by local communities (e.g. Malay herbs, Chinese herbs, and Ayurveda) as well as widely accepted modern HMP. Modern HMP were included due to the rising use of herbal supplements such as evening primrose oil (Euromonitor International, 2016).

HMP consumers make distinct decisions during different CS (Bishop et al. 2013), thus, CS was selected as the dependent variable in this study. Hirai et al. (2008) used CS as a dependent variable in their investigation on the antecedents of CHA use. In this study, the constructs of SDT, PAS, AM, and CM were included as HMP CS predictors, with CPV proposed as a mediator between AM and HMP CS. The NCB of HMP was included as the moderator in this study's model.

The population of this study was limited to emerging adults in local Malaysian universities who were between 20 to 29 years old (Sinnott, Hilton, Wood, Spanos, & Topel, 2016). Young consumers are one of fastest growing markets for health-related products in Malaysia (Yap et al., 2014). This population was selected because previous studies assumed that all adults are similar and have identical perceptions towards consumption, ignoring the fact that emerging adults have features that distinguish them from older adults such as a tendency to explore their identity, instability, self-focus, and feelings of being 'in-between' adolescence and adulthood (Arnett, 2004). Focusing on this population provides a new perspective on consumer behaviour.

## **1.6 Significance of Study**

The significance of this study is its enrichment of the theoretical, methodology, and managerial aspects of CHA consumption, specifically HMP consumption. This study will not only expand current knowledge on HMP consumption behaviour related to healthcare, but also provide significant value to academicians and industrial players in theory development and marketing expansion, respectively.

### **1.6.1 Theoretical Significance**

In term of theoretical significance, this study is expected to enrich the marketing literature on consumer healthcare behaviour. Guided by SDT, a new model with motivations, PAS, perceived value, and NCB is proposed by this study. Compared to

past studies that applied major TPB constructs, this study provides a new theoretical perspective by applying major SDT constructs such as PAS, AM, and CM. SDT uses motivation quality, instead of quantity (Silva et al., 2010) to explain HMP consumption. Applying these constructs is expected to provide a new model for studying HMP consumption behaviour.

Moreover, employing PAS would generate additional proofs regarding the support of social networks on CHA consumption. This study empirically tested the influence of PAS from peers or friends on the motivations to consume HMP amongst emerging adults, who have characteristics distinct from mature adults. Therefore, this study is anticipated to contribute theoretically to the literature by confirming the influence of peers or friends on emerging adults.

This study extends SDT by including a mediator, CPV, and a moderator, NCB. CPV is a multi-dimensional value construct suggested by TCV for understanding the perceived value associated with the consumption of products or services. This study included CPV as mediator between AM and HMP consumption to test the influence of consumption values on HMP usage. Additionally, NCB was included as the moderator in the theoretical model. The use of NCB as a moderator was justified by the relative importance of consumer beliefs towards natural content, as it affects HMP consumption behaviour. This extended SDT was tested using a new research framework to provide new perspectives to the literature.

This study used the stages of change in TTM to categorise the dependent variable, HMP consumption. Instead of using a single variable such as loyalty or purchase intention, this study used HMP CS, which includes not only short-term and long-term users but also non-users. Therefore, this study contributes theoretically to the literature by providing new definitions for HMP consumption.

### **1.6.2 Methodology Significance**

Few methodology significances are expected to be derived from this study. First, this study attempted to test CPV from a multi-dimensional perspective. Guided by Sweeney and Soutar (2001), the value dimensions included were functional value-quality, functional value-value for money, social value, and emotional value. Thus, this study suggests the inclusion of multi-dimensional perceived value to examine HMP consumption in future research.

Recognising heterogeneity among HMP users, a person-centred approach was applied to analyse the profile of HMP users. This approach complemented the commonly used variable-centred approach by identifying possible population sub-groups. The person-centred approach is used to understand the characteristics of each HMP user sub-group. Combining both approaches could improve the study methodology and insight of future studies.

