



UNIVERSITI PUTRA MALAYSIA

***MEDIATORS OF THE RELATIONSHIP BETWEEN SPIRITUAL
INTELLIGENCE AND SOCIAL SUPPORT ON HEALTH BEHAVIOURS OF
UNDERGRADUATES IN A PUBLIC UNIVERSITY IN MALAYSIA***

ROXANA DEV OMAR DEV

FPP 2018 27



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IN MALAYSIA**

By

ROXANA DEV OMAR DEV

**Thesis Submitted to the School of Graduate Studies, Universiti Putra
Malaysia, in Fulfilment of the Requirements for the Degree of Doctor of
Philosophy**

April 2018

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DEDICATION

This work is dedicated to my beloved husband, Wan Suhaimi Wan Abdullah and my precious five kids, Wan Haziq Solihin, Wan Irfan Solihin, Wan Umaira Soliha, Wan Adriana Soliha and Wan Aqil Solihin, for their enduring love, support, sacrifice and understanding in this hard long journey.

Special dedication also to my parents, Dr Siti Rehani Che Hussain and Ahmad Mohsain Rifaie (Ayah Mohsain) for their true love, overwhelming support and enormous sacrifice even though I did not spend much time with them in order to finish this research.



Abstract of Thesis Presented to the Senate of Universiti Putra Malaysia, in Fulfilment
of the Requirements for the Degree of Doctor of Philosophy

**MEDIATORS OF THE RELATIONSHIP BETWEEN SPIRITUAL
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ROXANA DEV OMAR DEV

April 2018

Chair : Associate Prof. Tengku Fadilah Tengku Kamalden, PhD
Faculty : Educational Studies

The main purpose of the present study is to develop a health behaviour model by investigating the relationship of two psycho-social variables, spiritual intelligence and social support on selected mediators, emotional intelligence and self-efficacy towards health behaviour among undergraduates of Universiti Putra Malaysia. The investigated model is based on the Theory of Triadic Influence by Fly & Petraitis (1994). EI was seen as distal variable but in this study it is hypothesized as a distal-proximal variable.

The study used a correlational research design. There were five instruments used for the study which were Health Behaviour Questionnaire (adapted from Bobroff, 2015), General Self-Efficacy Scale (Schwarzer & Jerusalem, 1993), Spiritual Intelligence Self-Report Inventory (King, 2008), Assessing Emotions Scale (Schutte, Malouff & Bhullar, 2009) and Interpersonal Support Evaluation List-College Version (Cohen, Mermelstein, Karmarck & Hoberman, 1985) which content validity were checked by a panel of experts. A pilot study was conducted on 50 UPM students to assess the reliability of the instruments. The value of Cronbach's alpha was from .79 to .92. For the real data, proportionate stratified sampling technique was used with a sample size of 400 undergraduates who stayed in the dormitory at Universiti Putra Malaysia. The final coefficient ranges from .86 to .91. For data analysis, descriptive statistics (SPSS 21) and Structural Equation Modeling (AMOS 21) were used.

The structural model of the study with 9 paths was tested and found fitting as per set criteria. Out of the 9 paths in the model, seven paths showed significant effects in the relationships explained by the model, while two paths did not. The paths that reflected significant relationship were as follows: 1) spiritual intelligence with health behaviour ($\beta=.335$, $p<.001$); 2) spiritual intelligence with emotional intelligence ($\beta=.635$, $p<.001$); 3) spiritual intelligence with self-efficacy ($\beta=.285$, $p<.001$); 4) social support with health

behaviour ($\beta=.128, p<.05$); 5) social support with emotional intelligence ($\beta=.098, p<.05$); 6) emotional intelligence with self-efficacy ($\beta=.225, p<.05$); 7) self-efficacy with health behaviour ($\beta=.300, p<.001$). On the other hand, the paths that were not significantly related were relationship between social support and self-efficacy ($\beta=.032, p>.05$) and relationship between emotional intelligence and health behaviour ($\beta=.107, p>.05$).

The results of the mediation tests indicated that self-efficacy partially mediated the relationship between spiritual intelligence and health behaviour. However, self-efficacy did not mediate the relationship of social and emotional intelligence on health behaviour. Besides that, emotional intelligence were seen to partially mediate the relationship between spiritual intelligence and self-efficacy. Overall, the revised structural model of the study with 7 paths explained 40.7 % of emotional intelligence, 21.2 % of self-efficacy and 30.0% of health behaviour.

This study has provided some new thoughts and insights on measuring self-efficacy based on students' perceptions. Many researchers have identified self-efficacy as the most important predictor for health behaviour (Mathumardhi & Suparna, 2016; Jamshidi et al., 2018), however, high self-efficacy will be meaningless if there is no authentic way in addressing intrinsic aspects of life in terms of spirituality (Mathumardi & Suparna). Spiritual intelligence and self-efficacy hand in hand help university students to become useful members of the society, as in case individuals who care about promotive health behaviours. Hence more research should be done to validate this finding. Probable journey should incorporate a sequential exploratory design.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Doktor Falsafah

**PENGANTARA BAGI HUBUNGAN ANTARA KECERDASAN KEROHANIAN
DAN SOKONGAN SOSIAL TERHADAP TINGKAH LAKU KESIHATAN
DALAM KALANGAN PELAJAR PRA-SISWAZAH DI SEBUAH UNIVERSITI
AWAM DI MALAYSIA**

Oleh

ROXANA DEV OMAR DEV

April 2018

Pengerusi : Prof. Madya Tengku Fadilah Tengku Kamalden, PhD
Fakulti : Pengajian Pendidikan

Tujuan utama kajian ini adalah untuk membangunkan satu model tingkah laku kesihatan dengan mengenal pasti perhubungan dua pembolehubah psiko-sosial iaitu kecerdasan kerohanian dan sokongan sosial kepada pengantara, kecerdasan emosi dan efikasi diri terhadap tingkah laku kesihatan di kalangan pelajar pra-siswazah Universiti Putra Malaysia. Model yang diasas berdasarkan Teori Pengaruh Triad (Fly & Petraitis (1994). Kecerdasan emosi dilihat sebagai pemboleh ubah distal tetapi dalam kajian ini ia dihipotesis sebagai pemboleh ubah distal-proksimal.

