CHAPTER II
LITERATURE REVIEW

This chapter provides information about empirical evidence from literature related to this study. It includes definitions, concepts, and theories. The literature is critically reviewed and summarized in connection to the conceptual framework in this study. The topics are organized into two parts as follows:

2.1 Mental health
- 2.1.1 Definitions of mental health
- 2.1.2 Mental health and older adults
  - 2.1.2.1 Physiopsychosocial change among older adults
  - 2.1.2.2 Healthy or successful aging
  - 2.1.2.3 Mental health: Biopsychosocial approach
  - 2.1.2.4 Mental health in cultural-religious aspects

2.2 Measurement of mental health
- 2.2.1 Measurement development
- 2.2.2 Existing instruments of mental health for older adults
- 2.2.3 Gaps of existing mental health

2.1 Mental health

Mental health has been defined as a dimension of health that shifts over time. Especially in the previous time, mental health among older adults focused on mental distress because of health impairment and socioeconomic change, so making them more dependent people. However, in the present mental health framework, these older adults are interested in the worldwide concept of healthy or successful aging to cope with stress and maintain balance in their life.

2.1.1 Definition of mental health

Several definitions of mental health are given by different experts as follows:

For the World Health Organization [WHO], mental health is defined as a dimension of health; health is a state of complete physical, mental and social dimensions and not merely the absence of disease or infirmity (WHO, 1994 cited in WHO, 1996). Within this statement, mental health emphasizes positive mental health as one aspect of health.

The U.S. Surgeon General's report defined mental health as the absence of psychopathology the same as health is "an absence of disease or illness" (Office of the Surgeon General, U.S. Public Health Service, 1999, p.4). Donaldson and Colleagues (2003) defined mental health as "overcoming difficulties without suffering major distress, abnormal or disturbed behavior. It is a state in which a person is able to fulfill an active functioning role in society, interacting with others."

Myers, McCollam, and Woodhouse (2005) stressed mental health as "the emotional and spiritual resilience which allows us to enjoy life and to survive pain, disappointment and sadness. It is a positive sense of well-being and an underlying belief in our own and others' dignity and worth."

In addition, Herrman (2001) defined mental health as "the ability of people to think and learn, and the ability to understand and live with their own emotions and the reactions of others".

Whereas, WHO defined mental health as "a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stress in life, can work productively and fruitfully, and is able to make a contribution to his or her community" (WHO, 2001 a, p.1).

In Thailand, the definition of mental health was proposed by Sangsinggaow (cited in Kamonrat Lahsoowong, 1911) defined as happiness, substantial emotion, coping in diverse situations, without mental illness, having competency of job ability, and participating with other people. Gureginggaoe (1916) identified mental health as a state of mind, maturity, substantial emotion, balancing both physical and mental within social and environment, and happiness. Additionally, Mongkol and colleagues (2001) defined mental health as perceiving one's own mental

status, competency in coping and participation with other people, and other capacities of mental health: having virtue and being useful to society or having mental quality, and supporting factors.

According to the above definitions, mental health can be summarized in the following statements: 1) the absence of psychopathology, 2) the ability to cope with stressful life and overcome problems, 3) competency of balanced emotions, and 4) the capability of participation to contribute to the community and having virtue and being useful to society.

In addition, mental health can be organized in four key dimensions. Firstly, the definition of mental health is mental capacity related to an individual's ability to fulfill mental functioning such as coping with stress and being without mental illness. Secondly is the ability of the individual to perceive one's own emotion with balance. Thirdly, society influences mental health. An individual makes a contribution to his or her community. Finally, having virtue and being useful to society is another dimension of mental health.

2.1.2 Mental health and older adults

Mental health is significant for older adults because most older adults are facing physical functional impairment and personal loss (Ding, 2004; Weaver, Huang, Albert, Harris, Rowe & Seeman, 2006), including socialeconomic dimension changes such as retirement, relocation, insufficient income, and social isolation (Ding, 2004; Elisha, Castle & Hocking, 2006).

2.1.2.1 Physiopsychosocial change among older adults

The physical functional impairment and event changes of the elderly may provoke them to develop mental distress. Mental illness is dysfunctioning in areas of thinking, feeling, and behaving (William, Wilkinson, Stott & Menkens, 2008). Two sources cause mental illness: 1) the individual has high misery and crisis, thus he or she is highly dysfunctional such as in the case of depression (Cooper, 1990), and 2) social deviation, that causes an individual's distress and abnormal behaviors (Freedman, 1978 cited in Herrman, 2001).

Based on previous reports mental illness is identified with the Disability-Adjusted Life Years (DALYs) and the Year of Life Lost (YLL). For instance, depression accounts for 50% the DALYs in female older adults, and 10% of DALYs with male older adults (WHO, 2009). Chronic diseases have become the leading causes of suicide in older adults leading to 5.0 % in male older adults and 4% in female older adults of YLLs (WHO, 2003).

2.1.2.2 Healthy or successful aging

By 2010, a paradigm shift occurred regarding the perspectives about older adults as dependent people towards independent people. In the USA the Healthy People 2010 Plan was identified as a significant strategy for improving the health of people and older adults, also. Thus, the concept of healthy aging is of broad interest worldwide. However, a definition of healthy aging or successful aging is difficult to create because it is a very complicated school of thought.

The major concept of successful aging consists of two aspects from the biomedical school and the psychosocial school as follows.

1) In the biomedical school, the concept of successful aging is defined as the avoidance of disease and disability (Motta, Bennati, Ferlito, Malaquarnera, & Motta, 2005; Rowe & Kahn, 1994).

2) In the psychosocial school, successful aging is defined as the positive mental state such as life-satisfaction and acceptance of death (Butt & Beiser, 1987). Successful aging includes individuals perceiving by themselves, having the ability to cope and adapt to change and experience a sense of meaning in life (Flood, 2002).

However, Row and Kahn (1994) identified both schools are important components of successful aging; they combined the absence of disease and active engagement with life. The engagement with life concerns interpersonal relationships and productive activity, which represents actual activity.

In addition, positive mental health is one important indicator associated with successful aging (Rowe, & Kahn, 1998; Strawbridge, Cohen, Shema, & Kaplan, 1996). Being healthy and happy in older life and contributing to socio-economy have been considered ways to ensure that older adults can achieve the best

benefits such as employment, education, housing or family services (Cornwell, Laumann, & Schumm, 2008). In addition, Bryant and colleagues identified that mental health is decreasing morbidity and increasing the age of mortality. The reports of Lee (2006), Chou and Chi (2001) identified good mental health reduces the cost of care in mental disorders.

2.1.2.3 Mental health: Bio-psychosocial approach

Mental health is a complex phenomenon of multidimensions such as biological, psychological, and social factors to illustrate the ability of an individual. These multidimensions of mental health are described as follows:

a) Biological Approach

The biological approach is a broad dimension; this study underline presents mental health by using neuropsychology and immunology as follows.

