



The relationship between the four foundations of mindfulness (Satipatthāna) and mental health development

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Abstract

Buddhism is a religion that focuses on observing precepts (Morality or ethics) to maintain physical and verbal peace and practicing meditation to improve mindfulness, to create a peaceful mind and cultivate wisdom in order to cope with mental defilement and suffering. The objective of this paper was to investigate a relationship between the four foundations of mindfulness and mental health development. Quantitative research method was applied in this study. The research questionnaire was used as an instrument to collect data. Data were collected from 350 participants in Bangkok who practice the four foundations of mindfulness in daily life. Statistics used in this study consisted of percentage, mean, standard deviation, Pearson Correlation, and Stepwise Multiple Regression Analysis. The research findings showed that most participants always practice Kāyānupassanā (KAY) (Contemplation on breathing in and breathing out) to develop their mental health. The four foundations of mindfulness were positively related with mental health development. KAY (Contemplation on breathing in and breathing out) was highly related to mental health development. Dhammānupassanā (DHA) (Contemplation on the truth of life) had the highest influence on mental health development.

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Introduction

Buddhism prioritizes mental health development through an implementation of the four foundations of mindfulness (Satipatthāna 4) with purposes to improve bodily and verbal peace, to calm the mind, and to cultivate insight and wisdom in order to attain eternal peace and happiness (Nirvana). Channuwong, Ruksat, and Ploychum (2018) described that most important religious activities

in Buddhism such as merit conduct, meditation practice and wisdom fulfillment must be conducted effectively with mindful awareness and mindfulness. Williams, Leumann, and Cappeller (2004) found that the term “mindfulness” is originally associated with Buddhist psychology; it comes from the Sanskrit word “Smṛti,” which literally means “that which is remembered.” From this sense, Shapiro and Carlson (2009) and Black (2011) defined the meaning of mindfulness as “remembering to pay attention to our present moment experience.”

In Mahāsatipatthāna Suttanta (Setting up of mindfulness), the Buddha taught his disciples about the four foundations of mindfulness in that “The one and only path leading to

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the purification of beings, to passing far beyond grief and lamentation, to the dying-out of ill and misery, to the attainment of right method, to the realization of Nirvana, is that of the fourfold setting up of mindfulness” (Pali Text Society, 2013). Practitioners can practice meditation through the four foundations of mindfulness. There are four kinds of benefits which practitioners can achieve from meditation i.e. happiness in the current life, vision of the truth through special knowledge, completion of mindfulness and consciousness, and cessation of mental defilement (Mahachulalongkornrajavidyalaya, 1996). Therefore, the four foundations of mindfulness can be implemented to develop mental health. In this regard, Phrakhrubhavanasangvorakij (2015) found that the practice of self-development according to the four foundations of mindfulness is one of the main and core teachings of Buddhism that is the direct way to improve mental health and purify the mind, to overcome sorrow and lamentation, to extinguish suffering and grief, and to attain Nirvana, which is the ultimate goal of Buddhism. Practicing meditation through the four foundations of mindfulness can help improve the mind to be calm, free from stress and attain higher state of mental happiness.

Mental health is one of the hottest issues today because it has a direct impact on life quality and well-being of people in the whole world (Rungreangkulkij, 2010). In Thailand, the Thai government is trying to improve mental health of the people by enacting and legislating the National Mental Health Act, which aims to prevent Thai people from mental illness, and many hospitals are built to help heal people affected by mental disorders (Department of Mental Health, 2018). However, due to the rapid changes in the world that create many problems such as family problem, financial problem, social problem, economic problem, political problem, natural disasters, and even the outbreak of a pandemic disease, the National Mental Health Act is only a guideline, which must be implemented strictly to cope with mental health problems. The problems of this National Mental Health Act may be caused by a lack of enforcement agency to control, follow up and evaluate its implementation. The life of human beings consists of body and mind, which depend on each other. Physical health has a direct effect on mental health, and mental health also has a direct effect on physical health. Physical health is a condition of the body that is free from diseases, and full of energy and strength, in which each part of the body is in good condition, having strength, and ability to function well with other organs of the body. On the other hand, mental health is the ability of a person to adjust himself or herself to have a positive feeling, a joyful and

happy mind to live in the community, society and surrounding environments. As a majority of Thai people adhere to Buddhism, the researchers strongly believe that the teachings of Buddhism can help the Thai people to develop their mental health through various kinds of meditation practice.