Kajian korelasi ini menggunakan lima instrumen iaitu *Health Behaviour Questionnaire* (adaptasi daripada Bobroff, 2015), *General Self-Efficacy Scale* (Schwarzer & Jerusalem, 1993), *Spiritual Intelligence Self-Report Inventory* (King, 2008), *Assessing Emotions Scale* (Schutte, Malouff & Bhullar, 2009) dan *Interpersonal Support Evaluation List-College Version* (Cohen, Mermelstein, Karmarck & Hoberman, 1985). Keesahan kandungan telah diperiksa oleh panel pakar. Satu kajian perintis dijalankan ke atas 50 orang pelajar UPM untuk menilai kebolehpercayaan instrumen tersebut. Nilai alpha *Cronbach* adalah dari .79 hingga .92. Bagi data sebenar, teknik pensampelan berstrata nisbah telah digunakan dengan saiz sampel 400 pelajar yang tinggal di asrama di Universiti Putra Malaysia. Pekali kajian sebenar adalah dari .86 hingga .91. Untuk analisis data, statistik deskriptif (SPSS 21) dan Pemodelan Persamaan Struktur (AMOS 21) telah digunakan.

Model struktur kajian dengan 9 laluan diuji dan didapati sesuai mengikut kriteria yang telah ditetapkan. Daripada 9 laluan dalam model, tujuh laluan menunjukkan kesan yang signifikan dalam hubungan yang dijelaskan oleh model, sementara dua laluan tidak. Laluan yang memberikan hasil yang signifikan adalah seperti berikut: 1) kecerdasan

kerohanian dengan tingkah laku kesihatan ($\beta = .335, p < .001$); 2) kecerdasan kerohanian dengan kecerdasan emosi ($\beta = .635, p < .001$); 3) kecerdasan kerohanian dengan efikasi diri ($\beta = .285, p < .001$); 4) sokongan sosial dengan tingkah laku kesihatan ($\beta = .128, p < .05$); 5) sokongan sosial dengan kecerdasan emosi ($\beta = .098, p < .05$); 6) kecerdasan emosi dengan efikasi diri ($\beta = .225, p < .05$); 7) efikasi diri dengan tingkah laku kesihatan ($\beta = .300, p < .001$). Sebaliknya, laluan yang tiada hubungan signifikan adalah hubungan antara sokongan sosial dan efikasi diri ($\beta = .032, p > .05$) dan hubungan antara kecerdasan emosi dan tingkah laku kesihatan ($\beta = .107, p > .05$).

Keputusan ujian pengantaraan (mediator) menunjukkan bahawa efikasi diri memberi sebahagian pengantaraan antara hubungan kecerdasan kerohanian dan tingkah laku kesihatan. Walau bagaimanapun, efikasi diri tidak memberi sebarang pengaruh pengantaraan antara sokongan sosial dan kecerdasan kerohanian terhadap tingkah laku kesihatan. Selain itu, kecerdasan emosi dilihat memberi sebahagian kesan perantaraan antara kecerdasan rohani terhadap efikasi diri. Secara keseluruhannya, model struktur kajian dengan 7 laluan menjelaskan 40.7% kecerdasan emosi, 21.2% efikasi diri dan 30.0% tingkah laku kesihatan.

Kajian ini telah memberi pencerahan baru tentang pengukuran efikasi diri melalui persepsi pelajar. Beberapa penyelidik telah mengenalpasti efikasi diri sebagai faktor penting dalam membuat ramalan tentang tingkah laku kesihatan (Mathumardhi & Suparna, 2016; Jamshidi et al., 2018) tetapi ianya tidak bermakna jika terdapat kekurangan dalam nilai kerohanian ((Mathumardhi & Suparna, 2016). Gabungan kecerdasan kerohanian dan efikasi diri menghasilkan pelajar yang berguna dalam masyarakat dan mengambil berat tentang amalan kesihatan. Justeru penyelidikan lanjutan perlu di teruskan untuk mengesahkan keputusan ini. Bagi melengkapkan lagi pengetahuan dalam bidang ini, perubahan paradigma rekabentuk penyelidikan disarankan dengan menggunakan rekabentuk eksplorasi berurutan (sekquential).

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I certify that a Thesis Examination Committee has met on the 26 April 2018 to conduct the final examination of Roxana Dev Omar Dev on her thesis entitled “Mediators of the relationship between spiritual intelligence and social support on health behaviours of undergraduates in Universiti Putra Malaysia” in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Doctor of Philosophy.