- Regarding neuropsychology, in the broader sense, the neurological domains consist of intellectual function, attention, executive function, verbal abilities, and visouspatial and visousconstruct abilities (Attix and colleagues, 2009). The assessment of neuropsychology is significant and in common clinical practice with older adults. The neuropsychological assessment has focused on mental status examinations and dementia rating scales (Morris, Worsley & Matthews, 2000). The assessment goal is the detection of neuropsychological impairment, monitoring change and identification of specific disabilities. This includes monitoring efforts to control neuropsychiatric disorders such as depression, anxiety disorders, schizophrenia, dementia and epilepsy" (WHO, 1996).

- Regarding immunology, mental health can increase immunology such as positive effects from the presence of endorphins which reduce the activity in the Autonomous Nervous System (ANS) and in the endocrine system (McCarthy, Wetzel, Sliker, Eisenstein, & Rogers, 2001), including reducing stress (Fredrickson, 2009; Pressman & Cohen, 2005).

b) Psychological Approach

One famous approach related to mental health is psychology. The experts describe mental health as the results of physical disturbances that arise by unconscious conflicts, Sigmund Freud, 1856-1939 (cited in Taylor, 2009). Erikson (1963 cited in Friedli, 2000) used the development crisis of humanism to explain mental health. He stated that in the last life stage of older people's experiences, they look back with integrity and despair. If older people do not find a balance between loss and dignity, they cannot cope with changes, transitions, and life events. Vaillant (2003) focused on how people develop and sustain positive characteristics - people who remained relatively healthy while undergoing stressful life experience, which is called positive psychology.

Positive psychology in older adults consists of affective status (e.g., pleasure, joy, happiness, worry, pessimism, anxiety, depression, and other distressing psychological symptoms) (Bradburn, 1969; Campbell, Coverse, & Roders, 1976; Kahneman, Diener, & Schwarz, 1999; Nordenfelt, 2007), life-satisfaction (Lucas, Diner, & Suh, 1996), attitude toward self: self-acceptance, self-esteem, and self-actualization (Hill & Argyle, 2001; Johada, 1953; Peterson & Bredow, 2009; Ryff, 1989), autonomy (Johada, 1953; Ryff, 1989), optimism (Danner, Snowdow, & Friesen, 2001), coping in their life (Solomon & Peterson, 1994), Positive Psychological functioning (Ryff, & Keyes, 1995; Ryff, & Singer, 1998), and resilience (Lamond, et al, 2009; Shen & Zeng, 2010).

In addition, well-being is identified in the field of psychology; three characteristics have been described by using philosophies illustrated as follows:

1) The hedonic philosophy conceives the affective domain is more importantly related to satisfaction in life; however, discussions about the characteristics of hedonic thought can be separated into four sections:

First, the hedonism is rooted in the Greek philosophers and Epicurus defines well-being as the objective of life or to experience *the greatest amount of pleasure and the least amount of un-pleasure* (Kahneman, Diener, & Schwarz, 1999; Nordenfelt, 2007), including happiness in some sense is the sum of pleasure (Vázquez, Hervás, Rahona, & Gómez, 2009).

Second, hedonism is both *positive feelings* and *cognitive assessment* of whether one's life is generally satisfying or in congruence with one's goal (Lawton, 1983).

Third, hedonism regards the dimension of subjective well-being [SWB] or *affective domain and perceived life satisfaction*, whose ideas provided the fundamentals of the new economy in the 18th century, in the field of modern psychology. The affective domain consists of positive affections (feelings of active pleasure), negative affections (feelings of worry, pessimism, anxiety, depression, other distressing psychological symptoms), and affective balance (the balance of positive and negative feelings) (Bradburn, 1969; Campbell, Coverse, & Rodgers, 1976). Life satisfaction refers to a global assessment of a person's quality of life according to his chosen criteria (Shin & Johnson, 1978) whereas some psychologists believe life satisfaction is a greater cognitive component (Lucas, Diner, & Suh, 1996).

Finally, in other views, subjective well-being combines a patient's subjective evaluation of well being with physical symptoms, sexual function, work performance, emotional status, etc (Guyatt, et al., 2007).

In addition, happiness is often used as an interchangeable term with subjective well-being (Hayborn, 2003). Happiness is an individual balance of pleasure and dis-pleasure, and is an individual attitude toward one's life. Being happy is to have a favorable attitude toward one's life as a whole either for a short time or a long time period, and happiness is the overall emotional state such as positive self-esteem, sense of perceived control, extroversion, optimism, positive social relationship and a sense of meaning and purpose of life (Argyle & Carstensen, 1987; Diener, Suh, Lucas, & Smith, 1999). Similarly, Tatarkiewicz has defined ***happiness*** as "a lasting, complete, and justified satisfaction with life as a whole" (Tatarkiewicz, 1976, p. 16).

2) The eudaimonic approach focuses on positive mental capacity or functioning as the consequence of a full mental actualization from developing their potential. The important basis of this ancient approach is maximizing positive experience and minimizing negative experiences (Ryan & Deci, 2001), but this new approach proposes that humans have a potential to fulfill in life (Ryan, Huta & Deci, 2008), have the performance of actions with deep value that imply a commitment, which make them feel real and alive (Waterman, 1993), and have

positive capacity to maintain motivation in fully living life (Ryff & Keyes, 1995; Ryff & Singer, 1998).

The eudomonic perspective of human well-being is a major positive function, called psychological well-being. Based on the model of psychological well-being, Ryff identified the components of psychological well-being including self-acceptance, positive relations with others, environment mastery, autonomy, purpose of life, and personal growth (Ryff, 1989a, 1989b). Ryff explained psychological well-being is a positive function that is a central criterion to fulfill the potential in human life because she deduced this concept from many theories (e.g., Erikson, 1959; Jung, 1933; Maslow, 1968; Neuarten, 1968; Roger, 1961). For instance, self-acceptance is a positive attitude toward oneself. Positive relations with others involve positive attitudes toward one's family, fully functioning toward maturity, capacity to love, to be loved, to cope with others in give and take relationships, etc.

Furthermore, as society can more effectively treat mental diseases; more individuals will become mentally healthy. A social criterion is represented as people evaluate their function in life. Social well-being consists of social acceptance, social actualization, social contribution, social coherence, and social integration (Keyes, 2002, 2005). Moreover, social well-being studies are completely connected to cultural values (Oyserman, Coon, & Kemmelmeier, 2002; Rayan & Deci, 2001).