A multi-method quantitative research, using both experiments and a survey questionnaire, was conducted in this study, instead of only using one method or another. In line with a multi-method research design, this study would be of significance as it provides a framework for research planning. In addition, the experiment stimuli created for NCB would be useful in designing NCB experiment in other studies.

### **1.6.3 Managerial Significance**

From a managerial perspective, the need to engage emerging adults in HMP consumption has prompted the need to study the predictors of HMP consumption in more detail. Industrial players would like to better know what encourages consumers to use CHA products for healthcare. This study provides a more sophisticated understanding of CHA use, specifically for HMP, from the perspective of motivations, peer or friend support, perceived value, and NCB. In today's competitive world, this

knowledge is critical to planning marketing strategies that engage, satisfy and retain customers.

Emerging adults have features that distinguish them from older adults (Arnett, 2004). These features influence their HMP consumption. Thus, marketers must treat emerging adults differently than older adults when planning marketing strategies. In addition, applying a person-centred approach could provide information on customer segments and profiles. This study is expected to be managerial significant by identifying potential new HMP users.

Additionally, the findings of this study are useful for local industry players as they face growing competition from international corporations with well-known brands. Local industry players should consider peer and friend support, perceived value, and NCB when promoting HMP. Local industry players can further improve their promotional strategies to engage with emerging adults. This information is also crucial for local industry players wishing to develop new products in tune with customer beliefs and perceived values to compete with international brands.

## **1.7 Operational Definitions**

The operational definitions for the major terms used in this thesis are defined in this section.

### **1. Complementary Health Approaches (CHA)**

This study adopted the definition from the National Center for Complementary and Integrative Health (2016) in that CHA are board treatments or health practices that could be used to complement mainstream conventional medicine. In this study, CHA refers to traditional and complementary medicines that are not part of conventional medicine that are used by emerging adults in Malaysia.

## 2. Herbal Medicine Products (HMP)

The definition provided by Aziz and Tey (2009, p. 45) was adapted. It refers to all plant-derived products that contain either raw or processed plant(s) ingredients that are used for illness prevention. The types of HMP accepted in this study followed (Rezai et al., 2013), Aziz and Tey (2009), and Siti et al. (2009) in including pure herbs (without or with simple production processes, such as drying), herb-based applications, traditional herb pharmaceuticals products, and functional herbal food products. In this research, HMP includes plant-derived products, in various forms, that are used for healthcare by emerging adults.

## 3. Perceived Autonomy Support (PAS)

The definition suggested by Williams et al. (2006a, p. 180) for PAS was used, which defines PAS as a context that supports an individual's autonomy by acknowledging their perspective, providing choices, responding to their initiations, providing relevant information, and minimising control. In this study, PAS refers to the perception of autonomy support towards HMP consumption that emerging adults receive from their friends or peers.

## 4. Autonomous Motivation (AM)

This study adopted the definition used by Hagger et al. (2014, p. 566). AM refers to engagement in a behaviour because it is perceived to be consistent with intrinsic (meaningful) goals or outcomes that emanate from the self, which leads to a sense of choice, personal endorsement, interest, and satisfaction. AM encompasses identified regulation, integrated regulation, and intrinsic motivation (Hagger et al., 2014; Lonsdale, Hodge & Rose, 2008). In this research, AM refers to the engagement in HMP consumption by emerging adults because HMP consumption is consistent with their intrinsic values, goals, or outcomes.



## 5. Controlled Motivation (CM)

This study adopted Carter and Kelly's (2015, p. 77) definition by referring to CM as engagement in a behaviour due to external pressures such as gaining external rewards, avoiding punishments, and meeting expectations as well as internal pressures such as avoiding feelings of shame, guilt, or anxiety. CM is governed by non-self-determined forces (external and introjected regulations) (Lonsdale et al., 2008). In this research, CM refers to the engagement in HMP consumption by emerging adults due to external pressures.