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LIST OF ABBREVIATIONS

AES	Assessing Emotions Scale
AGFI	Adjusted Goodness of Fit Index
AIC	Akaike's Information Criterion
AP	Appraisal
AVE	Average Variance Extracted
BE	Belonging
BC	Bias Corrected
CET	Critical Existential Thinking
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
CI	Confidence Interval
CR	Construct Reliability
CSE	Conscious State Expansion
EI	Emotional Intelligence
GFI	Goodness of Fit Index
GSES	General Self Efficacy Scale
HBM	Health Belief Model
HBQ	Health Behaviour Questionnaire
HS	Hazardous Substance
ISEL	Interpersonal Support Evaluation List
KC	Kolej Canselor
KMR	Kolej Mohamad Rashid
KOSASS	Kolej Sultan Alaeddin Sulaiman Shah
KPZ	Kolej Pendita Zaba
KTDI	Kolej Tun Dr. Ismail
KTP	Kolej Tun Perak
MOE	Manage Own's Emotions
N	Nutrition
NFI	Normed Fit Index
PA	Physical Activity
PMP	Personal Meaning Production
PNFI	Parsimony Normed Fit Index
POE	Perceive of Emotion
RMSR	Root Mean Square Residual
RMSEA	Root Mean Squares Error of Approximation
ROE	Regulate other's Emotions
S	Safety
SE	Self-Efficacy
SEM	Structural Equation Modelling
SET	Self-Esteem
SI	Spiritual Intelligence
SISRI	Spiritual Intelligence Self Report Inventory
SM	Stress Management
SS	Social Support
TA	Transcendental Awareness
TN	Tangible
TPB	Theory of Planned Behaviour
TRA	Theory of Reasoned Action

TTI	Theory of Triadic Influence
UOE	Utilize of Emotions
UPM	Universiti Putra Malaysia
USHBCF	University Students Health Behaviour Conceptual Framework
USHBM	University Students Health Behaviour Model



CHAPTER 1

INTRODUCTION

Thesis or dissertation is the final product for a study. It is the documentation of thought, decision and most critical of it, it is a logical reconstruction of a researcher for a researcher (Mouton, 2001).

1.1 Introduction

It is believed that life of a university student is different compared to life in the school (Sabbah, Sabbah, Khamis, Sabbah, & Droubi, 2013; Beck, Martens, Royland & Watson, 2005). This is due to vast responsibility borne by them alone when they are at the university. Students in higher education are perceived to be leading a healthy life style due to their level of education (Wang, Xing & Wu, 2013; Solberg, Asche, Boyle, McCarty, & Thoele, 2007). However, according to studies in the West, it is a mirage because more college students tend to be involved in unhealthy activities such as smoking, binge eating, binge drinking of alcohol and indulging in free sex (Tanton, Dodd, Woodfield, & Mabhala, 2015; Farhat, Iannotti, & Simons-Morton, 2010). This is worrisome since the probabilities of developing cancer and other chronic diseases are increased by such lifestyles as well as physical inactivity (Spring, King, Pagoto, Van Horn, & Fisher, 2015).

This scenario is also visible among Malaysian college students where 25.9% do not practice safe sex, 10.8% smokes since age of 15 years of age, 7% are involve in drunk driving and 19.3% travelled in cars driven by drunk drivers (Liew, Noor Illiati, Yii, & Siti Nadzrah, 2011). Likewise, study by Follasayo, Oluwasegun, Suhailah, Siti Nor Sakinah, Malina & Rukman (2017) that studied on undergraduates on two universities; Universiti Putra Malaysia and a private university; also demonstrated similar lifestyle among the students that are sexually active; 66.7% of the students had sexual intercourse with multiple partners, 18% had sex with commercial sex workers, 17.4% took alcohol before sex and 9.4% took drugs before having sex.

Could this then affect the aim of Vision 2020 negatively where the upcoming graduates are expected to be future leaders of high performance ability and high level thinkers? As we know, younger generation, especially university students is the pillar for the country's development. To achieve that, health attitude and behaviour among the students are greatly important. However, referring to past research, the risk of symptoms of negative health behaviours such as smoking, alcohol consumption, inactive and obesity among university students are on the rise (Al-Naggar, Bobryshev & Nor Aini, , 2013). The percentage of chronic diseases such as diabetes and heart disease is attributed to the symptoms of unhealthy behaviours (Nag & Ghosh, 2013; Yusuf et al., 2004) and indirectly resulted in declined of students' academic performance (So & Park, 2016; Ballantine, 2010; Gill, 2002; Trockel, Barnes, & Egget, 2000). Negative health symptoms will lead to the deterioration of graduate human capital and jeopardize the pride of Malaysians against this so called well-educated generation.

1.2 Background of Study

The university students are the future leaders for the next generation. Being successful in the university is a dream for every student which could be a determinant of future life. To achieve success, the student requires profound dedication, sacrifice from a variety of angles and levels, self-discipline, and be highly motivated (Salami, 2010). Besides busy attending lectures and complete assignments, the university students at the same time need to actively participate in activities at their own respective residential colleges to continue their eligibility boarding right. This could lead to stress and life under pressure (Ekpenyong, Daniel & Aribo, 2013; Kimball & Freysinger, 2003). Difficulties in overcoming the stress from the vast challenges faced can induce negative health behaviours, failures in academic performance as well as negative attitude towards learning (So & Park, 2016; Salami, 2010).

The problem of health behaviour among university students should be a concern as it can affect self image and self confidence (Piqueras et al., 2011) and indirectly may affect academic and activity performance in the university. The negative health behaviour among the university students might be a lifetime setback, at work, married life and old age (Quartiroli & Maeda, 2016; Huntsinger & Luecke, 2004). In conclusion, this negative behaviour will affect productivity, economy and prosperity of the country.