Mental health is an integral and essential component of health. The World Health Organization [WHO] Constitution states that health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. An important implication of this definition is that mental health is more than just the absence of mental disorders or disabilities. Mental health is a state of well-being in which an individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and is able to make a contribution to his or her community (World Health Organization, 2014). Channuwong, Ruksat, and Ploychum (2018) found that mental health development can be developed through the four foundations of mindfulness. By contemplation on body, practitioners will be able to be aware of each bodily movement at the present moment, and will perform activities and duties correctly and accurately. By contemplation on feeling, practitioners will be able to realize the feeling of happiness, unhappiness and neutrality. They will know how to transcend negative feeling and maintain positive feeling all the time. By contemplation on the mind, practitioners will be able to control their mind and emotions to be unshaken by unsatisfactory events, to focus and concentrate on one point, and to generate mental energy and willpower. By contemplation on Dhamma (the truth of life), practitioners will be able to understand the reality of things, the causes and reasons of the nature of life, and the causes and extinction of suffering. Moreover, practitioners will be able to accept the truth of life; they will really understand problems and ways to solve the problems with insight and wisdom.

Based on the Buddhist perspectives as mentioned above, the researchers strongly believe that the four foundations of mindfulness can be integrated and implemented to develop mental health.

Literature Review

The four foundations of mindfulness (Satipatthāna) were popularly practiced to develop the mind during the time of the Lord Buddha. The details about the four foundations of mindfulness can be summarized as follows: (1) Kāyānupassanā Satipatthāna: One should

contemplate the body as of it composed of substances and elements i.e. earth, water, wind, and fire. When these are combined together, they are called “the body.” When they are separated, it is non-self, and cannot be called “the body” anymore.; (2) *Vedanānupassanā Satipatthāna*: One should contemplate feeling as it is, for example, feeling of happiness, feeling of unhappiness, and feeling of neutrality. This feeling is non-self; it is just what is made up of emotions.; (3) *Cittānupassanā Satipatthāna*: One should contemplate the mind as it is made up of our thoughts and emotions, and it is non-self. (4) *Dhammānupassanā Satipatthāna*: One should contemplate the truth that everything in the world is impermanent; it occurs, lasts at one moment, and comes to extinction (Mahachulalongkornrajavidyalaya, 1996).

Kabat-Zinn (1991) stated that mindfulness means paying attention in a particular way, on purpose, in the present moment, and nonjudgmentally. Naik, Harris, and Forthum (2019) found that we can take a minute to stop everything we are doing by paying attention and focusing on our breath in order to improve mindfulness. Mindful awareness has three key features: (1) Purpose--mindfulness involves directing your attention intentionally and purposefully rather than letting it wander; (2) Presence—mindfulness involves being aware and attentive to the present moment. If thoughts about the past and future arise, just simply recognize as they are occurring in the present; and (3) Acceptance-mindfulness involves being nonjudgmental towards whatever arises in the moment. This means that sensations, thoughts, and emotions are not judged as good or bad, pleasant or unpleasant. Practitioners just simply notice them as “happening”, and observe until they eventually “pass.”

Phra Brahmaganabhorn (P.A. Payutto) (2009) explained that “*Satipatthāna*” means setting mindfulness, using mindfulness or awareness for the great benefits of practicing meditation. Practicing the four foundations of mindfulness is a very popular method in Buddhism because this kind of meditation can give both tranquility and be insightful meditation. Practitioner may practice tranquility meditation until reaching a state of serene contemplation (*Jhāna*), and then continue insightful meditation.

Three ideas that are important for the improvement of mental health are derived from the following definitions: Mental health is an integral part of health, mental health is more than the absence of illness, and mental health is intimately connected with physical health and behavior (World Health Organization, 2004). Mental or mind development is one of the most important teachings in Buddhism. There are two kinds of development i.e. physical and mental development, but Buddhism places

importance on mental development more than physical (Channuwong, 2010). Teerapaopong (2019) described that mind development is the most important technique to create happiness and peace of mind itself, which has a positive effect on mental health.