3) Self-determinant theory explains that the components of well-being link the ideas of eudaimonia and self-realization as aspects in the definition of well-being Ryan & Deci (2001). For this concept, well-being is a consequence of optimal psychological capacity. This theory states the capacity implies adequacy satisfaction within three basic psychological needs: autonomy, competence and relatedness, and congruent and coherent goals. According to Ryan, Huta, and Deci, 2008 concluded that the characteristics of a self-determinant theory perspective on eudaimonia involved four concepts: 1) pursing intrinsic goals such as personal growth, interpersonal relationships, community, and health, 2) behaving autonomously, 3) being mindful and acting with a sense of awareness, and 4) behaving in basic psychological needs for competence and autonomy.

In addition, happiness is defined within the eudaimonia approach. For example, Veenhoven describes that happiness is "the degree to which an individual judges the overall quality of his or her life as a whole favorably" (Veenhoven, 1984, p.22). Hill and Argyle report that the construct of happiness is composed of emotional and cognitive domains such as the positive affect (e.g., joy), a high average level of satisfaction over a period, and the negative affect (e.g., anxiety and depression) (Hill & Argyle, 2001).

c) Sociocultural Approach

The sociocultural approach is associated with mental health because the expert's believe that society can effectively treat mental illness and can improve lower states of mental health to normal mental health. Keyes (2002) described social well-being is significant especially in older adults. Social well-being consists of social acceptance, social actualization, social contribution, social coherence, and social integration.

Berkman's concept is modelled on social relations for health purposes and social integration implying both social network and social support that influences health outcomes, to individual pathways defined in terms of health behavior, psychological factors and physiological factors. Social network provides opportunities for social support and the nature of these relationships are significant and a distinct consequence mental health outcome (Berkman, 1995).

In addition, Ryan, Huta and Deci agreed social acceptance is a major characteristic of mental health for older adults (Ryan, Huta & Deci, 2008). Patterns of social relationships such as social activities, and social support are positively associated with mental health for older adults (Kurlan, Gill, Patrick, Larson, & Phelan, 2006).

From an anthropologist's view, Neeb (2006) described cultural traditions and cultural beliefs lead to forms of emotional disturbances. Mental health within a culture concerns both religion and concepts of self (Heine & Norenzayan, 2006; Kim & Nesselroade, 2003). Within cultural differences among older adults, Western views state mental health as focused on the self whereas Asian views focus on independence with other people such as family, kinship, and community (Fiske,

Kitayama, Markus, Nisbett, & 1998) ,and less concern with self-enhancemant (Heine, 2003).

2.1.2.4 Mental health meaning in religious aspects

Religion is not only a cultural universal concerned with belief and behavior with supernatural being, powers, and forces (Wallance, 1966) but also an organized system of beliefs, practices, rituals, and symbols designed to facilitate closeness to a sacred or transcendent being (God, High power or ultimate truth/reality) (Koenig, McCullough, & Larson, 2001).

Religion has an obvious psychological function, psychological attachment, and a powerful emotional relationship: cheerfulness, hope, a spirit of high optimism (Hinde, 1999; Kirkpatrick, 2005). The conceptualization of self in older adults is motivated by self-actualization (Ingersoll-Dayton et.al, 2001) and self-esteem (Mann, Hosman, Schaalma, & Vries, 2004).

Studies described religion similar to mental health. For instance, religion has obvious mental functions, mental attachments, and a powerful emotional relationship to things (Hinde 1999; Kirkpatrick 2005). It concerns both being mentally healthy and un-mentally healthy. Religion is a mentally healthy tone of cheerfulness, hope, joy, and resignation under calamities, perseverance in the face of difficulties, and a spirit of high minded optimism.

On the other hand, religion is the need to explain different things, the need to fight depression, the need to deny mortality and tell us why people do religious acts. This study identified that religion is a powerful emotion and mental capacity. Fry (2000) showed that religiosity and spirituality are significant to transcend stress and maintain well-being in elderly life. The elderly life involves participation in spiritual practices, having a sense of inner peace with self, and accessibility to religious resources for well-being. In addition, Chen and colleagues reported that weekly and monthly religious activities significantly affected positive mental health status. In addition, people who performed religious activities were less likely to have emotional distress, anxiety, and lower rate of depression symptoms (Chen, Cheal, McDonel Herr, Zubritsky, & Levkoff, 2007).

In conclusion, mental health is an integrated process of biopsychosocial individuals to maintain emotional balance, mental capacity and well-

being within their development and their own context. From the above data, it can be concluded that religion is associated with mental status and mental capacity. This study is related to religions in Thailand. Thus, the following sections will review religion and mental health in Thailand.

Religion and Mental Health in Thailand

There are many religions in Thailand, but most Thai people are Buddhists. The proportions of three major religions are 93.6 percent Buddhist, 5.4 percent Muslim, and 0.9 percent Catholic (Sobineszczyk, Knodel, & Chayovan, 2003).

Buddhism and mental health

Buddhism has influenced people's thoughts, words and actions. Mental health is directly relevant to religion as follows.

First, Buddhism is concerned with a state of emotion or mind in the traditional word of Buddhism either Pali or Sanskrit. Mind refers to a state of equilibrium and insight into the nature of reality called happiness or ***Sukha***. On the other hand, Suffering or ***Dukha*** is an unpleasurable feeling, suffering, and misunderstanding the nature of reality (Ekman, Davidson, Richard, & Wallance, 2005; Payutto, 2006). In addition, mind involves a deep sense of well-being toward compassion, and recognition of the interconnectedness with people and other living beings in one's environment.

Whereas, Sheldom, Rayn, Deci, & Kasser opinions explained that emotion or affective states are directly the experience of pleasurable stimuli (sensory and intellectual) while Suka arises from the attention, emotion and cognition balance in mind (Sheldom, Rayn, Deci, & Kasser, 2004). Thus, the affective state of mind is similar to ***mental status***.

Second, the fundamental concepts of mind involve three emotions: craving, hatred, and state of dynamic flux as follows (Ekman, Davidson, Richard, & Wallance, 2005).

Craving refers to an unrealistic and reified distinction between the self and others leading to separate and unrelated existence with other persons. Craving easily gives rise to anxiety, fear and anger. Next, hatred is the core emotion of

mind and is the reflection of craving. Hatred is usually driven by destructive thoughts that obstruct the mind leading to the selfish pursuit of desirable objects. If the mind is trapped in this deluded impression, mental distress appears in the mind. Finally, the self is constantly in a state of dynamic flux which arises in any way, and is also interdependent with other people and the environment. It emphasizes the grasping into one's own existence and other reified personal identities as real and concrete. All of them are similar to ***mental capacity.***

In conclusion, the sources of mental capacity consist of three process of mind; craving arises for "Me" and for what the is mind, and reflects toward the other. If the sources of mental capacity are not balanced between self and others or real and unreal, the toxin in the mind brings about mental suffering.