Identifying factors or decision that leads to the pattern of health behaviour can help in reducing the negative health behaviours among students (Waterworth, Pescud, Braham, Dimmock, & Rosenberg, 2015; Pritchard, Milligan, Elgin, Rush, & Shea, 2007; Huntsinger & Luecke, 2004). Among the health factors identified by past research was age (Deeds, Lombard, Michelmore & Teed, 2009; Rodham, Brewer, Mistral, & Stallard, 2006), gender (Deeds, Lombard, Michelmore & Teed, 2009; Charles & Walters, 2008), socio-economic status (Morgen, Bjørk, Andersen, Mortensen, & Nybo Andersen, 2008; Albery & Munafò, 2008), personality (Albery & Munafò, 2008; Habra, Linden, Anderson, & Weinberg, 2003; Williams, O'Carroll, & O'Connor, 2009), adherence (Dolan & Adler, 2006), health beliefs (Saunders, Attard, Cremona & Gatt, 2009; Naidoo & Wills, 2000), locus of control (van de Putte et al., 2005; Burkhart, Patricia Vernal; Rayens, 2005; Tokuda et al., 2007; Trento et al., 2008; Newman, Steed, & Mulligan, 2004), social support (Williams et al., 2008; Uchino, 2006; Von Ah, Ebert, Ngamvitroj, Park, & Kang, 2004), perseverance (Von Ah et al., 2004), emotional intelligence (Schutte, Malouff, Thorsteinsson, Bhullar, & Rooke, 2007; Tsousis & Nikolaou, 2005; (Saklofske, Austin, Galloway, & Davidson, 2007); Martins, Ramalho, & Morin, 2010), spiritual intelligence (Cotton, Larkin, Hoopes, Cromer, & Rosenthal, 2005); (Adeyemo & Adeleye, 2008), self-efficacy (Mizutani et al., 2012; Tehrani & Nikpour, 2014) and stress or pressure (Ng & Jeffrey, 2003).

According to WHO (2014), wholesome health is made up of physical, spiritual, intellectual, emotional, social and economic self which coincides with the National Philosophy on Education. Hence, it would be more meaningful to consider all these factors to study on health behaviours, apart from factors mentioned above. However, due to research constraints and limitations, the researcher chose the most important factors that would influence health behaviour among Malaysian undergraduate students. Hence, this study looked on emotional intelligence (EI), spiritual intelligence (SI), social

support (SS), and self efficacy (SE) on health behaviour (HB). EI and SI were selected because both factors are identified by many researchers as catalyst or deciding factors for total well-being and achieving successful life (Aminuddin, 2009). Aminuddin (2009) and many other studies (Sodhi, 2016; Madhumarathi & Suparna, 2017) have demonstrated that high EI and SI would promote individuals to be responsible for their health and practice positive health behaviours. Social support was selected as an influencing factor because according to findings of past studies university students would not be able to appreciate life or happiness and achieve excellence in academics without social support, especially from families and friends (Masten, Tušak, Zalar, & Zihlerl, 2009; Márquez, Martín, & Brackett, 2006). It was also found that those who were less sociable with friends and family are likely to have mental problems and health risk behaviour (Umberson & Montez, 2010). Finally, self-efficacy was also chosen as a deciding factor as it is deemed to be an important trait in the development of university students' health behaviour (Tehrani & Nikpour, 2014; Saksvig et al., 2005). From the study of Glanz, Rimer, and Lewis (2002), high self-efficacy can be a pillar to a lasting healthy lifestyle. Thus, self-efficacy was taken to be used as a mediator variable in this study.

The theoretical framework of the study is based on the Theory of Triadic Influence (TTI; Flay and Petraitis, 1994). TTI unifies multiple theories into a single framework where exogenous variables or the independent variables are grouped into three streams of influence and three levels of causation (Bavarian, Flay, Ketcham, Smit, Kodama, Martin & Saltz, 2014). The three streams of influence are divided to personality trait that influences self-efficacy (which is the intrapersonal stream), bonding attachment that influences behavioral norms (which is the social context stream) and cultural environmental that influences attitudes towards a behaviour (which is the sociocultural stream). The three levels of causation are ranged from ultimate causes (which has the least control over an individual for example politics, educational level and socioeconomic status), distal, and proximal. The ultimate-level causes are examples of derivation on parental values and cultural practices which varies widely from place to place. For example, urban dwellers would have different ultimate influence compared to rural dwellers. Ultimate level causes are relatively stable however they are the most influential; meaning that they are the most difficult cause to change which make a person who they are. For health behaviour, a change in the ultimate cause would most often have the greatest and longest-lasting effect. However, in this study no ultimate factors were looked at since the researcher were more interested in looking at factors or variables that could be easily changed or adapted in terms of health behavior while they are studying at the university. This is to assist in recommendation of programs in the university. Instead, distal and distal-proximal level influences were looked at which reflects the individual interaction between social situation, cultural environment and intrapersonal skills. The distal-level and distal-proximal level influence variables are likely to have a better chance for an individual to have a control over. Hence, in aligned with WHO (2014) definition of wholesome health and past research literatures; emotional intelligence, spiritual intelligence, social support were chosen.

In the context of this study; SI was chosen to meet the cultural and environment stream, SS was chosen to meet the social context stream and EI was chosen to meet the intrapersonal stream. Apart from that, self-efficacy (SE) was selected as it is a part of the proximal-level predictor of the TTI; which is the immediate precursor to health behaviour and is under the control of an individual, even though still influenced by the

distal and ultimate factors as mentioned earlier. Past research has shown that proximal variables included in the TTI such as self-efficacy are the predictive of health behaviours (Flay et al., 2009). In the present study, SE is set as the mediator which was referred with other studies (Darker, French, Eves & Sniehotta, 2010; Hyde, Hankins, Deale, & Marteau, 2008). EI was also set as mediator as showed in other studies (Jacobs, Wollny, Sim, & Horsch, 2016). Here, EI is selected as distal-proximal variable; different from the original TTI framework which termed EI as distal variable. As a note, this study termed SI and SS as exogenous variables, while EI, SE and HB as endogenous variables; meaning exogenous variables are the independent variables while endogenous variables are the dependent and mediator variables. Hence, the objectives of the study were referred in the manner of endogenous and exogenous variables.