Mental health is the well-being of our mind, our feeling, and society. Mental well-being is a positive perception related to emotional, psychological, and social well-being of individual in the community (Keyes, 2005). Sartorius (1990) mentioned that neither mental nor physical health can exist alone. Mental, physical, and social functioning are interdependent. Furthermore, health and illness may co-exist. They are mutually exclusive only if health is strictly defined in the way as the absence of disease. Muijeen (2015) found that having good health is one of the most important factors and favorably wanted by people in the current world. Having good health means having social well-being without any conflict, and having mental and physical well-being without any illness. For Thai people, mental health means having a good and happy life resulting from the ability to cope with many problems in daily life, including capability to develop oneself to have a better life both mentally and physically.

Purposes of The Study

1. To study the implementation of the four foundations of mindfulness of participants.
2. To study mental health development of participants.
3. To study a relationship between the four foundations of mindfulness and mental health development.
4. To study the influence of the four foundations of mindfulness on mental health development.

Research Hypotheses

Considering the details of conceptual framework from the literature survey, we proposed the following research hypotheses:

Ha1: There is a relationship between the four foundations of mindfulness and mental health development.

Ha2: The four foundations of mindfulness have an influence on mental health development.

Methodology

Research Design

This study used a cross-sectional survey with a quantitative method to explore a relationship between

the four foundations of mindfulness and mental health development. The study examined the relationship and an influence of the four foundations of mindfulness on mental health development. In this study, independent variables are the four foundations of mindfulness comprising of: (1) Kāyānupassanā (KAY) (Contemplation on breathing in and breathing out); (2) Vedanānupassanā (VED) (Contemplation on feelings); (3) Cittānupassanā (CIT) (Contemplation on the mind); and (4) Dhammānupassanā (DHA) (Contemplation on the truth of life); and dependent variables are mental health development (MHD) comprising of: (1) mental happiness; (2) mental intelligence; and (3) mental capability. The concepts about the four foundations of mindfulness were derived from one of the main and important teachings of the Buddha as appeared in Mahāsatipatthāna Suttanta (Setting up of mindfulness) (Mahachulalongkornrajavidyalaya, 1996), whereas, the concepts about mental health development were derived from the World Health Organization (World Health Organization, 2014) and Department of Mental Health (Department of Mental Health, 2018).

Participants

The population in this study was Buddhist people who resided in Bangkok and practiced the four foundations of mindfulness in daily life in the Willpower Institute of Wat Dhammamongkol, Wat Mahathat and Wat Paknam. Since the size of the population was about 9,000 people, the researchers calculated the sample participants by using the formula of Taro Yamane, and 383 samples were obtained.

Research Instrument

The research instrument used in this study was a research questionnaire. The questionnaire consisted of the following parts: Part 1 included 7 questions concerning quantitative measures of demographic profiles of participants; Part 2 included 16 questions concerning the opinions of respondents with regard to the four foundations of mindfulness for mental health development in the form of five levels of Likert Scale; Part 3 included 15 questions concerning the opinions of respondents with regard to mental health development in the form of five levels of Likert Scale. The researchers used the questionnaire regarding the four foundations of mindfulness and mental health development to try out with 30 specific samples in order to find the reliability using the alpha coefficient method of Cronbach. The reliability coefficient was

0.948, which means that the questionnaire was reliable and could be used in this study.

Data Collection and Analysis

The research instrument was used to collect data. Data were collected during May to August 2019. Convenience sampling was used in this study. The researchers distributed 383 research questionnaires to the targeted samples who were Buddhist people practicing the four foundations of mindfulness in the three branches of meditation centers: Willpower Institute of Wat Dhammamongkol, Wat Mahathat and Wat Paknam, and 350 questionnaires were returned, which can be calculated as 91.38 percent. Both descriptive and inferential statistics were used in this research. Descriptive statistics included frequency, percentage, mean and standard deviation. Inferential statistics included Pearson Correlation, and Stepwise Multiple Regression Analysis. Collected data were analyzed using SPSS AMOS Program Version 23.