Disayavanish (2008) identified the detailed sources of mental illness in Buddhist involve eight causes: 1) kamummattaka: madness associated with greed (*Lobha*), 2) Kodhummattakka: madness associated with hatred (*dosa*), 3) mohummattaka: madness associated with delusion (*Moha*), 4) ditthummattaka: madness associated with wrong view, 5) pittummattaka: madness associated with organic disases, 6) surummattaka: madness associated with alcohol and other intoxicants, 7) vvasanummattaka: madness associated with misfortunes and losses, and 8) yakkummattaka: madness associated with demons or evil spirits. All of causes are

According to Phayutto (2008), mental health is not only mental status and mental capacity but also mental quality. Mental quality is developed based on the four noble virtues for ideal human conduct, called ***Brahmaviharas***: universal friendship and amity (***maitta***), universal compassion (***karuna***), universal responsibility making others happy (***mudita***) and indifference to narrow self-interest (***upeksha***). In addition, mental quality refers to empathy, sympathy, and faith etc. (Bhatt, 2008). The work of Mongkol and colleagues identified mental quality in Thai people refers to kindness, self-esteem, transcendence, creative thinking, enthusiasm and altruism.

Another view of religion and mental health is to have spiritual health. Wasi (2000) explained that spiritual health is a sense of self, having faith and wisdom that contributes to goodness and happiness. Thongprateep (2000) identified spiritual health as a state of happiness which consists of spiritual belief, religious practice, and consequence of spirituality. First, the spiritual belief is the law of Karma

and life after death. Next, religious practice involves making merit, observance of moral percepts, gratitude, caring in the family, and meditation, and finally, the consequence of spirituality comprises coping in later life, being hopeful, and having a peaceful mind.

Spiritual health is closely related to mental quality. Faith, religious practice, making merit, metta, and karunaetc are associated with both spiritual health and mental quality. Spiritual health and mental quality have overlapping meaning or are interchangeable. For instance, the work of Chen and colleagues claimed religion and spiritual activities are the same (Chen, Cheal, McDonel Herr, Zubritsky, & Levkoff, 2007).

However, Buddha explained the ideas of the four dogmas: suffering, aggregation, extinction and way. He tried to present the ideas to reduce dogmas which is searching the truth concerning life, merely life and not outside of it (Phayutto, 2009). The original doctrine of Buddhism point out the law of Karma; all things are living from conditional causation or doing good deeds, and individual will get good things in return (Dongmongkorn, 2002; Ghose, 2007). For instance, Thai older adults collect virtue by making merit: donating money and giving food to priests, etc.

Islam and mental health

Muslims believe that Islam is culture because religious and cultural beliefs are often discussed conjointly (Jitmound, 1992; Neeb, 2006). A major structure of Islam consists of beliefs and practices (Vongson, 2003).

The fundamental concept of Islam is to believe in the Oneness of Allah (*Subhanahu wa Ta'aala*) and the Prophethood of Muhammad (*Sallallahu alaihi wa sallam*) which are the sources of Islamic culture. The two c beliefs regarding Allah and the Holy Prophet Muhammad are contributing guidelines for humanity on how to lead its life (Jitmound, 1992).

The six Pillars of Beliefs entail the five Pillars of Practices. The Pillars of Beliefs are belief in the true God; in his angels and in the determination of all good and evil by God. The first of the Five Pillars of practices is to testify that there is no god but Allah. The remaining four Pillars are to establish prayers five times a day, to pay *zakah* (poor tax), to observe the fast of Ramadan and to perform

pilgrimage (*haji*) if one can afford to. To establish prayers five times a day is considered most essential and it is oft-repeated in the Holy Qur'an (Kabinrasing; Suparp, 1976, 1977).

In addition, Muslims believe family is the first significant institution to conduct responsible faith and conviction among Islam's member.

Results of Islam emphasize that the every Muslim has the duty to seek knowledge as long as he or she lives. Knowledge leads to faith and good deeds. Thus, mental health, which is called mental capacity, is developed by knowledge in faith through practice and good deeds which lead to peace in mind (Jitmoud, 1992).

Christianity and mental health

Belief is strongly associated with mental health. Christianity (Cattholicism, Orthodoxy, and Protestantism) puts more emphasis on belief than other religions. Christians believe Jesus is the son of God, who became human and the savior of humanity. The Catholic Church has always concurred with Augustine of Hippo who was concerned with the ultimate reality (Fitzgerald; Stanley, 1996, 2007).

Many reports of Catholics confirm the Catholic role to be rigid and inflexible and are associated with resistance for prevention, coping and recovery (Matthews, McCullough, Larson, Koenig, Swyer, & Milano, 1998). The work of Ellison and colleagues found that the frequency of church attendance was positively associated with well-being and negatively associated with distress, including the evidence of stress-buffering effect (Ellison, Broadman, Williams, & Jackson, 2001). In addition, Cook and colleagues discovered that religious and spiritual beliefs are a source of support and comfort and associated with less suicide among African-American senior residents of public housings, after controlling for social and medical variables (Cook, Pearson, Thompson, Black, & Rabins, 2002).

In summary, religion is a way of mental health which illustrates three components: mental status, mental capacity, and mental quality. Religion has influenced Thai older adults because religious beliefs and practices help them maintain their mood, mental capacity and mental quality in life.

2.2 Measurement development

The process of measurement development is important. The purpose of this study was to develop mental health assessment tools for Thai older adults and test psychometric properties in terms of validity and reliability of mental health assessment tools for Thai older adults. However, the process of measurement development has been described many steps. For example, Krause (2002) described the development and implementation of a nine step strategy for devising close-ended survey questions. Brakel et. al. (2006) described the development of four phases of the scale development steps used in the Participation Scale Development Program. Creswell and Clark (2007) identified the procedure for exploratory instrument design mixed methods with two phases: qualitative data collection and quantitative data collection.

Regarding the consideration of the process to be used in this study, the investigator divided and conducted the development stage in three phases: The first phase involved identifying domains of mental health for Thai older adults by literature review, focus group discussions, and in-depth interviews. The second phase involved developing an instrument. It was conducted in three steps: generation of an item pool, determination of content validity and face validity of the initial draft of the instrument and pretesting. The third phase was quantitative methods for testing psychometric properties.

Phase I: Identifying domains of mental health for Thai older adults

The purpose of identifying domain is clarifying concepts to be measured. It was important that the investigator understand the construct of concepts. Netemeyer and Bearden reported that theory would help the meaning in that the measure might be too narrow and screen important facets that are homogeneous items (Netemeyer & Bearden, 2003). DeVellis (2003) explained that the investigator should explain the relevant substantive theory before developing scale.

Various methods are used to identify the concepts. For instance, Delaney (2005) used concept analysis to identify the concept of spirituality in the spirituality scale. Krause (2002) used focus groups, in-depth interviews, and participant observation within the principles of triangulation before quantitative methods were employed for developing survey items that measure mental health in older adults. In

addition, Walker and Avant (2003) explained that concept analysis, concept synthesis and concept deviation may help the investigator clarify the construct. Concept analysis must be used to examine the attribution which uses theoretical literature. Concept synthesis is used to develop a new concept based on empirical evidence, and concept deviation applies dialogue from one field to another field of interest.