1.2.1 Emotional Intelligence (EI) as a Factor

Health behaviours of students in a university are influenced by an important role attributed by emotional intelligence (EI) (Bhochhhiboaya & Branscum, 2015; Austin, Saklofske, & Egan, 2005). Study of EI has been done extensively based on two criteria: measurement of EI is not static and is subject to their individual capacity; result relates to EI are diverse, i.e. not focused on one element or condition (Austin et al., 2005). According to Salovey and Grewal, (2005), EI is the combination of the interaction between emotion and cognition. A more detailed explanation was given by Mayer, Salovey, and Caruso (2004). The EI model is made up of 4 abilities: perception of interpersonal and intrapersonal emotions, emotional use for decision making (regulations), understanding emotions and finally controlling self-emotions of others (Mayer, Salovey & Caruso, 2004). Furthermore, EI was described by Mayer, Roberts, and Barsade (2008) as the capacity to carry out accurate reasoning about emotions and the capability to use emotions and emotional knowledge to improve thought.

Students who have high EI was found to have lower risk of unhealthy behaviours such as smoking and alcohol consumption that was influenced by peer influence (Rivers, Brackett, Omori & Sickler, 2013; Trinidad & Johnson, 2002). In addition, high EI was also found to be a predictor for a greater awareness for adults to get medical support and counselling for those with psychological problems (Syqit-Kowalkowska, Syqit & Syqit, 2015; Ciarrochi & Deane, 2001). A meta-analysis study carried out by Meyer, Van Rooy and Viswesvaran (2004), also found similar results that EI could promote health status as well as health, wellness and stress management (Bar On, 2012; Schutte et al., 2007). Thus, EI is deemed to be a vital independent variable related to health behaviour.

1.2.2 Spiritual Intelligence (SI) as a Factor

Spiritual intelligence (SI) is an ability that is recently being introduced in the study of social sciences. According to Zohar and Marshall (2000), SI is an intelligent face that portrays the true meaning in various issues of life, namely the ability to deploy behaviour and one's life in a more meaningful context for oneself and also others. SI is related to the belief in the creator (*Hablum minallah*) and also the means of the highest intelligence (Zohar & Marshall, 2000). A high capacity of SI can improve well-being in which one can deal with stress efficiently and appropriately (Koshravi & Nikmanesh, 2014;

Santrock, 2002). Moreover, researches from Moalemi (2015) and Cotton et al. (2005) found that students who have high SI were less at risk in getting mental disorders such as depression and having negative health behaviours such as smoking and drinking. Thus, SI should also be given the same attention to curb negative health behaviours among university students.

1.2.3 Social Support (SS) as a Factor

The importance of social support to health has been presented by the study conducted by Berkman and Syme in early 1979. It was found that those who socialized less died earlier. A study by Uchino (2006) also found that there was significance negative relationship between the rate of incidence of disease and death with high social support. This was because social support can improve a person's physical and mental well-being (Xiao, Li & Stanton, 2014; Uchino, 2006). Hence, social support was also selected as one of the variables in the study.

1.2.4 Self-efficacy (SE) as a Factor

Self-efficacy plays a significant role in developing students' health behaviour (Tehrani & Nikpour, 2014; Saksvig et al., 2005). From the study from Glanz, Rimer, and Lewis (2002), found that high self-effectiveness can be a pillar to lasting healthy lifestyle. Thus, self-efficacy is taken in as a variable to be used as an intermediate variable in this study.

1.2.5 Conclusion

However, from previous studies most psychosocial factors that have been selected were conducted separately or analyzed in a separate model whereas all four determinant factors are mutually important in explaining health behaviour of the university students (Ogunsawa, Abiodun, Ayodele & Olanrewaju, 2014).

1.3 Problem Statement

It is undeniable that most university students have adequate intellectual ability. However, many of these students would not succeed and dropped out eventually in their studies and academic endeavor (Márquez et al., 2006). One of the reason for this failure is because the inability to handle stressors as a student and subsequently adopt unhealthy behaviours (Al-Naggar et al., 2013; Piqueras et al., 2011; Von Ah et al., 2004). Studies have shown that risky health behaviours like the practice of unsafe sex, alcohol consumption and excess consumption of sleeping pills can be harmful to health and therefore bring a variety of psychosocial problems for students including academic failure (Al-Naggar et al., 2013; Ham & Hope, 2003; Weschler et al., 2002; Hingson & Howland, 2002). This problem is also evident at Universiti Putra Malaysia (a study done on UPM and another university) as a study showed that among that are sexually active; 66.7% of the students had sexual intercourse with multiple partners, 18% had sex with commercial sex workers, 17.4% took alcohol before sex and 9.4% took drugs before having sex (Folasayo, Oluwasegun, Suhailah, Siti Nor Sakinah, Malina & Rukman, 2017). In addition, the negative health behaviours such as physical inactivity and

unhealthy diets also affect chronic disease to students such as obesity and diabetes mellitus that can be extended to the realm of employment, marriage and later in the lifetime (Quintiliani, Allen, Marino, Kelly-Weeder, & Li, 2010; Gordon-Larsen, Nelson, & Popkin, 2004). Also evident at Universiti Putra Malaysia where 16.6% medical students who reside on campus are obese and 3.3 % are overweight (Nor Afiah, Suriani, Abdul Hakim, Simmadorai, & Nor Shahida Akhma, 2014). Hence, through the study done by Folasayo et al. (2017) and Mohd Zulkefli et al. (2014) among undergraduates at Universiti Putra Malaysia, it showed that the scenario of risky health behaviours and unhealthy status of undergraduates do exist at Universiti Putra Malaysia. This could be a globalization effect of risky health behaviours among university students. Thus, if health behaviours are not given the appropriate attention at the university level, then the future generation would be unhealthy and a burden to the country.