Results

In this section, we presented the research results in the following four parts:

Part 1: The Opinions of Respondents on The Implementation of The Four Foundations of Mindfulness in Mental Health Development

In this part, we analyzed the opinions of respondents on the implementation of the four foundations of mindfulness in mental health development. The research results showed that the opinions of respondents on the implementation of the four foundations of mindfulness in mental health development were at high level ($\bar{X} = 4.14$, $SD = 0.57$). In particular, KAY (Contemplation on breathing in and breathing out) had the highest mean value ($\bar{X} = 4.16$, $SD = 0.64$), followed by DHA (Contemplation on the truth of life), CIT (Contemplation on the mind), and VED (Contemplation on feelings) ($\bar{X} = 4.15$, $SD = 0.70$), ($\bar{X} = 4.14$, $SD = 0.63$), and ($\bar{X} = 4.10$, $SD = .64$) respectively (Table 1).

Part 2: The Results of Analysis of Respondents' Opinions on Mental Health Development

In this part, we analyzed the opinions of respondents on mental health development. The research results showed that the opinions of respondents on mental health development were at high level ($\bar{X} = 4.17$, $SD = 0.52$).

In particular, mental happiness had the highest mean value ($\bar{X}=4.22$, $SD=0.54$), followed by mental capability ($\bar{X}=4.11$, $SD=0.60$), and mental intelligence ($\bar{X}=3.95$, $SD=0.55$) respectively (Table 2).

Part 3: The Results of Analysis on The Correlation between The Four Foundations of Mindfulness and Mental Health Development

Ha1: There is a relationship between the four foundations of mindfulness and mental health development.

In this part, we analyzed a relationship between the four foundations of mindfulness and mental health development. With regard to the internal correlation between the variables of the four foundations of mindfulness and mental health development, the results showed that the internal correlation was positive, which means all four variables had a relationship in the same direction with statistical significance at .01, and the correlation value between .905 and .952. The highest correlation was a relationship between CIT (Contemplation on the mind), and DHA (Contemplation on the truth of

life). The correlation between the four foundations of mindfulness and mental health development ranged from .759–.791, where the highest correlation was a relationship between KAY (Contemplation on breathing in and breathing out), and mental health development (Table 3).

Part 4: The Results of Analysis on The Prediction Equation of The Four Foundations of Mindfulness That have An Influence on Mental Health Development

Ha2: The four foundations of mindfulness have an influence on mental health development.

The results of Multiple Regression Analysis with Stepwise Method showed that the variables of the four foundations of mindfulness had an influence on mental health development with statistical significance at the level of .01. The forecasting equation from multiple regression analysis can describe the influence of the four foundations of mindfulness on mental health development at 96.8 percent ($R^2 = .968$), the remaining 3.2 percent was the result of other variables which were not taken into account in this study (Table 4).

Table 1 Mean and standard deviation of respondents' opinions on the implementation of the four foundations of mindfulness in mental health development

Four foundations of mindfulness	\bar{X}	SD	Level	Ranking
1. KAY (Contemplation on breathing in and breathing out)	4.16	0.64	High	1
2. VED (Contemplation on feelings)	4.10	0.64	High	4
3. CIT (Contemplation on the mind)	4.14	0.63	High	3
4. DHA (Contemplation on the truth of life)	4.15	0.70	High	2
Total Average	4.14	0.57	High	

Table 2 Mean and standard deviation of respondents' opinions on mental health development

Mental health	\bar{X}	SD	Level	Ranking
1. Mental happiness	4.22	0.54	Highest	1
2. Mental intelligence	3.95	0.55	High	3
3. Mental capability	4.11	0.60	High	2
Total Average	4.09	0.56	High	

Table 3 The correlation between the four foundations of mindfulness and mental health development

Variables	KAY	VED	CIT	DHA	MHD
KAY	1	.933**	.926**	.905**	.791**
VED		1	.952**	.927**	.759**
CIT			1	.944**	.783**
DHA				1	.789**
MHD					1

Note: ** $p < .01$.

Table 4 Multiple Regression Coefficients of the four foundations of mindfulness that have an influence on mental health development

Variables of the four foundations of mindfulness	Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	<i>p</i>
	<i>b</i>	SE	β		
(Constant) (a)	.805	0.043		18.729**	.000
DHA (Contemplation on the truth of life)	.694	0.050	1.000	13.820**	.000
CIT (Contemplation on the mind)	.248	0.011	.337	21.821**	.000
KAY (Contemplation on breathing in and breathing out)	.170	0.038	.244	4.517**	.000
VED (Contemplation on feelings)	.150	0.039	.216	3.858**	.000
$R^2 = .968$			Adjusted $R^2 = .967$		

Note: ** $p < .01$.