Phase II: Developing an instrument.

The second phase comprised generation an item pool and determining the format and validation and creating an initial set of items, and pretest.

Step 1: Generation of an item pool and determination of the format

Item generation involved relating scale items and content domain of construct and manifestation of content validity (Netemeyer, Bearden, & Sharma, 2003). Mishel (1998) explained that the methods for generating items include four methods: 1) literature review, 2) combination of literature review and interviews with the experts and participants, 3) selecting items from the existing scales, and 4) a qualitative study within the target population.

When the investigator generates an item pool, there are two problems: first, the number of initial items in the pool is either adequate or not adequate to capture the phenomenon of interest. DeVellis (2001) suggested that an initial item should be considered for relevance and clarity, and the more it is drawn from the large items, the better it is. Second, the characteristics of the item should be considered in writing items: a) each item should express one and only one idea, b) the pool items should be divided between positive and negative statements, c) language should be kept as general as possible and avoiding colloquialisms, d) reading and vocabulary must be appropriate, and e) negative wording should be avoided (Mishel, 1998).

Determining the format of the instrument is a concern because the pattern of items and response options affect on results of study. Literature review reports three common scoring types. First, most types are in the format of responses about opinions, beliefs, and attitudes, the Likert scale. The Likert scale is a cummulative scale (Mishel, 1998). In the Likert scale, the common response for each item may be four or seven categories in a continuum such as strongly disagree to strongly agree. Burn and Grove (2001) suggested that the respondents should avoid positive or negative choices

and a neutral midpoint should be made aware because the investigator must interpret response difficulty (Netemeyer, & Bearden, 2003). Second, the Thurstone scale is a differential scale. This involves an equal-appearing interval scale generated for comparisons of changes relative to the dimension (Mishel, 1998). Third, the Guttman scale is a cumulative scale. The items of the cumulative scale are tapped to higher levels of an attribute. The respondent score is determined by counting the number of favorite answered items. In other scale types such as semantic differential scale and the visual analog scale, the investigator consider the details again.

In summary, the respondent formats and generating item reflects the phenomenon, theory and discriminates meaningful and accurate items.

Step2: determination of validation and creating an initial item

The instrument construction is separated into two parts: constructing definition and content domain. In this step, item construction would be conducted with the researcher in the previous step. It must be constructed with the expert to evaluate items in a set of instrument (Burn & Grove, 2005; Waltz, Stricklan, & Lenz, 2005).

However, numbers of experts are necessary for a discussion. Lynn (1986) suggested a minimum of three experts but the others recommended from 2 to 20 members (Waltz, Strickland, & Lenz, 1991).

This process in determining content validity of an initial item involves using the expert. The experts are a group of people who are knowledgeable in the phenomenon of interest: relevant training, experience, qualifications of content experts, a history of publications on referred journals, national presentations, and research on the phenomena of interest, and clinical expertise (Davis, 1996). The role of the expert in content validity means the expert must evaluate item clarity, suggest item wording problems and ambiguous responses. In addition, this strategy for obtaining evaluations of item relevance involves the expert working about definition of construct also.

After the experts adjust the items and a set of instruments, the content validity index [CVI] will be computed and reported to quantify the extent of agreement among the experts. The CVI is the proportion of items giving a rating of

highly relevant three or four by the total number of items (Waltz, Strickland, & Lenz, 1991, 2005). Lynn (1986) suggested that the expert should be given the content validity form and asked with respect to relevance of items and clarity of items. First, relevance of items uses four scales: 1 = not relevant, 2 = somewhat relevant, 3 = quite relevant, 4= very relevant. Second, clarification of item uses four scales: 1 = not clear, 2 = somewhat clear, 3 = quite clear, 4 = very clear.

Resulting from the CVI, an acceptable score is 0.7 or better (Rubio, Berg-Weger, Tebb, Lee, & Rauch, 2003; Wynd, Schmit, & Schaefer, 2003), and a CVI score of 0.8 or higher reflects good content validity for a new instrument (Davis, 1996; Lynn, 1986).

Next, for the professional consideration items, the investigator must revise the clarity, accuracy, and appropriateness items as face validity. A few samples of the target population are selected. Waltz, Strickland, and Lenz (1991) suggested that the test may have a minimum of three subjects, while, Burns and Grove (2001) said that the scale should be administered to 15 to 30 subjects. The role of participant representatives must be to respond, revise, and suggest items that should be improved.

Step 3: pre-testing

Pre-testing is an opportunity where the investigator provides the measurement and gets direct experience. The pretest participants should be similar to participants who will use the final instrument (Nunnally & Burnstein, 1994). Burns and Grove (2005) recommended the number of subjects be 15 to 30 representatives of the target population for preliminary item trial. Krause (2002) suggested 98 to 175 persons were sufficient numbers for trial. After pretesting, the participants will be asked to identify any problems they had completing the instrument and any suggestions they have for improving the instrument (Mishel, 1998).

For the next step of pretesting, item analysis should be estimated. The objective of item analysis is to identify an internal consistency that implies that all items measure the same concept (Burns & Grove, 2001). Item analysis will provide information about each item that is related to the other items. Item total correlation is analyzed by using the correlation coefficient to derive strongly valid item reflecting the total scale. The criterion level of item total correlation should normally range from

0.3 to 0.7 (Nunnally & Berstein, 1994). Ferketich (1991) suggested item correlation coefficients were 0.4 or greater 0.5. If the item total correlation score is below 0.2, it must be deleted or modified (Streiner & Norman, 1995).

In the next phase, the investigator used item analysis to estimate the reliability and validity of the instrument.

Phase 3: quantitative methods for testing psychometric properties

Psychometric testing is a process that confirms the quality of the instrument. This phase consists of two steps: quantitative data collection and quantitative data analysis. Quantitative data collective uses survey administration. Quantitative data analysis is the evaluation of the quality of an instrument, based primarily on evidence of its validity and reliability or administer to sample (Waltz, Strickland, & Lenz, 2005).

Quantitative data collection: survey administrated

Target participant were asked to give feedback on the appropriateness and clarity the item wording. Some items will be revised and the revised instrument will be conducted with the same participants. Next, the investigator used item analysis to estimate optimizes scale. Survey administration used the data collection method. After, validity and reliability showed the quality of instrument development.

Quantitative data analysis: Evidence of validity and reliability

Validity

The purpose of validity is to measure that the instrument well represents the phenomenon of interest (Nunnally & Burnstein, 1994). Three major types of validity are content validity, criteria validity, and construct validity.

a) Content-related validity

Content validity is of major relevant to the theoretical domain of the content (DeVellis, 2001; Nunnally & Berstein, 1994). Evidence of validity comes from three resources: the literature, the qualitative data, and content expert judgment-qualification (Burn & Grove, 2005).