Identification of factors influencing health behaviour should be based on the theory that is applicable to a variety of health behaviours (Noar, Chabot, & Zimmerman, 2008). However, most past research did not use a comprehensive framework when reviewing various health behaviours (Plotnikoff et al., 2009; Sanchez et al., 2007). Specific theories were being used such as the Health Belief Model (Becker, 1974), Theory of Reasoned Action (Ajzen & Fishbein, 1980) and Theory of Planned Behaviour (Ajzen, 1991). Thus, most of the relationship under reviewed was only done in single health behaviour and not staged as multiple health behaviours. To understand health behaviours, a more composite theory should be used (Alamian et al., 2012; Flay, 2002). Consequently, the researcher have chosen self-efficacy and emotional intelligence as part of the endogenous variables (mediators) in order to cover existing gaps, as well as taking into account the exogenous variables in this study i.e., spiritual intelligence (SI), social support (SS) and emotional intelligence (EI) which are distal variables while self-efficacy (SE) is the proximal variable from the Theory of Triadic Influence (TTI) (Flay & Petraitis, 1994). In the theory, EI was seen as distal variable however in this study it is hypothesized as distal-proximal as it's stand as a mediator. Therefore, a different approach from the traditional of the TTI theory that put EI, SI and SS on the same stream level was used. Hence, a new model will be formed from the TTI theory in which directly will have a contribution to the existing theory.

Based on the above scenario, there is a need to review the relationship between SI and SS as regard to the university students' health behaviours together with the relationship of their emotional intelligence and self-efficacy as mediators on health behaviours in a similar model to see how far all the psychosocial factors will contribute to health behaviours. As for the study, only undergraduates that reside in the UPM campus were selected as the main concern of the researcher as to see the patterns of health behaviours among undergraduates who stayed on campus to develop programs to the colleges involved. This is part of the main agenda of the university to develop a wholesome graduate as most of the undergraduates at UPM stays on campus (almost 95%).

1.4 Objectives of the Study

The main objective of the study is to develop a health behaviour model in terms of getting the path of relationships between the exogenous (independent) and the endogenous (dependent and mediators) variables. In order to have that achieved an investigation of relationships between Emotional Intelligence (EI), Spiritual Intelligence (SI), Social Support (SS) and Self Efficacy (SE) with health behaviours among undergraduate students in Universiti Putra Malaysia (UPM) was done. An investigation of relationship on emotional intelligence and self-efficacy as mediators in regards to the students' health behaviours in UPM was also looked at. The following statement "an endogenous variable treated as dependent in one set of variables may also be conceived as an independent variable in relation to other variables" (Pedhazur, 1982, pg.581) is taken into account in setting the objectives of the study.

Based on the above general objectives, four specific objectives have been developed as follows:

1. To examine the predictive factors that has relationships with the endogenous variables (dependent variables and mediators) among undergraduate students at UPM.
2. To investigate the role of self-efficacy as mediator for health behaviours among undergraduate students at UPM.
3. To investigate the role of emotional intelligence as mediator for health behaviours among undergraduate students at UPM.
4. To investigate the role of emotional intelligence as a mediator for self-efficacy among undergraduate students at UPM.

1.5 Hypotheses

Based on the objectives stated above, below are the null hypotheses concerned.

Objective 1

- H₀1: Spiritual intelligence has no significant relationship on health behaviours among the undergraduate students at UPM.
- H₀2: Spiritual intelligence has no significant relationship on self-efficacy among the undergraduate students at UPM.
- H₀3: Spiritual intelligence has no significant relationship on emotional intelligence among the undergraduate students at UPM.
- H₀4: Emotional intelligence has no significant relationship on health behaviour among the undergraduate students at UPM.
- H₀5: Emotional intelligence has no significant relationship on self-efficacy among the undergraduates at UPM.
- H₀6: Social support has no significant relationship on health behaviour among the undergraduates at UPM.
- H₀7: Social support has no significant relationship on emotional intelligence among the undergraduates at UPM.
- H₀8: Social support has no significant relationship on self-efficacy among

- undergraduates at UPM.
- H₀9: Self efficacy has no significant relationship on health behaviour among the undergraduate students at UPM.

Objective 2

- H₀10: Self efficacy do not mediates the relationship of emotional intelligence on health behaviour among undergraduates at UPM.
- H₀11: Self efficacy do not mediates the relationship of spiritual intelligence on health behaviour among undergraduates at UPM.
- H₀12: Self efficacy do not mediates the relationship of social support on health behaviour among undergraduates at UPM.

Objective 3

- H₀13: Emotional intelligence do not mediates the relationship of spiritual intelligence on health behaviour among undergraduates at UPM.
- H₀14: Emotional intelligence do not mediates the relationship of social support on health behaviour among undergraduates at UPM.

Objective 4

- H₀15: Emotional intelligence do not mediates the relationship of spiritual intelligence on self-efficacy among undergraduates at UPM.
- H₀16: Emotional intelligence do not mediates the relationship of social support on self-efficacy among undergraduates at UPM.