The forecasting equation of the four foundations of mindfulness that have an influence on mental health development can be written in the form of standard scores as follows:

$$\begin{aligned} \text{Standard Score: MHD} &= 1.000(\text{DHA}) & (1) \\ &+ .337(\text{CIT}) & (2) \\ &+ .244(\text{KAY}) & (3) \\ &+ .216(\text{VED}) & (4) \end{aligned}$$

Discussion

The opinions of respondents on the implementation of the four foundations of mindfulness in mental health development are at high level. Most participants always contemplate on breathing in and breathing out to develop mental health. The results of this study are relevant to the study of Akkaviriyo (2011) which found that most practitioners always practice Kāyānupassanā (Contemplation on breathing in and breathing out) because this technique is the easiest way to practice in order to create mindfulness and control the mind to concentrate on one point and increase mental capability. Contemplation on breathing in and breathing out can help practitioners to concentrate the mind on one point and to enter deep meditation and tranquility, which can increase mental happiness. In this regard, Scott (2018) also found that there are many meditation techniques to improve mindfulness; any activity that you perform where you stay fully present, completely and non-judgmentally rooted ‘in the now’ can count as mindfulness meditation technique, and when practiced regularly, can improve both physical and mental health. Mindfulness meditation can increase mental intelligence, an insight wisdom within oneself to solve problem with self-awareness, reasoning, planning, creativity and critical thinking. The opinions of respondents regarding mental health

development were at high level. Most respondents place importance on mental happiness which provides benefit to physical and mental well-being, and work achievement. The results of this research are relevant to the study of McGorry and Mei (2018) which found that mental health provides health benefits to the populations during crisis events and major emergencies. In this regard, World Health Organization (2014) described that mental health and well-being are fundamental to our collective and individual ability as humans to think, emote, interact with each other, earn a living and enjoy life. Mental health can be regarded as a vital concern of individuals, communities and societies throughout the world. In addition, Chong, Koh, Nazri, Ibrahim, and Rahim (2020) found that the practice of social capital toward people in general would contribute to a higher level of subjective well-being and the subjective well-being of youth is influenced by both generalized social capital (GSC) and health behavior.

With regard to the correlation between the four foundations of mindfulness and mental health development, KAY (Contemplation on breathing in and breathing out) was highly related to mental health development. The results of this research are relevant to the study of Na Nakorn and Vijittadhammo (2019) which found that contemplation on breathing in and breathing out can be implemented to purify the mind, to create physical and mental happiness and to increase mental capability. It can help practitioners to realize and accept the truth of life, and have a good understanding about the threefold characteristics which define that everything in the world is impermanent, full of suffering, and non-self. With regard to the four foundations of mindfulness that have an influence on mental health development, DHA (Contemplation on the truth of life) had the highest influence on mental health development. The results of this research are relevant to the study of Mahasrisayado (2006) which found that contemplation on the truth of life

can help practitioners to realize the nature of life, one's mind and emotion, avoid being worried with life events, free oneself from emotions that are the sources of suffering, and think of only emotions that makes him or her happy and joyful. Contemplation on the truth of life can also help to increase mental capability, the ability of one's mind to transcend negative feeling, maintain positive feeling and to overcome difficult problems and obstacles.

Conclusion and Recommendations

The four foundations of mindfulness can be implemented to develop mental health i.e. mental happiness, mental intelligence and mental capability. Moreover, the four foundations of mindfulness have the following benefits: KAY can help practitioners to be aware of each bodily movement and the present moment. VED can help practitioners to realize their feelings, and to transcend negative feelings and maintain positive feelings. CIT can help practitioners to control their mind and emotions to be unshaken by unsatisfactory events. DHA can help practitioners to understand the reality of things and to accept the truth of life. Therefore, people should pay much attention on practicing the four foundations of mindfulness to increase happiness in daily life and in the workplace, and to improve their physical and mental health.

Conflict of Interest

There is no conflict of interest.

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