Examination of content validity starts from the item development that was discussion. The professional expert was selected for reviewing critique: 1) the domain of content is a representative instrument, 2) items were appropriate to the objective/definition of instrument, 3) each item representing content domain was evaluated using an item relevance rating scale (Waltz, Strickland & Lenz, 2005). CVI involves recommending statistical results and the recommendation should be explored by a minimum three experts (Lynn, 1986). For the new instrument, 80% agreement among content experts is acceptable (Davis, 1996; Grant & Davis, 1997; Polit & Beck, 2006).

b) Criteria-related Validity

To explain the criteria-related validity, the researcher must compare scores form the instrument on the same persons produced by a highly regarded external instrument (Netemyer, Bearden, & Sharma, 2003). There are two sources of criteria-related validity: concurrent and predictive validity.

Concurrent validity is tested by comparing results of correlation between the construct measure and indicator used to estimate an individual status on the criteria at the same time (Nunnally & Bernstein, 1994).

Predictive validity is the ability of the measure to predict subsequently and temporally ordered criteria (Netemyer, Bearden, & Sharma, 2003). Predictive validity consists of prediction of future events and predicting concurrent events, so the methods are different also. The testing of predictive validity involves correlation analysis and the validity ability to predict the current value compared with the value of two instruments.

c) Construct-related validity

Construct validity is directly concerned with the theoretical variable to other variables. It refers to how well a measure actually measures the construct that is intended to be measured and logical relationship of a measurement concept to other concepts (Jacobson, 2004). The construct validity involves three steps: a) the theoretical relationship between the concepts themselves must be specified. b) the empirical relationship between the measures of the concepts must be

examined c) the empirical evidence must be interpreted in terms of how it clarifies the construct validity of the particular measure (Carmines & Zeller, 1979).

The construct validity is determined by using the contrast groups approach, the multitrait-multimethod approach, and factor analysis (Waltz, Strickland, & Lenz, 2005; Burn, & Grove, 1997).

In the contrast groups approach, the investigator must identify two groups of samples who are known to be high and low in the characteristics being measured in the instrument by using different groups scores (Netemeyer, Beardon, & Sharma, 2003).

In the multitrait-multimethod approach, the basic are the convergent validity, divergent validity and discriminant validity (Burn & Grove, 1997). The convergent validity involves a different measure of the same construct that should highly correlate with each other. The divergent validity involves a different measure of the different construct that should have a high negative correlation with the other measure. The discriminant validity involves that different constructs should have a low correlation with each other.

Exploratory factor analysis is useful for determining the number of separate components that might exist for a group of items or to select closely clustered components into a factor (Spector, 1992; Burn & Grove, 1997). It helps an investigator to decide how items should be grouped together into subscales and which items should be dropped from the instrument entirely (Dixon, 2001).

Reliability

Reliability represents the consistency of measurement (Burn & Grove, 1997). Reliability testing is a measure of amount of random error in the measurement technique. The scale consistency undergoes statistical analysis for item scale correlation and coefficient alpha to test the inter-correlation among the items and to determine scale quality. Criteria of internal consistency estimates Cronbach's alpha coefficient normally to range between -1.00 and + 1.00 and is a sufficiently stable value for measurement (Pilot & Beck, 2006). A Cronbach's alpha coefficient greater than 0.7 is considered sufficient (Nunnally & Bernstein, 1994). Burn and Grove

(2005) suggested that weak correlations of Cronbach's alpha coefficient or below 0.1-.029 should be disregarded in nursing research (Burn & Grove, 2005).

In addition, reliability can be considered in terms of stability, equivalence, and homogeneity (Burns & Grove, 1994; Polit & Hungler, 1999; Waltz et al., 1991).

Stability

Stability is concerned with the consistency of repeated measures at two points in time in measurement or the same use of the instrument. That involves test-retest or repeated measure under requirement that is constant in over time (Burn & Grove, 1997). A criterion of stability is the value of Cronbach alpha coefficient. A high correlation coefficient between test and retest is indicated as the stability (Waltz, Strickland, & Lenz, 2005). Streiner and Norman (1995) suggested that the minimum acceptable level of reliability of stability was 0.5. Regarding the time interval between test and retest, it should be greater than two weeks (Knapp & Brown, 1995). Thus, the concept of test and retest method should measure in trait, behavior, and the concept that should not change over time (Waltz, Strickland, & Lenz, 2005). However, the test-retest method is not justified to test of stability in phenomenon of hope, coping and anxiety because it changes over a short period (Burn & Grove, 2001).

Equivalence

Equivalence focusing on the instrument has two methods: parallel reliability and inter-rater reliability to determine the consistency of the results when using the two different forms of instruments to measure the same construct (Burn & Grove, 2001).

Parallel forms are usually two instruments containing the same content but different language. However, test-retest measurement is a part of parallel forms in the management. A result of correlation is usually found to be high, and supports a high Pearson correlation coefficient of that test, that is 0.8 (Bring & Wood, 2001). Another form of test of equivalence is inter-rater reliability which is used for interviews or observations strategies by having two or more trained observers watching some event simultaneously and independently recording the relevant variables according to a predetermined plan or coding system (Lynn, 1985). A reliable

instrument should produce the same results if all the observers are using it the same way.

Homogeneity

Homogeneity is the test of internal consistency to determine item construct. There are three methods for testing homogeneity: split-half methods, the alpha coefficient with Kuder-Richardson and Cronbach alpha coefficient, and Cohen's kappa statistic (Burn & Grove, 1997).

In split-half methods, the investigator must separate items into two halves and estimate two halves by using reliability or the strategy of test-retest reliability without administering the test twice. To estimate the internal consistency reliability of a measure, the alpha coefficient is the preferred index (Ferketich, 1991). In this case, data are dichotomous score items (1 = right and 0 = wrong) which were derived by Kuder-Richardson formulation. Cronbach alpha coefficient is applied to test homogeneity with a multi-response scale. Another approach is Cohen's kappa statistic to determine the percent of agreement with the probability of chance being taken out that correlating with each item in the total score of instrument. If the result does not correlate, the factor analysis must develop reliability of instrument again.

The major criterion of homogeneity is considered using Cronbach's alpha levels of 0.80 or greater that are considered desirable, with between 0.65 and 0.70 viewed minimally acceptable (DeVillis, 1991). However, alpha coefficient for new instruments should be at least 0.70 (Nunnally & Bernstein, 1994).