1.6 Significance of the Study

1.6.1 Contribution to theory

There are various theories that apply to health behaviour. Few insist on the cognitive/affective proximal factors such as attitudes, norms beliefs, self-efficacy and intent (Ajzen, 1991; Fishbein and Ajzen, 1975). Meanwhile, few uses the theory that focuses on the ultimate factor or the cause/causes such as the environment (Biglan, 2004), social (Magnusson, 1981), and biological (Frankenhaeuser, 1991) or personality (Digman, 1990; Zuckerman et. al., 1990). Others use the theory that focus on more distal factors such as social support and interpersonal, relationship connection process (Elliott, et. al., 1985; Oetting and Beauvais, 1986) or the theory that leverage social learning process factors (Akers, Krohn, Lanza-Kaduce, & Radosevich, 1979; Bandura, 1977). The use of the above theories are suitable for studies in investigating single influential factors, which are proximal, distal or ultimate factors but not a combination of two or three factors (Flay, Snyder, & Petraitis, 2009). Thus, there is a gap in previous studies for not using a comprehensive theory to understand the wholeness factors in health behaviour.

In addition, most of the previous studies did not use a comprehensive theoretical framework in health behaviour as it should be reviewed (Plotnikoff et al., 2009; Sanchez et al., 2007). Mostly using the theory of Health Belief Model (Becker, 1974), Theory of Reasoned Action (Ajzen & Fishbein, 1980) and Theory of Planned Behaviour (Ajzen, 1991) which is a theory that is suitable for specific health behaviours, not comprehensive. This is critical because the identification of factors that influence a variety of health behaviours should be made based on a theory that could include a variety of health behaviours (Noar et al., 2008). Thus, questions need to be answered through theories such as "why individuals engage in regular physical activity, a balanced diet and not smoking while some are not? but most can only answer "Why does he smoke? Hence, these questions cannot be answered inclusively for multiple health behaviours. Thus, the Theory of Triadic Influence (Flay & Petraitis, 2010; Flay & Petraitis, 1994) which is a comprehensive theory-based on ultimate influence, distal and proximal was used.

This study will describe the contribution of psychosocial factors associated with EI, SI, SS, and SE on health behaviour among university students, where self-efficacy and emotional intelligence are the mediator variables. Previously, there were no studies that review the variables proposed in the conceptual framework-model in a comprehensive manner, especially in Malaysia. In order to overcome this gap, this study uses an integrated approach through Structured Equation Modeling to analyze all the variables in the study and simultaneously determine the relationship between related variables.

1.6.2 Contribution to Policies and Practices

Through the results or findings of the study, there are various parties that are expected to get the benefits. Firstly, those who would hopefully benefit are the students of the university. Second would be the education institution, namely the Ministry of Higher Education and universities involved. This is the main intention of the researcher to carry out this study in order to increase awareness of all relevant parties to ensure a future healthy generation in order to carry the nation's obligation as a developed country. Good health is important so that productivity will be achieved to the fullest. Hence, this study could serve as a useful input to the Ministry and many Malaysian universities to formulate or strengthen the current intervention programmes.

In addition, lecturers also should take note on the seriousness of health behaviour and attitudes of students attending their lectures. This is because the lecturer is the closest to the student besides their peers in the university. The responsibility of the lecturer is not only restricted to deliver knowledge but also in developing the student as well. This research allows lecturers in managing negative health behaviour of a student effectively by imparting suggestions proposed by the researcher of the study.

Next, parents and guardians can also benefit from this study and use as a reference and guidance to overcome negative behaviour among university students by providing appropriate social support. In addition, the study also helps parents to understand their children's behaviour and find effective interventions toward positive health behaviours. Besides providing the role model and a conducive home environment, hopefully the

culture of strong family bonding would also strengthen the individual health behaviour, along with emotional and spiritual intelligence as well. Thus, a more wholesome graduate could be produced, which is glorious in personality and moral character (in relation with health behaviour) and also cognitive ability.

1.7 Scope of the Study

There are several determinants that influenced health behaviour from the health behaviour theory i.e. biological, psychological, social and cognitive (Sutton, 2004). Sutton (2005) and Flay (1997) also said that the decisive factors for this behaviour may be due to the ultimate, proximal or distal factors. Proximal decisive factor on behaviours will influence the behaviour directly (closest) while distal is indirectly, where it requires intermediate variables (Sutton, 2005) and the ultimate-level causes are broad but relatively stable, that individuals have little control over such as their cultural environment. For this study, the determinants selected, i.e. SI and SS are the types of distal variables that span most of the psychological variable factors in the Malaysian National Education Philosophy. EI was chosen as a distal-proximal variable compared to just a distal variable from the TTI framework. This is because the researcher hypothesizes that EI stands between distal and proximal and its importance as a mediator in this study. Besides that, the prior factors were chosen because there has been no previous study that observes the factors in a group and also these factors are included in the World Health Organization (2014) as factors for wholesome individual being. Prior to this, there are a few studies conducted outside the country which studied the impact of EI, SI and SS towards health behaviour as a separate entity. In addition, SE and EI were seen as mediator variables on health behaviour of university students.

Furthermore, the population that was used in the study was undergraduates that reside in Universiti Putra Malaysia campus only. This was because almost 95% of the total students that studied at UPM during the first and second semester of 2015-2016 resided in campus. This is similar to many research universities in Malaysia. Many past researchers looked at students who stayed on campus and most were in risk of having negative health behaviours. Most importantly, the researcher decided to just concentrate on the undergraduates who stayed on campus to suggest promotive health programs based on psycho-social balance program to the university residential community.