## 6. Consumer Perceived Value (CPV)

CPV is defined as an interactive relativistic preference experience such as end-states that encompass the multiple benefits and sacrifices that customers link to product characteristics in accordance with Holbrook (1999, p. 5) and Klanac (2013, p. 24). In this study, CPV was a second-order formative multi-dimensional construct (Carlson, Rosenberger & Rahman, 2016; Carlson, O'Cass & Ahrholdt, 2015), formed of functional, social, and emotional values in compliance with Sweeney and Soutar (2001). CPV in this study refers to the multiple perceived benefits, in terms of functional, social, and emotional values, that emerging adults receive from HMP consumption.

## 7. Functional Value – Quality (FVQ)

The definition suggested by Sweeney and Soutar (2001, p. 211) was adopted in this study. FVQ is the utility derived from the perceived quality and expected performance of a product. FVQ is refers to the perceived quality and expected performance of HMP by emerging adults in this research.

## 8. Functional Value – Value for Money (FVV)

The definition proposed by Sweeney and Soutar (2001, p. 211) was adopted in this study. FVV is the utility derived from the reduction of perceived short and

long-term costs. In this research, FVV is refers to the perceived reduction of HMP costs by emerging adults.

#### 9. Emotional Value – Feeling (EVF)

This study uses the definition proposed by Kim, Gupta and Koh (2011, p. 229) and Sweeney and Soutar (2001, p. 211). EVF refers to the utility derived from the feelings or affective states that a customer associates with a product. In this study, EVF is refers to emerging adult feelings and affections that are associated with HMP consumption.

#### 10. Social Value (SV)

The definition of Sweeney and Soutar (2001, p. 211) was embraced by this study. SV refers to the utility derived from a product's ability to enhance associations with the concept of social self, social group(s), and/or the social image of users. In this study, SV refers to the perceived utility that is associated with social concepts, particularly social self and the social image of HMP consumption by emerging adults.

#### 11. Natural Content Belief (NCB)

This study adapted the definitions suggested by Ali et al. (2015), Bishop, Yardley and Lewith (2005), and Solomon and Adams (2015). NCB is defined as the belief that the contents of HMP are natural and are not processed, making them non-toxic, without side-effects and safe to use. In this research, NCB refers to emerging adults' belief that HMP content are natural, without side-effects, and safe to use.

#### 12. HMP Consumption Stages (CS)

This study adapted the definition of Hirai et al. (2008, p. 51) that consumption occurs in five stages from precontemplation (non-user) to maintenance (long-term user who has been consuming HMP in the last six months). In this study,

HMP consumption stages refer to the five stages of HMP consumption, which incorporate both non-users and HMP users.

### 13. Emerging Adults

This study adapted the definition from Arnett (2004, p. 8) that emerging adults (aged between 20 to 29 years old) are young people who have five main features, identity exploration, instability, self-focus, feelings of in-betweenness, and possibilities/optimism, which distinguish them from older adults. In this research, emerging adults refers to Malaysian young adults (aged 20-29) who have the five main features of identity exploration, instability, self-focus, feelings of in-betweenness, and possibilities/optimism.

## **1.8 Organisation of Thesis**

This chapter provides the research questions and research objectives used in this study. Chapter Two contains the literature review, which scrutinizes the theory, constructs, and hypotheses used in previous studies. Also included in Chapter Two is the proposed hypothetical framework for this study. Chapter Three discusses the research methodology by explaining the research design, sampling methods, experimental method, and statistical methods used in this study. Data analysis and hypotheses testing are presented in Chapter Four. A discussion of the analysis results, study contributions, and study limitations are provided in Chapter Five.

## **1.9 Summary**

This chapter describes the study background and identifies problems for further research. A clear problem statement on the context of HMP consumption among emerging adults justifies the rationale to conduct further empirical investigations. Accordingly, the research questions and research objectives were stated to provide vital

guidelines for this research. In short, the discussion in this chapter provides a solid steppingstone for further research.

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