2.2.1 Existing Instruments of Mental Health for Older Adults

The investigator, using terms "instrument", "tool", "scale" "measurement", and "mental health," searched the electronic database of PsychINFO, MEDLINE, CINAHL, Backwell, and PsycINFO databases that were published between 1961 and 2008. There were four attributions: mental status, mental capacity, mental quality, and social well-being. The details are illustrated as in Table 2-1

Table 2-1 Existing instruments of mental health for older adults

Domain	Determine	Measurement	Authors	Testing
Affective status	-Positive affect -Negative affect -Balance affect	Affect scale: Positive Affect, Negative affect and Affect Balance (ABS)	Bradburn, 1969	-Inter-item correlation (0.19-0.75 in Positive affect) -Inter-item correlation (0.38-0.72 in Negative affect) -Inter-item correlation (0.10 in affective balance) -Test-retest (0.83 in positive affect, 0.81 in negative affect, o.76 in affective balance) -Correlation with happiness (0.51)
	-Positive affect -Negative affect	The Positive and Negative affect Schedule (PANAS)	Crawford, & Henry, 2004	-.Cronbach's alpha coefficient (0.89)
	Well-being Affect	The Index of Well-being and Index of General Affect	Campbell, 1976	-Cronbach's alpha coefficient (0.89) -Test-retest reliability (0.43) -Convergent validity with fear and worry (0.20-0.26) -Correlation with happiness (0.52) -Discrimination correlation with the Crown-Marlowe Social Desirability Scale (0.2)
		The categorical diagnosis of mental health	Keyes, 2003	-Cronbach's alpha coefficient (0.82) -Correlation with GDS (-0.39)
		The General Well-being Schedule (GWS)	Dupuy, 1977	-Test-retest reliability (0.85) -Internal consistency coefficient (0.91)

Table 2-1 Existing instruments of mental health for older adults (cont.)

Domain	Determine	Measurement	Authors	Testing
	Positive well-being	Life satisfaction Scales	Neugarten, Havighurst, &Tobin, 1961	Cronbach's alpha coefficient LSIA (0.52) Cronbach's alpha coefficient LSIB (0.58) Total Cronbach's alpha coefficient (0.78)
	Life satisfaction	The Healthy Aging Strument	Thiamwong,2008	Cronbach's alpha coefficient (0.88)
	Life satisfaction	The Philadelphia Geriatric Center (PGC)	Lawton, 1975	Cronbach's alpha coefficient (0.81) Split-half reliability (0.74) Test-retest reliability (0.75 to 0.91)
Mental capacity	Purpose in life	Psychological well-being	Ryff, 1989	Cronbach's alpha coefficient is 0.87.
	Self-acceptance	The categorical diagnosis of mental health	Keyes, 2003	Cronbach's alpha coefficient (0.82) Correlation with GDS (-0.39)
	Self esteem	The Oxford Happiness Questionnaire (OHQ)	Hill & Argyle, 2001	Cronbach's alpha coefficient (0.91)
		Psychological well-being	Ryff, 1989	Cronbach's alpha coefficient (0.87)
	Autonomy	The categorical diagnosis of mental health	Keyes, 2003	Cronbach's alpha coefficient (0.82) Criteria-validity-correlation with GDS (-0.39)
		Psychological well-being	Ryff, 1989	Cronbach's alpha coefficient (0.87)
	Perception of reality	The Healthy Aging instrument	Thiamwong, 2008	Cronbach's alpha coefficient (0.88)
	Positive relationship with other	The categorical diagnosis of mental health	Keyes, 2003	Cronbach's alpha coefficient (0.82) Criteria-validity-Correlation (-0.39)

Table 2-1 Existing instruments of mental health for older adults (cont.)

Domain	Determine	Measurement	Authors	Testing
		Psychological well-being	Ryff, 1989	Cronbach's alpha coefficient is 0.87.
		The construction of Mental Health Screening test for the aged	Namdej, 1996	Cronbach's alpha coefficient (0.94) Cut-off point scale at score 18 Sensitivity (85.5%) Specificity (83.3%) Positive Predictive Value (63.1%) Negative Predictive Value (94%) False Positive rate (16.7%)
Mental quality	Calm and peaceful	SF-36 version Thai	Lim, Seubsman, &Sleigh, 2008	Cronbach's alpha coefficient (0.90)
	Religious practice	The Healthy Aging Strument	Thiamwong, 2008	Cronbach's alpha coefficient (0.88)
Social well-being	Social acceptance	The categorical diagnosis of mental health	Keyes, 2003	Cronbach's alpha coefficient (0.82) Criteria-validity-Correlation with GDS (-0.39)
		Thai SF-36 health survey	Lim, Seubsman, & Sleigh, 2008	The reliability estimate for the SF scale (0.55) an inter-scale correlation (0.71)
	-Social support	The Healthy Aging Strument	Thiamwong, 2008	Cronbach's alpha coefficient (0.88)

2.2.2 Existing instruments of mental health as well-being in Thailand

In Thailand, existing instruments of mental health as well-being comprised four instruments. Only two instruments focused on mental health as well-being for older adults, with the following details.

2.2.2.1. The Construction of Mental Health Screening Test for the Aged.

Namdej (1996) developed the measurement of psychological distress and psychological well-being following Duppy's concept: life-satisfaction and interpersonal relationship. The 42 items of Mental Health Screening Test were administered to 248 older adults of which 62 suffered from mental distress diagnosed

by psychiatrists and 186 were mentally healthy. The results found that internal consistency estimated by coefficient alpha for psychological distress scale was 0.93, for psychological well-being was 0.85, and for overall was 0.94. There was a statistically significant difference between the mean score of mental distress, normal group for psychological distress, psychological well-being, and total scale. Using this instrument took five minutes. The evidence showed construct and concurrent validity of Mental Health Screening test. The cut-off point of total scale at score 18 was appropriate to carry sensitivity, specificity, positive predictive value, negative predictive value, and false positive rate considered more efficient (sensitivity = 85.5%, specificity = 83.3 %, positive predictive value = 63.1%, negative predictive value = 94.0%, false positive rate = 16.7%).

2.2.2.2 Psychological well-being insights for Thai elderly

Ingersoll-Dayton, Saengtienchai, Kespichayawattana, and Aungsuroch (2004) developed the measurement of psychological well-being insights for Thai elderly. The sample strategy resulted in 460 older adults from Bangkok and other provinces. The result presented five dimensions of psychological well-being: harmony, interdependence, acceptance, respect, and enjoyment. 1. Harmony refers to harmony in the family, family members must love one another. They must hold on to Dhamma (the teachings of Buddha). The parents must be good first so that their children will be good. If parents don't have Dhamma, their children won't have it either. Everything goes together- father, mother, and children. 2. Interdependence refers to warm feeling and circle of life. Warm feeling means feeling of someone taking care and living without loneliness. Circle of life means feeling that children must take care of older adults. 3. Acceptance refers to belief in Kamma (taught of Dramma). 4. Respect means children should be asking for and following their elder's advice, and 5. Enjoyment refers to being happy and having fun in work and pleasure. Cronbach's alpha revealed that there was adequate internal consistency for the interpersonal well-being index (0.82) as well as the intrapersonal well-being index (0.69). Further, the three-week test–retest reliability was acceptable for the intrapersonal well-being scale (r =.68) but slightly lower for the interpersonal well-being scale.