1.8 Limitations in the Study

Limitations to the study are listed below. The rationalization of the study's limitations is as follows:

1. The data obtained from the questionnaires or instruments that were based on the respondents' self-report on the items provided. Therefore, the reliability of the data is dependent on the sincerity and determination of the respondents. However, this issue was controlled by researchers by briefing the significance of the study, especially in terms of responding honestly to each item in the instrument as well as the confidentiality of respondents' answers that was guaranteed by the researcher.

2. The sample taken for this study is from students living in the dorms or residential colleges from one public university. Thus, the data obtained cannot be generalized to all university students in this country. This is done to see the patterns of health behaviours among undergraduates who stayed on campus to develop programs to the colleges involved. This is part of the main agenda of the university to develop wholesome graduates as most of the undergraduates at UPM stays on campus (almost 95%). Nevertheless, the findings of this study can still provide legitimate and useful interpretation of the variables studied.

1.9 Definition of Terms

In this study, certain terms will be used to represent the variables. The terms are as follows:

1.9.1 Health behaviour

Health behaviour is a behaviour that could affect or perceived to affect one's physical health (Sutton, 2004, p 94). Conner and Norman (1996) also interpret health behaviours as activities taken to prevent or detect illness or to improve the wellbeing of health and wellbeing. Gochman (1997) has defined health behaviour as a habit or behavioral health pattern for the purpose of maintenance, recovery, and improvement. Meanwhile, Kasl and Cobb (1966) interpreted the behavioral health as a primary precaution that occurred before being exposed to any illness with the aim of maintaining the physical or mental health wellbeing. Additionally, according to Conner (2002), health behaviour can be seen in two ways that is positively and negatively. Positive behaviours are behaviours that enhance one's health status while negative behaviour is a risky behaviour that is harmful to health (Conner, 2002)

Based on the above opinions, in conclusion, health behavior within the scope of this study means a behaviour that can positively and negatively affect one's physical, mental and mental well-being. In the context of this study, both promotive and risky health behaviour was used, however, for technical ease, all risky health behaviour like smoking, drug use and alcohol consumption will be forwarded in a promotive behaviour statement such as "I do not smoke for the last 30 days". The selection of behaviours used in the study are usually based on the usual measurements made on university students as suggested by Dong, Xing and Wu (2012); Steptoe, Wardle, Vinck, Tuomisto, Holte and Wichstrom (1994); Belloc and Breslow (1972). In the context of this study, the instrument used is *Health Promoting Behaviour Questionnaire* is an adaption of *Health Lifestyle* instrument from Bobroff (2015) and the United States Public Service Department, which has 32 items.

1.9.2 Emotional Intelligence (EI)

EI is the capability in controlling self as well as others' emotions, to distinguish between emotions while using that understanding in monitoring their thoughts and emotions. Mayer and Salovey, 1997). According to Mayer and Cobb (2000) EI is interpreted as

the ability to process emotional information and define it to perceptions, attitudes, emotions and emotional management.

In the context of this study, the EI instrument used is the Assessing Emotions Scale (AES, Schutte, Malouff, & Bhullar, 2009) which contains 33 items in which each item is presented based on dimensions of emotional intelligence model developed by Mayer and Salovey (1997).

1.9.3 Spiritual Intelligence (SI)

According to King and DeCicco (2007), SI is a rule of adaptive mental capacity that is based not on material but entirely on the existence of God and its dependent environment. According to Zohar and Marshall (2000), SI is an intellect with real meaning in various issues in life that is the ability to place one's behaviour and life in a more meaningful context in both ourselves and others. In other words, SI is related to the relationship with the creator (Hablum minallah) and is also the highest intelligence (Walsh, 2000). In the context of this study, the instrument used is the Spiritual Intelligence Self Report Inventory (SISRI; King, 2008) which has 24 items and four main domains.

1.9.4 Social support (SS)

According to Umberson and Montez (2010) social support is a quality support network in a relationship (for example to be loved and preserved). According to Masten, Tusak, Zalar and Zihler (2009), social support can be obtained from various informal sources of communication between individuals. According to Uchino (2006) social support is a social structure and the provision of services for the life of an individual. In the life of a student, social support often involves parents, lecturers and peers (Cohen, 1983). Thus, in the context of this study the Interpersonal Support Evaluation List (ISEL)-48 from Cohen, Mermelstein, Kamarck and Hoberman (1985) was used.

1.9.5 Self-efficacy (SE)

It has been identified that health behaviours and changes in health behavior are determined by self-efficacy (Holloway & Watson, 2002). By definition, self-efficacy is the level of one's confidence in the ability to behave in a certain way to get the desired outcome (Bandura, 1995). In other words, self-efficacy is the stage in which an individual sees his or her own ability to control behaviour (Bandura, 1986; Bandura, 1977). In some theories of behavioral health (Ajzen, 1991; Ajzen 2002; Flay & Petraitis, 1994), one's perception of behaviour control is a proxy for actual control measures. Thus, self-efficacy not only identifies behaviour but also indirectly determines through its effect on intentions. Therefore, for this study the Generalized Self Efficacy Scale (Schwarzer & Jerusalem, 1993) was used.

1.10 Summary

Through the discussions made in this chapter, in terms of the direction, goals and objectives of the study it can be concluded that the researcher would like to determine if EI, SI, SS and SE will affect the health behaviour of students in a public university in Malaysia. Referring to the problems posed by the researcher, it is very critical for the study to be done at the selected university.

In fact, through this research it is hoped that it will help in integrating some of the important qualities that need to be applied in student developmental skills apart from the standard curriculum of tertiary institutions i.e. from the form of spiritual intelligence, emotional intelligence, social support and self-efficacy.



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