2.2.2.3 The Thai Mental Health Questionnaire

Phattharayuttawat, Ngamthipwattana and Sukhatungkha (1999) developed the Thai Mental Health Questionnaire to assess domains of functioning following the criteria on the DSM-IV. The sample subjects comprised 700 samples from two groups: 350 psychiatric patients, including those age between 15 to 60 years and 350 normal health individuals. The five domains consist of somatizarion, depression, anxiety, psychotic, and social function. 1. Somatizarion means the dimension reflecting distress arising from perceptions of bodily dysfunction, complaints focused on cardiovascular, gastrointestinal, respiratory, and other symptoms with strong, autonomic mediation. Headaches, pains, and discomfort localized in the gross musculature are also components, as are other somatic equivalents of anxiety. 2. Depression refers to symptoms of dysphonic affect and moods that are represented, as are signs of withdrawal of interest in life events, lack of motivation and loss of vital energy. The dimension mirrors feelings or hopelessness, worthlessness, meaninglessness, pessimism, loneliness, downheartedness, or discouragement. Several items are included concerning thoughts of death and suicidal ideation. 3. Anxiety refers to general indications such as restlessness, nervousness, and tensions are included as are additional somatic signs. Items measuring free-floating anxiety, and panic attacks are an integral aspect of this dimension. 4. Psychotic means florid, acute symptomatology, as well as behaviors typically viewed as more oblique, less definitive indicators of psychotic process are represented. In addition, secondary signs of psychotic behavior and indications of a schizoid life style are also represented, and social function: General indications in interpersonal relationships and contact with other people in the social setting. Results found reliability coefficients for the Alpha were range from 0.80, the reliability coefficients for the Split-half ranged from 0.90. indicating that the instrument has an adequate reliability. The construct of scale are in Thai, so literacy level is rarely a problem. This instrument was tested the same as other symptom scales as screening or diagnosis scales such as PSE (Present State Examination), GHQ (General Health Questionnaire), and SCL-90 (Symptom Distress Check-List), for example. It normally takes about 15 to 20 minutes to complete the TMHQ's scale. Final items comprised 62 items.

2.2.3.4 The Mental Health Indicator

Otrakul, Cheroenkul, Smithtikrat, Tantipiwatanaskul and Krabwong (1997) developed the mental health indicator for Thai people. The study was two phases: the first phase identified the meaning of mental health defined by literature reviews and the second phase involved the psychometric properties. The sample size was 1,800 adults in nine provinces from Thailand. The meaning of mental health composed of three domains: a) thinking perception, emotional expression and performance reaction toward self, b) thinking perception, emotional expression and performance reaction towards others or surrounding, and c) thinking perception, emotional expression and performance reaction towards society. The total itemcomprised 36 items. Cronbach's alpha was adequate for internal consistency (0.9377). Discriminant analysis was used to check for the validity of the scale.

2.2.3.5 Thai Mental Health Indicator

Mongkol and college (2001) developed the Thai Mental Health Indicator to find the norm value of mental health in Thai people. The study was analyzed in three phases: the content validity, construct validity, and confirm construct and concurrent validity. The data were collected from samples living in metropolitan government level, city government level and district government levels (Or-bor-tor level 1 to level 5) of northeastern Thailand. The sample size was 1,429 people. Multi-stage sampling technique was used. Factor analysis was used to study the construct validity. Alpha coefficient was used to study the reliability, Correlation coefficient was used to study the concurrent validity, and Kappa statistic was used to study the agreement between the complete and brief Thai mental health indicator. The complete Thai mental health indicator was developed, comprising 66 questions. It consisted of four domains: mental status, mental capacity, mental quality, and supporting factors. Mental status has four components: general well-being positive affect, general well-being negative affect, perceived ill-health and mental illness, and body image and appearance. Mental capacity has six domains: interpersonal relationships, expectation achievement congruence, confidence in coping, inadequate mental mastery, activities of daily living, and sex issues. Mental quality has five aspects: kindness, self-esteem,

transcendence, creative thinking and enthusiasm, and altruism. Supporting factors has social support, family support, physical safety and security, and health and social care.

The reliability of the questions reported according to each domain is 0.86, 0.83, 0.77, 0.80, respectively. The brief Thai mental health indicator was also developed, comprising 15 questions. The whole reliability of this brief indicator was 0.70. The concurrent validity between this indicator and Amphorn Otrakul's mental health questionnaire was found to have medium correlation ($p<0.01$). The agreement between the complete and the brief Thai mental health indicator was 0.61. Normal value of the indicator was reported by separating people according to the value obtained, to be above average, average, and under average.

2.3 Gaps of existing mental health

Demand of mental health is indicated in the field of public health. Public mental health practitioners need mental health assessment tools because the area of care changes from hospital care to community care, so, they must evaluate and monitor mental health promotion. Nowadays, negative aspects indicate mental problems to use in evaluating mental health promotion, and which ways detract from it. It showed that the field of public health takes different concepts of well-being as the starting point. Moreover, assessment tools are needed in the community areas, resulting in the limit of health practitioner. Self-reporting instruments can support this. Thus, development of mental well-being assessment tool is needed in this field.

Mental health for older adults is different from adults, following growth development in Erikson, with declines and loss occurring in older adults such as functioning impairments and social loss. Thus, older adults easily face mental illness. Most instruments were developed by mental illness ideas. The reports were presented with the *DLY*, and *YLL*, etc.

Being healthy and happy older adults or maintaining successful aging has been considered a way to ensure that older adults can achieve the best benefits such as employment, increasing immunology and reduced cost of care in mental illness.

Understanding mental health for Thai older adults is needed because disagreement about the definition of mental health is diverse across social norms, and

social values in each society. Religion influences Thai older adults which is necessary to classify the concept. Knowing mental health concepts should be realistically understood withinthe older perspective. In addition, only two instruments focused on mental health for Thai older adults: The Construction of Mental Health Screening Test for the Aged was developed by Namdei and the psychological well-being insights from Thai elderly was developed by Ingersoll and college. However, these instruments did not measure mental quality and social well-being dimension of mental health and these instruments did not measure the norm value of mental health in Thai older adults.

Underlying concepts of mental health for Thai older adults are inadequate for true understanding and there is a lack of assessment instruments of mental health for Thai older adults.

Thus, qualitative methods were used to identify domains of mental health for Thai older adults by literature review and participants from focus group discussions and in-depth interviews. Using these approaches, a concept was synthesized from existing phenomena that were used in developing an instrument. Quantitative methods built on an initial questionnaire, and testing validity and reliability of instrument was explored with older people, aged 60 years and over among Buddhists, Muslims, and Catholics, in the northern, northeastern, central and southern regions, and the Bangkok Metropolitan Area in Thailand. The purpose was to identify norms of mental health for Thai older adults in living in community.